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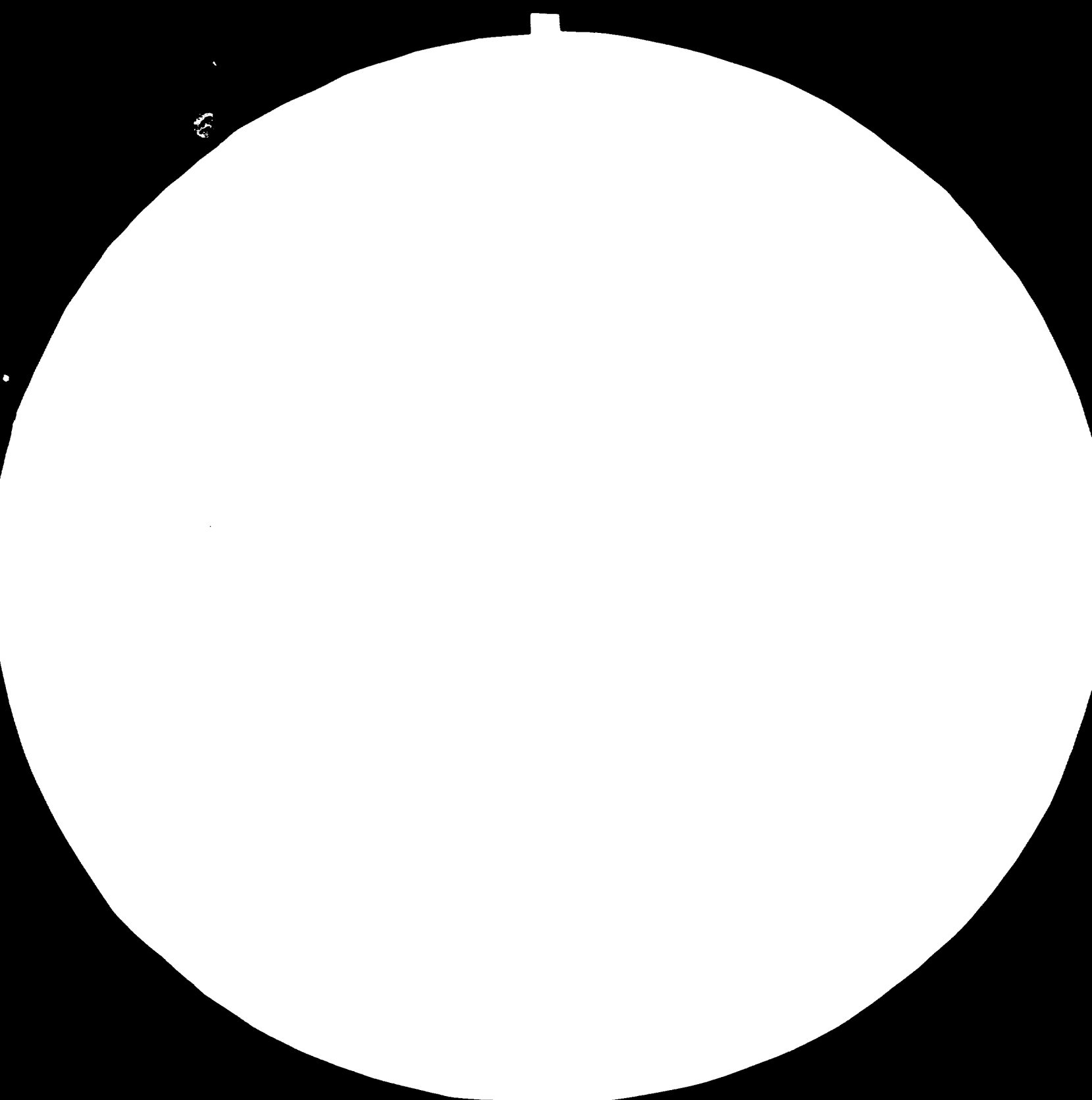
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4



## MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS  
STANDARD REFERENCE MATERIAL 1010a  
(ANSI and ISO TEST CHART No. 2)

11781

(1 of 3)

**DEVELOPMENT OF  
CAPITAL GOODS INDUSTRIES**

**DP/TUR/76/034**

Turkey.

**Technical Report No. IX: Demand for Capital Goods for  
Cement Industry**

**Vol. I**

1/65

UNITED NATIONS DEVELOPMENT PROGRAMMES IN TURKEY

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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION

RESTRICTED

May 1982

English

DEVELOPMENT OF  
CAPITAL GOODS INDUSTRIES

DP/TJR/76/034

TURKEY

Technical report: Demand for Capital Goods for Cement Industry

Vol. I

Prepared for the Government of Turkey  
by the United Nations Industrial Development Organization  
acting as executing agency for the United Nations Development Programme

Based on the work of  
Capital Goods Development Project Team in Turkey

United Nations Industrial Development Organization  
Vienna

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This report has not been cleared with the United Nations Industrial Development Organization which does not, therefore, necessarily share the views presented.

UNITED NATIONS DEVELOPMENT PROGRAMMES IN TURKEY

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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Chapter I

INTRODUCTION

- 1.1. Cement was one of the priority sectors selected by the State Planning Organisation, the counterpart agency for an indepth study of demand for capital goods in Turkey. This report deals with the anticipated demand of capital goods for this sector.
- 1.2. Initial work on the project was carried out by some part-time experts assigned by T.C.Çimento Sanayii A.Ş. (Çimento) management under the direction of Mr. M.M.Luther, Chief Technical Adviser and Mr. Faruk Yağız of Çimento. Two full-time local experts Mr. Necati Alper and Mr. Sacit Arıyürek were made available to the Project in June 1981 by Çimhol, a consultancy company to whom the work was contracted by Çimento.
- 1.3. Mr. A.D.Surie, Mechanical Engineer, joined the project as an expert on March 1981 and was assigned to work on demand projections for capital goods in cement besides some other sectors.

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1.4. This report has been discussed with the management of Çimento who are in agreement with the projections.

1.5. Mrs. Güler İzmirlioğlu and Mr. Ziya Siddiki, National Project Coordinators have been continuously associated with the work at all stages.

1.6. All the detailed data including all monthly production charts, activity charts, flow diagrams and yearwise details of demand for capital goods for the cement sector are in Vol II.

M.M. Luther  
Chief Technical Adviser  
Capital Goods Development Project

11, May 1982

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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Chapter II

DEMAND PROJECTIONS

2.1. METHODOLOGY

The methodology for working out the demand of capital goods for cement has been detailed in Technical Report No. 1 "Methodology for Planning of Capital Goods Industries in Turkey" of the Capital Goods Development Project in Turkey.

2.2. CLASSIFICATION OF INDUSTRY

The 4 digit ISIC code which includes cement industry is 3692\* Manufacture of cement lime and plaster.

Manufacture of all types of cement, such as portland, natural, masonry, puzzolana, roman and keenes, quick, hydrated and dolomitic limes and plaster.

Portland cement for capital goods project has been codified as 3692-1.

2.3. CAPACITY AND DEMAND FOR CEMENT

2.3.1. According to Çimento, the present capacity and production of cement (in 1981) is as under:

Capacity : 20.747 M.T.

Production:18.375 M.T.

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2.3.2. According to the Master Transport Plan, the anticipated production in Turkey is as under:

	<u>Figures in M.T.</u>		
	<u>Domestic</u>	<u>Exports</u>	<u>Total</u>
1988	7,358	3395	31.308
1993	39,912	-	39.912

2.3.3. The investments planned by Çimento are in two phases. Phase I covers those plants which already have been approved by the Government and Phase II are those for which allocation of resources is yet to be determined.

2.3.4. For meeting the anticipated demand the new plants expected to be set up are as follows:

PHASE I

<u>Location</u>	<u>Capacity(m.t./year)</u>	<u>Anticipated year of starting up</u>
Adiyaman	0.62	1982
Samsun	0.61	1982
Diyarbakır	0.61	1983
Siirt	0.62	1983
Denizli	0.63	1984
Edirne	0.58	1984
Urfa	0.58	1984



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2.4.1.2. Large reduction drives which are peculiar to cement industry have been codified under SITC code 74931 as per attached annexure-1, Page 24.

2.4.2. The modular production diagram and the facility chart for portland cement are at pages 19-20. Sample sheets of the flow diagram, the plant survey form and the demand of capital goods according to the 15 digit codes evolved by the Capital Goods Development Project in Turkey are on pages 20-23.

2.4.3. The summary of demand according to the 5 digit SITC code both weight-wise and value-wise for each plant is on pages 25 in Annexures I to XXXVII.

2.4.4. The following grand summaries of demand for capital goods according to the 5 digit SITC code for Phases I and II are on pages 9-16.

- Demand of Capital Goods by

-Weight -Phase I	28971.81 Tons
-Value (at 1980 prices) -Phase I	124,718.51 U.S.\$ <i>in thousands</i>
-Weight -Phase II	78,637.77 Tons
-Value (at 1980 prices) -Phase II	338,521.67 U.S.\$ <i>in thousands</i>

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CHAPTER III

CONCLUSIONS AND RECOMMENDATIONS

3.1. CONCLUSIONS

3.1.1. The demand for capital goods for the cement sector in the period 1981-1990 is as follows:

Plate	<u>1981-1990</u>	<u>Average per year</u>
Fabricated equipment	33787.36 tons	3778 tons
Machinery	69822.22 tons	6982 tons

3.1.2. Details of demands for items of different specifications and manufacturing characteristics are given in Vol.II.

3.2. RECOMMENDATIONS

3.2.1. A survey of present and anticipated capacity for capital goods related to the cement sector in public and private sector needs to be carried out immediately.

3.2.2. Based on this survey, a demand-capacity balance of different types of equipment aggregated from the point of view of manufacturing facilities will be necessary.

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4.2.3. Techno-economic feasibility studies for expansion of existing facilities or setting up of new ones in public and private sector will be required to be undertaken.

4.2.4. These studies should take into account the export potential for export of the products.



**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

**NEW CEMENT PLANTS-PHASE I - SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984\* Table No. 1**

(Adiyaman , Samsun , Diyarbakir , Siirt , Denizli , Edirne , Urfa )  
 (July 82 July 82 July 83 July 83 July 84 July 84 July 84)  
 (0.62 M.T. 0.61 MT 0.61 MT 0.61 MT 0.63 MT 0.58 MT 0.58 MT)

Figures in Tons

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel	250.72	686.80	-		877.52
69243	Air receiver	2.40	6.00			8.40
71111	Boiler with burner	40.80	40.80	61.20		142.80
72342	Loader,excavator,etc.	333.60	333.60	500.40		1167.60
72343	Rock drill,air gun	17.72	17.72	26.58		62.02
72831	Swinging screen, Separators	177.04	166.40	266.78		601.02
72832	Crusher,ball mill, Tube mill	2320.92	2320.92	261.38		8123.22
74121	Furnace burners	8.00	7.00	11.70		27.30
74132	Hot gas generator, Furnaces	1.00	28.00	68.00		98.00
74161	Heat exchanger	7.00	5.00			7.00
74163	Rotary kiln	1.00	1977.60			4614.40
74164	Coiler for clinker		742.00			1038.89
74165	Cyclone preheater		420.00			980.00
74220	Water pumps	5.60	4.20			9.80
74230	Fuel oil pumps	3.26	8.15			11.41
74313	Compressors	501.20	-			501.20
74342	Ventilators	11.98	378.51			883.19

\* For phase I, the cement plants to be commissioned by July 1984, all equipments received by 1983.

MINERAL RESOURCES DEPARTMENT PERMIT FOR MINING

NEW CEMENT PLANTS PHASE I SUMMARY OF CAPITAL GOODS DEMAND (COST IN TL) 1984

Adiyaman, Samsun, Bayarbakir, Sirt, Denizli, Kizilirmak, Isparta  
 (July 82), (July 82), (July 83), (July 83), (July 84), (July 84), (July 84)  
 (0.55 MT), (0.55 MT), (0.60 MT), (0.61 MT), (0.62 MT), (0.64 MT), (0.64 MT)

10 to

STTC Code	SACIC Code	1980	1981	1982	1983	1984
7441	Filter precipitators	692.60				692.60
7442	Washers					194.00
7443	Dumpers	298.60	200.00			498.60
7444	Air lift roller runs	123.20				123.20
	Air slides					68.00
7445	Belt chain and screw	19.70				19.70
	Conveyors, bucket elevators					432.00
	Wet leaders etc.	124.00				124.00
7448	Reclaiming scraper					115.00
7452	Packing machinery	2.00				2.00
7493	Reduction gear boxes	4.00				4.00
	<b>TOTAL</b>					
	1980	1117.00				1117.00
	1981		200.00			200.00
	1982			131.00		131.00
	1983				480.00	480.00
	1984					180.00

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Table No. 2

NEW CEMENT PLANTS - PHASE I - SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984

(Adiyaman , Samsun , Diyarbakir , Siirt , Denizli , Edirne , Urfa)  
 (July 82 July 82 July 83 July 83 July 84 July 84 July 84)  
 (0.62 MT. 0.61 MT. 0.61 MT. 0.61 MT. 0.63 MT. 0.58 MT. 0.58 MT)

Values in 1000 US Dollars

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel	438.02	1095.05	-		1533.07
69243	Air receiver	9.48	23.70			33.18
71111	Boiler with burner	337.00	337.00	505.50		1179.50
72342	Loader,excavator,etc.	1671.32	1671.32	2506.98		5849.62
72343	Rock drill,air gun	279.40	279.40	419.10		977.90
72831	Swinging screen,	30.00				30.00
	Separators	636.90	606.90	955.35		2199.15
72832	Crusher,ball mill,					
	Tube mill	8031.00	8031.00	2100.50		28108.50
74121	Furnace burners	163.06	142.02	228.81		533.89
74132	Hot gas generator,					
	Furnaces	13.20	13.20	19.80		46.20
74161	Heat exchanger	29.00	72.50			101.50
74163	Rotary kiln	9203.20	6902.40			16105.60
74164	Cooler for clinker	826.40	816.00			1142.40
74165	Cyclone pulchets	1842.20	1380.90			3222.10
74220	Water pump	37.98	27.26			65.24
74230	Fuel oil pump	64.24	114.50			154.84
74313	Compressors	5316.64	-			5316.64
74342	Ventilators	207.68	2780.76			6888.44

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

NEW CEMENT PLANTS- PHASE

(Adiyaman	,	Samsun,	Diyarbakir
(July '82		July '82	July '83
0.62 MT.		0.61 MT.	0.61 MT.

SITC Code	BASIC MACHINE NAME	1981
74361	Filters, cyclones, Precipitators Washer	2378.40
74411	Dump trucks	2361.80
74423	Air lifts and Fuller pump	1274.49
	Air slides	76.76
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.	6558.70
74423	Reclaiming scraper	617.28
74522	Packing machinery	1323.60,
74931	Reduction gear boxes	5278.20
	<b>GRAND TOTAL</b>	<b>51990.25</b>
	Out of which	14575.90
	Pl. Fabricated Equipment	
	Machines	37414.35

I - SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984

Siirt , Denizli , Edirne , Urfa )  
 July '83 July '84 July '84 July '84 )  
 0.61 MT. 0.63 MT. 0.58 MT. 0.58 MT.)

Values in 1000 US\$

1982	1983	1984	TOTALS
2378.40	3567.60		8324.40
2361.80	3542.70		8266.30
76.76	115.14		1274.49
5309.4	8901.09		268.66
			20769.21
1545			2160.48
			1328.60
3959.40			9238.60
39919.1	32808.57		124718.51
13019.15	4092.90		31687.95
26900.54	25715.67		93030.56

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

NEW CEMENT PLANTS - PHASE II SUMMARY

Regionwise summary of  
Central Anatolia  
1985-1988-1990  
1.2 1.2 1.2 M.T.

Black Sea  
1987-1989  
1.2 1.2

Marmara  
1988-1990  
1.2 1.2

SITC Code	BASIC MACHINE NAME	1983	1984	1985
69211	Reservoirs etc.of steel		250.72	250.72
69243	Air receiver		2.40	2.40
71111	Boiler with burner		40.80	40.80
72342	Loader,excavator,etc.		333.60	333.60
72343	Rock drill,air gun		17.72	17.72
72831	Swinging screen, Separators	5.32	5.32	5.32
72832	Crusher,ball mill, Tube mill		2320.92	2320.92
74121	Furnace burners		7.80	7.80
74132	Hot gas generator, Furnaces		28.00	28.00
74161	Heat exchanger		2.00	2.00
74163	Rotary kiln		1318.40	1318.40
74164	Cooler for clinker		296.80	296.80
74165	Cyclone preheater		280.00	280.00
74220	Water pumps		2.80	2.80
74230	Fuel oil pumps		3.26	3.26
74313	Compressors	143.20	143.20	143.20
74342	Ventilators	133.90	252.34	252.34

Table No 3

## OF CAPITAL GOODS DEMAND 1988-1990

Aegean  
1988-1990  
1.2 1.2

Mediterranean  
1989  
0.6 T.T.

Figures in Tons

1986	1987	1988	1989	TOTAL
752.16	376.08	752.16		2381.84
7.20	3.60	7.20		22.80
122.40	61.20	122.40		387.60
1000.80	500.40	1000.80		3169.20
53.16	26.58	53.16		168.34
7.98	15.96			50.54
6962.76	3481.38	6962.76		22048.74
32.40	11.70	23.40		74.10
84.00	42.00	84.00		266.00
6.00	3.00	6.00		19.00
3955.20	1977.60	3955.20		12524.80
890.40	445.20	890.40		2819.60
840.00	420.00	840.00		2819.60
8.40	4.20	8.40		26.60
9.78	4.89	9.78		30.97
214.80	429.60			1360.40
556.17	579.36	358.32		2497.23

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Regionwise summary of  
Central Anatolia  
1986-1988-1990  
1.2 1.2 1.2 M.T

Black Sea  
1987-1989  
1.2 1.2

Marmara  
1988-1990  
1.2 1.2

Aegean  
1988-1990  
1.2 1.2

Mediterranean  
1989  
0.6 M.T.

Figures in Tons

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters, cyclones, Precipitators Washer		687.60	687.60	2062.80	1031.40	2062.80		632.20
74411	Dump truck			289.00	98.00	894.00	447.00	894.00	2831.00
74423	Air lifts and Fuller pump Air slides	16.00	16.00	43.00	24.00	48.00	-		152.00
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.	37.76	1208	248.00	3571.20	1870.56	3514.56		11488.16
74428	Reclaiming scraper	62.80	62.80		94.20	188.40	-		596.60
74522	Packing machinery	29.20	29.20	50	43-80	87-60			277.40
74931	Reduction gear boxes	403.40	465.40	790.20	695.10	1390.20			4402.30
	<b>GRAND TOTAL</b>	<b>891.58</b>	<b>7979.66</b>	<b>10060.82</b>	<b>22899.61</b>	<b>14200.86</b>	<b>21711.24</b>	<b>894.00</b>	<b>78677.77</b>
	<b>Out of which</b>		<b>2906.72</b>	<b>2906.72</b>	<b>8720.16</b>	<b>4360.08</b>	<b>8720.16</b>		<b>27613.84</b>
	<b>Plant Fabricated Equipment</b>								
	<b>Machines</b>	<b>891.58</b>	<b>5072.94</b>	<b>7154.10</b>	<b>14179.45</b>	<b>9840.78</b>	<b>12991.08</b>	<b>894.00</b>	<b>51673.93</b>



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Table No.4

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Regionwise summary of  
 Central Anatolia  
 1986-1988-1990  
 1.2 1.2 1.2 MT.  
 Black Sea  
 1987-1989  
 1.2 1.2  
 Marmara  
 1988-1990  
 1.2 1.2  
 Aegean  
 1988-1990  
 1.2 1.2  
 Mediterranean  
 1989  
 0.6 MT.

Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTALS
69211	Reservoirs etc.of steel		438.02	438.02	1314.06	657.03	1314.06		4161.19
69243	Air receiver		9.48	9.48	28.44	14.22	28.44		90.06
71111	Boiler with burner		337.00	337.00	1011.00	505.50	1011.00		3201.50
72342	Loader,excavator,etc.		1671.32	1671.32	5018.96	2506.98	5013.96		15877.54
72343	Rock drill,air gun		279.40	279.40	838.20	419.10	838.20		2654.30
72331	Swinging screen, Separators	50.00	30.00	90.00	45.00	90.00			258.00
72332	Crusher,ball mill, Tube mill		8031.00	8031.00	24093.0	12046.5	24093.0		76294.50
74121	Furnace burners		152.54	152.54	457.62	228.81	457.62		1449.13
74132	Hot gas generator, Furnaces		13.20	13.20	39.60	19.80	39.60		125.40
74151	Heat exchanger		29.00	29.00	87.00	43.50	87.00		275.50
74163	Rotary kiln		4601.60	4601.60	13804.80	6902.40	13804.80		43715.20
74164	Cooler for clinker		326.40	326.40	979.20	489.60	979.20		3079.00
74165	Cyclone preheater		920.60	920.60	2761.80	1380.90	2761.80		8745.70
74220	Water pumps		18.64	18.64	55.92	27.96	55.92		117.08
74230	Fuel oil pumps		44.24	44.24	132.72	66.36	132.72		420.28
74313	Compressors	1519.04	1519.04	4557.12	2278.56	4557.12			14430.48
74342	Ventilators	935.60	1853.84	4158.12	4184.16	2754.72			17611.48

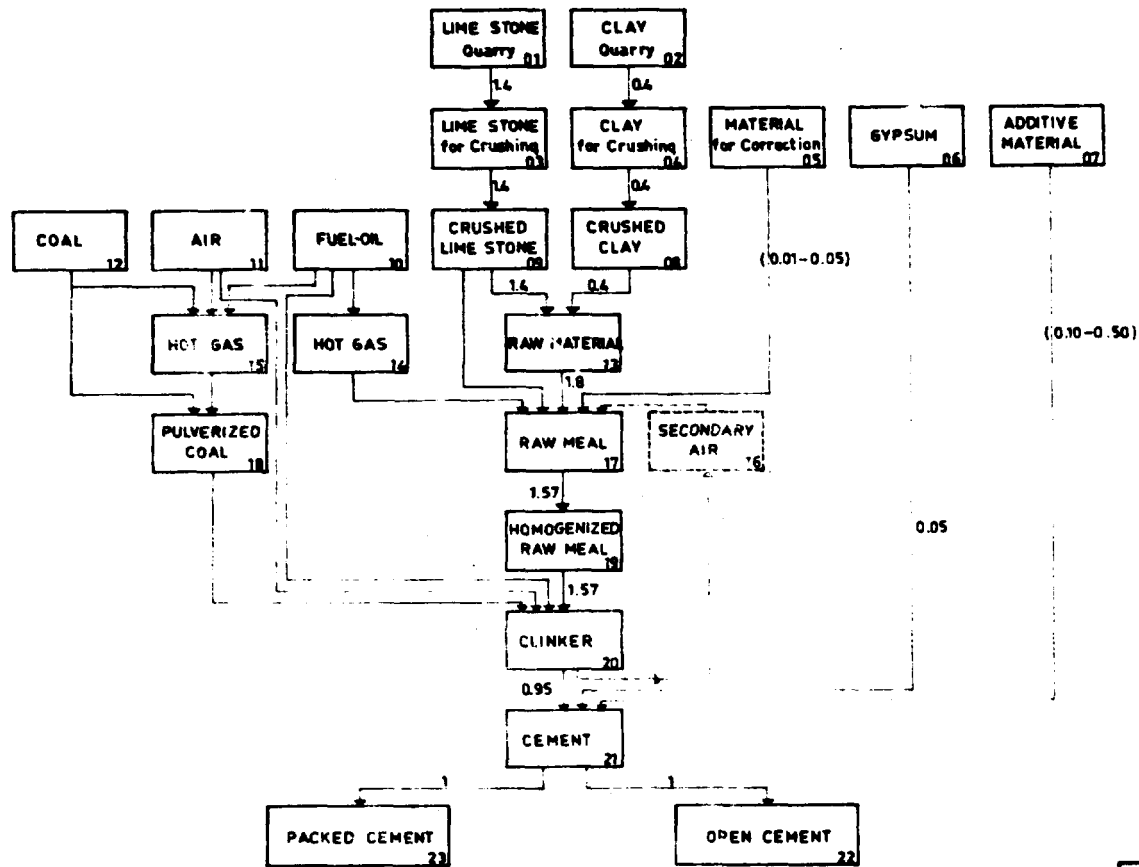
**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

**NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990**

Regionwise summary of  
 Central Anatolia                      Black Sea                      Marmara                      Aegean                      Mediterranean  
 1986-1988-1990                      1987-1989                      1988-1990                      1988-1990                      1989  
 1.2 1.2 1.2 MT.                      1.2 1.2                      1.2 1.2                      1.2 1.2                      0.6 MT.

Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	Totals
74361	Filters, cyclones, Precipitators Washer		2378.40	2378.40	7135.20	3567.60	7135.20		22594.80
74411	Dump trucks			2361.80	2361.80	7085.40	3547.70	7085.40	22437.10
74423	Air lifts and Fuller pump Air slides	195.60	195.60	586.80	293.40	586.80			1858.20
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.	624.64	5934.06	7183.34	16865.22	9830.05	15928.26		56373.57
74423	Reclaiming scraper	617.28	617.28	1851.84	925.92	1851.84			5864.16
74522	Packing machinery	379.60	379.60	1138.80	569.40	1138.80			3606.20
74931	Reduction gear boxes	2639.60	2639.60	7918.80	3959.40	7918.80			25076.20
	<b>GRAND TOTAL</b>	6941.36	33272.06	49516.58	91765.94	67405.53	82534.80	7085.40	338521.67
	Out of which								
	Plate Fabricated Equipment	-	9053.70	9053.70	27161.10	13580.55	27161.10	-	86010.15
	Machines	6941.36	24218.36	40462.88	64604.84		55373.70	7085.40	252511.52



CEMENT, LIME & PLASTER	INDUSTRY CODE
PORTLAND CEMENT	1692 1
UNIDO / SPO (CIMENTO)	
CAPITAL GOODS DEVELOPMENT PROJECT	
MODULAR PRODUCTION DIAGRAM	
PREPARED BY	DRAWN BY
MECAT ALPER	SAFAK ARASAN
CHECKED BY	SACIT ARIVUREK

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT

INDUSTRY CODE : 3692 1  
INDUSTRY NAME : PORTLAND CEMENT

PREPARED BY NECATI ALPER	CHECKED BY A. J. SCRIE UNIDO EXPERT	APPROVED BY UNIDO CTA
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INDUSTRY ACTIVITIES CHART

PAGE 1/2

PRODUCTION STAGE		TECHNOLOGY		CRITICAL EQUIPMENT		DESIGN LINE CAPACITY	
Code	Name	Code	Name	Name	Capacity Range	Code	Capacity
03	Lime Stone For Crushing	1	Material Handling	Dump Truck	32 t	1	32 t/h
04	Clay For Crushing	1	Material Handling	Loader	Bucket Cap 2.6 m <sup>3</sup>	1	t/h
08	Crushed Clay	1	Hammer Crushing	Double Hammer Crusher	250 t/h	1	310 t/h
09	Crushed Lime Stone	1	Hammer Crushing	Double Hammer Crusher	350 t/h	1	315 t/h
		2	Impact Crushing	Impactor Crusher	700 t/h	1	630 t/h
13	Raw Material	1	Scraping	Reclaiming Scraper	200 t/h	1	144 t/h
14	Hot Gas	1	Fuel Oil Burning	Hot Gas Generator	Oil Consump 09 t/h (8x10 <sup>6</sup> Kcal)	1	Warm Air Output 11350 Nm <sup>3</sup> /h
15	Hot Gas	1	Combined Burning	Hot Gas Generator	Oil Consump 045 t/h (4x10 <sup>6</sup> Kcal)	1	Warm Air Output 11350 Nm <sup>3</sup> /h
		2	Coal Burning	Hot Gas Generator	Coal Consump 075 t/h (4x10 <sup>6</sup> Kcal)	1	Warm Air Output 11350 Nm <sup>3</sup> /h
17	Raw Meal	1	Grinding (Ball Mill)	Ball Mill With Drying And Grinding Chamber	132 t/h	1	119 t/h
		2	Grinding (Roller Mill)	Roller Mill For Combined Drying And Grinding	140 t/h	1	126 t/h
18	Pulverized Coal	1	Grinding (Ball Mill)	Ball Mill With Drying And Grinding Chamber	20 t/h	1	19 t/h
		2	Grinding (Roller Mill)	Roller Mill For Combined Drying And Grinding	20 t/h	1	19 t/h

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT

INDUSTRY CODE: 3692 1  
INDUSTRY NAME: PORTLAND CEMENT

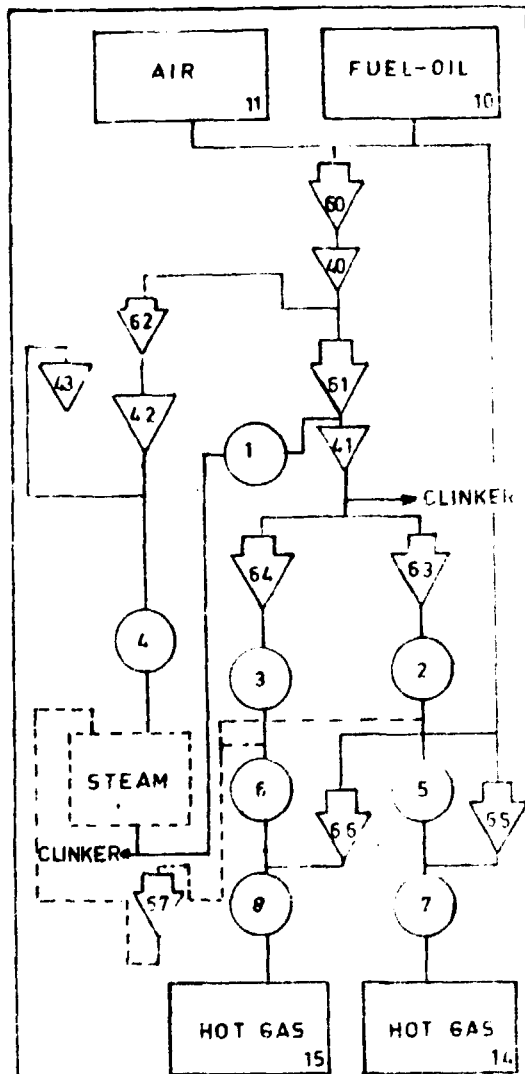
PREPARED BY NECATI ALPER	CHECKED BY <i>A. J. SUTZ</i> UNIDO EXPERT	APPROVED BY UNIDO CTA
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INDUSTRY ACTIVITIES CHART

PAGE: 2/2

PRODUCTION STAGE		TECHNOLOGY		CRITICAL EQUIPMENT		DESIGN LINE CAPACITY	
Code	Name	Code	Name	Name	Capacity Range	Code	Capacity
19	Homogenized Raw Meal	1	Homogenizing	Fuller Pump	140 t/h	1	126 t/h
20	Clinker	1	Sintering With Preheater	Rotary Kiln	79 t/h	1	71 t/h
		2	Sintering With Precalsination	Rotary Kiln	104 t/h	1	94 t/h
21	Cement	1	Grinding	Ball Mill With Separator	80 t/h	1	144 t/h
						2	180 t/h
22	Open Cement	1	Bulk System	Pneumatic Conveyor	120 t/h	1	86 t/h
23	Packed Cement	1	Packing	Rotary Packing Maching	200 t/h	1	180 t/h

19



ACTIVITY CODE		INDUSTRY	PROD	TECH	CAP
		3692	1	15	1
NO	Machine Name	Machine Code			Qty
60	742301033611611	Fuel Oil Pump			3
40	692110744324111	Main Tank			3
51	742301033611611	Fuel Oil Pump			2
52	742301022611611	Fuel Oil Pump			2
41	692110711321111	Daily Tank			1
1	741610111111111	Heat Exchanger			1
42	692110711321111	Daily Tank for Fuel Oil			1
43	692110711321111	Daily Tank for Diesel Fuel			1
53	742301022611611	Fuel Oil Pump			2
64	742301022611611	Fuel Oil Pump			2
2	741610111111111	Heat Exchanger			2
3	741610111111111	Heat Exchanger			2
4	71112011143311	Steam Boiler with Burner			2
5	741210015021011	Burner			1
6	741210015021011	Burner			1
65	743420051131911	Ventilator (Blower)			1
66	743420051131911	Ventilator (Blower)			1
7	741322414202311	Hot Gas Generator			1
8	741322414202311	Hot Gas Generator			1
57	742200121211611	Water Pump			2

**Capacity Calculation**

Name of Critical Equipment	Hot Gas Generator
Design Theoretical Capacity of the Critical Equipment per Hour	$8 \times 10^6 \text{ Kcal/h}$
No of Critical Equipment	1
Design Line Capacity per Hour	$8 \times 10^6 \times 0.6 = 4.8 \times 10^6 \text{ Kcal/h}$
Design Line Capacity per Shift	$4.8 \times 10^6 \times 8 = 38.4 \times 10^6 \text{ Kcal}$
Design Line Capacity per Day	$38.4 \times 10^6 \times 3 = 115.2 \times 10^6 \text{ Kcal}$
Design Line Capacity per year	$115.2 \times 10^6 \times 330 = 38.016 \times 10^9 \text{ Kcal}$

UNIDO / SP9 / (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT

**MODULAR PROCESS FLOW DIAGRAM**

INDUSTRY	PRODUCT	TECHNOLOGY
PORTLAND CEMENT	HOT GAS	F. O. Burning
DATE	SAMPLE PLANT	CAPACITY
FAB 12 1982	LADIK	$4.8 \times 10^6 \text{ Kcal/h}$
PREPARED BY	DRAWN BY	CHECKED BY
NECATI ALPEP	SAFAK ARASAN	SACITARIYOREK

UNIDO: Export - A - J - Scale UNIDO/ICTA

UNIDO/SPO (CIMENTO) CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY			PLANT SURVEY FORM										PAGE : 1/2																			
			Sample Plant : LADIK										PRODUCTION ACTIVITY Code : 3962 11511																			
Sr. No	Mark/Model	Basic Machine Nomenclature	Major Specific (Capacity) t/h	Major Spec-1 (Optional)	Major Spec-2 (Optional)	Type (Description)	Manufac- Characteristic-1	Manufac- Characteristic-2	Manufac- Characteristic-3	Origin	Qty	Purchase Cost (in Thousands) And Currency		Constant 1980 Year Cost US\$ (in Thousand)		Year of Purchase and Remarks	SITC Code (For Computer)															
							WT (Tons)	MATL	WT (Tons)			Unit	Total	Unit	Total		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18															
60	EMDPC300	Fuel Oil Pump	30	80m Ws	Visc 15 KW	Horizontal (Screw)	0.23	C.S.C.	0.05	Tur	3	2768 TL	8304 TL	3.64	10.92	1980	7	4	2	3	0	1	0	3	3	6	1	1	6	1	1	
40		Main Tank	1000m <sup>3</sup>	Dia=12m	100 °C Height 10m	Circular	36.0	M.S.	5	//	3	45000 TL	135000 TL	59.2	177.6	1980	6	9	2	1	1	0	7	4	4	3	2	4	1	1	1	
61	EMDPC100	Fuel Oil Pump	10	80m Ws	Visc 11 KW	Horizontal (Screw)	0.14	C.S.C.	0.04	//	2	185.17 TL	372.34 TL	2.45	4.9	1980	7	4	2	3	0	1	0	3	3	6	1	1	6	1	1	
62	EMDPC050	Fuel Oil Pump	4	30m Ws	Visc 3 KW	//	0.11	//	0.04	//	2	79.84 TL	159.68 TL	1.05	2.1	1980	7	4	2	3	0	1	0	2	2	6	1	1	6	1	1	
41		Daily Tank	10 m <sup>3</sup>	Dia:1600mm	100 °C (Leg 5.26m)	Circular	1.5	M.S.	5	//	1	2000 TL	2000 TL	2.63	2.63	1980	6	9	2	1	1	0	7	1	1	3	2	1	1	1	1	1
1		Heat Exchanger	8 m <sup>2</sup>	Dia: 220mm	Leg 2.63m (5 Atm)	Shell and Tube	0.2	//	6	//	1	2190 TL	2190 TL	2.9	2.9	1980	7	4	1	5	1	0	1	1	1	1	1	1	1	1	1	1
42		Daily Tank for Fuel Oil	6 m <sup>3</sup> (ø 1400 mm)	Leg 4m	100 °C	Circular	1.1	//	6	//	1	1500 TL	1500 TL	1.97	1.97	1980	6	9	2	1	1	0	7	1	1	3	2	1	1	1	1	1
43		Daily Tank for Diesel Fuel	3.6 m <sup>3</sup> (ø 1200 mm)	Leg 3 m	100 °C	//	0.8	//	6	//	1	1000 TL	1000 TL	1.32	1.32	1980	6	9	2	1	1	0	7	1	1	3	2	1	1	1	1	1
63	EMDPC 640	Fuel Oil Pump	25	40m Ws	Visc 3 Kw	Horizontal (Screw)	0.11	C.S.C.	0.05	//	2	79.84 TL	159.68 TL	1.05	2.1	1980	7	4	2	3	0	1	0	2	2	6	1	1	6	1	1	
64	EMDPC 640	Fuel Oil Pump	25	40m Ws	Visc 3 Kw	//	0.11	//	0.05	//	2	79.84 TL	159.68 TL	1.05	2.1	1980	7	4	2	3	0	1	0	2	2	6	1	1	6	1	1	
2		Heat Exchanger	8 m <sup>2</sup>	Dia:220mm	Leg 2.63m (5 Atm)	Shell and Tube	0.2	M.S.	6	//	2	2190 TL	4380 TL	2.9	5.8	1980	7	4	1	6	1	0	1	1	1	1	1	1	1	1	1	1
3		Heat Exchanger	8 m <sup>2</sup>	Dia:220mm	Leg 2.63m (5 Atm)	//	0.2	//	6	//	2	2190 TL	4380 TL	2.9	5.8	1980	7	4	1	6	1	0	1	1	1	1	1	1	1	1	1	1
4	DESA D400	Boiler with Burner	4 t/h	12 Atm	180 °C	F.O Fired	10.2	B.S.	8mm	//	2	64050 TL	128100 TL	84.25	168.5	1980	7	1	1	1	1	2	0	1	1	4	3	2	1	1	1	
5	Monarch	Burner	250-300kg/h	F.O.		Underpressure	0.4	Special	0.2	//	1	4000 TL	4000 TL	5.26	5.26	1980	7	4	1	2	1	0	0	1	5	0	2	1	0	1	1	

Continued in the next page

UNIDO/SPO (ÇİMENTO) CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY			PLANT SURVEY FORM										PAGE: 2/2																		
												Sample Plant: LÂDIK					PRODUCTION ACTIVITY Code: 3962 11511														
Sr. No.	Mark/Model	Basic Machine Nomenclature	Major Specific (Capacity)	Major Spec - 1 (Optional)	Major Spec - 2 (Optional)	Type (Description)	Manufac Characteristic - 1	Manufac Characteristic - 2	Manufac Characteristic - 3	Origin	Qty	Purchase Cost (in Thousands) And Currency		Constant 1980 Year Cost (US\$ in Thousand)		Year of Purchase and	SITC Code (For Computer)														
							WT (Tons)	MATL	WT (Tons)			Unit	Total	Unit	Total		Remarks	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18														
6	Monarc	Burner	250-300kg/h	F O		Underpressure	0.4	Special	0.2	Tur	1	4000 TL	4000 TL	5.26	5.26	1980	7	4	1	2	1	0	0	1	5	0	2	1	0	1	1
65		Ventilator(Blower)	210 mm	530mm Ws	A 1 R	Back ward curved blades	1.05	S. Fab.	0.1	"	1	182 FF 7500 TL	182 FF 7500 TL	15.6	15.6	1980	7	4	3	4	2	0	0	5	1	1	3	1	9	1	1
66		Ventilator(Blower)	210 mm	530mm Ws	A 1 R	//	1.05	"	0.1	"	1	182 FF 7500 TL	182 FF 7500 TL	15.6	15.6	1980	7	4	3	4	2	0	0	5	1	1	3	1	9	1	1
7		Hot Gas Generator	0.9 t/h (6*10 <sup>6</sup> kcal/h)	750° C	F O		70	B.S.	6mm	"	1	2500 TL	2500 TL	3.3	3.3	1980	7	4	1	3	2	2	4	1	4	2	0	2	3	1	1
8		Hot Gas Generator	0.9 t/h (6*10 <sup>6</sup> kcal/h)	750° C	F O		70	B.S.	6mm	"	1	2500 TL	2500 TL	3.3	3.3	1980	7	4	1	3	2	2	4	1	4	2	0	2	3	1	1
67	GM 30 PT1120 15 KV	Water Pump	2 t/h	10 m WS	Hot clean water	Horizontal	0.06	C.S.C	0.02	"	2	350 TL	700 TL	0.46	0.96	1980	7	4	2	2	0	0	1	2	1	2	1	1	6	1	1





Annexure 1

SITC Code: 74931 - Transmission shafts, cranks, bearing housing, plain shaft bearings, gears and gearing (including friction gears and gear boxes) and other variable speed gears, flywheels, pulleys and pulley blocks, clutches and shaft couplings.

6-7		8	9	10		11		12		13	14	15
Basic Machine Nomenclature		Major Spec. (Capacity)	Major Spec.1 (Optional)	Major Spec.2 (Optional)		Type	Manufacturing Characteristic 1	Manufacturing Characteristic 2	Manufacturing Characteristic 3	Origin		
Code	Name	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code
		range Output (KW)	Reduction ratio	Drive direction	Desc.	Weight (Tons)	Main body material	Max. component weight (Tons)				
00	Reduction drives	1 Upto 100 2 100-200	1 1-5 2 1-10	1 Parallel axis	1 Single stage	1 Upto 5 2 5-10	1 Chilled iron casting	1 Upto 1 2 1-2	1	Turkey		
01	Speed gears reduction drives	3 200-400 4 400-800 5 800-1600	3 1-20 4 1-50 5 1-100	2 Angle axis 3 Other	2 Double stage 3 Multi- 4 Single stage	3 10-25 4 25-50 5 50-100 6 100-200 7 200-300 8 300-500 9 Over 500	2 Grey iron casting 3 Alloy iron casting 4 Malleable iron casting 5 Spheroidal iron casting 6 Carbon steel casting 7 Alloy steel casting 8 Non-ferrous casting 9 Steel fabrication	3 2-5 4 5-10 5 10-15 6 15-25 7 25-50 8 50-100 9 Over 100		2 Imported		
02	Single helical gear reduction drives.	6 1600-2000 7 2000-2400 8 2400-2800 9 Above 2800	6 1-Over 100									
03	Double helical gear reduction drives.											
04	Bevel gear- ing reduction drives.											
05	Worm and worm-wheel reduction drives.											
99	Others											

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure II  
Page 1 of 2

ADIYAMAN

NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND

1981-1984

Commissioning July 1982

Figures in Tons/.

0.60 M.T.

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel	125.36				125.36
63243	Air receiver	1.20				1.20
71111	Boiler with burner	20.40				20.40
72342	Loader,excavator,etc.	166.80				166.80
72343	Rock drill,air gun	8.86				8.86
72831	Swinging screen, Separators	85.86				85.86
72832	Crusher,ball mill, Tube mill	1160.46				1160.46
74121	Furnace burners	3.90				3.90
74132	Hot gas generator, Furnaces	14.00				14.00
74161	Heat exchanger	1.00				1.00
74163	Rotary kiln	659.20				659.20
74164	Cooler for clinker	148.40				148.40
74165	Cyclone preheater	140.00				140.00
74220	Water pumps	1.40				1.40
74230	Fuel oil pumps	1.63				1.63
74313	Compressors	71.60				71.60
74342	Ventilators	126.17				126.17

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure II  
Page 2 of 2

ADIYAMAN

NEW CEMENT PLANTS PHASE- I  
Commissioning July 1982

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984  
0.60 M.T.

Figures in Tons/

SITC Code	Plant-site Commissioning date and capacity	1981	1982	1983	1984	TOTAL
	<b>BASIC MACHINE NAME</b>					
74361	Filters, cyclones, Precipitators					
	Washer	343.80				343.80
74411	Dump trucks	149.00				149.00
74423	Air lifts and Fuller pump	17.60				17.60
	Air slides	9.85				9.85
74426	Belt, chain and screw Conveyors, bucket elevators					
	Weigh feeders etc.	604.64				604.64
74423	Reclaiming scraper	31.40				31.40
74522	Packing machinery	14.60				14.60
74931	Reduction gear boxes	231.70				231.70
	<b>GRAND TOTAL</b>	<b>4138.83</b>				<b>4138.83</b>
	<b>Out of which</b>					
	<b>Plate Fabricated Equipment</b>	<b>1453.36</b>				<b>1453.36</b>
	<b>Machines</b>	<b>2685.47</b>				<b>2685.47</b>

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure III  
Page 1 of 2

SAMSUN

NEW CEMENT PLANTS - PHASE

SUMMARY OF CAPITAL GOODS DEMAND

Commissioning July 1982

Figures in Tons/

0.61 M.T

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel	125.36				125.36
69242	Air receiver	1.20				1.20
71111	Boiler with burner	20.40				20.40
72342	Loader,excavator,etc.	166.80				166.80
72343	Rock drill,air gun	8.86				8.86
72331	Swinging screen, Separators	85.86				85.86
72032	Crusher,ball mill, Tube mill	1160.46				1160.46
74121	Furnace burners	3.90				3.90
74132	Hot gas generator, Furnaces	14.00				14.00
74151	Heat exchanger	1.00				1.00
74163	Rotary kiln	659.20				659.20
74164	Cooler for clinker	148.40				148.40
74165	Cyclone preheater	140.00				140.00
74220	Water pumps	1.40				1.40
74230	Fuel oil pumps	1.63				1.63
74313	Compressors	71.60				71.60
74342	Verticalizers	126.17				126.17

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

**SAMSUN NEW CEMENT PLANTS PHASE-  
Commissioning July 1982 0.61 M.T**

**SUMMARY OF CAPITAL GOODS DEMAND IN**

Figures in Tons/

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators Washer	343.80				343.80
74411	Dump trucks	149.00				149.00
74423	Air lifts and Fuller pump	17.60				17.60
	Air slides	9.85				9.85
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.	604.64				604.64
74423	Reclaiming scraper	31.40				31.40
74522	Packing machinery	14.60				14.60
74931	Reduction gear boxes	231.70				231.70
	GRAND TOTAL	4138.83				4138.83
	Out of which	1453.36				1453.36
	Plate Fabricated Equipment Machines	2685.47				2685.47

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure IV  
Page 1 of 2

DIYARBAKIR

NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND

1981-1984

Commissioning July 1983

0.61 M.T.

Figures in Tons/

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel		125.36			125.36
69243	Air receiver		1.20			1.20
71111	Boiler with burner		20.40			20.40
72342	Loader,excavator,etc.		166.80			166.80
72343	Rock drill,air gun		8.86			8.86
72331	Swinging screen, Separators	2.66	83.20			85.86
72832	Crusher,ball mill, Tube mill		1160.46			1160.46
74121	Furnace burners	0.40	3.50			3.90
74132	Hot gas generator, Furnaces		14.00			14.00
74151	Heat exchanger		1.00			1.00
74163	Rotary kiln	659.20				659.20
74164	Cooler for clinker		148.40			148.40
74165	Cyclone preheater	140.00				140.00
74220	Water pumps	1.40				1.40
74230	Fuel oil pumps		1.63			1.63
74313	Compressors	71.60				71.60
74342	Ventilators	126.17				126.17

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

DIYARBAKIR

NEW CEMENT PLANTS PHASE- I  
Commissioning July 1983

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984

0.61 M.T.

Figures in Tons/

SITC Co's	Plant-site-Commissioning-date-and-capacity BASIC MACHINE NAME	1981	1982	1983	1984	TOTALS
74361	Filters, cyclones, Precipitators					
	Washer		343.80			343.80
74411	Dump trucks		149.00			149.00
74423	Air lifts and Fuller pump	17.60				17.60
	Air slides		9.85			9.85
74426	Belt, chain and screw Conveyors, bucket elevators					
	Weigh feeders etc.	18.88	585.76			604.64
74423	Reclaiming scraper		31.40			31.40
74522	Packing machinery	14.60				14.60
74931	Reduction gear boxes	231.70				231.70
	GRAND TOTAL	1284.21	2854.62			4138.83
	Out of which					
	Plate Fabricated Equipment	799.20	654.16			1453.36
	Machines	485.01	2200.46			2685.47

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure V  
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SIIRT

NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984

Commission: July 1983

0.62 M.T

Figures in Tons

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel		125.36			125.36
59243	Air receiver		1.20			1.20
71111	Boiler with burner		20.40			20.40
72342	Loader,excavator,etc.		166.80			166.80
72343	Rock drill,air gun		8.86			8.86
72331	Swinging screen, Separators	2.66				2.66
72332	Crusher,ball mill, Tube mill		1160.46			1160.46
74121	Furnace burners	0.40	3.50			3.90
74132	Hot gas generator, Furnaces		14.00			14.00
74151	Heat exchanger		1.00			1.00
74163	Rotary kiln	659.20				659.20
74164	Cooler for clinker		148.40			140.40
74165	Cyclone preheater	140.00				140.00
74220	Water pumps	1.40				1.40
74230	Fuel oil pumps		1.63			1.63
74313	Compressors	71.60				71.60
74342	Ventilators	126.17				126.17

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

SIIRT

NEW CEMENT PLANTS PHASE-  
Commissioning July 1983

SUMMARY OF CAPITAL GOODS DEMAND IN  
0.62 M.T

Figures in Tons/

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTALS
74361	Filters, cyclones, Precipitators Washer		343.80			343.80
74411	Dump trucks		149.00			149.00
74423	Air lifts and Fuller pump	17.60				17.60
	Air slides		9.85			9.85
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.	18.88	585.76			604.64
74423	Reclaiming scraper		31.40			31.40
74522	Packing machinery	14.60				14.60
74931	Reduction gear boxes	231.70				231.70
	GRAND TOTAL	1284.21	2854.62			4138.83
	Out of which	779.20	654.16			1453.36
	Plate Fabricated Equipment Machines	485.01	2200.46			2685.47

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure VI  
Page 1 of 2

DENİZLİ NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND 1981-1984  
Commission July 1984 0.63 M.T. Figures in Tons.

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel		125.36			125.36
69243	Air receiver		1.20			1.20
71111	Boiler with burner			20.40		20.40
72342	Loader,excavator,etc.			166.80		166.80
72343	Rock drill,air gun			8.86		8.86
72331	Swinging screen, Separators			85.86		85.86
72832	Crusher,ball mill, Tube mill			1160.46		1160.46
74121	Furnace burners			3.90		3.90
74132	Hot gas generator, Furnaces			14.00		14.00
74151	Heat exchanger		1.00			1.00
74163	Rotary kiln		659.20			659.20
74164	Cooler for clinker		148.40			148.40
74165	Cyclone preheater		140.00			140.00
74220	Water pumps		1.40			1.40
74230	Fuel oil pumps		1.63			1.63
74313	Compressors	71.60				71.60
74342	Ventilators		126.17			126.17

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

DENIZLI NEW CEMENT PLANTS PHASE- I SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984  
Commission July 1984 0.63 M.T. Figures in Tons

SITC Co <sup>d</sup> e	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators Washer			343.80		343.80
74411	Dump trucks			149.00		149.00
74423	Air lifts and Fuller pump Air slides	17.60		9.85		17.60 9.85
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.			604.64		604.64
74423	Reclaiming scraper		31.40			31.40
74522	Packing machinery	14.60				14.60
74931	Reduction gear boxes		231.70			231.70
	<b>GRAND TOTAL</b>	103.80	1467.46	2567.57		4138.83
	<b>Out of which</b>					
	<b>Plate Fabricated Equipment</b>	-	1075.16	378.20		1453.36
	<b>Machines</b>	103.80	392.30	2189.37		2685.47

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure VII  
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EDIRNE

NEW CEMENT PLANTS - PHASE

SUMMARY OF CAPITAL GOODS DEMAND

Commission July 1984

0.58 M.T

Figures in Tons/

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel		125.36			125.36
69242	Air receiver		1.20			1.20
71111	Boiler with burner			20.40		20.40
72342	Loader,excavator,etc.			166.80		166.80
72343	Rock drill,air gun			8.86		8.86
72331	Swaging screen, Separators			85.86		85.86
72332	Crusher,ball mill, Tube mill			1160.46		1160.46
74121	Furnace burners			3.90		3.90
74132	Hot gas generator, Furnaces			14.00		14.00
74151	Heat exchanger		1.00			1.00
74163	Rotary kiln		659.20			659.20
74164	Cooler for clinker		148.40			148.40
74165	Cyclone preheater		140.00			140.00
74220	Water pumps		1.40			1.40
74230	Fuel oil pumps		1.63			1.63
74313	Compressors	71.60				71.60
74342	Ventilators		126.17			126.17

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EDIRNE

NEW CEMENT PLANTS PHASE-  
Commissioning July 1984

SUMMARY OF CAPITAL GOODS DEMAND IN  
0.58 M.T

Figures in Tons/

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators			343.80		343.80
	Washer					
74411	Dump trucks			149.00		149.00
74423	Air lifts and Fuller pump	17.60				17.60
	Air slides			9.85		9.85
74426	Belt, chain and screw			604.64		604.64
	Conveyors, bucket elevators					
	Weigh feeders etc.					
74423	Reclaiming scraper		31.40			31.40
74522	Packing machinery	14.60				14.60
74931	Reduction gear boxes		231.70			231.70
	GRAND TOTAL	103.80	1467.46	2567.57		4138.83
	Out of which	-	1075.16	378.20		1453.36
	Plate Fabricated Equipment					
	Machines	103.80	392.30	2189.37		2685.47

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure VIII  
Page 1 of 2

URFA

NEW CEMENT PLANTS - PHASE

SUMMARY OF CAPITAL GOODS DEMAND

Commission July 1984

0.58 M.T

Figures in Tons/

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel		125.36			125.36
69242	Air receiver		1.20			1.20
71111	Boiler with burner			20.40		20.40
72342	Loader,excavator,etc.			166.80		166.80
72343	Rock drill,air gun			8.86		8.86
72331	Swinging screen, Separators			85.86		85.86
72332	Crusher,ball mill, Tube mill			1166.46		1166.46
74121	Furnace burners			3.90		3.90
74132	Hot gas generator, Furnaces			14.00		14.00
74151	Heat exchanger		1.00			1.00
74163	Rotary kiln		659.20			659.20
74164	Cooler for clinker		148.40			148.40
74165	Cyclone preheater		140.00			140.00
74220	Water pumps		1.40			1.40
74230	Fuel oil pumps		1.63			1.63
74313	Compressors	71.60				71.60
74342	Ventilators		126.17			126.17

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure VIII  
Page 2 of 2

UKFA NEW CEMENT PLANTS PHASE- I SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984  
Commission July 1984 0.58 M.T

Figures in Tons/

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators			343.80		343.80
	Washer					
74411	Dump trucks			149.00		149.00
74423	Air lifts and Fuller pump	17.60				17.60
	Air slides			9.85		9.85
74426	Belt, chain and screw			604.64		604.64
	Conveyors, bucket elevators					
	Weigh feeders etc.					
74423	Reclaiming scraper		31.40			31.40
74522	Packing machinery	14.60				14.60
74931	Reduction gear boxes		231.70			231.70
	GRAND TOTAL	103.80	1467.46	2567.57		4138.83
	Out of which		1075.16	378.20		1453.36
	Plate Fabricated Equipment					
	Machines	103.80	392.30	2189.37		2685.47



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

ADYAMAN

NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND 1981-1984  
Commissioning July 1982  
0.60 M.T.

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel	219.01				219.01
69243	Air receiver	4.74				4.74
71111	Boiler with burner	168.50				168.50
72342	Loader,excavator,etc.	835.66				835.66
72343	Rock drill,air gun	139.70				139.70
72331	Swaging screen, Separators	318.45				318.45
72332	Crusher,ball mill, Tube mill	4015.50				4015.50
74121	Furnace burners	76.27				76.27
74132	Hot gas generator, Furnaces	6.60				6.60
74161	Heat exchanger	14.50				14.50
74163	Rotary kiln	2300.80				2300.80
74164	Cooler for clinker	163.20				163.20
74165	Cyclone preheater	460.30				460.30
74220	Water pumps	9.32				9.32
74230	Fuel oil pumps	22.12				22.12
74313	Compressors	759.52				759.52
74342	Ventilators	926.92				926.92

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure IX

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ADIYAMAN

NEW CEMENT PLANTS PHASE- I  
Commissioning July 1982

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984  
0.60 M.T.

/Values in 1000 U.S.\$

SITC Code	Plant site Commissioning date and capacity BASIC MACHINE NAME	1981	1982	1983	1984	TOTALS		
74361	Filters, cyclones, Precipitators							
	Washer	1189.20				1189.20		
74411	Dump trucks	1180.90				1180.90		
74423	Air lifts and Fuller pump	182.07				182.07		
	Air slides	38.38				38.38		
74426	Belt, chain and screw							
	Conveyors, bucket elevators							
	Weigh feeders etc.	2967.03				2967.03		
74423	Reclaiming scraper	308.64				308.64		
74522	Packing machinery	189.80				189.80		
74931	Reduction gear boxes	1319.80				1319.80		
	GRAND TOTAL	17816.93				17816.93		
	Out of which							
	Plate Fabricated Equipment	4526.85				4526.85		
	Machines	13290.08				13290.08		

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**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

SAMSUN

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1981-1984

Commissioning July 1982

0.60 M.T

Annexure X  
Page 1 of 2

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel	219.01				219.01
69243	Air receiver	4.74				4.74
71111	Boiler with burner	168.50				168.50
72342	Loader,excavator,etc.	835.66				835.66
72343	Rock drill,air gun	139.70				139.70
72331	Swinging screen, Separators	318.45				318.45
72832	Crusher,ball mill, Tube mill	4015.50				4015.50
74121	Furnace burners	76.27				76.27
74132	Hot gas generator, Furnaces	6.60				6.60
74161	Heat exchanger	14.50				14.50
74163	Rotary kiln	2300.80				2300.80
74164	Cooler for clinker	163.20				163.20
74165	Cyclone preheater	460.30				460.30
74226	Water pumps	9.32				9.32
74230	Fuel oil pumps	22.12				22.12
74313	Compressors	759.52				759.52
74342	Ventilators	926.92				926.92

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

SAMSUN

NEW CEMENT PLANTS PHASE-

Commissioning July 1982

0.6 M.T

SITC Code	Plant site Commissioning date and capacity BASIC MACHINE NAME	1981
74361	Filters, cyclones, Precipitators Washer	1189.20
74411	Dump trucks	1180.90
74423	Air lifts and Fuller pump	182.07
	Air slides	38.38
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.	2967.03
74428	Reclaiming scraper	308.64
74522	Packing machinery	189.80
74931	Reduction gear boxes	1319.80
	GRAND TOTAL	17816.93
	Out of which	4526.85
	Plate Fabricated Equipment	
	Machines	13290.08

II SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984

Values in 1000 U.S.\$

1982	1983	1984	TOTAL
			1189.20
			1180.90
			182.07
			28.38
			2967.03
			308.64
			189.80
			1319.80
			17816.93
			4526.85
			13290.08

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

DIYARBAKIR

NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND 1981-84  
Commissioning July 1983

Annexure XI  
Page 1 of 2

(Values in 1000 US\$)

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel		219.01			219.01
69243	Air receiver		4.74			4.74
71111	Boiler with burner		168.50			168.50
72342	Loader,excavator,etc.		835.66			835.66
72343	Rock drill,air gun		139.70			139.70
72331	SwLaging screen, Separators	15.00	303.45			15.00 303.45
72332	Crusher,ball mill, Tube mill		4015.50			4015.50
74121	Furnace burners	5.26	71.01			5.26 71.01 76.27
74132	Hot gas generator, Furnaces		6.60			6.60
74151	Heat exchanger		14.50			14.50
74163	Rotary kiln	2300.80				2300.80
74164	Cooler for clinker		163.20			163.20
74165	Cyclone preheater	460.30				460.30
74220	Water pumps	9.32				9.32
74230	Fuel oil pumps		22.12			22.12
74313	Compressors	759.52				759.52
74342	Ventilators	926.92				926.92

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XI

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DIYARBAKIR

NEW CEMENT PLANTS PHASE- I  
Commissioning July 1983

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-84

Values in 1000 U.S.\$

SITC Code	Plant site Commissioning date and capacity BASIC MACHINE NAME	1981.	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators					
	Washer		1189.20			1189.20
74411	Dump trucks		1180.90			1180.90
74423	Air lifts and Fuller pump	182.07				182.07
	Air slides		38.38			38.38
74426	Belt, chain and screw Conveyors, bucket elevators					
	Weigh feeders etc.	312.32	2654.71			2967.03
74423	Reclaiming scraper		308.64			308.64
74522	Packing machinery	189.80				189.80
74931	Reduction gear boxes	1319.80				1319.80
	GRAND TOTAL	6481.11	11335.82			17816.93
	Out of which	2761.10	1765.75			4526.85
	Plate Fabricated Equipment Machines	3720.01				13290.08

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XII

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SIIRT

NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND 1981-84  
Commissioning July 1983

/Values in 1000 US\$

<u>SITE CODE</u>	<u>BASIC MACHINE NAME</u>	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel		219.01			219.01
69243	Air receiver		4.74			4.74
71111	Boiler with burner		168.50			168.50
72342	Loader,excavator,etc.		835.66			835.66
72343	Rock drill,air gun		139.70			139.70
72331	SwLaging screen, Separators	15.00	303.45			303.45
72332	Crusher,ball mill, Tube mill		4015.50			4015.50
74121	Furnace burners	5.26	71.01			76.27
74132	Hot gas generator, Furnaces		6.60			6.60
74161	Heat exchanger		14.50			14.50
74163	Rotary kiln	2300.80				2300.80
74164	Cooler for clinker		163.20			163.20
74165	Cyclone preheater	460.30				460.30
74220	Water pumps	9.32				9.32
74230	Fuel oil pumps		22.12			22.12
74313	Compressors	759.52				759.52
74342	Ventilators	926.92				926.92



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XII

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SIIRT

NEW CEMENT PLANTS PHASE- I  
Commissioning July 1983

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-84

/Values in 1000 U.S.\$

SITC Code	Plant site Commissioning date and capacity	1981	1982	1983	1984	TOTAL
	<b>BASIC MACHINE NAME</b>					
74361	Filters, cyclones, Precipitators					
	Washer		1189.20			1189.20
74412	Dump trucks		1180.90			1180.90
74423	Air lifts and Fuller pump	182.07				182.07
	Air slides		38.38			38.38
74426	Belt, chain and screw					
	Conveyors, bucket elevators					
	Weigh feeders etc.	312.32	2654.71			2967.03
74428	Reclaiming scraper		308.64			308.64
74522	Packing machinery	189.80				189.80
74931	Reduction gear boxes	1319.80				1319.80
	<b>GRAND TOTAL</b>	6481.11	11355.82			17816.93
	<b>Out of which</b>					
	Plate Fabricated Equipment	2761.10	1765.75			4526.85
	Machines	3720.01				13290.08

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

DENIZLI

NEW CEMENT PLANTS - PHASE

Commissioning July 1984

0.63 M.T Capacity

SITC Code	BASIC MACHINE NAME	1981	1982
69211	Reservoirs etc.of steel		219.01
69243	Air receiver		4.74
71111	Boiler with burner		
72342	Loader,excavator,etc.		
72343	Rock drill,air gun		
72331	Swinging screen, Separators		
72832	Crusher,ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74161	Heat exchanger		14.50
74163	Rotary kiln		2300.80
74164	Cooler for clinker		163.20
74165	Cyclone preheater		460.30
74220	Water pumps		9.32
74230	Fuel oil pumps		22.12
74313	Compressors	759.52	
74342	Ventilators		926.92

## Annexure XIII

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## I SUMMARY OF CAPITAL GOODS DEMAND 1981-84

(Values in 1000 US\$)

1983	1984	TOTAL		
		219.01		
		4.74		
168.50		168.50		
835.66		835.66		
139.70		139.70		
318.45		318.45		
4015.50		4015.50		
76.27		76.27		
6.60		6.60		
		14.50		
		2300.80		
		163.20		
		460.30		
		9.32		
		22.12		
		759.52		
		926.92		

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XIII

Page 2 of 2

DENIZLI

NEW CEMENT PLANTS PHASE- I  
Commissioning July 1984 0.63 M.T Capacity

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-84

/Values in 1000 U.S.\$

SITC Co'de	Plant site Commissioning date and capacity BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators					
	Washer			1189.20		1189.20
74411	Dump trucks			1180.90		1180.90
74423	Air lifts and Fuller pump	182.07				182.07
	Air slides			38.38		38.38
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.			2967.03		2967.03
74423	Reclaiming scraper		308.64			308.64
74522	Packing machinery	189.80				189.80
74931	Reduction gear boxes		1319.80			1319.80
	GRAND TOTAL	1131.39	5749.35	10936.19		17,816.93
	Out of which	-	3162.55	1364.30		4526.85
	Plate Fabricated Equipment Machines	1131.39	2586.80	9571.89		13,290.08

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EDIRNE

NEW CEMENT PLANTS - PHASE

Commissioning July 1984  
0.63 M.T Capacity

SITC Code	BASIC MACHINE NAME	1981	1982
69211	Reservoirs etc.of steel		219.01
69243	Air receiver		4.74
71111	Boiler with burner		
72342	Loader,excavator,etc.		
72343	Rock drill,air gun		
72331	Swinging screen, Separators		
72832	Crusher,ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74161	Heat exchanger		14.50
74163	Rotary kiln		2300.80
74164	Cooler for clinker		163.20
74165	Cyclone preheater		460.30
74220	Water pumps		9.32
74230	Fuel oil pumps		22.12
74313	Compressors	739.52	
74342	Ventilators		926.92

## I SUMMARY OF CAPITAL GOODS DEMAND 1981-84

/Values in 1000 US\$

1983	1984	TOTAL
		219.01
		4.74
168.50		168.50
835.66		835.66
139.70		139.70
		318.45
318.45		318.45
		4015.50
4015.50		4015.50
76.27		76.27
		6.60
6.60		6.60
		14.50
		2300.80
		163.20
		460.30
		9.32
		22.12
		759.52
		926.92

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EDIRNE NEW CEMENT PLANTS PHASE- I SUMMARY OF CAPITAL GOODS DEMAND IN 1981-84  
Commissioning July 1984 0.63 M.T Capacity

/Values in 1000 U.S.\$

SITC Co <sup>d</sup> e	Plant site Commissioning date and capacity BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators Washer			1189.20		1189.20
74411	Dump trucks			1180.90		1180.90
74423	Air lifts and Fuller pump	182.07				182.07
	Air slides			38.38		38.38
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.			2967.03		2967.03
74423	Reclaiming scraper		308.64			308.64
74522	Packing machinery	189.80				189.80
74931	Reduction gear boxes		1319.80			1319.80
	GRAND TOTAL	1131.39	5749.35	10936.19		17,816.93
	Out of which	-	3162.55	1364.30		4526.85
	Plate Fabricated Equipment Machines	1131.39	2586.80	9571.89		13,290.08

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

URFA

NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND 1981-84  
 Commissioning July 1984  
 0.63 M.T. Capacity

Annexure XV  
 Page 1 of 2

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel		219.01			219.01
69243	Air receiver		4.74			4.74
71111	Boiler with burner			168.50		168.50
72342	Loader,excavator,etc.			835.66		835.66
72343	Rock drill,air gun			139.70		139.70
72331	Swinging screen, Separators			318.45		318.45
72832	Crusher,ball mill, Tube mill			4015.50		4015.50
74121	Furnace burners			76.27		76.27
74132	Hot gas generator, Furnaces			6.60		6.60
74151	Heat exchanger		14.50			14.50
74163	Rotary kiln		2300.80			2300.80
74164	Cooler for clinker		163.20			163.20
74165	Cyclone preheater		460.30			460.30
74220	Water pumps		9.32			9.32
74230	Fuel oil pumps		22.12			22.12
74313	Compressors	759.52				759.52
74342	Ventilators		926.92			926.92



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XV  
Page 2 of 2

URFA

NEW CEMENT PLANTS PHASE- I  
Commissioning July 1984

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-84  
0.63 M.T. Capacity

/Values in 1000 U.S.\$

SITC Co <sup>d</sup> e	Plant site Commissioning date and capacity	1981	1982	1983	1984	TOTAL
	<b>BASIC MACHINE NAME</b>					
74361	Filters, cyclones, Precipitators					
	Washer			1189.20		1189.20
74411	Dump trucks			1180.90		1180.90
74423	Air lifts and Fuller pump	182.07				182.07
	Air slides			38.38		38.38
74426	Belt, chain and screw					
	Conveyors, bucket elevators					
	Weigh feeders etc.			2967.03		2967.03
74428	Reclaiming scraper		308.64			308.64
74522	Packing machinery	189.80				189.80
74931	Reduction gear boxes		1319.80			1319.80
	<b>GRAND TOTAL</b>	1131.39	5749.35	10936.19		17816.93
	<b>Out of which</b>					
	Plate Fabricated Equipment	-	3162.55	1364.30		4526.85
	Machines	1131.39	2586.80	9571.89		13290.08

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CENTRAL ANATOLIA

NEW CEMENT PLANTS - PHASE

Commissioning 1986  
1.2 M.T.

SITC Code	BASIC MACHINE NAME	YEARS	
		1983	1984
69211	Reservoirs etc.of steel		250.72
69243	Air receiver		2.40
71111	Boiler with burner		40.80
72342	Loader,excavator,etc.		333.60
72343	Rock drill,air gun		17.72
72331	SwLaging screen, Separators	5.32	166.40
72832	Crusher,ball mill, Tube mill		2320.92
74121	Furnace burners		7.80
74132	Hot gas generator, Furnaces		28.00
74151	Heat exchanger		2.00
74163	Rotary kiln		1318.40
74164	Cooler for clinker		296.80
74165	Cyclone preheater		280.00
74220	Water pumps		2.80
74230	Fuel oil pumps		3.26
74313	Compressors	143.20	
74342	Ventilators	133.90	118.44

## Annexure XVI

Page 1 of 2

## II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Figures in Tons/

1985	1986	1987	1988	1989	TOTALS
					250.72
					2.40
					40.80
					333.60
					17.72
					5.32
					166.40
					2320.92
					7.80
					28.00
					2.00
					1318.40
					296.80
					280.00
					2.80
					3.26
					143.20
					252.34

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

Annexure XVI

Page 2 of 2

**CENTRAL ANATOLIA NEW CEMENT PLANTS PHASE- II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990**  
 Commissioning 1986  
 1.2 M.T.

Figures in Tons/

SITC Code	BASIC MACHINE NAME	YEARS							TOTALS
		1983	1984	1985	1986	1987	1988	1989	
74361	Filters, cyclones, Precipitators Washer		687.60						687.60
74411	Dump trucks			298.00					298.00
74423	Air lifts and Fuller pump	16.00							16.00
	Air slides		38.90						38.90
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.	37.76	1171.52						1209.28
74428	Reclaiming scraper	62.80							62.80
74522	Packing machinery	29.20							29.20
74931	Reduction gear boxes	463.40							463.40
	<b>GRAND TOTAL</b>	<b>891.58</b>	<b>7088.08</b>	<b>298.00</b>					<b>8277.66</b>
	<b>Out of which</b>								
	<b>Plate Fabricated Equipment</b>	-	2906.72	-					2906.72
	<b>Machines</b>	<b>891.58</b>	<b>4181.36</b>	<b>298.00</b>					<b>5370.94</b>

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEYBLACK SEA

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1987  
1.2. M.T.

Figures in Tons/

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc.of steel			250.72					250.72
69243	Air receiver			2.40					2.40
71111	Boiler with burner			40.80					40.80
72342	Loader,excavator,etc.			333.60					333.60
72343	Rock drill,air gun			17.72					17.72
72331	Swiaging screen, Separators		5.32	166.40					5.32 166.40
72832	Crusher,ball mill, Tube mill			2320.92					2320.92
74121	Furnace burners			7.80					7.80
74132	Hot gas generator, Furnaces			28.00					28.00
74161	Heat exchanger			2.00					2.00
74163	Rotary kiln			1318.40					1318.40
74164	Cooler for clinker			296.80					296.80
74165	Cyclone preheater			280.00					280.00
74220	Water pumps			2.80					2.80
74230	Fuel oil pumps			3.26					3.26
74313	Compressors		143.20						143.20
74342	Ventilators		133.90	118.44					252.34

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**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

**BLACK SEA NEW CEMENT PLANTS PHASE- II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990**  
 Commissioning 1987 1.2 M.T.

Figures in Tons/

SITC Co <sup>d</sup> e	Plant site Commissioning date and capacity	1983	1984	1985	1986	1987	1988	1989	TOTAL
	<b>BASIC MACHINE NAME</b>								
74361	Filters, cyclones, Precipitators Washer			687.60					687.60
74411	Dump trucks				298.00				298.00
74423	Air lifts and Fuller pump		16.00						16.00
	Air slides			38.90					38.90
74426	Belt, chain and screw Conveyors, bucket elevators								
	Weigh feeders etc.		37.76	1171.52					1209.28
74423	Reclaiming scraper		62.80						62.80
74522	Packing machinery		29.20						29.20
74931	Reduction gear boxes		463.40						463.60
	<b>GRAND TOTAL</b>		891.58	7088.08	298.00				8277.66
	<b>Out of which</b>								
	Plate Fabricated Equipment		-	2906.72	-				2906.72
	Machines		891.58	4181.36	298.00				5370.94

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**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

Annexure XVIII

Page 1 of 2

**CENTRAL ANATOLIA REGION**  
Commissioning 1988  
1.2 M.T.

**NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990**

Figures in Tons/

SITC Code	BASIC MACHINE NAME	YEARS							TOTAL
		1983	1984	1985	1986	1987	1988	1989	
69211	Reservoirs etc.of steel				250.72				250.72
69243	Air receiver				2.40				2.40
71111	Boiler with burner				40.80				40.80
72342	Loader,excavator,etc.				333.60				333.60
72343	Rock drill,air gun				17.72				17.72
72831	Swaging screen, Separators			5.32	166.40				166.40
72832	Crusher,ball mill, Tube mill				2320.92				2320.92
74121	Furnace burners				7.80				7.80
74132	Hot gas generator, Furnaces				28.00				28.00
74161	Heat exchanger				2.00				2.00
74163	Rotary kiln				1318.40				1318.40
74164	Cooler for clinker				296.80				296.80
74165	Cyclone preheater				280.00				280.00
74220	Water pumps				2.80				2.80
74230	Fuel oil pumps				3.26				3.26
74313	Compressors			143.20					143.20
74342	Ventilators			133.90	118.44				252.34

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**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**  
**CENTRAL ANATOLIA REGION**

Commissioning 1988 NEW CEMENT PLANTS PHASE- II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990  
 1.2 M.T. Figures in Tons/

SITC Co <sup>d</sup> e	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters,cyclones,Precipitators Washer				687.60				687.60
74411	Dump trucks					298.00			298.00
74423	Air lifts and Fuller pump Air slides			16.00	38.90				16.00 38.90
74426	Belt,chain and screw Conveyors,bucket elevators Weigh feeders etc.			37.76	1171.52				1209.28
74428	Reclaiming scraper			62.80					62.80
74522	Packing machinery			29.20					29.20
74931	Reduction gear boxes			463.40					463.40
	GRAND TOTAL			891.58	7088.08	298.00			8277.66
	Out of which Plate Fabricated Equipment			-	2906.72	-			2906.72
	Machines			891.58	4181.36	298.00			5370.94

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

AEGEAN REGION

NEW CEMENT PLANTS - PHASE II

SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1988

1.2 M.T

Figures in Tons/

Annexure XIX

Page 1 of 2

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc.of steel				250.72				250.72
50243	Air receiver				2.40				2.40
71111	Boiler with burner				40.80				40.80
72342	Loader,excavator,etc.				333.60				333.60
72343	Rock drill,air gun				17.72				17.72
72331	Swinging screen, Separators			5.32	166.40				166.40
72832	Crusher,ball mill, Tube mill				2320.92				2320.92
74121	Furnace burners				7.80				7.80
74132	Hot gas generator, Furnaces				28.00				28.00
74151	Heat exchanger				2.00				2.00
74163	Rotary kiln				1318.40				1318.40
74164	Cooler for clinker				296.80				296.80
74165	Cyclone preheater				280.00				280.00
74220	Water pumps				2.80				2.80
74230	Fuel oil pumps				3.26				3.26
74313	Compressors			143.20					143.20
74342	Ventilators			133.90	118.44				252.34

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EAGEAN REGION

NEW CEMENT PLANTS PHASE- II  
Commissioning 1988 1.2 M.T

SITC Code	BASIC MACHINE NAME	1983	1984
74361	Filters,cyclones,Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump Air slides		
74426	Belt,chain and screw Conveyors,bucket elevators Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL		
	Out of which		
	Plate Fabricated Equipment Machines		

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Figures in Tons/

1985	1986	1987	1988	1989	TOTAL
	687.60				687.60
16.00		298.00			298.00
	38.90				38.90
37.76	1171.52				1209.28
62.80					62.80
29.20					29.20
463.40					463.40
891.58	7088.08	298.00			8277.66
-	2906.72	-			2906.72
891.58	4181.36	298.00			5870.94

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MARMARA REGION

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1988

Annexure XX  
Page 1 of 2

Figures in Tons/

SITC Code	BASIC MACHINE NAME	YEARS							
		1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc.of steel				250.72				250.72
69243	Air receiver				2.40				2.40
71111	Boiler with burner				40.80				40.80
72342	Loader,excavator,etc.				333.60				333.60
72343	Rock drill,air gum				17.72				17.72
72331	Swinging screen, Separators			5.32					5.32
72832	Crusher,ball mill, Tube mill				166.40				166.40
					2320.92				2320.92
74121	Furnace burners				7.80				7.80
74132	Hot gas generator, Furnaces				28.00				28.00
74151	Heat exchanger				2.00				2.00
74163	Rotary kiln				1318.40				1318.40
74164	Cooler for clinker				296.80				296.80
74165	Cyclone preheater				280.00				280.00
74220	Water pumps				2.80				2.80
74230	Fuel oil pumps				3.26				3.26
74313	Compressors			143.20					143.20
74342	Ventilators			133.90	118.44				252.34

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

MARMARA REGION

NEW CEMENT PLANTS PHASE- II  
Commissioning 1988 1.2 M.T

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Figures in Tons/

SITC Co'de	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters, cyclones, Precipitators Washer				687.60				687.60
74411	Dump trucks					298.00			298.00
74423	Air lifts and Fuller pump Air slides			16.00	38.90				54.90
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.			37.76	1171.52				1209.28
74428	Reclaiming scraper			62.80					62.80
74522	Packing machinery			29.20					29.20
74931	Reduction gear boxes			463.40					463.40
	GRAND TOTAL			891.58	7088.08	298.00			8277.66
	Out of which			-	2906.72	-			2906.72
	Plate Fabricated Equipment Machines			891.58	4181.36	298.00			5370.94

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXI

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BLACK SEA NEW CEMENT PLANTS PHASE- II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990  
Commissioning - 1989 I.2. M.T.

Figures in Tons/

SITC Code	Plant site Commissioning date and capacity	1983	1984	1985	1986	1987	1988	1989	TOTAL
	BASIC MACHINE NAME								
74361	Filters, cyclones, Precipitators Washer					687.60			687.60
74411	Dump trucks						298.00		298.00
74423	Air lifts and Fuller pump				16.00				16.00
	Air slides					38.90			38.90
74426	Belt, chain and screw Conveyors, bucket elevators								
	Weigh feeders etc.				37.76	1171.52			1209.28
74423	Reclaiming scraper				62.80				62.80
74522	Packing machinery				29.20				29.20
74931	Reduction gear boxes				463.40				463.40
	GRAND TOTAL				891.58	7088.08	298.00		8277.66
	Out of which								
	Plate Fabricated Equipment				-	2906.72	-		2906.72
	Machines				891.58	4181.36	298.00		5370.94

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

BLACK SEA  
Commissioning 1989  
1.2 M.T.

NEW CEMENT PLANTS - PHASE

SITC Code	BASIC MACHINE NAME	1983	1984
69211	Reservoirs etc.of steel		
69243	Air receiver		
71111	Boiler with burner		
72342	Loader,excavator,etc.		
72343	Rock drill,air gun		
72331	Swinging screen, Separators		
72332	Crusher,ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74161	Heat exchanger		
74163	Rotary kiln		
74164	Cooler for clinker		
74165	Cyclone preheater		
74220	Water pumps		
74230	Fuel oil pumps		
74313	Compressors		
74342	Ventilators		

II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990  
Figures in Tons/

1985	1986	1987	1988	1989	TOTAL
		250.72			250.72
		2.40			2.40
		40.80			40.80
		333.60			333.60
		17.72			17.72
	5.32				5.32
		166.40			166.40
		2320.92			2320.92
		7.80			7.80
		28.00			28.00
		2.00			2.00
		1318.40			1318.40
		296.80			296.80
		280.00			280.00
		2.80			2.80
		3.26			3.26
	143.20				143.20
	133.90	118.44			282.34



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXII

Page 1 of 2

MEDITERRANEAN

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1989  
Cap. 0.6 M.T.

Figures in Tons/.

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc.of steel					125.36			125.36
69243	Air receiver					1.20			1.20
71111	Boiler with burner					20.40			20.40
72342	Loader,excavator,etc.					166.80			166.80
72343	Rock drill,air gun					8.86			8.86
72331	Swinging screen,				2.66				2.66
	Separators					83.20			83.20
72832	Crusher,ball mill,								
	Tube mill					1160.46			1160.46
74121	Furnace burners					3.90			3.90
74132	Hot gas generator,								
	Furnaces					14.00			14.00
74151	Heat exchanger					1.00			1.00
74163	Rotary kiln					659.20			659.20
74164	Cooler for clinker					148.40			148.40
74165	Cyclone preheater					140.00			140.00
74220	Water pumps					1.20			1.20
74230	Fuel oil pumps					1.63			1.63
74313	Compressors				71.60				71.60
74342	Ventilators				66.95	59.22			126.17

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MEDITERRANEAN NEW CEMENT PLANTS PHASE- II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990  
Commissioning 1989  
Cap. o 6 M T  
Figures in Tons/

SITC Co <sup>de</sup>	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters, cyclones, Precipitators Washer					343.80			343.80
74411	Dump trucks						149.00		149.00
74423	Air lifts and Fuller pump				8.00				8.00
	Air slides					19.45			19.45
74426	Belt, chain and screw Conveyors, bucket elevators								
	Weigh feeders etc.				18.88	585.76			604.64
74428	Reclaiming scraper				31.40				31.40
74522	Packing machinery				14.60				14.60
74931	Reduction gear boxes				231.70				231.70
	<b>GRAND TOTAL</b>				445.79	3544.04	149.00		4138.83
	Out of which								
	Plate Fabricated Equipment				-	1453.36	-		1453.36
	Machines				445.79	2090.68	149.00		2685.47

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CENTRAL ANATOLIA REGION NEW CEMENT PLANTS - PHASE

Commissioning - 1990  
1.2 M.T.

SIT. CODE	BASIC MACHINE NAME	YEARS	
		1983	1984
74101	Reservoirs etc. of steel		
74102	Air receiver		
74111	Boiler with burner		
74142	Loader, excavator, etc.		
74243	Rock drill, air gun		
74331	Springing screen, Separators		
74332	Crusher, ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74151	Heat exchanger		
74163	Rotary kiln		
74164	Cooler for clinker		
74165	Cyclone preheater		
74220	Water pumps		
74230	Fuel oil pumps		
74313	Compressors		
74342	Ventilators		

II. SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Figures in tons,

1985	1986	1987	1988	1989	TOTAL
			250.72		250.72
			2.40		2.40
			40.80		40.80
			333.60		333.60
			17.72		17.72
		5.32			5.32
			166.40		166.40
			2320.92		2320.92
			7.80		7.80
			28.00		28.00
			2.00		2.00
			1318.40		1318.40
			296.80		296.80
			280.00		280.00
			2.80		2.80
			3.26		3.26
		143.20			143.20
		133.90	118.44		252.34

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXIII

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CENTRAL ANATOLIA REGION  
 Commissioning NEW CEMENT PLANTS PHASE- II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990  
 1.2 M.T. - 1990

Figures in Tons/

SITC Co <sup>d</sup> e	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters,cyclones,Precipitators						687.60		687.60
	Washer								
74411	Dump trucks							298.00	298.00
74423	Air lifts and Fuller pump					16.00			16.00
	Air slides						38.90		38.90
74426	Belt,chain and screw								
	Conveyors,bucket elevators								
	Weigh feeders etc.					37.76	1171.52		1209.28
74423	Reclaiming scraper					62.80			62.80
74522	Packing machinery					29.20			29.20
74931	Reduction gear boxes					463.40			463.40
	<b>GRAND TOTAL</b>					<b>891.58</b>	<b>7088.08</b>	<b>298.00</b>	<b>8277.66</b>
	Out of which								
	Plate Fabricsted Equipment					-	2906.72	-	2906.72
	Machines					891.58	4181.36	298.00	5370.94

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXIV

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AEGEAN REGION

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Commissioning 1990

1.2 M.T

Figures in Tons/

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc.of steel						250.72		250.72
69243	Air receiver						2.40		2.40
71111	Boiler with burner						40.80		40.80
72342	Loader,excavator,etc.						333.60		333.60
72343	Rock drill,air gun						17.72		17.72
72331	Swinging screen, Separators					5.32	166.40		171.72
72332	Crusher,ball mill, Tube mill						2320.92		2320.92
74121	Furnace burners						7.80		7.80
74132	Hot gas generator, Furnaces						28.00		28.00
74151	Heat exchanger						2.00		2.00
74163	Rotary kiln						1318.40		1318.40
74164	Cooler for clinker						296.80		296.80
74165	Cyclone preheater						280.00		280.00
74220	Water pumps						2.80		2.80
74230	Fuel oil pumps						3.26		3.26
74313	Compressors					143.20			143.20
74342	Ventilators					133.90	118.44		252.34

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

AEGEAN REGION

NEW CEMENT PLANTS PHASE- II  
Commissioning 1990 1.2 M.T

SITC Co <sup>d</sup> e	BASIC MACHINE NAME	1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump Air slides		
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL		
	Out of which		
	Plate Fabricated Equipment		
	Machines		

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Figures in Tons/

1985	1986	1987	1988	1989	TOTAL
			687.60		687.60
				298.00	298.00
		16.00			16.00
			38.90		38.90
		37.76	1171.52		1209.28
		62.80			62.80
		29.20			29.20
		463.40			463.40
		981.58	7088.08	298.00	8277.66
		-	2906.72	-	2906.72
		891.58	4181.36	298.00	5370.94

to



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MARMARA REGION

NEW CEMENT PLANTS - PHASE

Commissioning 1990

1.2 M.T

SITC Code	BASIC MACHINE NAME	YEARS	
		1983	1984
69211	Reservoirs etc.of steel		
69243	Air receiver		
71111	Boiler with burner		
72342	Loader,excavator,etc.		
72343	Rock drill,air gun		
72331	Swinging screen, Separators		
72332	Crusher,ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74151	Heat exchanger		
74163	Rotary kiln		
74164	Cooler for clinker		
74165	Cyclone preheater		
74220	Water pumps		
74230	Fuel oil pumps		
74313	Compressors		
74342	Ventilators		

## II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Figures in Tons/

1985	1986	1987	1988	1989	TOTAL
			250.72		250.72
			2.40		2.40
			40.80		40.80
			333.60		333.60
			17.72		17.72
		5.32			5.32
			166.40		166.40
			2320.92		2320.92
			7.80		7.80
			28.00		28.00
			2.00		2.00
			1318.40		1318.40
			296.80		296.80
			280.00		280.00
			2.80		2.80
			3.26		3.26
		243.20			143.20
		133.90	118.44		252.34

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MARMARA REGION

NEW CEMENT PLANTS PHASE-  
Commissioning 1990 1.2 M.T

II

SITC Code	BASIC MACHINE NAME	1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump		
74426	Air slides		
74426	Belt, chain and screw		
74423	Conveyors, bucket elevators		
74423	Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL		
	Out of which		
	Plate Fabricated Equipment		
	Machines		

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Figures in Tons/

1985	1986	1987	1988	1989	TOTAL
			687.60		687.60
				298.00	298.00
		16.00			16.00
			38.90		38.90
		37.76	1171.52		1209.28
		62.80			62.80
		29.20			29.20
		463.40			463.40
		891.58	7088.08	298.00	8277.66
		-	2906.72	-	2906.72
		891.58	4181.36	298.00	5370.94

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CENTRAL ANATOLIA

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1986 1.2 M.T

Annexure XXVI

Page 1 of 2

Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc.of steel		438.02						483.02
69243	Air receiver		9.48						9.48
71111	Boiler with burner		337.00						337.00
72342	Loader,excavator,etc.		1671.32						1671.32
72343	Rock drill,air gum		279.40						279.40
72331	Swinging screen, Separators	30.00	606.90						30.00 606.90
72332	Crusher,ball mill, Tube mill		8031.00						8031.00
74121	Furnace burners		152.54						152.54
74132	Hot gas generator, Furnaces		13.20						13.20
74151	Heat exchanger		29.00						29.00
74163	Rotary kiln		4601.60						4601.60
74164	Cooler for clinker		326.40						326.40
74165	Cyclone preheater		290.60						290.60
74220	Water pumps		18.64						18.64
74230	Fuel oil pumps		44.24						44.24
74313	Compressors	1519.04							1519.04
74342	Ventilators	935.60	918.24						935.60 918.24 1853.84

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXVI  
Page 2 of 2

CENTRAL ANATOLIA

NEW CEMENT PLANTS PHASE-  
Commissioning 1986 1.2 M.T

II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

/Values in 1000 U.S.\$

SITC Co <sup>d</sup> e	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
7436i	Filters, cyclones, Precipitators								
	Washer		2378.40						2378.40
7441i	Dump trucks			2361.80					2361.80
74423	Air lifts and Fuller pump	195.60							195.60
	Air slides		254.30						245.30
74426	Belt, chain and screw								
	Conveyors, bucket elevators								
	Weigh feeders etc.	624.64	5309.42						5934.06
74423	Reclaiming scraper	617.28							617.28
74522	Packing machinery	379.60							379.60
74931	Reduction gear boxes	2639.60							2639.60
	GRAND TOTAL	6941.36	26330.70	2361.80					35633.86
	Out of which	-	9053.70	-					9053.70
	Plate Fabricated Equipment								
	Machines	6941.36	17277.0	2361.80					26580.16

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXVII

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BLACK SEA

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1987

1.2 M.T

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc.of steel			438.02					438.02
69243	Air receiver			9.48					9.48
71111	Boiler with burner			337.00					337.00
72342	Loader,excavator,etc.			1671.32					1671.32
72343	Rock drill,air gun			279.40					279.40
72331	Swinging screen, Separators		30.00	606.90					30.00 606.90
72332	Crusher,ball mill, Tube mill			8031.00					8031.00
74121	Furnace burners			152.54					152.54
74132	Hot gas generator, Furnaces			13.20					13.20
74151	Heat exchanger			29.00					29.00
74163	Rotary kiln			4601.60					4601.60
74164	Cooler for clinker			326.40					326.40
74165	Cyclone preheater			290.60					290.60
74220	Water pumps			18.64					18.64
74230	Fuel oil pumps			44.24					44.24
74313	Compressors		1519.04						1519.04
74342	Ventilators		935.60	918.24					935.60 918.24 1853.84

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

BLACK SEA

NEW CEMENT PLANTS PHASE-  
Commissioning 1987 1.2 M.T

II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Values in 1000 U.S.\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters, cyclones, Precipitators Washer			2378.40					2378.40
74411	Dump trucks				2361.80				2361.80
74423	Air lifts and Fuller pump Air slides		195.60	245.30					195.60 245.30
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.		624.64	5309.42					5934.06
74423	Reclaiming scraper		617.28						617.28
74522	Packing machinery		379.60						379.60
74931	Reduction gear boxes		2639.60						2639.60
	GRAND TOTAL		6941.36	26330.7	2361.80				35,633.86
	Out of which		-	9053.7	-				9053.7
	Plate Fabricated Equipment Machines		6941.36	17277.0	2361.80				26,580.16



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXVIII

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CENTRAL ANATOLIA

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND In 1983-1990

Commissioning 1988

1.2 M.T

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc.of steel				438.02				438.02
69243	Air receiver				9.48				9.48
71111	Boiler with burner				337.00				337.00
72342	Loader,excavator,etc.				1671.32				1671.32
72343	Rock drill,air gun				279.40				279.40
72331	Swinging screen, Separators			30.00	606.90				30.00 606.90
72332	Crusher,ball mill, Tube mill				8031.00				8031.00
74121	Furnace burners				152.54				152.54
74132	Hot gas generator, Furnaces				13.20				13.20
74151	Heat exchanger				29.00				29.00
74163	Rotary kiln				4601.60				4601.60
74164	Cooler for clinker				326.40				326.40
74165	Cyclone preheater				920.60				920.60
74220	Water pumps				18.64				18.64
74230	Fuel oil pumps				44.24				44.24
74313	Compressors			1519.04					1519.04
74342	Ventilators			935.60	918.24				935.60 918.24 1853.84

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CENTRAL ANATOLIA

NEW CEMENT PLANTS PHASE- II

Commissioning 1988

1.2 M.T

SITC Code	BASIC MACHINE NAME	1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump Air slides		
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.		
74428	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL		
	Out of which		
	Plate Fabricated Equipment Machines		

## Annexure XXVIII

Page 2 of 2

## SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

(Values in 1000 U.S.\$)

1985	1986	1987	1988	1989	TOTAL
	2378.40				2378.40
		2361.80			2361.80
195.60					195.60
	254.30				245.30
624.64	5309.42				5934.06
617.28					617.28
379.60					379.60
2639.60					2639.60
6941.36	26330.7	2361.80			35,633.86
-	9053.7	-			9053.70
6941.36	17277.0	2361.80			26,580.16

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

AEGEAN

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1988 1.2 M.T

Annexure XXIX

Page 1 of 2

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc.of steel				438.02				438.02
69243	Air receiver				9.48				9.48
71111	Boiler with burner				337.00				337.00
72342	Loader,excavator,etc.				1671.32				1671.32
72343	Rock drill,air gun				279.40				279.40
72331	Swinging screen, Separators			30.00	606.90				30.00 606.90
72832	Crusher,ball mill, Tube mill				8031.00				8031.80
74121	Furnace burners				152.54				152.54
74132	Hot gas generator, Furnaces				13.20				13.20
74151	Heat exchanger				29.00				29.00
74163	Rotary kiln				4601.60				4601.60
74164	Cooler for clinker				326.40				326.40
74165	Cyclone preheater				920.60				920.60
74220	Water pumps				18.64				18.64
74230	Fuel oil pumps				44.24				44.24
74313	Compressors			1519.04					1519.04
74342	Ventilators			935.60	918.24				1853.84

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXIX

Page 2 of 2

AEGEAN

NEW CEMENT PLANTS PHASE-

II

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Commissioning 1988 1.3 M.T

/Values in 1000 U.S.\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters, cyclones, Precipitators								
	Washer				2378.40				2378.40
74411	Dump trucks					2361.80			2361.80
74423	Air lifts and Fuller pump			195.60					195.60
	Air slides				254.30				254.30
74426	Belt, chain and screw								
	Conveyors, bucket elevators								
	Weigh feeders etc.			624.64	5309.42				5934.06
74423	Reclaiming scraper			617.28					617.28
74522	Packing machinery			379.60					379.60
74931	Reduction gear boxes			2639.60					2639.60
	<b>GRAND TOTAL</b>			6941.36	26330.7	2361.80			35,633.86
	Out of which			-	9053.7	-			9053.70
	Plate Fabricated Equipment								
	Machines			6941.36	17277.0	2361.80			26,580.16

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXX  
Page 1 of 2

MARMARA

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1986 1.2 M.T

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc.of steel				438.02				438.02
69243	Air receiver				9.48				9.48
71111	Boiler with burner				337.00				337.00
72342	Loader,excavator,etc.				1671.32				1671.32
72343	Rock drill,air gun				279.40				279.40
72331	Swinging screen, Separators			30.00	606.90				30.00 606.90
72832	Crusher,ball mill, Tube mill				8031.00				8031.00
74121	Furnace burners				152.54				152.54
74132	Hot gas generator, Furnaces				13.20				13.20
74151	Heat exchanger				29.00				29.00
74163	Rotary kiln				4601.60				4601.60
74164	Cooler for clinker				326.40				326.40
74165	Cyclone preheater				920.60				920.60
74220	Water pumps				18.64				18.64
74230	Fuel oil pumps				44.24				44.24
74313	Compressors			1519.04					1519.04
74342	Ventilators			935.60	918.24				935.60 918.24 1853.84

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MARMARA

NEW CEMENT PLANTS PHASE- II  
Commissioning 1986 1.2 M.T

SITC Code	BASIC MACHINE NAME	1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump		
	Air slides		
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL		
	Out of which		
	Plate Fabricated Equipment		
	Machines		

## SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

/Values in 1000 U.S.\$

1985	1986	1987	1988	1989	TOTAL
	2378.40				2378.40
195.60		2361.80			2361.80
	245.30				195.60
					245.30
624.64	5309.42				5934.06
617.28					617.28
379.60					379.60
2639.60					2639.60
6941.36	26330.7	2361.80			35,633.86



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

BLACK SEA

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND

1983-1990

Commissioning 1989 1.2 M.T

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc.of steel					438.02			438.02
69243	Air receiver					9.48			9.48
71111	Boiler with burner					337.00			337.00
72342	Loader,excavator,etc.					1671.32			1671.32
72343	Rock drill,air gun					279.40			279.40
72321	Swinging screen, Separators				30.00	606.90			30.00 606.90
72832	Crusher,ball mill, Tube mill					8031.00			8031.00
74121	Furnace burners					152.54			152.54
74132	Hot gas generator, Furnaces					13.20			13.20
74151	Heat exchanger					29.00			29.00
74163	Rotary kiln					4601.60			4601.60
74164	Cooler for clinker					326.40			326.40
74165	Cyclone preheater					920.60			920.60
74220	Water pumps					18.64			18.64
74230	Fuel oil pumps					44.24			44.24
74313	Compressors				1519.04				1519.04
74342	Ventilators				935.60	918.24			1853.84

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

BLACK SEA

NEW CEMENT PLANTS PHASE- II

SITC Code	Plant site Commissioning date and capacity	BASIC MACHINE NAME	
		1983	1984
74361		Filters, cyclones, Precipitators	
		Washer	
74411		Dump trucks	
74423		Air lifts and Fuller pump	
		Air slides	
74426		Belt, chain and screw	
		Conveyors, bucket elevators	
		Weigh feeders etc.	
74423		Reclaiming scraper	
74522		Packing machinery	
74931		Reduction gear boxes	
		GRAND TOTAL	
		Out of which	
		Plate Fabricated Equipment	
		Machines	

## Annexure XXXI

Page 2 of 2

## SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

/Values in 1000 U.S.\$

1985	1986	1987	1988	1989	TOTALS
		3278.40			2378.40
	195.60		2361.80		2361.80
		265.30			195.60
					245.30
	624.64	5309.42			5934.06
	617.28				617.28
	379.60				379.60
	2639.60				2639.60
	6941.36	26330.7	2361.80		35,633.86
	-	9053.7	-		9053.70
	6941.36	17277.0	2361.80		26,580.16

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MEDITERRANEAN

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1989 0.6 M.T

Annexure XXXII

Page 1 of 2

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTALS
69211	Reservoirs etc.of steel					219.01			219.01
69243	Air receiver					4.74			4.74
71111	Boiler with burner					168.50			168.50
72342	Loader,excavator,etc.					835.66			835.66
72343	Rock drill,air gun					139.70			139.70
72331	Swinging screen, Separators				15.00	303.45			303.45
72832	Crusher,ball mill, Tub? mill					4015.50			4015.50
74121	Furnace burners					76.27			76.27
74132	Hot gas generator, Furnaces					6.60			6.60
74151	Heat exchanger					14.50			14.50
74163	Rotary kiln					2300.80			2300.80
74164	Cooler for clinker					163.20			163.20
74165	Cyclone preheater					460.30			460.30
74220	Water pumps					9.32			9.32
74230	Fuel oil pumps					22.12			22.12
74313	Compressors				759.52				759.52
74342	Ventilators				467.80	459.12			926.92

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MEDITERRANEAN

NEW CEMENT PLANTS PHASE- II

Commissioning 1989

0.6 M.T

SITC Code	BASIC MACHINE NAME	Plant site Commissioning date and capacity	
		1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump Air slides		
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL		
	Out of which		
	Plate Fabricated Equipment		
	Machines		

Annexure XXXII  
Page 2 of 2

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

-/Values in 1000 U.S.\$

1985	1986	1987	1988	1989	TOTALS
		1189.20			1189.20
			1180.90		1180.90
	97.80				97.80
		122.65			122.65
	312.32	2654.71			2967.03
	308.64				308.64
	189.80				189.80
	1319.80				1319.80

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CENTRAL ANATOLIA

NEW CEMENT PLANTS - PHASE

Commissioning 1990 I.I.C.M.F

SITC Code	BASIC MACHINE NAME	1983	1984
69211	Reservoirs etc.of steel		
69243	Air receiver		
71111	Boiler with burner		
72342	Loader,excavator,etc.		
72343	Rock drill,air gun		
72331	Swinging screen, Separators		
72332	Crusher,ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74151	Heat exchanger		
74163	Rotary kiln		
74164	Cooler for clinker		
74165	Cyclone preheater		
74220	Water pumps		
74230	Fuel oil pumps		
74313	Compressors		
74342	Ventilators		

## Annexure XXXIII

Page 1 of 2

## II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

/Values in 1000 US\$

1985	1986	1987	1988	1989	TOTALS
			438.02		438.02
			9.48		9.48
			337.00		337.00
			1671.32		1671.32
			279.40		279.40
		30.00			30.00
			606.90		606.90
			8031.00		8031.00
			152.54		152.54
			13.20		13.20
			29.00		29.00
			4601.60		4601.60
			326.40		326.40
			920.60		920.60
			18.64		18.64
			44.24		44.24
		1519.04			1519.04
		935.60	918.24		1853.84

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CENTRAL ANATOLIA

NEW CEMENT PLANTS PHASE- II

Commissioning 1990

1.2 M.T

SITC Code	BASIC MACHINE NAME	Plant site Commissioning date and capacity	
		1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump Air slides		
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL		
	Out of which		
	Plate Fabricated Equipment		
	Machines		

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

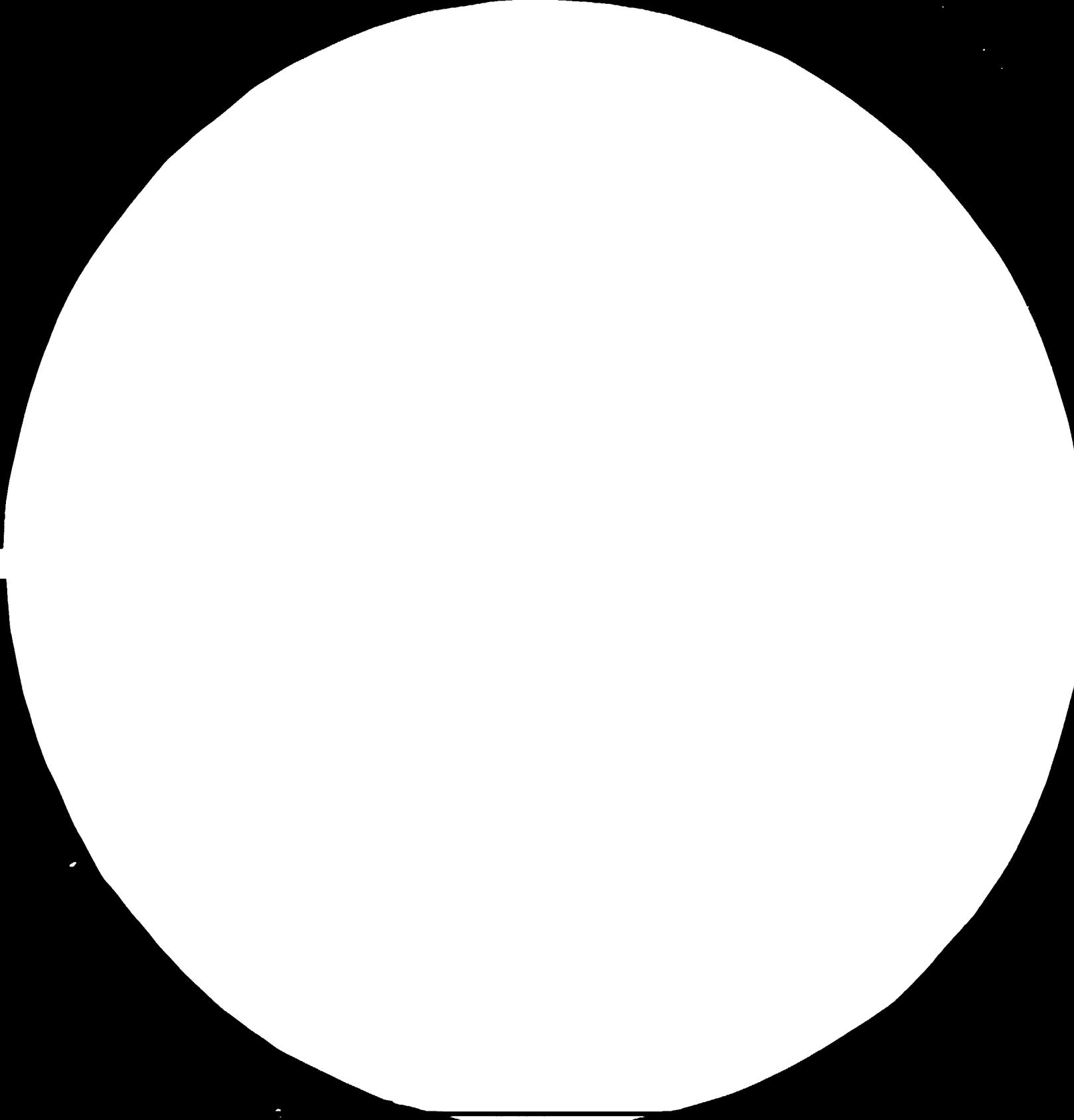
/Values in 1000 U.S.\$

1985	1986	1987	1988	1989	TOTALS
			2378.40		2378.40
		195.60		2361.80	2361.80
			245.30		245.30
		624.64	5309.42		5934.06
		617.28			617.28
		379.60			379.60
		2639.60			2639.60
		6941.36	26330.7	2361.80	35,633.86
		-	9053.7	-	9053.7
		694.36	17277.0	2361.80	26580.16

88

C-486







3.2



3.6



4



## MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS  
STANDARD REFERENCE MATERIAL 1050a  
ANALYTICAL TEST CHART No. 21

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXXIV  
Page 1 of 2

AEGEAN

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1990 1.2 M.T

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTALS
69211	Reservoirs etc.of steel						438.02		438.02
69243	Air receiver						9.48		9.48
71111	Boiler with burner						337.00		337.00
72342	Loader,excavator,etc.						1671.32		1671.32
72343	Rock drill,air gun						279.40		279.40
72331	Swinging screen, Separators					30.00	606.90		606.90
72832	Crusher,bell mill, Tube mill						8031.00		8031.00
74121	Furnace burners						152.54		152.54
74132	Hot gas generator, Furnaces						13.20		13.20
74151	Heat exchanger						29.00		29.00
74163	Rotary kiln						4601.60		4601.60
74164	Cooler for clinker						326.40		326.40
74165	Cyclone preheater						920.60		920.60
74220	Water pumps						18.64		18.64
74230	Fuel oil pumps						44.24		44.24
74313	Compressors					19.04			1519.04
74342	Ventilators					935.60	918.24		1853.84

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXXIII

Page 2 of 2

AEGEAN

NEW CEMENT PLANTS PHASE- II  
Commissioning 1990 1.2 M.T

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Values in 1000 U.S.\$

SITC Code	Plant site Commissioning date and capacity BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTALS
		74361	Filters,cyclones,Precipitators Washer						2378.40
74411	Dump trucks							2361.80	2361.80
74423	Air lifts and Fuller pump					195.60			195.60
	Air slides						254.30		245.30
74426	Belt,chain and screw Conveyors,bucket elevators Weigh feeders etc.					624.64	5309.42		5934.06
74423	Reclaiming scraper					617.28			617.28
74522	Packing machinery					379.60			379.60
74931	Reduction gear boxes					2639.60			2639.60
	GRAND TOTAL					6941.36	26330.7	2361.80	35,633.86
	Out of which					-	9053.7	-	9053.7
	Plate Fabricated Equipment Machines					694.36	17277.0	2361.80	26580.16

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXXV

Page 1 of 2

MARMARA

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1990 1.2 M.T

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTALS
69211	Reservoirs etc.of steel						438.02		438.02
69243	Air receiver						9.48		9.48
71111	Boiler with burner						337.00		337.00
72342	Loader,excavator,etc.						1671.32		1671.32
72343	Rock drill,air gun						279.40		279.40
72331	Swinging screen, Separators					30.00	606.90		636.90
72332	Crusher,ball mill, Tube mill						8031.00		8031.00
74121	Furnace burners						152.54		152.54
74132	Hot gas generator, Furnaces						13.20		13.20
74151	Heat exchanger						29.00		29.00
74163	Rotary kiln						4601.60		4601.60
74164	Cooler for clinker						326.40		326.40
74165	Cyclone preheater						920.60		920.60
74220	Water pumps						18.64		18.64
74230	Fuel oil pumps						44.24		44.24
74313	Compressors					1519.04			1519.04
74342	Ventilators					935.60	918.24		1853.84



**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

MARMARA

Commissioning 1990

NEW CEMENT PLANTS PHASE-  
1.2 M.T

II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

/Values in 1000 U.S.\$

SITC Code	Plant site Commissioning date and capacity	1983	1984	1985	1986	1987	1988	1989	TOTALS
74361	Filters, cyclones, Precipitators								
	Washer						2378.40		2378.40
74411	Dump trucks							2361.80	
74423	Air lifts and Fuller pump					195.60			195.60
	Air slides						245.30		245.30
74426	Belt, chain and screw								
	Conveyors, bucket elevators								
	Weigh feeders etc.					624.64	5309.42		5934.06
74423	Reclaiming scraper					617.28			617.28
74522	Packing machinery					379.60			379.60
74931	Reduction gear boxes					2639.60			2639.60
	GRAND TOTAL					6941.36	26330.7	2361.80	35,633.86
	Out of which					-	9053.7	-	9053.7
	Plate Fabricated Equipment								
	Machines					694.36	17277.0	2361.80	26580.16

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(2 of 3)

**DEVELOPMENT OF  
CAPITAL GOODS INDUSTRIES**

**DP/TUR/76/034**

**Technical Report No. IX: Demand for Capital Goods for  
Cement Industry**

**Vol. II Part I**

UNITED NATIONS DEVELOPMENT PROGRAMMES IN TURKEY

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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION

RESTRICTED

May 1982

English

DEVELOPMENT OF  
CAPITAL GOODS INDUSTRIES  
DP/TUR/76/034  
TURKEY

Technical report: Demand for Capital Goods for Cement Industry  
Vol. II Part I

Prepared for the Government of Turkey  
by the United Nations Industrial Development Organization,  
acting as executing agency for the United Nations Development Programme

Based on the work of  
Capital Goods Development Project Team in Turkey

United Nations Industrial Development Organization  
Vienna

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This report has not been cleared with the United Nations Industrial Development Organization which does not, therefore, necessarily share the views presented,

UNITED NATIONS DEVELOPMENT PROGRAMMES IN TURKEY

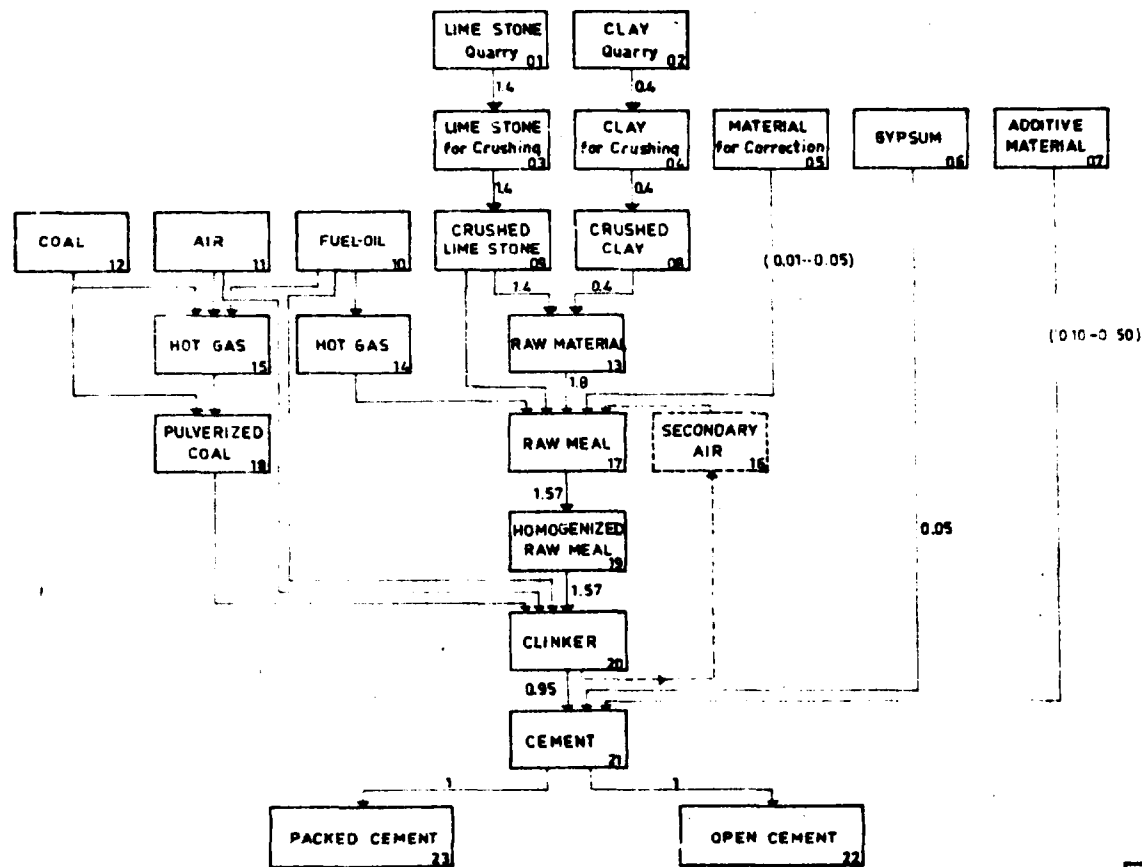
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

(1)

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CEMENT, LIME & PLASTER		INDUSTRY CODE
PORTLAND CEMENT		3692 1
UNIDO / SPO (CIMENTO)		
CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PRODUCTION DIAGRAM		
PREPARED BY	DRAWN BY	CHECKED BY
HECATI ALPER	SAFAK ARASAN	SACIT ARIVUREK
FEB 7, 1982	UNIDO EXPERT	UNIDO CTA

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT

INDUSTRY CODE: 3692 1  
INDUSTRY NAME: PORTLAND CEMENT

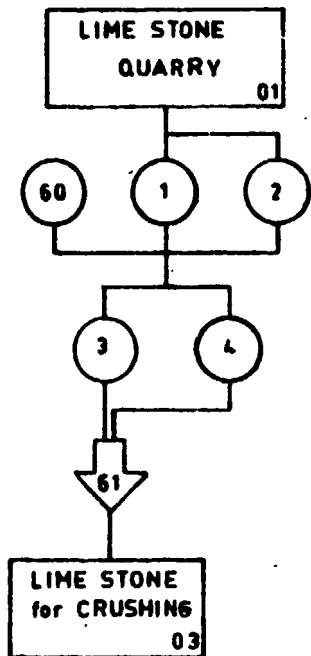
PREPARED BY	CHECKED BY	APPROVED BY
NECATI ALPER	UNIDO EXPERT	UNIDO CTA

INDUSTRY ACTIVITIES CHART

PAGE: 1/2

PRODUCTION STAGE		TECHNOLOGY		CRITICAL EQUIPMENT		DESIGN LINE CAPACITY	
Code	Name	Code	Name	Name	Capacity Range	Code	Capacity
03	Lime Stone For Crushing	1	Material Handling	Dump Truck	32 t	1	345 t/h
04	Clay For Crushing	1	Material Handling	Loader	Bucket Cap 2.6 m <sup>3</sup>	1	94 t/h
08	Crushed Clay	1	Hammer Crushing	Double Hammer Crusher	350 t/h	1	315 t/h
09	Crushed Lime Stone	1	Hammer Crushing	Double Hammer Crusher	350 t/h	1	315 t/h
		2	Impact Crushing	Impactor Crusher	700 t/h	1	630 t/h
13	Raw Material	1	Scraping	Reclaiming Scraper	200 t/h	1	144 t/h
14	Hot Gas	1	Fuel Oil Burning	Hot Gas Generator	Oil Consump. 0.9 t/h (8×10 <sup>6</sup> Kcal)	1	Warm Air Output 11350 Nm <sup>3</sup> /h
15	Hot Gas	1	Combined Burning	Hot Gas Generator	Oil Consump. 0.45 t/h (4×10 <sup>6</sup> Kcal)	1	Warm Air Output 11350 Nm <sup>3</sup> /h
		2	Coal Burning	Hot Gas Generator	Coal Consump 0.75 t/h (4×10 <sup>6</sup> Kcal)	1	Warm Air Output 11350 Nm <sup>3</sup> /h
17	Raw Meal	1	Grinding (Ball Mill)	Ball Mill With Drying And Grinding Chamber	132 t/h	1	118 t/h
		2	Grinding (Roller Mill)	Roller Mill For Combined Drying And Grinding	140 t/h	1	126 t/h
18	Pulverized Coal	1	Grinding (Ball Mill)	Ball Mill With Drying And Grinding Chamber	20 t/h	1	18 t/h
		2	Grinding (Roller Mill)	Roller Mill For Combined Drying And Grinding	20 t/h	1	18 t/h





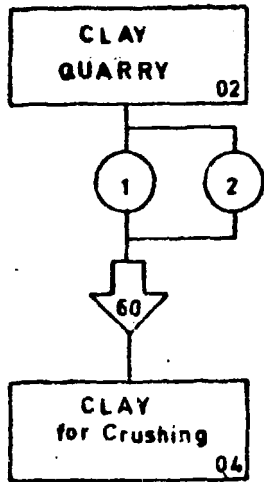
ACTIVITY CODE		INDUSTRY	PROD	TECH	CAP
		3692 1	03	1	1
NO	Machine Code	Machine Name			QTY
1	723430149021312	Rock Drill			2
6	0743130132121612	Compressor			2
2	723432011101611	Air Gun			3
3	723421032615632	Excavator			1
4	723420041414632	Loader			1
6	1744112045003632	Dump Truck			5

**Capacity Calculation**

Name of Critical Equipment	Dump Truck
Design Theoretical Capacity of the Critical Equipment per Hour	120 t/h
No. of Critical Equipment	4
Design Line Capacity per Hour	$4 \times 0.72 = 365 \text{ t}$
Design Line Capacity per Shift	$365 \times 8 = 2760 \text{ t}$
Design Line Capacity per Day	$2760 \times 2 = 5520 \text{ t}$
Design Line Capacity per Year	$5520 \times 300 = 1,656 \text{ mt}$

UNIDO / SPO / (ÇİMENTO)		
CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
PORTLAND CEMENT	LIME STONE	MATL. HANDLING
DATE	SAMPLE PLANT	CAPACITY
FAB 12 1982	LADIK	365 t/h
PREPARED BY	DRAWN BY	CHECKED BY
NECATI ALPER	SAFAK ARASAN	SACIT ARIYUREK
UNIDO/Export	UNIDO/CIA	





Capacity Calculation

Name of Critical Equipment                      Loader  
 Desig. Theoretical Capacity of the  
 Critical Equipment per Hour                      130 t/h  
 No of Critical Equipment    1  
 Design Line Capacity per Hour                      130 x 0.72 = 94 t  
 Design Line Capacity per Shift                      94 x 8 = 752 t  
 Design Line Capacity per Day                      752 x 2 = 1504 t  
 Design Line Capacity per Year                      1504 x 300 = 451200 t

ACTIVITY CODE

INDUSTRY	PROD.	TECH.	CAP.
3692 1	04	1	1

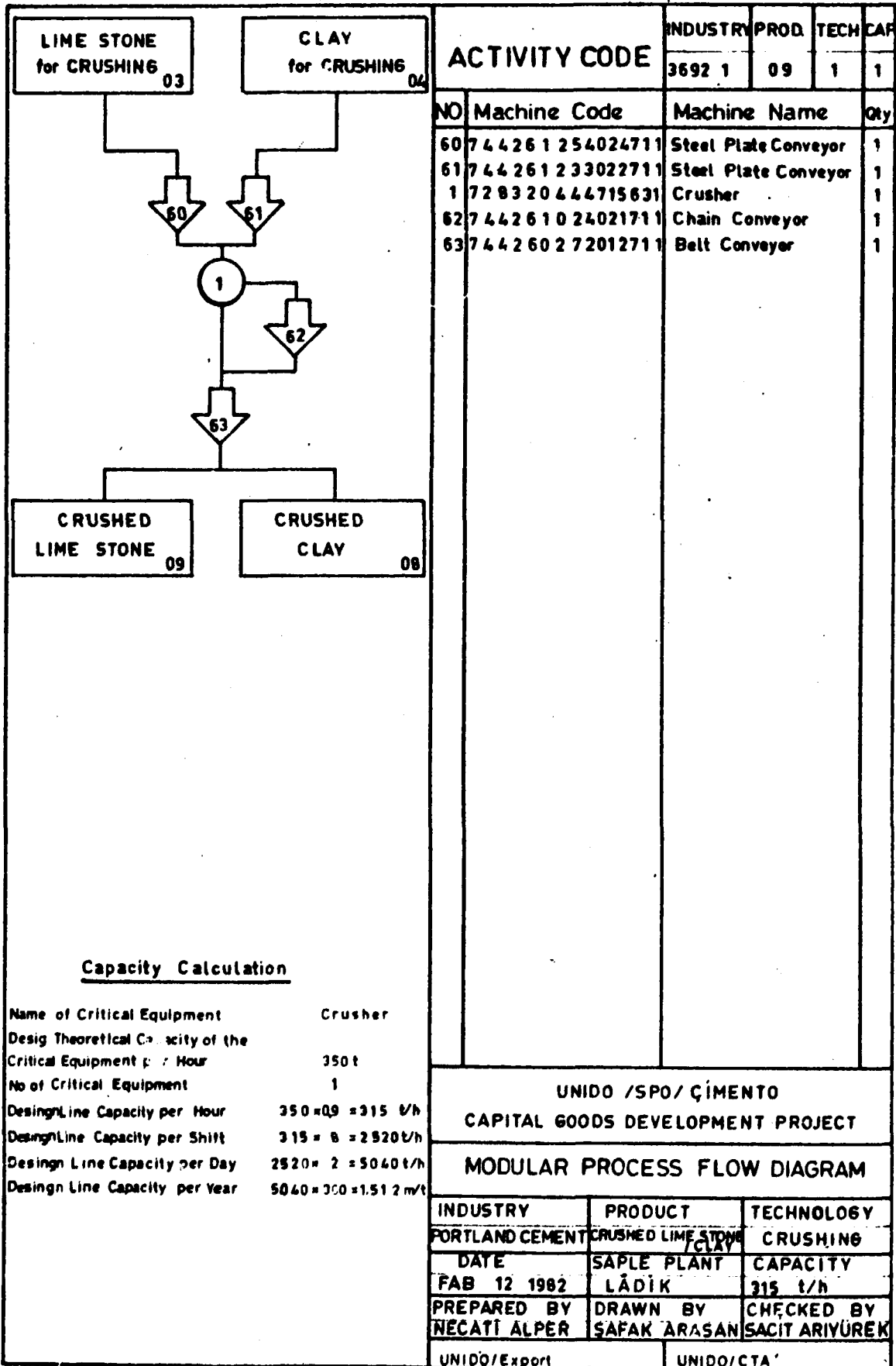
NO	Machine Code	Machine Name	
1	7 234 2103 26156 32	Excavator	1
2	7 234 20031 2236 22	Loader	1
60	7 441 11202 7003 921	Dump Truck	3

UNIDO/SPO/ (CIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT

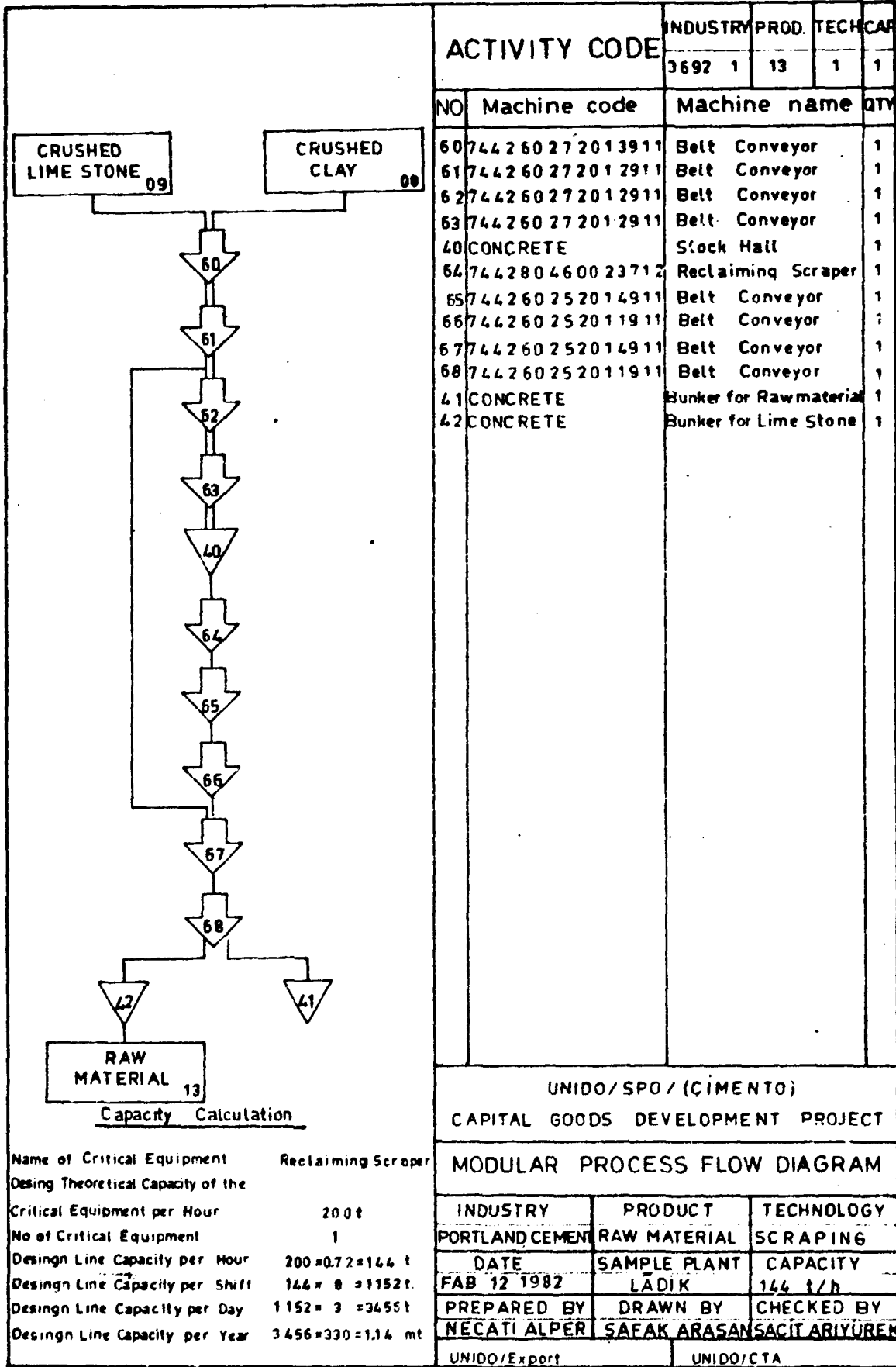
MODULAR PROCESS FLOW DIAGRAM

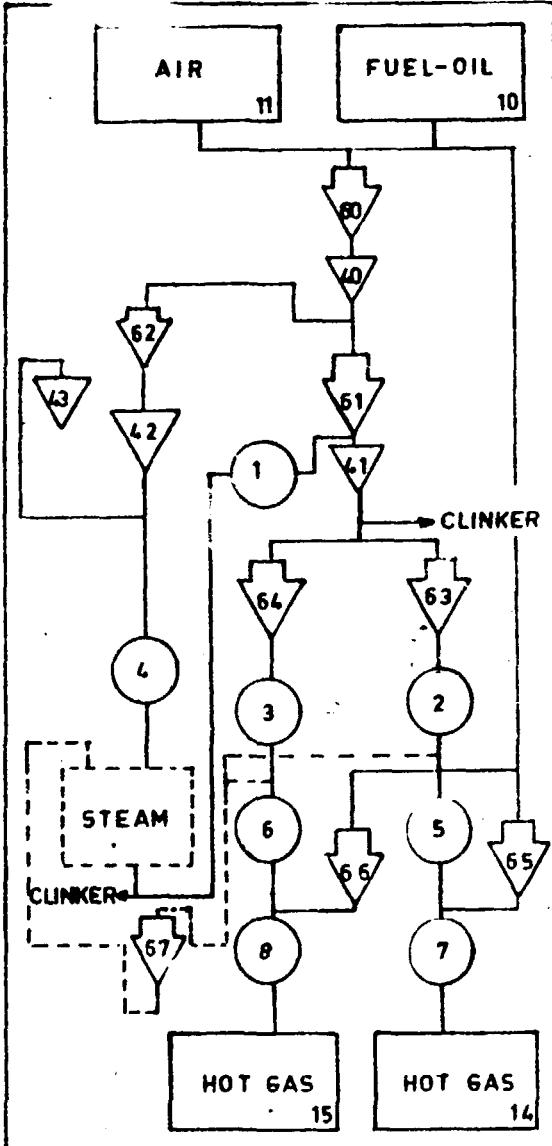
INDUSTRY	PRODUCT	TECHNOLOGY
PORTLAND CEMENT	CLAY	MATL. HANDLING
DATE	SAMPLE PLANT	CAPACITY
FAB 12 1982	LADIK	94 t/h
PREPARED BY	DRAWN BY	CHECKED BY
NECATI ALPER	SAFAK ARASAN	SACIT ARYUREK
UNIDO/Esport	UNIDO/CTA	



ACTIVITY CODE	INDUSTRY	PROD.	TECH	CAP
	3692 1	09	1	1

UNIDO / SPO / ÇİMENTO		
CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PROCESS FLOW DIAGRAM		
INDUSTRY	PRODUCT	TECHNOLOGY
PORTLAND CEMENT	CRUSHED LIME STONE / CLAY	CRUSHING
DATE	SAPLE PLANT	CAPACITY
FEB 12 1982	LADIK	315 t/h
PREPARED BY	DRAWN BY	CHECKED BY
NECATI ALPER	SAFAK ARASAN	SACIT ARIYUREK
UNIDO/Export	UNIDO/CTA	





ACTIVITY CODE		INDUSTRY	PROD	TECH	CAP
		3692 1	15	1	1
NO	Machine Name	Machine Code	Qty		
60	742301033611611	Fuel Oil Pump	3		
40	692110744324111	Main Tank	3		
61	742301033611611	Fuel Oil Pump	2		
62	742301022611611	Fuel Oil Pump	2		
41	692110711321111	Daily Tank	1		
1	741610111111111	Heat Exchanger	1		
42	692110711321111	Daily Tank for Fuel Oil	1		
43	692110711321111	Daily Tank for Diesel Fuel	1		
63	742301022611611	Fuel Oil Pump	2		
64	742301022611611	Fuel Oil Pump	2		
2	741610111111111	Heat Exchanger	2		
3	741610111111111	Heat Exchanger	2		
4	71112011143311	Steam Boiler with Burrer	2		
5	741210015021011	Burner	1		
6	741210015021011	Burner	1		
65	743420051131911	Ventilator (Blower)	1		
66	743420051131911	Ventilator (Blower)	1		
7	741322414202311	Hot Gas Generator	1		
8	741322414202311	Hot Gas Generator	1		
67	742200121211611	Water Pump	2		

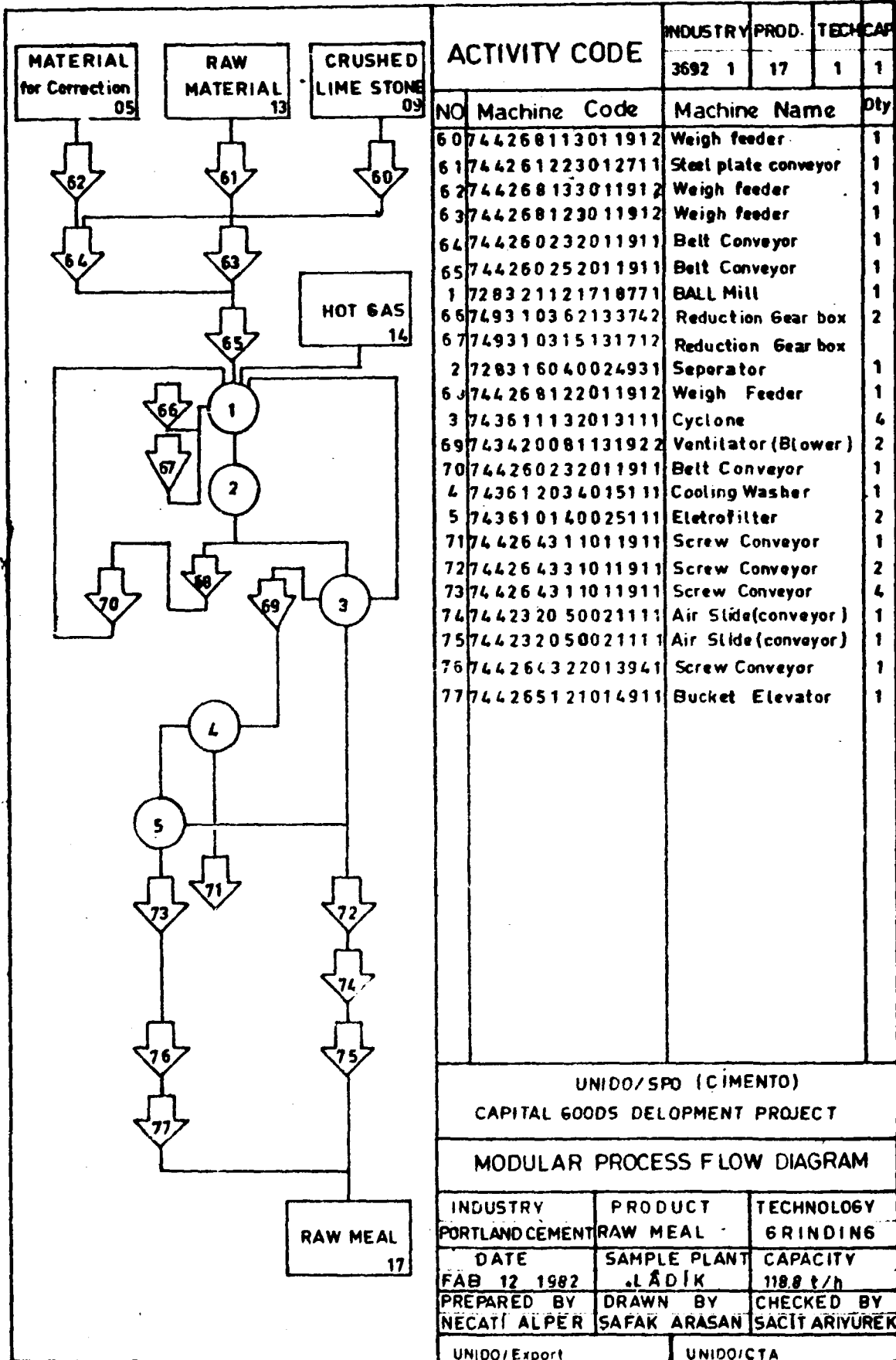
Capacity Calculation

Name of Critical Equipment	Hot Gas Generator
Design Theoretical Capacity of the	
Critical Equipment per Hour	$8 \times 10^6 \text{ Kcal/h}$
No of Critical Equipment	1
Design Line Capacity per Hour	$8 \times 10^6 \times 0.6 = 4.8 \times 10^6 \text{ Kcal}$
Design Line Capacity per Shift	$4.8 \times 10^6 \times 8 = 38.4 \times 10^6 \text{ Kcal}$
Design Line Capacity per Day	$38.4 \times 10^6 \times 3 = 115.2 \times 10^6 \text{ Kcal}$
Design Line Capacity per Year	$115.2 \times 10^6 \times 330 = 38,016 \times 10^6 \text{ Kcal}$

UNIDO / SPO / (ÇİMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT

MODULAR PROCESS FLOW DIAGRAM

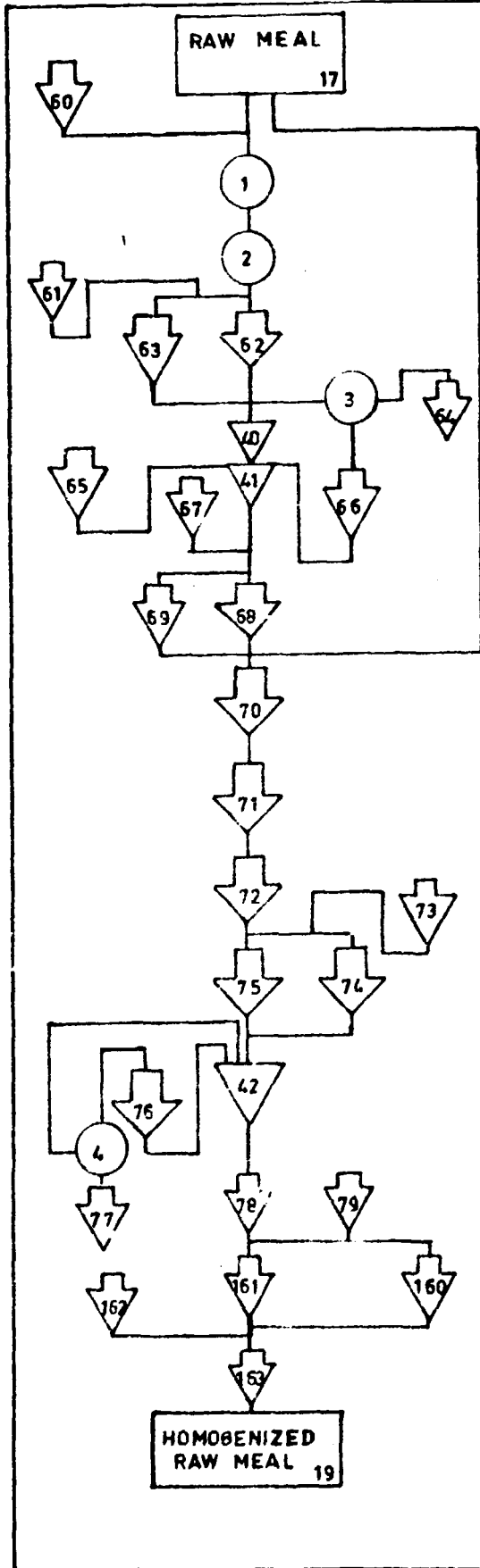
INDUSTRY	PRODUCT	TECHNOLOGY
PORTLAND CEMENT	HOT GAS	F. O. Burning
DATE	SAMPLE PLANT	CAPACITY
FAB 12 1982	LADIK	$4.8 \times 10^6 \text{ Kcal/h}$
PREPARED BY	DRAWN BY	CHECKED BY
NECATI ALPER	ŞAFAK ARASAN	SACIT ARIVÜREK
UNIDO/Export		UNIDO/CTA



ACTIVITY CODE	INDUSTRY	PROD.	TECH.	CAP.
	3692 1	17	1	1
NO	Machine Code	Machine Name	QTY	
UNIDO / SPO / (CIMENTO) CAPITAL GOODS DEVELOPMENT PROJECT				
MODULAR PROCESS FLOW DIAGRAM				
INDUSTRY		PRODUCT	TECHNOLOGY	
PORTLANDCEMENT		LIME STONE	MATL.HANDLING	
DATE		SAMPLE PLANT	CAPACITY	
FAB 12 1982		LADIK	118,8 t/h	
PREPARED BY		DRAWN BY	CHECKED BY	
NECATI ALPER		SAFAK ARASAN	SACIT ARIYUREN	
CHECKED BY			APPROVED BY	
UNIDO/Export			UNIDO/CTA	

<u>Capacity Calculation</u>	
Name of Critical Equipment	Ball Mill
Design Theoretical Capacity of the Critical Equipment Per Hour	132 t
No of Critical Equipment	1
Design Line Capacity per Hour	$132 \times 0,9 = 118,6 t$
Design Line Capacity per Shift	$118,6 \times 8 = 950 t$
Design Line Capacity per Day	$950 \times 3 = 2850 t$
Design Line Capacity per Year	$2850 \times 330 = 0,941mt$



ACTIVITY CODE		INDUSTRY	PROD	TECH	CAF
		3692 1	19	1	1
NO	Machine Code	Machine Name		Qty	
60	743132141111712	Compressors		2	
1	744230050031112	Airlift		1	
2	743611122012111	Cyclone		1	
61	743420021111911	Ventilator (Blower)		1	
62	744232050021111	Air Slide (Conveyor)		1	
63	744232050021111	Air Slide (Conveyor)		1	
3	743615011022411	Air Filter		2	
64	743420051131911	Ventilator (Blower)		2	
40	CONCRETE	Silo for homogeneous		2	
65	743132131111712	Compressor		3	
41	CONCRETE	Silo for stock		2	
66	744264341011911	Screw Conveyor		2	
67	743132121111712	Compressor		2	
68	744232050021111	Air Slide (Conveyor)		2	
69	743420021111911	Ventilator (Blower)		1	
70	744232050021111	Air Slide (Conveyor)		1	
71	744232050021111	Air Slide (Conveyor)		1	
72	744265132013911	Elevators		2	
73	743420021111911	Ventilator (Blower)		2	
74	744232050021111	Air Slide (Conveyor)		1	
75	744232050021111	Air Slide (Conveyor)		1	
42	692110211321111	Bunker		1	
76	744264341011911	Screw Conveyor		1	
4	743615011022411	Air Filter		1	
77	743420051131911	Ventilator (Blower)		1	
78	714268133011912	Weigh. feeder		1	
79	743132321111712	Compressor		1	
150	744232050021111	Air Slide (Conveyor)		1	
151	744232050021111	Air Slide (Conveyor)		1	
152	743132131111712	Compressor		2	
153	744232050031712	Fuller Pump		2	

UNIDO/ SPO / (ÇİMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT

MODULAR PROCESS FLOW DIAGRAM

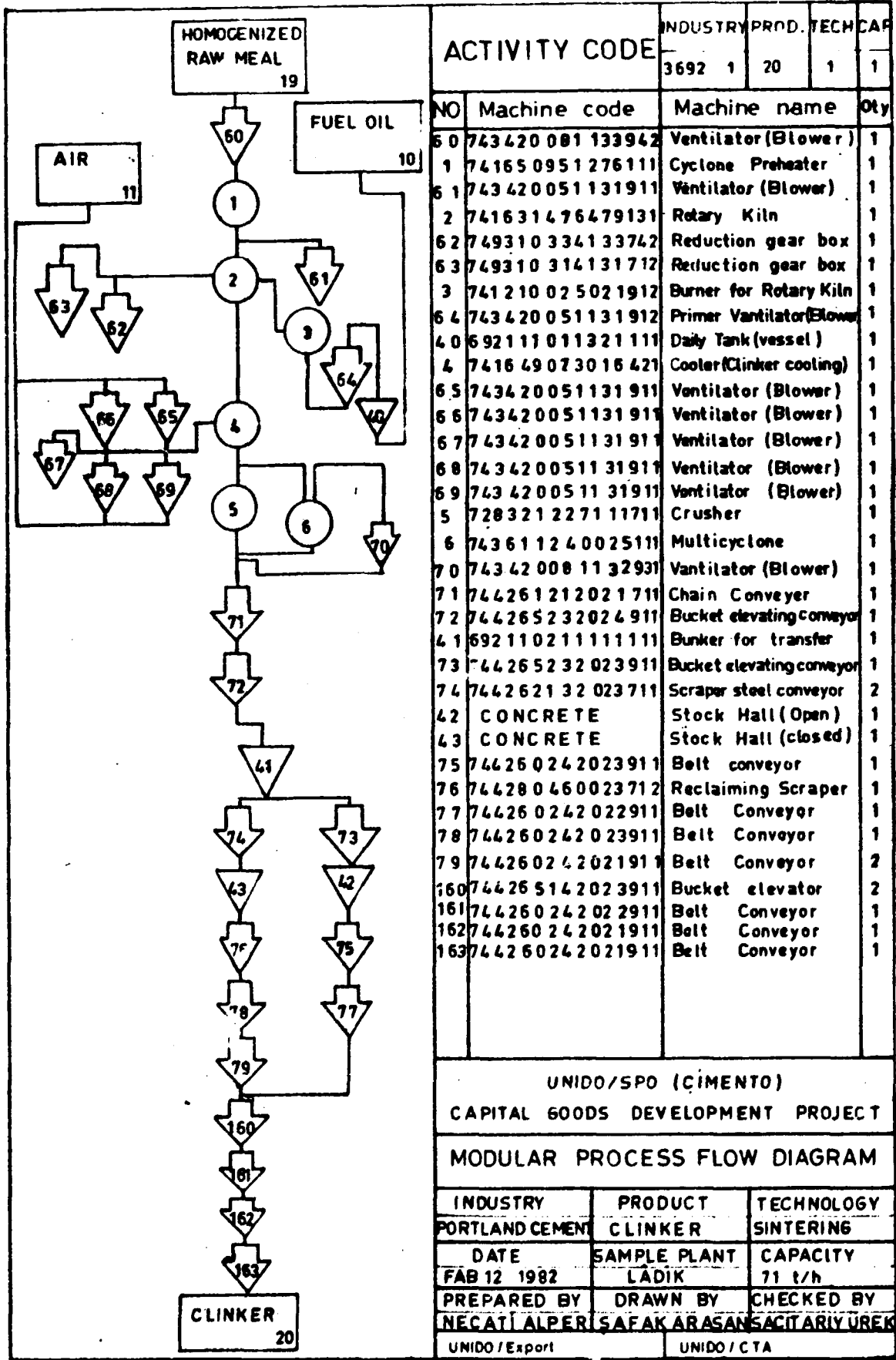
INDUSTRY	PRODUCT	TECHNOLOGY
PORTLAND CEMENT	HOMO RAW MEAL	HOMOGENIZING
DATE	SAMPLE PLANT	CAPACITY
FAB 12 1982	LADIK	126 t/h
PREPARED BY	DRAWN BY	CHECKED BY
NECATI ALPER	ŞAFAK ARASAN	ŞACTIARIYÖRE
UNIDO/Export	UNIDO/CTA	

ACTIVITY CODE	INDUSTRY	PROD.	TECH	CAT
	3692 1	19	1	1
NO	Machine Code	Machine Name	QTY	
<b>UNIDO/SPO/ (ÇİMENTO)</b>				
<b>CAPITAL GOODS DEVELOPMENT PROJECT</b>				
<b>MODULAR PROCESS FLOW DIAGRAM</b>				
INDUSTRY		PRODUCT		TECHNOLOGY
PORTLANDCEMENT		LIME STONE		MATL.HANDLING
DATE		SAMPLE PLANT		CAPACITY
FAB 12 1982		LADIK		126 t/h
PREPARED BY		DRAWN BY		CHECKED BY
NECATI ALPER		SAFAK ARASAN		SACIT AFYUREK
UNIDO/Export			UNIDO/CTA	

<u>Capacity Calculation</u>	
Name of Critical Equipment	Fuller Pump
Design Theoretical Capacity of the Critical Equipment Per Hour	140 t
No of Critical Equipment	1
Design Line Capacity per Hour	$140 \times 0,9 = 126 \text{ t}$
Design Line Capacity per Shift	$126 \times 8 = 1008 \text{ t}$
Design Line Capacity per Day	$1008 \times 3 = 3024 \text{ t}$
Design Line Capacity per Year	$3024 \times 330 = 0,998 \text{ mt}$





UNIDO/SPO (CIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT

MODULAR PROCESS FLOW DIAGRAM

INDUSTRY	PRODUCT	TECHNOLOGY
PORTLAND CEMENT	CLINKER	SINTERING
DATE	SAMPLE PLANT	CAPACITY
FAB 12 1982	LADIK	71 t/h
PREPARED BY	DRAWN BY	CHECKED BY
NECATI ALPER	SAFAK ARASAN	SACITARIYUREK
UNIDO/Export	UNIDO/CTA	

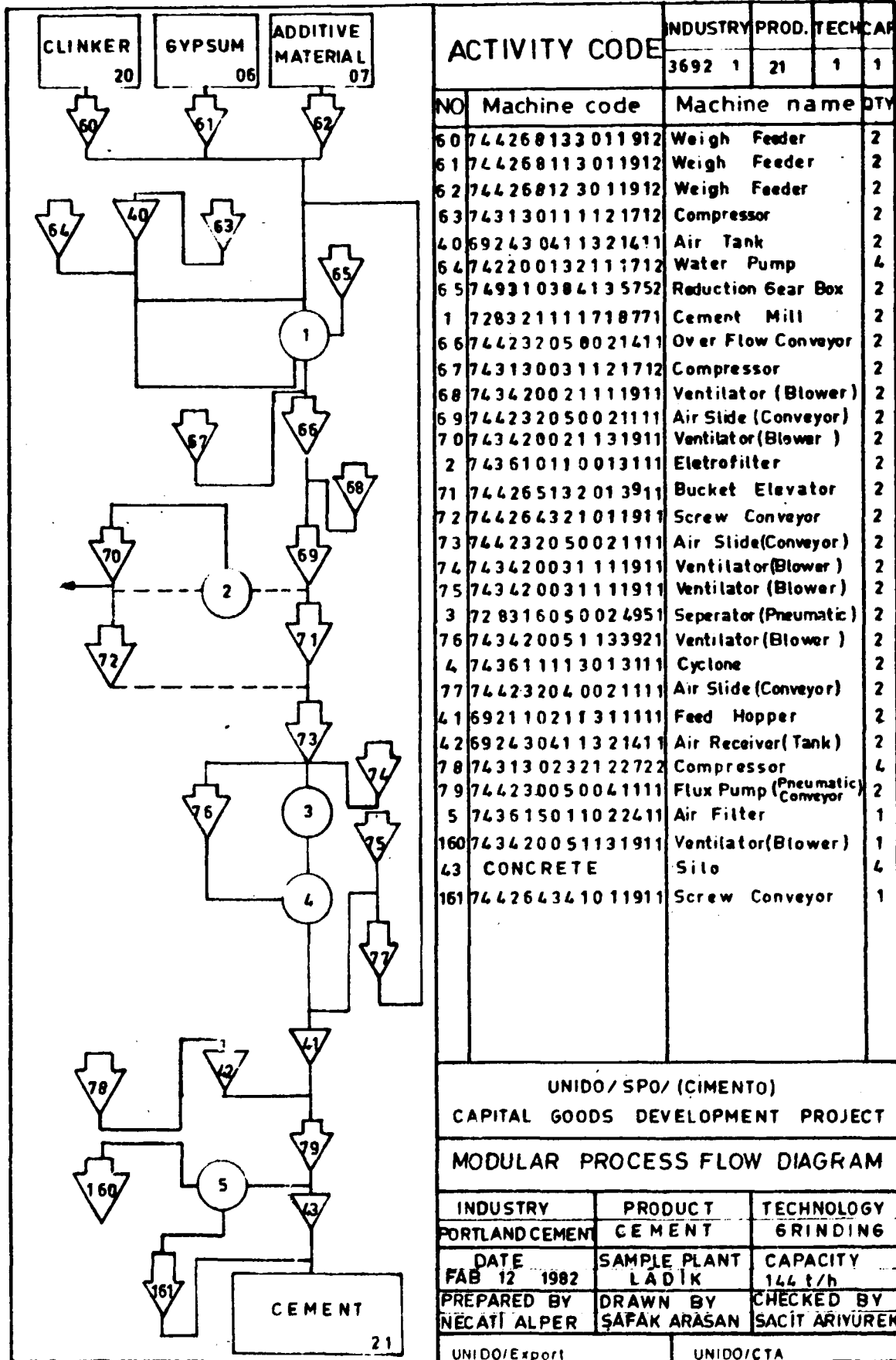
	ACTIVITY CODE		PROD	TECH	CAP																					
	3692	1	20	1	1																					
<p><b>Capacity Calculation</b></p> <p>Name of Critical Equipment      Rotary Klin</p> <p>Desig Theoretical Capacity of the Critical Equipment per Hour      79 t</p> <p>No of Critical Equipment      1</p> <p>Design Line Capacity per Hour      79 x 09 = 71 t</p> <p>Design Line Capacity per Shift      71 x 8 = 568 t</p> <p>Design Line Capacity per Day      568 x 3 = 1704 t</p> <p>Design Line Capacity per Year      1704 x 330 = 562 2 mt</p>			<p>UNIDO / SPO / (CIMENTO)</p> <p>CAPITAL GOODS DEVELOPMENT PROJECT</p> <p>MODULAR PROCESS FLOW DIAGRAM</p> <table border="1"> <tr> <td>INDUSTRY</td> <td>PRODUCT</td> <td>TECHNOLOGY</td> </tr> <tr> <td>PORTLANDCEMENT</td> <td>CLINKER</td> <td>SINTERLING</td> </tr> <tr> <td>DATE</td> <td>SAMPLE PLANT</td> <td>CAPACITY</td> </tr> <tr> <td>FEB 12 1982</td> <td>LADIK</td> <td>71 t/h</td> </tr> <tr> <td>PREPARED BY</td> <td>DRAWN BY</td> <td>CHECKED BY</td> </tr> <tr> <td>NECATI ALPER</td> <td>SAFAK ARASAN</td> <td>SACIT ARIYUREK</td> </tr> <tr> <td colspan="2">UNIDO / Export</td> <td>UNIDO / CTA</td> </tr> </table>			INDUSTRY	PRODUCT	TECHNOLOGY	PORTLANDCEMENT	CLINKER	SINTERLING	DATE	SAMPLE PLANT	CAPACITY	FEB 12 1982	LADIK	71 t/h	PREPARED BY	DRAWN BY	CHECKED BY	NECATI ALPER	SAFAK ARASAN	SACIT ARIYUREK	UNIDO / Export		UNIDO / CTA
INDUSTRY	PRODUCT	TECHNOLOGY																								
PORTLANDCEMENT	CLINKER	SINTERLING																								
DATE	SAMPLE PLANT	CAPACITY																								
FEB 12 1982	LADIK	71 t/h																								
PREPARED BY	DRAWN BY	CHECKED BY																								
NECATI ALPER	SAFAK ARASAN	SACIT ARIYUREK																								
UNIDO / Export		UNIDO / CTA																								

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ACTIVITY CODE	INDUSTRY	PROD.	TECH.	CAT.
	3692 1	21	1	1
NO	Machine Code	Machine Name	QTY	
UNIDO/SPO/(ÇİMENTO)				
CAPITAL GOODS DEVELOPMENT PROJECT				
MODULAR PROCESS FLOW DIAGRAM				
INDUSTRY		PRODUCT	TECHNOLOGY	
PORTLAND CEMENT		LIME STONE	MATL HANDLING	
DATE		SAMPLE PLANT	CAPACITY	
FEB 12 1982		LADIK	144 t/h	
PREPARED BY		DRAWN BY	CHECKED BY	
NECATI ALPER		SAFAK ARASAN	SACIT ARIYUREK	
CHECKED BY			APPROVED BY	
UNIDO/Export			UNIDO/CTA	

Capacity Calculation	
Name of Critical Equipment	Cement Mill
Design Theoretical Capacity of the	
Critical Equipment Per Hour	80 t
No of Critical Equipment	2
Design Line Capacity per Hour	$160 \times 0,9 = 144 \text{ t}$
Design Line Capacity per Shift	$144 \times 8 = 1152 \text{ t}$
Design Line Capacity per Day	$1152 \times 3 = 3456 \text{ t}$
Design Line Capacity per Year	$3456 \times 330 = 1,14 \text{ mt}$

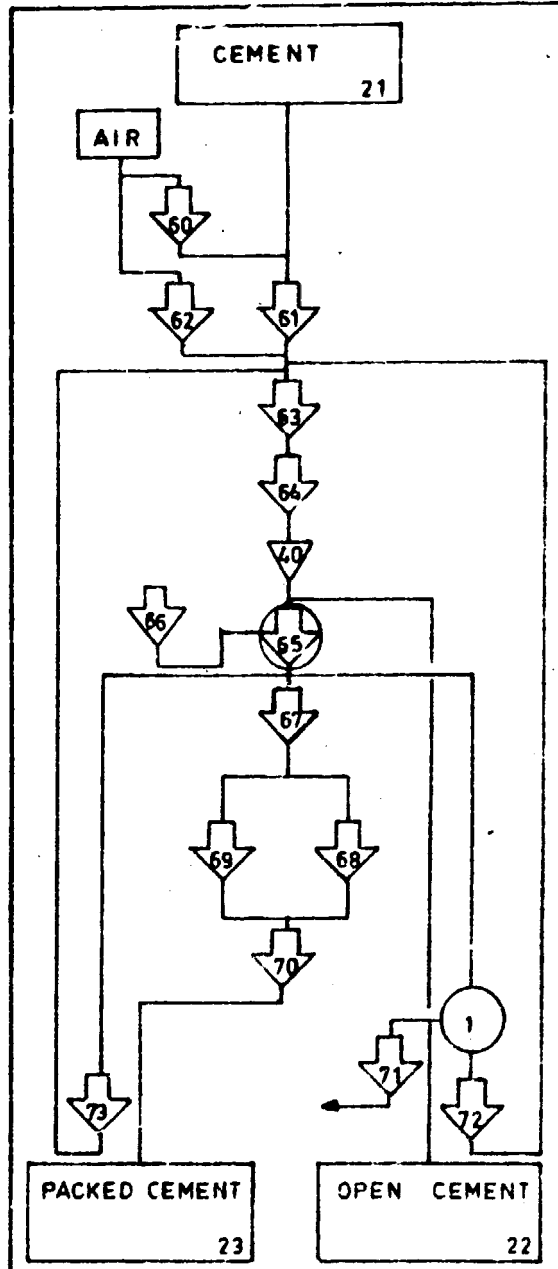


ACTIVITY CODE		INDUSTRY	PROD.	TECH	CAP
		3692	1	21	1
NO	Machine code	Machine name			QTY
60	744268133011912	Weigh Feeder			2
61	744268113011912	Weigh Feeder			2
62	744268123011912	Weigh Feeder			2
63	743130111121712	Compressor			2
40	692430411321411	Air Tank			2
64	742200132111712	Water Pump			4
65	749310384135752	Reduction Gear Box			2
1	728321111718771	Cement Mill			2
66	744232058021411	Over Flow Conveyor			2
67	743130031121712	Compressor			2
68	743420021111911	Ventilator (Blower)			2
69	744232050021111	Air Slide (Conveyor)			2
70	743420021131911	Ventilator (Blower)			2
2	743610110013111	Electrofilter			2
71	744265132013911	Bucket Elevator			2
72	744264321011911	Screw Conveyor			2
73	744232050021111	Air Slide (Conveyor)			2
74	743420031111911	Ventilator (Blower)			2
75	743420031111911	Ventilator (Blower)			2
3	728316050024951	Separator (Pneumatic)			2
76	743420051133921	Ventilator (Blower)			2
4	743611113013111	Cyclone			2
77	744232040021111	Air Slide (Conveyor)			2
41	692110211311111	Feed Hopper			2
42	692430411321411	Air Receiver (Tank)			2
78	743130232122722	Compressor			4
79	744230050041111	Flux Pump (Pneumatic Conveyor)			2
5	743615011022411	Air Filter			1
160	743420051131911	Ventilator (Blower)			1
43	CONCRETE	Silo			4
161	744264341011911	Screw Conveyor			1

UNIDO/ SPO/ (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT

MODULAR PROCESS FLOW DIAGRAM

INDUSTRY	PRODUCT	TECHNOLOGY
PORTLAND CEMENT	CEMENT	GRINDING
DATE	SAMPLE PLANT	CAPACITY
FEB 12 1992	LADIK	144 t/h
PREPARED BY	DRAWN BY	CHECKED BY
NECATI ALPER	SAFAK ARASAN	SACIT ARIVUREK
UNIDO/Export		UNIDO/CTA



ACTIVITY CODE		INDUSTRY	PROD.	TECH	CAP
		3692	1	23	1 1
NO	Machine Code	Machine Name			Qty
60	743132221111712	Compressor			4
61	744232050021111	Air Slide (Conveyor)			2
62	743420031111911	Ventilator (Blower)			2
63	744265132013911	Bucket Elevator			2
64	728310245021912	Oscillating Screen			2
65	692110211321111	Bunker			2
65	74522	Rotary Packing Machine			2
66	743138123121712	Compressor			2
67	744260232021911	Belt Conveyor			2
68	744260232021911	Belt Conveyor			1
69	744260232021911	Belt Conveyor			2
70	744260232021912	Trolley Belt Conveyor			4
71	743615011022411	Air Filter			2
71	743420051131911	Ventilator (Blower)			2
72	744264341011911	Screw Conveyor			2
73	744264341011911	Screw Conveyor			2

Capacity Calculation

Name of Critical Equipment	Rotary Packing Machine
Design/theoretical Capacity of the	
Critical Equipment per Hour	100 t/h
No of Critical Equipment	2
Design Line Capacity per Hour	200 x 09 = 180 t
Design Line Capacity per Shift	180 x 8 = 1440 t
Design Line Capacity per Day	1440 x 2 = 2880 t
Design Line Capacity per Year	2880 x 330 = 950400 t

UNIDO / SPO / (ÇİMENTO)  
CAPITAL 60005 DEVELOPMENT PROJEC

**MODULAR PROCESS FLOW DIAGRAM**

INDUSTRY	PRODUCT	TECHNOLOGY
PORTLAND CEMENT	CLINKER	SINTERING
DATE	SAMPLE PLANT	CAPACITY
FAB 12 1982	LADIK	180 t/h
PREPARED BY	DRAWN BY	CHECKED BY
NECATI ALPER	SAFAK ARASAN	SACIT ARIYUREK
UNIDO/Expert	UNIDO/CTA	

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

PLANT SURVEY FORM

Sample Plant: LADIK

ACTIVITY Code: 3692 103M

Sr. No.	Mark/Model	Basic Machine Nomenclature	Major Specific (Capacity)	Major Spec-1 (Optional) (g = m)	Major Spec-2 (Optional)	Type (Description)	Manufac.	Manufac.	Manufac.	Origin	Qty	Purchase Cost (in thousands) And Currency		Constant 1980 Year Cost (US\$ (in Thousand))		Year of Purchase and	SITC Code (For Computer)															
							Characteristic-1	Characteristic-2	Characteristic-3			Unit	Total	Unit	Total		Remarks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
							WT (Tons)	MATL	WT (Tons)																							
1	Atlas Copco 601-03	Rock Drill	Hole Dia 105 mm	40		Crawler	4.4	A.J.C.	0.5	Sweden	2	1300 DM	2600 DM	67.60	135.20	1980	7	2	3	4	3	0	1	4	9	0	2	1	3	1	2	
60	Atlas Copco XT 430	Compressor	138 m <sup>3</sup> /mm	7 bar	AIR	Vertical	1.5	C.S.C.	0.9	Belgium	2	21000 Belgium Fr	42000 Belgium Fr	71.02	142.04	1980	7	4	3	1	3	0	1	3	2	1	2	1	6	1	2	
2	RH 571	Airgun	Piston Dia 55 mm	Piston Stroke 60 mm	Max Drilling Angle 20° C	Manual	0.02	//	0.05	Tur	3	1150 TL	3450 TL	1.50	4.50	1980	7	2	3	4	3	2	0	1	1	1	0	1	6	1	1	
3		Excavator	3.8 m <sup>3</sup>	57	325 KW	Rubber tired	52.0	//	2.5	Imported	1	255.03 \$	255.03 \$	255.03	255.03	1990	7	2	3	4	2	1	0	3	2	6	1	5	6	3	2	
4	FAUN F 3500 C	Loader	Bucket 4.5 m <sup>3</sup>	1.3	220 KW	//	30.0	//	2.0	"	1	433.26 DM	433.26 DM	225.30	225.30	1980	7	2	3	4	2	0	0	4	1	4	1	4	6	3	2	
61	FAUN K 35.4	Dump Truck	32 ton	50 km/h	268 KW	With tail gate	23.8	A.I.S.	2.5	"	5	3935 DM	19675 DM	204.62	1,023.10	1980	7	4	4	1	1	2	0	4	5	0	0	3	6	3	2	

NOTE 1. EXCHANGE RATES FOR 1 US DOLLAR IN 1980

1 U.S. \$ = 0.52 DM = 76.04 TL = 29.24 Bel F =

NOTE 2. ELECTRIC MOTORS IMPORTED FROM FRANCE IN 1976 FF 3106 = 1 U.S. \$

UNIDO/SPO (ÇIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

PLANT SURVEY FORM

Sample Plant : LÂDİK

ACTIVITY Code : 3692 10411

Sr. No.	Mark/Model	Basic Machine Nomenclature	Major Specific. (Capacity)	Major Spec-1 (Optional) Lg. m	Major Spec-2 (Optional) KW	Type (Description)	Manufac. Characteristic-1	Manufac. Characteristic-2	Manufac. Characteristic-3	Origin	Qty	Purchase Cost (in Thousands) And Currency		Constant 1980 Year Cost US\$ (in Thousand)		Year of Purchase and	Remarks	SITC Code (For Computer)														
							WT (Tons)	MATL	WT (Tons)			Unit	Total	Unit	Total			1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
							8	9	10			11	12	13	14			15	16	17	13											
1		Excavator	Bucket : 3.8 m <sup>3</sup>	5.7	325	Rubber tired	62	C.S.C.	2.5	Importe	1	255.83 \$	255.83 \$	255.83	255.83	1980		7	2	3	4	2	1	0	3	2	6	1	5	6	3	2
2		Loader	Bucket : 2.6 m <sup>3</sup>	1	129	Crawler type with bucket and ripper	12.8	//	1.5	//	1	189.84 DM	189.84 DM	98.70	98.70	1980		7	2	3	4	2	0	0	3	1	2	2	3	6	2	2
60		Dump Truck	15 ton	85 Km/h	220	with tail gate	10	S. Fab.	1.5	Tur	3	4,000.0 TL	4,000.0 TL	52.60	157.80	1980		7	4	4	1	1	2	0	2	7	0	0	3	3	2	1

PLANT SURVEY FORM

UNIDO/SPD (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT

Sample Plant: LADIK

ACTIVITY Code: 3692 10911

Sr. No.	Mark/Model	Basic Machine Nomenclature	Major Specific (Capacity)	Major Spec-1 (Optional) Width: mm	Major Spec-2 (Optional)	Type (Description)	Manufac. Characteristic-1	Manufac. Characteristic-2	Manufac. Characteristic-3	Origin	Qty	Purchase Cost (in Thousands)		Constant 1980 Year Cost US\$ (in Thousand)		Year of Purchase and Remarks	SITC Code (For Computer)														
							WT (Tons)	MATL	WT (Tons)			Unit	Total	Unit	Total		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
60		Steel plate Conveyor	350 t/h	1600	22 KW	Diverse Parts	36.6	ASC.	0.60	Tur	1	4839 FF 18194 DM 40000 TL	4839 FF 18194 DM 40000 TL	162.7	162.7	1980	7	4	4	2	6	1	2	5	4	0	2	4	7	1	1
61		Steel plate Conveyor	100 t/h	1200	Length: 4500 mm 9 KW	Diverse Parts	7.8	A.S.	0.50	Tur	1	24100 TL	24100 TL	31.69	31.69	1980	7	4	4	2	6	1	2	3	3	0	2	2	7	1	1
1	TITAN 56D/90K	Crusher	350 t/h	360 RPM	350 KW	Double hammer Mill with 28 Hammer	84.1	C.S.C.	20	Tur	1	55055 DM 10675 FF 30000 TL	55055 DM 10675 FF 30000 TL	398.8	398.8	1980	7	2	8	3	2	0	4	4	7	1	5	6	3	1	
62		Chain Conveyor	60 t/h	1600	Speed: 0.1 mm/Sec 1.5 KW	(Cross bar) Diverse Parts	2.95	A.S.	0.05	Tur	1	30820 TL	30820 TL	119.4	119.4	1980	7	4	4	2	6	1	0	2	4	0	2	1	7	1	1
63		Belt Conveyor	500 t/h	850	lg: 8.5m	Bulk	8.3	A.S.	0.07	Tur	1	27000 TL	27000 TL	35.5	35.5	1980	7	4	4	2	6	0	2	7	2	0	1	2	7	1	1





PLANT SURVEY FORM

PAGE : 1/2

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Sample Plant : LADIK

PRODUCTION ACTIVITY Code : 3962 11511

Sr. No.	Mark/Model	Basic Machine Nomenclature	Major Specific (Capacity) t/h	Major Spec-1 (Optional)	Major Spec-2 (Optional)	Type (Description)	Manufac. Characteristic-1	Manufac. Characteristic-2	Manufac. Characteristic-3	Origin	Qty	Purchase Cost (in Thousands) And Currency		Constant 1980 Year Cost US\$ (in Thousand)		Year of Purchase and Remarks	SITC Code (For Computer)															
							WT (Tons)	MATL	WT (Tons)			Unit	Total	Unit	Total		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
							8	9	10			13	14	15	16		16															
60	EMDOP300	Fuel Oil Pump	30	60m Ws	Visc 15 KW	Horizontal (Screw)	0.29	C.S.C.	0.05	Tur	3	2768 TL	8304 TL	3.64	10.92	1980	7	4	2	3	0	1	0	3	3	6	1	1	6	1	1	
40		Main Tank	1000m <sup>3</sup>	Dia=12m	100 °C Height: 10m	Circular	36.0	MS.	5	"	3	45009 TL	13500.0 TL	59.2	177.6	1980	6	9	2	1	1	0	7	4	4	3	2	4	1	1	1	
61	EMDOP100	Fuel Oil Pump	10	30m Ws	Visc 11 KW	Horizontal (Screw)	0.14	C.S.C.	0.04	"	2	186.17 TL	37234TL	2.45	4.9	1980	7	4	2	3	0	1	0	3	3	6	1	1	6	1	1	
62	EMDOP0630	Fuel Oil Pump	4	30m Ws	Visc 3 KW	"	0.11	"	0.04	"	2	7984 TL	15968TL	1.05	2.1	1980	7	4	2	3	0	1	0	2	2	6	1	1	6	1	1	
41		Daily Tank	10 m <sup>3</sup>	Dia:1600mm	100 °C Leg:5.25m	Circular	1.5	MS.	5	"	1	2000 TL	2000 TL	2.63	2.63	1980	6	9	2	1	1	0	7	1	1	3	2	1	1	1	1	
1		Heat Exchanger	8 m <sup>2</sup>	Dia: 220mm	Leg 2.53m (5 Atm)	Shell and Tube	0.2	"	6	"	1	2190 TL	2190 TL	2.9	2.9	1980	7	4	1	6	1	0	1	1	1	1	1	1	1	1	1	1
42		Daily Tank for Fuel Oil	6 m <sup>3</sup> (ø1400 mm)	Leg: 4m	100 °C	Circular	1.1	"	6	"	1	1500 TL	1500 TL	1.97	1.97	1980	6	9	2	1	1	0	7	1	1	3	2	1	1	1	1	1
43		Daily Tank for Diesel Fuel	3.4 m <sup>3</sup> (ø1200 mm)	Leg: 3 m	100 °C	"	0.8	"	6	"	1	1000 TL	1000 TL	1.32	1.32	1980	6	9	2	1	1	0	7	1	1	3	2	1	1	1	1	1
63	EMDPC 640	Fuel Oil Pump	2.5	40m Ws	Visc 3 Kw	Horizontal (Screw)	0.11	C.S.C.	0.05	"	2	7984 TL	15968TL	1.05	2.1	1980	7	4	2	3	0	1	0	2	2	6	1	1	6	1	1	
64	EMDPC 640	Fuel Oil Pump	2.5	40m Ws	Visc 3 Kw	"	0.11	"	0.05	"	2	7984TL	15968TL	1.05	2.1	1980	7	4	2	3	0	1	0	2	2	6	1	1	6	1	1	
2		Heat Exchanger	8 m <sup>2</sup>	Dia:220mm	Leg 2.53m (5 Atm)	Shell and Tube	0.2	MS.	6	"	2	2190 TL	4360 TL	2.9	5.8	1980	7	4	1	6	1	0	1	1	1	1	1	1	1	1	1	1
3		Heat Exchanger	8 m <sup>2</sup>	Dia:220mm	Leg 2.53m (5 Atm)	"	0.2	"	6	"	2	2190 TL	4360 TL	2.9	5.8	1980	7	4	1	6	1	0	1	1	1	1	1	1	1	1	1	1
4	DESA D400	Beler with Burner	4 t/h	12 Atm	180 °C	F.O Fired	10.2	B.S.	8mm	"	2	64050 TL	129100 TL	64.25	166.5	1980	7	1	1	1	1	2	0	1	1	1	4	3	3	1	1	
5	Monarch	Burner	250-300kg/h	F.O.		Underpressure	0.4	Special	0.2	"	1	4000 TL	4000 TL	5.28	5.28	1980	7	4	1	2	1	0	0	1	5	0	2	1	0	1	1	
Continued in the next page																																

PLANT SURVEY FORM

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UNIDO/SPO (ÇIMENTO)  
CAPITAL 6000S DEVELOPMENT PROJECT IN TURKEY

Sample Plant: LÂDIK

PRODUCTION ACTIVITY Code: 3962 11511

Sr. No.	Mark/ Model	Basic Machine Nomenclature	Major Specific (Capacity)	Major Spec - 1 (Optional)	Major Spec - 2 (Optional)	Type (Description)	Manufac. Characte- ristic - 1	Manufac. Characte- ristic - 2	Manufac. Characte- ristic - 3	Origin	Qty	Purchase Cost (in Thousands) And Currency		Constant 1980 Year Cost (US\$ in Thousand)		Year of Purchase and	SITC Code (For Computer)														
							WT (Tons)	MATL	WT (Tons)			Unit	Total	Unit	Total		Remarks	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18														
6	Monarc	Burner	250-300kg/h	F.O.		Underpressure	0.4	Special	0.2	Tur	1	6000 TL	6000 TL	5.26	5.26	1980	7	4	1	2	1	0	0	1	5	0	2	1	3	1	1
5		Ventilator(Blower)	210 mm	530 mm Ws	AIR	Back ward curved blades	1.05	S.Fab.	0.1	"	1	182 FF 7500 TL	182 FF 7500 TL	15.6	15.6	1980	7	4	3	4	2	0	0	5	1	1	3	1	9	1	1
65		Ventilator(Blower)	210 mm	530 mm Ws	AIR	"	1.05	"	0.1	"	1	182 FF 7500 TL	182 FF 7500 TL	15.6	15.6	1980	7	4	3	4	2	0	0	5	1	1	3	1	9	1	1
7		Hot Gas Generator	0.9 t/h 16*10 <sup>6</sup> kcal/h	750° C	F.O.		70	B.S.	6 mm	"	1	2500 TL	2500 TL	3.3	3.3	1980	7	4	1	3	2	2	4	1	4	2	0	2	3	1	1
8		Hot Gas Generator	0.9 t/h 16*10 <sup>6</sup> kcal/h	750° C	F.O.		70	B.S.	6 mm	"	1	2500 TL	2500 TL	3.3	3.3	1980	7	4	1	3	2	2	4	1	4	2	0	2	3	1	1
67	GM 30 PT 1128 15 KV	Water Pump	2 t/h	10 m WS	Hot clean water	Horizontal	0.06	C.S.C	0.02	"	2	350 TL	700 TL	0.46	0.86	1980	7	4	2	2	0	0	1	2	1	2	1	1	6	1	1

Sample Plant : LADIK

PRODUCTION ACTIVITY Code: 3692 1171

Sr. No.	Mark/Model	Basic Machine Nomenclature	Major Specific (Capacity)	Major Spec - 1 (Optional)	Major Spec - 2 (Optional)	Type (Description)	Manufac. Characteristic - 1	Manufac. Characteristic - 2	Manufac. Characteristic - 3	Origin	Qty	Purchase Cost (in thousands) And Currency		Constant 1980 Year Cost (in thousands)		Year of Purchase and	SITC Code (For Computer)																	
							WT (Tons)	MATL	WT (Tons)			Unit	Total	Unit	Total		Remarks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
							8	9	10			11	12	13	14		15	16	17	18														
60	Shank DAB100 T4	Weigh feeder	10 t/h	1000	1.8 KW	Bulk	0.96	St.Fab.	0.05	Germany	1	58.08DM	58.08DM	30.2	30.2	1980	7	4	4	2	6	8	1	1	3	0	1	1	9	1	2			
61		Steel plate conveyor	70 t/h	1200	Length: 4800mm 5.4 KW	"	7.8	A.S.C.	0.10	Tur.	1	24100 TL	24100 TL	31.68	31.68	1980	7	4	4	2	6	1	2	2	3	0	1	2	7	1	1			
62	Shank DAB120 T4	Weigh feeder	110 t/h	1200	1.8 KW	"	1.13	St.Fab.	0.05	Germany	1	6910DM	69.10DM	35.9	35.9	1980	7	4	4	2	6	8	1	3	0	1	1	9	1	2				
63	Shank DAB102 B1	Weigh feeder	70 t/h	1000	1.8 KW	"	1.24	"	0.05	"	1	7504DM	75.04DM	39.0	39.0	1980	7	4	4	2	6	8	1	2	3	0	1	1	9	1	2			
64		Belt Conveyor	150 t/h	650	4 KW Leg 6400mm	"	1.1	"	0.07	Tur.	1	3960 TL	3960 TL	5.2	5.2	1980	7	4	4	2	6	0	2	3	2	0	1	1	9	1	1			
65		Belt Conveyor	300 t/h	650	11 KW Leg 7500mm	"	4.2	"	0.07	"	1	13000 TL	13000 TL	17.1	17.1	1980	7	4	4	2	6	0	2	5	2	0	1	1	9	1	1			
1	KHD	Ball Mill	132 t/h	φ4.4m 16RPM	1840 KW Leg 13.84 m	Horizontal	419.3	ASC	30.0	Tur	1	8000 FF 121364DM 848100 TL	8000 FF 121364DM 848100 TL	1600.3	1600.3	1980	7	2	8	3	2	1	1	2	1	7	1	8	7	7	1			
66	KHD SBRK1500	Reduction Gear Box	1840 KW	985/98.5RPM	10:1	Parallel axis	19.7	"	6.0	Germany	2	28224DM	56448DM	145.7	292.4	1980	7	4	9	3	1	0	3	6	2	1	3	3	7	4	2			
67	KHD SDN 280	Auxiliary Reduction Gear Box	22 KW	985/13.9RPM	71:1	"	2.3	"	0.9	"	2	4504DM	9008DM	23.4	46.8	1980	7	4	9	3	1	0	3	1	5	1	3	1	7	1	2			
2		Seperator	250 t/h		φ7200 mm	Pressure Type	29.0	St.Fab.	3.0	Tur	1	5588FF 57120 TL	5588FF 57120 TL	92.65	92.65	1980	7	2	8	3	1	6	0	4	0	2	4	9	3	1				
68	Shank BEP 12	Weigh feeder	100 t/h	650 mm		Diverse parts	0.79	"	0.05	Germany	1	4793DM	47.93DM	24.92	24.92	1980	7	4	4	2	6	8	1	2	2	0	1	1	9	1	2			
3		Cyclone	200 t/h	φ 3550 mm	height 10900 mm	Single Zone	10.5	"	1.5	Tur.	4	2106207 TL	84248 TL	27.7	110.8	1980	7	4	3	6	1	1	1	3	2	0	1	3	1	1	1			
69	KHD BK170/245	Ventilator (Blower)	3635 m <sup>3</sup> /min	62m bar (0062 bar)	640 KW	Backward curved blades	19.4	"	2.0	Germany	2	21215FF 12884DM	4243 FF 25729DM	133.45	266.9	1980	7	4	3	4	2	0	0	8	1	1	3	1	9	2	2			
70		Belt Conveyor	100 t/h	650	Leg 28 m 4.5 KW	Diverse Parts	259	"	0.07	Tur.	1	9400 TL	9400 TL	12.36	12.36	1980	7	4	4	2	6	0	2	3	2	0	1	1	9	1	1			
4		Coating Washer (Spray tower)	70m <sup>3</sup> water	φ8 m	Height 25.4m	Vertical	50.0	"	5 mm	"	1	100000 TL	100000 TL	131.5	131.5	1980	7	4	3	6	1	2	0	3	4	0	1	5	1	1	1			

PLANT SURVEY FORM

UMIDO/SPO (CIMENTO)  
CAPITAL 6000 DEVELOPMENT PROJECT IN TURKEY

Sample Plant: LADIK

PRODUCTION ACTIVITY Code: 2002 19711

Sr. No./ Model	Basic Machine Nomenclature	Major Specific (Capacity) (l/h)	Major Spec-1 (Optional) Lg. m	Major Spec-2 (Optional) Lg. m	Type Description	Manufac. Character- istic-1 (WT Tons)	Manufac. Character- istic-2 (WT Tons)	Manufac. Character- istic-3 (WT Tons)	Origin City	Purchase Cost (in thousands) And Currency	Constant 1980 Year Cost US\$ (in thousands)	Total		Year of Purchase and Remarks	SITC Code (Per Computer)		
												Unit	Unit				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
5	Electric Filter	320 000/4	0.1 gr/m <sup>3</sup>		Multiple zones	600	M.S.	5mm	Tur	2	720660 TL	272.4	448.8	1980	7.4.2.8.10.16.0.2.5.1.1		
71	Screw Conveyor	Di. 400	133		Bulk	1.6	SP Fab	0.4	"	1	550 TL	50 TL	7.0	1980	7.4.2.8.6.3.1.0.1.9.1.1		
72	Screw Conveyor	Di. 4350	4200 (4 KW)		"	3.1	"	0.8	"	2	9530 TL	19050 TL	12.5	1980	7.4.2.8.6.3.3.1.0.1.9.1.1		
73	Screw Conveyor	Di. 4600	8		"	3.1	"	0.8	"	4	9050 TL	39400 TL	12.95	1980	7.4.2.8.6.3.1.1.0.1.9.1.1		
74	Air Slide (Conveyor)	350-350	7.5		Bulk	0.27	"	0.15	"	1	8825 TL	8825 TL	0.87	1980	7.4.2.2.2.0.5.0.2.1.1.1.1		
75	Air Slide (Conveyor)	350-350	23.5		"	0.83	"	0.2	"	1	2860 TL	2860 TL	2.71	1980	7.4.2.2.2.0.5.0.2.1.1.1.1		
76	Screw Conveyor	Di. 4500	22		"	12.2	"	8	"	1	2020 TL	2020 TL	28.87	1980	7.4.2.8.6.3.2.2.0.1.3.8.6.1		
77	Bucket Elevator	100		Height: 3.8 m Width: 500mm	"	41.2	"	0.2	"	1	126050 TL	126050 TL	185.78	1980	7.4.2.8.6.3.2.1.0.1.4.8.1.1		

UNIBO/SPO (CEMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

PLANT SURVEY FORM

PAGE: 1/2

Sample Plant LADIK

PRODUCTION ACTIVITY Code: 202 1911

Sr. No.	Mach/Model	Basic Machine Nomenclature	Major Specific (Capacity)	Major Spec-1 (Optional)	Major Spec-2 (Optional)	Type (Description)	Manufac. Characte- ristic - 1 WT.(Tons)	Manufac. Characte- ristic - 2 Rate - 2	Manufac. Characte- ristic - 3 Rate - 3	Origin Qty	Purchase Cost (in Thousands US\$ in Thousand)		Constant 1980 Year Cost	Year of Purchase and	SITC Code (Per Computer)
											Unit	Total			
1	2	Compressor Rotary, Single Stage	92.98 m <sup>3</sup> /min	0.5 Kg/cm <sup>2</sup>	110 KW (Air)	Horizontal	2.5	A.S.	0.4	Imported	337 FF	674 FF	73.2	1980	7 4 3 1 3 2 1 4 1 1 1 7 1 2
1		Airlift	100 t/h	ø 1600 mm		Medium Pressure	1.6	M.S.	4 mm	*	10250M	10250M	5.27	1980	7 4 4 2 3 0 0 5 0 3 1 1 1 2
2		Cyclon Single	150,000 m <sup>3</sup> /h	ø 3500 mm	Height 4500 mm	Single zone	7.0	//	6 mm	Tur	14,000 TL	14,000 TL	18.4	1980	7 4 3 6 1 1 2 2 0 1 2 1 1 1
61		Ventilator (Blower)	5 m <sup>3</sup> /min	500 mm	(1.5 KW) Air	Straight Blades	0.2	SLFab.	2 mm	*	2940 TL	2940 TL	3.87	1980	7 4 3 4 7 0 0 2 1 1 1 1 9 1 1
62		Air Slide (Conveyor)	140 t/h	350 x 350 mm	Length 3 m	Low pressure	0.105	M.S.	4 mm	*	2625 TL	2625 TL	0.35	1980	7 4 4 2 3 2 0 5 0 0 2 1 1 1 1
63		Air Slide (Conveyor)	140 t/h	350 x 350 mm	// 3 m	//	0.105	//	4 mm	*	2625 TL	2625 TL	0.35	1980	7 4 4 2 3 2 0 5 0 0 2 1 1 1 1
3	MIKE 112/8	Air filter	560 m <sup>3</sup> /min	Width 2.0 m	// 6 m	No. of compartment 6	7.5	A.S.	4 mm	*	13250 TL	13250 TL	14.8	1980	7 4 3 6 1 5 0 1 1 0 2 2 6 1 1
64	Seher	Ventilator (Blower)	333 m <sup>3</sup> /min	360 mm WS	Air (37 KW) (2320 RPM) curved blades	Backward curved blades	1.1	SLFab.	4 mm	*	8000 TL	8000 TL	10.5	1980	7 4 3 4 2 0 0 5 1 1 3 1 9 1 1
60		Slab for homogeneous	ø 11	Height 18 m		Concrete				*					
65	Peters	Compressor Sliding-Vane Rotary Single Stage	32.15 m <sup>3</sup> /min	1.7 bar	Air 120 KW	Horizontal	4.28	A.S.C.	0.6	Imported	414 FF	1242 FF	200.4	1980	7 4 3 1 3 2 1 3 1 1 1 1 7 1 2
61		Slab for Steel	ø 11 m	Height 30 m		Concrete Construction				Tur					
66		Screw Conveyor	200 t/h	ø 250 mm	Length 6 m 22 KW (37 RPM)	Bulk	0.6	SLFab	0.1	Tur	2760 TL	5480 TL	3.6	1980	7 4 4 2 6 4 3 6 1 0 1 1 9 1 1
67	Peters	Compressor Rotary, Single Stage	59 m <sup>3</sup> /min	0.4 bar	7.5 KW	Horizontal	0.7	A.S.C.	0.1	Imported	330 TL	55.0 TL	8.9	1980	7 4 3 1 3 2 1 2 1 1 1 1 7 1 2
68		Air Slide (Conveyor)	200 t/h	350 x 350 mm	Length 1 m	Low pressure	0.027	M.S.	4 mm	Tur	90 TL	160 TL	0.12	1980	7 4 4 2 3 2 0 5 0 0 2 1 1 1 1
69		Ventilator (Blower)	5 m <sup>3</sup> /min	500 mm WS	Air (1.5 KW)	Straight blades	0.2	SLFab.	2 mm	*	2940 TL	2940 TL	3.87	1980	7 4 3 4 2 0 0 2 1 1 1 1 9 1 1

Sr. No.	Mark / Model	Basic Machine Nomenclature	Major Specific (Capacity)	Major Spec - 1 (Optional)	Major Spec - 2 (Optional)	Type (Description)	Manufac. Characteristic - 1	Manufac. Characteristic - 2	Manufac. Characteristic - 3	Origin	Qty	Purchase Cost (in Thousands) And Currency		Constant 1980 Year Cost US\$ (in Thousand)		Year of Purchase and	SITC Code (For Computer)																	
							WT (Tons)	MATL	WT (Tons)			Unit	Total	Unit	Total		Remarks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
							8	9	10			11	12	13	14		15	16	17	18	19	20	21	22	23	24	25							
70		Air Slide(Conveyor)	200 t/h	350x350mm	17 m	Low pressure	0.6	M.S.	4 mm	Tur	1	150.0 TL	150.0 TL	2.0	2.0	1980	7	4	4	2	3	2	0	5	0	0	2	1	1	1	1			
71		Air Slide(Conveyor)	200 t/h	350x350mm	2 m	Low pressure	0.07	"	4 mm	"	1	18.0 TL	18.0 TL	0.24	0.24	1980	7	4	4	2	3	2	0	5	0	0	2	1	1	1	1			
72		Bucket elevator	140 t/h	300 mm	18.5 Kw Height: 21 m	Bulk	15.2	St.Fab.	0.5	"	2	4587.0 TL	9174.0 TL	60.3	120.6	1980	7	4	4	2	6	5	1	3	2	0	1	3	9	1	1			
73		Ventilator(Blower)	5 m <sup>3</sup> /min	500 mm Ws	Air (1.1 Kw)	Straight blades	0.2	"	2 mm	"	2	294.0 TL	588.0 TL	3.87	7.74	1980	7	4	3	4	2	0	0	2	1	1	1	1	1	9	1	1		
74		Air Slide(Conveyor)	200 t/h	350x350mm	3 m	Low pressure	0.105	M.S.	4 mm	"	1	2625 TL	2625 TL	0.35	0.35	1980	7	4	4	2	3	2	0	5	0	0	2	1	1	1	1	1		
75		Air Slide(Conveyor)	200 t/h	350x350mm	2 m	"	0.070	"	4 mm	"	1	18.0 TL	18.0 TL	0.24	0.24	1980	7	4	4	2	3	2	0	5	0	0	2	1	1	1	1	1		
42		Bunker	20 m <sup>3</sup>	Ø2500 mm	50°C Height: 3850mm	Cylindrical	2	"	4 mm	"	1	4000 TL	4000 TL	5.25	5.25	1980	6	9	2	1	1	0	2	1	1	3	2	1	1	1	1	1		
76		Screw Conveyor	200 t/h	Ø 250 mm	Length: 6 m	Bulk	0.6	St.Fab.	0.200	"	1	2748 TL	2748 TL	3.6	3.6	1980	7	4	4	2	6	4	3	4	1	0	1	1	1	9	1	1		
4	MKEK 112/B	Air filter	560 m <sup>3</sup> /min	Width: 2.9 m	Length: 6 m	no of compartment	7.5	A.S.	4 mm	"	1	11250 TL	11250 TL	14.8	14.8	1980	7	4	3	6	1	5	0	1	1	0	2	2	4	1	1	1		
77	Seker	Ventilator(Blower)	333 m <sup>3</sup> /min	360mm Ws	37 Kw	Backward Curved blades	1.1	St.Fab.	4 mm	"	1	8000 TL	8000 TL	10.5	10.5	1980	7	4	3	4	2	0	5	1	1	3	1	9	1	1	1	1		
78	Shank	Weigh feeder	125 V/h for 08-Q1 t/m <sup>3</sup>	Width: 1200mm	Electronic	Bulk	2.74	"	0.050	Imported	1	137.57 DM	137.57 DM	71.5	71.5	1980	7	4	4	2	6	8	1	3	3	0	1	1	9	1	2	1		
79	Peters	Compressor Rotary, single stage	333 m <sup>3</sup> /min	0.5 bar	Air (3 Kw)	Horizontal	0.26	A.S.C.	0.070	"	1	27.8 TL 6.9 DM	27.8 TL 6.9 DM	3.9	3.9	1980	7	4	3	1	3	2	3	2	1	1	1	1	1	7	2	2		
150		Air Slide	200 t/h	350x350mm	Length: 2 m	Low pressure	0.070	M.S.	4 mm	Tur	1	18.0 TL	18.0 TL	0.24	0.24	1980	7	4	4	2	3	2	0	5	0	0	2	1	1	1	1	1		
151		Air Slide	200 t/h	350x350mm	3 m	"	0.105	"	4 mm	"	1	2625 TL	2625 TL	0.35	0.35	1980	7	4	4	2	3	2	0	5	0	0	2	1	1	1	1	1		
152	Peters	Compressor Sliding Vane rotary	33 m <sup>3</sup> /min	14 bar	(90 kw) AIR	Horizontal	5.33	A.S.C.	0.100	Imported	2	16.4 DM 27.79 FF	32.8 DM 55.58 FF	32.85	65.7	1980	7	4	3	1	3	2	1	3	1	1	1	1	1	7	2	2		
153	Peters GR2-35	Fuller Pump	130 t/h	14 kg/cm <sup>2</sup>	"	Medium Pressure	4.0	"	0.8	"	2	94.9 DM	189.8 DM	48.9	97.8	1980	7	4	4	2	3	2	0	5	0	0	3	1	7	2	2			

Sample Plant : LADIK

PRODUCTION ACTIVITY Code : 3692 1207

Sr. No.	Mark / Model	Basic Machine Nomenclature	Ma or Specific (Optional)	Major Spec - 1 (Optional)	Major Spec - 2 (Optional)	Type (Description)	Manufac. Characteristic - 1	Manufac. Characteristic - 2	Manufac. Characteristic - 3	Origin	Qty	Purchase Cost (in Thousands) And Currency		Constant 1980 Year Cost US\$ (in Thousands)		Year of Purchase and Remarks	SITC Code (For Computer)														
							WT (Tons)	MATL	WT (Tons)			Unit	Total	Unit	Total		12	13	14	15	16	17	18	19	20	21	22	23	24	25	
							8	9	10			11	12	13	14		15	16	17	18	19	20	21	22	23	24	25				
60	HK 180/325 Humbold Wedag	Ventilator (Blower) (Single Suction)	595 m <sup>3</sup> /min	0.08 Atm (796 mm Wg)	Air (1260 Kw)	Backward curved blades (350°C)	26.6	St. Fab.	8 mm	Germany	1	310.5 FF 1483 DM	310.5 FF 1483 DM	175.1	175.1	1980	7	4	3	4	2	0	0	1	1	3	3	9	4	2	
1	3560	Cyclone preheater inc. piping	385 m <sup>3</sup> /min (150 t/h)	0.5 Atm Ø 355m (Ø 6.5 m)	Non-catalytic	Vertical (cylindrical)	140	MS	10 mm	Tur	1	35000.0 TL	35000.0 TL	460.3	460.3	1980	7	4	1	6	5	0	9	5	1	2	7	6	1	1	1
61		Ventilator (Blower)	200 m <sup>3</sup> /min	0.02 Atm (200 mm Wg)	Air (11 Kw) (1500 RPM)	Backward Curved blades	0.52	"	0.1	"	1	10250 TL	10250 TL	13.5	13.5	1980	7	4	3	4	2	0	0	5	1	1	3	1	9	1	1
2		Rotary kiln	79 t/h (1700 t/day) (Clinker)	1450 C (Ø 4.5 m)	Combined Length 8m (270 Kw)	Sintering 195 kcal/kg clinker	659.2	"	45 mm	"	1	1528 FF 17869 DM 1008500 TL	1528 FF 17869 DM 1008500 TL	2300.8	2300.8	1980	7	4	1	6	3	1	4	7	6	4	7	9	1	3	1
52	3 S 2500	Reduction Gear box (Double Helical)	270 KW	1-40	Parallel Axis	Multiple Stages	29.6	A.S.C	6.0	Germany	1	3366 DM	3366 DM	175.0	175.0	1980	7	4	9	3	1	0	3	3	4	1	3	3	7	4	2
63	2 S 560	Reduction Gear box (Double Helical)	22 KW	1-28	"	"	2.5	"	0.2	"	1	227 DM	227 DM	11.8	11.8	1980	7	4	9	3	1	0	3	1	4	1	3	1	7	1	2
3		Burner for Rotary Kiln	10 t/h	F.O.		Under Pressure	3.1	St. Fab.	0.2	"	1	1265 DM	1265 DM	65.75	65.75	1980	7	4	1	2	1	0	0	2	5	0	2	1	9	1	2
64		Primer Ventilator (Blower)	153 m <sup>3</sup> /min	0.120 Atm	AIR (55 Kw) (2950 RPM)	Back ward curved parts (35°C)	1.55	St. Fab.	0.2	"	1	187 FF 383 DM	187 FF 383 DM	25.8	25.8	1980	7	4	3	4	2	0	0	5	1	1	3	1	9	1	2
40		Daily Tank (Vessel)	10 m <sup>3</sup>	Ø 1800 mm (Atmospheric)	40 C (Lg: 5.26m)	Circular / Cylindrical	1.5	M.S.	5 mm	Tur	1	2000 TL	2000 TL	2.63	2.63	1980	6	9	2	1	1	1	0	1	1	3	2	1	1	1	1
4		Cooler (Clinker cooling)	87 t/h	Lg: 14 m		Air Circulation	148.4	A.S	35 mm	"	1	546 FF 1422 DM 54900 TL	546 FF 1422 DM 54900 TL	163.2	163.2	1980	7	4	1	6	4	9	0	7	3	0	1	6	4	2	1
65	V 1134/788 -124	Secunder Ventilator	666 m <sup>3</sup> /min	510 mm Ws	Air (132 KW)	Back ward curved blades	2.2	St. Fab.	0.8	Tur	1	150 FF 14900 TL	150 FF 14900 TL	24.3	24.3	1980	7	4	3	4	2	0	0	5	1	1	3	1	9	1	1
66	V 1134/788 -124	Secunder Ventilator	666 m <sup>3</sup> /min	500 mm Ws	Air (110 KW)	"	2.2	"	0.8	"	1	150 FF 14900 TL	150 FF 14900 TL	24.3	24.3	1980	7	4	3	4	2	0	0	5	1	1	3	1	9	1	1
67	V 108/798 -125	"	666 m <sup>3</sup> /min	400 mm Ws	Air (55 KW)	"	2.2	"	0.8	"	1	150 FF 14900 TL	150 FF 14900 TL	24.3	24.3	1980	7	4	3	4	2	0	0	5	1	1	3	1	9	1	1
68	"	"	666 m <sup>3</sup> /min	254 mm Ws	Air (45 KW)	"	2.2	"	0.8	"	1	150 FF 14900 TL	150 FF 14900 TL	24.3	24.3	1980	7	4	3	4	2	0	0	5	1	1	3	1	9	1	1
69	"	"	666 m <sup>3</sup> /min	203 mm Ws	Air (30 KW)	"	2.2	"	0.8	"	1	150 FF 14900 TL	150 FF 14900 TL	24.3	24.3	1980	7	4	3	4	2	0	0	5	1	1	3	1	9	1	1



Sample Plant: LADIK

PRODUCTION ACTIVITY Code: 3602 1201

Sr No	Mark/ Model	Basic Machine Nomenclature	Major Specific (Capacity)	Major Spec - 1 (Optional)	Major Spec - 2 (Optional)	Type (Description)	Manufac. Characteristic - 1	Manufac. Characteristic - 2	Manufac. Characteristic - 3	Origin	Qty	Purchase Cost (in Thousands) And Currency		Constant 1980 Year Cost US\$ (in Thousand)		Year of Purchase and	SITC Code (For Computer)															
							WT (Tons)	MATL	WT (Tons)			Unit	Total	Unit	Total		Remarks	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
							8	9	10			11	12	13	14		15	16	17	18												
5		Crusher Hammer Mill	100 t/h	1000 RPM	45 KW	Horizontal	4.36	A.S.C.	0.05	Tur	1	16560 TL	1656.0 TL	21.8	21.8	1980	7	2	0	2	1	2	2	7	1	1	1	7	1	1		
6		Multicyclone	300000 m <sup>3</sup> /h	Efficiency % 99.5		Multizone Pressure type	550	M.S.	5 mm	"	1	100000 TL	100000 TL	131.5	131.5	1980	7	4	3	6	1	1	2	4	0	0	2	5	1	1		
70		Ventilator (Blower)	5000 m <sup>3</sup> /min	230 mm Ws	Air 300 KW (735 RPM)	Back ward curved blades	6.2	St. Fab.	2.0	"	1	101.4 FF 4383.0 TL	101.4 FF 4383.0 TL	89.5	89.5	1980	7	4	3	4	2	0	0	6	1	1	9	2	9	3	1	
71		Chain Conveyor	25 t/h	500 mm	3 KW 8 RPM 10 m	Diverse parts: Smt and plate (Iron)	4.15	A.S.C.	0.2	"	1	13400 TL	13400 TL	17.82	17.82	1980	7	4	4	2	6	1	2	1	2	0	2	1	7	1	1	
72		Bucket Elevating Conveyor	100 t/h	800 mm	22 KW 75 m	Diverse parts	37.7	St. Fab.	0.4	"	1	12083 TL	12083 TL	147.4	147.4	1980	7	4	4	2	6	5	2	3	2	0	2	4	9	1	1	
41		Bunker for transfer	16 m <sup>3</sup>	1x16x4 m	75 °C	Rectangular	1.2	M.S.	6 mm	"	1	2430 TL	2430 TL	3.2	3.2	1980	6	9	2	1	1	0	2	9	1	1	1	1	1	1	1	1
73		Bucket Elevating Conveyor	100 t/h	800 mm	20 m 55 KW	Diverse parts	10.1	St. Fab.	0.4 mm	"	1	33070 TL	33070 TL	43.5	43.5	1980	7	4	4	2	6	5	2	3	2	0	2	3	9	1	1	
74		Scraper Steel Conveyor	100 t/h	630 mm	46 m	"	15.7	"	0.4	"	2	31.85 FF 45000 TL	637.2 FF 80000 TL	69.2	138.4	1980	7	4	4	2	6	2	1	3	2	0	2	3	7	1	1	
42		Stock Hall (open)	φ 40 m	Height: 25m				Concrete		"	1																					
43		Stock Hall (closed)	150 x 30 m	s : 14m				"		"	1																					
75		Belt Conveyor	250 t/h	800 mm	111 m	Diverse parts	14.7	St. Fab.	0.1	"	1	46890 TL	46890 TL	61.4	61.4	1980	7	4	4	2	6	0	2	4	2	0	2	3	9	1	1	
76	Buhler-MA6 Elm 200 P	Reclaiming Scraper	200 t/h		14 t/m <sup>2</sup> 40 heaping	Reclaimer Traveling	15.7	A.S.C.	0.500	Imports	1	28780 DM 3513 TL	28780 DM 3513 TL	154.32	154.32	1980	7	4	4	2	8	0	4	6	0	0	2	3	7	1	2	
77		Belt Conveyor	250 t/h	800 mm	63 m (15 KW)	Diverse parts	8.7	St. Fab.	0.1	Tur	1	28130 TL	28130 TL	37.0	37.0	1980	7	4	4	2	6	0	2	4	2	0	2	2	9	1	1	
78		Belt Conveyor	250 t/h	800 mm	161 m (15 KW)	"	21.0	"	0.1	"	1	65320 TL	65320 TL	85.9	85.9	1980	7	4	4	2	6	0	2	4	2	0	2	3	9	1	1	
79		Belt Conveyor	250 t/h	800 mm	105 m (15 KW)	"	3.5	"	0.1	"	2	13460 TL	26920 TL	17.7	35.4	1980	7	4	4	2	6	0	2	4	2	0	2	1	9	1	1	

Sample Plant : LADIK

PRODUCTION ACTIVITY Code : 3692 12011

Sr. No.	Mark/Model	Basic Machine Nomenclature	Major Specific (Capacity)	Major Spec-1 (Optional)	Major Spec-2 (Optional)	Type (Description)	Manufac	Manufac	Manufac	Origin	Qty	Purchase Cost (in Thousands) And Currency		Constant 1980 Year Cost US\$ (in Thousand)		Year of Purchase and	SITC Code (For Computer)														
							Characteristic-1 WT (Tons)	Characteristic-2 MA <sup>3</sup>	Characteristic-3 WT (Tons)			Unit	Total	Unit	Total		Remarks	1	2	3	4	5	6	7	8	9	10	11	12	13	14
160		Bucket elevator	250 t/h	800 mm	Height 22m (55 KW)	Diversa parts	21.5	St. Fab.	0.4	Tur	2	214 FF 65000 TL	428 FF 130000 TL	92.2	184.4	1980	7	4	4	2	5	5	1	4	2	0	2	3	9	1	1
161		Belt Conveyor	250 t/h	800 mm	33 m (4 KW)	"	8.1	"	0.1	"	1	29330 TL	29330 TL	38.57	38.57	1980	7	4	4	2	6	0	2	4	2	0	2	2	9	1	1
162		Belt Conveyor	250 t/h	800 mm	7.3 m (4 KW)	"	3.0	"	0.1	"	1	12278 TL	12278 TL	16.14	16.14	1980	7	4	4	2	6	0	2	4	2	0	2	1	9	1	1
163		Belt Conveyor	250 t/h	800 mm	11 m (4 KW)	"	2.9	"	0.1	"	1	10720 TL	10720 TL	14.1	14.1	1980	7	4	4	2	6	0	2	4	2	0	2	1	9	1	1

Sample Plant: LADIK

PRODUCTION ACTIVITY Code: 3002 1211

Sr. No.	Mark/ Model	Basic Machine Nomenclature	Major Specific. (Capacity)	Major Spec-1 (Optional)	Major Spec-2 (Optional)	Type (Description)	Manufac. Characteristic-1	Manufac. Characteristic-2	Manufac. Characteristic-3	Origin	Qty	Purchase Cost (in Thousands) And Currency		Constant 1980 Year Cost US\$ (in Thousand)		Year of Purchase and Remarks	SIC Code (Per Computer)																	
							WT (Tons)	MATL	WT (Tons)			Unit	Total	Unit	Total		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
							8	9	10			11	12	13	14		15	16	17	18														
60	TS 2F 130 Dozimer	Weigh feeder	0-800 t/h	Width 1000mm	1.5 KW	Bulk	2.5	St. Fab.	0.3	Denmark	2	974.15 FF	19483 FF	23.1	46.2	1980	7	4	2	6	8	1	2	3	0	1	1	9	1	2				
61	TS 6F 80	Weigh feeder	0-8 t/h	1000 mm	0.5 KW	"	1.5	"	0.2	"	2	58.50 FF	1120 FF	13.8	27.6	1980	7	4	2	6	8	1	1	3	0	1	1	9	1	2				
62	TS 6F 80	Weigh feeder	0-64 t/h	1000 mm	0.5 KW	"	2.0	"	0.2	"	2	78.0 FF	1560 FF	18.5	37.0	1980	7	4	2	6	8	1	2	3	0	1	1	9	1	2				
63	Atlas Copco ER 5	Compressor, Single Stage	0.067 m³/min	2 Kg/Cm²	AIR (18 KW)	Water cooled vertical	1.0	ASC.	0.2	Sweden	2	1091 DM	2182 DM	6.8	13.6	1980	7	4	3	1	3	0	1	1	1	1	2	1	7	1	2			
64	FT/40 3	Air tank	0.300 m³	5 Kg/Cm²	80°C	Circular	0.1	A.S.	4mm	Tur	2	30.0 TL	600 TL	0.4	0.8	1980	5	1	7	4	3	0	4	1	1	3	2	1	4	1	1			
64	FT/40 3	Water pump	12 m³/h	30 m	Cold Clean (2 KW)	Horizontal	0.32	A.S.C.	0.05	Imported	4	38 DM	152 DM	2.1	8.4	1980	7	4	2	2	0	0	1	3	2	1	1	1	7	1	2			
65	TSFP 1600 B	Reduction Gear box (Symetre)	2640 KW	495/1672			77.8	"	12.0	"	2	1,675,027 FF	3,350,054 FF	396.4	792.8	1980	7	4	9	3	1	0	3	8	4	1	3	5	7	5	2			
65	1	Cement Mill (Ball Mill)	80 t/h	16.72 RPM (4 φ m)	11.5 Log 2640 KW	Horizontal	326.35	"	30.4	Tur	2	800.0 FF	1600 FF	997.3	1,994.6	1980	7	2	8	3	2	1	1	1	1	7	1	8	7	7	1			
66		Over flow sluice (Conveyor)	150 t/h	400 mm WS		Low pressure	0.2	A.S.	5mm	"	2	600 TL	1200 TL	0.8	1.6	1980	7	4	2	3	2	0	5	0	0	2	1	4	1	1				
67		Compressor	20 m³/min	400 mm WS	AIR 1.5 KW 1610 RPM	Vertical	0.42	ASC.	0.1	Imported	2	327 DM	654 DM	1.84	3.68	1980	7	4	3	1	3	0	0	3	1	1	2	1	7	1	2			
68	HT 500-80 B	Ventilator (Blower)	6 m³/min	400 mm WS 2855 RPM (22 KW)	AIR	Straight blades	0.32	St. Fab.	0.1	Tur	2	165.0 TL	330.0 TL	2.2	4.4	1980	7	4	3	4	2	0	0	2	1	1	1	1	1	1	1			
69		Air Slide	150 t/h	350-350 mm	Lg 4 m	Low pressure	0.27	M.S.	4 mm	"	2	900 TL	1800 TL	1.2	1.2	1980	7	4	2	3	2	0	5	0	0	2	1	1	1	1	1			
70		Ventilator (Blower)	6 m³/min	160 mm WS 185 KW	AIR 1740 RPM	Back ward curved blades	0.52	St. Fab.	0.15	"	2	487.5 TL	975 TL	6.41	12.82	1980	7	4	3	4	2	0	0	2	1	1	3	1	1	1	1			
71	5100 F	Electro Filter	360 m³/h (50 t/h)	70 KW		Single Zone	14.7	M.S.	10 mm	"	2	34.62 DM	6924 DM	63.7	127.4	1980	7	4	3	6	1	0	1	1	0	8	1	3	1	1	1			
71		Bucket Elevator	150 t/h	800 mm	30 KW	Bulk	(246 mm) 16.3 ton	St. Fab.	1.0	"	2	5400.0 TL	10800 TL	71.0	142.0	1980	7	4	2	6	5	1	3	2	8	1	3	9	1	1				
72		Screw Conveyor	50 t/h	5.5 KW 8000 mm	Lg 7.7	"	1.3	"	0.2	"	2	300.00 TL	600.00 TL	5.8	11.6	1980	7	4	2	8	4	3	2	1	0	1	1	1	1	1				

UNDO/SPO ÇİMENTO

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Sample Plant: LADIK

PRODUCTION ACTIVITY Code: 369Z 12TM

Page: 2/7

Sr	Mark/Model	Basic Machine	Specif. (Capacity)	Major Spec-1 (Optional)	Major Spec-2 (Optional)	Type (Description)	Manufac. Characteristic-1 (Tons)	Manufac. Characteristic-2 (Tons)	Manufac. Characteristic-3 (Tons)	Origin	Qty	Purchase Cost (in Thousands)	Constant 1980 Year Cost (in Thousands)	Year of Purchase and Remarks	SITC Code (For Computer)		
															1	2	3
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
73		Air Slide Conveyor	150 t/h	350x350mm	15 m	Low pressure	M.S.	6 m	Tur.	2	4200 TL	6440 TL	5.58	11.04	1980	7 6 2 2 3 7 0 5 0 2 1 1 1	
74	MT 500	Ventilator (Blower)	10m <sup>3</sup> /min	400mm WS	127 KW	Straight blades	SR. Fab.	0.02	"	2	1690 TL	2380 TL	2.2	4.4	1980	7 6 2 2 0 0 3 1 1 1 1 9 1	
75		Ventilator (Blower)	10m <sup>3</sup> /min	400mm WS	15 KW	"	"	0.12	"	2	1690 TL	2380 TL	2.2	4.4	1980	7 6 2 2 0 0 3 1 1 1 1 9 1	
3		Separator (Pneumatic)	150 t/h			Pressure type	M.S.	10.5	"	2	800 FM 800 FM 95750 TL	131500 TL	105.4	210.8	1980	7 2 8 3 1 6 0 6 0 0 2 6 9 5 1	
76	HP 2750	Ventilator (Blower)	100 m <sup>3</sup> /min	1 Kg/cm <sup>2</sup>	(300 KW)	AIR Back ward curved blades	SR. Fab.	1.6	"	2	3,6010 TL	2,2020 TL	47.4	96.8	1980	7 6 2 2 0 0 5 1 1 3 3 9 2 1	
4		Cyclone, Single	6000 m <sup>3</sup> /h	φ 5 m	Height: 16 m	Single	M.S.	12mm	"	2	35000 TL	70000 TL	66.0	92.0	1980	7 6 2 2 0 0 1 1 1 3 0 1 3 1 1 1	
77		Air Slide Conveyor	150 t/h	350x350mm	8 m	Low pressure	"	4mm	"	2	2000 TL	4000 TL	2.6	5.2	1980	7 6 2 2 3 2 0 5 0 0 2 1 1 1 1	
41		Feed Hopper	20 m <sup>3</sup>	Height: 1900mm	Width: 2000mm	Rec.	M.S.	5mm	Tur.	2	6000 TL	12000 TL	7.9	15.8	1980	6 8 2 1 0 2 1 1 3 1 1 1 1 1 1	
42		Air Receiver (Tank)	4000 lt	7 atm	50 °C	Cyl.	A.S.	5mm	"	2	1500 TL	3000 TL	1.94	3.94	1980	6 9 2 2 3 0 6 1 1 3 2 1 6 1 1	
78	ER 5	Compressor (Two stage)	28.5 m <sup>3</sup> /min	7 atm	160 KW	AIR	A.S.C.	18	Sweden	4	500 FM 500 FM 62250M	2698 DM	44.2	176.8	1980	7 6 3 1 3 0 2 3 2 1 2 2 7 2 2	
79		Fuel Pump (Air Lift)	100 t/h	7 ATM			C.S.	3mm	Tur	2	30000 TL	60000 TL	39.5	79.0	1980	7 6 2 2 3 0 0 5 0 0 6 1 1 1 1	
5	MKE 112/B	Air Filter	33600 m <sup>3</sup> /h	Width: 2.3 m	Lg 6 m	No. of compartments: 8	A.S.	6mm	"	1	1,1250 TL	1,1250 TL	14.8	14.8	1980	7 6 3 6 1 5 0 1 1 0 2 2 6 1 1	
80	Saber 112/B	Ventilator (Blower)	333 m <sup>3</sup> /min	360mm WS	(37 KW)	AIR Back ward curved blades	SR. Fab.	4 mm	"	1	8000 TL	8000 TL	10.5	10.5	1980	7 6 2 2 0 0 5 1 1 3 1 9 1 1	
43		Silo				Concrete				2						7 6 2 2 6 2 6 1 0 1 1 9 1 1	
181		Screw Conveyor	200 t/h	φ250mm	Lg 6mm	2.2 KW 378PM	SR. Fab.	0.1	"	1	2760 TL	2760 TL	3.6	3.6	1980	7 6 2 2 6 2 6 1 0 1 1 9 1 1	

UNIDO/SPO (ÇİMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

PLANT SURVEY FORM

Sample Plant: LÂ DIK

PRODUCTION ACTIVITY Code: 3692 1231

Sr. No.	Mark/ Model	Basic Machine Nomenclature	Major Specific (Capacity)	Major Spec-1 (Optional)	Major Spec-2 (Optional)	Type (Description)	Manufac. Characteristic-1	Manufac. Characteristic-2	Manufac. Characteristic-3	Origin	Qty	Purchase Cost (in Thousands) And Currency		Constant 1980 Year Cost US\$ (in Thousand)		Year of Purchase and Remarks	SITC Code (For Computer)														
							WT (Tons)	MATL	WT (Tons)			Unit	Total	Unit	Total		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
							13	14	15			16	17	18																	
60	CAP	Compressor (Rotary)	75 m <sup>3</sup> /min	0.5 atm (11 KW) (2900 RPM)	AIR	Horizontal	0.3	A.S.C.	0.1	Imported	4	250 DM 549 TL	100.0 DM 2196 TL	13.7	54.8	1980	7	4	3	1	3	2	2	2	1	1	1	1	7	1	2
61	MKEK	Air Slide (Conveyor)	140 t/h	350x350 mm	Lg. 26 m	Low Pressure	1.2	M.S.	4 mm	Tur	2	3870 TL	7740 TL	5.1	10.2	1980	7	4	2	3	2	0	5	0	0	2	1	1	1	1	1
62	SEKER	Ventilator (Blower)	15 m <sup>3</sup> /min	500 mm Ws	Air (22 KW)	Straight blades	0.12	St. Fab.	0.05	"	2	1565 TL	3130 TL	2.06	4.12	1980	7	4	3	6	2	0	0	3	1	1	1	1	9	1	1
63	MKEK	Elevator	140 t/h	800 mm	Height 225m 18.5 KW	Bulk	10.5	"	0.5	"	2	55770 TL	11540 TL	73.34	146.68	1980	7	4	6	2	6	5	1	3	2	0	1	3	9	1	1
64	Hoyer Boecker	Oscillating Screen	120 t/h	4x4 mm 1200x2500mm (22 KW)	55 °C	Pressure type	1.33	"	φ1.25mm 0.25	Imported	2	167 TL	334 TL	7.5	15.0	1980	7	2	8	3	1	0	2	4	5	0	2	1	9	1	2
64	MKEK	Bunker	13 m <sup>3</sup>	φ2.5 m	50 °C	Cyl.	1.63	MS	1.0	Tur	2	3250 TL	6500 TL	4.3	8.6	1980	6	9	2	1	1	0	2	1	1	3	2	1	1	1	1
65	Hoyer Boecker 6024-ORC	Rotapacker compact packaging system	100 t/h (2000 bag/h)	50 kg Each of bag		Automatic Rotary	7.3 ton			Imported	2	1825 DM	3650 DM	94.9	189.8	1980															
66	SR 1180-25	Compressor (Single Stage) (Rec. Piston)	2.3 m <sup>3</sup> /min	10 atm (1200 RPM) (7.5 KW)	Air	Vertical	1.2	A.S.C.	0.1	"	2	50 DM 304 TL	100 DM 608 TL	3.0	6.0	1980	7	4	3	1	3	0	1	2	3	1	2	1	7	1	2
67		Belt Conveyor	120 t/h	800 mm 3 KW	Lg. 13 m (0.64 m/sec)	Pack Mat.	0.7	St. Fab.	0.1	Tur	2	3600 TL	7200 TL	4.7	9.4	1980	7	4	2	6	0	2	3	2	0	2	1	9	1	1	1
68		Belt Conveyor	120 t/h	650 mm 11 KW	Lg. 14 m	"	2.75	"	0.2	"	1	9390 TL	9390 TL	12.39	12.39	1980	7	4	2	6	0	2	3	2	0	2	1	9	1	1	1
69		Belt Conveyor	120 t/h	Width: 650 mm	Lg. 23 m (0.64 m/sec)	"	3.76	"	0.800	"	2	14525 TL	29050 TL	19.1	38.2	1980	7	4	2	6	0	2	3	2	0	2	1	9	1	1	1
70	Hoyer Boecker	Belt Conveyor (Trolley)	120 t/h	650 mm	Lg. 17m (131 m/sec)	"	4.9	"	0.200	Imported	4	550 DM 1900 TL	2200 DM 7800 TL	31.1	124.4	1980	7	4	2	6	0	2	3	2	0	2	1	9	1	2	1
71	MKEK 112/g	Air Filter	33600 m <sup>3</sup> /h	Width 2.9 m	Lg. 6 m	no of Compartment 6	7.5	A.S.	4 mm	Tur	2	1,1250 TL	2,2500 TL	14.8	29.6	1980	7	4	3	6	1	5	0	1	1	0	2	2	4	1	1
71	SEKER	Ventilator	333 m <sup>3</sup> /min	360mm Ws	Air (37 KW) (2320 RPM)	Back ward curved blades	1.1	St. Fab.	4 mm	"	2	8000 TL	1,6000 TL	10.5	21.0	1980	7	4	3	6	2	0	0	9	1	1	3	1	9	1	1
72		Screw Conveyor	200 t/h	φ250 mm	Lg. 6 m (22 KW) (37 RPM)	BULK	0.6	"	0.1	"	2	2740 TL	5480 TL	3.6	7.2	1980	7	4	4	2	6	4	3	4	1	0	1	1	9	1	1
73		Screw Conveyor	200 t/h	φ250 mm	Lg. 6 m (22 KW) (37 RPM)	BULK	0.6	"	0.1	"	2	2740 TL	5480 TL	3.6	7.2	1980	7	4	4	2	6	4	3	4	1	0	1	1	9	1	1





























EQUIPMENT REQUIREMENTS FOR THE NEW ADIYAMAN PLANT, CAPACITY 600 000 TONS/YEAR PLANT

LOCATION : ADIYAMAN

ANTICIPATED DATE OF COMMISSIONING : JULY 1982

Cement Plant Machinery

PAGE = 13

(Gear Boxes and Packing Machines)

Total weight in tons / value in U.S. (\$ 1000)

SITC Code	Basic Machine Name	Qty read (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
					(tons)	(tons)	(tons)									
749310314131712	Reduction Gear box	1	2.5	11.8	2.5											2.5
749310315131712	Reduction Gear box	2	2.3	23.4	4.6											4.6
749310334134742	Reduction Gear box	1	29.6	175.0	29.6											29.6
749310362133742	Reduction Gear box	2	19.7	146.7	39.4											39.4
749310384135752	Reduction Gear box	4	77.8	396.4	155.6											155.6
74522	Packing Machine	2	7.3	94.9	14.6											14.6
	TOTAL				246.3											246.3
	GRAND TOTAL				438.83											438.83

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UNIDO/SPO (CIMENTO)  
 CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 1692 1

EQUIPMENT REQUIREMENTS FOR THE NEW SIIRT (KURTALAN)

PLANT, CAPACITY 600 000 TONS/YEAR  
 PLANT

LOCATION : KURTALAN

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

PAGE = 11

Cement Plant Machinery  
 (Conveyors)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1,000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991	
																	(tons)
744261024021711	Chain Conveyor	1	2.95	14.0		2.95											2.95
1212021711	Chain Conveyor	1	4.15	17.62		4.15											4.15
1223012711	Steel plate conveyor	1	7.8	31.69		7.8											7.8
1233022711	Steel plate conveyor	1	7.8	31.69		7.8											7.8
1254024711	Steel plate conveyor	1	36.6	152.7		36.6											36.6
2132023711	Scraper steel conveyor	2	15.7	89.2		31.4											31.4
4311011911	Screw Conveyor	1	1.6	7.0		1.6											1.6
4311011911	Screw Conveyor	4	3.1	12.95		12.4											12.4
4321011911	Screw Conveyor	2	1.3	5.8		2.6											2.6
4322013941	Screw Conveyor	1	12.2	26.87		12.2											12.2
4331011911	Screw Conveyor	2	3.1	12.5		6.2											6.2
4341011911	Screw Conveyor	4	0.6	3.6		2.4											2.4
4341011911	Screw Conveyor	4	0.6	3.6		2.4											2.4
						130.5											130.5

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EQUIPMENT REQUIREMENTS FOR THE NEW SİİRT (KURTALAN) PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION : KURTALAN

ANTICIPATED DATE OF COMMISSIONING : JULY 1983

Cement Plant Machinery

PAGE = 13

(Gear Boxes and Packing Machines)

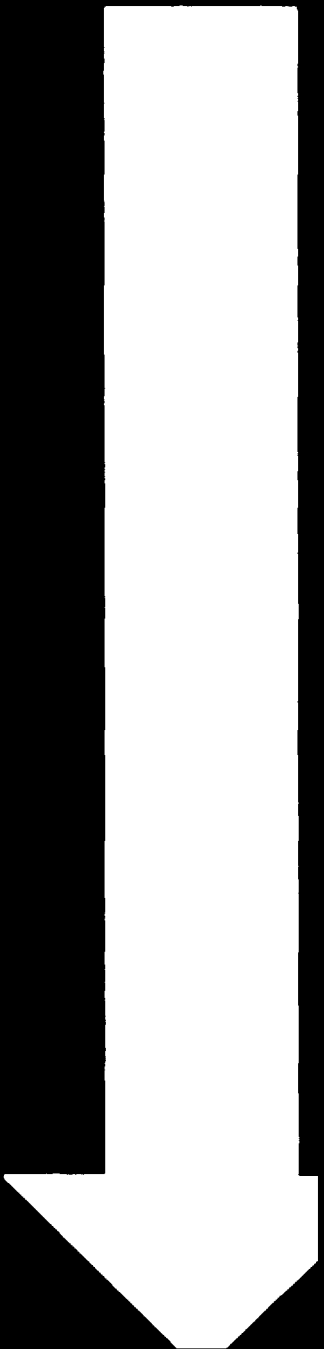
Total weight in tons / value in ~~U.S.~~ (1000)

SITC Code	Basic Machine Name	Qty read (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981 (tons)	1982 (tons)	1983 (tons)	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
749310314131712	Reduction Gear box	1	2.5	11.8	2.5											2.5
749310315131712	Reduction Gear box	2	2.3	23.4	4.6											4.6
7493103341134742	Reduction Gear box	1	29.6	175.0	29.6											29.6
749310362133742	Reduction Gear box	2	19.7	145.7	39.4											39.4
749310384135752	Reduction Gear box	4	77.8	396.4	155.5											155.5
74522	Packing Machine	2	7.3	94.9	14.6											14.6
TOTAL					246.3											246.3
GRAND TOTAL					1284.21	2854.82										4139.03

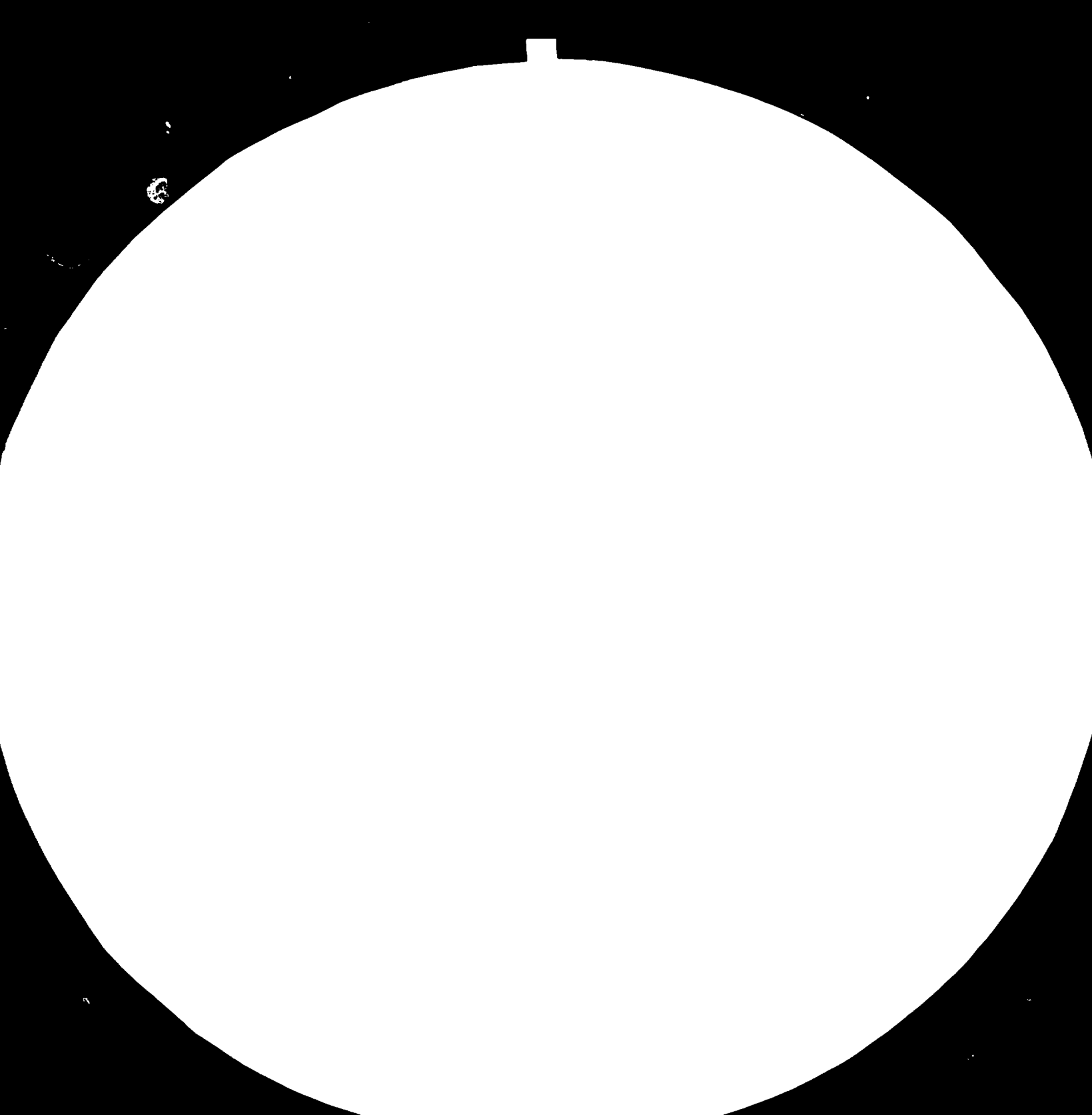


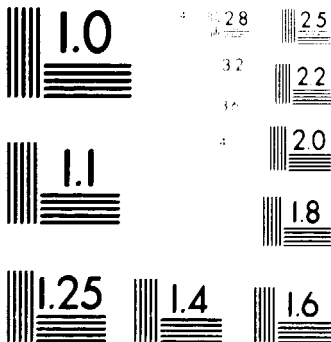






**84.08.17**  
**AD.85.03**





MICROCOPY RESOLUTION TEST CHART  
 NATIONAL BUREAU OF STANDARDS-  
 STANDARD REFERENCE MATERIAL 1010a  
 ANGLE COPY TEST CHART (3-7)





























UNIDO/SFO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW EDIRNE (LALAPAŞA) PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT

LOCATION : LALAPAŞA

PAGE : 3

Cement Plant Machinery  
(Screens & mills)

Total weight in tons / value in U.S.\$ (1000)

SIIC Code	Basic Machine Name	Qty	Unit	Weight U.S.\$ (1000)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
720310245021912	Oscillating Screen	2	(Nos)	133	75			2.66									2.66
606026931	Separator	1		29.0	29.65			29.0									29.0
606026951	Separator	2		27.1	105.5			54.2									54.2
22032044715031	Crusher (mill)	1		84.1	398.0			84.1									84.1
111210271	Cement Ball Mill	2		326.35	997.3			652.7									652.7
121710771	Ball Mill	1		419.3	1600.3			419.3									419.3
1227111711	Crusher	1		4.36	21.0			4.36									4.36
																	1246.32

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EQUIPMENT REQUIREMENTS FOR THE NEW EDİRNE (LALAPAŞA)

PLANT, CAPACITY 600 000 TONS/ YEAR

LOCATION : LALAPAŞA

PLANT

ANTICIPATED DATE OF COMMISSIONING : JULY 1984

Cement Plant Machinery  
(Compressors)

PAGE : 5

Total weight in tons / value in U.S.\$ (1980)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1980)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total
					(tons)											1981-1991
743130031121712	Compressor	2	0.42	1.84	0.84											0.84
81111121712	Compressor	2	1.0	6.0	2.0											2.0
8123121712	Compressor	2	1.2	3.0	2.4											2.4
8132121612	Compressor	2	1.5	71.02	3.0											3.0
8232122722	Compressor	4	7.95	44.2	31.8											31.8
2121111712	Compressor	2	0.7	8.9	1.4											1.4
2131111712	Compressor	2	5.33	32.85	10.66											10.66
2131111712	Compressor	3	4.28	68.6	12.84											12.84
2121111712	Compressor	2	2.6	36.6	5.2											5.2
2221111712	Compressor	4	0.3	13.7	1.2											1.2
2321111712	Compressor	1	0.26	3.9	0.26											0.26
					71.6											71.6

1051







UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3892 1

EQUIPMENT REQUIREMENTS FOR THE NEW EDIRNE (LALAPASA)

PLANT, CEMENT 600 000 TONS/YEAR

LOCATION : LALAPASA

PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

PAGE : 8

Cement Plant Machinery

( Dump Trucks )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
							(tons)									
744112027003921	Dump Trucks	3	10.0	52.6			30.0									30.0
2045003632	Dump Trucks	5	23.6	204.52			113.0									113.0
								149.0								149.0

900





EQUIPMENT REQUIREMENTS FOR THE NEW EDİRNE (LALAPASA) PLANT, CAPACITY 600 000 TONS/YEAR PLANT  
LOCATION : LALAPASA  
ANTICIPATED DATE OF COMMISSIONING : JULY 1984

Cement Plant Machinery  
(Conveyers)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
							(tons)									
744261024021711	Chain Conveyor	1	2.95	118.6			2.95									39
1212021711	Chain Conveyor	1	4.15	17.82			4.15									415
1223012711	Steel plate conveyor	1	7.8	31.89			7.8									78
1233022711	Steel plate conveyor	1	7.8	31.89			7.8									78
1254024711	Steel plate conveyor	1	36.6	182.7			36.6									366
2132023711	Scraper steel conveyor	2	15.7	59.2			31.4									314
4311011211	Screw Conveyor	1	1.6	7.0			1.6									16
4311011911	Screw Conveyor	4	3.1	12.95			12.4									124
4321011911	Screw Conveyor	2	1.3	5.8			2.6									26
4372013941	Screw Conveyor	1	12.2	28.87			12.2									122
4331011911	Screw Conveyor	2	3.1	12.95			6.2									62
4341011911	Screw Conveyor	4	0.6	2.4			2.4									24
4341011911	Screw Conveyor	4	0.6	2.4			2.4									24
							130.5									1305

UNDD/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW EDİRNE (LALAPAŞA) PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION : LALAPAŞA PLANT  
ANTICIPATED DATE OF COMMISSIONING: JULY 1984

PAGE=12

Concret Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S.\$ (1000) /

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
						(tons)	(tons)									
7422013911	Bucket elevator	1	41.2	165.76			41.2									41.2
5132013911	Bu. ket elevator	2	18.5	73.34			37.0									37.0
5132013911	Bucket elevator	2	15.2	60.3			30.4									30.4
5132013911	Bucket elevator	2	15.3	71.0			32.6									32.6
5142023911	Bucket elevator	2	21.5	92.2			43.0									43.0
5232023911	Bucket elevating conveyor	1	10.1	43.5			10.1									10.1
5232024911	Bucket elevating conveyor	1	37.7	147.4			37.7									37.7
8113011912	Weigh feeder	1	0.96	30.2			0.96									0.96
8113011912	Weigh feeder	2	1.5	13.8			3.0									3.0
8122011912	Weigh feeder	1	0.79	24.92			0.79									0.79
8123011912	Weigh feeder	1	1.24	39.0			1.24									1.24
8123011912	Weigh feeder	2	2.0	19.5			4.0									4.0
8133011912	Weigh feeder	2	2.5	23.1			5.0									5.0
8133011912	Weigh feeder	1	1.15	35.9			1.15									1.15
8133011912	Weigh feeder	1	2.74	71.5			2.74									2.74
744200460023712	Reclaiming Scraper	2	15.7	154.32			31.4									31.4
							31.4	250.00								281.4

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UNIDO/ SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMAND PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW URFA  
LOCATION : URFA

PLANT CAPACITY 800 000 TONS / YEAR  
PLANT

ANTICIPATED DATE OF COMMISSSTONING: JULY 1984

PAGE = 1

Cement Plant Machinery

(Bunkers & tanks )

Total weight in tons / value in U.S. \$ (1000) (Strike out whichever is not aplicable)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
						(tons)	(tons)									
692110211111111	Bunker	1	1.2	3.2		1.2										1.2
0211311111	Feed hopper	2	3.0	7.9		6.0										6.0
0211321111	Bunker	1	2.0	5.26		2.0										2.0
0211321111	Bunker	2	1.63	4.3		3.26										3.26
0711321111	Daily tank	1	1.5	2.63		1.5										1.5
0711321111	Daily tank, Fuel-oil	1	1.1	1.97		1.1										1.1
0711321111	Daily tank, Diesel-Fuel	1	0.8	1.32		0.8										0.8
0744324111	Main tanks	3	36.0	59.20		108.0										108.0
1011321111	Daily tank	1	1.5	2.63		1.5										1.5
692430411321411	Air receiver	2	0.5	1.97		1.0										1.0
0411321411	Air Tank	2	0.1	0.4		0.2										0.2
711112011143311	Boiler with burner	2	10.2	94.25			20.4									20.4
						126.56	20.4									14696

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EQUIPMENT REQUIREMENTS FOR THE NEW URFA  
LOCATION : URFA  
ANTICIPATED DATE OF COMMISSIONING: JULY 1984

PLANT, CAPACITY 600 000 TONS/ YEAR  
PLANT

Cement Plant Machinery  
(Compressors)

PAGE: 5

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
					(tons)											
743130031121712	Compressor	2	0.42	1.84	0.84											0.84
0111121712	Compressor	2	1.0	6.8	2.0											2.0
0123121712	Compressor	2	1.2	3.0	2.4											2.4
0132121612	Compressor	2	1.5	71.82	3.0											3.0
0232122722	Compressor	4	7.95	44.2	31.8											31.8
2121111712	Compressor	2	0.7	8.9	1.4											1.4
2131111712	Compressor	2	5.33	32.85	10.66											10.66
2131111712	Compressor	3	4.28	66.8	12.84											12.84
2141111712	Compressor	2	2.6	36.8	5.2											5.2
2221111712	Compressor	4	6.3	13.7	1.2											1.2
2321111712	Compressor	1	0.28	3.9	0.28											0.28
					71.6											71.6

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UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW URFA  
LOCATION : URFA  
ANTICIPATED DATE OF COMMISSIONING: JULY 1984

PLANT, CAPACITY 600000 TONS/YEAR  
PLANT

PAGE = 11

Cement Plant Machinery  
(Conveyors)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
							(tons)									
744261024021711	Chain Conveyor	1	2.95	119.4			2.95									295
1212021711	Chain Conveyor	1	4.15	17.62			4.15									435
1223012711	Steel plate conveyor	1	7.8	31.69			7.8									79
1233022711	Steel plate conveyor	1	7.8	31.69			7.8									79
1254024711	Steel plate conveyor	1	36.6	162.7			36.6									366
2132023711	Scraper steel conveyor	2	15.7	69.2			31.4									314
4311011911	Screw Conveyor	1	1.6	7.0			1.6									1.6
4311011911	Screw Conveyor	4	3.1	12.95			12.4									124
4321011911	Screw Conveyor	2	1.3	5.8			2.6									26
4322013941	Screw Conveyor	1	12.2	26.67			12.2									122
4331011911	Screw Conveyor	2	3.1	12.5			6.2									62
4341011911	Screw Conveyor	4	0.6	3.6			2.4									24
4341011911	Screw Conveyor	4	0.6	3.6			2.4									24
							130.5									1305

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UNITDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW URFA PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION : URFA PLANT  
ANTICIPATED DATE OF COMMISSIONING : JULY 1984

Cement Plant Machinery

PAGE = 13

(Gear Boxes and Packing Machines)

Total weight in tons / value in U.S. (\$) (1000)

SITC Code	Basic Machine Name	Qty read (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
					(tons)	(tons)	(tons)									
749310314131712	Reduction Gear box	1	2.5	11.8		2.5										2.5
749310315131712	Reduction Gear box	2	2.3	23.4		4.6										4.6
749310334134742	Reduction Gear box	1	29.6	175.0		29.6										29.6
749310342133742	Reduction Gear box	2	19.7	146.7		39.7										39.4
74931034133752	Reduction Gear box	2	77.8	396.4		155.6										155.6
74522	Packing Machine	2	7.3	94.9	14.6											14.6
	TOTAL				14.6	231.7										246.3
	GRAND TOTAL				103.8	1467.46	2567.57									4798.83

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COMMODITY CODE: 3692 1

UNIDO/SPO (CIMENTO)  
 CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

136

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS  
 PLANT 1

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE=12

Cement Plant Machinery  
 (Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S.\$ (1000 -)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Tot 1991
							(tons)	(tons)								
744285121012911	Bucket elevator	1	41.2	165.76				41.2								
5132013911	Bucket elevator	2	18.5	73.34				37.0								
5132013911	Bucket elevator	2	15.2	60.3				30.4								
5132013911	Bucket elevator	2	16.3	71.0				32.6								
5142023911	Bucket elevator	2	21.5	92.2				43.0								
5232023911	Bucket elevating conveyor	1	10.1	43.5				10.1								
5232024911	Bucket elevating conveyor	1	33.7	147.4				33.7								
8113011912	Weigh feeder	1	0.96	30.2			0.96									
8113011912	Weigh feeder	2	1.5	13.8			3.0									
8122011912	Weigh feeder	1	0.79	24.92			0.79									
8123011912	Weigh feeder	1	1.24	39.0			1.24									
8123011912	Weigh feeder	2	2.0	18.5			4.0									
8133011912	Weigh feeder	2	2.5	23.1			5.0									
8133011912	Weigh feeder	1	1.15	35.9			1.15									
8133011912	Weigh feeder	1	2.74	77.5			2.74									
744280460023712	Reclaiming Scraper	2	15.7	154.32			31.4									
								30.28	233.0							26



















COMMODITY CODE: 3692 1

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

145  
CENTRAL ANATOLIA REGION

EQUIPMENT REQUIREMENTS FOR THE NEW

PLANT, CEMENT 600 000 TONS / YEAR  
PLANT II

LOCATION :

ANTICIPATED DATE OF COMMISSIONING : 1986

PAGE : 8

Cement Plant Machinery

( Dump Trucks )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
					(tons)											
744112027003921	Dump Trucks	3	10.0	52.6					30.0							30.0
2045003632	Dump Trucks	5	23.8	204.52					119.0							119.0
										149.0						149.0











UNIDO/SPO (CIMENTO)  
 CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE : 9692 1

150  
 EQUIPMENT REQUIREMENTS FOR THE NEW  
 LOCATION :

CENTRAL ANATOLIA REGION

PLANT, CAPACITY 600 000 TONS/YEAR  
 PLANT II

ANTICIPATED DATE OF COMMISSIONING : 1986

Cement Plant Machinery

PAGE = 13

(Gear Boxes and Packing Machines)

Total weight in tons / value in U.S. (\$) (1000)

SITC Code	Basic Machine Name	Qty read (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
					(tons)	(tons)	(tons)									
749310314131712	Reduction Gear box	1	2.5	11.8			2.5									2.5
749310315131712	Reduction Gear box	2	2.3	23.4			4.6									4.6
749310334134742	Reduction Gear box	1	29.6	175.0			29.6									29.6
749310362133742	Reduction Gear box	2	19.7	146.7			39.4									39.4
749310384135752	Reduction Gear box	2	77.8	396.4			155.6									155.6
74522	Packing Machine	2	7.3	94.9			14.6									14.6
	TOTAL							246.3								246.3
	GRAND TOTAL							445.79	3522.04	148.8						4190.83













UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION

PLANT, CEMENT 600 000 TONS/YEAR  
PLANT ]

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1987

PAGE = 8

Cement Plant Machinery

( Dump Trucks )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986 (tons)	1987	1988	1989	1990	1991	Total 1981-1991
744112027003921	Dump Trucks	3	10.0	52.6						30.0						30.0
2045003832	Dump Trucks	5	23.8	204.52						119.0						119.0
										149.0						149.0



























EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CEMENT 600 000 TONS / YEAR  
LOCATION : PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1987

Cement Plant Machinery  
( Dump Trucks )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine ...	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986 (tons)	1987	1988	1989	1990	1991	Total 1981-1991
744112027003921	Dump Trucks	3	10.0	52.6						30.0						30.0
2045003632	Dump Trucks	5	23.0	204.62						112.0						112.0
										142.0						142.0











EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 800 000 TONS/YEAR  
PLANT

LOCATION :

ANTICIPATED DATE OF COMMISSIONING : 1997

Cement Plant Machinery

PAGE = 13

(Gear Boxes and Packing Machines)

Total weight in tons / value in ~~U.S.~~ (1000)

SITC Code	Basic Machine Name	Qty read (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. (\$) (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
					(tons)	(tons)	(tons)									
749310314131712	Reduction Gear box	1	2.5	11.8				2.5								2.5
7493110315131712	Reduction Gear box	2	2.3	23.4				4.6								4.6
7493110334134742	Reduction Gear box	1	29.6	175.0				29.6								29.6
749310362133742	Reduction Gear box	2	19.7	146.7				39.4								39.4
749310384135752	Reduction Gear box	2	77.8	396.4				155.6								155.6
745221	2 Packing Machine	2	7.3	94.9				14.6								14.6
	TOTAL							246.3								246.3
	GRAND TOTAL							445.79	9344.04	149.8						4139.63

UNIDO/ SPO (CIMENTO)  
CAPITAL GOODS DEVELOPAMENT PROJECT IN TURKEY

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COMMODITY CODE:

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT CAPACITY 600 000 TONS / YEAR  
LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE = 1

Cement Plant Machinery

(Bunkers & tanks).

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
69211021111111	Bunker	1	1.2	3.2						1.2						1.2
0211311111	Feed hopper	2	3.0	7.9						6.0						6.0
0211321111	Bunker	1	2.0	5.26						2.0						2.0
0211321111	Bunker	2	1.63	4.3						3.26						3.26
0711321111	Daily tank	1	1.5	2.63						1.5						1.5
0711321111	Daily tank, Fuel-oil	1	1.1	1.97						1.1						1.1
0711321111	Daily tank, Diesel-Fuel	1	0.8	1.32						0.8						0.8
0744324111	Main tanks	3	36.0	59.20						108.0						108.0
1011321111	Daily tank	1	1.5	2.63						1.5						1.5
69243041132141	Air receiver	2	0.5	1.97						1.0						1.0
0411321471	Air tank	2	0.1	0.4						0.2						0.2
71111201114331	Boiler with burner	2	10.2	84.25						20.4						20.4
										146.96						146.96



UNIDO/SPO (CIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600000 TONS/YEAR  
 LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE = 3

Cement Plant Machinery

( Screens & mills )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
									(tons)	(tons)						
720310245021912	Oscillating Screen	2	1.33	7.5					2.66							2.66
6040024931	Seperator	1	29.0	92.65						29.0						29.0
6040024951	Seperator	2	27.1	105.2						54.2						54.2
720320444715631	Crusher (mill)	1	84.1	398.8						84.1						84.1
1111718771	Cement ball mill	2	326.35	927.3						652.7						652.7
1121718771	Ball mill	1	419.3	1600.3						419.3						419.3
1227111711	Crusher	1	4.36	21.8						4.36						4.36
										2.66	1243.00					1246.34



EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANADOLIA REGION PLANT CAPACITY 600 000 TONS/YEAR

LOCATION :

(PLANT I)

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Burners, Gas Generator & Pumps)

PAGE = 4

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986 (tons)	1987	1988	1989	1990	1991	Total 1981-1991
741219035021011	Burner	1	0.4	5.25						0.4						0.4
0015021011	Burner	1	0.4	5.25						0.4						0.4
0025021912	Burner for Rotary kiln	1	3.1	5.75						3.1						3.1
741322414202311	Hot Gas Generator	1	7.0	3.3						7.0						7.0
2414202311	Hot Gas Generator	1	7.0	3.3						7.0						7.0
741610111111111	Heat exchanger	5	0.2	2.9						1.0						1.0
741631476479131	Rotary Kiln	1	659.2	850.4						659.2						659.2
741649073016421	Cooler for clinker	1	148.4	153.2						148.4						148.4
741650951275111	Cyclone preheater	1	140.0	150.3						140.0						140.0
742200121211611	Water Pump	2	0.06	0.46						0.12						0.12
0102111712	Water Pump	4	0.32	2.1						1.28						1.28
742301022511511	Fuel-oil pump	2	0.11	1.05						0.22						0.22
1022611611	Fuel-oil pump	2	0.11	1.05						0.22						0.22
1022511611	Fuel-oil pump	2	0.11	1.05						0.22						0.22
1033611611	Fuel-oil pump	2	0.14	2.45						0.28						0.28
1033611611	Fuel-oil pump	3	0.23	3.64						0.69						0.69
										969.53						969.53



EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery  
(Ventilators)

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Total weight in tons / value in U.S.\$ (1980)

SIC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
									(tons)	(tons)						
24312002111911	Ventilator	4	0.20	3.81						0.8						0.8
0021111911	Ventilator	2	0.32	2.2						0.64						0.64
0021111911	Ventilator	2	0.52	6.23						1.04						1.04
0031111911	Ventilator	4	0.12	2.2						0.48						0.48
0031111911	Ventilator	2	0.12	2.06						0.24						0.24
0051131911	Ventilator	2	1.05	15.5						2.1						2.1
0051131911	Ventilator	1	0.52	13.5						0.52						0.52
0051131911	Ventilator	6	1.1	10.5						6.6						6.6
0051131911	Ventilator	5	2.2	24.3						11.0						11.0
0051131912	Primary Ventilator	1	1.55	25.8					1.55							1.55
0081131922	Ventilator	2	19.4	133.45					38.8							38.8
0081132931	Ventilator	1	6.2	89.5						6.2						6.2
0081133942	Ventilator	1	25.6	175.1					25.6							25.6
0051133921	Ventilator	2	14.8	47.4						29.6						29.6
									66.95	59.22						126.17

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION : PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery  
 (Cyclones, Filters)

PAGE=7

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
					(tons)											
743610140025111	Electro-filter	2	400	224.4						80.0						80.0
1010913111	Electro-filter	2	14.7	83.7						29.4						29.4
1113013111	Cyclone, Single	2	17.7	46.00						35.4						35.4
1122012111	Cyclone	1	7.0	18.4						7.0						7.0
1132013111	Cyclone	4	10.5	27.7						42.0						42.0
1240025111	Multicyclone	1	55.0	131.5						55.0						55.0
5011022411	Air filter	6	7.5	14.8						45.0						45.0
743612034015111	cooling washer	1	50.0	131.5						50.0						50.0
										343.0						343.0

UNEP/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE:3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CEMENT 600 000 TONS/YEAR  
LOCATION : PLANT I  
ANTICIPATED DATE OF COMMISSIONING: 1989

Cement Plant Machinery  
( Dump Trucks )

PAGE: 8

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
					(tons)											
744112027003927	Dump Trucks	3	10.0	52.6							30.0					30.0
2045003632	Dump Trucks	5	23.0	204.62							119.0					119.0
											149.0					149.0

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT CAPACITY 600 000 TONS / YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery

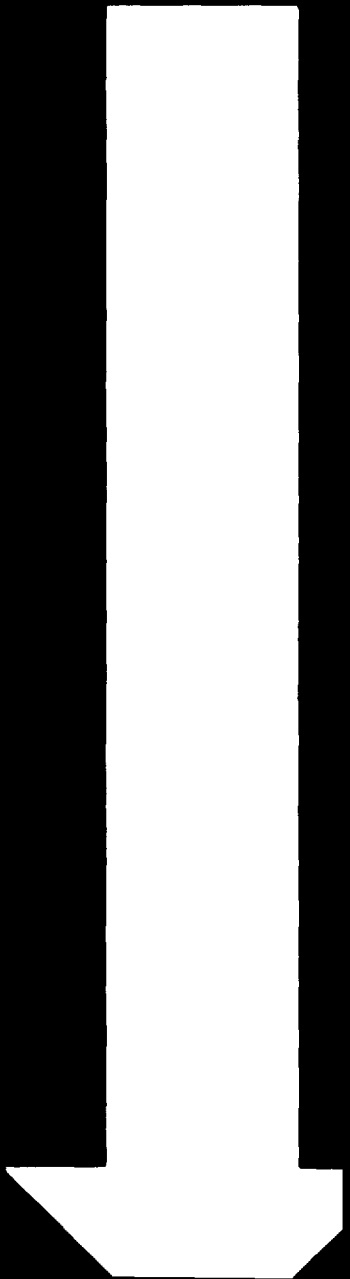
PAGE=9

(Air Lift, Air-Slides & Fuller pump)

Total weight in tons / value in U.S.\$ (1000)

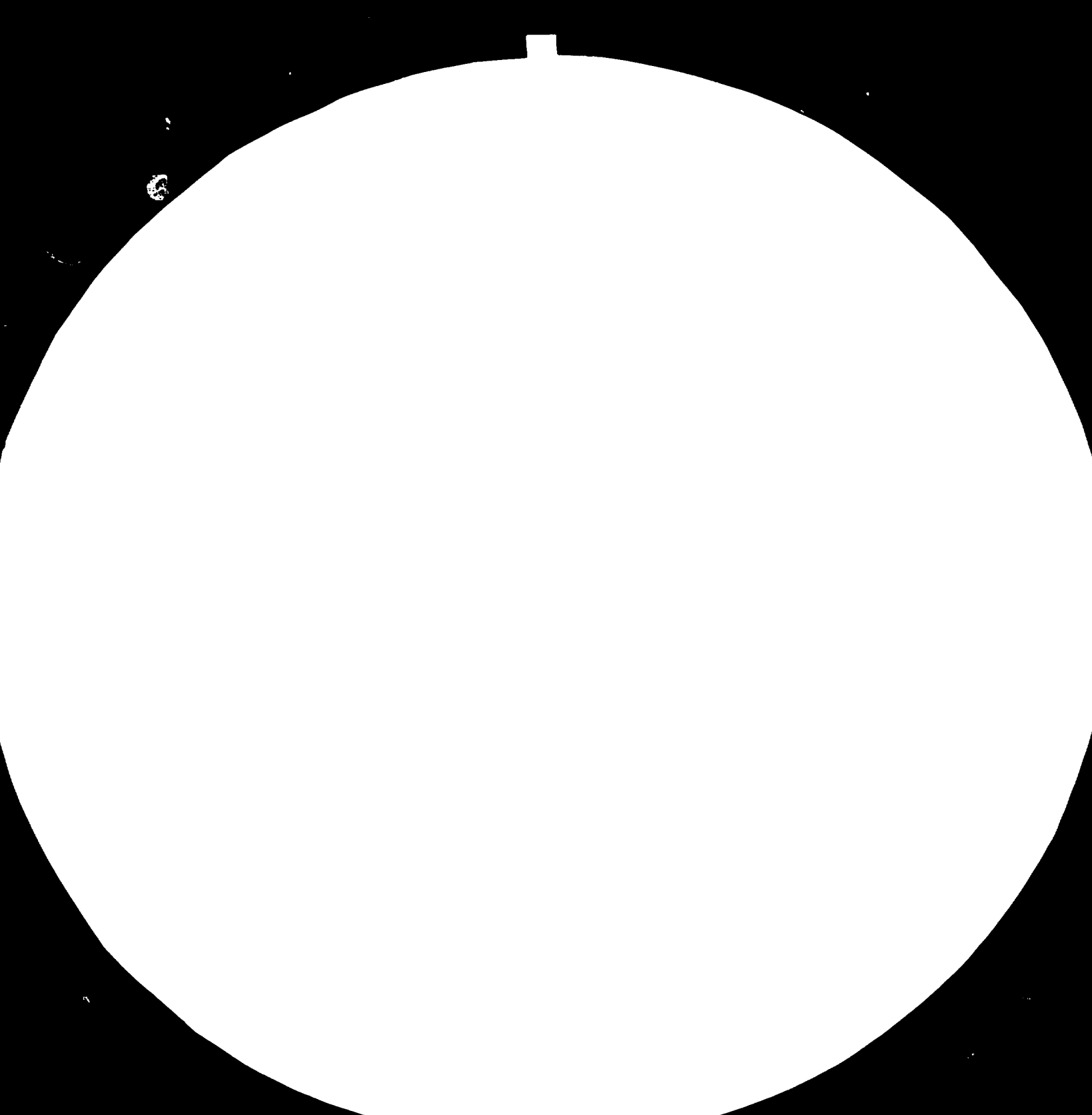
SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
									(tons)	(tons)						
744230150041111	Flux pump (Pneumatic convey.)	2	4.0	39.5						8.0						8.0
0250031112	Air Lift (Pneumatic convey.)	1	1.6	5.27						1.6						1.6
744232150021111	Air - Slide (Conveyor)	2	0.65	3.6						1.3						1.3
2150021111	Air - Slide (Conveyor)	2	0.27	1.2						0.54						0.54
2150021111	Air - Slide (Conveyor)	4	0.11	0.35						0.44						0.44
2150021111	Air - Slide (Conveyor)	3	0.07	0.24						0.21						0.21
2150021111	Air - Slide (Conveyor)	2	1.5	5.52						2.8						2.8
2150021111	Air - Slide (Conveyor)	2	0.03	0.12						0.06						0.06
2150021111	Air - Slide (Conveyor)	1	0.6	2.0						0.6						0.6
2150021111	Air - Slide (Conveyor)	2	1.2	5.1						2.4						2.4
2150021111	Air - Slide (Conveyor)	1	0.27	0.97						0.27						0.27
2150021111	Air - Slide (Conveyor)	1	0.93	2.71						0.93						0.93
2250021411	Over flow Sluice (Conveyor)	2	0.2	0.8						0.4						0.4
744232350031712	Fuller pump	2	4.0	48.9					8.0							8.0
									8.0	19.45						27.45

9

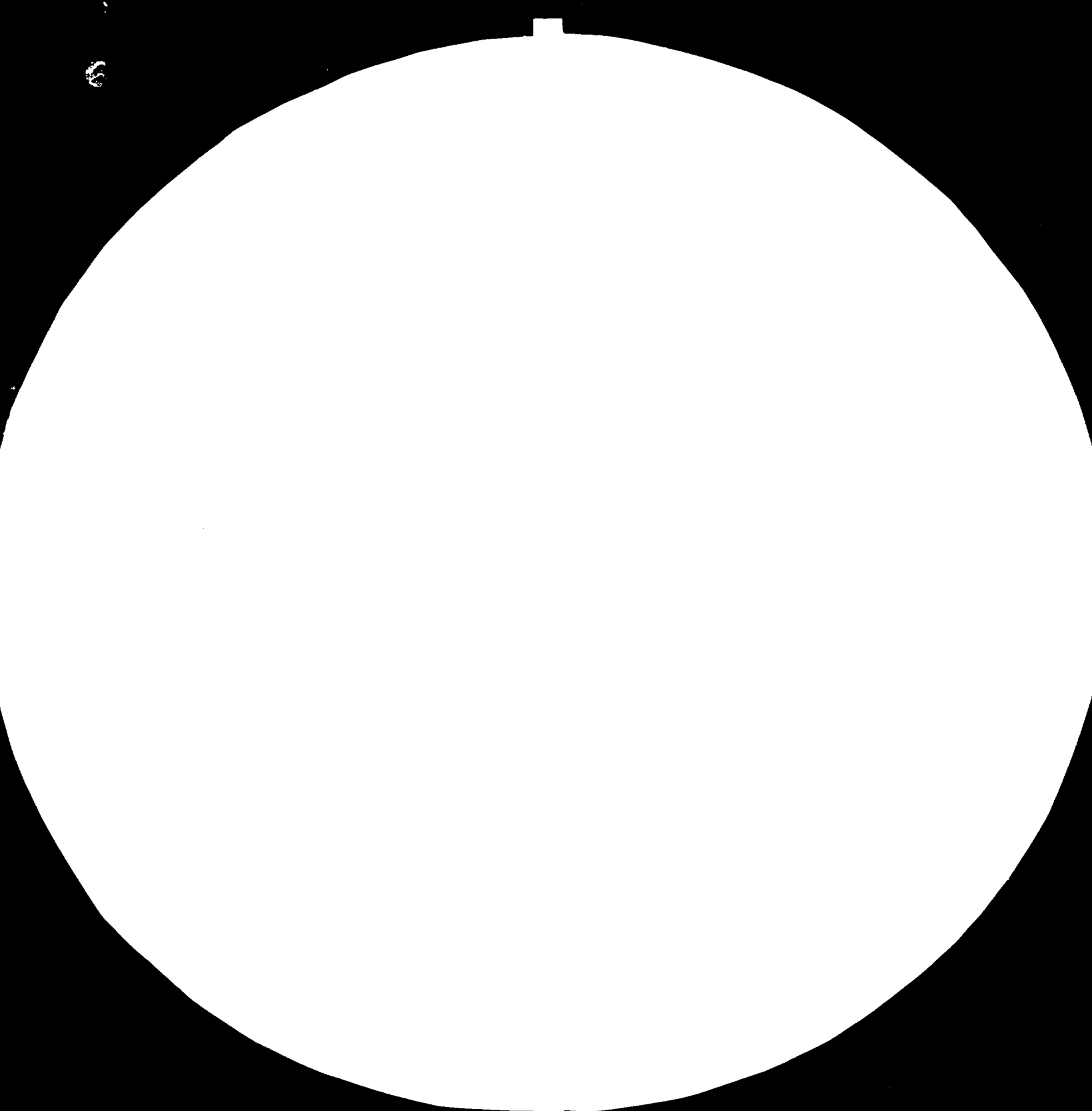


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MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-  
STANDARD REFERENCE MATERIAL 1010a  
(ANSI and ISO TEST CHART No. 2)

UNIDO / SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE : 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION

PLANT, CAPACITY 600000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE = 10

Cement Plant Machinery  
(Belt Conveyers)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine No	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$. (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
744260232011911	Belt Conveyor	1	2.59	12.36						2.59						25.9
0232011911	Belt Conveyor	1	1.1	5.2						1.1						1.1
0232021911	Belt Conveyor	2	0.7	4.7						1.4						1.4
0232021911	Belt Conveyor	1	2.75	12.35						2.75						2.75
0232021911	Belt Conveyor	2	3.65	19.1						7.3						7.3
0232021912	Belt Conveyor	4	4.9	31.1						19.6						19.6
0242021911	Belt Conveyor	1	3.0	16.14						3.0						3.0
0242021911	Belt Conveyor	1	2.9	14.1						2.9						2.9
0242021911	Belt Conveyor	2	3.5	17.7						7.0						7.0
0242022911	Belt Conveyor	1	8.1	38.57						8.1						8.1
0242022911	Belt Conveyor	1	8.7	37.0						8.7						8.7
0242023911	Belt Conveyor	1	14.7	61.4						14.7						14.7
0242023911	Belt Conveyor	1	21.0	85.9						21.0						21.0
0252011911	Belt Conveyor	1	3.6	17.39						3.6						3.6
0252011911	Belt Conveyor	1	3.1	14.81						3.1						3.1
0252011911	Belt Conveyor	1	4.2	17.1						4.2						4.2
0252014911	Belt Conveyor	1	28.8	138.5						28.8						28.8
0252014912	Belt Conveyor	1	34.1	156.45						34.1						34.1
0272012911	Belt Conveyor	1	5.6	26.07						5.6						5.6
0272012911	Belt Conveyor	1	7.8	33.56						7.8						7.8
0272012911	Belt Conveyor	1	9.9	43.24						9.9						9.9
0272012711	Belt Conveyor	1	8.3	35.5						8.3						8.3
0272013911	Belt Conveyor	1	17.7	78.96						17.7						17.7
										223.26						223.26

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600000 TONS/YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery  
(Conveyors)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total: 1981-1991
744261024021711	Chain Conveyor	1	2.95	119.4						2.95						2.95
1212021711	Chain Conveyor	1	4.15	17.62						4.15						4.15
1223012711	Steel plate conveyor	1	7.8	31.69						7.8						7.8
1237022711	Steel plate conveyor	1	7.8	31.69						7.8						7.8
1254024711	Steel plate conveyor	1	36.6	162.7						36.6						36.6
2132023711	Scraper steel conveyor	2	15.7	69.2						31.4						31.4
4311011911	Screw Conveyor	1	1.6	7.0						1.6						1.6
4311011911	Screw Conveyor	4	3.1	12.95						12.4						12.4
4321011911	Screw Conveyor	2	1.3	5.8						2.6						2.6
4323013941	Screw Conveyor	1	12.2	26.67						12.2						12.2
4331011911	Screw Conveyor	2	3.1	12.5						6.2						6.2
4341011911	Screw Conveyor	4	0.6	3.6						2.4						2.4
4341011911	Screw Conveyor	4	0.6	3.6						2.4						2.4
										130.5						130.5

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION

PLANT CAPACITY 800 000 TONS/YEA

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE 12

Cement Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$. (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
									(tons)	(tons)						
744285121014911	Bucket elevator	1	41.2	185.78						41.2						41.2
5132013911	Bucket elevator	2	18.5	73.34						37.0						37.0
5132013911	Bucket elevator	2	15.2	80.3						30.4						30.4
5132013911	Bucket elevator	2	16.3	71.0						32.6						32.6
5142023911	Bucket elevator	2	21.5	92.2						43.0						43.0
5232023911	Bucket elevating conveyor	1	10.1	43.5						10.1						10.1
5232024911	Bucket elevating conveyor	1	37.7	147.4						37.7						37.7
8113011912	Weigh feeder	1	0.96	30.2					0.96							0.96
8113011912	Weigh feeder	2	1.5	13.8					3.0							3.0
8122011912	Weigh feeder	1	0.79	24.92					0.79							0.79
8123011912	Weigh feeder	1	1.24	39.0					1.24							1.24
8123011912	Weigh feeder	2	2.0	18.5					4.0							4.0
8133011912	Weigh feeder	2	2.5	23.1					5.0							5.0
8133011912	Weigh feeder	1	1.15	35.9					1.15							1.15
8133011912	Weigh feeder	1	2.74	71.5					2.74							2.74
744280460029712	Reclaiming Scraper	2	15.7	154.32					31.4							31.4
									50.28	232.8						283.08

CENTRAL ANATOLIA REGION

EQUIPMENT REQUIREMENTS FOR THE NEW

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT 2

LOCATION :

ANTICIPATED DATE OF COMMISSIONING : 1988

Cement Plant Machinery

PAGE = 13

(Gear Boxes and Packing Machines)

Total weight in tons / value in U.S.\$ (1980)

SITC Code	Basic Machine N	Qty read (Nos)	Unit Weight (tons)	Unit cost in 1980 U S \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
					(tons)	(tons)	(tons)									
49310314131712	Reduction Gear box	1	2.5	11.8					2.5							2.5
49310315131712	Reduction Gear box	2	2.3	23.4					4.6							4.6
49310334134742	Reduction Gear box	1	29.6	175.0					29.6							29.6
49310352133742	Reduction Gear box	2	19.7	145.1					39.4							39.4
49310384135752	Reduction Gear box	2	77.8	395.4					155.6							155.6
4622	2 Packing Machine	2	7.3	94.9					14.6							14.6
	TOTAL								246.3							246.3
	GRAND TOTAL								445.79	3566.04	149.0					4138.83

UNIDO/ SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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COMMODITY CODE:

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT CAPACITY 600 000 TONS / YEAR  
LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE : 1

Cement Plant Machinery

(Bunkers & tanks)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
69211021111111	Bunker	1	1.2	3.2						1.2						1.2
0211311111	Feed hopper	2	3.0	7.9						6.0						6.0
0211321111	Bunker	1	2.0	5.26						2.0						2.0
0211321111	Bunker	2	1.83	4.3						3.26						3.26
0711321111	Daily tank	1	1.5	2.63						1.5						1.5
0711321111	Daily tank, Fuel-oil	1	1.1	1.97						1.1						1.1
0711321111	Daily tank, Diesel-Fuel	1	0.8	1.32						0.8						0.8
0744324111	Main tanks	3	36.0	59.20						108.0						108.0
1011321111	Daily tank	1	1.5	2.63						1.5						1.5
69243041132141	Air receiver	2	0.5	1.97						1.0						1.0
0411321411	Air tank	2	0.1	0.4						0.2						0.2
71111201114331	Boiler with burner	2	10.2	94.25						20.4						20.4
										146.06						146.06

UNIDO / SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION : PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery  
(Loaders, excavators)

PAGE = 2

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986 (tons)	1987	1988	1989	1990	1991	Total
																1981- 1991
723420031223622	Loader	1	12.8	987						12.8						12.8
0041414632	Loader	1	30.0	225.3						30.0						30.0
1032515632	Excavator	2	62.0	255.83						124.0						124.0
723430149021312	Rock Drill	2	4.4	67.6						8.8						8.8
2011101611	Air gun	3	0.02	1.5						0.06						0.06
										175.66						175.66



EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery  
(Screens & mills)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Nam..	Qty reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
									(tons)	(tons)						
720310245021912	Oscillating Screen	2	1.33	7.5					2.66							2.66
6040024931	Separator	1	29.0	92.65						29.0						29.0
6040024951	Separator	2	27.1	105.4						54.2						54.2
720320444215631	Crusher (mill)	1	84.1	393.3						84.1						84.1
1111218272	Cement ball mill	2	326.35	997.3						652.7						652.7
1121718771	Ball mill	1	419.3	1600.3						419.3						419.3
1227111711	Crusher	1	4.36	21.8						4.36						4.36
										2.66 (243.80)						246.46

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EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANADOLIA REGION

PLANT CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery  
(Burners, Gas Generator & Pumps)

PAGE: 4

Total weight in tons / value in U.S.\$ (1000)

SITE Code	Basic Machine Name	Qty reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$. (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
741210015021011	Burner	1	0.4	5.26						0.4						0.4
0015021011	Burner	1	0.4	5.26						0.4						0.4
0025021912	Burner for Rotary kiln	1	3.1	65.75						3.1						3.1
741372414202311	Hot Gas Generator	1	7.0	3.3						7.0						7.0
2414202311	Hot Gas Generator	1	7.0	3.3						7.0						7.0
741610111111111	Heat exchanger	5	0.2	2.9						1.0						1.0
741631476479131	Rotary Kiln	1	659.2	2300.0						659.2						659.2
741649073016421	Cooler for clinker	1	148.4	163.2						148.4						148.4
741650951275111	Cyclone preheater	1	140.0	460.3						140.0						140.0
742200121211611	Water Pump	2	0.06	0.46						0.12						0.12
0132111712	Water Pump	4	0.32	2.1						1.28						1.28
742301022511611	Fuel-oil pump	2	0.11	1.05						0.22						0.22
1022611611	Fuel-oil pump	2	0.11	1.05						0.22						0.22
1022511611	Fuel-oil pump	2	0.11	1.05						0.22						0.22
1033611611	Fuel-oil pump	2	0.14	2.45						0.28						0.28
1033611611	Fuel-oil pump	3	0.23	3.64						0.69						0.69
										969.53						969.53



EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT X

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1989

Cement Plant Machinery  
(Ventilators)

PAGE:6

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1988 U.S. \$. (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
									(tons)	(tons)						
743420021111911	Ventilator	4	0.20	3.87						0.8						0.8
0021111911	Ventilator	2	0.32	2.2						0.64						0.64
0021131911	Ventilator	2	0.52	6.49						1.04						1.04
0031111911	Ventilator	4	0.12	2.2						0.48						0.48
0031111911	Ventilator	2	0.12	2.08						0.24						0.24
0051131911	Ventilator	2	1.05	15.6						2.1						2.1
0051131911	Ventilator	1	0.52	13.5						0.52						0.52
0051131911	Ventilator	6	1.1	10.5						6.6						6.6
0051131911	Ventilator	5	2.2	24.3						11.0						11.0
0051131912	Primary Ventilator	1	1.55	25.0					1.55							1.55
0081131922	Ventilator	2	19.4	133.45					38.8							38.8
0081132931	Ventilator	1	6.2	89.5						6.2						6.2
0081133942	Ventilator	1	26.6	175.1					26.6							26.6
0051133921	Ventilator	2	14.8	47.4						29.6						29.6
									66.95	99.22						126.17





EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery

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(Air Lift, Air - Slides & Fuller pump)

Total weight in tons / ~~also in U.S.E. (1000)~~

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
									(tons)	(tons)						
744230	50041111	Flux pump (Pneumatic conve.)	2	4.0	39.5					8.0						8.0
	0250031112	Air Lift (Pneumatic conve.)	1	1.6	5.27					1.6						1.6
744232	50021111	Air - Slide (Conveyor)	2	0.65	2.6					1.3						1.3
	2150021111	Air - Slide (Conveyor)	2	0.27	1.2					0.54						0.54
	2150021111	Air - Slide (Conveyor)	4	0.11	0.35					0.44						0.44
	2150021111	Air - Slide (Conveyor)	3	0.07	0.24					0.21						0.21
	2150021111	Air - Slide (Conveyor)	2	1.4	5.58					2.8						2.8
	2150021111	Air - Slide (Conveyor)	2	0.03	0.12					0.06						0.06
	2150021111	Air - Slide (Conveyor)	1	0.6	2.0					0.6						0.6
	2150021111	Air - Slide (Conveyor)	2	1.2	5.1					2.4						2.4
	2150021111	Air - Slide (Conveyor)	1	0.27	0.7					0.27						0.27
	2150021111	Air - Slide (Conveyor)	1	0.93	2.7					0.93						0.93
	2250021411	Over flow Sluice (Conveyor)	2	0.2	0.8					0.4						0.4
744232	50031712	Fuller pump	2	4.0	48.9					8.0						8.0
										8.0	19.45					27.45

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION

PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1980

PAGE = 10

Cement Plant Machinery  
(Belt Conveyors)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
744260232011911	Belt Conveyor	1	2.59	12.36						2.59						2.59
0232011911	Belt Conveyor	1	1.1	5.2						1.1						1.1
0232021911	Belt Conveyor	2	0.7	4.7						1.4						1.4
0232021911	Belt Conveyor	1	2.75	12.35						2.75						2.75
0232021911	Belt Conveyor	2	3.76	19.1						7.52						7.52
0232021912	Belt Conveyor	4	4.9	31.1						19.6						19.6
0242021911	Belt Conveyor	1	3.0	16.14						3.0						3.0
0242021911	Belt Conveyor	1	2.9	14.1						2.9						2.9
0242021911	Belt Conveyor	2	3.5	17.7						7.0						7.0
0242022311	Belt Conveyor	1	8.1	38.57						8.1						8.1
0242022911	Belt Conveyor	1	8.7	37.0						8.7						8.7
0242023911	Belt Conveyor	1	14.7	61.4						14.7						14.7
0242023911	Belt Conveyor	1	21.0	85.9						21.0						21.0
0252011911	Belt Conveyor	1	3.6	17.39						3.6						3.6
0252011911	Belt Conveyor	1	3.1	14.81						3.1						3.1
0252011911	Belt Conveyor	1	4.2	17.1						4.2						4.2
0252012911	Belt Conveyor	1	28.9	138.5						28.9						28.9
0252014912	Belt Conveyor	1	34.1	156.45						34.1						34.1
0272012911	Belt Conveyor	1	5.6	26.07						5.6						5.6
0272012911	Belt Conveyor	1	7.6	33.55						7.6						7.6
0272012911	Belt Conveyor	1	9.9	42.24						9.9						9.9
0272012711	Belt Conveyor	1	8.3	35.5						8.3						8.3
0272013911	Belt Conveyor	1	17.7	78.96						17.7						17.7
										223.26						223.26



UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL TOLIA REGION PLANT, CAPACITY 600000 TONS/YEAR  
PLANT II

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1986

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Cement Plant Machinery  
(Conveyors)

Total weight in tons / value in U.S.\$ (1980)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
744261024021711	Chain Conveyor	1	2.95	119.4						2.95						2.95
1212021711	Chain Conveyor	1	4.15	17.62						4.15						4.15
1223012711	Steel plate conveyor	1	7.8	31.69						7.8						7.8
1233022711	Steel plate conveyor	1	7.8	31.69						7.8						7.8
1254024711	Steel plate conveyor	1	36.6	162.7						36.6						36.6
2132023711	Scraper steel conveyor	2	15.7	69.2						31.4						31.4
4311011911	Screw Conveyor	1	1.6	7.0						1.6						1.6
4311011911	Screw Conveyor	4	3.1	12.95						12.4						12.4
4321011911	Screw Conveyor	2	1.3	5.8						2.6						2.6
4322013941	Screw Conveyor	1	12.2	26.67						12.2						12.2
4331011911	Screw Conveyor	2	3.1	12.5						6.2						6.2
4341011911	Screw Conveyor	4	0.6	3.6						2.4						2.4
4341011911	Screw Conveyor	4	0.6	3.6						2.4						2.4
										130.9						130.9

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION  
LOCATION :

PLANT CAPACITY 600 000 TONS/YEA  
PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1986

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Cement Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
									(tons)	(tons)						
74426512101491	Bucket elevator	1	61.2	165.76						61.2						61.2
5132013911	Bucket elevator	2	18.5	73.34						37.0						37.0
5132013911	Bucket elevator	2	15.2	60.3						30.4						30.4
5132013911	Bucket elevator	2	16.3	71.0						32.6						32.6
5142023911	Bucket elevator	2	21.5	92.2						43.0						43.0
5232023911	Bucket elevating conveyor	1	10.1	43.5						10.1						10.1
5232024911	Bucket elevating conveyor	1	37.7	147.4						37.7						37.7
8113011912	Weigh feeder	1	0.96	30.2					0.96							0.96
8113011912	Weigh feeder	2	1.5	13.8					3.0							3.0
8122011912	Weigh feeder	1	0.79	24.92					0.79							0.79
8123011912	Weigh feeder	1	1.24	39.0					1.24							1.24
8123011912	Weigh feeder	2	2.0	16.5					4.0							4.0
8133011912	Weigh feeder	2	2.5	23.1					5.0							5.0
8133011912	Weigh feeder	1	1.15	35.9					1.15							1.15
8133011912	Weigh feeder	1	2.74	71.5					2.74							2.74
744280460023712	Reclaiming Scraper	2		154.32					31.4							31.4
									50.28	232.0						282.28

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 7682 1

CENTRAL ANATOLIA REGION  
EQUIPMENT REQUIREMENTS FOR THE NEW PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION : PLANT #

ANTICIPATED DATE OF COMMISSIONING : 1988

Cement Plant Machinery

PAGE = 13

(Gear Boxes and Packing Machines)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty read (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
					(tons)	(tons)	(tons)									
749310314131712	Reduction Gear box	1	2.5	11.8					2.5							2.5
749310315131712	Reduction Gear box	2	2.3	23.4					4.6							4.6
749310334134742	Reduction Gear box	1	29.6	175.0					29.6							29.6
749310362133742	Reduction Gear box	2	19.7	146.7					39.4							39.4
749310384135752	Reduction Gear box	2	77.8	396.6					155.6							155.6
74522	2 Packing Machine	2	7.3	94.9					14.6							14.6
									246.3							246.3
									445.79	354.04	149.8					4138.83

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UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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COMMODITY CODE:

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT CAPACITY 600 000 TONS / YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE = 1

Cement Plant Machinery

(Bunkers & tanks)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty req (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
692110211111111	Bunker	1	1.2	3.2						1.2						1.2
02113111111	Feed hopper	2	3.0	7.9						6.0						6.0
02113211111	Bunker	1	2.0	2.5						2.0						2.0
02113211111	Bunker	2	1.63	7.3						3.26						3.26
02113211111	Daily tank	1	1.5	2.63						1.5						1.5
07113211111	Daily tank, Fuel oil	1	1.1	1.97						1.1						1.1
07113211111	Daily tank, Diesel-Fuel	1	0.8	1.32						0.8						0.8
07443241111	Main tanks	3	36.0	59.20						108.0						108.0
10113211111	Daily tank	1	1.5	1.63						1.5						1.5
9243041132141	Air receiver	2	0.5	1.97						1.0						1.0
04113214111	Air Tank	2	0.1	0.2						0.2						0.2
711112011143311	Boiler with burner	2	10.2	84.25						20.4						20.4
										146.96						146.96

UNIDO / SPO (ÇİMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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COMMODITY CODE 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT CAPACITY 600 000 TONS/YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING : 1988

PAGE : 2

Cement Plant Machinery  
(Loaders, excavators)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
723420031223622	Loader	1	12.0	98.7						12.0						12.0
0041414632	Loader	1	30.0	225.3						30.0						30.0
1032615632	Excavator	2	62.0	255.83						124.0						124.0
723430149021312	Rock Drill	2	4.4	87.6						0.0						0.0
2011101611	Air gun	3	0.02	1.5						0.06						0.06
										175.66						175.66



UNIDO/SPO (CEMENT)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW AISEAN REGION

PLANT CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery

(Burners, Gas Generator & Pumps)

PAGE 4

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Nam.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
741210015021011	Burner	1	0.4	5.26						0.4						0.4
0015021011	Burner	1	0.4	5.26						0.4						0.4
0025021012	Burner for Rotary kiln	1	3.1	15.75						3.1						3.1
741322414202311	Hot Gas Generator	1	7.0	3.0						7.0						7.0
3414202311	Hot Gas Generator	1	7.0	3.3						7.0						7.0
741610111111111	Heat exchanger	5	0.2	2.9						1.0						1.0
741631476479131	Rotary Kiln	1	629.2	2306.0						629.2						629.2
741649073016421	Cooler for clinker	1	140.6	163.2						140.6						140.6
741650951276111	Cyclone preheater	1	140.0	450.0						140.0						140.0
742203121211611	Water Pump	2	0.08	0.46						0.16						0.16
0132111712	Water Pump	4	0.32	2.1						1.28						1.28
742301022611611	Fuel-oil pump	2	0.11	1.05						0.22						0.22
1022611611	Fuel-oil pump	2	0.11	1.05						0.22						0.22
1022611611	Fuel-oil pump	2	0.11	1.05						0.22						0.22
1033611611	Fuel-oil pump	1	0.14	2.45						0.14						0.14
1033611611	Fuel-oil pump	1	0.23	3.54						0.23						0.23
										969.53						969.53





EQUIPMENT REQUIREMENTS FOR THE NEW AGEAN REGION

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery  
(Ventilators)

Total weight in tons/value in U.S.\$ (1000)

PAGE:6

SITC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$. (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
74342002111911	Ventilator	4	0.20	3.87												0.8
0021111911	Ventilator	2	0.32	2.2												0.64
0021131911	Ventilator	2	0.52	6.43												1.04
0031111911	Ventilator	4	0.12	2.2												0.48
0031111911	Ventilator	2	0.12	2.06												0.24
0051131911	Ventilator	2	1.05	15.6												2.1
0051131911	Ventilator	1	0.52	13.5												0.52
0051131911	Ventilator	6	1.1	10.5												6.6
0051131911	Ventilator	5	2.2	24.3												11.0
0051131912	Primary Ventilator	1	1.55	25.8					1.55							1.55
0081131923	Ventilator	2	19.4	133.45					38.8							38.8
0081132931	Ventilator	1	6.2	89.5												6.2
0081133947	Ventilator	1	26.6	175.1					26.6							26.6
0051133921	Ventilator	2	14.8	47.4												29.6
									66.95	59.22						126.17





EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery

PAGE: 9

(Air Lift, Air - Slides & Fuller pump)

Total weight in tons / ~~Value in U.S.\$ (1000)~~

SITC Code	Basic Machine No.	Qty reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985 (tons)	1986 (tons)	1987	1988	1989	1990	1991	Total 1981- 1991
744230	150041111	2	4.0	39.5						8.0						8.0
0250031112	Air Lift (Pneumatic conve.)	1	1.6	5.27						1.6						1.6
744232	150021111	2	0.65	2.6						1.3						1.3
2150021111	Air - Slide (Conveyor)	2	0.27	1.2						0.54						0.54
2150021111	Air - Slide (Conveyor)	4	0.11	0.35						0.44						0.44
2150021111	Air - Slide (Conveyor)	3	0.07	0.24						0.21						0.21
2150021111	Air - Slide (Conveyor)	2	1.4	5.52						2.8						2.8
2150021111	Air - Slide (Conveyor)	2	0.03	0.12						0.06						0.06
2150021111	Air - Slide (Conveyor)	1	0.6	2.0						0.6						0.6
2150921111	Air - Slide (Conveyor)	2	1.2	5.1						2.4						2.4
2150021111	Air - Slide (Conveyor)	1	0.27	0.7						0.27						0.27
2150021111	Air - Slide (Conveyor)	1	0.93	2.7						0.93						0.93
2250021411	Over flow Sluice (Conveyor)	2	0.2	0.8						0.4						0.4
744232	350031712	2	4.0	48.9						8.0						8.0
										8.0	19.45					27.45

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION  
LOCATION :

PLANT, CAPACITY 600000 TONS/YEAR  
PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE = 10

Cement Plant Machinery  
(Belt Conveyors)

Total weight in tons/value in U.S.\$ (1000)

SITC Code	Basic Machine No.	Qty reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
744260232011911	Belt Conveyor	1	2.59	12.36						2.59						2.59
0232011911	Belt Conveyor	1	1.1	5.2						1.1						1.1
0232021911	Belt Conveyor	2	0.7	4.7						1.4						1.4
0232021911	Belt Conveyor	1	2.75	12.35						2.75						2.75
0232021911	Belt Conveyor	2	3.36	19.1						7.52						7.52
0232021912	Belt Conveyor	4	4.9	31.1						19.6						19.6
0242021911	Belt Conveyor	1	3.0	16.14						3.0						3.0
0242021911	Belt Conveyor	1	2.9	14.1						2.9						2.9
0242021911	Belt Conveyor	2	3.5	17.7						7.0						7.0
0242022911	Belt Conveyor	1	8.1	38.57						8.1						8.1
0242022911	Belt Conveyor	1	8.7	37.0						8.7						8.7
0242023911	Belt Conveyor	1	14.7	61.4						14.7						14.7
0242023911	Belt Conveyor	1	21.0	85.9						21.0						21.0
0252011911	Belt Conveyor	1	3.6	17.39						3.6						3.6
0252011911	Belt Conveyor	1	3.1	14.81						3.1						3.1
0252011911	Belt Conveyor	1	4.2	17.1						4.2						4.2
0252012911	Belt Conveyor	1	28.8	138.5						28.8						28.8
0252014912	Belt Conveyor	1	34.1	156.45						34.1						34.1
0272012911	Belt Conveyor	1	5.6	26.07						5.6						5.6
0272012911	Belt Conveyor	1	7.6	33.56						7.6						7.6
0272012911	Belt Conveyor	1	9.9	43.24						9.9						9.9
0272012711	Belt Conveyor	1	8.3	35.5						8.3						8.3
0272013911	Belt Conveyor	1	17.7	78.96						17.7						17.7
										223.26						223.26

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT, CAPACITY 600000 TONS/YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 11

Cement Plant Machinery  
(Conveyors)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1987-1991
744261024021711	Chain Conveyor	1	2.95	119.4						2.95						295
1212021711	Chain Conveyor	1	4.15	17.62						4.15						45
1223012711	Steel plate conveyor	1	7.8	31.69						7.8						78
1233022711	Steel plate conveyor	1	7.8	31.69						7.8						78
1254024711	Steel plate conveyor	1	36.6	162.7						36.6						366
2132023711	Scraper steel conveyor	2	15.7	69.2						31.4						314
4311011911	Screw Conveyor	1	1.6	7.0						1.6						16
4311011911	Screw Conveyor	4	3.1	12.95						12.4						124
4321011911	Screw Conveyor	2	1.3	5.8						2.6						26
4322013941	Screw Conveyor	1	12.2	26.87						12.2						122
4331011911	Screw Conveyor	2	3.1	12.5						6.2						62
4341011911	Screw Conveyor	4	0.6	3.6						2.4						24
4341011911	Screw Conveyor	4	0.6	3.6						2.4						24
										130.5						1305

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

- 214 -

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW ARSELAN REGION

PLANT CAPACITY: 600 000 TONS/YEAR  
PLANT 2

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1980

PAGE=12

Cement Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S. \$ (1980)

SITC Code	Basic Machine Nam.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
									(tons)	(tons)						
5132013911	Bucket elevator	1	41.2	165.76						41.2						41.2
5132013911	Bucket elevator	2	18.5	73.36						37.0						37.0
5132013911	Bucket elevator	2	15.2	60.7						30.4						30.4
5132013911	Bucket elevator	2	16.3	71.0						32.6						32.6
5142023911	Bucket elevator	2	21.5	92.2						43.0						43.0
5232023911	Bucket elevating conveyor	1	10.1	43.5						10.1						10.1
5232024911	Bucket elevating conveyor	1	37.7	147.4						37.7						37.7
8113011912	Weigh feeder	1	0.95	30.2					0.95							0.95
8113011912	Weigh feeder	2	1.5	13.8					3.0							3.0
8122011912	Weigh feeder	1	0.79	24.92					0.79							0.79
8123011912	Weigh feeder	1	1.24	39.0					1.24							1.24
8123011912	Weigh feeder	2	2.0	18.5					4.0							4.0
8133011912	Weigh feeder	2	2.5	23.1					5.0							5.0
8133011912	Weigh feeder	1	1.15	35.9					1.15							1.15
8133011912	Weigh feeder	1	2.74	71.5					2.74							2.74
744200480023712	Reclaiming Scraper	2	15.7	154.32					31.4							31.4
									30.20	232.8						263.0





UNIDO/ SPO (CEMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE:

- 216 -

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT CAPACITY 500 000 TONS / YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1980

PAGE : 1

Cement Plant Machinery

(Bunkers & tanks)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
69211021111111	Bunker	1	1.2	3.2						1.2						1.2
0211311111	Feed hopper	2	3.0	7.9						6.0						6.0
0211321111	Bunker	1	2.0	5.26						2.0						2.0
0211321111	Bunker	2	1.53	4.3						3.26						3.26
0711321111	Daily tank	1	1.5	2.63						1.5						1.5
0711321111	Daily tank, Fuel-oil	1	1.1	1.97						1.1						1.1
0711321111	Daily tank, Diesel-Fuel	1	0.8	1.32						0.8						0.8
0744324111	Main tanks	3	36.0	59.20						108.0						108.0
1011321111	Daily tank	1	1.5	2.63						1.5						1.5
69243041132141	Air receiver	2	0.5	1.97						1.94						1.94
0411321411	Air Tank	2	0.1	0.4						0.2						0.2
71112011143311	Boiler with burner	2	10.2	84.25						20.4						20.4
										148.96						148.96

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION  
LOCATION :  
ANTICIPATED DATE OF COMMISSIONING : 1986

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT

Cement Plant Machinery  
(Loaders, excavators)

PAGE = 2

Total weight in tons / value in U.S. \$ (1986)

SITC Code	Basic Machine N...	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total
										(tons)						
72342003123622	Loader	1	125	987						12.9						12.9
8041414632	Loader	1	30.0	2253						30.0						30.0
1032615632	Excavator	2	62.0	255.83						124.0						124.0
723430149021312	Rock Drill	2	4.4	87.6						8.8						8.8
2011101611	Air gun	3	0.02	1.5						0.06						0.06
										175.60						175.60



EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT

ANTICIPATED DATE OF COMMISSIONING: 1986

Cement Plant Machinery  
(Burners, Gas Generator & Pumps)

PAGE 4

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
741210015021011	Burner	1	0.4	5.26						0.4						0.4
0015021011	Burner	1	0.4	5.26						0.4						0.4
0025021912	Burner for Rotary kiln	1	3.1	65.75						3.1						3.1
741322414202311	Hot Gas Generator	1	7.0	3.3						7.0						7.0
2414202311	Hot Gas Generator	1	7.0	3.3						7.0						7.0
741610111111111	Heat exchanger	5	0.2	2.9						1.0						1.0
741631476479131	Rotary Kiln	1	659.2	2300.0						659.2						659.2
741649073016421	Cooler for clinker	1	148.4	163.2						148.4						148.4
741650951276111	Cyclone preheater	1	140.0	400.0						140.0						140.0
742209121211611	Water Pump	2	0.08	0.46						0.12						0.12
0132111712	Water Pump	4	0.32	2.1						1.28						1.28
742301022611611	Fuel-oil pump	2	0.11	1.05						0.22						0.22
1022611611	Fuel-oil pump	2	0.11	1.05						0.22						0.22
1022511611	Fuel-oil pump	2	0.11	1.05						0.22						0.22
1033611611	Fuel-oil pump	2	0.14	2.45						0.28						0.28
1033611611	Fuel-oil pump	3	0.23	3.64						0.69						0.69
										969.52						969.52





UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION  
LOCATION :

PLANT CAPACITY: 600 000 TONS/YEAR  
PLANT [

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery

PAGE: 7

(Cyclones, Filters)

Total weight in tons/value in U.S. (\$) (1980)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. (\$) (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
7436 10 1400 251 11	Electro - filter	2	400	224.4						80.0						80.0
1 0100 131 11	Electro - filter	2	14.7	83.7						29.4						29.4
1113013111	Cyclone, Single	2	17.7	46.0						35.4						35.4
1122012111	Cyclone	1	7.0	18.4						7.0						7.0
1132013111	Cyclone	4	10.5	27.7						42.0						42.0
1240 0251 11	Multicyclone	1	55.0	131.5						55.0						55.0
5011022411	Air filter	6	7.5	14.0						45.0						45.0
74361203401511	cooling washer	1	50.0	131.5						50.0						50.0
										373.0						373.0





EQUIPMENT REQUIREMENTS FOR THE NEW ARSEAN REGION

PLANT CAPACITY 600 000 TONS / YEAR  
PLANT II

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery

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(Air Lift, Air - Slides & Fuller pump)

Total weight in tons (value in U.S. \$ (1980))

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1980)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
									(tons)	(tons)						
744230	50041111	Flux pump (Pneumatic conve.)	2	4.0	39.5					0.8						8.0
02	50031112	Air Lift (Pneumatic conve.)	1	1.6	5.27					1.6						1.6
744232	50021111	Air - Slide (Conveyor)	2	0.65	2.6					1.3						1.3
21	50021111	Air - Slide (Conveyor)	2	0.27	1.2					0.54						0.54
21	50021111	Air - Slide (Conveyor)	4	0.11	0.35					0.44						0.44
21	50021111	Air - Slide (Conveyor)	3	0.07	0.24					0.21						0.21
21	50021111	Air - Slide (Conveyor)	2	1.4	5.52					2.8						2.8
21	50021111	Air - Slide (Conveyor)	2	0.03	0.12					0.06						0.06
21	50021111	Air - Slide (Conveyor)	1	0.6	2.0					0.6						0.6
21	50021111	Air - Slide (Conveyor)	2	1.2	5.1					2.4						2.4
21	50021111	Air - Slide (Conveyor)	1	0.27	0.87					0.27						0.27
21	50021111	Air - Slide (Conveyor)	1	0.93	2.71					0.93						0.93
22	50021411	Over flow Sluice (Conveyor)	2	0.2	0.8					0.4						0.4
744232	50031712	Fuller pump	2	4.0	48.9					0.0						0.0
										0.0	19.65					19.65

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1986

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Cement Plant Machinery  
(Belt Conveyers)

Total weight in tons/value in U.S.\$ (1000)

SITC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
										(tons)						
744260232011911	Belt Conveyer	1	2.59	12.36						2.59						2.59
0232011911	Belt Conveyer	1	1.1	5.2						1.1						1.1
0232021911	Belt Conveyer	2	0.7	4.7						1.4						1.4
0232021911	Belt Conveyer	1	2.75	12.35						2.75						2.75
0232021911	Belt Conveyer	2	3.66	19.1						7.32						7.32
0232021912	Belt Conveyer	4	4.9	31.1						19.6						19.6
0242021911	Belt Conveyer	1	3.0	16.14						3.0						3.0
0242021911	Belt Conveyer	1	2.9	14.1						2.9						2.9
0242021911	Belt Conveyer	2	3.5	17.7						7.0						7.0
0242022911	Belt Conveyer	1	8.1	38.57						8.1						8.1
0242022911	Belt Conveyer	1	8.7	37.0						8.7						8.7
0242023911	Belt Conveyer	1	14.7	61.4						14.7						14.7
0242023911	Belt Conveyer	1	21.0	85.9						21.0						21.0
0252011911	Belt Conveyer	1	3.6	17.39						3.6						3.6
0252011911	Belt Conveyer	1	3.1	14.81						3.1						3.1
0252011911	Belt Conveyer	1	4.2	17.1						4.2						4.2
0252014911	Belt Conveyer	1	20.8	138.5						20.8						20.8
0252014912	Belt Conveyer	1	34.1	156.45						34.1						34.1
0272012911	Belt Conveyer	1	5.6	28.07						5.6						5.6
0272012911	Belt Conveyer	1	7.6	33.56						7.6						7.6
0272012911	Belt Conveyer	1	9.9	42.24						9.9						9.9
0272012911	Belt Conveyer	1	8.3	35.5						8.3						8.3
0272013911	Belt Conveyer	1	17.7	78.96						17.7						17.7
										223.26						223.26

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EQUIPMENT REQUIREMENTS FOR THE NEW ASECAN REGION

PLANT, CAPACITY 600000 TONS/YEAR

LOCATION :

PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1980

PAGE = 11

Cement Plant Machinery  
(Conveyors)

Total weight in tons / value in U.S. \$ (1980-)

SITC Code	Basic Machine No	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986 (tons)	1987	1988	1989	1990	1991	Total 1981- 1991
744261024021711	Chain Conveyor	1	2.95	119.4						2.95						2.95
121202.711	Chain Conveyor	1	4.15	17.62						4.15						4.15
1223012711	Steel plate conveyor	1	7.8	31.69						7.8						7.8
1233022711	Steel plate conveyor	1	7.8	31.69						7.8						7.8
1254024711	Steel plate conveyor	1	36.6	162.7						36.6						36.6
2132023711	Scraper steel conveyor	2	15.7	69.2						31.4						31.4
4311011911	Screw Conveyor	1	1.6	7.0						1.6						1.6
4311011911	Screw Conveyor	4	3.1	12.95						12.4						12.4
4321011911	Screw Conveyor	2	1.3	5.8						2.6						2.6
4322013941	Screw Conveyor	1	12.2	26.47						12.2						12.2
4331011911	Screw Conveyor	2	3.1	12.5						6.2						6.2
4341011911	Screw Conveyor	4	0.6	3.6						2.4						2.4
4341011911	Screw Conveyor	4	0.6	3.6						2.4						2.4
										130.5						130.5

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT, CAPACITY 600 000 TONS/YEA

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1986

Cement Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
									(tons)	(tons)						
744265121014911	Bucket elevator	1	41.2	165.76						41.2						41.2
5132013911	Bucket elevator	2	18.5	73.36						37.0						37.0
5132013911	Bucket elevator	2	15.2	60.3						30.4						30.4
5132013911	Bucket elevator	2	16.3	71.0						32.6						32.6
5142023911	Bucket elevator	2	21.5	92.2						43.0						43.0
5232023911	Bucket elevating conveyor	1	10.1	43.5						10.1						10.1
5232024911	Bucket elevating conveyor	1	37.7	147.4						37.7						37.7
8113011912	Weigh feeder	1	0.96	30.2					0.96							0.96
8113011912	Weigh feeder	2	1.5	13.8					3.0							3.0
8122011912	Weigh feeder	1	0.79	24.92					0.79							0.79
8123011912	Weigh feeder	1	1.24	39.0					1.24							1.24
8123011912	Weigh feeder	2	2.0	18.5					4.0							4.0
8133011912	Weigh feeder	2	2.5	23.1					5.0							5.0
8133011912	Weigh feeder	1	1.15	35.9					1.15							1.15
8133011912	Weigh feeder	1	2.74	71.5					2.74							2.74
744280460029712	Reclaiming Scraper	2	15.7	154.32					31.4							31.4
									50.28	232.8						283.08

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EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION :

ANTICIPATED DATE OF COMMISSIONING : 1988

Cement Plant Machinery

PAGE = 13

(Gear Boxes and Packing Machines)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine No.	Qty read (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
					(tons)	(tons)	(tons)									
749310314131712	Reduction Gear box	1	2.5	11.8					2.5							2.5
749310315131712	Reduction Gear box	2	2.3	23.4					4.6							4.6
749310334134742	Reduction Gear box	1	29.6	175.0					29.6							29.6
749310352133742	Reduction Gear box	2	19.7	146.7					39.4							39.4
749310384135752	Reduction Gear box	2	77.8	396.4					155.6							155.6
74522	2 Packing Machine	2	7.3	94.9					14.6							14.6
	TOTAL								246.3							246.3
	GRAND TOTAL								445.79	3544.04	149.0					4138.83

UNIDO/ SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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COMMODITY CODE:

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION  
LOCATION :

PLANT CAPACITY 600 000 TONS / YEAR  
PLAN I

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE = 1

Cement Plant Machinery  
(Bunkers & tanks)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$. (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
69211021111111	Bunker	1	1.2	3.2						1.2						1.2
0211311111	Feed nopper	2	3.0	7.9						6.0						6.0
0211321111	Bunker	1	2.0	5.26						2.0						2.0
0211321111	Bunker	2	1.63	4.3						3.26						3.26
0711321111	Daily tank	1	1.5	2.63						1.5						1.5
0711321111	Daily tank, Fuel-oil	1	1.1	1.97						1.1						1.1
0711321111	Daily tank, Diesel-Fuel	1	0.8	1.32						0.8						0.8
0744324111	Main tanks	3	36.0	59.20						108.0						108.0
1011321111	Daily tank	1	1.5	2.63						1.5						1.5
69243041132141	Air receiver	2	0.5	1.97						1.0						1.0
0411321411	Air Tank	2	0.1	0.4						0.2						0.2
711112011143311	Boiler with burner	2	10.2	84.25						20.4						20.4
										146.96						146.96

UNIDO / SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 500 000 TONS/YEAR  
LOCATION : PLANT I  
ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery  
(Loaders, excavators)

PAGE = 2

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
723420031223622	Loader	1	12.8	987						12.8						12.8
0041414632	Loader	1	30.0	2253						30.0						30.0
1032615632	Excavator	2	62.0	255.83						124.0						124.0
723430149021312	Rock Drill	2	4.4	87.6						9.8						9.8
2011101611	Air gun	3	0.02	1.5						0.06						0.06
										175.66						175.66





EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery

(Burners, Gas Generator & Pumps)

PAGE = 4

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
741210015021011	Burner	1	0.4	5.26						0.4						0.4
0015021011	Burner	1	0.4	5.26						0.4						0.4
0025021912	Burner for Rotary kiln	1	3.1	65.75						3.1						3.1
741322414202311	Hot Gas Generator	1	7.0	3.3						7.0						7.0
2414202311	Hot Gas Generator	1	7.0	3.3						7.0						7.0
741610111111111	Heat exchanger	5	0.2	2.9						1.0						1.0
741631476479131	Rotary Kiln	1	659.2	2300.0						659.2						659.2
741649073016421	Cooler for clinker	1	148.4	153.2						148.4						148.4
741650951275111	Cyclone preheater	1	140.0	460.3						140.0						140.0
742200121211611	Water Pump	2	0.06	0.46						0.12						0.12
0132111712	Water Pump	4	0.32	2.1						1.28						1.28
74230022511511	Fuel - oil pump	2	0.11	1.05						0.22						0.22
1022611611	Fuel - oil pump	2	0.11	1.05						0.22						0.22
1022511611	Fuel - oil pump	2	0.11	1.05						0.22						0.22
1033611611	Fuel - oil pump	2	0.14	2.45						0.28						0.28
1033611611	Fuel - oil pump	3	0.23	3.64						0.69						0.69
										969.53						969.53



EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery  
(Ventilators)

PAGE:6

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$. (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
									(tons)	(tons)						
743420021111911	Ventilator	4	0.20	3.87						0.8						0.8
0021111911	Ventilator	2	0.32	2.2						0.64						0.64
0021131911	Ventilator	2	0.52	6.49						1.04						1.04
0031111911	Ventilator	4	0.12	2.7						0.48						0.48
0031111911	Ventilator	2	0.12	2.06						0.24						0.24
0051131911	Ventilator	2	1.05	15.6						2.1						2.1
0051131911	Ventilator	1	0.52	13.5						0.52						0.52
0051131911	Ventilator	6	1.1	10.5						6.6						6.6
0051131911	Ventilator	5	2.2	24.3						11.0						11.0
0051131912	Primary Ventilator	1	1.55	25.8					1.55							1.55
0001131922	Ventilator	2	19.4	133.65					38.8							38.8
0001132931	Ventilator	1	6.2	89.5						6.2						6.2
0001133942	Ventilator	1	26.6	175.1					26.6							26.6
0051133921	Ventilator	2	14.8	47.4						29.6						29.6
									66.95	59.22						126.17



EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CEMENT 500 000 TONS / YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1989

Cement Plant Machinery

( Dump Trucks )

Total weight in tons / value in U.S.\$ (1980)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
					(tons)											
744112027003921	Dump Trucks	3	10.0	52.6							30.0					30.0
2045003632	Dump Trucks	5	23.0	204.62							119.8					119.8
											149.0					149.0

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EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION : PLANT I  
ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery

(Air Lift, Air-Slides & Fuller pump)

PAGE=9

Total weight in tons / value in U.S.\$ (1988)

SITC Code	Basic Machinery	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
									(tons)	(tons)						
744230	50041111	2	4.0	39.5						8.0						8.0
0	50031112	1	1.6	5.27						1.6						1.6
744232	50021111	2	0.65	2.6						1.3						1.3
2	50021111	2	0.27	1.2						0.54						0.54
2	50021111	4	0.11	0.35						0.44						0.44
2	50021111	3	0.07	0.24						0.21						0.21
2	50021111	2	1.4	5.52						2.8						2.8
2	50021111	2	0.03	0.12						0.06						0.06
2	50021111	1	0.6	2.0						0.6						0.6
2	50021111	2	1.2	5.1						2.4						2.4
2	50021111	1	0.27	0.87						0.27						0.27
2	50021111	1	0.93	2.71						0.93						0.93
2	50021411	2	0.2	0.8						0.4						0.4
744232	50031712	2	4.0	48.9					8.0							8.0
									8.0	19.45						27.45

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600000 TONS/YEAR

LOCATION :

PLANT 1

ANTICIPATED DATE OF COMMISSIONING: 1988

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Cement Plant Machinery  
(Belt Conveyors)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
744260232011911	Belt Conveyor	1	2.59	12.36						2.59						25.9
0232011911	Belt Conveyor	1	1.1	5.2						1.1						1.1
0232021911	Belt Conveyor	2	0.7	4.7						1.4						1.4
0232021911	Belt Conveyor	1	2.75	12.35						2.75						27.5
0232021911	Belt Conveyor	2	3.36	19.1						7.52						35.2
0232021912	Belt Conveyor	4	4.9	31.1						19.6						19.6
0242021911	Belt Conveyor	1	3.0	16.14						3.0						3.0
0242021911	Belt Conveyor	1	2.9	14.1						2.9						2.9
0242021911	Belt Conveyor	2	3.5	17.7						7.0						7.0
0242022911	Belt Conveyor	1	8.1	38.57						8.1						8.1
0242022911	Belt Conveyor	1	8.7	37.0						8.7						8.7
0242023911	Belt Conveyor	1	14.7	61.4						14.7						14.7
0242023911	Belt Conveyor	1	21.0	85.9						21.0						21.0
0252011911	Belt Conveyor	1	3.6	17.39						3.6						3.6
0252011911	Belt Conveyor	1	3.1	14.81						3.1						3.1
0252011911	Belt Conveyor	1	4.2	17.1						4.2						4.2
0252014911	Belt Conveyor	1	28.8	138.5						28.8						28.8
0252014912	Belt Conveyor	1	34.1	156.45						34.1						34.1
0272012911	Belt Conveyor	1	5.6	26.07						5.6						5.6
0272012911	Belt Conveyor	1	7.6	33.56						7.6						7.6
0272012911	Belt Conveyor	1	9.9	43.24						9.9						9.9
0272012711	Belt Conveyor	1	8.3	35.5						8.3						8.3
0272013911	Belt Conveyor	1	17.7	78.96						17.7						17.7
										223.26						223.26

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 500000 TONS/YEAR  
PLANT 2

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery  
(Conveyors)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
744261024021711	Chain Conveyor	1	2.95	119.4						2.95						2.95
1212021711	Chain Conveyor	1	4.15	17.62						4.15						4.15
1223012711	Steel plate conveyor	1	7.8	31.69						7.8						7.8
1233022711	Steel plate conveyor	1	7.8	31.69						7.8						7.8
1254024711	Steel plate conveyor	1	36.6	162.7						36.6						36.6
2132023711	Scraper steel conveyor	2	15.7	69.2						31.4						31.4
4311011911	Screw Conveyor	1	1.6	7.0						1.6						1.6
4311011911	Screw Conveyor	4	3.1	12.95						12.4						12.4
4321011911	Screw Conveyor	2	1.3	5.8						2.6						2.6
4322013941	Screw Conveyor	1	12.2	26.67						12.2						12.2
4331011911	Screw Conveyor	2	3.1	12.5						6.2						6.2
4341011911	Screw Conveyor	4	0.6	3.6						2.4						2.4
4341011911	Screw Conveyor	4	0.6	3.6						2.4						2.4
										130.5						130.5



EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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Cement Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985 (tons)	1986 (tons)	1987	1988	1989	1990	1991	Total 1981-1991
74426512101491	Bucket elevator	1	41.2	185.76						41.2						41.2
5132013911	Bucket elevator	2	18.5	73.36						37.0						37.0
5132013911	Bucket elevator	2	15.2	60.3						30.4						30.4
5132013911	Bucket elevator	2	16.3	71.0						32.6						32.6
542023911	Bucket elevator	2	21.5	92.2						43.0						43.0
5232023911	Bucket elevating conveyor	1	10.1	43.5						10.1						10.1
5232024911	Bucket elevating conveyor	1	37.7	147.4						37.7						37.7
8113011912	Weigh feeder	1	0.96	30.2					0.96							0.96
8113011912	Weigh feeder	2	1.5	13.8					3.0							3.0
8122011912	Weigh feeder	1	0.79	24.92					0.79							0.79
8123011912	Weigh feeder	1	1.24	39.0					1.24							1.24
8123011912	Weigh feeder	2	2.0	18.5					4.0							4.0
8133011912	Weigh feeder	2	2.5	23.1					5.0							5.0
8133011912	Weigh feeder	1	1.15	35.9					1.15							1.15
8133011912	Weigh feeder	1	2.74	71.5					2.74							2.74
744280460023712	Reclaiming Scraper	2	15.7	154.32					31.4							31.4
									50.28	232.0						282.28

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UNIDO/ SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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COMMODITY CODE:

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION  
LOCATION :

PLANT CAPACITY 600 000 TONS / YEAR  
: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE : 1

Cement Plant Machinery

(Bunkers & tanks)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
692110211111111	Bunker	1	1.2	3.2						1.2						1.2
0211311111	Feed hopper	2	3.0	7.9						6.0						6.0
0211321111	Bunker	1	2.0	5.26						2.0						2.0
0211321111	Bunker	2	1.63	4.3						3.26						3.26
0711321111	Daily tank	1	1.5	2.63						1.5						1.5
0711321111	Daily tank, Fuel-oil	1	1.1	1.97						1.1						1.1
0711321111	Daily tank, Diesel-Fuel	1	0.6	1.32						0.6						0.6
0744324111	Main tanks	3	36.0	59.20						108.0						108.0
1011321111	Daily tank	1	1.5	2.63						1.5						1.5
692430411321411	Air receiver	2	0.5	1.97						1.0						1.0
0411321411	Air Tank	2	0.1	0.4						0.2						0.2
711112011143311	Boiler with burner	2	10.2	84.25						20.4						20.4
										146.96						146.96

UNIDO / SPO (ÇİMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION  
LOCATION :  
ANTICIPATED DATE OF COMMISSIONING: 1988

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT II

Cement Plant Machinery  
(Loaders, excavators)

PAGE = 2

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
					(tons)											
723420031223622	Loader	1	12.8	987						12.8						12.8
0061414632	Loader	1	30.0	2253						30.0						30.0
1032615632	Excavator	2	62.0	255.83						124.0						124.0
723430149021312	Rock Drill	2	4.4	67.6						8.8						8.8
2011101611	Air gun	3	0.02	1.5						0.06						0.06
										175.66						175.66

UNIDO/SPO (CIMENTO)  
 CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE : 3

Cement Plant Machinery  
 (Screens & mills)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
									(tons)	(tons)						
720310245021912	Oscillating Screen	2	1.33	7.5					2.66							2.66
6040024931	Seperator	1	29.0	92.65						29.0						29.0
6040024951	Seperator	2	27.1	105.4						54.2						54.2
729320444719631	Crusher (mill)	1	84.1	398.8						84.1						84.1
1111718771	Cement ball mill	2	326.35	997.3						652.7						652.7
1121718771	Ball mill	1	419.3	1600.3						419.3						419.3
1227111711	Crusher	1	4.36	21.8						4.36						4.36
										2.66						124.83

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EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 500 000 TONS/YEAR  
PLANT II

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery  
(Ventilators)

PAGE:6

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
									(tons)	(tons)						
743420021111911	Ventilator	4	0.20	3.87						0.8						0.8
0021111911	Ventilator	2	0.32	2.2						0.64						0.64
0021131911	Ventilator	2	0.52	6.43						1.04						1.04
0031111911	Ventilator	4	0.12	2.2						0.48						0.48
0031111911	Ventilator	2	0.12	2.08						0.24						0.24
0051131911	Ventilator	2	1.05	15.6						2.1						2.1
0051131911	Ventilator	1	0.52	13.5						6.52						6.52
0051131911	Ventilator	6	1.1	10.5						6.6						6.6
0051131911	Ventilator	5	2.2	24.3						11.0						11.0
0051131912	Primary Ventilator	1	1.55	25.8					1.55							1.55
0081131922	Ventilator	2	19.4	132.45					38.8							38.8
0081132931	Ventilator	1	6.2	89.5						6.2						6.2
0081133942	Ventilator	1	26.6	175.1					26.6							26.6
0051133921	Ventilator	2	14.8	47.4						29.6						29.6
										66.95	59.22					126.17



UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPAMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT II

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery  
(Cyclones, Filters)

PAGE:7

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1988 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
										(tons)						
7436 1014002511	Electro - filter	2	400	224.6						80.0						80.0
1010013111	Electro - filter	2	14.7	83.7						29.4						29.4
1113013111	Cyclone, Single	2	17.7	46.00						35.4						35.4
1122012111	Cyclone	1	7.0	18.4						7.0						7.0
1132013111	Cyclone	4	10.5	27.7						42.0						42.0
1240025111	Multicyclone	1	55.0	131.5						55.0						55.0
5011022611	Air filter	6	7.5	14.8						45.0						45.0
74361203401511	cooling washer	1	50.0	131.5						50.0						50.0
										343.8						343.8

UNIDO/SPO (CIMENTO)  
 CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CEMENT 600 000 TONS / YEAR  
 PLANT II

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE = 8

Cement Plant Machinery

( Dump Trucks )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987 (tons)	1988	1989	1990	1991	Total	
																1981-1991	
744112027003921	Dump Trucks	3	10.0	52.6							30.0						30.0
2045093632	Dump Trucks	5	23.8	204.62							119.0						119.0
											149.0						149.0

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION : PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery

PAGE: 8

(Air Lift, Air-Slides & Fuller pump)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
									(tons)	(tons)						
744230150041111	Flux pump (Pneumatic convey.)	2	4.0	39.5						8.0						8.0
0250031112	Air Lift (Pneumatic convey.)	1	1.6	5.27						1.6						1.6
744232150021111	Air - Slide (Conveyor)	2	0.65	2.6						1.3						1.3
2150021111	Air - Slide (Conveyor)	2	0.27	1.2						0.54						0.54
2150021111	Air - Slide (Conveyor)	4	0.11	0.35						0.44						0.44
2150021111	Air - Slide (Conveyor)	3	0.07	0.21						0.21						0.21
2150021111	Air - Slide (Conveyor)	2	1.4	5.52						2.8						2.8
2150021111	Air - Slide (Conveyor)	2	0.03	0.12						0.06						0.06
2150021111	Air - Slide (Conveyor)	1	0.6	2.0						0.6						0.6
2150021111	Air - Slide (Conveyor)	2	1.2	5.1						2.4						2.4
2150021111	Air - Slide (Conveyor)	1	0.27	0.87						0.27						0.27
2150021111	Air - Slide (Conveyor)	1	0.93	2.71						0.93						0.93
2250021411	Over flow Sluice (Conveyor)	2	0.2	0.8						0.4						0.4
744232350031712	Fuller pump	2	4.0	48.9						8.0						8.0
										8.0	19.45					27.45

UNIDO/SPO (ÇIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

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Cement Plant Machinery  
(Belt Conveyors)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
744260232011911	Belt Conveyor	1	2.59	12.36						2.59						25.9
0232011911	Belt Conveyor	1	1.1	5.2						1.1						1.1
0232021911	Belt Conveyor	2	0.7	4.7						1.4						1.4
0232021911	Belt Conveyor	1	2.75	12.35						2.75						2.75
0232021911	Belt Conveyor	2	3.16	19.1						7.52						7.52
0232021912	Belt Conveyor	4	4.9	31.1						19.6						19.6
0242021911	Belt Conveyor	1	3.0	16.14						3.0						3.0
0242021911	Belt Conveyor	1	2.9	14.1						2.9						2.9
0242021911	Belt Conveyor	2	3.5	17.7						7.0						7.0
0242022311	Belt Conveyor	1	8.1	38.57						8.1						8.1
0242022911	Belt Conveyor	1	8.7	37.0						8.7						8.7
0242023511	Belt Conveyor	1	14.7	61.4						14.7						14.7
0242023911	Belt Conveyor	1	21.0	85.9						21.0						21.0
0252011911	Belt Conveyor	1	3.6	17.39						3.6						3.6
0252011911	Belt Conveyor	1	3.1	14.81						3.1						3.1
0252011911	Belt Conveyor	1	4.2	17.1						4.2						4.2
0252014911	Belt Conveyor	1	28.8	138.5						28.8						28.8
0252014912	Belt Conveyor	1	34.1	156.45						34.1						34.1
0272012911	Belt Conveyor	1	5.6	28.07						5.6						5.6
0272012911	Belt Conveyor	1	7.6	33.56						7.6						7.6
0272012911	Belt Conveyor	1	9.9	43.24						9.9						9.9
0272012711	Belt Conveyor	1	8.3	35.5						8.3						8.3
0272013911	Belt Conveyor	1	17.7	78.96						17.7						17.7
										223.26						223.26

UNDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600000 TONS/YEAR  
PLANT II

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

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Cement Plant Machinery  
(Conveyers)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
744261024021711	Chain Conveyor	1	2.95	119.4						2.95						295
1212021711	Chain Conveyor	1	4.15	17.62						4.15						415
1223012711	Steel plate conveyor	1	7.8	31.69						7.8						78
1233022711	Steel plate conveyor	1	7.8	31.69						7.8						78
1254024711	Steel plate conveyor	1	36.6	162.7						36.6						366
2132023711	Scraper steel conveyor	2	15.7	69.2						31.4						314
4311011911	Screw Conveyor	1	1.6	7.0						1.6						16
4311011911	Screw Conveyor	4	3.1	12.95						12.4						124
4321011911	Screw Conveyor	2	1.3	5.8						2.6						26
4322013941	Screw Conveyor	1	12.2	26.67						12.2						122
4331011911	Screw Conveyor	2	3.1	12.5						6.2						62
4341011911	Screw Conveyor	4	0.6	3.6						2.4						24
4341011911	Screw Conveyor	4	0.6	3.6						2.4						24
										130.5						1305

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

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Cement Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons/valve in U.S.S. (1000)

SITC Code	Basic Machine Name	Qty reqd. (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.S. (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
									(tons)	(tons)						
74420121012411	Bucket elevator	1	41.2	165.75						41.2						41.2
5132013911	Bucket elevator	2	18.5	73.36						37.0						74.0
5132013911	Bucket elevator	2	15.2	60.3						30.4						60.8
5132013911	Bucket elevator	2	16.3	71.0						32.6						65.2
5142023911	Bucket elevator	2	21.5	92.2						43.0						86.0
5232023911	Bucket elevating conveyor	1	10.1	43.5						10.1						10.1
5232024911	Bucket elevating conveyor	1	37.7	147.4						37.7						37.7
8113011912	Weigh feeder	1	0.96	30.2					0.96							0.96
8113011912	Weigh feeder	2	1.5	13.8					3.0							3.0
8122011912	Weigh feeder	1	0.79	24.92					0.79							0.79
8123011912	Weigh feeder	1	1.24	39.0					1.24							1.24
8123011912	Weigh feeder	2	2.0	16.5					4.0							4.0
8133011912	Weigh feeder	2	2.5	23.1					5.0							5.0
8133011912	Weigh feeder	1	1.15	35.9					1.15							1.15
8133011912	Weigh feeder	1	2.74	71.5					2.74							2.74
744200460029712	Reclaiming Scraper	2	15.7	154.32					31.4							31.4
									50.20	232.8						283.0

EQUIPMENT REQUIREMENTS FOR THE NEW HARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT II

LOCATION :

ANTICIPATED DATE OF COMMISSIONING : 1988

Cement Plant Machinery

(Gear Boxes and Packing Machines)

Total weight in tons / value in U.S. (\$) (1000)

SITC Code	Basic Machine Name	Qty read (Nos)	Unit Weight (tons)	Unit cost in U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
					(tons)	(tons)	(tons)									
74931031413112	Reduction Gear box	1	2.5	11.8					2.5							2.5
749310315131712	Reduction Gear box	2	2.3	23.4					4.6							4.6
749310334134742	Reduction Gear box	1	29.6	175.0					29.6							29.6
749310362133742	Reduction Gear box	2	19.7	146.7					39.4							39.4
749310384135752	Reduction Gear box	2	77.8	396.4					155.6							155.6
74522	2 Packing Machine	2	7.3	94.9					14.6							14.6
	TOTAL								246.3							246.3
	GRAND TOTAL								465.79	3566.04	148.8					4198.83

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UNIDO/ SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT CAPACITY 600 000 TONS / YEAR  
LOCATION : PLANT I  
ANTICIPATED DATE OF COMMISSIONING : 1989

PAGE : 1

Cement Plant Machinery  
(Bunkers & tanks)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$. (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
692110211111111	Bunker	1	1.2	3.2							1.2					1.2
02113111111	Feed hopper	2	3.0	7.9							6.0					6.0
02113211111	Bunker	1	2.0	5.26							2.0					2.0
02113211111	Bunker	2	1.63	4.3							3.26					3.26
07113211111	Daily tank	1	1.5	2.63							1.5					1.5
07113211111	Daily tank, Fuel-oil	1	1.1	1.97							1.1					1.1
07113211111	Daily tank, Diesel-Fuel	1	0.8	1.32							0.8					0.8
07443241111	Main tanks	3	36.0	59.20							108.0					108.0
10113211111	Daily tank	1	1.5	2.63							1.5					1.5
69243041132141	Air receiver	2	0.5	1.97							1.0					1.0
04113214111	Air Tank	2	0.1	0.4							0.2					0.2
711112011143311	Boiler with burner	2	10.2	84.25							20.4					20.4
											146.96					146.96

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UNIDO / SPO (ÇİMENTO)  
CAPITAL GOODS DEVELOPMAND PROJECT IN TURKEY

COMMODITY CODE : 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION

PLANT , CAPACITY 600 000 TONS/YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING : 1989

PAGE = 2

Cement Plant Machinery  
(Loaders, excavators)

Total weight in tons / value in U.S. \$ (1000),

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$. (1000)	1981	1982	1983	1984	1985	1986	1987 (tons)	1988	1989	1990	1991	Total 1981- 1991
723420031223622	Loader	1	12.8	98.7							12.8					12.8
0061414632	Loader	1	30.0	225.3							30.0					30.0
1032615632	Excavator	2	62.0	255.83							124.0					124.0
723430149021312	Rock Drill	2	4.4	87.6							8.8					8.8
2011101611	Air gun	3	0.02	1.5							0.06					0.06
											175.66					175.66

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UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMAND PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION

PLANT , CAPACITY 600 000 TONS/YEAR  
PLANT I'

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE : 3

Cement Plant Machinery  
( Screens & mills )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1985	1987	1988	1989	1990	1991	Total
720310245021913	Oscillating Screen	2	1.33	2.5						2.66						2.66
6040024931	Seperator	1	29.0	92.65							29.0					29.0
6040024951	Seperator	2	27.1	105.4							54.2					54.2
728320444715631	Crusher (mill)	1	84.1	398.8							84.1					84.1
1111718771	Cement ball mill	2	326.35	937.3							652.7					652.7
1121718771	Ball mill	1	419.3	1600.3							419.3					419.3
1227111711	Crusher	1	4.36	21.8							4.36					4.36
										2.66	1243.66					1246.32

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION

PLANT CAPACITY 600 000 TONS/YEAR

LOCATION : -

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

Cement Plant Machinery  
(Burners, Gas Generator & Pumps)

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Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
741210015021011	Burner	1	0.4	5.26							0.4					0.4
0015021011	Burner	1	0.4	5.26							0.4					0.4
0025021912	Burner for Rotary kiln	1	3.1	65.75							3.1					3.1
741322414202311	Hot Gas Generator	1	7.0	3.3							7.0					7.0
2414202311	Hot Gas Generator	1	7.0	3.3							7.0					7.0
741610111111111	Heat exchanger	5	0.2	2.9							1.0					1.0
741631476479131	Rotary Kiln	1	659.2	2,300.8							659.2					659.2
741649073016421	Cooler for clinker	1	148.4	163.2							148.4					148.4
741650951276111	Cyclone preheater	1	140.0	460.3							140.0					140.0
742209121211611	Water Pump	2	0.06	0.46							0.12					0.12
0132111712	Water Pump	4	0.32	2.4							1.28					1.28
742301022611611	Fuel-oil pump	2	0.11	1.05							0.22					0.22
1022611611	Fuel-oil pump	2	0.11	1.05							0.22					0.22
1022611611	Fuel-oil pump	2	0.11	1.05							0.22					0.22
1033671677	Fuel-oil pump	2	0.14	2.45							0.28					0.28
1033611611	Fuel-oil pump	3	0.23	3.64							0.69					0.69
											969.53					969.53

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION

PLANT, CAPACITY 600 000 TONS/ YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING : 1989

Cement Plant Machinery  
(Compressors)

PAGE 5

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986 (tons)	1987	1988	1989	1990	1991	Total 1981-1991
743130031121712	Compressor	2	0.42	1.84						0.34						0.34
0111121712	Compressor	2	1.0	6.8						2.0						2.0
0123121712	Compressor	2	1.2	3.0						2.4						2.4
0132121612	Compressor	2	1.5	71.82						3.0						3.0
0232122722	Compressor	4	7.95	44.2						31.8						31.8
2121111712	Compressor	2	0.7	0.9						1.4						1.4
2131111712	Compressor	2	5.33	32.85						10.66						10.66
2131111712	Compressor	3	4.28	66.6						12.84						12.84
2141111712	Compressor	2	2.8	36.6						5.2						5.2
2221111712	Compressor	4	0.3	13.7						1.2						1.2
2321111712	Compressor	1	0.26	3.9						0.26						0.26
										71.6						71.6

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 500 000 TONS/YEAR  
LOCATION : PLANT I  
ANTICIPATED DATE OF COMMISSIONING: 1989

Cement Plant Machinery  
(Ventilators)

Total weight in tons / value in U.S.\$ (1000)

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SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
										(tons)	(tons)					
74342002111911	Ventilator	4	0.20	3.87							0.8					0.8
0021111911	Ventilator	2	0.32	2.2							0.64					0.64
0021131911	Ventilator	2	0.52	6.49							1.04					1.04
0031111911	Ventilator	4	0.12	2.2							0.48					0.48
0031111911	Ventilator	2	0.12	2.06							0.24					0.24
0051131911	Ventilator	2	1.05	15.6							2.1					2.1
0051131911	Ventilator	1	0.52	13.5							0.52					0.52
0051131911	Ventilator	6	1.1	10.5							6.6					6.6
0051131911	Ventilator	5	2.2	24.3							11.0					11.0
0051131912	Primary Ventilator	1	1.55	25.8						1.55						1.55
0081131922	Ventilator	2	19.4	133.45						38.8						38.8
0081132931	Ventilator	1	6.2	89.5							6.2					6.2
0081133942	Ventilator	1	26.6	175.1						26.6						26.6
0051133921	Ventilator	2	14.8	47.4							29.6					29.6
										66.95	59.22					126.17









SBWDO / SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE : 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION  
LOCATION :

PLANT, CAPACITY 600000 TONS/YEAR  
PLANT I

ANTICIPATED DATE OF COMMISSIONING : 1989

PAGE : 10

Cement Plant Machinery  
(Belt Conveyors)

Total weight in tons / value in U.S.\$ (1000)

SITC-Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1991	Total 1981-1991
744260232011911	Belt Conveyor	1	2.59	12.36							2.59				25.9
0232011911	Belt Conveyor	1	1.1	5.2							1.1				1.1
0232021911	Belt Conveyor	2	0.7	4.7							1.4				1.4
0232021911	Belt Conveyor	1	2.75	12.35							2.75				27.5
0232021911	Belt Conveyor	2	3.76	19.1							7.52				7.52
0232021912	Belt Conveyor	4	4.9	31.1							19.6				19.6
0242021911	Belt Conveyor	1	3.0	16.14							3.0				3.0
0242021911	Belt Conveyor	1	2.9	14.1							2.9				2.9
0242021911	Belt Conveyor	2	3.5	17.7							7.0				7.0
0242022911	Belt Conveyor	1	0.1	30.57							0.1				0.1
0242022911	Belt Conveyor	1	0.7	37.0							0.7				0.7
0242023911	Belt Conveyor	1	14.7	61.4							14.7				14.7
0242023911	Belt Conveyor	1	21.0	85.9							21.0				21.0
0252011911	Belt Conveyor	1	3.6	17.39							3.6				3.6
0252011911	Belt Conveyor	1	3.1	14.81							3.1				3.1
0252011911	Belt Conveyor	1	4.2	17.1							4.2				4.2
0252014911	Belt Conveyor	1	20.0	138.5							20.0				20.0
0252014912	Belt Conveyor	1	34.1	156.45							34.1				34.1
0272012911	Belt Conveyor	1	5.6	26.07							5.6				5.6
0272012911	Belt Conveyor	1	7.6	33.56							7.6				7.6
0272012911	Belt Conveyor	1	9.9	43.24							9.9				9.9
0272012711	Belt Conveyor	1	0.3	35.5							0.3				0.3
0272013911	Belt Conveyor	1	17.7	78.96							17.7				17.7
											223.26				223.26



UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION

PLANT CAPACITY 600 000 TONS/YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE=12

Cement Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
										(tons)	(tons)					
744265121014911	Bucket elevator	1	41.2	165.76							41.2					41.2
5132013911	Bucket elevator	2	18.5	73.34							37.0					37.0
5132012911	Bucket elevator	2	15.2	60.3							30.4					30.4
5132013911	Bucket elevator	2	16.3	71.0							32.6					32.6
5142023911	Bucket elevator	2	21.5	92.2							43.0					43.0
5232023911	Bucket elevating conveyor	1	10.1	43.5							10.1					10.1
5232024911	Bucket elevating conveyor	1	37.7	147.4							37.7					37.7
8113011912	Weigh feeder	1	0.96	30.2						0.96						0.96
8113011912	Weigh feeder	2	1.5	13.8						3.0						3.0
8122011912	Weigh feeder	1	0.79	24.92						0.79						0.79
8123011912	Weigh feeder	1	1.24	39.0						1.24						1.24
8123011912	Weigh feeder	2	2.0	18.5						4.0						4.0
8133011912	Weigh feeder	2	2.5	23.1						5.0						5.0
8133011912	Weigh feeder	1	1.15	35.9						1.15						1.15
8133011912	Weigh feeder	1	2.74	71.5						2.74						2.74
74C280460023712	Reclaiming Scraper	2	15.7	154.32						31.4						31.4
										50.28	232.0					282.28

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EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT CAPACITY 600 000 TONS / YEAR  
LOCATION : PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

Cement Plant Machinery

(Bunkers & tanks)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$. (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
					(tons)											
692110211111111	Bunker	1	1.2	3.2							1.2					1.2
02113111111	Feed hopper	2	3.0	7.9							6.0					6.0
02113211111	Bunker	1	2.0	5.26							2.0					2.0
02113211111	Bunker	2	1.63	4.3							3.26					3.26
07113211111	Daily tank	1	1.5	2.63							1.5					1.5
07113211111	Daily tank, Fuel-oil	1	1.1	1.97							1.1					1.1
07113211111	Daily tank, Diesel-Fuel	1	0.8	1.32							0.8					0.8
07443241111	Main tanks	3	16.0	59.20							108.0					108.0
10113211111	Daily tank	1	1.5	2.63							1.5					1.5
692430411321411	Air receiver	2	0.5	1.97							1.0					1.0
04113214111	Air Tank	2	0.1	0.4							0.2					0.2
711112011143311	Boiler with burner	2	10.2	84.25							20.4					20.4
											148.96					148.96

UNIDO / SPO (ÇİMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION

PLANT , CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

Cement Plant Machinery  
(Loaders, excavators)

PAGE = 2

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
															(tons)	
723420031222622	Loader	1	12.8	987							12.8					12.8
0041414632	Loader	1	30.0	225.3							30.0					30.0
1832615632	Excavator	2	62.0	255.83							124.0					124.0
723430149021312	Rock Drill	2	4.4	87.6							8.8					8.8
2011101611	Air gun	3	0.02	1.5							0.06					0.06
											175.66					175.66

UNIDQ/SPO (CIMENTO)  
 CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE : 3

Cement Plant Machinery  
 (Screens & mills)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
										(tons)	(tons)					
720310245021912	Oscillating Screen	2	1.33	7.5						2.66						2.66
6040024931	Seperator	1	29.0	92.65							29.0					29.0
6040024951	Seperator	2	27.1	105.4							54.2					54.2
720320444715631	Crusher (mill)	1	84.1	398.8							84.1					84.1
11117102771	Cement ball mill	2	326.35	997.3							652.7					652.7
1121710771	Ball mill	1	419.3	1600.3							419.3					419.3
1227111711	Crusher	1	4.36	21.8							4.36					4.36
										2.66	1243.66					1246.32

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UNIDO/SPO (CIMENTO)  
CAPITAL 60005 DEVELOPMAND PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION

PLANT CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

Cement Plant Machinery  
(Burners, Gas Generator & Pumps)

PAGE = 4

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
					(tons)											
741210015021011	Burner	1	0.4	5.26							0.4					0.4
0015021011	Burner	1	0.4	5.26							0.4					0.4
0025021912	Burner for Rotary kiln	1	3.1	65.75							3.1					3.1
741322414202311	Hot Gas Generator	1	7.0	3.3							7.0					7.0
2414202311	Hot Gas Generator	1	7.0	3.3							7.0					7.0
741610111111111	Heat exchanger	5	0.2	2.9							1.0					1.0
741631476479131	Rotary Kiln	1	659.2	2300.0							659.2					659.2
741649073016421	Cooler for clinker	1	148.4	163.2							148.4					148.4
741650951276111	Cyclone preheater	1	140.0	460.3							140.0					140.0
742209121211611	Water Pump	2	0.06	0.46							0.12					0.12
0132111712	Water Pump	4	0.32	2.1							1.28					1.28
742301022611511	Fuel-oil pump	2	0.11	1.05							0.22					0.22
1022611611	Fuel-oil pump	2	0.11	1.05							0.22					0.22
1022511611	Fuel-oil pump	2	0.11	1.05							0.22					0.22
1033611611	Fuel-oil pump	2	0.14	2.45							0.28					0.28
1033611611	Fuel-oil pump	3	0.23	3.64							0.69					0.69
											969.53					969.53



EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/ YEAR  
LOCATION : PLANT I  
ANTICIPATED DATE OF COMMISSIONING : 1989

Cement Plant Machinery  
(Compressors)

PAGE = 5

Total weight in tons / value in U.S.\$ (1000-)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
743130.031121712	Compressor	2	0.42	1.84						0.84						0.84
0111121712	Compressor	2	1.0	6.8						2.0						2.0
0123121712	Compressor	2	1.2	3.0						2.4						2.4
0132121612	Compressor	2	1.5	71.82						3.0						3.0
0232122722	Compressor	4	7.95	44.2						31.8						31.8
2121111712	Compressor	2	0.7	8.9						1.4						1.4
2131111712	Compressor	2	5.33	32.85						10.66						10.66
2131111712	Compressor	3	4.28	66.8						12.84						12.84
2141111712	Compressor	2	2.6	36.6						5.2						5.2
2221111712	Compressor	4	0.3	13.7						1.2						1.2
2321111712	Compressor	1	0.26	3.9						0.26						0.26
										71.6						71.6

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EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION : PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

Cement Plant Machinery  
(Ventilators)

PAGE:6

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
										(tons)	(Tons)					
743420021111911	Ventilator	4	0.20	3.87							8.8					8.8
0021111911	Ventilator	2	0.32	2.2							0.64					0.64
0021131911	Ventilator	2	0.52	6.43							1.04					1.04
0031111911	Ventilator	4	0.12	2.2							0.48					0.48
0031171911	Ventilator	2	0.12	2.06							0.24					0.24
0051131911	Ventilator	2	1.05	15.6							2.1					2.1
0051131911	Ventilator	1	0.52	13.5							0.52					0.52
0051131911	Ventilator	6	1.1	10.5							6.6					6.6
0051131911	Ventilator	5	2.2	24.3							11.0					11.0
0051131912	Primary Ventilator	1	1.55	25.8						1.55						1.55
0001131922	Ventilator	2	19.4	133.45						38.8						38.8
0001132931	Ventilator	1	6.2	89.5							6.2					6.2
0001133942	Ventilator	1	26.6	175.1						26.6						26.6
0051133921	Ventilator	2	14.8	47.4							29.6					29.6
										66.95	59.22					126.17



UNIDO/SPD (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION

PLANT CAPACITY 600 000 TONS / YEAR  
PLANT II

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1989

Cement Plant Machinery

(Air Lift, Air-Slides & Fuller pump)

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Total weight in tons ~~Value in U.S.\$ (1000)~~

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
										(tons)	(tons)					
744230150041111	Flux pump (Pneumatic conveyer)	2	4.0	39.5							8.0					8.0
0250031112	Air Lift (Pneumatic conveyer)	1	1.6	5.22							1.6					1.6
744232150021111	Air - Slide (Conveyor)	2	0.55	2.5							1.1					1.1
2150021111	Air - Slide (Conveyor)	2	0.27	1.2							0.54					0.54
2150021111	Air - Slide (Conveyor)	4	0.11	0.35							0.44					0.44
2150021111	Air - Slide (Conveyor)	3	0.07	0.21							0.21					0.21
2150021111	Air - Slide (Conveyor)	2	1.4	5.52							2.8					2.8
2150021111	Air - Slide (Conveyor)	2	0.03	0.12							0.06					0.06
2150021111	Air - Slide (Conveyor)	1	0.6	2.0							0.6					0.6
2150221111	Air - Slide (Conveyor)	2	1.2	5.1							2.4					2.4
2150221111	Air - Slide (Conveyor)	1	0.27	0.54							0.27					0.27
2150221111	Air - Slide (Conveyor)	1	0.93	2.1							0.93					0.93
2250021411	Over flow Sluice (Conveyor)	2	0.2	0.8							0.4					0.4
744232350031712	Fuller pump	2	4.0	48.8						9.0						9.0
										8.0	19.45					27.45



EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT II

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1989

Cement Plant Machinery  
(Belt Conveyers)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty. reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
															(tons)	
744260232011911	Belt Conveyor	1	2.59	12.36							2.59					25.9
0232011911	Belt Conveyor	1	1.1	5.2							1.1					1.1
0232021911	Belt Conveyor	2	0.7	4.7							1.4					1.4
0232021911	Belt Conveyor	1	2.75	12.35							2.75					2.75
0232021911	Belt Conveyor	2	3.76	19.1							7.52					7.52
0232021912	Belt Conveyor	4	4.9	31.1							19.6					19.6
0242021911	Belt Conveyor	1	3.0	16.14							3.0					3.0
0242021911	Belt Conveyor	1	2.9	14.1							2.9					2.9
0242021911	Belt Conveyor	2	3.5	17.7							7.0					7.0
0242022911	Belt Conveyor	1	8.1	38.57							8.1					8.1
0242022911	Belt Conveyor	1	8.7	37.0							8.7					8.7
0242023911	Belt Conveyor	1	14.7	61.4							14.7					14.7
0242023911	Belt Conveyor	1	21.0	85.9							21.0					21.0
0252011911	Belt Conveyor	1	3.6	17.39							3.6					3.6
0252011911	Belt Conveyor	1	3.1	14.81							3.1					3.1
0252011911	Belt Conveyor	1	4.2	17.1							4.2					4.2
0252014911	Belt Conveyor	1	28.8	138.5							28.8					28.8
0252014912	Belt Conveyor	1	34.1	156.45							34.1					34.1
0272012911	Belt Conveyor	1	5.6	26.07							5.6					5.6
0272012911	Belt Conveyor	1	7.6	33.56							7.6					7.6
0272012911	Belt Conveyor	1	9.9	47.24							9.9					9.9
0272012711	Belt Conveyor	1	8.3	35.5							8.3					8.3
0272013911	Belt Conveyor	1	17.7	78.96							17.7					17.7
											223.26					223.26

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3592 1

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION

PLANT, CAPACITY 500000 TONS/YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1989

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Cement Plant Machinery  
(Conveyors)

Total weight in tons / value in U.S.\$ (1980)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987 (tons)	1988	1989	1990	1991	Total 1981-1991
744261024021711	Chain Conveyor	1	2.95	119.4							2.95					295
1212021711	Chain Conveyor	1	4.15	17.62							4.15					415
1223012711	Steel plate conveyor	1	7.8	31.69							7.8					78
1233022711	Steel plate conveyor	1	7.8	31.69							7.8					78
1254024711	Steel plate conveyor	1	36.6	162.7							36.6					366
2132023711	Scraper steel conveyor	2	15.7	69.2							31.4					314
4311011911	Screw Conveyor	1	1.6	7.0							1.6					16
4311011911	Screw Conveyor	4	3.1	12.95							12.4					124
4321011911	Screw Conveyor	2	1.3	5.8							2.6					26
4322013941	Screw Conveyor	1	12.2	26.67							12.2					122
4331011911	Screw Conveyor	2	3.1	12.5							6.2					62
4341011911	Screw Conveyor	4	0.6	3.6							2.4					24
4341011911	Screw Conveyor	4	0.6	3.6							2.4					24
											130.5					1305

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION

PLANT CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE=12

Cement Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S.\$ (1000) /

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
74265121014911	Bucket elevator	1	41.2	185.76							21.2					41.2
5132013911	Bucket elevator	2	18.5	73.34							37.0					37.0
5132013911	Bucket elevator	2	15.2	60.3							30.4					30.4
5132013911	Bucket elevator	2	16.3	71.0							32.6					32.6
5142023911	Bucket elevator	2	21.5	92.2							43.0					43.0
5232023911	Bucket elevating conveyor	1	10.1	43.5							10.1					10.1
5232024911	Bucket elevating conveyor	1	37.7	147.4							37.7					37.7
8113011912	Weigh feeder	1	0.96	30.2						0.96						0.96
8113011912	Weigh feeder	2	1.5	13.8						3.0						3.0
8122011912	Weigh feeder	1	0.79	24.92						0.79						0.79
8123011912	Weigh feeder	1	1.24	39.0						1.24						1.24
8123011912	Weigh feeder	2	2.0	18.5						4.0						4.0
8133011912	Weigh feeder	2	2.5	23.1						5.0						5.0
8133011912	Weigh feeder	1	1.15	35.9						1.15						1.15
8133011912	Weigh feeder	1	2.74	71.5						2.74						2.74
744280460023712	Reclaiming Scraper	2	15.7	154.32						31.4						31.4
										50.28	232.0					282.28

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EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING : 1989

Cement Plant Machinery

PAGE = 13

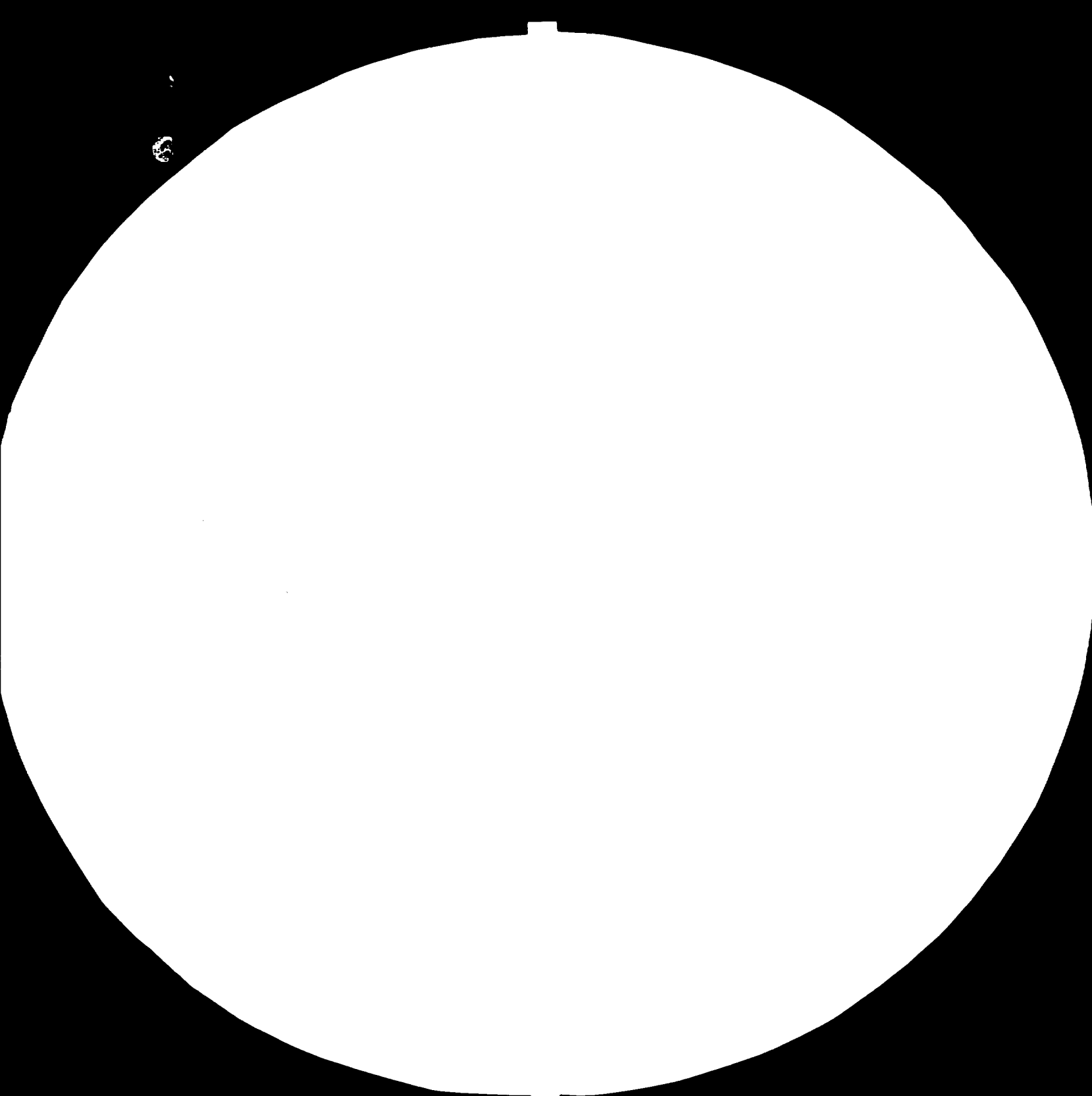
(Gear Boxes and Packing Machines)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty read (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
					(tons)	(tons)	(tons)									
749310314131712	Reduction Gear box	1	2.5	11.8						2.5						2.5
749310315131712	Reduction Gear box	2	2.3	23.4						4.6						4.6
749310334134742	Reduction Gear box	1	29.6	175.0						29.6						29.6
749310362133742	Reduction Gear box	2	19.7	146.7						39.4						39.4
749310384135752	Reduction Gear box	2	77.8	396.4						155.6						155.6
74522	2 Packing Machine	2	7.3	94.9						14.6						14.6
	TOTAL									246.3						246.3
	GRAND TOTAL									445.78	9544.04	149.0				4138.83

84.08.17

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MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS  
STANDARD REFERENCE MATERIAL 1010a  
(ANSI and ISO TEST CHART No. 2)

UNIDO/ SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANEAN REGION PLANT CAPACITY 600 000 TONS / YEAR  
PLANT

LOCATION :

ANTICIPATED DATE OF COMMISSIONING : 1989

PAGE = 1

Cement Plant Machinery

(Bunkers & tanks)

Total weight in tons / value in U.S.\$ (1980)

SITC Code	Basic Machine Name	Qty req'd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
692110211111111	Bunker	1	1.2	3.2							1.2					1.2
0211311111	Feed hopper	2	3.0	7.9							6.0					6.0
0211321111	Bunker	1	2.0	5.26							2.0					2.0
0211321111	Bunker	2	1.53	4.3							3.26					3.26
0711321111	Daily tank	1	1.5	2.63							1.5					1.5
0711321111	Daily tank, Fuel-oil	1	1.1	1.97							1.1					1.1
0711321111	Daily tank, Diesel-Fuel	1	0.8	1.32							0.8					0.8
0744324111	Main tanks	3	36.0	59.20							108.0					108.0
1011321111	Daily tank	1	1.5	2.63							1.5					1.5
692430411321411	Air receiver	2	0.5	1.97							1.0					1.0
0411321411	Air Tank	2	0.1	0.4							0.2					0.2
711112011143311	Boiler with burner	2	10.2	84.25							20.4					20.4
											146.96					146.96

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UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANEAN REGION

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE : 3

Cement Plant Machinery  
(Screens & mills)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
728310245021912	Oscillating Screen	2	133.	7.5												2.68
6040024931	Seperator	1	29.0	29.0												29.0
6040024951	Seperator	2	27.1	105.4												94.4
728320444715631	Crusher (mill)	1	84.1	398.8												84.1
1111718771	Cement ball mill	2	326.35	997.3												652.7
1121718771	Ball mill	1	419.3	1600.3												419.3
1227111711	Crusher	1	4.36	21.8							36					4.36
										2.66	243.66					124632

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 1692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANEAN REGION PLANT CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT

ANTICIPATED DATE OF COMMISSIONING: 1989

Cement Plant Machinery  
(Burners, Gas Generator & Pumps)

PAGE = 4

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
741210015021011	Burner	1	0.4	5.26							0.4					0.4
0015021011	Burner	1	0.4	5.26							0.4					0.4
0025021912	Burner for Rotary kiln	1	3.1	65.75							3.1					3.1
741322414202311	Hot Gas Generator	1	7.0	3.3							7.0					7.0
2414202311	Hot Gas Generator	1	7.0	3.3							7.0					7.0
741610111111111	Heat exchanger	5	0.2	2.9							1.0					1.0
741631476479131	Rotary Kiln	1	659.2	2300.0							659.2					659.2
741649073016421	Cooler for clinker	1	148.4	163.2							148.4					148.4
741650951276111	Cyclone preheater	1	140.0	480.3							140.0					140.0
742209121211611	Water Pump	2	0.06	0.46							0.12					0.12
0132111712	Water Pump	4	0.32	2.1							1.28					1.28
742301022611611	Fuel-oil pump	2	0.11	1.05							0.22					0.22
1022611611	Fuel-oil pump	2	0.11	1.05							0.22					0.22
1022611611	Fuel-oil pump	2	0.11	1.05							0.22					0.22
1033611611	Fuel-oil pump	2	0.14	2.45							0.28					0.28
1033611611	Fuel-oil pump	3	0.23	3.64							0.69					0.69
											969.53					969.53



UNDO/SPD (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANEAN REGION

PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT

ANTICIPATED DATE OF COMMISSIONING : 1989

Cement Plant Machinery  
(Compressors)

PAGE : 5

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
743130031121712	Compressor	2	0.42	1.84						0.84						0.84
0111121712	Compressor	4	1.0	6.8						2.0						2.0
0123121712	Compressor	2	1.2	5.0						2.4						2.4
0132121512	Compressor	2	1.5	71.82						0.0						0.0
0232122722	Compressor	2	7.95	64.7						0.0						0.0
2121111712	Compressor	2	0.7	8.3						0.0						0.0
2131111712	Compressor	2	5.33	32.85						10.66						10.66
2131111712	Compressor	3	4.28	56.6						12.84						12.84
2141111712	Compressor	2	2.6	36.6						5.2						5.2
2221111712	Compressor	4	0.3	13.7						1.2						1.2
2321111712	Compressor	1	0.26	3.9						0.26						0.26
										71.6						71.6

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE. 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT

ANTICIPATED DATE OF COMMISSIONING: 1989

Cement Plant Machinery  
(Ventilators)

Total weight in tons / value in U.S.\$ (1000)

PAGE=6

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total
																1981-1991
74342002111911	Ventilator	4	0.20	3.87							0.8					0.8
02111911	Ventilator	2	0.32	2.2							0.64					0.64
021131911	Ventilator	2	0.52	6.49							1.06					1.06
03111911	Ventilator	4	0.12	2.2							0.48					0.48
03111911	Ventilator	2	0.12	2.06							0.24					0.24
051131911	Ventilator	2	1.05	15.6							2.1					2.1
051131911	Ventilator	1	0.52	13.5							0.52					0.52
051131911	Ventilator	6	1.1	10.5							6.6					6.6
051131911	Ventilator	5	2.2	24.3							11.0					11.0
051131912	Primary Ventilator	1	1.55	25.8						1.55						1.55
081131922	Ventilator	2	19.4	133.45						38.8						38.8
081132931	Ventilator	1	6.2	89.5							6.2					6.2
081133942	Ventilator	1	26.6	175.1						26.6						26.6
051133921	Ventilator	2	14.8	47.4							29.6					29.6
										66.95	59.22					126.17



UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANEAN REGION

PLANT, CEMENT 600 000 TONS /YEAR  
PLANT

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE : 8

Cement Plant Machinery

( Dump Trucks )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
														(tons)		
744112027003921	Dump Trucks	3	10.0	52.6								30.0				30.0
2045003632	Dump Trucks	5	23.0	204.62								119.9				119.9
												149.9				149.9

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EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANEAN REGION  
LOCATION :  
ANTICIPATED DATE OF COMMISSIONING: 1989

PLANT, CAPACITY 600000 TONS/YEAR  
PLANT

Cement Plant Machinery  
(Belt Conveyors)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
744260232011911	Belt Conveyor	1	2.59	12.38							2.59					259
0232011911	Belt Conveyor	1	1.1	5.2							1.1					11
0232021911	Belt Conveyor	2	0.7	4.7							1.4					14
0232021911	Belt Conveyor	1	2.75	12.35							2.75					275
0232021911	Belt Conveyor	2	3.76	19.1							7.52					752
0232021912	Belt Conveyor	4	4.9	31.1							19.6					196
0242021911	Belt Conveyor	1	3.0	16.14							3.0					30
0242021911	Belt Conveyor	1	2.9	14.1							2.9					29
0242021911	Belt Conveyor	2	3.5	17.7							7.0					70
0242022911	Belt Conveyor	1	8.1	38.57							8.1					81
0242022911	Belt Conveyor	1	8.7	37.0							8.7					87
0242023911	Belt Conveyor	1	14.7	61.4							14.7					147
0242023911	Belt Conveyor	1	21.0	85.9							21.0					210
0252011911	Belt Conveyor	1	3.6	17.39							3.6					36
0252011911	Belt Conveyor	1	3.1	14.81							3.1					31
0252011911	Belt Conveyor	1	4.2	17.1							4.2					42
0252014911	Belt Conveyor	1	28.8	138.5							28.8					288
0252014912	Belt Conveyor	1	34.1	156.45							34.1					341
0272012911	Belt Conveyor	1	5.6	28.07							5.6					56
0272012911	Belt Conveyor	1	7.6	33.56							7.6					76
0272012911	Belt Conveyor	1	9.9	43.24							9.9					99
0272012711	Belt Conveyor	1	8.3	35.5							8.3					83
0272013911	Belt Conveyor	1	17.7	78.96							17.7					177
											223.26					22326



UNIDO/SPO (CEMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANEAN REGION

PLANT CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 12

Cement Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$. (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
										(tons)	(tons)					
744255121014911	Bucket elevator	1	41.2	185.78							41.2					41.2
5132013911	Bucket elevator	2	18.5	73.34							37.0					37.0
5132013911	Bucket elevator	2	15.2	60.3							30.4					30.4
5132013911	Bucket elevator	2	15.3	31.0							32.6					32.6
5142023911	Bucket elevator	2	21.5	92.2							43.0					43.0
5232023911	Bucket elevating conveyor	1	10.1	43.5							10.1					10.1
5232024911	Bucket elevating conveyor	1	37.7	147.4							37.7					37.7
8113011912	Weigh feeder	1	0.96	30.2						0.96						0.96
8113011912	Weigh feeder	2	1.5	13.8						3.0						3.0
8122011912	Weigh feeder	1	0.79	24.92						0.79						0.79
8123011912	Weigh feeder	1	1.24	19.0						1.24						1.24
8123011912	Weigh feeder	2	2.0	18.5						4.0						4.0
8133511912	Weigh feeder	2	2.5	23.1						5.0						5.0
8133011912	Weigh feeder	1	1.15	35.1						1.15						1.15
8133011912	Weigh feeder	1	2.74	71.5						2.74						2.74
744280460023712	Reclaiming Scraper	2	15.7	156.12						31.4						31.4
										50.28	232.0					282.28





UNIDO/ SPO (CIMENTO)  
 CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3632 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT CAPACITY 600 000 TONS / YEAR  
 PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE = 1

Cement Plant Machinery

(Bunkers & tanks )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
															(tons)	
692110211111111	Bunker	1	1.2	3.2								1.2				1.2
0211311111	Feed hopper	2	3.0	7.9								6.0				6.0
0211321111	Bunker	1	2.0	5.26								2.0				2.0
0211321111	Bunker	2	1.63	4.3								3.26				3.26
0711321111	Daily tank	1	1.5	2.63								1.5				1.5
0711321111	Daily tank, Fuel-oil	1	1.1	1.97								1.1				1.1
0711321111	Daily tank, Diesel-Fuel	1	0.8	1.32								0.8				0.8
0744324111	Main tanks	3	36.0	59.20								108.0				108.0
1011321111	Daily tank	1	1.5	2.63								1.5				1.5
69243041132141	Air receiver	2	0.5	1.97								1.0				1.0
0411321411	Air Tank	2	0.1	0.4								0.2				0.2
711112011143311	Boiler with burner	2	10.2	84.25								20.4				20.4
												148.06				148.06



UNIDO/SPO (CIMENTO)  
 CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOlia REGION PLANT , CAPACITY 600000 TONS/YEAR  
 LOCATION : PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE # 3

Cement Plant Machinery  
 ( Screens & mills )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	2001	Total 1981-1991
										(tons)	(tons)					
72031 02450 219 12	Oscillating Screen	2	1.33	7.5							2.66					2.66
6040 024931	Seperator	1	29.0	29.0										29.0		29.0
6040024931	Seperator	2	27.1	105.4										54.2		54.2
72032 0444715 631	Crusher (mill)	1	84.1	398.0										84.1		84.1
111171 0771	Cement ball mill	2	326.35	997.3										652.7		652.7
112171 0771	Ball mill	1	419.3	1600.3										419.3		419.3
12271117 11	Crusher	1	4.36	21.8										4.36		4.36
											2.66			1243.66		1246.32

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANADOLIA REGION

PLANT CAPACITY 600 000 TONS/YEAR

LOCATION :

(PLANT I)

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Burners, Gas Generator & Pumps)

PAGE 4

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
															(tons)	
741210015021011	Burner	1	0.4	5.28								0.4				0.4
0015021011	Burner	1	0.4	5.28								0.4				0.4
0025021912	Burner for Rotary kiln	1	3.1	85.75								3.1				3.1
741322414202311	Hot Gas Generator	1	7.0	3.3								7.0				7.0
2414202311	Hot Gas Generator	1	7.0	3.3								7.0				7.0
741610111111111	Heat exchanger	5	0.2	2.9								1.0				1.0
741631496479131	Rotary Kiln	1	659.2	2300.9								659.2				659.2
741649073016421	Cooler for clinker	1	148.4	163.2								148.4				148.4
741650951276111	Cyclone preheater	1	140.0	480.2								140.0				140.0
742200121211611	Water Pump	2	0.08	0.46								0.15				0.15
0132111712	Water Pump	4	0.32	2.								1.28				1.28
742301022511611	Fuel-oil pump	2	0.11	1.55								0.22				0.22
1022611611	Fuel-oil pump	2	0.11	1.05								0.22				0.22
1022611611	Fuel-oil pump	2	0.11	1.05								0.22				0.22
1033611611	Fuel-oil pump	2	0.14	2.45								0.28				0.28
1033611611	Fuel-oil pump	3	0.23	3.64								0.69				0.69
												969.92				969.92



EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION : PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

Cement Plant Machinery  
(Ventilators)

Total weight in tons / value in U.S. \$ (1000)

PAGE: 6

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1988 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
											(tons)	(Yens)				
743420021111911	Ventilator	4	0.28	3.82								0.8				0.8
0021111911	Ventilator	2	0.37	2.2								0.64				0.64
0021131911	Ventilator	2	0.52	6.23								7.84				7.84
0031111911	Ventilator	4	0.12	2.2								0.68				0.68
0031111911	Ventilator	2	0.12	2.06								0.24				0.24
0051131911	Ventilator	2	1.05	15.6								2.1				2.1
0051131911	Ventilator	1	0.52	13.5								0.52				0.52
0051131911	Ventilator	6	1.1	10.5								6.6				6.6
0051131911	Ventilator	5	2.2	24.3								11.0				11.0
0051131912	Primary Ventilator	1	1.55	25.8							1.55					1.55
0081131922	Ventilator	2	19.6	191.45							39.2					39.2
0081132931	Ventilator	1	6.2	89.5								6.2				6.2
0081133942	Ventilator	1	26.6	175.1							26.6					26.6
0051133921	Ventilator	2	14.8	47.4								29.6				29.6
											66.05	59.27				125.32





UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CEMENT 600 000 TONS/YEAR  
LOCATION : PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Dump Trucks )

PAGE: 8

Total weight in tons / value in U.S.\$ (1990)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1990 U.S.\$ (1000)	1991	1992	1993	1994	1995	1996	1997	1998	1999	1990	1991	Total 1991-1991	
															(tons)		
744112027003921	Dump Trucks	3	10.0	52.6												30.0	30.0
2045003632	Dump Trucks	5	23.8	204.62												119.0	119.0
																148.0	148.0

UNIDO/SPO (ÇIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3697 T

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EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery

PAGE: 9

(Air Lift, Air - Slides & Fuller pump)

Total weight in tons ~~Value in U.S.\$ (1000)~~

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
											(tons)	(tons)				
744230150041111	Flux pump (Pneumatic conve.)	2	4.0	39.5								8.0				8.0
0250031112	Air Lift (Pneumatic conve.)	1	1.6	5.27								1.6				1.6
744232150021111	Air - Slide (Conveyor)	2	0.65	2.6								1.3				1.3
2150021111	Air - Slide (Conveyor)	2	0.27	1.2								0.54				0.54
2150021111	Air - Slide (Conveyor)	4	0.11	0.35								0.44				0.44
2150021111	Air - Slide (Conveyor)	3	0.07	0.24								0.21				0.21
2150021111	Air - Slide (Conveyor)	2	1.4	5.52								2.8				2.8
2150021111	Air - Slide (Conveyor)	2	0.03	0.12								0.06				0.06
2150021111	Air - Slide (Conveyor)	1	0.6	2.0								0.6				0.6
2150921111	Air - Slide (Conveyor)	2	1.2	5.1								2.4				2.4
2150021111	Air - Slide (Conveyor)	1	0.27	0.97								0.27				0.27
2150021111	Air - Slide (Conveyor)	1	0.03	0.27								0.03				0.03
2250021411	Over flow Sluice (Conveyor)	2	0.2	0.8								0.4				0.4
744232350031712	Fuller pump	2	4.0	48.9							8.0					8.0
											0.0	19.45				19.45

UNIDO / SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE : 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION

PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING : 1990

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Cement Plant Machinery  
(Belt Conveyers)

Total weight in tons / value in U.S.\$ (1990)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
														(tons)		
744260232011911	Belt Conveyer	1	2.59	12.36								2.59				2.59
0232011911	Belt Conveyer	1	1.1	5.2								1.1				1.1
0232021911	Belt Conveyer	2	0.7	4.7								1.4				1.4
0232021911	Belt Conveyer	1	2.75	12.35								2.75				2.75
0232021911	Belt Conveyer	2	3.76	19.1								7.52				7.52
0232021912	Belt Conveyer	4	4.9	31.1								19.6				19.6
0242021911	Belt Conveyer	1	3.0	16.14								3.0				3.0
0242021911	Belt Conveyer	1	2.9	14.1								2.9				2.9
0242021911	Belt Conveyer	2	3.5	17.7								7.0				7.0
0242022911	Belt Conveyer	1	8.1	38.57								8.1				8.1
0242022911	Belt Conveyer	1	8.7	37.0								8.7				8.7
0242023911	Belt Conveyer	1	14.7	61.4								14.7				14.7
0242023911	Belt Conveyer	1	21.0	85.9								21.0				21.0
0252011911	Belt Conveyer	1	3.6	17.39								3.6				3.6
0252011911	Belt Conveyer	1	3.1	14.81								3.1				3.1
0252011911	Belt Conveyer	1	4.2	17.1								4.2				4.2
0252014911	Belt Conveyer	1	28.8	138.5								28.8				28.8
0252014912	Belt Conveyer	1	34.1	156.45								34.1				34.1
0272012911	Belt Conveyer	1	5.6	26.07								5.6				5.6
0272012911	Belt Conveyer	1	7.6	33.56								7.6				7.6
0272012911	Belt Conveyer	1	9.9	47.24								9.9				9.9
0272012711	Belt Conveyer	1	8.3	35.5								8.3				8.3
0272013911	Belt Conveyer	1	17.7	78.96								17.7				17.7
												223.26				223.26



UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION

PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 12

Cement Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
											(tons)	(tons)				
744285121014311	Bucket elevator	1	41.2	165.75								41.2				41.2
5132013911	Bucket elevator	2	18.5	73.34								37.0				37.0
5132013911	Bucket elevator	2	15.2	60.3								30.4				30.4
5132013911	Bucket elevator	2	15.3	71.0								32.6				32.6
5142023911	Bucket elevator	2	21.5	92.2								43.0				43.0
5232023911	Bucket elevating conveyor	1	10.1	43.5								10.1				10.1
5232024911	Bucket elevating conveyor	1	33.7	147.4								33.7				33.7
8113011912	Weigh feeder	1	0.96	30.2							0.96					0.96
8113011912	Weigh feeder	2	1.5	17.8							3.0					3.0
8122011912	Weigh feeder	1	0.79	24.92							0.79					0.79
8123011912	Weigh feeder	1	1.24	39.0							1.24					1.24
8123011912	Weigh feeder	2	2.0	18.5							4.0					4.0
8133011912	Weigh feeder	2	2.5	23.1							5.0					5.0
8133011912	Weigh feeder	1	1.15	35.9							1.15					1.15
8133011912	Weigh feeder	1	2.74	71.5							2.74					2.74
744280460023712	Reclaiming Scraper	2	15.7	154.32							31.4					31.4
											90.28	232.0				282.28

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CENTRAL ANATCLIA REGION

EQUIPMENT REQUIREMENTS FOR THE NEW

PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING : 1990

Cement Plant Machinery

(Gear Boxes and Packing Machines)

Total weight in tons / value in U.S. \$ (1989)

SITC Code	Basic Machine Name	Qty read (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total
					(tons)	(tons)	(tons)	(tons)							1981-1991	
49310314131712	Reduction Gear box	1	2.5	11.8							2.5					2.5
49310315131712	Reduction Gear box	2	2.3	23.4							4.6					4.6
49310334134742	Reduction Gear box	1	29.6	175.0							29.6					29.6
49310362133742	Reduction gear box	2	19.7	146.7							39.4					39.4
49310384135752	Reduction gear box	2	77.8	396.4							155.6					155.6
74522	Packing Machine	2	7.3	94.9							14.6					14.6
	TOTAL										46.3					46.3
	GRAND TOTAL										445.79	3524.04	149.8			4138.83

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT CAPACITY 600 000 TONS / YEAR  
LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Bunkers & tanks)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
					(tons)											
692110211111111	Bunker	1	1.2	3.2								1.2				1.2
0211311111	Feed hopper	2	3.0	7.9								6.8				6.8
0211321111	Bunker	1	2.0	5.26								2.0				2.0
0211321111	Bunker	2	1.63	4.3								3.26				3.26
0711321111	Daily tank	1	1.5	2.63								1.5				1.5
0711321111	Daily tank, Fuel-oil	1	1.1	1.97								1.1				1.1
0711321111	Daily tank, Diesel-Fuel	1	0.8	1.32								0.8				0.8
0744324111	Main tanks	3	36.0	59.20								108.0				108.0
1011321111	Daily tank	1	1.5	2.63								1.5				1.5
692430411321411	Air receiver	2	0.5	1.97								1.94				1.94
0411321411	Air Tank	2	0.1	0.4								0.2				0.2
711112011143311	Boiler with burner	2	10.2	84.25								20.4				20.4
												148.04				148.04

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION : PLANT I  
ANTICIPATED DATE OF COMMISSIONING : 1990

Cement Plant Machinery  
(Loaders, excavators)

PAGE = 2

Total weight in tons / value in U.S.S. (1000).

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988 (tons)	1989	1990	1991	Total 1981-1991
723420031223622	Loader	1	12.8	987								12.8				12.8
0041414632	Loader	1	30.0	225.3								30.0				30.0
1032615632	Excavator	2	62.0	255.93								124.0				124.0
723430149021312	Rock Drill	2	4.4	67.6								8.8				8.8
2011101611	Air gun	3	0.02	1.5								0.06				0.06
												175.66				175.66





EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANADOLIA REGION PLANT CAPACITY 500 000 TONS/YEAR  
LOCATION : PLANT I  
ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Burners, Gas Generator & Pumps)

PAGE = 4

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine No.	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
															(tons)	
741210015021011	Burner	1	0.4	5.26								0.4				0.4
0015021011	Burner	1	0.4	5.26								0.4				0.4
0025021912	Burner for Rotary kiln	1	3.1	65.75								3.1				3.1
741322414202311	Hot Gas Generator	1	7.0	3.3								7.0				7.0
2414202311	Hot Gas Generator	1	7.0	3.3								7.0				7.0
741610111111111	Heat exchanger	5	0.2	2.9								1.0				1.0
741631476479131	Rotary Kiln	1	659.2	2300.3								659.2				659.2
741649073016421	Cooler for clinker	1	148.4	163.2								148.4				148.4
741650951276111	Cyclone preheater	1	140.0	480.3								140.0				140.0
742209121211611	Water Pump	2	0.06	0.46								0.12				0.12
0132111712	Water Pump	4	0.32	2.6								1.28				1.28
742301022611611	Fuel - oil pump	2	0.11	1.05								0.22				0.22
1022611611	Fuel - oil pump	2	0.11	1.05								0.22				0.22
1022611611	Fuel - oil pump	2	0.11	1.05								0.22				0.22
1033611611	Fuel - oil pump	2	0.14	2.45								0.28				0.28
1033611611	Fuel - oil pump	3	0.23	3.64								0.69				0.69
												969.63				969.63

UNDO/ SPO (CIMENTO)  
 CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE : 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/ YEAR  
 LOCATION : PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
 (Compressors)

PAGE = 5

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987 (tons)	1988	1989	1990	1991	Total 1981-1991
743130031121712	Compressor	2	0.42	1.84							0.84					0.84
0111121712	Compressor	2	1.0	6.8							2.0					2.0
0123121712	Compressor	2	1.2	3.0							2.4					2.4
0132121612	Compressor	2	1.5	71.82							3.0					3.0
0232123722	Compressor	4	7.95	44.2							31.8					31.8
2121111712	Compressor	2	0.7	8.9							1.4					1.4
2131111712	Compressor	2	5.33	32.05							10.66					10.66
2131111712	Compressor	3	4.28	66.8							12.84					12.84
2141111712	Compressor	2	2.6	36.6							5.2					5.2
2221111712	Compressor	4	0.3	13.7							1.2					1.2
2321111712	Compressor	1	0.26	3.9							0.26					0.26
											7.5					7.5

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT X

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Ventilators)

Total weight in tons / value in U.S. \$ (1000)

PAGE:6

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$. (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
													(tons)	(tons)		
743420021111911	Ventilator	4	0.20	3.82								0.8				0.8
0021111911	Ventilator	2	0.32	2.2								0.64				0.64
0021131911	Ventilator	2	0.52	6.49								1.04				1.04
0031111911	Ventilator	4	0.12	2.2								0.48				0.48
0031111911	Ventilator	2	0.12	2.06								0.24				0.24
0051131911	Ventilator	2	1.05	15.6								2.1				2.1
0051131911	Ventilator	1	0.52	13.5								0.52				0.52
0051131911	Ventilator	6	1.1	10.5								6.6				6.6
0051131911	Ventilator	5	2.2	24.3								11.0				11.0
0051131912	Primary Ventilator	1	1.55	25.8							1.55					1.55
0081131922	Ventilator	2	19.4	133.45							38.8					38.8
0081132931	Ventilator	1	6.2	89.5								6.2				6.2
0081133942	Ventilator	1	26.6	175.1							26.6					26.6
0051133921	Ventilator	2	14.8	47.4								29.6				29.6
											64.05	59.22				123.27



UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE:3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CEMENT 600 000 TONS/YEAR  
LOCATION : PLANT II

ANTICIPATED DATE OF COMMISSIONING : 1990

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Cement Plant Machinery

( Dump Trucks )

Total weight in tons / value in U.S.\$ (1980)

SIT Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991	
															(tons)		
7441	53921	Dump Trucks	3	10.0												30.0	300
	53632	Dump Trucks	5	23.0												115.0	1150
														149.0		1490	



UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION  
LOCATION :

PLANT, CAPACITY 60000 TONS/YEAR  
PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 10

Cement Plant Machinery  
(Belt Conveyors)

Total weight in tons / rates in U.S.\$ (1000+)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000+)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	HQS	Total 1981- 1990
74425023301131	Belt Conveyor	1	1.30	12.35												12.35
0232021911	Belt Conveyor	1	1.1	5.2												5.2
0232021911	Belt Conveyor	2	2.7	7.7												15.4
0232021911	Belt Conveyor	1	2.75	12.35												12.35
0232021911	Belt Conveyor	2	5.35	19.1												38.2
0232021312	Belt Conveyor	4	4.0	31.1												124.4
0242021911	Belt Conveyor	1	3.0	16.15												16.15
0242021911	Belt Conveyor	1	2.9	14.1												14.1
0242021911	Belt Conveyor	2	3.5	12.7												25.4
0242022911	Belt Conveyor	1	8.1	39.57												39.57
0242022911	Belt Conveyor	1	9.7	37.0										9.7		37.0
0242023911	Belt Conveyor	1	14.7	61.4									14.7			61.4
0242023911	Belt Conveyor	1	21.0	85.9									21.0			85.9
0252011911	Belt Conveyor	1	3.6	17.39										3.6		17.39
0252011911	Belt Conveyor	1	3.1	14.81										3.1		14.81
0252011911	Belt Conveyor	1	4.2	17.1										4.2		17.1
0252014911	Belt Conveyor	1	28.8	138.5										28.8		138.5
0252014912	Belt Conveyor	1	34.1	156.45										34.1		156.45
0272012911	Belt Conveyor	1	5.6	26.07										5.6		26.07
0272012911	Belt Conveyor	1	7.6	33.56										7.6		33.56
0272012911	Belt Conveyor	1	9.9	43.24										9.9		43.24
0272012711	Belt Conveyor	1	3.3	35.5										3.3		35.5
0272013911	Belt Conveyor	1	17.7	78.96										17.7		78.96
														223.26		223.26





UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION  
LOCATION :

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 12

Cement Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S.\$ (1980)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
														(tons)	(tons)	
744255121014911	Bucket elevator	1	41.2	185.76								41.2				41.2
5132013911	Bucket elevator	2	18.5	73.34								37.0				37.0
5132013911	Bucket elevator	2	15.2	60.3								30.4				30.4
5132013911	Bucket elevator	2	16.3	71.0								32.6				32.6
5142023911	Bucket elevator	2	21.5	92.2								43.0				43.0
5232023911	Bucket elevating conveyor	1	10.1	43.5								10.1				10.1
5232024911	Bucket elevating conveyor	1	33.7	147.4								33.7				33.7
8113011912	Weigh feeder	1	0.96	30.2								0.96				0.96
8113011912	Weigh feeder	2	1.5	13.8								3.0				3.0
8122011912	Weigh feeder	1	0.79	24.92								0.79				0.79
8123011912	Weigh feeder	1	1.24	39.0								1.24				1.24
8133011912	Weigh feeder	2	2.0	18.5								4.0				4.0
8133011912	Weigh feeder	2	2.5	23.1								5.0				5.0
8133011912	Weigh feeder	1	1.15	35.9								1.15				1.15
8133011912	Weigh feeder	1	2.74	77.5								2.74				2.74
744280460029712	Reclaiming Scraper	2	15.7	154.32								31.4				31.4
												30.76	232.7			263.46

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

CENTRAL ANATOLIA REGION  
EQUIPMENT REQUIREMENTS FOR THE NEW PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION :  
ANTICIPATED DATE OF COMMISSIONING : 1990  
PLANT II

Cement Plant Machinery

PAGE = 13

(Gear Boxes and Packing Machines)

Total weight in tons / value in US\$ (1000)

SITC Code	Basic Machine Name	Qty read (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
					(tons)	(tons)	(tons)									
749310314131712	Reduction Gear box	1	2.5	11.8							2.5					2.5
749310315131712	Reduction gear box	2	2.3	23.4							4.6					4.6
749310334134742	Reduction Gear box	1	29.6	175.0							29.6					29.6
749310362133740	Reduction gear box	2	19.7	146.7							39.4					39.4
749310384135752	Reduction gear box	2	77.9	396.4							155.6					155.6
74522	Packing Machine	2	7.3	94.3							14.6					14.6
TOTAL											246.3					246.3
GRAND TOTAL											445.79	956.04	149.0			4138.83

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COMMODITY CODE: 3532 1

UNIDO/ SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT CAPACITY 600,000 TONS / YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING 1990

PAGE : 1

Cement Plant Machinery  
(Bunkers & tanks) Total weight in tons / value in U.S. \$ / 1000 →

SIC Code	Basic Machine Name	Qty req'd (Nos.)	Unit Weight (tons)	Unit Cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
5921102111111	Bunker	1	1.2	4.2								1.2				1.2
0213111111	Fuel hopper	2	3.0	7.9								6.0				6.0
0213211111	Bunker	1	2.0	5.25								2.0				2.0
0213311111	Bunker	2	1.63	4.3								3.26				3.26
0713211111	Daily tank	1	1.5	2.57								1.5				1.5
0713211111	Daily tank Fuel - oil	1	1.1	1.9								1.1				1.1
0713211111	Daily tank Diesel - Fuel	1	0.6	1.33								0.6				0.6
0744241111	Main tanks	3	36.0	59.23								108.0				108.0
1013311111	Daily tank	1	1.5	2.57								1.5				1.5
6924304110211	Air receiver	2	0.5	1.97								1.0				1.0
0413214111	Air tank	2	0.1	0.4								0.2				0.2
711112011143311	Boiler with burner	2	10.2	94.5								20.4				20.4
												145.86				145.86



UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW ASEAN REGION

PLANT , CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I:

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE = 3

Cement Plant Machinery  
(Screens & mills)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
											(tons)	(tons)				
720310245021912	Oscillating Screen	2	1.33	7.5							2.56					2.56
6040024931	Seperator	1	29.0	92.65								29.0				29.0
6040024951	Seperator	2	27.1	105.4								54.2				54.2
720320444715631	Crusher (mill)	1	84.1	398.8								84.1				84.1
1111710771	Cement ball mill	2	326.35	997.3								652.7				652.7
1121710771	Ball mill	1	419.3	1500.3								419.3				419.3
1227111711	Crusher	1	4.36	21.8								4.36				4.36
											2.66	1243.66				1246.32

UNION REPUBLIC OF TURKEY  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3492 1

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Burners, Gas Generator & Pumps)

PAGE 4

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
															(tons)	
741210015021011	Burner	1	0.4	5.26									0.4			0.4
0015021011	Burner	1	0.4	5.26									0.4			0.4
0025021912	Burner for Rotary kiln	1	3.1	65.75									3.1			3.1
741322414202311	Hot Gas Generator	1	7.0	3.3									7.0			7.0
2414202311	Hot Gas Generator	1	7.0	3.3									7.0			7.0
741610111111111	Heat exchanger	5	0.2	2.5									1.0			1.0
741631476479131	Rotary Kiln	1	659.2	2300.0									659.2			659.2
741649073016421	Cooler for clinker		148.4	143.2									148.4			148.4
741650451226111	Cyclone preheater		140.3	480.3									140.3			140.3
742299121211511	Water Pump		0.08	0.46									0.16			0.16
0132111712	Water Pump		0.32	2									1.28			1.28
742301022111511	Fuel-oil pump		0.11	0.5									0.22			0.22
10226111511	Fuel-oil pump		0.11	0.5									0.22			0.22
1022111511	Fuel-oil pump		0.11	0.5									0.22			0.22
10336111511	Fuel-oil pump		0.14	0.45									0.28			0.28
10336111611	Fuel-oil pump		0.23	3.64									0.46			0.46
													989.33			989.33

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT 1

ANTICIPATED DATE OF COMMISSIONING : 1990

Cement Plant Machinery  
(Compressors)

PAGE: 5

Total weight in tons / value in U.S.\$ (1980)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
743130031121712	Compressor	2	0.42	1.84							0.84					0.84
0111121712	Compressor	2	1.0	6.0							2.0					2.0
0123121712	Compressor	2	1.2	3.0							2.4					2.4
0132121612	Compressor	2	1.5	71.02							3.0					3.0
0232122722	Compressor	4	7.95	44.2							31.8					31.8
2121111712	Compressor	2	0.7	0.9							1.4					1.4
2131111712	Compressor	2	5.33	32.05							10.66					10.66
2131111712	Compressor	3	4.20	66.0							12.6					12.6
2141111712	Compressor	2	2.6	36.6							5.2					5.2
2221111712	Compressor	4	0.5	13.7							1.2					1.2
2321111712	Compressor	1	0.26	3.9							0.26					0.26
											71.8					71.8







EQUIPMENT REQUIREMENTS FOR THE NEW ASEEAN REGION

PLANT, CEMENT 600 000 TONS/YEAR  
 PLANT 2

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

Consist Plant Machinery

( Dump Trucks )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
744112027003928	Dump Trucks	3	10.0	52.6									30.0			30.0
7045003632	Dump Trucks	5	22.8	204.62									110.0			110.0
													140.0			140.0

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UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 2692 1

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT, CAPACITY 600 000 TONS / YEAR  
PLANT 1

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant - Machinery

PAGE: 9

(Air Lift, Air - Slides & Fuller pump)

Total weight in tons ~~total in U.S.S. (1000)~~

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.S. (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
											(tons)	(tons)				
744230150041111	Flux pump (Pneumatic conve.)	2	1.0	39.5									0.2			0.2
0250031112	Air Lift (Pneumatic conve.)	1	1.6	5.27									1.6			1.6
744232150021111	Air - Slide (Conveyor)	2	0.55	2.6									1.2			1.2
2150021111	Air - Slide (Conveyor)	2	0.27	1.2									0.54			0.54
2150021111	Air - Slide (Conveyor)	4	0.11	0.35									0.44			0.44
2150021111	Air - Slide (Conveyor)	3	0.07	0.24									0.21			0.21
2150021111	Air - Slide (Conveyor)	2	1.6	5.52									2.8			2.8
2150021111	Air - Slide (Conveyor)	2	0.03	0.12									0.06			0.06
2150021111	Air - Slide (Conveyor)	1	0.6	2.0									0.6			0.6
2150221111	Air - Slide (Conveyor)	2	1.2	5.1									2.4			2.4
2150021111	Air - Slide (Conveyor)		0.27	0.97									0.27			0.27
2150021111	Air - Slide (Conveyor)		0.93	2.71									0.93			0.93
2250021411	Over flow Sluice (Conveyor)		0.2	0.8									0.4			0.4
744232350031712	Fuller pump	2	4.0	48.9								8.0				8.0
												8.0	19.65			27.65

UN/DO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3697 1

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EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT, CAPACITY 600000 TONS/YEAR  
PLANT 1

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

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Cement Plant Machinery

(Belt Conveyors)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
														(tons)		
744260232011911	Belt Conveyor	1	2.59	12.36								2.59				25.9
0232011911	Belt Conveyor	1	1.1	5.2								1.1				11
0232021911	Belt Conveyor	2	0.7	4.7								1.4				14
0232021911	Belt Conveyor	1	2.75	12.35								2.75				27.5
0232021911	Belt Conveyor	2	3.75	19.1								7.52				75.2
0232021912	Belt Conveyor	4	4.9	31.1								19.6				196
0242021911	Belt Conveyor	1	3.0	16.14								3.0				30
0242021911	Belt Conveyor	1	2.9	14.1								2.9				29
0242021911	Belt Conveyor	2	3.5	17.7								7.0				70
0242022911	Belt Conveyor	1	8.1	38.57								8.1				81
0242022911	Belt Conveyor	1	8.7	37.0								8.7				87
0242023911	Belt Conveyor	1	14.7	51.4								14.7				147
0242023911	Belt Conveyor	1	21.0	85.9								21.0				210
0252011911	Belt Conveyor	1	3.6	17.39								3.6				36
0252011911	Belt Conveyor	1	3.1	14.81								3.1				31
0252011911	Belt Conveyor	1	4.2	17.1								4.2				42
0252014911	Belt Conveyor	1	28.8	138.5								28.8				288
0252014912	Belt Conveyor	1	34.1	156.45								34.1				341
0272012911	Belt Conveyor	1	5.6	26.07								5.6				56
0272012911	Belt Conveyor	1	7.6	33.56								7.6				76
0272012911	Belt Conveyor	1	9.9	43.24								9.9				99
0272012911	Belt Conveyor	1	8.3	35.5								8.3				83
0272013911	Belt Conveyor	1	17.7	78.96								17.7				177
												223.26				2232.6









UNIDO/SP6 (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3002 1

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT CAPACITY 600 000 TONS / YEAR  
LOCATION : PLANT  
ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE = 1

Cement Plant Machinery  
(Bunkers & tanks)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
															(tons)	
692110211111111	Bunker	1	1.2	3.2								1.2				1.2
02113111111	Feed hopper	2	3.0	7.9								6.0				6.0
02113211111	Bunker	1	2.0	5.26								2.0				2.0
02113211111	Bunker	2	1.63	4.3								3.26				3.26
09113211111	Daily tank	1	1.5	2.63								1.5				1.5
07113211111	Daily tank, Fuel-oil	1	1.1	1.97								1.1				1.1
09113211111	Daily tank, Diesel-Fuel	1	0.8	1.32								0.8				0.8
07443241111	Main tanks	3	36.0	59.20								108.0				108.0
10113211111	Daily tank	1	1.5	2.63								1.5				1.5
892430411321411	Air receiver	2	0.5	1.97								1.0				1.0
04113214111	Air Tank	2	0.1	0.4								0.2				0.2
711112011143311	Boiler with burner	2	10.2	84.25								20.4				20.4
												148.00				148.00



UNIDO/BPO (CEMENT)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODES 3402 1

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EQUIPMENT REQUIREMENTS FOR THE NEW ARBEAN REGION

PLANT, CAPACITY 60000 TONS/YEAR  
PLANT

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE 2

Cement Plant Machinery  
(Screens & mills)

Total weight in tons / value in U.S.\$ 1000

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
											(tons)	(tons)				
720310245021912	Oscillating Screen	2	1.33	7.5							2.66					2.66
6040024131	Separator	1	29.0	92.85								29.0				29.0
6040024951	Separator	2	27.1	105.4								54.2				54.2
720320444715631	Crusher (mill)	1	84.1	398.8								84.1				84.1
1111710771	Cement ball mill	2	326.35	997.3								652.7				652.7
1121710771	Ball mill	1	419.3	1600.3								419.3				419.3
1227111711	Crusher	1	4.36	21.8								4.36				4.36
												2.66	1243.66			1246.32

UNIDO/SPO (CEMENT)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 T

-336-

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT CAPACITY 600000 TONS/YEAR

LOCATION :

PLANT

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Burners, Gas Generator & Pumps)

PAGE 4

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
														(tons)		
741210015021011	Burner	1	0.4	5.26								0.4				0.4
0015021011	Burner	1	0.4	5.26								0.4				0.4
0025021912	Burner for Rotary kiln	1	3.1	65.75								3.1				3.1
741322414202311	Hot Gas Generator	1	7.0	3.3								7.0				7.0
2414202311	Hot Gas Generator	1	7.0	3.3								7.0				7.0
741610111111111	Heat exchanger	5	0.2	2.9								1.0				1.0
741631476479131	Rotary Kiln	1	659.2	2300.6								659.2				659.2
741649073016421	Cooler for clinker	1	148.4	163.7								148.4				148.4
741650931276111	Cyclone preheater	1	148.0	460.3								148.0				148.0
742209121211611	Water Pump	2	0.06	0.46								0.12				0.12
0132111712	Water Pump	4	0.32	2.5								1.28				1.28
742201022611611	Fuel-oil pump	2	0.11	1.05								0.22				0.22
1022611611	Fuel-oil pump	2	0.11	1.05								0.22				0.22
1022611611	Fuel-oil pump	2	0.11	1.05								0.22				0.22
1033611611	Fuel-oil pump	2	0.14	2.45								0.28				0.28
1033611611	Fuel-oil pump	3	0.23	3.64								0.69				0.69
												900.92				900.92

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT, CAPACITY 500 000 TONS/YEAR

LOCATION :

PLANT

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Compressors)

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Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
743130031121712	Compressor	2	0.42	1.84							0.84					0.84
0111121712	Compressor	2	1.0	6.8							2.0					2.0
0123121712	Compressor	2	1.2	3.0							2.4					2.4
0132121612	Compressor	2	1.5	71.02							3.0					3.0
0232122722	Compressor	4	7.95	44.2							31.8					31.8
2121111712	Compressor	2	0.7	8.9							1.4					1.4
2131111712	Compressor	2	5.33	32.85							10.66					10.66
2131111712	Compressor	3	4.28	56.8							12.84					12.84
2141111712	Compressor	2	2.6	36.6							5.2					5.2
2221111712	Compressor	4	0.5	13.7							1.2					1.2
2321111712	Compressor	1	0.26	3.9							0.26					0.26
											71.8					71.8

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Ventilators)

Total weight in tons / value in U.S.\$ (1980)

PAGE:6

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987 (tons)	1988 (tons)	1989	1990	1991	Total 1981-1991
743420021111911	Ventilator	4	0.20	3.87								2.8				2.8
0021111911	Ventilator	2	0.32	2.2								0.64				0.64
0021131911	Ventilator	2	0.52	6.23								1.04				1.04
0031111911	Ventilator	4	0.12	2.2								0.48				0.48
0031111911	Ventilator	2	0.12	2.06								0.24				0.24
0051131911	Ventilator	2	1.05	15.6								2.1				2.1
0051131911	Ventilator	1	0.52	13.5								0.52				0.52
0051131911	Ventilator	6	1.1	10.5								6.6				6.6
0051131911	Ventilator	5	2.2	24.3								11.0				11.0
0051131912	Primary Ventilator	1	1.55	25.8							1.55					1.55
0081131922	Ventilator	2	19.4	133.65							38.8					38.8
0081132931	Ventilator	1	6.2	89.5								6.2				6.2
0081133942	Ventilator	1	26.6	175.1							26.6					26.6
0051133921	Ventilator	2	14.8	47.4								29.6				29.6
											66.85	59.27				126.17



UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE:3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT, CEMENT 600 000 TONS /YEAR  
PLANT

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE:8

Cement Plant Machinery

( Dump Trucks )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
													(tons)			
744112027003921	Dump Trucks	3	10.0	52.6									30.0			30.0
2045003632	Dump Trucks	5	23.0	204.52									119.0			119.0
													149.0			149.0



UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3682 1

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EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT, CAPACITY 600 000 TONS / YEAR  
PLANT

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery

PAGE: 9

(Air Lift, Air-Slides & Fuller pump)

Total weight in tons, total in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1980-1991
											(tons)	(tons)				
744230150041111	Flux pump (Pneumatic conve.)	2	4.0	39.5								8.0				30
0250031112	Air Lift (Pneumatic conve.)	1	1.6	5.27								1.6				1.6
744232150021111	Air - Slide (Conveyor)	2	0.65	2.6								1.3				1.3
2150021111	Air - Slide (Conveyor)	2	0.27	1.2								0.54				0.54
2150021111	Air - Slide (Conveyor)	4	0.11	0.35								0.44				0.44
2150021111	Air - Slide (Conveyor)	3	0.07	0.21								0.21				0.21
2150021111	Air - Slide (Conveyor)	2	1.4	5.52								2.8				2.8
2150021111	Air - Slide (Conveyor)	2	0.03	0.12								0.06				0.06
2150021111	Air - Slide (Conveyor)	1	0.6	2.0								0.6				0.6
2150021111	Air - Slide (Conveyor)	2	1.2	5.1								2.4				2.4
2150021111	Air - Slide (Conveyor)	1	0.27	0.87								0.27				0.27
2150021111	Air - Slide (Conveyor)	1	0.93	2.27								0.93				0.93
2250021411	Over flow Sluice (Conveyor)	2	0.2	0.8								0.4				0.4
744232350031712	Fuller pump	2	4.0	48.9								8.0				8.0
												8.0	19.45			27.45

UNIDO / SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE : 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION

PLANT , CAPACITY 600000 TONS/YEAR  
PLANT

LOCATION :

ANTICIPATED DATE OF COMMISSIONING : 1990

PAGE # 10

Cement Plant Machinery  
(Belt Conveyers)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$. (1000)	1981	1982	1983	1984	1985	1986	1987	1988 1989 1990			Total 1981- 1991			
																(tons)		
744260232011911	Belt Conveyor	1	2.59	12.36												2.59	25.9	
0232011911	Belt Conveyor	1	1.1	5.2													1.1	11
0232021911	Belt Conveyor	2	0.7	4.7													1.4	14
0232021911	Belt Conveyor	1	2.75	12.35													2.75	27.5
0232021911	Belt Conveyor	2	3.76	19.1													7.52	75.2
0232021912	Belt Conveyor	4	4.9	31.1													19.6	196
0242021911	Belt Conveyor	1	3.0	16.14													3.0	30
0242021911	Belt Conveyor	1	2.9	14.1													2.9	29
0242021911	Belt Conveyor	2	3.5	17.7													7.0	70
0242022911	Belt Conveyor	1	0.1	38.57													0.1	3.857
0242022911	Belt Conveyor	1	0.7	37.0													0.7	25.9
0242023911	Belt Conveyor	1	14.7	61.4													14.7	147
0242023911	Belt Conveyor	1	21.0	85.9													21.0	210
0252011911	Belt Conveyor	1	3.6	17.39													3.6	36
0252011911	Belt Conveyor	1	3.1	14.81													3.1	31
0252011911	Belt Conveyor	1	4.2	17.1													4.2	42
0252014911	Belt Conveyor	1	28.0	138.5													28.0	280
0252014912	Belt Conveyor	1	34.1	156.45													34.1	341
0272012911	Belt Conveyor	1	5.6	26.07													5.6	56
0272012911	Belt Conveyor	1	7.6	33.58													7.6	76
0272012911	Belt Conveyor	1	9.9	47.24													9.9	99
0272012711	Belt Conveyor	1	8.3	35.5													8.3	83
0272013911	Belt Conveyor	1	17.7	78.96													17.7	177
																	223.26	2232.6





UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE : 3 6 9 2 1

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT

LOCATION :

ANTICIPATED DATE OF COMMISSIONING : 1990

Cement Plant Machinery

PAGE = 13

(Gear Boxes and Packing Machines)

Total weight in tons / value in ~~U.S.~~ ~~(1000)~~

SITC Code	Basic Machine Name	Qty read (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
					(tons)	(tons)	(tons)									
29310314131712	Reduction Gear box	1	2.5	11.8							2.5					2.5
29310315131712	Reduction gear box	2	2.3	23.4							4.6					4.6
29310334134742	Reduction gear box	1	29.6	175.0							29.6					29.6
29310362133742	Reduction gear box	2	19.7	146.7							39.4					39.4
29310384135752	Reduction gear box	2	77.8	396.4							155.6					155.6
74522	Packing Machine	2	7.3	94.9							14.6					14.6
	TOTAL										246.3					246.3
	GRAND TOTAL										246.3	2546.04	149.0			4128.83

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UNIDO/ SPO (CEMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3602 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT CAPACITY 600 000 TONS / YEAR

LOCATION :

PLANT 1

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE = 1

Cement Plant Machinery

(Bunkers & tanks)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
															(tons)	
69211021111111	Bunker	1	1.2	3.2								1.2				1.2
0211311111	Feed hopper	2	3.0	7.9								6.0				6.0
0211321111	Bunker	1	2.0	5.28								2.0				2.0
0211321111	Bunker	2	1.63	4.3								3.26				3.26
0711321111	Daily tank	1	1.5	2.63								1.5				1.5
0711321111	Daily tank, Fuel-oil	1	1.1	1.97								1.1				1.1
0711321111	Daily tank, Diesel-Fuel	1	0.8	1.32								0.8				0.8
0744324111	Main tanks	3	36.0	59.20								108.0				108.0
1011321111	Daily tank	1	1.5	2.63								1.5				1.5
69243041132141	Air receiver	2	0.5	1.37								1.0				1.0
0411321411	Air tank	2	0.1	0.4								0.2				0.2
71112011143311	Boiler with burner	2	10.2	84.25								20.4				20.4
												148.96				148.96

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EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION  
LOCATION :

PLANT , CAPACITY 600 000 TONS/YEAR  
PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Loaders, excavators)

Total weight in tons / value in U.S. \$ (1988-)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
														(tons)		
7 23 4 2 0 03 1 2 23 6 2 2	Loader	1	12.8	98.7								12.8				12.8
0 04 1 0 1 4 5 3 2	Loader	1	30.0	225.3								30.0				30.0
1 03 2 6 1 5 5 3 2	Excavator	2	62.0	255.83								124.0				124.0
7 23 4 3 0 1 5 9 0 2 1 3 1 2	Rock Drill	2	4.4	67.6								8.8				8.8
2 0 1 1 1 0 1 6 1 1	Air gun	3	0.02	1.5								0.06				0.06
												175.66				175.66

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION  
LOCATION :

PLANT , CAPACITY 600 000 TONS/YEAR  
PLANT I'

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE : 3

Cement Plant Machinery  
( Screens & mills )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987 (tons)	1988 (tons)	1989	1990	1991	Total 1981-1991
728310245021912	Oscillating Screen	2	1.33	7.5							2.66					2.66
6040024931	Seperator	1	29.0	92.85								29.0				29.0
6040024951	Seperator	2	27.7	105.4								54.2				54.2
728320444715531	Crusher (mill)	1	84.1	398.8								84.1				84.1
1111718721	Cement ball mill	2	126.35	397.3								652.7				652.7
1121718771	Ball mill	1	419.3	1600.3								419.3				419.3
1227111711	Crusher	1	4.36	21.8								4.36				4.36
											2.66	1243.66				1246.32



EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT CAPACITY 500 000 TONS/YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Burners, Gas Generator & Pumps)

PAGE = 4

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
														(tons)		
741210015021011	Burner	1	0.4	5.26								0.4				0.4
0015021011	Burner	1	0.4	5.26								0.4				0.4
0025021912	Burner for Rotary kiln	1	3.1	65.75								3.1				3.1
74132244202311	Hot Gas Generator	1	7.0	3.3								7.0				7.0
2414202311	Hot Gas Generator	1	7.0	3.3								7.0				7.0
741610111111111	Heat exchanger	5	0.2	2.9								1.0				1.0
741631476479131	Rotary Kiln	1	659.2	2,300.0								659.2				659.2
741649073016421	Cooler for clinker	1	148.4	163.2								148.4				148.4
741650951276111	Cyclone preheater	1	140.0	480.3								140.0				140.0
742202121211611	Water Pump	2	0.06	0.46								0.12				0.12
0132111712	Water Pump	4	0.32	2.00								1.28				1.28
742301022611611	Fuel-oil pump	2	0.11	1.05								0.22				0.22
1022611611	Fuel-oil pump	2	0.11	1.05								0.22				0.22
1022511611	Fuel-oil pump	2	0.11	1.05								0.22				0.22
1033611611	Fuel-oil pump	2	0.14	2.45								0.28				0.28
1033611611	Fuel-oil pump	3	0.23	3.64								0.69				0.69
												969.59				969.59

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/ YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Compressors)

PAGE: 5

Total weight in tons/ value in U.S.\$ (1990)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1990 U.S.\$ (1990)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
					(tons)											
743130031121712	Compressor	2	0.42	1.94							0.84					0.84
0111121712	Compressor	2	1.0	6.0							2.0					2.0
0123121712	Compressor	2	1.2	3.0							2.4					2.4
0132121612	Compressor	2	1.5	71.82							3.0					3.0
0232122722	Compressor	4	7.95	44.2							31.8					31.8
2121111712	Compressor	2	0.7	8.9							1.4					1.4
2131111712	Compressor	2	5.33	32.85							10.66					10.66
2131111712	Compressor	3	4.28	66.8							12.84					12.84
2141111712	Compressor	2	2.6	36.6							5.2					5.2
2221111712	Compressor	4	0.3	13.7							1.2					1.2
2321111712	Compressor	1	0.28	3.9							0.28					0.28
											71.6					71.6

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EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT 3

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Ventilators)

PAGE:6

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
											(tons)	(Tons)				
74342021111911	Ventilator	4	0.20	3.87								0.9				0.9
0021111911	Ventilator	2	0.32	2.2								0.64				0.64
0021131911	Ventilator	2	0.52	6.41								1.04				1.04
0031111911	Ventilator	4	0.12	2.2								0.48				0.48
0031111911	Ventilator	2	0.12	2.06								0.24				0.24
0051131911	Ventilator	2	1.05	15.6								2.1				2.1
0051131911	Ventilator	1	0.52	13.5								0.52				0.52
0051131911	Ventilator	6	1.1	10.5								6.6				6.6
0051131911	Ventilator	5	2.2	24.3								11.0				11.0
0051131912	Primary Ventilator	1	1.55	25.8							1.55					1.55
0081131922	Ventilator	2	19.4	133.45							38.8					38.8
0081132931	Ventilator	1	6.2	89.5								6.2				6.2
0081133942	Ventilator	1	25.6	175.1							25.6					25.6
0051133921	Ventilator	2	14.6	47.4								29.2				29.2
											66.95	59.22				126.17

UNIDO/SPO (CIMENTO)  
 CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600 000 TONS/YEAR  
 PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
 (Cyclones, Filters)

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Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
7436 10 1400 251 1 1	Electro-filter	2	400	224,4								80,0				80,0
1 0 1 00 1 3 1 1 1	Electro-filter	2	14,7	83,7								29,4				29,4
1 1 1 3 0 1 3 1 1 1	Cyclone, Single	2	17,7	46,00								35,4				35,4
1 1 2 2 0 1 2 1 1 1	Cyclone	1	7,0	18,4								7,0				7,0
1 1 3 2 0 1 3 1 1 1	Cyclone	4	10,5	27,7								42,0				42,0
1 2 4 0 0 2 5 1 1 1	Multicyclone	1	55,0	131,5								55,0				55,0
5 0 1 1 0 2 2 4 1 1	Air filter	6	7,5	14,0								45,0				45,0
7436 1 20340 15 1 1 1	cooling washer	1	50,0	131,5								50,0				50,0
												343,0				343,0

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3992 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT CEMENT 600 000 TONS / YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE = 8

Cement Plant Machinery

( Dump Trucks )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
																(tons)
744112027003921	Dump Trucks	3	10.0	52.5									30.0			30.0
2045003632	Dump Trucks	5	23.8	204.52									119.0			119.0
													149.0			149.0

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UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT CAPACITY 600 000 TONS / YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

General Plant Machinery

(Air Lift, Air-Slides & Fuller pump)

PAGE=9

Total weight in tons ~~(value in U.S.\$ (1000))~~

SITC Code	Name Machine	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
											(tons)	(tons)				
744230150041111	Flux pump (Pneumatic conve.)	2	4.0	39.5								8.0				8.0
9250031112	Air Lift (Pneumatic conve.)	1	1.6	5.27								1.6				1.6
744232150021111	Air - Slide (Conveyor)	2	0.65	2.6								1.3				1.3
2150021111	Air - Slide (Conveyor)	2	0.27	1.2								0.54				0.54
2150021111	Air - Slide (Conveyor)	4	0.11	0.35								0.44				0.44
2150021111	Air - Slide (Conveyor)	3	0.07	0.24								0.21				0.21
2150021111	Air - Slide (Conveyor)	2	1.4	5.52								2.8				2.8
2150021111	Air - Slide (Conveyor)	2	0.03	0.12								0.06				0.06
2150021111	Air - Slide (Conveyor)	1	0.6	2.0								0.6				0.6
2150021111	Air - Slide (Conveyor)	2	1.2	5.1								2.4				2.4
2150021111	Air - Slide (Conveyor)	1	0.27	0.97								0.27				0.27
2150021111	Air - Slide (Conveyor)	1	0.93	2.71								0.93				0.93
2250021411	Over flow Sluice (Conveyor)	2	0.2	0.8								0.4				0.4
744232350031712	Fuller pump	2	4.0	48.9							8.0					8.0
											8.0	18.65				27.45



EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600000 TONS/YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING : 1990

Cement Plant Machinery  
(Conveyors)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
															(tons)	
744261024021711	Chain Conveyor	1	2.95	119.4								2.95				29
1212021711	Chain Conveyor	1	4.15	17.62								4.15				45
1223012711	Steel plate conveyor	1	7.8	31.69								7.8				78
1233022711	Steel plate conveyor	1	7.8	31.69								7.8				78
1254024711	Steel plate conveyor	1	36.6	162.7								36.6				366
2132023711	Scraper steel conveyor	2	15.7	69.2								31.4				314
4311011911	Screw Conveyor	1	1.6	7.0								1.6				16
4311011911	Screw Conveyor	4	3.1	12.95								12.4				124
4321011911	Screw Conveyor	2	1.3	5.8								2.6				26
4322013941	Screw Conveyor	1	12.2	26.67								12.2				122
4331011911	Screw Conveyor	2	3.1	12.5								6.2				62
4341011911	Screw Conveyor	4	0.6	3.6								2.4				24
4341011911	Screw Conveyor	4	0.6	3.6								2.4				24
												130.5				1325



UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION : PLANT I  
ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE=12

Cement Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
											(tons)	(tons)				
744265121014911	Bucket elevator	1	41.2	165.76								41.2				41.2
5132013911	Bucket elevator	2	18.5	73.36								37.0				37.0
5132013911	Bucket elevator	2	15.2	60.3								30.4				30.4
5132013911	Bucket elevator	2	16.3	71.0								32.6				32.6
5142023911	Bucket elevator	2	21.5	92.2								43.0				43.0
5232023911	Bucket elevating conveyor	1	10.1	43.5								10.1				10.1
5232024911	Bucket elevating conveyor	1	37.7	147.4								37.7				37.7
8113011912	Weigh feeder	1	0.96	30.2							0.96					0.96
8113011912	Weigh feeder	2	1.5	13.8							3.0					3.0
8122011912	Weigh feeder	1	0.79	24.92							0.79					0.79
8123011912	Weigh feeder	1	1.24	39.0							1.24					1.24
8123011912	Weigh feeder	2	2.0	18.5							4.0					4.0
8133011912	Weigh feeder	2	2.5	23.1							5.0					5.0
8133011912	Weigh feeder	1	1.15	35.9							1.15					1.15
8133011912	Weigh feeder	1	2.74	71.5							2.74					2.74
74428046002912	Reclaiming Scraper	2	15.7	154.32							31.4					31.4
											50.10	232.0				282.10

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW HARMARA REGION

PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT I'

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE 3

Cement Plant Machinery  
(Screens & mills)

Total weight in tons / value in U.S.\$ (1988)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
											(tons)	(tons)				
720310245021912	Oscillating Screen	2	1.33	7.5							2.66					2.66
6040024931	Seperator	1	29.0	92.85								29.0				29.0
6040024951	Seperator	2	27.1	105.4								54.2				54.2
720320444715631	Crusher (mill)	1	84.1	398.8								84.1				84.1
1111710771	Cement ball mill	2	326.35	997.3								652.7				652.7
1121710771	Ball mill	1	419.3	1600.3								419.3				419.3
1227111711	Crusher	1	4.36	21.8								4.36				4.36
											2.66	1243.66				1246.32

UNIDO/ SPO (CEMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT CAPACITY 500 000 TONS / YEAR  
PLANT I

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE = 1

Cement Plant Machinery

(Bunkers & tanks)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
														(tons)		
69211021111111	Bunker	1	1.2	3.2												1.2
0211311111	Feed hopper	2	3.0	7.9												6.0
0211321111	Bunker	1	2.0	5.26												2.0
0211321111	Bunker	2	1.63	4.3												3.26
0711321111	Daily tank	1	1.5	2.63												1.5
0711321111	Daily tank, Fuel-oil	1	1.1	1.97												1.1
0711321111	Daily tank, Diesel-Fuel	1	0.8	1.32												0.8
0744324111	Main tanks	3	36.0	59.20												108.0
1011321111	Daily tank	1	1.5	2.63												1.5
69243041132141	Air receiver	2	0.5	1.97												1.8
0411321411	Air tank	2	0.1	0.4												0.2
71111201114331	Boiler with burner	2	10.2	94.25												20.4
																146.96

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EQUIPMENT REQUIREMENTS FOR THE NEW HARMARA REGION

PLANT CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Burners, Gas Generator & Pumps)

PAGE: 4

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
														(tons)		
741210015021011	Burner	1	0.4	5.26								0.4				0.4
0015021011	Burner	1	0.4	5.26								0.4				0.4
0025021912	Burner for Rotary kiln	1	3.1	65.75								3.1				3.1
741322414202311	Hot Gas Generator	1	7.0	3.3								7.0				7.0
2414202311	Hot Gas Generator	1	7.0	3.3								7.0				7.0
741610111111111	Heat exchanger	5	0.2	2.9								1.0				1.0
741631476479131	Rotary Kiln	1	659.2	2300.8								659.2				659.2
741649073016421	Cooler for clinker	1	148.4	163.2								148.4				148.4
741650951276111	Cyclone preheater	1	140.0	460.3								140.0				140.0
742200121211611	Water Pump	2	0.06	0.46								0.12				0.12
0132111712	Water Pump	4	0.32	2.1								1.28				1.28
742301022511611	Fuel-oil pump	2	0.11	1.35								0.22				0.22
1022611611	Fuel-oil pump	2	0.11	1.05								0.22				0.22
1022511611	Fuel-oil pump	2	0.11	1.05								0.22				0.22
1033611611	Fuel-oil pump	2	0.14	2.45								0.28				0.28
1033611611	Fuel-oil pump	3	0.23	3.64								0.69				0.69
												969.53				969.53

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/ YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING : 1990

Cement Plant Machinery  
(Compressors)

PA6E= 5

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987 (tons)	1988	1989	1990	1991	Total 1981-1991
743130031121712	Compressor	2	0.42	1.84							0.84					0.84
0111121712	Compressor	2	1.0	6.8							2.0					2.0
0123121712	Compressor	2	1.2	3.0							2.4					2.4
0132121612	Compressor	2	1.5	71.82							3.0					3.0
0232122722	Compressor	4	7.95	44.2							31.8					31.8
2121111712	Compressor	2	0.7	8.9							1.4					1.4
2131111712	Compressor	2	5.33	32.85							10.66					10.66
2131111712	Compressor	3	4.28	56.8							12.84					12.84
2141111712	Compressor	2	2.6	36.6							5.2					5.2
2221111712	Compressor	4	0.3	13.7							1.2					1.2
2321111712	Compressor	1	0.26	3.9							0.26					0.26
											71.5					71.5

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT II

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery  
(Ventilators)

PAGE=6

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
											(tons)	(Tons)				
74342002111911	Ventilator	4	0.20	3.87								0.8				0.8
0021111911	Ventilator	2	0.32	2.2								0.64				0.64
0021131911	Ventilator	2	0.52	6.43								1.04				1.04
0031111911	Ventilator	4	0.12	2.2								0.48				0.48
0031111911	Ventilator	2	0.12	2.06								0.24				0.24
0051131911	Ventilator	2	1.05	15.6								2.1				2.1
0051131911	Ventilator	1	0.52	13.5								0.52				0.52
0051131911	Ventilator	5	1.1	10.5								6.6				6.6
0051131911	Ventilator	5	2.2	22.0								11.0				11.0
0051131912	Primary Ventilator	1	1.55	25.8							1.55					1.55
0081131922	Ventilator	2	19.4	133.45							38.8					38.8
0081132931	Ventilator	1	6.2	89.5								6.2				6.2
0081133942	Ventilator	1	26.6	175.1							26.6					26.6
0051133921	Ventilator	2	14.6	47.4								29.2				29.2
											66.95	59.22				126.17





UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CEMENT 600 000 TONS/YEAR  
PLANT II

LOCATION :

ANTICIPATED DATE OF COMMISSIONING: 1990

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Cement Plant Machinery

( Dump Trucks )

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
														(tons)		
744112027003921	Dump Trucks	3	10.0	52.6									30.0			300
2045003632	Dump Trucks	5	23.0	204.52									119.0			1190
													149.0			1430

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UNDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT CAPACITY 600 000 TONS / YEAR

LOCATION :

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

Cement Plant Machinery

PAGE: 9

(Air Lift, Air - Slides & Fuller pump)

Total weight in tons & value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
											(tons)	(tons)				
744230150041111	Flux pump (Pneumatic conve.)	2	4.0	39.5								0.0				0.0
0250031112	Air Lift (Pneumatic conve.)	1	1.6	5.27								1.6				1.6
744232150021111	Air - Slide (Conveyor)	2	0.65	2.6								1.3				1.3
2150021111	Air - Slide (Conveyor)	2	0.27	1.2								0.54				0.54
2150021111	Air - Slide (Conveyor)	4	0.11	0.35								0.44				0.44
2150021111	Air - Slide (Conveyor)	3	0.07	0.24								0.21				0.21
2150021111	Air - Slide (Conveyor)	4	1.4	5.52								2.8				2.8
2150021111	Air - Slide (Conveyor)	2	0.03	0.12								0.06				0.06
2150021111	Air - Slide (Conveyor)	1	0.6	2.0								0.6				0.6
2150021111	Air - Slide (Conveyor)	2	1.2	5.1								2.4				2.4
2150021111	Air - Slide (Conveyor)	1	0.27	0.87								0.27				0.27
2150021111	Air - Slide (Conveyor)	1	0.93	2.71								0.93				0.93
2250021411	Over flow Sluice (Conveyor)	2	0.2	0.8								0.4				0.4
744232350031712	Fuller pump	2	4.0	40.9								8.0				8.0
												0.0	10.45			27.45

UNIDO/SPO (ÇIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE = 10

Cement Plant Machinery

(Belt Conveyers)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988 (tons)	1989	1990	1991	Total 1981-1991
744260232011911	Belt Conveyor	1	2.58	10.38								2.59				25.9
0232011911	Belt Conveyor	1	1.1	6.2								1.1				11
0232021911	Belt Conveyor	2	0.7	4.7								1.4				14
0232021911	Belt Conveyor	1	2.75	13.35								2.75				27.5
0232021911	Belt Conveyor	2	3.75	14.1								7.52				75.2
0232021912	Belt Conveyor	4	4.9	21.1								19.6				196
0242021911	Belt Conveyor	1	3.0	16.74								3.0				30
0242021911	Belt Conveyor	1	2.9	14.1								2.9				29
0242021911	Belt Conveyor	2	3.5	17.7								7.0				70
0242022911	Belt Conveyor	1	8.1	39.57								8.1				81
0242022911	Belt Conveyor	1	8.7	37.0								8.7				87
0242023911	Belt Conveyor	1	14.7	61.4								14.7				147
0242023911	Belt Conveyor	1	21.0	95.9								21.0				210
0252011911	Belt Conveyor	1	3.6	17.39								3.6				36
0252011911	Belt Conveyor	1	3.1	14.81								3.1				31
0252011911	Belt Conveyor	1	4.2	17.1								4.2				42
0252014911	Belt Conveyor	1	28.8	138.5								28.8				288
0252014912	Belt Conveyor	1	34.1	156.45								34.1				341
0272012911	Belt Conveyor	1	5.6	26.07								5.6				56
0272012911	Belt Conveyor	1	7.6	33.56								7.6				76
0272012911	Belt Conveyor	1	9.9	43.24								9.9				99
0272012711	Belt Conveyor	1	8.3	35.5								8.3				83
0272013911	Belt Conveyor	1	17.7	78.96								17.7				177
												223.26				22326

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION  
LOCATION :

PLANT, CAPACITY 600000 TONS/YEAR  
PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

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Cement Plant Machinery  
(Conveyors)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
															(tons)	
744261024021711	Chain Conveyor	1	2.95	119.4								2.95				39
1212021711	Chain Conveyor	1	4.15	17.62								4.15				45
1223012711	Steel plate conveyor	1	7.8	31.69								7.8				78
1233022711	Steel plate conveyor	1	7.8	31.69								7.8				78
1254024711	Steel plate conveyor	1	36.6	162.7								36.6				366
2132023711	Scraper steel conveyor	2	15.7	69.2								31.4				314
4311011911	Screw Conveyor	1	1.6	7.0								1.6				16
4311011911	Screw Conveyor	4	3.1	12.95								12.4				124
4321011911	Screw Conveyor	2	1.3	5.8								2.6				26
4322013941	Screw Conveyor	1	12.2	26.67								12.2				122
4331011911	Screw Conveyor	2	3.1	12.5								6.2				62
4341011911	Screw Conveyor	4	0.6	3.6								2.4				24
4341011911	Screw Conveyor	4	0.6	3.6								2.4				24
												130.5				1325

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

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EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION :

PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

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Cement Plant Machinery  
(Elevator, Weigh feeders & Reclaiming Scrapers)

Total weight in tons / value in U.S.\$ (1000)

SITC Code	Basic Machine Name	Qty reqd (Nos)	Unit Weight (tons)	Unit cost in 1980 U.S.\$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981-1991
744285121014911	Bucket elevator	1	41.2	185.75								41.2				41.2
5132013911	Bucket elevator	2	18.5	73.34								37.0				37.0
5132013911	Bucket elevator	2	15.2	60.3								30.4				30.4
5132013911	Bucket elevator	2	16.3	71.0								32.6				32.6
5142023911	Bucket elevator	2	21.5	92.2								43.0				43.0
5232023911	Bucket elevating conveyor	1	10.1	43.5								10.1				10.1
5232024911	Bucket elevating conveyor	1	37.7	147.4								37.7				37.7
6113011912	Weigh feeder	1	0.96	30.2							0.96					0.96
6113011912	Weigh feeder	2	1.5	13.8							3.0					3.0
6122011912	Weigh feeder	1	0.79	24.92							0.79					0.79
6123011912	Weigh feeder	1	1.24	39.0							1.24					1.24
6133011912	Weigh feeder	2	2.0	18.5							4.0					4.0
6133011912	Weigh feeder	2	2.5	23.1							5.0					5.0
6133011912	Weigh feeder	1	1.15	35.9							1.15					1.15
6133011912	Weigh feeder	1	2.74	77.5							2.74					2.74
744280460023712	Reclaiming Scraper	2	15.7	154.32							31.4					31.4
											50.28	232.8				283.08

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE 3692

MARMARA REGION

EQUIPMENT REQUIREMENTS FOR THE NEW

PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT II

LOCATION :

ANTICIPATED DATE OF COMMISSIONING : 1990

Cement Plant Machinery

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Gear Boxes and Packing Machines)

Total weight in tons / value in U.S. \$ (1000)

SITC Code	Basic Machine Name	Qty read (Nos)	Unit Weight (tons)	Unit cost in 1990 U.S. \$ (1000)	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Total 1981- 1991
					(tons)	(tons)	(tons)									
749310314131712	Reduction Gear box	1	2.5	11.8							2.5					2.5
749310315131712	Reduction gear box	2	2.3	23.4							4.6					4.6
749310334134742	Reduction gear box	1	29.6	175.0							29.6					29.6
749310352133742	Reduction gear box	1	19.7	145.7							19.7					19.7
749310384135752	Reduction gear box	2	77.8	396.4							155.6					155.6
74522	Packing Machine	2	7.3	94.9							14.6					14.6
TOTAL											246.3					246.3
GRAND TOTAL											445.79	3544.04	149.0			4138.83

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11781

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**DEVELOPMENT OF  
CAPITAL GOODS INDUSTRIES**

**DP/TUR/76/084**

**Technical Report No. IX: Demand for Capital Goods for  
Cement Industry**

**Vol. II Part II**



UNITED NATIONS DEVELOPMENT PROGRAMMES IN TURKEY

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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION

RESTRICTED

May 1982  
English

DEVELOPMENT OF  
CAPITAL GOODS INDUSTRIES  
DP/TUR/76/034  
TURKEY

Technical report: Demand for Capital Goods for Cement Industry  
Vol. II Part II

Prepared for the Government of Turkey  
by the United Nations Industrial Development Organization,  
acting as executing agency for the United Nations Development Programme

Based on the work of  
Capital Goods Development Project Team in Turkey

United Nations Industrial Development Organisation  
Vienna

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This report has not been cleared with the United Nations Industrial Development  
Organisation which does not, therefore, necessarily share the views presented,

UNITED NATIONS DEVELOPMENT PROGRAMMES IN TURKEY  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

(1)

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW ADYAMAN PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: ADYAMAN PLANT

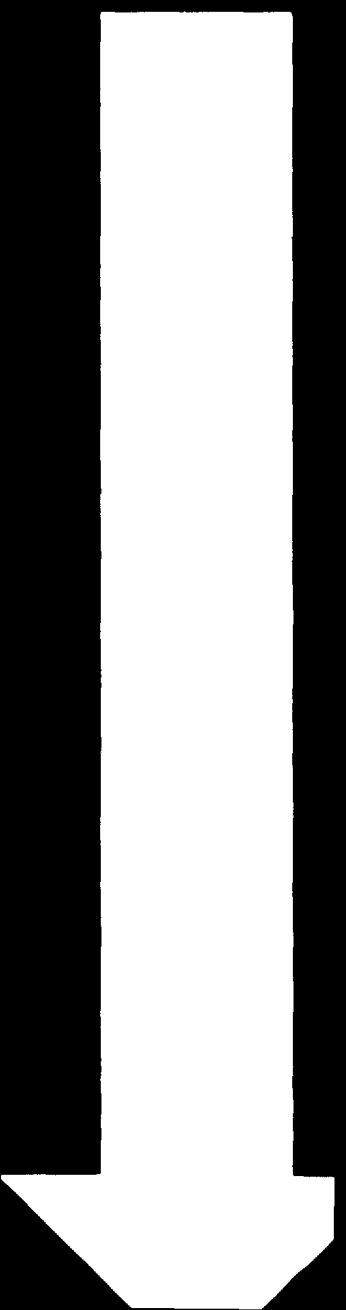
ANTICIPATED DATE OF COMMISSIONING: JULY 1982

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TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

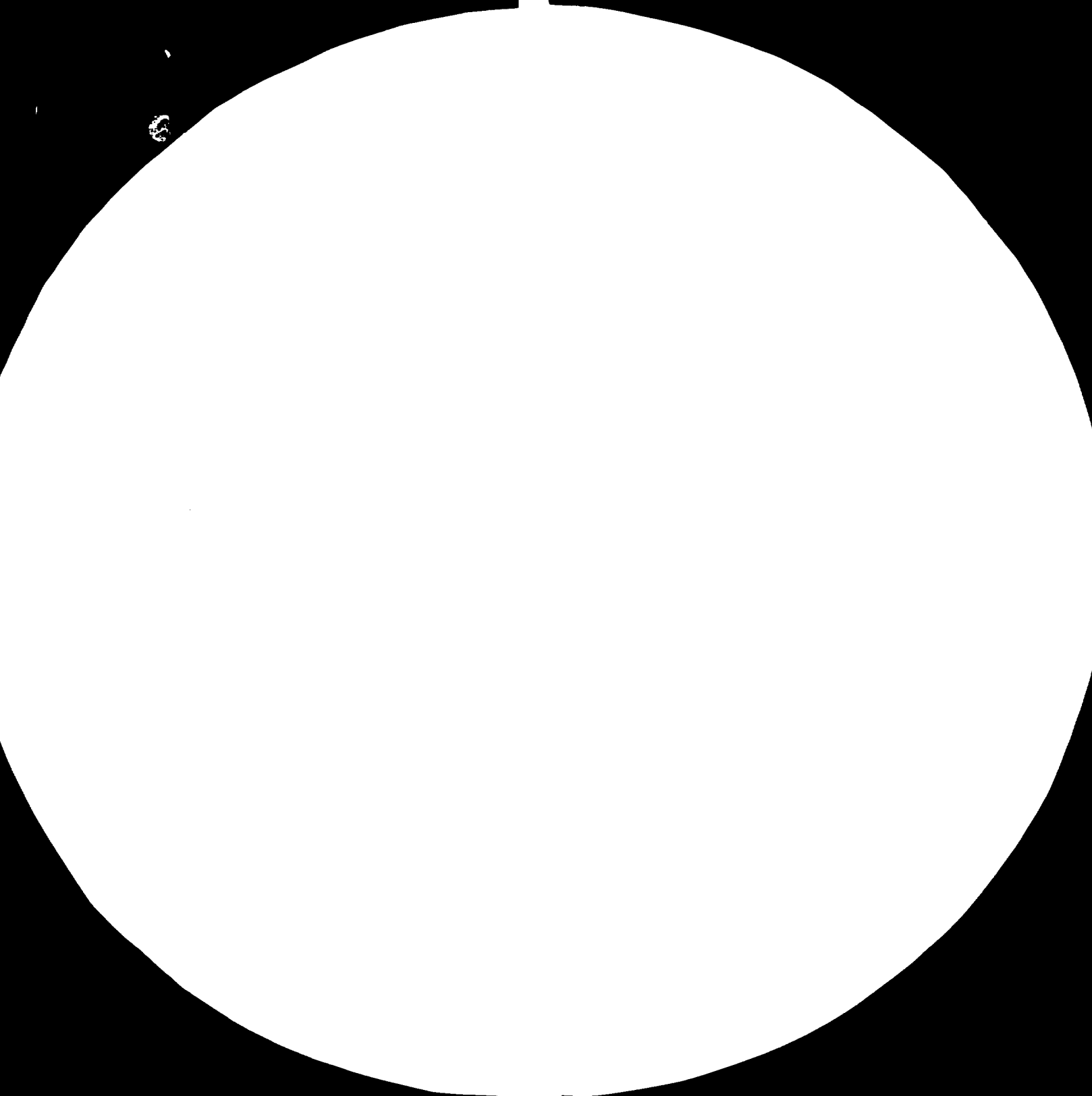
SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
69211021111111	BUNKER	1	1.2	3.2	3.2											3.2
0211311111	FEED HOPPER	2	3.0	7.9	15.8											15.8
0211321111	BUNKER	1	2.0	5.26	5.26											5.26
0211321111	"	2	1.63	4.3	8.6											8.6
0711321111	DAILY TANK	1	1.5	2.63	2.63											2.63
0711321111	" " , FUEL-OIL	1	1.1	1.97	1.97											1.97
0711321111	" " , DIESEL-FUEL	1	0.8	1.32	1.32											1.32
0744324111	MAIN TANKS	3	36.0	59.20	177.6											177.6
1011321111	DAILY TANK	1	1.5	2.63	2.63											2.63
692430411321411	AIR RECEIVER	2	0.5	1.97	3.94											3.94
0411321411	AIR TANK	2	0.1	0.4	0.8											0.8
71112011143311	BOILER WITH BURNER	2	10.2	84.25	168.5											168.5
TOTAL					392.25											392.25

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84.08.17

AD.85.03





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## MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS  
STANDARD REFERENCE MATERIAL 1010a  
(ANSI and ISO TEST CHART No. 2)

UNIDO/SPO(ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW ADYAMAN PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: ADYAMAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
723420031223622	LOADER	1	12.0	98.7	98.7											98.7
0041414632	"	1	30.0	225.3	225.3											225.3
1032615632	EXCAVATOR	2	62.0	255.83	511.66											511.66
723430149021312	ROCK DRILL	2	4.4	87.6	135.2											135.2
201101611	AIR GUN	3	0.02	1.5	4.5											4.5
TOTAL					975.36											975.36

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UNIDO/SPO(GEMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW ADYAMAN PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: ADYAMAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

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~~TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
728310245021912	OSCILLATING SCREEN	2	1.33	7.5	15.0												15.0
6040024931	SEPERATOR	1	29.0	92.65	92.65												92.65
6040024951	"	2	27.1	105.4	210.8												210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8	398.8												398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3	1994.6												1994.6
1121718771	BALL MILL	1	419.3	1600.3	1600.3												1600.3
1227111711	CRUSHER	1	4.36	21.8	21.8												21.8
TOTAL					4333.95												4333.95

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW ADYAMAN PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: ADYAMAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

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TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743610140025111	ELECTRO-FILTER	2	40.0	224.4	448.8											448.8
1010013111	" "	2	14.7	83.7	167.4											167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00	92.0											92.0
1122012111	CYCLONE	1	7.0	18.4	18.4											18.4
1132013111	" "	4	10.5	27.7	110.8											110.8
1240025111	MULTICYCLONE	1	55.0	131.5	131.5											131.5
5011022411	AIR FILTER	6	7.5	14.8	88.8											88.8
743612034018111	COOLING WASHER	1	50.0	131.5	131.5											131.5
TOTAL					1,189.2											1,189.2

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW ADYAMAN PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: ADYAMAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

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TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990	
744260232011911	BELT CONVEYOR	1	2.59	12.36	12.36											12.36
0232011911	" "	1	1.1	5.2	5.2											5.2
0232021911	" "	2	0.7	4.7	9.4											9.4
0232021911	" "	1	2.75	12.35	12.35											12.35
0232021911	" "	2	3.76	19.1	38.2											38.2
0232021912	" "	4	4.9	31.1	124.4											124.4
0242021911	" "	1	3.0	16.14	16.14											16.14
0242021911	" "	1	2.9	14.1	14.1											14.1
0242021911	" "	2	3.5	17.7	35.4											35.4
0242022911	" "	1	8.1	38.57	38.57											38.57
0242022911	" "	1	8.7	37.0	37.0											37.0
0242023911	" "	1	14.7	61.4	61.4											61.4
0242023911	" "	1	21.0	85.9	85.9											85.9
0252011911	" "	1	3.6	17.39	17.39											17.39
0252011911	" "	1	3.1	14.81	14.81											14.81
0252011911	" "	1	4.2	17.1	17.1											17.1
0252014911	" "	1	28.8	138.5	138.5											138.5
0252014912	" "	1	34.1	156.45	156.45											156.45
0272012711	" "	1	8.3	35.5	35.5											35.5
0272012911	" "	1	5.6	26.07	26.07											26.07
0272012911	" "	1	7.6	33.56	33.56											33.56
0272012911	" "	1	9.9	43.24	43.24											43.24
0272013911	" "	1	17.7	78.96	78.96											78.96
TOTAL					1,052.0											1,052.0



UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW ADYAMAN PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: ADYAMAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990	
744261024021711	CHAIN CONVEYOR	1	2.95	119.4	119.4											119.4
1212021711	" "	1	4.15	17.62	17.62											17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69	31.69											31.69
1233022711	" " "	1	7.8	31.69	31.69											31.69
1254024711	" " "	1	36.6	162.7	162.7											162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2	138.4											138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0	7.0											7.0
4311011911	" "	4	3.1	12.95	51.8											51.8
4321011911	" "	2	1.3	5.8	11.6											11.6
4322013941	" "	1	12.2	26.67	26.67											26.67
4331011911	" "	2	3.1	12.5	25.0											25.0
4341011911	" "	4	0.6	3.6	14.4											14.4
4341011911	" "	4	0.6	3.6	14.4											14.4
TOTAL					652.37											652.37



UNIDO/SPO (CIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENTS REQUIREMENTS FOR THE NEW ADYAMAN PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: ADYAMAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8	11.8											11.8
749310315131712	" " "	2	2.3	23.4	46.8											46.8
749310334134742	" " "	1	29.6	175.0	175.0											175.0
749310362133742	" " "	2	19.7	146.7	293.4											293.4
749310384135752	" " "	2	77.8	396.4	792.8											792.8
74522	PACKING MACHINE	2	7.3	94.9	189.8											189.8
	TOTAL				1,509.6											1,509.6
	GRAND TOTAL				17,816.93											17,816.93

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW  
LOCATION: LADIK

SAMSUN (LADIK)

PLANT, CAPACITY 600 000 TONS / YEAR  
PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

PAGE: 1

TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITE CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
692110211111111	BUNKER	1	1.2	3.2	3.2											3.2
02113111111	FEED HOPPER	2	3.0	7.9	15.8											15.8
02113211111	BUNKER	1	2.0	5.26	5.26											5.26
02113211111	"	2	1.63	4.3	8.6											8.6
07113211111	DAILY TANK	1	1.5	2.63	2.63											2.63
07113211111	" " FUEL-OIL	1	1.1	1.97	1.97											1.97
07113211111	" " DIESEL-FUEL	1	0.8	1.32	1.32											1.32
07443241111	MAIN TANKS	3	36.0	59.20	177.6											177.6
10113211111	DAILY TANK	1	1.5	2.63	2.63											2.63
692430411321411	AIR RECEIVER	2	0.5	1.97	3.94											3.94
04113214111	AIR TANK	2	0.1	0.4	0.8											0.8
711112011143311	BOILER WITH BURNER	2	10.2	84.25	168.5											168.5
TOTAL					392.25											392.25

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UNIDO/SPO(ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW SAMSUN (LÂDİK) PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: LÂDİK PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1980		
728310245021912	OSCILLATING SCREEN	2	1.33	7.5	15.0											15.0
6040024931	SEPARATOR	1	29.0	92.65	92.65											92.65
6040024951	"	2	27.1	105.4	210.8											210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8	398.8											398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3	1994.6											1994.6
1121718771	BALL MILL	1	419.3	1600.3	1600.3											1600.3
1227111711	CRUSHER	1	4.36	21.8	21.8											21.8
<b>TOTAL</b>					<b>4,333.95</b>											<b>4,333.95</b>

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE : 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW SAMSUN (LÂDIK) PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: LÂDIK PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

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TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
7 4 1 2 1 0 0 1 5 0 2 1 0 1 1	BURNER	1	0.4	5.26	5.26											5.26
0 0 1 5 0 2 1 0 1 1	"	1	0.4	5.26	5.26											5.26
0 0 2 5 0 2 1 9 1 2	FOR ROTARY KILN	1	3.1	65.75	65.75											65.75
7 4 1 3 2 2 4 1 4 2 0 2 3 1 1	HOT GAS GENERATOR	1	7.0	3.3	3.3											3.3
2 4 1 4 2 0 2 3 1 1	" " "	1	7.0	3.3	3.3											3.3
7 4 1 6 0 1 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9	14.5											14.5
7 4 1 6 3 4 7 6 4 7 9 1 3 1	ROTARY KILN	1	659.2	2300.8	2300.8											2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CLINKER	1	148.4	163.2	163.2											163.2
7 4 1 6 5 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER	1	140.0	460.3	460.3											460.3
7 4 2 2 0 0 1 2 1 2 1 1 6 1 1	WATER PUMP	2	0.06	0.46	0.92											0.92
0 1 3 2 1 1 1 7 1 2	" "	4	0.32	2.1	8.4											8.4
7 4 2 3 0 0 2 2 6 1 1 6 1 1	FUEL-OIL PUMP	2	0.11	1.05	2.1											2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05	2.1											2.1
0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05	2.1											2.1
0 3 3 6 1 1 6 1 1	" " "	2	0.14	2.45	4.9											4.9
0 3 3 6 1 1 6 1 1	" " "	3	0.23	3.64	10.92											10.92
<b>TOTAL</b>					<b>3,053.11</b>											<b>3,053.11</b>

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW SAMSUN (LÂDİK) PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: LÂDİK PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

PAGE: 5

~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743130031121712	COMPRESSOR	2	0.42	1.84	3.68											3.68
0111121712	"	2	1.0	6.8	13.6											13.6
0123121712	"	2	1.2	3.0	6.0											6.0
0132121612	"	2	1.5	71.82	143.64											143.64
0232122722	"	4	7.95	44.2	176.8											176.8
2121111712	"	2	0.7	8.9	17.8											17.8
2131111712	"	2	5.33	32.85	65.7											65.7
2131111712	"	3	4.28	66.8	200.4											200.4
2141111712	"	2	2.6	36.6	73.2											73.2
2221111712	"	4	0.3	13.7	54.8											54.8
2321111712	"	1	0.26	3.9	3.9											3.9
TOTAL					759.52											759.52

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW SAMSUN (LÂDİK)  
LOCATION: LÂDİKPLANT, CAPACITY 600 000 TONS/YEAR  
PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	39.5	79.0											79.0
0250031112	AIR LIFT " "	1	1.6	5.27	5.27											5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6	5.2											5.2
2150021111	" " "	2	0.27	1.2	2.4											2.4
2150021111	" " "	4	0.11	0.35	1.4											1.4
2150021111	" " "	3	0.07	0.24	0.72											0.72
2150021111	" " "	2	1.4	5.52	11.04											11.04
2150021111	" " "	2	0.03	0.12	0.24											0.24
2150021111	" " "	1	0.6	2.0	2.0											2.0
2150021111	" " "	2	1.2	5.1	10.2											10.2
2150021111	" " "	1	0.27	0.87	0.87											0.87
2150021111	" " "	1	0.83	2.71	2.71											2.71
2250021411	OVER FLOW SLUICE(CONVE.)	2	0.2	0.8	1.6											1.6
744232350031712	FULLER PUMP	2	4.0	48.9	97.8											97.8
TOTAL					20.45											220.45

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UNIDO/SPO(ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW

SAMSUN (LADIK) PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION: LADIK

PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

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TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
74426102402711	CHAIN CONVEYOR	1	2.95	119.4	119.4											119.4
121202711	"	1	4.15	17.62	17.62											17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69	31.69											31.69
1233022711	" " "	1	7.8	31.69	31.69											31.69
1254024711	" " "	1	36.6	162.7	162.7											162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2	138.4											138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0	7.0											7.0
4311011911	" "	4	3.1	12.95	51.8											51.8
4321011911	" "	2	1.3	5.8	11.6											11.6
4322013941	" "	1	12.2	26.67	26.67											26.67
4331011911	" "	2	3.1	12.5	25.0											25.0
4341011911	" "	4	0.6	3.6	14.4											14.4
4341011911	" "	4	0.6	3.6	14.4											14.4
TOTAL					652.37											652.37

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW

SAMSUN (LÂDIK) PLANT, CAPACITY 600 000 TONS/YEAR  
PLANT

LOCATION: LÂDIK

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

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TOTAL WEIGHT IN TONS/ VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS									TOTAL 1981-	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
744265121014911	BUCKET ELEVATOR	1	41.2	165.76	165.76										165.76
5132013911	" "	2	18.5	73.34	146.68										146.68
5132013911	" "	2	15.2	60.3	120.6										120.6
5132013911	" "	2	16.3	71.0	142.0										142.0
5142023911	" "	2	21.5	92.2	184.4										184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5	43.5										43.5
5232024911	" " "	1	37.7	147.4	147.4										147.4
8113011912	WEIGH FEEDER	1	0.96	30.2	30.2										30.2
8113011912	" "	2	1.5	13.8	27.6										27.6
8122011912	" "	1	0.79	24.92	24.92										24.92
8123011912	" "	1	1.24	39.0	39.0										39.0
8123011912	" "	2	2.0	18.5	37.0										37.0
8133011912	" "	2	2.5	23.1	46.2										46.2
8133011912	" "	1	1.15	35.9	35.9										35.9
8133011912	" "	1	2.74	71.5	71.5										71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	154.32	308.64										308.64
TOTAL					1571.3										1571.3

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW SAMSUN (LADIK) PLANT, CAPACITY 60000 TONS/YEAR  
LOCATION: LADIK PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1982

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TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8	11.8											11.8
749310315131712	" " "	2	2.3	23.4	46.8											46.8
749310334134742	" " "	1	296	175.0	175.0											175.0
749310362133742	" " "	2	19.7	146.7	293.4											293.4
749310384135752	" " "	2	77.8	396.4	792.8											792.8
74522	2 PACKING MACHINE	2	7.3	94.9	189.8											189.8
TOTAL					1,509.6											1,509.6
GRAND TOTAL					17,816.93											17,816.93

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DIYARBAKIR (ERGANI) PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: ERGANI PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

PAGE: 1

~~TOTAL WEIGHT IN TONS / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
6921102111111111	BUNKER	1	1.2	3.2		3.2										3.2
0211311111	FEED HOPPER	2	3.0	7.9		15.8										15.8
3211321111	BUNKER	1	2.0	5.26		5.26										5.26
0211321111	"	2	1.63	4.3		8.6										8.6
0711321111	DAILY TANK	1	1.5	2.63		2.63										2.63
0711321111	" " FUEL-OIL	1	1.1	1.97		1.97										1.97
0711321111	" " DIESEL-FUEL	1	0.8	1.32		1.32										1.32
0744324111	MAIN TANKS	3	36.0	59.20		177.6										177.6
1011321111	DAILY TANK	1	1.5	2.63		2.63										2.63
692430411321411	AIR RECEIVER	2	0.5	1.97		3.94										3.94
0411321411	AIR TANK	2	0.1	0.4		0.8										0.8
711112011143311	BOILER WITH BURNER	2	10.2	84.25		168.5										168.5
TOTAL						392.25										392.25

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UNIDO/SPO(ÇİMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DIYARBAKIR (ERGANI) PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: ERGANI PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1980	1981		
728310245021912	OSCILLATING SCREEN	2	1.33	7.5	15.0												15.0
6040024931	SEPERATOR	1	29.0	92.65		92.65											92.65
6040024951	"	2	27.1	105.4		210.8											210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8		398.8											398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3		1994.6											1994.6
1121718771	BALL MILL	1	419.3	1600.3		1600.3											1600.3
1227111711	CRUSHER	1	4.36	21.8		21.8											21.8
<b>TOTAL</b>					15.0	4,318.95											4,339.9

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DIYARBAKIR (ERŞANI) PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: ERŞANI PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

PAGE: 5

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	Y E A R S										TOTAL 1981 - 1990			
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990				
743130031121712	COMPRESSOR	2	0.42	1.84	3.68													3.68
0111121712	"	2	1.0	6.8	13.6													13.6
0123121712	"	2	1.2	3.0	6.0													6.0
0132121612	"	2	1.5	71.82	143.64													143.64
0232122722	"	4	7.95	44.2	176.8													176.8
2121111712	"	2	0.7	8.9	17.8													17.8
2131111712	"	2	5.33	32.85	65.7													65.7
2131111712	"	3	4.28	66.8	200.4													200.4
2141111712	"	2	2.6	36.6	73.2													73.2
2221111712	"	4	0.3	13.7	54.8													54.8
2321111712	"	1	0.26	3.9	3.9													3.9
TOTAL					759.52													759.52

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UNIDO/SPO ( CIMENTO )

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DIYARBAKIR (ERGANI) PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: ERGANI PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

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~~TOTAL WEIGHT IN TONS/ VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D. (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S \$ (1000)	YEARS									TOTAL		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981 - 1990	
74342002111911	VENTILATOR	4	0 20	3 87	15.48											15.48
002111911	"	2	0.32	2.2	4.4											4.4
0021131911	"	2	0.52	6.41	12.82											12.82
003111911	"	4	0.12	2.2	8.8											8.8
003111911	"	2	0.12	2.06	4.12											4.12
0051131911	"	2	1.05	15.6	31.2											31.2
0051131911	"	1	0.52	13.5	13.5											13.5
0051131911	"	6	1.1	10.5	63.0											63.0
0051131911	"	5	2.2	24.3	121.5											121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8	25.8											25.8
0081131922	VENTILATOR	2	19.4	133.45	266.9											266.9
0081132931	"	1	6.2	89.5	89.5											89.5
0081133942	"	1	26.6	175.1	175.1											175.1
0051133921	"	2	14.8	47.4	94.8											94.8
<b>TOTAL</b>					926.92											926.92

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DIYARBAKIR (ERGANI) PLANT, CAPACITY. 600 000 TONS / YEAR  
 LOCATION: ERGANI PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

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~~TOTAL WEIGHT IN TONS~~ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743610140025111	ELECTRO-FILTER	2	40.0	224.4		448.8										448.8
1010013111	" "	2	14.7	83.7		167.4										167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00		92.0										92.0
1122012111	CYCLONE	1	7.0	18.4		18.4										18.4
1132013111	"	4	10.5	27.7		110.8										110.8
1240025111	MULTICYCLONE	1	55.0	131.5		131.5										131.5
5011022411	AIR FILTER	6	7.5	14.8		88.8										88.8
743612034015111	COOLING WASHER	1	50.0	131.5		131.5										131.5
TOTAL						1,189.2										1,189.2

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DIYARBAKIR (ERGANI) PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: ERGANI PLANT

ANTICIPATED DATE OF COMMISSIONING : JULY 1983

PAGE: 9

~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	39.5	79.0												79.0
0290031112	AIR LIFT " "	1	1.6	5.27	5.27												5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6		5.2											5.2
2150021111	" " "	2	0.27	1.2		2.4											2.4
2150021111	" " "	4	0.11	0.35		1.4											1.4
2150021111	" " "	3	0.07	0.24		0.72											0.72
2150021111	" " "	2	1.4	5.52		11.04											11.04
2150021111	" " "	2	0.03	0.12		0.24											0.24
2150021111	" " "	1	0.6	2.0		2.0											2.0
2150021111	" " "	2	1.2	5.1		10.2											10.2
2150021111	" " "	1	0.27	0.87		0.87											0.87
2150021111	" " "	1	0.83	2.71		2.71											2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8		1.6											1.6
744232350031712	FULLER PUMP	2	4.0	48.9	97.8												97.8
TOTAL					192.07	38.38											220.45

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UNIDO/SPO (CIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DIYARBAKIR (ERGANI) PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: ERGANI PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

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TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981--1990		
744260232011911	BELT CONVEYOR	1	2.59	12.36		12.36											12.36
0232011911	" "	1	1.1	5.2		5.2											5.2
0232021911	" "	2	0.7	4.7		9.4											9.4
0232021911	" "	1	2.75	12.35		12.35											12.35
0232021911	" "	2	3.76	19.1		38.2											38.2
0232021912	" "	4	4.9	31.1		124.4											124.4
0242021911	" "	1	3.0	16.14		16.14											16.14
0242021911	" "	1	2.9	14.1		14.1											14.1
0242021911	" "	2	3.5	17.7		35.4											35.4
0242022911	" "	1	8.1	38.57		38.57											38.57
0242022911	" "	1	8.7	37.0		37.0											37.0
0242023911	" "	1	14.7	61.4		61.4											61.4
0242023911	" "	1	21.0	85.9		85.9											85.9
0252011911	" "	1	3.6	17.39		17.39											17.39
0252011911	" "	1	3.1	14.81		14.81											14.81
0252011911	" "	1	4.2	17.1		17.1											17.1
0252014911	" "	1	28.8	138.5		138.5											138.5
0252014912	" "	1	34.1	156.45		156.45											156.45
0272012711	" "	1	8.3	36.5		36.5											36.5
0272012911	" "	1	5.6	26.07		26.07											26.07
0272012911	" "	1	7.6	33.56		33.56											33.56
0272012911	" "	1	9.9	43.24		43.24											43.24
0272013911	" "	1	17.7	78.96		78.96											78.96
TOTAL						1052.0											1052.0

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UNIDO/SPO(ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DIYARBAKIR (ERGANI)

PLANT, CAPACITY 600 000 TONS / YEAR  
PLANT

LOCATION: ERGANI

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

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TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744261024021711	CHAIN CONVEYOR	1	2.95	119.4		119.4									119.4
1212021711	" "	1	4.15	17.62		17.62									17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69		31.69									31.69
1233022711	" " "	1	7.8	31.69		31.69									31.69
1254024711	" " "	1	36.6	162.7		162.7									162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2		138.4									138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0		7.0									7.0
4311011911	" "	4	3.1	12.95		51.8									51.8
4321011911	" "	2	1.3	5.8		11.6									11.6
4322013941	" "	1	12.2	26.67		26.67									26.67
4331011911	" "	2	3.1	12.5		25.0									25.0
4341011911	" "	4	0.6	3.6		14.4									14.4
4341011911	" "	4	0.6	3.6		14.4									14.4
TOTAL						652.31									652.31

UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DIYARBAKIR (ERGANI) PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: ERGANI PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

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~~TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744265121014911	BUCKET ELEVATOR	1	41.2	165.76		165.76										165.76
5132013911	" "	2	18.5	73.34		146.68										146.68
5132013911	" "	2	15.2	60.3		120.6										120.6
5132013911	" "	2	16.3	71.0		142.0										142.0
5142023911	" "	2	21.5	92.2		184.4										184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5		43.5										43.5
5232024911	" " "	1	37.7	147.4		147.4										147.4
8113011912	WEIGH FEEDER	1	0.96	30.2	30.2											30.2
8113011912	" "	2	1.5	13.8	27.6											27.6
8122011912	" "	1	0.79	24.92	24.92											24.92
8123011912	" "	1	1.24	32.0	39.0											39.0
8123011912	" "	2	2.0	18.5	37.0											37.0
8133011912	" "	2	2.5	23.1	46.2											46.2
8133011912	" "	1	1.15	35.9	35.9											35.9
8133011912	" "	1	2.74	71.5	71.5											71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	154.32		308.64										308.64
<b>TOTAL</b>						<b>312.32</b>	<b>1258.99</b>									<b>1571.3</b>

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

## CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW

SIIRT (KURTALAN)

PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION: KURTALAN

PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

PAGE: 1

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
6921021111111	BUNKER	1	1.2	3.2		3.2										3.2
02113111111	FEED HOPPER	2	3.0	7.9		15.8										15.8
02113211111	BUNKER	1	2.0	5.26		5.26										5.26
02113211111	"	2	1.63	4.3		8.6										8.6
07113211111	DAILY TANK	1	1.5	2.63		2.63										2.63
07113211111	" " , FUEL-OIL	1	1.1	1.97		1.97										1.97
07113211111	" " , DIESEL-FUEL	1	0.8	1.32		1.32										1.32
07443241111	MAIN TANKS	3	36.0	59.20		177.6										177.6
10113211111	DAILY TANK	1	1.5	2.63		2.63										2.63
692430411321411	AIR RECEIVER	2	0.5	1.97		3.94										3.94
04113214111	AIR TANK	2	0.1	0.4		0.8										0.8
711120111433111	BOILER WITH BURNER	2	10.2	84.25		168.5										168.5
TOTAL						392.25										392.25

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW SIIRT (KURTALAN) PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: KURTALAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

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~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
72342003 223622	LOADER	1	12.8	98.7		98.7										98.7
0041414632	"	1	30.0	225.3		225.3										225.3
1032615632	EXCAVATOR	2	62.0	255.83		511.66										511.66
723430149021312	ROCK DRILL	2	4.4	67.6		135.2										135.2
2011101611	AIR GUN	3	0.02	1.5		4.5										4.5
TOTAL						975.36										975.36

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UNIDO/SPO(ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW SIIRT (KURTALAN) PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: KURTALAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

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TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743130031121712	COMPRESSOR	2	0.42	1.84	3.68											3.68
0111121712	"	2	1.0	6.8	13.6											13.6
0123121712	"	2	1.2	3.0	6.0											6.0
0132121612	"	2	1.5	71.82	143.64											143.64
0232122722	"	4	7.95	44.2	176.8											176.8
2121111712	"	2	0.7	8.9	17.8											17.8
2131111712	"	2	5.33	32.85	65.7											65.7
2131111712	"	3	4.28	66.8	200.4											200.4
2141111712	"	2	2.6	36.6	73.2											73.2
2221111712	"	4	0.3	13.7	54.8											54.8
2321111712	"	1	0.26	3.9	3.9											3.9
TOTAL					759.52											759.52

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UNIDO/SPO ( CIMENTO )

COMMODITY CODE 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW

SIIRT (KURTALAN)

PLANT, CAPACITY 600 000 TONS / YEAR

LOCATION: KURTALAN

PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

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~~TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743420021111911	VENTILATOR	4	0.20	3.87	15.48											15.48
0021111911	"	2	0.32	2.2	4.4											4.4
0021131911	"	2	0.52	6.41	12.82											12.82
0031111911	"	4	0.12	2.2	8.8											8.8
0031111911	"	2	0.12	2.06	4.12											4.12
0051131911	"	2	1.05	15.6	31.2											31.2
0051131911	"	1	0.52	13.5	13.5											13.5
0051131911	"	6	1.1	10.5	63.0											63.0
0051131911	"	5	2.2	24.3	121.5											121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8	25.8											25.8
0081131922	VENTILATOR	2	19.4	133.45	266.9											266.9
0081132931	"	1	6.2	89.5	89.5											89.5
0081133942	"	1	26.6	175.1	175.1											175.1
0051133921	"	2	14.8	47.4	94.8											94.8
<b>TOTAL</b>					<b>926.92</b>											<b>926.92</b>

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW SIIRT (KURTALAN) PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: KURTALAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

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~~TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743610140025111	ELECTRO-FILTER	2	40.0	224.4		448.8									448.8
1010013111	" "	2	14.7	83.7		167.4									167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00		92.0									92.0
1122012111	CYCLONE	1	7.0	18.4		18.4									18.4
1132013111	"	4	10.5	27.7		110.8									110.8
1240025111	MULTICYCLONE	1	55.0	131.5		131.5									131.5
5011022411	AIR FILTER	6	7.5	14.8		88.8									88.8
743612034015111	COOLING WASHER	1	50.0	131.5		131.5									131.5
	TOTAL					1,189.2									1,189.2

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW SIIRT (KURTALAN) PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: KURTALAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	Y E A R S										TOTAL			
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990			
74412027003321	DUMP TRUCKS	3	10.0	52.6		157.8												157.8
2045003632	" "	5	23.8	204.62		1,023.1												1,023.1
TOTAL						1,180.9												1,180.9

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW SIIRT (KURTALAN) PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: KURTALAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

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-TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	39.5	79.0											79.0
0250031112	AIR LIFT " "	1	1.6	5.27	5.27											5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6		5.2										5.2
2150021111	" " "	2	0.27	1.2		2.4										2.4
2150021111	" " "	4	0.11	0.35		1.4										1.4
2150021111	" " "	3	0.07	0.24		0.72										0.72
2150021111	" " "	2	1.4	5.52		11.04										11.04
2150021111	" " "	2	0.03	0.12		0.24										0.24
2150021111	" " "	1	0.6	2.0		2.0										2.0
2150021111	" " "	2	1.2	5.1		10.2										10.2
2150021111	" " "	1	0.27	0.87		0.87										0.87
2150021111	" " "	1	0.83	2.71		2.71										2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8		1.6										1.6
744232350031712	FULLER PUMP	2	4.0	48.9	97.8											97.8
TOTAL					182.07	38.38										220.45

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UNIDO/SPO (CIMENTO)

COMMODITY CODE 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW SIIRT (KURTALAN) PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: KURTALAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

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TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
7442602320191	BELT CONVEYOR	1	2.59	12.36		12.36										12.36
023201911	" "	1	1.1	5.2		5.2										5.2
023202911	" "	2	0.7	4.7		9.4										9.4
0232021911	" "	1	2.75	12.35		12.35										12.35
0232021911	" "	2	3.76	19.1		38.2										38.2
0232021912	" "	4	4.9	31.1		124.4										124.4
0242021911	" "	1	3.0	16.14		16.14										16.14
0242021911	" "	1	2.9	14.1		14.1										14.1
0242021911	" "	2	3.5	17.7		35.4										35.4
0242022911	" "	1	8.1	38.57		38.57										38.57
0242022911	" "	1	8.7	37.0		37.0										37.0
0242023911	" "	1	14.7	61.4		61.4										61.4
0242023911	" "	1	21.0	85.9		85.9										85.9
025201911	" "	1	3.6	17.39		17.39										17.39
025201911	" "	1	3.1	14.81		14.81										14.81
025201911	" "	1	4.2	17.1		17.1										17.1
0252014911	" "	1	28.8	138.5		138.5										138.5
0252014912	" "	1	34.1	156.45		156.45										156.45
0272012711	" "	1	8.3	35.5		35.5										35.5
0272012911	" "	1	5.6	26.07		26.07										26.07
0272012911	" "	1	7.6	33.56		33.56										33.56
0272012911	" "	1	9.9	43.24		43.24										43.24
0272013911	" "	1	17.7	78.96		78.96										78.96
TOTAL						1,052.0										1,052.0

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UNIDO/SPO(ÇIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW SIIRT (KURTALAN) PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: KURTALAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

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~~TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REC'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
744261024021711	CHAIN CONVEYOR	1	2.95	119.4		119.4											119.4
1212021711	" "	1	4.15	17.62		17.62											17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69		31.69											31.69
1233022711	" " "	1	7.8	31.69		31.69											31.69
1254024711	" " "	1	36.6	162.7		162.7											162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2		138.4											138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0		7.0											7.0
4311011911	" "	4	3.1	12.95		51.8											51.8
4321011911	" "	2	1.3	5.8		11.6											11.6
4322013941	" "	1	12.2	26.67		26.67											26.67
4331011911	" "	2	3.1	12.5		25.0											25.0
4341011911	" "	4	0.6	3.6		14.4											14.4
4341011911	" "	4	0.6	3.6		14.4											14.4
	TOTAL					652.37											652.37

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW **SİİRT (KURTALAN)** PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: **KURTALAN** PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

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- TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744265121014911	BUCKET ELEVATOR	1	41.2	168.76		165.76										165.76
5132013911	" "	2	18.5	73.34		146.68										146.68
5132013911	" "	2	15.2	60.3		120.6										120.6
5132013911	" "	2	16.3	71.0		142.0										142.0
5142023911	" "	2	21.5	92.2		184.4										184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5		43.5										43.5
5232024911	" " "	1	37.7	147.4		147.4										147.4
8113011912	WEIGH FEEDER	1	0.96	30.2	30.2											30.2
8113011912	" "	2	1.5	13.8	27.6											27.6
8122011912	" "	1	0.79	24.92	24.92											24.92
8123011912	" "	1	1.24	39.0	39.0											39.0
8123011912	" "	2	2.0	18.5	37.0											37.0
8133011912	" "	2	2.5	23.1	46.2											46.2
8133011912	" "	1	1.15	35.9	35.9											35.9
8133011912	" "	1	2.74	71.5	71.5											71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	184.32		308.64										308.64
<b>TOTAL</b>						<b>312.32</b>	<b>1258.98</b>									<b>1571.3</b>

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW SIIRT (KURTALAN) PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: KURTALAN PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1983

PAGE : 13

TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8	11.8										11.8
749310315131712	" " "	2	2.3	23.4	46.8										46.8
749310334134742	" " "	1	296	175.0	175.0										175.0
749310362133742	" " "	2	19.7	146.7	293.4										293.4
749310384135752	" " "	2	77.8	396.4	792.8										792.8
74522	2 PACKING MACHINE	2	7.3	94.9	189.8										189.8
TOTAL					1,509.6										1,509.6
GRAND TOTAL					6,481.11	1,335.82									17,816.93

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DENİZLİ PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: DENİZLİ PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

PAGE 2

TOTAL WEIGHT IN TONS / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981	1990
723420031223622	LOADER	1	12.8	98.7			98.7									98.7
0041414632		1	30.0	225.3			225.3									225.3
1032615632	EXCAVATOR	2	62.0	255.83			511.66									511.66
723430149021312	ROCK DRILL	2	4.4	67.6			135.2									135.2
2011101611	AIR GUN	3	0.02	1.5			4.5									4.5
TOTAL							975.36									975.36

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UNIDO/SPO(ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DENİZLİ PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: DENİZLİ PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

PAGE: 3

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS									TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1980	1981 1990
728310245021912	OSCILLATING SCREEN	2	1.33	7.5			15.0								15.0
6040024931	SEPARATOR	1	29.0	92.65			92.65								92.65
6040024951	"	2	27.1	105.4			210.8								210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8			398.8								398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3			1994.6								1994.6
1121718771	BALL MILL	1	419.3	1600.3			1600.3								1600.3
1227111711	CRUSHER	1	4.36	21.8			21.8								21.8
TOTAL							4339.5								4339.5

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UNIDO/SPO (CIMENTO)

COMMODITY CODE : 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DENIZLI PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: DENIZLI PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

PAGE : 4

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
7 4 1 2 0 0 1 5 0 2 1 0 1 1	BURNER	1	0.4	5.26			5.26									5.26
0 0 1 5 0 2 1 0 1 1	"	1	0.4	5.26			5.26									5.26
0 0 2 5 0 2 1 9 1 2	" FOR ROTARY KILN	1	3.1	65.75			65.75									65.75
7 4 1 3 2 2 4 1 4 2 0 2 3 1 1	HOT GAS GENERATOR	1	7.0	3.3			3.3									3.3
2 4 1 4 2 0 2 3 1 1	" " "	1	7.0	3.3			3.3									3.3
7 4 1 6 1 0 1 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9		14.5										14.5
7 4 1 6 3 1 4 7 6 4 7 9 1 3 1	ROTARY KILN	1	659.2	2300.8		2300.8										2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CLINKER	1	148.4	163.2		163.2										163.2
7 4 1 6 9 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER	1	140.0	460.3		460.3										460.3
7 4 2 2 0 0 1 2 1 2 1 1 6 1 1	WATER PUMP	2	0.06	0.46		0.92										0.92
0 1 3 2 1 1 1 7 1 2	" "	4	0.32	2.1		8.4										8.4
7 4 2 3 0 1 0 2 2 6 1 1 6 1 1	FUEL-OIL PUMP	2	0.11	1.05		2.1										2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05		2.1										2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05		2.1										2.1
1 0 3 3 6 1 1 6 1 1	" " "	2	0.14	2.45		4.9										4.9
1 0 3 3 6 1 1 6 1 1	" " "	3	0.23	3.64		10.92										10.92
TOTAL						2970.24	82.87									3.053.11

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UNIDO/SPO ( CIMENTO )

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DENIZLI PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION: DENIZLI PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

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TOTAL WEIGHT IN TONS/VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D. (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743420021111911	VENTILATOR	4	0.20	3.87		15.48										15.48
0021111911	"	2	0.32	2.2		4.4										4.4
0021131911	"	2	0.52	6.41		12.82										12.82
0031111911	"	4	0.12	2.2		8.8										8.8
0031111911	"	2	0.12	2.06		4.12										4.12
0051131911	"	2	1.05	15.6		31.2										31.2
0051131911	"	1	0.52	13.5		13.5										13.5
0051131911	"	6	1.1	10.5		63.0										63.0
0051131911	"	5	2.2	24.3		121.5										121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8		25.8										25.8
0081131922	VENTILATOR	2	19.4	133.45		266.9										266.9
0081132931	"	1	6.2	89.5		89.5										89.5
0081133942	"	1	26.6	175.1		175.1										175.1
0051133921	"	2	14.8	47.4		94.8										94.8
TOTAL						926.92										926.92



UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DENİZLİ PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: DENİZLİ PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

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~~TOTAL WEIGHT IN TONS~~ VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981 - 1990	
743610140025111	ELECTRO-FILTER	2	40.0	224.4			448.8									448.8
1010013111	" "	2	14.7	83.7			167.4									167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00			92.0									92.0
1122012111	CYCLONE	1	7.0	18.4			18.4									18.4
1132013111	"	4	10.5	27.7			110.8									110.8
1240025111	MULTICYCLONE	1	55.0	131.5			131.5									131.5
5011022411	AIR FILTER	6	7.5	148			88.8									88.8
743612034015111	COOLING WASHER	1	50.0	131.5			131.5									131.5
TOTAL							1189.2									1,189.2

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DENİZLİ PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: DENİZLİ PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	39.5	79.0												79.0
0250031112	AIR LIFT " "	1	1.6	5.27	5.27												5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6				5.2									5.2
2150021111	" " "	2	0.27	1.2				2.4									2.4
2150021111	" " "	4	0.11	0.35				1.4									1.4
2150021111	" " "	3	0.07	0.24				0.72									0.72
2150021111	" " "	2	1.4	5.52				11.04									11.04
2150021111	" " "	2	0.03	0.12				0.24									0.24
2150021111	" " "	1	0.6	2.0				2.0									2.0
2150021111	" " "	2	1.2	5.1				10.2									10.2
2150021111	" " "	1	0.27	0.87				0.87									0.87
2150021111	" " "	1	0.83	2.71				2.71									2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8				1.6									1.6
744232350031712	FULLER PUMP	2	4.0	48.9	97.8												97.8
TOTAL					182.07		38.38										220.45

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DENİZLİ PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: DENİZLİ PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

PAGE: 10

~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
744260232011911	BELT CONVEYOR	1	2.59	12.36			12.36										12.36
0232011911	" "	1	1.1	5.2			5.2										5.2
0232021911	" "	2	0.7	4.7			9.4										9.4
0232021911	" "	1	2.75	12.35			12.35										12.35
0232021911	" "	2	3.76	19.1			38.2										38.2
0232021912	" "	4	4.9	31.1			124.4										124.4
0242021911	" "	1	3.0	16.14			16.14										16.14
0242021911	" "	1	2.9	14.1			14.1										14.1
0242021911	" "	2	3.5	17.7			35.4										35.4
0242022911	" "	1	8.1	38.57			38.57										38.57
0242022911	" "	1	8.7	37.0			37.0										37.0
0242023911	" "	1	14.7	61.4			61.4										61.4
0242023911	" "	1	21.0	85.9			85.9										85.9
0252011911	" "	1	3.6	17.39			17.39										17.39
0252011911	" "	1	3.1	14.81			14.81										14.81
0252011911	" "	1	4.2	17.1			17.1										17.1
0252014911	" "	1	28.8	138.5			138.5										138.5
0252014912	" "	1	34.1	156.45			156.45										156.45
0272012711	" "	1	8.3	35.5			35.5										35.5
0272012911	" "	1	5.6	26.07			26.07										26.07
0272012911	" "	1	7.6	33.56			33.56										33.56
0272012911	" "	1	9.9	43.24			43.24										43.24
0272013911	" "	1	17.7	78.96			78.96										78.96
TOTAL							1,052.0										1,052.0

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UNIDO/SPO(ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DENİZLİ PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: DENİZLİ PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

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~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744261024021711	CHAIN CONVEYOR	1	2.95	119.4			119.4									119.4
1212021711	" "	1	4.15	17.62			17.62									17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69			31.69									31.69
1233022711	" " "	1	7.8	31.69			31.69									31.69
1254024711	" " "	1	36.6	162.7			162.7									162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2			130.4									130.4
4311011911	SCREW CONVEYOR	1	1.6	7.0			7.0									7.0
4311011911	" "	4	3.1	12.95			51.8									51.8
4321011911	" "	2	1.3	5.8			11.6									11.6
4322013941	" "	1	12.2	26.67			26.67									26.67
4331011911	" "	2	3.1	12.5			25.0									25.0
4341011911	" "	4	0.6	3.6			14.4									14.4
4341011911	" "	4	0.6	3.6			14.4									14.4
TOTAL							652.37									652.37

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW DENİZLİ PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: DENİZLİ PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

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~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744265121014911	BUCKET ELEVATOR	1	41.2	165.76			165.76									165.76
5132013911	" "	2	18.5	73.34			146.68									146.68
5132013911	" "	2	15.2	60.3			120.6									120.6
5132013911	" "	2	16.3	71.0			142.0									142.0
5142023911	" "	2	21.5	92.2			184.4									184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5			43.5									43.5
5232024911	" " "	1	37.7	147.4			147.4									147.4
8113011912	WEIGH FEEDER	1	0.96	30.2			30.2									30.2
8113011912	" "	2	1.5	13.8			27.6									27.6
8122011912	" "	1	0.79	24.92			24.92									24.92
8123011912	" "	1	1.24	39.0			39.0									39.0
8123011912	" "	2	2.0	18.5			37.0									37.0
8133011912	" "	2	2.5	23.1			46.2									46.2
8133011912	" "	1	1.15	35.9			35.9									35.9
8133011912	" "	1	2.74	71.5			71.5									71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	154.32			308.64									308.64
TOTAL							308.64	262.64								571.3

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UNIDO/SPO(ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMET REQUIREMENTS FOR THE NEW DENİZLİ PLANT, CAPACITY 600000 TONS/YEAR  
LOCATION: DENİZLİ PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

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TOTAL WEIGHT ~~IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8		11.8										11.8
749310315131712	" " "	2	2.3	23.4		46.8										46.8
749310334134742	" " "	1	29.6	175.0		175.0										175.0
749310362133742	" " "	2	19.7	146.7		293.4										293.4
749310384135752	" " "	2	77.8	366.4		792.8										792.8
74522	2 PACKING MACHINE	2	7.3	94.9	189.8											189.8
TOTAL					189.8	1,319.8										1,509.6
GRAND TOTAL					1,131.39	5,749.35	1,993.679									17,816.93

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW EDIRNE (LALAPASA) PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION LALAPASA PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

PAGE: 2

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

S-TC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
72342003	LOADER	1	12.8	98.7			98.7									98.7
00414		1	30.0	225.3			225.3									225.3
1032615632	EXCAVATOR	2	62.0	255.83			511.66									511.66
7234301490213	ROCK DRILL	2	4.4	67.6			135.2									135.2
201101611	AIR GUN	3	0.02	1.5			4.5									4.5
TOTAL							975.36									975.36

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW EDİRNE (LALAPAŞA) PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: LALAPAŞA PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

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TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
7 4 1 2 1 0 0 1 5 0 2 1 0 1 1	BURNER	1	0.4	5.26			5.26									5.26
0 0 1 5 0 2 1 0 1 1	"	1	0.4	5.26			5.26									5.26
0 0 2 5 0 2 1 9 1 2	" FOR ROTARY KILN	1	3.1	65.75			65.75									65.75
7 4 1 3 2 2 4 1 4 2 0 2 3 1 1	HOT GAS GENERATOR	1	7.0	3.3			3.3									3.3
2 4 1 4 2 0 2 3 1 1	" " "	1	7.0	3.3			3.3									3.3
7 4 1 6 1 0 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9		14.5										14.5
7 4 1 6 3 1 4 7 6 4 7 9 1 3 1	ROTARY KILN	1	659.2	2300.8		2300.8										2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CLINKER	1	148.4	163.2		163.2										163.2
7 4 1 6 5 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER	1	140.0	460.3		460.3										460.3
7 4 2 2 0 0 1 2 1 2 1 1 6 1 1	WATER PUMP	2	0.06	0.46		0.92										0.92
0 1 3 2 1 1 1 7 1 2	"	4	0.32	2.1		8.4										8.4
7 4 2 3 0 1 0 2 2 6 1 1 6 1 1	FUEL-OIL PUMP	2	0.11	1.05		2.1										2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05		2.1										2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05		2.1										2.1
1 0 3 3 6 1 1 6 1 1	" " "	2	0.14	2.45		4.9										4.9
1 0 3 3 6 1 1 6 1 1	" " "	3	0.23	3.64		10.92										10.92
TOTAL						2970.24	82.87									3053.11

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UNIDO/SPO (CIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW EDIRNE (LALAPASA) PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION LALAPASA PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

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TOTAL WEIGHT IN TONS/VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TNS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981-		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990		
744260232011911	BELT CONVEYOR	1	2.59	12.36			12.36										12.36
0232011911	"	1	1.1	5.2			5.2										5.2
0232021911	"	2	0.7	4.7			9.4										9.4
0232021911	"	1	2.75	12.35			12.35										12.35
0232021911	"	2	3.76	19.1			38.2										38.2
0232021912	"	4	4.9	31.1			126.4										126.4
0242021911	"	1	3.0	16.14			16.14										16.14
0242021911	"	1	2.9	14.1			14.1										14.1
0242021911	"	2	3.5	17.7			35.4										35.4
0242022911	"	1	8.1	38.57			38.57										38.57
0242022911	"	1	8.7	37.0			37.0										37.0
0242023911	"	1	14.7	61.4			61.4										61.4
0242023911	"	1	21.0	85.9			85.9										85.9
0252011911	"	1	3.6	17.39			17.39										17.39
0252011911	"	1	3.1	14.81			14.81										14.81
0252011911	"	1	4.2	17.1			17.1										17.1
0252014911	"	1	28.8	138.5			138.5										138.5
0252014912	"	1	34.1	156.45			156.45										156.45
0272012711	"	1	8.3	35.5			35.5										35.5
0272012911	"	1	5.6	26.07			26.07										26.07
0272012911	"	1	7.6	33.56			33.56										33.56
0272012911	"	1	9.9	43.24			43.24										43.24
0272013911	"	1	17.7	78.96			78.96										78.96
TOTAL							1052.0										1052.0

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW EDİRNE (LALAPAŞA) PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: LALAPAŞA PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

PAGE: 12

~~TOTAL WEIGHT IN TONS / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744265121014911	BUCKET ELEVATOR	1	41.2	165.76			165.76									165.76
5132013911	" "	2	18.5	73.34			146.68									146.68
5132013911	" "	2	15.2	60.3			120.6									120.6
5132013911	" "	2	16.3	71.0			142.0									142.0
5142023911	" "	2	21.5	92.2			184.4									184.4
5232023911	BUCKET ELEVATING CONV.		10.1	43.5			43.5									43.5
5232024911	" " "		37.7	147.4			147.4									147.4
8113011912	WEIGH FEEDER		0.96	30.2			30.2									30.2
8113011912	" "		1.5	13.8			27.6									27.6
8122011912	" "		0.79	24.92			24.92									24.92
8123011912	" "		1.24	39.0			39.0									39.0
8123011912	" "	2	2.0	18.5			37.0									37.0
8133011912	" "	2	2.5	23.1			46.2									46.2
8133011912	" "	1	1.15	35.9			35.9									35.9
8133011912	" "	1	2.74	71.5			71.5									71.5
744280460023712	RECLAIMING SCRAPER	2	5.7	154.32			308.64									308.64
TOTAL							308.64	262.66								1571.3

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UNIDO/SBO (CIMENTO)

COMMODITY CODE: 3692 1

## CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW URFA PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: URFA PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

PAGE: 1

~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
692110211111111	BUNKER	1	1.2	3.2		3.2										3.2
02113111111	FEED HOPPER	2	3.0	7.9		15.8										15.8
02113211111	BUNKER	1	2.0	5.26		5.26										5.26
02113211111	"	2	1.63	4.3		8.6										8.6
07113211111	DAILY TANK	1	1.5	2.63		2.63										2.63
07113211111	" " , FUEL-OIL	1	1.1	1.97		1.97										1.97
07113211111	" " , DIESEL-FUEL	1	0.8	1.32		1.32										1.32
07443241111	MAIN TANKS	3	36.0	59.20		177.6										177.6
10113211111	DAILY TANK	1	1.5	2.63		2.63										2.63
692430411321411	AIR RECEIVER	2	0.5	1.97		3.94										3.94
04113214111	AIR TANK	2	0.1	0.4		0.8										0.8
71112011143311	BOILER WITH BURNER	2	10.2	84.25			168.5									168.5
TOTAL						223.75	168.5									392.25

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UNIDO/SPO(ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW URFA PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: URFA PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

PAGE: 3

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	Y E A R S										TOTAL 1981 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
728310245021912	OSCILLATING SCREEN	2	1.33	7.5			15.0									15.0
6040024931	SEPERATOR	1	29.0	92.65			92.65									92.65
6040024951		2	27.1	105.4			210.8									210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8			398.8									398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3			1994.6									1994.6
1121718771	BALL MILL	1	419.3	1600.3			1600.3									1600.3
1227111711	CRUSHER	1	4.36	21.8			21.8									21.8
<b>TOTAL</b>							<b>4333.95</b>									<b>4333.95</b>

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW URFA PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: URFA PLANT

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

PAGE: 9

~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	395	79.0											79.0
0250031112	AIR LIFT " "	1	1.6	527	5.27											5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6				5.2								5.2
2150021111	" " "	2	0.27	1.2				2.4								2.4
2150021111	" " "	4	0.11	0.35				1.4								1.4
2150021111	" " "	3	0.07	0.24				0.72								0.72
2150021111	" " "	2	1.4	5.52				11.04								11.04
2150021111	" " "	2	0.03	0.12				0.24								0.24
2150021111	" " "	1	0.6	2.0				2.0								2.0
2150021111	" " "	2	1.2	5.1				10.2								10.2
2150021111	" " "	1	0.27	0.87				0.87								0.87
2150021111	" " "	1	0.83	2.71				2.71								2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8				1.6								1.6
744232350031712	FULLER PUMP	2	4.0	489	97.8											97.8
TOTAL					182.07		38.38									220.45

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UNIDO/SPO (CIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 I

EQUIPMENT REQUIREMENTS FOR THE NEW

URFA PLANT, CAPACITY 600 000 TONS / YEAR  
PLANT

LOCATION: URFA

ANTICIPATED DATE OF COMMISSIONING: JULY 1984

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~~TOTAL WEIGHT IN TONS /~~ VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981-1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990		
744261024021711	CHAIN CONVEYOR	1	2.95	119.4			119.4										119.4
1212021711	" "	1	4.15	17.62			17.62										17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69			31.69										31.69
1233022711	" " "	1	7.8	31.69			31.69										31.69
1254024711	" " "	1	36.6	162.7			162.7										162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2			138.4										138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0			7.0										7.0
4311011911	" "	4	3.1	12.95			51.8										51.8
4321011911	" "	2	1.3	5.8			11.6										11.6
4322013941	" "	1	12.2	26.67			26.67										26.67
4331011911	" "	2	3.1	12.5			25.0										25.0
4341011911	" "	4	0.6	3.6			14.4										14.4
4341011911	" "	4	0.6	3.6			14.4										14.4
TOTAL							652.37										652.37

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UNIDO/SPO(ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 3

~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981 1990		
728310245021912	OSCILLATING SCREEN	2	1.33	7.5			15.0										15.0
6040024931	SEPARATOR	1	29.0	92.65				92.65									92.65
6040024951	"	2	27.1	105.4				210.8									210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8				398.8									398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3				1994.6									1994.6
1121718771	BALL MILL	1	419.3	1600.3				1600.3									1600.3
1227111711	CRUSHER	1	4.36	21.8				21.8									21.8
<b>TOTAL</b>								15.0	4318.95								4318.95

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UNIDO/PROCUREMENT)

COMMODITY CODE 3692 1

## CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION

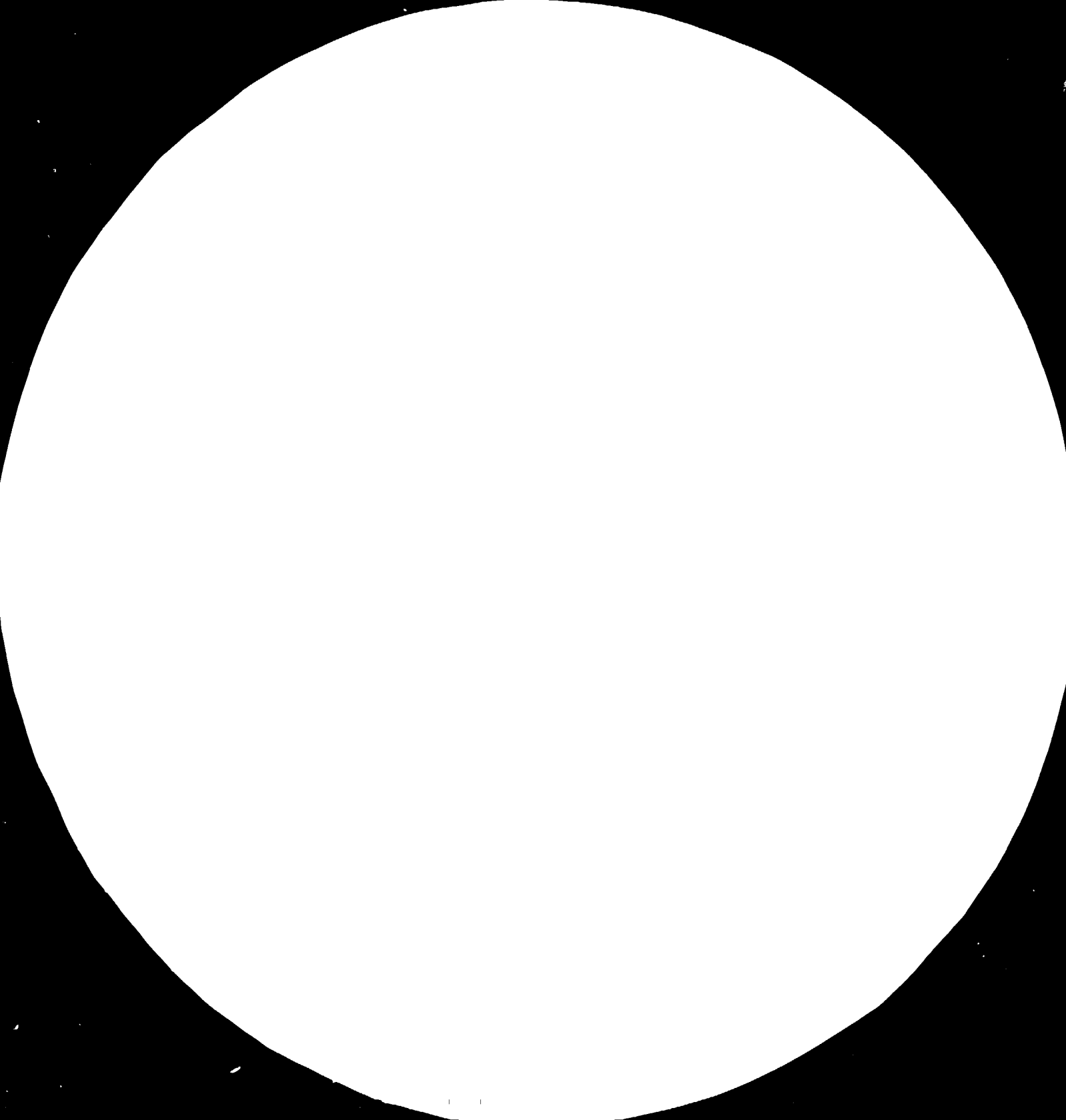
ANTICIPATED DATE OF COMMISSIONING 1986

PAGE: 4

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
7412100502011	BURNER	1	04	526				5.26							5.26
005021011	"	1	04	526				5.26							5.26
0025021912	FOR ROTARY KILN	1	31	6575				65.75							65.75
741322414202311	HOT GAS GENERATOR	1	70	33				3.3							3.3
2414202311	"	1	70	33				3.3							3.3
7416101111111	HEAT EXCHANGER	5	02	29				14.5							14.5
741631476479131	ROTARY KILN	1	6592	2300.8				2300.8							2300.8
741649073016421	COOLER FOR CLINKER	1	1484	163.2				163.2							163.2
741650951276111	CYCLONE PREHEATER	1	400	460.3				460.3							460.3
742200121211611	WATER PUMP	2	006	046				0.92							0.92
013211712	"	4	032	21				8.4							8.4
7423010226161	FUEL-OIL PUMP	2	011	105				2.1							2.1
1022611611	"	2	011	105				2.1							2.1
1022611611	"	2	011	105				2.1							2.1
1033611611	"	2	04	245				4.9							4.9
1033611611	"	3	023	364				10.92							10.92
<b>TOTAL</b>								<b>3,053.11</b>							<b>3,053.11</b>

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MICROSCOPY RESOLUTION TEST CHART

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UNIDO/SPO ( CIMENTO )

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION: \_\_\_\_\_

PLANT 1

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 6

~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743420021111911	VENTILATOR	4	0.20	3.87				15.48								15.48
0021111911	"	2	0.32	2.2				4.4								4.4
0021131911	"	2	0.52	6.41				12.82								12.82
0031111911	"	4	0.12	2.2				8.8								8.8
0031111911	"	2	0.12	2.06				4.12								4.12
0051131911	"	2	1.05	15.6				31.2								31.2
0051131911	"	1	0.52	13.5				13.5								13.5
0051131911	"	6	1.1	10.5				63.0								63.0
0051131911	"	5	2.2	24.3				121.5								121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8				25.8								25.8
0081131922	VENTILATOR	2	19.4	133.45				266.9								266.9
0081132931	"	1	6.2	89.5				89.5								89.5
0081133942	"	1	26.6	175.1				175.1								175.1
0051133921	"	2	14.8	47.4				94.8								94.8
TOTAL								467.8	459.12							926.92

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR

LOCATION:

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 8

~~TOTAL WEIGHT IN TONS~~ / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
74411202700392	DUMP TRUCKS	3	10.0	52.6						157.8					157.8
2045003632	" "	5	23.8	204.62						1,023.1					1,023.1
TOTAL										1,180.9					1,180.9

UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 9

~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981- 1990	
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	395				79.0								79.0
0250031112	AIR LIFT " "	1	1.6	5.27				5.27								5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6				5.2								5.2
2150021111	" " "	2	0.27	1.2				2.4								2.4
2150021111	" " "	4	0.11	0.35				1.4								1.4
2150021111	" " "	3	0.07	0.24				0.72								0.72
2150021111	" " "	2	1.4	5.52				11.04								11.04
2150021111	" " "	2	0.03	0.12				0.24								0.24
2150021111	" " "	1	0.6	2.0				2.0								2.0
2150021111	" " "	2	1.2	5.1				10.2								10.2
2150021111	" " "	1	0.27	0.87				0.87								0.87
2150021111	" " "	1	0.83	2.71				2.71								2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8				1.6								1.6
744232350031712	FULLER PUMP	2	4.0	48.9			97.8									97.8
TOTAL							97.8	122.65								220.45



UNIDO/SPO(CIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 11

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
744261024021711	CHAIN CONVEYOR	1	2.95	119.4				119.4									119.4
1212021711	" "	1	4.15	17.62				17.62									17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69				31.69									31.69
1233022711	" " "	1	7.8	31.69				31.69									31.69
1254024711	" " "	1	36.6	162.7				162.7									162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	692				138.4									138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0				7.0									7.0
4311011911	" "	4	3.1	12.95				51.8									51.8
4321011911	" "	2	1.3	58				11.6									11.6
4322013941	" "	1	12.2	26.67				26.67									26.67
4331011911	" "	2	3.1	12.5				25.0									25.0
4341011911	" "	4	0.6	3.6				14.4									14.4
4341011911	" "	4	0.6	3.6				14.4									14.4
TOTAL								652.37									652.37

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION:

ANTICIPATED DATE OF COMMISSIONING: 1986

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- TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744265121014911	BUCKET ELEVATOR	1	41.2	165.76				165.76								165.76
5132013911	" "	2	18.5	73.34				146.68								146.68
5132013911	" "	2	15.2	60.3				120.6								120.6
5132013911	" "	2	16.3	71.0				142.0								142.0
5142023911	" "	2	21.5	92.2				184.4								184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5				43.5								43.5
5232024911	" " "	1	37.7	147.4				147.4								147.4
811301192	WEIGH FEEDER	1	0.96	30.2			30.2									30.2
8113011912	" "	2	1.5	13.8			27.6									27.6
822011912	" "	1	0.79	24.92			24.92									24.92
8123011912	" "	1	1.24	39.0			39.0									39.0
8123011912	" "	2	2.0	18.5			37.0									37.0
8133011912	" "	2	2.5	23.1			46.2									46.2
8133011912	" "	1	1.15	35.9			35.9									35.9
8133011912	" "	1	2.74	71.5			71.5									71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	184.32			308.64									308.64
TOTAL							620.96	950.34								1571.3

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMET REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 60000 TONS/YEAR  
 LOCATION: PLANT 1

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 13

TOTAL WEIGHT ~~IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8			11.8										11.8
749310315131712	"	2	2.3	23.4			46.8										46.8
749310334134742	"	1	29.6	175.0			175.0										175.0
749310362133742	"	2	19.7	46.7			293.4										293.4
749310384135752	"	2	77.8	396.4			792.8										792.8
74522	2 PACKING MACHINE	2	7.3	94.9			189.8										189.8
TOTAL							1,509.6										1,509.6
GRAND TOTAL							2,470.69	1,316.535	180.9								17,016.93

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 1

~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
692110211111111	BUNKER	1	1.2	3.2				3.2								3.2
02113111111	FEED HOPPER	2	3.0	7.9				15.8								15.8
02113211111	BUNKER	1	2.0	5.26				5.26								5.26
02113211111	"	2	1.63	4.3				8.6								8.6
07113211111	DAILY TANK	1	1.5	2.63				2.63								2.63
07113211111	" " , FUEL-OIL	1	1.1	1.97				1.97								1.97
07113211111	" " , DIESEL-FUEL	1	0.8	1.32				1.32								1.32
07443241111	MAIN TANKS	3	36.0	59.20				177.6								177.6
10113211111	DAILY TANK	1	1.5	2.63				2.63								2.63
692430411321411	AIR RECEIVER	2	0.5	1.97				3.94								3.94
04113214111	AIR TANK	2	0.1	0.4				0.8								0.8
711112011143311	BOILER WITH BURNER	2	10.2	84.25				168.5								168.5
TOTAL								392.25								392.25

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR

LOCATION: \_\_\_\_\_

PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 2

~~TOTAL WEIGHT IN TONS /~~ VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
723420031223622	LOADER	1	12.8	98.7				98.7								98.7
0041414632	"	1	30.0	225.3				225.3								225.3
1032615632	EXCAVATOR	2	62.0	255.83				511.66								511.66
723430149021312	ROCK DRILL	2	4.4	67.6				135.2								135.2
2011101611	AIR GUN	3	0.02	1.5				4.5								4.5
TOTAL								975.36								975.36

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 4

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
7 4 1 2 1 0 0 1 5 0 2 1 0 1 1	BURNER	1	0.4	5.26				5.26								5.26
0 0 1 5 0 2 1 0 1 1	"	1	0.4	5.26				5.26								5.26
0 0 2 5 0 2 1 9 1 2	FOR ROTARY KILN	1	3.1	65.75				65.75								65.75
7 4 1 3 2 2 4 1 4 2 0 2 3 1 1	HOT GAS GENERATOR	1	7.0	3.3				3.3								3.3
2 4 1 4 2 0 2 3 1 1	" " "	1	7.0	3.3				3.3								3.3
7 4 1 6 1 0 1 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9				14.5								14.5
7 4 1 6 3 1 4 7 6 4 7 9 1 3 1	ROTARY KILN	1	659.2	2300.8				2300.8								2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CLINKER	1	148.4	163.2				163.2								163.2
7 4 1 6 5 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER	1	140.0	460.3				460.3								460.3
7 4 2 2 0 0 1 2 1 2 1 1 6 1 1	WATER PUMP	2	0.06	0.46				0.92								0.92
0 1 3 2 1 1 1 7 1 2	" "	4	0.32	2.1				8.4								8.4
7 4 2 3 0 1 0 2 2 6 1 1 6 1 1	FUEL-OIL PUMP	2	0.11	1.05				2.1								2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05				2.1								2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05				2.1								2.1
1 0 3 3 6 1 1 6 1 1	" " "	2	0.14	2.45				4.9								4.9
1 0 3 3 6 1 1 6 1 1	" " "	3	0.23	3.64				10.92								10.92
<b>TOTAL</b>								3,053.11								3,053.11

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1986

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743610140025111	ELECTRO-FILTER	2	40.0	224.4				448.8								448.8
1010013111	" "	2	14.7	83.7				167.4								167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00				92.0								92.0
1122012111	CYCLONE	1	7.0	18.4				18.4								18.4
1132013111	"	4	10.5	27.7				110.8								110.8
1240025111	MULTICYCLONE	1	55.0	131.5				131.5								131.5
5011022411	AIR FILTER	6	7.5	14.8				88.8								88.8
743612034015111	COOLING WASHER	1	50.0	131.5				131.5								131.5
TOTAL								1,189.2								1,189.2





UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1986

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	40	395				79.0								79.0
0230031112	AIR LIFT " "	1	16	527				5.27								5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6				5.2								5.2
2150021111	" " "	2	0.27	1.2				2.4								2.4
2150021111	" " "	4	0.11	0.35				1.4								1.4
2150021111	" " "	3	0.07	0.24				0.72								0.72
2150021111	" " "	2	1.4	5.52				11.04								11.04
2150021111	" " "	2	0.03	0.12				0.24								0.24
2150021111	" " "	1	0.6	2.0				2.0								2.0
2150021111	" " "	2	1.2	5.1				10.2								10.2
2150021111	" " "	1	0.27	0.87				0.87								0.87
2150021111	" " "	1	0.83	2.71				2.71								2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8				1.6								1.6
744232350031712	FULLER PUMP	2	40	489			97.8									97.8
TOTAL							97.8	122.65								220.45

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE. 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1986

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TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

S-TC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
04250232011911	BELT CONVEYOR	1	2.59	12.36				12.36								12.36
0232011911	"	1	1.1	5.2				5.2								5.2
0232021911	"	2	0.7	4.7				9.4								9.4
0232021911	"	1	2.75	12.35				12.35								12.35
0232021911	"	2	3.76	19.1				38.2								38.2
0232021912	"	4	4.9	31.1				124.4								124.4
0242021911	"	1	3.0	16.14				16.14								16.14
0242021911	"	1	2.9	14.1				14.1								14.1
0242021911	"	2	3.5	17.7				35.4								35.4
0242022911	"	1	8.1	38.57				38.57								38.57
0242022911	"	1	8.7	37.0				37.0								37.0
0242023911	"	1	14.7	61.4				61.4								61.4
0242023911	"	1	21.0	85.9				85.9								85.9
0252019	"	1	3.6	17.39				17.39								17.39
0252019	"	1	3.1	14.81				14.81								14.81
0252019	"	1	4.2	17.1				17.1								17.1
025101491	"	1	28.8	138.5				138.5								138.5
0252014912	"	1	34.1	156.45				156.45								156.45
0272012711	"	1	8.3	35.5				35.5								35.5
0272012911	"	1	5.6	26.07				26.07								26.07
0272012911	"	1	7.6	33.56				33.56								33.56
0272012911	"	1	9.9	43.24				43.24								43.24
0272013911	"	1	17.7	78.96				78.96								78.96
	TOTAL							1,052.0								1,052.0

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 11

TOTAL WEIGHT IN TONS / VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744261024021711	CHAIN CONVEYOR	1	2.95	119.4				119.4								119.4
1212021711	"	1	4.15	17.62				17.62								17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69				31.69								31.69
1233022711	" " "	1	7.8	31.69				31.69								31.69
1254024711	" " "	1	36.6	162.7				162.7								162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	692				138.4								138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0				7.0								7.0
4311011911	" "	4	3.1	12.95				51.8								51.8
4321011911	" "	2	1.3	58				11.6								11.6
4322013941	" "	1	12.2	26.67				26.67								26.67
4331011911	" "	2	3.1	12.5				25.0								25.0
4341011911	" "	4	0.6	3.6				14.4								14.4
4341011911	" "	4	0.6	3.6				14.4								14.4
TOTAL								652.37								652.37

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 12

- TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QT REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744265121014911	BUCKET ELEVATOR	1	41.2	165.76				165.76								165.76
5132013911	"	2	18.5	73.34				146.68								146.68
5132013911	"	2	15.2	60.3				120.6								120.6
5132013911	"	2	16.3	71.0				142.0								142.0
* 420213	"	2	21.5	92.2				184.4								184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5				43.5								43.5
5232024911	"	1	37.7	147.4				147.4								147.4
81301192	WEIGH FEEDER	1	0.96	30.2			30.2									30.2
813011912	"	2	1.5	13.8			27.6									27.6
82201912	"	1	0.79	24.92			24.92									24.92
812301912	"	1	1.24	39.0			39.0									39.0
8123011912	"	2	2.0	18.5			37.0									37.0
8133011912	"	2	2.5	23.1			46.2									46.2
8133011912	"	1	1.15	35.9			35.9									35.9
8133011912	"	1	2.74	71.5			71.5									71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	154.32			308.64									308.64
TOTAL							620.96	950.34								1571.3

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UNIDO/SPO (CIMENTO)

COMMODITY CODE 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMT REQUIREMENTS FOR THE NEW MEDITERRANIAN REGION PLANT, CAPACITY 60000 TONS/YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1989

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TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8							11.8						11.8
749310315131712	" " "	2	2.3	23.4							46.8						46.8
749310334134742	" " "	1	29.6	175.0							175.0						175.0
749310362133742	" " "	2	18.7	148.7							293.4						293.4
749310384135752	" " "	2	77.8	306.4							792.8						792.8
74522	2 PACKING MACHINE	2	73	94.9							189.8						189.8
TOTAL											1,509.6						1,509.6
GRAND TOTAL											3,470.68	13,165.35	1,180.9				17,816.93

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1987

PAGE: 1

~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
692110211111111	BUNKER	1	1.2	3.2					3.2							3.2
0211311111	FEED HOPPER	2	3.0	7.9					15.8							15.8
0211321111	BUNKER	1	2.0	5.26					5.26							5.26
0211321111	"	2	1.63	4.3					8.6							8.6
0711321111	DAILY TANK	1	1.5	2.63					2.63							2.63
0711321111	" " , FUEL-OIL	1	1.1	1.97					1.97							1.97
0711321111	" " , DIESEL-FUEL	1	0.8	1.32					1.32							1.32
0744324111	MAIN TANKS	3	36.0	59.20					177.6							177.6
1011321111	DAILY TANK	1	1.5	2.63					2.63							2.63
692430411321411	AIR RECEIVER	2	0.5	1.97					3.94							3.94
0411321411	AIR TANK	2	0.1	0.4					0.8							0.8
7111201143311	BOILER WITH BURNER	2	10.2	84.25					168.5							168.5
TOTAL									392.29							392.29

UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1987

PAGE: 2

~~TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000)~~ (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
7 2 3 4 2 0 0 3 1 2 2 3 6 2 2	LOADER	1	12.8	98.7					98.7							98.7
0 0 4 1 4 1 4 6 3 2		1	30.0	225.3					225.3							225.3
1 0 3 2 6 1 5 6 3 2	EXCAVATOR	2	62.0	255.83					511.66							511.66
7 2 3 4 3 0 1 4 9 0 2 1 3 1 2	ROCK DRILL	2	4.4	67.6					135.2							135.2
2 0 1 1 1 0 1 6 1 1	AIR GUN	3	0.02	1.5					4.5							4.5
TOTAL									979.36							979.36

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UNIDO/SPO(ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1987

PAGE: 3

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1980	1990	
728310245021912	OSCILLATING SCREEN	2	1.33	7.5				15.0								15.0
6040024931	SEPERATOR	1	29.0	92.65					92.65							92.65
6040024951	"	2	27.1	105.4					210.8							210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8					398.8							398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3					1994.6							1994.6
1121718771	BALL MILL	1	419.3	1600.3					1600.3							1600.3
1227111711	CRUSHER	1	4.36	21.8					21.8							21.8
	TOTAL							15.0	431895							433395

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UNDO/SPD (CEMENT)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW FLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1987

PAGE: 4

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
741210015021011	BURNER	1	0.4	5.26					5.26							5.26
0015021011	"	1	0.4	5.26					5.26							5.26
002021912	" FOR ROTARY KILN	1	3.1	65.75					65.75							65.75
741322414202311	HOT GAS GENERATOR	1	7.0	3.3					3.3							3.3
2414202311	" " "	1	7.0	3.3					3.3							3.3
741610111111111	HEAT EXCHANGER	5	0.2	2.9					14.5							14.5
741631476479131	ROTARY KILN	1	659.2	2300.8					2300.8							2300.8
741649073016421	COOLER FOR CLINKER	1	148.4	163.2					163.2							163.2
741650991276111	CYCLONE PREHEATER	1	140.0	460.3					460.3							460.3
742200121241611	WATER PUMP	2	0.06	0.46					0.92							0.92
0132111712	" " "	4	0.32	2.1					8.4							8.4
74230102261611	FUEL-OIL PUMP	2	0.11	1.05					2.1							2.1
1022611611	" " "	2	0.11	1.05					2.1							2.1
1022611611	" " "	2	0.11	1.05					2.1							2.1
1033611611	" " "	2	0.14	2.45					4.9							4.9
1033611611	" " "	3	0.23	3.64					10.92							10.92
TOTAL									3053.11							3053.11

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UNIDO/SPO(ÇİMENTO)

COMMODITY CODE: 3692 1

## CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1987

PAGE: 5

~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
743130031121712	COMPRESSOR	2	0.42	1.84				3.58									3.58
0111121712	"	2	1.0	6.8				13.6									13.6
0123121712	"	2	1.2	3.0				6.0									6.0
0132121612	"	2	1.5	71.82				143.64									143.64
0232122722	"	4	7.95	44.2				176.8									176.8
2121111712	"	2	0.7	8.9				17.8									17.8
2131111712	"	2	5.33	32.85				65.7									65.7
2131111712	"	3	4.28	66.8				200.4									200.4
2141111712	"	2	2.6	36.6				73.2									73.2
2221111712	"	4	0.3	13.7				54.8									54.8
2321111712	"	1	0.26	3.9				3.9									3.9
TOTAL								759.52									759.52

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UNIDO/SPO ( CEMENTO )

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION: \_\_\_\_\_

PLANT 1

ANTICIPATED DATE OF COMMISSIONING: 1987

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~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D. (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743420021111911	VENTILATOR	4	0.20	3.87					15.48						15.48
0021111911	"	2	0.32	2.2					4.4						4.4
0021131911	"	2	0.52	6.41					12.82						12.82
0031111911	"	4	0.12	2.2					8.8						8.8
0031111911	"	2	0.12	2.06					4.12						4.12
0051131911	"	2	1.05	15.6					31.2						31.2
0051131911	"	1	0.52	13.5					13.5						13.5
0051131911	"	6	1.1	10.5					63.0						63.0
0051131911	"	5	2.2	24.3					121.5						121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8				25.8							25.8
0081131922	VENTILATOR	2	19.4	133.45				266.9							266.9
0081132931	"	1	6.2	89.5					89.5						89.5
0081133942	"	1	26.6	175.1				175.1							175.1
0051133921	"	2	14.8	47.4					94.8						94.8
TOTAL								467.8	459.12						926.92

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1987

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744112027003921	DUMP TRUCKS	3	10.0	52.6						157.0						157.0
2045003632	" "	5	23.8	204.62						1,023.1						1,023.1
TOTAL										1,180.9					1,180.9	

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1987

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990	
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	39.5						79.0						79.0
0250031112	AIR LIFT " "	1	1.6	5.27						5.27						5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6						5.2						5.2
2150021111	" " "	2	0.27	1.2						2.4						2.4
2150021111	" " "	4	0.11	0.35						1.4						1.4
2150021111	" " "	3	0.07	0.24						0.72						0.72
2150021111	" " "	2	1.4	5.52						11.04						11.04
2150021111	" " "	2	0.03	0.12						0.24						0.24
2150021111	" " "	1	0.6	2.0						2.0						2.0
2150021111	" " "	2	1.2	5.1						10.2						10.2
2150021111	" " "	1	0.27	0.87						0.87						0.87
2150021111	" " "	1	0.83	2.71						2.71						2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8						1.6						1.6
744232350031712	FULLER PUMP	2	4.0	48.9				97.8								97.8
TOTAL								97.8	122.65							220.45

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UNIDO/SPO (CIMENTO)

COMMODITY CODE 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1987

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~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990		
744260232011911	BELT CONVEYOR	1	2.59	12.36						12.36							12.36
0232011911	" "	1	1.1	5.2						5.2							5.2
0232021911	" "	2	0.7	4.7						9.4							9.4
0232021911	" "	1	2.75	12.35						12.35							12.35
0232021911	" "	2	3.76	19.1						38.2							38.2
0232021912	" "	4	4.9	31.1						124.4							124.4
0242021911	" "	1	3.0	16.14						16.14							16.14
0242021911	" "	1	2.9	14.1						14.1							14.1
0242021911	" "	2	3.5	17.7						35.4							35.4
0242022911	" "	1	8.1	38.57						38.57							38.57
0242022911	" "	1	8.7	37.0						37.0							37.0
0242023911	" "	1	14.7	61.4						61.4							61.4
0242023911	" "	1	21.0	85.9						85.9							85.9
0252011911	" "	1	3.6	17.39						17.39							17.39
0252011911	" "	1	3.1	14.81						14.81							14.81
0252011911	" "	1	4.2	17.1						17.1							17.1
0252014911	" "	1	28.8	138.5						138.5							138.5
0252014912	" "	1	34.1	156.45						156.45							156.45
0272012711	" "	1	8.3	35.5						35.5							35.5
0272012911	" "	1	5.6	26.07						26.07							26.07
0272012911	" "	1	7.6	33.56						33.56							33.56
0272012911	" "	1	9.9	43.24						43.24							43.24
0272013911	" "	1	17.7	78.96						78.96							78.96
TOTAL										1,052.0							1,052.0

UNIDO/SPO(ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1987

PAGE: 11

~~TOTAL WEIGHT IN TONS/VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990	
744261024021711	CHAIN CONVEYOR	1	2.95	119.4					119.4							119.4
1212021711	" "	1	4.15	17.62					17.62							17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69					31.69							31.69
1233022711	" " "	1	7.8	31.69					31.69							31.69
1254024711	" " "	1	36.6	162.7					162.7							162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2					138.4							138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0					7.0							7.0
4311011911	" "	4	3.1	12.95					51.8							51.8
4321011911	" "	2	1.3	5.8					11.6							11.6
4322013941	" "	1	12.2	26.67					26.67							26.67
4331011911	" "	2	3.1	12.5					25.0							25.0
4341011911	" "	4	0.6	3.6					14.4							14.4
4341011911	" "	4	0.6	3.6					14.4							14.4
TOTAL									652.37							652.37

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1987

PAGE: 12

~~TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
744265121014911	BUCKET ELEVATOR	1	41.2	165.76					165.76						165.76
5132013911	" "	2	18.5	73.34					146.68						146.68
5132013911	" "	2	15.2	60.3					120.6						120.6
5132013911	" "	3	16.3	71.0					142.0						142.0
5142023911	" "	2	21.5	92.2					184.4						184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5					43.5						43.5
5232024911	" "	1	37.7	147.4					147.4						147.4
8113011912	WEIGH FEEDER	1	0.96	30.2				30.2							30.2
8113011912	" "	2	1.5	13.8				27.6							27.6
8122011912	" "	1	0.79	24.92				24.92							24.92
8123011912	" "	1	1.24	39.0				39.0							39.0
8123011912	" "	2	2.0	18.5				37.0							37.0
8133011912	" "	2	2.5	23.1				46.2							46.2
8133011912	" "	1	1.15	35.9				35.9							35.9
8133011912	" "	1	2.74	71.5				71.5							71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	154.32				308.64							308.64
TOTAL								620.96	50.34						1571.3

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMET REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1987

\* - TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981- 1990	
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8				11.8								11.8
749310319131712	"	2	2.3	23.4				46.8								46.8
749310334134742	"	1	29.6	175.0				175.0								175.0
749310362133742	"	2	19.7	146.7				293.4								293.4
749310384135752	"	2	77.8	306.4				792.8								792.8
74922	2 PACKING MACHINE	2	73	949				189.8								189.8
TOTAL								1,509.6								1,509.6
GRAND TOTAL								2,470.60	13,165.35	1,180.9						17,816.93

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1987

PAGE: 1

~~TOTAL WEIGHT IN TONS/VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
69211021111111	BUNKER	1	1.2	3.2						3.2						3.2
0211311111	FEED HOPPER	2	3.0	7.9						15.8						15.8
0211321111	BUNKER	1	2.0	5.26						5.26						5.26
0211321111	"	2	1.63	4.3						8.6						8.6
0711321111	DAILY TANK	1	1.5	2.63						2.63						2.63
0711321111	" " , FUEL-OIL	1	1.1	1.97						1.97						1.97
0711321111	" " , DIESEL-FUEL	1	0.8	1.32						1.32						1.32
0744324111	MAIN TANKS	3	36.0	59.20						177.6						177.6
1011321111	DAILY TANK	1	1.5	2.63						2.63						2.63
692430411321411	AIR RECEIVER	2	0.5	1.97						3.94						3.94
0411321411	AIR TANK	2	0.1	0.4						0.8						0.8
71112011143311	BOILER WITH BURNER	2	10.2	84.25						168.5						168.5
TOTAL										392.25						392.25

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1987

PAGE: 2

~~TOTAL WEIGHT IN TONS~~ / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
723420031223622	LOADER	1	12.8	98.7					98.7						98.7
004144632		1	30.0	225.3					225.3						225.3
1032615632	EXCAVATOR	2	62.0	255.83					511.66						511.66
723430149021312	ROCK DRILL	2	4.4	67.6					135.2						135.2
2011101611	AIR GUN	3	0.02	1.5					4.5						4.5
TOTAL									975.96						975.96

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UNIDO/SPO(GIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1987

PAGE: 3

~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1980		
728310245021912	OSCILLATING SCREEN	2	1.33	7.5				15.0								15.0
6040024931	SEPERATOR	1	29.0	92.65					92.65							92.65
6040024951		2	27.1	105.4					210.8							210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8					398.8							398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3					1994.6							1994.6
1121718771	BALL MILL	1	419.3	1600.3					1600.3							1600.3
1227111711	CRUSHER	1	4.36	21.8					21.8							21.8
TOTAL								15.0	4318.95							4333.95

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE : 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1987

PAGE : 4

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
7 4 1 2 1 0 0 1 5 0 2 1 0 1 1	BURNER	1	0.4	5.26					5.26						5.26
0015021011	"	1	0.4	5.26					5.26						5.26
0025021912	" FOR ROTARY KILN	1	3.1	65.75					65.75						65.75
7 4 1 3 2 2 4 1 4 2 0 2 3 1 1	HOT GAS GENERATOR	1	7.0	3.3					3.3						3.3
2 4 1 4 2 0 2 3 1 1	" " "	1	7.0	3.3					3.3						3.3
7 4 1 6 1 0 1 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9					14.5						14.5
7 4 1 6 3 1 4 7 6 4 7 9 1 3 1	ROTARY KILN	1	699.2	2300.8					2300.8						2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CLINKER	1	148.4	163.2					163.2						163.2
7 4 1 6 5 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER	1	140.0	460.3					460.3						460.3
7 4 2 2 0 0 1 2 1 2 1 1 6 1 1	WATER PUMP	2	0.06	0.46					0.92						0.92
0 1 3 2 1 1 1 7 1 2	" "	4	0.32	2.1					8.4						8.4
7 4 2 3 0 1 0 2 2 6 1 1 6 1 1	FUEL-OIL PUMP	2	0.11	1.05					2.1						2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05					2.1						2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05					2.1						2.1
1 0 3 3 6 1 1 6 1 1	" " "	2	0.14	2.45					4.9						4.9
1 0 3 3 6 1 1 6 1 1	" " "	3	0.23	3.64					10.92						10.92
TOTAL									3.053.11						3.053.11

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1987

PAGE: 5

~~TOTAL WEIGHT IN TONS / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NCS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743130031121712	COMPRESSOR	2	0.42	1.84				3.68								3.68
0111121712	"	2	1.0	6.8				13.6								13.6
0123121712	"	2	1.2	3.0				6.0								6.0
0132121612	"	2	1.5	71.82				143.64								143.64
0232122722	"	4	7.95	44.2				176.8								176.8
2121111712	"	2	0.7	8.9				17.8								17.8
2131111712	"	2	5.33	32.85				65.7								65.7
2131111712	"	3	4.28	66.8				200.4								200.4
2141111712	"	2	2.6	36.6				73.2								73.2
2221111712	"	4	0.3	13.7				54.8								54.8
2321111712	"	1	0.26	3.9				3.9								3.9
<b>TOTAL</b>								<b>759.52</b>								<b>759.52</b>

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UNIDO/SPO ( CIMENTO )

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1987

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981- 1990
74342002111911	VENTILATOR	4	0.20	3.87					15.48						15.48
0021111911	"	2	0.32	2.2					4.4						4.4
0021131911	"	2	0.52	6.41					12.82						12.82
0031111911	"	4	0.12	2.2					8.8						8.8
0031111911	"	2	0.12	2.06					4.12						4.12
0051131911	"	2	1.05	15.6					31.2						31.2
0051131911	"	1	0.52	13.5					13.5						13.5
0051131911	"	6	1.1	10.5					63.0						63.0
0051131911	"	5	2.2	24.3					121.5						121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8				25.8							25.8
0081131922	VENTILATOR	2	19.4	133.45				266.9							266.9
0081132931	"	1	6.2	89.5					89.5						89.5
0081133942	"	1	26.6	175.1				175.1							175.1
0051133921	"	2	14.8	47.4					94.8						94.8
TOTAL								467.8	459.12						926.92



UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1987

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TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990		
743610140025111	ELECTRO-FILTER	2	40.0	224.4						448.8							448.8
1010013111	" "	2	14.7	83.7						167.4							167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00						92.0							92.0
1122012111	CYCLONE	1	7.0	18.4						18.4							18.4
1132013111	"	4	10.5	27.7						110.8							110.8
1240025111	MULTICYCLONE	1	55.0	131.5						131.5							131.5
5011022411	AIR FILTER	6	7.5	14.8						88.8							88.8
743612034015111	COOLING WASHER	1	50.0	131.5						131.5							131.5
TOTAL										1,189.2							1,189.2

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1987

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990	
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	395						79.0						79.0
0250031112	AIR LIFT " "	1	1.6	5.27						5.27						5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6						5.2						5.2
2150021111	" " "	2	0.27	1.2						2.4						2.4
2150021111	" " "	4	0.11	0.35						1.4						1.4
2150021111	" " "	3	0.07	0.24						0.72						0.72
2150021111	" " "	2	1.4	5.52						11.04						11.04
2150021111	" " "	2	0.03	0.12						0.24						0.24
2150021111	" " "	1	0.6	2.0						2.0						2.0
2150021111	" " "	2	1.2	5.1						10.2						10.2
2150021111	" " "	1	0.27	0.87						0.87						0.87
2150021111	" " "	1	0.83	2.71						2.71						2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8						1.6						1.6
744232350031712	FULLER PUMP	2	4.0	48.9					97.8							97.8
TOTAL									97.8	122.65						220.45

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1987

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990		
744260232011911	BELT CONVEYOR	1	2.59	12.36						12.36							12.36
0232011911	" "	1	1.1	5.2						5.2							5.2
0232021911	" "	2	0.7	4.7						9.4							9.4
0232021911	" "	1	2.75	12.35						12.35							12.35
0232021911	" "	2	3.76	19.1						38.2							38.2
0232021912	" "	4	4.9	31.1						124.4							124.4
0242021911	" "	1	3.0	16.14						16.14							16.14
0242021911	" "	1	2.9	14.1						14.1							14.1
0242021911	" "	2	3.5	17.7						35.4							35.4
0242022911	" "	1	8.1	38.57						38.57							38.57
0242022911	" "	1	8.7	37.0						37.0							37.0
0242023911	" "	1	14.7	61.4						61.4							61.4
0242023911	" "	1	21.0	85.9						85.9							85.9
0252011911	" "	1	3.6	17.39						17.39							17.39
0252011911	" "	1	3.1	14.81						14.81							14.81
0252011911	" "	1	4.2	17.1						17.1							17.1
0252014911	" "	1	28.8	138.5						138.5							138.5
0252014912	" "	1	34.1	156.45						156.45							156.45
0272012711	" "	1	8.3	35.5						35.5							35.5
0272012911	" "	1	5.8	26.07						26.07							26.07
0272012911	" "	1	7.6	33.56						33.56							33.56
0272012911	" "	1	9.9	43.24						43.24							43.24
0272013911	" "	1	17.7	78.96						78.96							78.96
TOTAL										1,052.0							1,052.0

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UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1987

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~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744261024021711	CHAIN CONVEYOR	1	2.95	119.4					119.4							119.4
1212021711	"	1	4.15	17.62					17.62							17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69					31.69							31.69
1233022711	" " "	1	7.8	31.69					31.69							31.69
1254024711	" " "	1	36.6	162.7					162.7							162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2					138.4							138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0					7.0							7.0
4311011911	" "	4	3.1	12.95					51.8							51.8
4321011911	" "	2	1.3	5.8					11.6							11.6
4322013941	" "	1	12.2	26.67					26.67							26.67
4331011911	" "	2	3.1	12.5					25.0							25.0
4341011911	" "	4	0.6	3.6					14.4							14.4
4341011911	" "	4	0.6	3.6					14.4							14.4
TOTAL									652.37							652.37

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692

## CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1987

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TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (N/S)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744265121014911	BUCKET ELEVATOR	1	41.2	165.76						165.76						165.76
513203911	"	2	18.5	73.34						146.68						146.68
513201391	"	2	15.2	60.3						120.6						120.6
5132013911	"	2	16.3	71.0						142.0						142.0
5142023911	"	2	21.5	92.2						184.4						184.4
5232023911	BUCKET ELEVATING CONV.		10.1	43.5						43.5						43.5
5232024911	" " "		37.7	147.4						147.4						147.4
8113011912	WEIGH FEEDER	1	0.96	30.2				30.2								30.2
8113011912	" "	2	1.5	13.8				27.6								27.6
8122011912	" "	1	0.79	24.92				24.92								24.92
8123011912	" "	1	1.24	39.0				39.0								39.0
8123011912	" "	2	2.0	18.5				37.0								37.0
8133011912	" "	2	2.5	23.1				46.2								46.2
8133011912	" "	1	1.15	35.9				35.9								35.9
8133011912	" "	1	2.74	71.5				71.5								71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	154.32				308.64								308.64
TOTAL								620.96	50.34							1571.3

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UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 60000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1987

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\* ~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990			
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990				
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8				11.8										11.8
749310315131712	" " "	2	2.3	23.4				46.8										46.8
749310334134742	" " "	1	29.5	175.0				175.0										175.0
749310362133742	" " "	2	19.7	146.7				293.4										293.4
749310384135752	" " "	2	77.8	306.4				792.8										792.8
74522	2 PACKING MACHINE	2	7.5	94.9				189.8										189.8
TOTAL								1,509.6										1,509.6
GRAND TOTAL								2,470.68	1,165.35	1,180.9								17,814.83

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT 1

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE 1

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
692110211111111	BUNKER	1	1.2	3.2							3.2						3.2
0211311111111	FEED HOPPER	2	3.0	7.9							15.8						15.8
3211321111111	BUNKER	1	2.0	5.26							5.26						5.26
0211321111111	"	2	1.63	4.3							8.6						8.6
0711321111111	DAILY TANK	1	1.5	2.63							2.63						2.63
0711321111111	" " , FUEL-OIL	1	1.1	1.97							1.97						1.97
0711321111111	" " , DIESEL-FUEL	1	0.8	1.32							1.32						1.32
0744324111111	MAIN TANKS	3	36.0	59.20							177.6						177.6
1011321111111	DAILY TANK	1	1.5	2.63							2.63						2.63
692430411321411	AIR RECEIVER	2	0.5	1.97							3.94						3.94
0411321411111	AIR TANK	2	0.1	0.4							0.8						0.8
711120111433111	BOILER WITH BURNER	2	10.2	84.25							168.5						168.5
TOTAL											392.25						392.25

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: PLANT 2

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 4

~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
741210015021011	BURNER	1	0.4	5.26						5.26					5.26
0015021011	"	1	0.4	5.26						5.26					5.26
0025021912	" FOR ROTARY KILN	1	3.1	65.75						65.75					65.75
741322414202311	HOT GAS GENERATOR	1	7.0	3.3						3.3					3.3
2414202311	" " "	1	7.0	3.3						3.3					3.3
741610111111111	HEAT EXCHANGER	5	0.2	2.9						14.5					14.5
741631476479131	ROTARY KILN	1	659.2	2300.8						2300.8					2300.8
741649073016421	COOLER FOR CLINKER	1	148.4	163.2						163.2					163.2
741650951276111	CYCLONE PREHEATER	1	140.0	460.3						460.3					460.3
742200121211611	WATER PUMP	2	0.06	0.46						0.92					0.92
0132111718	" " "	4	0.32	2.1						8.4					8.4
742301022611611	FUEL-OIL PUMP	2	0.11	1.05						2.1					2.1
1022611611	" " "	2	0.11	1.05						2.1					2.1
1022611611	" " "	2	0.11	1.05						2.1					2.1
1033611611	" " "	2	0.14	2.49						4.9					4.9
1033611611	" " "	3	0.23	3.64						10.92					10.92
TOTAL										3,053.11					3,053.11

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UNIDO/SPO(ÇIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT 1

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 5

~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS									TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	
743130031121712	COMPRESSOR	2	0.42	1.84					3.68					3.68
0111121712	"	2	1.0	6.8					13.6					13.6
0123121712	"	2	1.2	3.0					6.0					6.0
0132121612	"	2	1.5	71.82					143.64					143.64
0232122722	"	4	7.95	44.2					176.8					176.8
2121111712	"	2	0.7	8.9					17.8					17.8
2131111712	"	2	5.33	32.85					65.7					65.7
2131111712	"	3	4.28	66.8					200.4					200.4
2141111712	"	2	2.6	36.6					73.2					73.2
2221111712	"	4	0.3	13.7					54.8					54.8
2321111712	"	1	0.26	3.9					3.9					3.9
TOTAL									759.52					759.52

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UNIDO/SPO ( CEMENTO )

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION: \_\_\_\_\_

PLANT 2

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 6

~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000)~~ (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D. ( NOS )	UNIT WEIGHT ( TONS )	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743420021111911	VENTILATOR	4	0.20	3.87						15.48					15.48
0021111911	"	2	0.32	2.2						4.4					4.4
0021131911	"	2	0.52	6.41						12.82					12.82
0031111911	"	4	0.12	2.2						8.8					8.8
0031111911	"	2	0.12	2.06						4.12					4.12
0051131911	"	2	1.05	15.8						31.2					31.2
0051131911	"	1	0.92	13.5						13.5					13.5
0051131911	"	6	1.1	10.5						63.0					63.0
0051131911	"	5	2.2	24.3						121.5					121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8					25.8						25.8
0081131922	VENTILATOR	2	18.4	133.45					266.9						266.9
0081132931	"	1	8.2	88.5						88.5					88.5
0081133942	"	1	28.6	175.1					175.1						175.1
0051133921	"	2	14.8	47.4						94.8					94.8
<b>TOTAL</b>									467.8	459.12					926.92

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR

LOCATION:

PLANT 2

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE 7

TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743610140025111	ELECTRO-FILTER	2	40.0	224.4						448.8					448.8
1010013111	"	4	14.7	83.7						167.4					167.4
1113011111	CYCLONE, SINGLE	2	17.7	46.00						92.0					92.0
1122011111	CYCLONE	1	7.0	18.4						18.4					18.4
1132013111	"	4	10.5	27.7						110.8					110.8
1240025111	MULTICYCLONE	1	55.0	131.5						131.5					131.5
5011022411	AIR FILTER	6	7.5	14.8						88.8					88.8
743612034015111	COOLING WASHER	1	50.0	131.5						131.5					131.5
TOTAL										1,189.2					1,189.2

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR

LOCATION: \_\_\_\_\_

PLANT 2

ANTICIPATED DATE OF COMMISSIONING: 1980

PAGE: 8

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981 - 1990	
744112027003921	DUMP TRUCKS	3	10.0	52.6								157.8				157.8
2049003632	" "	5	23.8	204.62								1,023.1				1,023.1
TOTAL												1,180.9				1,180.9

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT 1

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990		
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	40	395							79.0						79.0
0250031112	AIR LIFT " "	1	16	527							5.27						5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	065	26							5.2						5.2
2150021111	" " "	2	027	1.2							2.4						2.4
2150021111	" " "	4	0.11	0.35							1.4						1.4
2150021111	" " "	3	007	0.24							0.72						0.72
2150021111	" " "	2	1.4	5.52							11.04						11.04
2150021111	" " "	2	0.03	0.12							0.24						0.24
2150021111	" " "	1	0.6	2.0							2.0						2.0
2150021111	" " "	2	1.2	5.1							10.2						10.2
2150021111	" " "	1	0.27	0.87							0.87						0.87
2150021111	" " "	1	0.83	2.71							2.71						2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8							1.6						1.6
744232350031712	FULLER PUMP	2	40	489						97.8							97.8
TOTAL										97.8	122.65						220.45

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 10

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990	
744260232011911	BELT CONVEYOR	1	2.59	12.36						12.36						12.36
023201911	" "	1	1.1	5.2						5.2						5.2
0232021911	" "	2	0.7	4.7						9.4						9.4
0232021911	" "	1	2.75	12.35						12.35						12.35
0232021911	" "	2	3.76	19.1						38.2						38.2
0232021912	" "	4	4.9	31.1						124.4						124.4
0242021911	" "	1	3.0	16.14						16.14						16.14
0242021911	" "	1	2.9	14.1						14.1						14.1
0242021911	" "	2	3.5	17.7						35.4						35.4
0242022911	" "	1	8.1	38.57						38.57						38.57
0242022911	" "	1	8.7	37.0						37.0						37.0
0242023911	" "	1	14.7	61.4						61.4						61.4
0242023911	" "	1	21.0	85.9						85.9						85.9
0252011911	" "	1	3.6	17.39						17.39						17.39
0252011911	" "	1	3.1	14.81						14.81						14.81
0252011911	" "	1	4.2	17.1						17.1						17.1
0252014911	" "	1	28.8	138.5						138.5						138.5
0252014912	" "	1	34.1	156.45						156.45						156.45
0272012711	" "	1	8.3	35.5						35.5						35.5
0272012911	" "	1	5.6	26.07						26.07						26.07
0272012911	" "	1	7.6	33.56						33.56						33.56
0272012911	" "	1	9.9	43.24						43.24						43.24
0272013911	" "	1	17.7	78.96						78.96						78.96
TOTAL										1,052.0						1,052.0

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UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT 1

ANTICIPATED DATE OF COMMISSIONING: 1988

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TOTAL WEIGHT IN TONS/VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744261024021711	CHAIN CONVEYOR	1	2.95	119.4						119.4					119.4
1212021711	" "	1	4.15	17.62						17.62					17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69						31.69					31.69
1233022711	" " "	1	7.8	31.69						31.69					31.69
1254024711	" " "	1	36.6	162.7						162.7					162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2						138.4					138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0						7.0					7.0
4311011911	" "	4	3.1	12.95						51.8					51.8
4321011911	" "	2	1.3	5.8						11.6					11.6
4322013941	" "	1	12.2	26.67						26.67					26.67
4331011911	" "	2	3.1	12.5						25.0					25.0
4341011911	" "	4	0.6	3.6						14.4					14.4
4341011911	" "	4	0.6	3.6						14.4					14.4
TOTAL										552.37					552.37

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT 1

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990	
744265121014911	BUCKET ELEVATOR	1	41.2	165.76						165.76						165.76
5132013911	" "	2	18.5	73.34						146.68						146.68
5132013911	" "	2	15.2	60.3						120.6						120.6
5132013911	" "	2	16.3	71.0						142.0						142.0
5142023911	" "	2	21.5	92.2						184.4						184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5						43.5						43.5
5232024911	" " "	1	37.7	147.4						147.4						147.4
8113011912	WEIGH FEEDER	1	0.96	30.2					30.2							30.2
8113011912	" "	2	1.5	13.8					27.6							27.6
8122011912	" "	1	0.79	24.92					24.92							24.92
8123011912	" "	1	1.24	39.0					39.0							39.0
8123011912	" "	2	2.0	18.5					37.0							37.0
8133011912	" "	2	2.5	23.1					46.2							46.2
8133011912	" "	1	1.15	35.9					35.9							35.9
8133011912	" "	1	2.74	71.5					71.5							71.5
744260460023712	RECLAIMING SCRAPER	2	15.7	154.32					308.64							308.64
TOTAL									620.96	50.34						1571.3

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UNIDO/SPO (ÇEMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: PLANT 3

ANTICIPATED DATE OF COMMISSIONING: 1986

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-TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS									TOTAL		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981- 1990	
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8						11.8						11.8
749310315131712	" " "	2	2.3	23.4						46.8						46.8
749310334134742	" " "	1	29.6	175.0						175.0						175.0
749310362133742	" " "	2	19.7	146.7						293.4						293.4
749310384135752	" " "	2	77.8	386.4						792.8						792.8
74922	2 PACKING MACHINE	2	7.3	94.9												189.8
TOTAL										1,509.6						1,509.6
GRAND TOTAL										3,470.6	1,165.35	1,180.9				17,816.93

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UNIDO/SPO ( CEMENTO )

COMMODITY CODE: 3492

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 2

TOTAL WEIGHT IN TONS/ VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981-1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
723420031223622	LOADER	1	12.8	98.7							98.7					98.7	
0041414632	"	1	30.0	225.3							225.3					225.3	
1032615632	EXCAVATOR	2	62.0	255.83							511.66					511.66	
723430149021312	ROCK DRILL	2	4.4	67.6							135.2					135.2	
2011101611	AIR GUN	3	0.92	1.5							4.5					4.5	
TOTAL																975.36	975.36

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UNIDO/SPO(ÇİMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 3

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981-1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
728310245021912	OSCILLATING SCREEN	2	1.33	7.5						15.0							15.0
6040024931	SEPERATOR	1	29.0	92.65							92.65						92.65
6040024951	"	2	27.1	105.4							210.8						210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8							398.8						398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3							994.6						994.6
1121718771	BALL MILL	1	419.3	1600.3							1600.3						1600.3
1227111711	CRUSHER	1	4.36	21.8							21.8						21.8
TOTAL										15.0	4,318.95						4,333.95

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT 8

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE 4

TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS							TOTAL 1981-1990			
					1981	1982	1983	1984	1985	1986	1987		1988	1989	1990
7 4 1 2 1 0 0 1 5 0 2 1 0 1 1	BURNER	1	0.4	5.26						5.26					5.26
0 0 1 5 0 2 1 0 1 1	"	1	0.4	5.26						5.26					5.26
0 0 2 5 0 2 1 9 1 2	" FOR ROTARY KILN	1	3.1	65.75						65.75					65.75
7 4 1 3 2 2 4 1 4 2 0 2 3 1 1	HOT GAS GENERATOR	1	7.0	3.3						3.3					3.3
2 4 1 4 2 0 2 3 1 1	" " "	1	7.0	3.3						3.3					3.3
7 4 1 6 1 0 1 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9						14.5					14.5
7 4 1 6 3 1 4 7 6 4 7 9 1 3 1	ROTARY KILN	1	659.2	2300.8						2300.8					2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CLINKER	1	148.4	163.2						163.2					163.2
7 4 1 6 5 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER	1	140.0	460.3						460.3					460.3
7 4 2 2 0 0 1 2 1 2 1 1 6 1 1	WATER PUMP	2	0.06	0.46						0.92					0.92
0 1 3 2 1 1 1 7 1 2	" " "	4	0.32	2.1						8.4					8.4
7 4 2 3 0 1 0 2 2 6 1 1 6 1 1	FUEL-OIL PUMP	2	0.11	1.05						2.1					2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05						2.1					2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05						2.1					2.1
1 0 3 3 6 1 1 6 1 1	" " "	2	0.14	2.45						4.9					4.9
1 0 3 3 6 1 1 6 1 1	" " "	3	0.23	3.64						10.92					10.92
TOTAL										3053.11					3053.11

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 5

~~TOTAL WEIGHT IN TONS~~ / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
7 4 3 1 3 0 0 3 1 1 2 1 7 1 2	COMPRESSOR	2	0.42	1.84						3.68						3.68
0 1 1 1 1 2 1 7 1 2	"	2	1.0	6.8						13.6						13.6
0 1 2 3 1 2 1 7 1 2	"	2	1.2	3.0						6.0						6.0
0 1 3 2 1 2 1 6 1 2	"	2	1.5	71.82						143.64						143.64
0 2 3 2 1 2 2 7 2 2	"	4	7.95	44.2						176.8						176.8
2 2 2 1 1 1 1 7 1 2	"	2	0.7	8.9						17.8						17.8
2 1 3 1 1 1 1 7 1 2	"	2	5.33	32.85						65.7						65.7
2 1 3 1 1 1 1 7 1 2	"	3	4.28	66.8						200.4						200.4
2 1 4 1 1 1 1 7 1 2	"	2	2.6	36.6						73.2						73.2
2 2 2 1 1 1 1 7 1 2	"	4	0.3	13.7						54.8						54.8
2 3 2 1 1 1 1 7 1 2	"		0.26	3.9						3.9						3.9
TOTAL										759.52						759.52

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UNIDO/SPO ( CIMENTO )

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION: \_\_\_\_\_

PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 6

~~TOTAL WEIGHT IN TONS~~/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743420021111911	VENTILATOR	4	0.20	3.87						15.48						15.48
0021111911	"	2	0.32	2.2						4.4						4.4
0021131911	"	2	0.52	6.41						12.82						12.82
0031111911	"	4	0.12	2.2						8.8						8.8
0031111911	"	2	0.12	2.06						4.12						4.12
0051131911	"	2	1.05	15.6						31.2						31.2
0051131911	"	1	0.52	13.5						13.5						13.5
0051131911	"	6	1.1	10.5						63.0						63.0
0051131911	"	5	2.2	24.3						121.5						121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8					25.8							25.8
0081131922	VENTILATOR	2	19.4	133.45					266.9							266.9
0081132931	"	1	6.2	89.5						89.5						89.5
0081133942	"	1	26.6	175.1					175.1							175.1
0051133921	"	2	14.8	47.4						94.8						94.8
<b>TOTAL</b>										467.8	459.12					926.92

1533

UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 7

TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743610140025111	ELECTRO-FILTER	2	40.0	224.4						448.8						448.8
1010013111	" "	2	14.7	83.7						167.4						167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00						92.0						92.0
1122012111	CYCLONE	1	7.0	18.4						18.4						18.4
1132013111	"	4	10.5	27.7						110.8						110.8
1240025111	MULTICYCLONE	1	55.0	131.5						131.5						131.5
5011022411	AIR FILTER	6	7.5	14.8						88.8						88.8
743612034015111	COOLING WASHER	1	50.0	131.5						131.5						131.5
TOTAL										1189.2						1,189.2

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION : \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE : 8

~~TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000)~~ (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
74411202700392	DUMP TRUCKS	3	10.0	52.6							157.8				157.8
2045003632	"	5	23.8	204.62							1023.1				1023.1
TOTAL											1,180.9				1,180.9

UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	39.5							79.0					79.0
0250031112	AIR LIFT " "	1	1.6	5.27							5.27					5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.85	2.6							5.2					5.2
2150021111	" " "	2	0.27	1.2							2.4					2.4
2150021111	" " "	4	0.11	0.35							1.4					1.4
2150021111	" " "	3	0.07	0.24							0.72					0.72
2150021111	" " "	2	1.4	5.52							11.04					11.04
2150021111	" " "	2	0.03	0.12							0.24					0.24
2150021111	" " "	1	0.6	2.0							2.0					2.0
2150021111	" " "	2	1.2	5.1							10.2					10.2
2150021111	" " "	1	0.27	0.87							0.87					0.87
2150021111	" " "	1	0.83	2.71							2.71					2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8							1.6					1.6
744232350031712	FULLER PUMP	2	4.0	48.9						97.8						97.8
TOTAL										97.8	122.65					220.45

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1989

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~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990		
744260232011911	BELT CONVEYOR	1	2.59	12.36							12.36						12.36
0232011911	"	1	1.1	5.2							5.2						5.2
0232021911	"	2	0.7	4.7							9.4						9.4
0232021911	"	1	2.75	12.35							12.35						12.35
0232021911	"	2	3.76	19.1							38.2						38.2
0232021912	"	4	4.9	31.1							124.4						124.4
0242021911	"	1	3.0	16.14							16.14						16.14
0242021911	"	1	2.9	14.1							14.1						14.1
0242021911	"	2	3.5	17.7							35.4						35.4
0242022911	"	1	8.1	38.57							38.57						38.57
0242022911	"	1	8.7	37.0							37.0						37.0
0242023911	"	1	14.7	61.4							61.4						61.4
0242023911	"	1	21.0	85.9							85.9						85.9
0252011911	"	1	3.6	17.39							17.39						17.39
0252011911	"	1	3.1	14.81							14.81						14.81
0252011911	"	1	4.2	17.1							17.1						17.1
0252014911	"	1	28.8	138.5							138.5						138.5
0252014912	"	1	34.1	156.45							156.45						156.45
0272012711	"	1	8.3	35.5							35.5						35.5
0272012911	"	1	5.6	26.07							26.07						26.07
0272012911	"	1	7.6	33.56							33.56						33.56
0272012911	"	1	9.9	43.24							43.24						43.24
0272013911	"	1	17.7	78.96							78.96						78.96
TOTAL											1,052.0						1,052.0

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UNIDO/SPO(CEMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS/~~ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NO3)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744261024021711	CHAIN CONVEYOR	1	2.95	119.4						119.4						119.4
1212021711	" "	1	4.15	17.62						17.62						17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69						31.69						31.69
1233022711	" " "	1	7.8	31.69						31.69						31.69
1254024711	" " "	1	36.6	162.7						162.7						162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2						138.4						138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0						7.0						7.0
4311011911	" "	4	3.1	12.95						51.8						51.8
4321011911	" "	2	1.5	5.8						11.6						11.6
4322013941	" "	1	12.2	26.67						26.67						26.67
4331011911	" "	2	3.1	12.5						25.0						25.0
4341011911	" "	4	0.8	3.6						14.4						14.4
4341011911	" "	4	0.8	3.6						14.4						14.4
TOTAL										652.37						652.37

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

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TOTAL WEIGHT IN TONS/ VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981-	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990	
7442651210421	BUCKET ELEVATOR	1	41.2	165.76						165.76						165.76
5132013911	"	2	18.5	73.34						146.68						146.68
5132013911	"	2	15.2	60.3						120.6						120.6
5132013911	"	2	16.3	71.0						142.0						142.0
5142023911	"	2	21.5	92.2						184.4						184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5						43.5						43.5
5232024911	" " "	1	37.7	147.4						147.4						147.4
8113011912	WEIGH FEEDER	1	0.96	30.2						30.2						30.2
8113011912	" "	2	1.5	13.8						27.6						27.6
8122011912	" "	1	0.79	24.92						24.92						24.92
8123011912	" "	1	1.24	39.0						39.0						39.0
8123011912	" "	2	2.0	18.5						37.0						37.0
8133011912	" "	2	2.5	23.1						46.2						46.2
8133011912	" "	1	1.15	35.9						35.9						35.9
8133011912	" "	1	2.74	71.5						71.5						71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	164.32						308.64						308.64
TOTAL										620.96	50.34					1571.3

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
692110211111111	BUNKER	1	1.2	3.2							3.2					3.2
02113111111	FEED HOPPER	2	3.0	7.9							15.8					15.8
02113211111	BUNKER	1	2.0	5.26							5.26					5.26
02113211111	"	2	1.63	4.3							8.6					8.6
07113211111	DAILY TANK	1	1.5	2.63							2.63					2.63
07113211111	" " , FUEL-OIL	1	1.1	1.97							1.97					1.97
07113211111	" " , DIESEL-FUEL	1	0.8	1.32							1.32					1.32
07443241111	MAIN TANKS	3	36.0	59.20							177.6					177.6
10113211111	DAILY TANK	1	1.5	2.63							2.63					2.63
692430411321411	AIR RECEIVER	2	0.5	1.97							3.94					3.94
04113214111	AIR TANK	2	0.1	0.4							0.8					0.8
71112011143311	BOILER WITH BURNER	2	10.2	84.25							168.5					168.5
TOTAL											392.25					392.25

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UNIDO/SPO(ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL COSTS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QT. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
72831024502191	OSCILLATING SCREEN	2	1.33	7.5					15.0							15.0
6040024931	SEPERATOR	1	29.0	92.65						92.65						92.65
6040024951		2	27.1	105.4						210.8						210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8						398.8						398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3						997.3						997.3
1121718771	BALL MILL	1	419.3	1600.3						1600.3						1600.3
1227111711	CRUSHER	1	4.36	21.8						21.8						21.8
<b>TOTAL</b>										15.0	431895					43395

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
741210015021011	BURNER	1	0.4	5.26							5.26					5.26
0015021011	"	1	0.4	5.26							5.26					5.26
0025021912	" FOR ROTARY KILN	1	3.1	65.75							65.75					65.75
741322414202311	HOT GAS GENERATOR	1	7.0	3.3							3.3					3.3
2414202311	" " "	1	7.0	3.3							3.3					3.3
7416101111111111	HEAT EXCHANGER	5	0.2	2.9							14.5					14.5
741631476479131	ROTARY KILN	1	659.2	2300.8							2300.8					2300.8
741649073016421	COOLER FOR CLINKER	1	148.4	163.2							163.2					163.2
741650951276111	CYCLONE PREHEATER	1	140.0	460.3							460.3					460.3
742200121211611	WATER PUMP	2	0.06	0.46							0.92					0.92
0132111712	" "	4	0.32	2.1							8.4					8.4
742301022611611	FUEL-OIL PUMP	2	0.11	1.05							2.1					2.1
1022611611	" " "	2	0.11	1.05							2.1					2.1
1022611611	" " "	2	0.11	1.05							2.1					2.1
1033611611	" " "	2	0.14	2.45							4.9					4.9
1033611611	" " "	3	0.23	3.64							10.92					10.92
TOTAL											3053.11					3053.11

UNIDO/SPO(ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743130031121712	COMPRESSOR	2	0.42	1.84					3.68						3.68
0111121712	"	2	1.0	6.8					13.6						13.6
0123121712	"	2	1.2	3.0					6.0						6.0
0132121612	"	2	1.5	71.82					143.64						143.64
0232122722	"	4	7.95	44.2					176.8						176.8
2121111712	"	2	0.7	8.9					17.8						17.8
2131111712	"	2	5.33	32.85					65.7						65.7
2131111712	"	3	4.28	66.8					200.4						200.4
2141111712	"	2	2.6	36.6					73.2						73.2
2221111712	"	4	0.3	13.7					54.8						54.8
2321111712	"	1	0.26	3.9					3.9						3.9
TOTAL									759.52						759.52

UNIDO/SPO ( CEMENTO )

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW \_\_\_\_\_ REGION PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION: \_\_\_\_\_

PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS~~/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D. (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743420021111911	VENTILATOR	4	0.20	3.87							15.48					15.48
0021111911	"	2	0.32	2.2							4.4					4.4
0021131911	"	2	0.52	6.41							12.82					12.82
0031111911	"	4	0.12	2.2							8.8					8.8
0031111911	"	2	0.12	2.06							4.12					4.12
0051131911	"	2	1.05	15.6							31.2					31.2
0051131911	"	1	0.52	13.5							13.5					13.5
0051131911	"	6	1.1	10.5							63.0					63.0
0051131911	"	5	2.2	24.3							121.5					121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8					25.8							25.8
0081131922	VENTILATOR	2	19.4	133.45					266.9							266.9
0081132931	"	1	6.2	89.5							89.5					89.5
0081133942	"	1	26.6	175.1					175.1							175.1
0051133921	"	2	14.8	47.4							94.8					94.8
TOTAL									467.8	459.12						926.92

UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
743610140025111	ELECTRO-FILTER	2	40.0	224.4							448.8						448.8
1010013111	" "	2	14.7	83.7							167.4						167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00							92.0						92.0
1122012111	CYCLONE	1	7.0	18.4							18.4						18.4
1132013111	" "	4	10.5	27.7							110.8						110.8
1240025111	MULTICYCLONE	1	55.0	131.5							131.5						131.5
5011022411	AIR FILTER	6	7.5	14.8							88.8						88.8
743612034015111	COOLING WASHER	1	50.0	131.5							131.5						131.5
TOTAL											1,189.2						1,189.2

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UNIDO/SPO (ÇEMENTO )

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744112027003921	DUMP TRUCKS	3	10.0	52.6								157.8				157.8
2045003632	" "	5	23.8	204.62								1,023.1				1,023.1
TOTAL												1,180.9				1,180.9

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	39.5							79.0					79.0
025C931112	AIR LIFT " "	1	1.6	5.27							5.27					5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6							5.2					5.2
2150021111	" " "	2	0.27	1.0							2.4					2.4
2150021111	" " "	4	0.11	0.35							1.4					1.4
2150021111	" " "	3	0.07	0.24							0.72					0.72
2150021111	" " "	2	1.4	5.52							11.04					11.04
2150021111	" " "	2	0.03	0.12							0.24					0.24
2150021111	" " "	1	0.6	2.0							2.0					2.0
2150021111	" " "	2	1.2	5.1							10.2					10.2
2150021111	" " "	1	0.27	0.87							0.87					0.87
2150021111	" " "	1	0.83	2.71							2.71					2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8							1.6					1.6
744232350031712	FULLER PUMP	2	4.0	48.9						97.8						97.8
TOTAL										97.8	122.65					220.45

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744260232011911	BELT CONVEYOR	1	2.59	12.36						12.36						12.36
0232011911	" "	1	1.1	5.2						5.2						5.2
0232021911	" "	2	0.7	4.7						9.4						9.4
0232021911	" "	1	2.75	12.35						12.35						12.35
0232021911	" "	2	3.76	19.1						38.2						38.2
0232021912	" "	4	4.9	31.1						124.4						124.4
0242021911	" "	1	3.0	16.14						16.14						16.14
0242021911	" "	1	2.9	14.1						14.1						14.1
0242021911	" "	2	3.5	17.7						35.4						35.4
0242022911	" "	1	8.1	38.57						38.57						38.57
0242022911	" "	1	8.7	37.0						37.0						37.0
0242023911	" "	1	14.7	61.4						61.4						61.4
0242023911	" "	1	21.0	85.9						85.9						85.9
0252011911	" "	1	3.6	17.39						17.39						17.39
0252011911	" "	1	3.1	14.81						14.81						14.81
0252011911	" "	1	4.2	17.1						17.1						17.1
0252014911	" "	1	28.8	138.5						138.5						138.5
0252014912	" "	1	34.1	156.45						156.45						156.45
0272012711	" "	1	8.3	35.5						35.5						35.5
0272012911	" "	1	5.6	26.07						26.07						26.07
0272012911	" "	1	7.6	33.56						33.56						33.56
0272012911	" "	1	9.9	43.24						43.24						43.24
0272013911	" "	1	17.7	78.96						78.96						78.96
TOTAL																
										1,052.0						1,052.0

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UNIDO/SPO(CIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 I

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 11

TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744261024021711	CHAIN CONVEYOR	1	2.95	119.4						119.4						119.4
1212021711	"	1	4.15	17.62						17.62						17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69						31.69						31.69
1233022711	"	1	7.8	31.69						31.69						31.69
1254024711	"	1	36.6	162.7						162.7						162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2						138.4						138.4
4311011911	SCREW CONVEYOR	1	1.8	7.0						7.0						7.0
4311011911	"	4	3.1	12.95						51.8						51.8
4321011911	"	2	1.3	5.8						11.6						11.6
4322013941	"	1	12.2	26.67						26.67						26.67
4331011911	"	2	3.1	12.5						25.0						25.0
4341011911	"	4	0.6	3.6						14.4						14.4
4341011911	"	4	0.6	3.6						14.4						14.4
	TOTAL									652.37						652.37

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 12

~~TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744265121014911	BUCKET ELEVATOR	1	41.2	165.76						165.76					165.76
5132013911	" "	2	18.5	73.34						146.68					146.68
5132013911	" "	2	15.2	60.3						120.6					120.6
5132013911	" "	2	16.3	71.0						142.0					142.0
5142023911	" "	2	21.5	92.2						184.4					184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5						43.5					43.5
5232024911	" " "	1	37.7	147.4						147.4					147.4
8113011912	WEIGH FEEDER	1	0.96	30.2					30.2						30.2
8113011912	" "	2	1.5	13.8					27.6						27.6
8122011912	" "	1	0.79	24.92					24.92						24.92
8123011912	" "	1	1.24	39.0					39.0						39.0
8123011912	" "	2	2.0	18.5					37.0						37.0
8133011912	" "	2	2.5	23.1					46.2						46.2
8133011912	" "	1	1.15	35.9					35.9						35.9
8133011912	" "	1	2.74	71.5					71.5						71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	154.32					308.64						308.64
TOTAL									620.96	50.34					1571.3

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
69211021111111	BUNKER	1	1.2	3.2						3.2						3.2
0211311111	FEED HOPPER	2	3.0	7.9						15.8						15.8
0211321111	BUNKER	1	2.0	5.26						5.26						5.26
0211321111	"	2	1.63	4.3						8.6						8.6
0711321111	DAILY TANK	1	1.5	2.63						2.63						2.63
0711321111	" " FUEL-OIL	1	1.1	1.97						1.97						1.97
0711321111	" " DIESEL-FUEL	1	0.8	1.32						1.32						1.32
0744324111	MAIN TANKS	3	38.0	59.20						177.6						177.6
1011321111	DAILY TANK	1	1.5	2.63						2.63						2.63
692430411321411	AIR RECEIVER	2	0.5	1.97						3.94						3.94
0411321411	AIR TANK	2	0.1	0.4						0.8						0.8
7111201143311	BOILER WITH BURNER	2	10.2	84.25						168.5						168.5
TOTAL										392.25						392.25

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UNIDO/SPO(ÇİMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

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TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
728310245021912	OSCILLATING SCREEN	2	1.33	7.5					15.0						15.0
6040024931	SEPERATOR	1	29.0	92.65						92.65					92.65
6040024951	"	2	27.1	105.4						210.8					210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8						398.8					398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3						1994.6					1994.6
1121718771	BALL MILL	1	419.3	1600.3						1600.3					1600.3
1227111711	CRUSHER	1	4.36	21.8						21.8					21.8
<b>TOTAL</b>									15.0	431895					433395

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW \_\_\_\_\_ AEGEAN REGION \_\_\_\_\_ PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

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TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
741210015021011	BURNER	1	0.4	5.26						5.26					5.26
0015021011	"	1	0.4	5.26						5.26					5.26
0025021912	" FOR ROTARY KILN	1	3.1	65.75						65.75					65.75
741322414202311	HOT GAS GENERATOR	1	7.0	3.3						3.3					3.3
2414202311	" " "	1	7.0	3.3						3.3					3.3
741610111111111	HEAT EXCHANGER	5	0.2	2.9						14.5					14.5
741631476479131	ROTARY KILN	1	659.2	2300.8						2300.8					2300.8
741649073016421	COOLER FOR CLINKER	1	148.4	163.2						163.2					163.2
741650991276111	CYCLONE PREHEATER	1	140.0	460.3						460.3					460.3
742200121211611	WATER PUMP	2	0.06	0.46						0.92					0.92
0132111712	" "	4	0.32	2.1						8.4					8.4
742301022611611	FUEL-OIL PUMP	2	0.11	1.05						2.1					2.1
1022611611	" " "	2	0.11	1.05						2.1					2.1
1022611611	" " "	2	0.11	1.05						2.1					2.1
1033611611	" " "	2	0.14	2.45						4.9					4.9
1033811611	" " "	3	0.23	3.64						10.92					10.92
TOTAL										3,053.11					3,053.11



UNIDO/SPO ( CIMENTO )

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW \_\_\_\_\_ REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

~~TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000)~~ (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D. (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
74342002111911	VENTILATOR	5	0.20	3.87							15.48				15.48
002111911	"	2	0.32	2.2							4.4				4.4
002113911	"	1	0.52	6.41							12.82				12.82
003111911	"	4	0.12	2.2							8.8				8.8
003111911	"	2	0.12	2.08							4.12				4.12
0051131911	"	2	1.05	15.6							31.2				31.2
0051131911	"	1	0.52	13.5							13.5				13.5
0051131911	"	6	1.1	10.5							63.0				63.0
0051131911	"	5	2.2	24.3							121.5				121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8					25.8						25.8
0081131922	VENTILATOR	2	19.4	133.45					266.9						266.9
0081132931	"	1	6.2	89.5							89.5				89.5
0081133942	"	1	26.6	175.1					175.1						175.1
0051133921	"	2	14.8	47.4							94.8				94.8
TOTAL									467.8	459.12					926.92

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UNIDO/SPO (ÇIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW AESEAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

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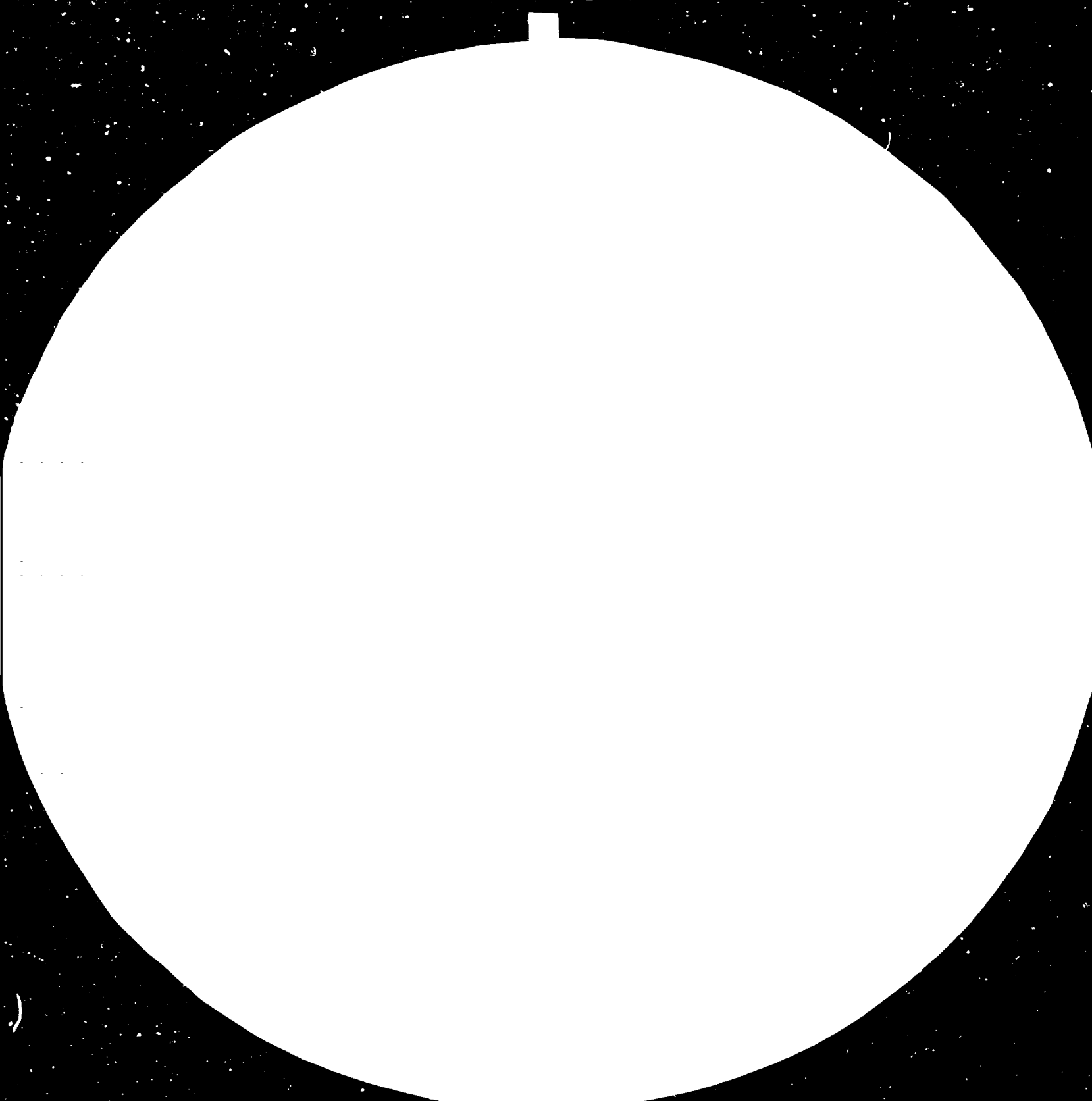
~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
743610140025111	ELECTRO-FILTER	2	40.0	224.4							448.8						448.8
1010013111	" "	2	14.7	83.7							167.4						167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00							92.0						92.0
1122012111	CYCLONE	1	7.0	18.4							18.4						18.4
1132013111	"	4	10.5	27.7							110.8						110.8
1240025111	MULTICYCLONE	1	55.0	131.5							131.5						131.5
5011022411	AIR FILTER	6	7.5	14.8							88.8						88.8
743612034015111	COOLING WASHER	1	50.0	131.5							131.5						131.5
TOTAL											1,189.2						1,189.2

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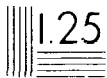
1.0 25

22



20

18



Resolution test charts are used to measure the resolving power of an optical system. The charts consist of patterns of lines that become increasingly difficult to resolve as the spatial frequency increases. The resolution is measured in cycles per millimeter (cycles/mm), which is the inverse of the line spacing. The charts are labeled with their respective resolution values: 1.0, 1.1, 1.25, 1.4, and 1.6. The resolution values are given in cycles/mm, and the corresponding line spacing in millimeters is also indicated. The resolution values are 1.0, 1.1, 1.25, 1.4, and 1.6, and the corresponding line spacing in millimeters is 1.0, 0.9, 0.8, 0.7, and 0.625, respectively. The resolution values are given in cycles/mm, and the corresponding line spacing in millimeters is also indicated.

UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: PLANT IIANTICIPATED DATE OF COMMISSIONING: 1988

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WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990	
744230150041111	FLOX PUMP(PNEUMATIC COUVE.)	2	40	393							79.0					79.0
0250031112	AIR LIFT	1	1.6	327							5.27					5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6							5.2					5.2
2150021111	" " "	2	0.27	1.2							2.4					2.4
2150021111	" " "	4	0.11	0.55							1.4					1.4
2150021111	" " "	3	0.07	0.24							0.72					0.72
2150021111	" " "	2	1.4	5.52							11.04					11.04
2150021111	" " "	2	0.03	0.12							0.24					0.24
2150021111	" " "	1	0.6	2.0							2.0					2.0
2150021111	" " "	2	1.2	3.1							10.2					10.2
2150021111	" " "	1	0.27	0.87							0.87					0.87
2150021111	" " "	1	0.83	2.71							2.71					2.71
2250021411	OVER FLOW SLUICE (CONVE)	2	0.2	0.8							1.6					1.6
744232350031712	FULLER PUMP	2	40	489						97.8						97.8
TOTAL										97.8	122.65					220.45

UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1986

PAGE: 10

~~TOTAL WEIGHT IN TONS/~~ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744260232011911	BELT CONVEYOR	1	2.59	12.36							12.36					12.36
0232011911	" "	1	1.1	5.2							5.2					5.2
0232021911	" "	2	0.7	4.7							9.4					9.4
0232021911	" "	1	2.75	12.35							12.35					12.35
0232021911	" "	2	3.76	19.1							38.2					38.2
0232021912	" "	4	4.9	31.1							124.4					124.4
0242021911	" "	1	3.0	16.14							16.14					16.14
0242021911	" "	1	2.9	14.1							14.1					14.1
0242021911	" "	2	3.5	17.7							35.4					35.4
0242022911	" "	1	8.1	38.57							38.57					38.57
0242022911	" "	1	8.7	37.0							37.0					37.0
0242023911	" "	1	14.7	61.4							61.4					61.4
0242023911	" "	1	21.0	85.9							85.9					85.9
0252011911	" "	1	3.6	17.39							17.39					17.39
0252011911	" "	1	3.1	14.81							14.81					14.81
0252011911	" "	1	4.2	17.1							17.1					17.1
0252014911	" "	1	28.8	138.5							138.5					138.5
0252014912	" "	1	34.1	156.45							156.45					156.45
0272012711	" "	1	8.3	35.5							35.5					35.5
0272012911	" "	1	5.6	26.07							26.07					26.07
0272012911	" "	1	7.6	33.56							33.56					33.56
0272012911	" "	1	9.9	43.24							43.24					43.24
0272013911	" "	1	17.7	78.96							78.96					78.96
TOTAL											1,052.0					1,052.0

UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: PLANT IIANTICIPATED DATE OF COMMISSIONING: 1988

PAGE 1

~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S \$ (1000)	YEARS										TOTAL 1981- 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
744251024021711	CHAIN CONVEYOR	1	2.95	119.4							119.4						119.4
1212021711	"	1	4.15	17.62							17.62						17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69							31.69						31.69
1233022711	"	1	7.8	31.69							31.69						31.69
1254024711	"	1	36.6	162.7							162.7						162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2							69.2						138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0							7.0						7.0
4311011911	"	4	3.1	12.95							12.95						51.8
4321011911	"	2	1.3	5.8							5.8						11.6
4322013941	"	1	12.2	26.67							26.67						26.67
4331011911	"	2	3.1	12.5							12.5						25.0
4341011911	"	4	0.6	3.6							3.6						14.4
4341011911	"	4	0.8	3.6							3.6						14.4
TOTAL											652.37						652.37

UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 12

~~TOTAL WEIGHT IN TONS~~/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS									TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744263121014911	BUCKET ELEVATOR	1	41.2	165.76						165.76					165.76
5132013911	" "	2	18.5	73.34						146.68					146.68
5132013911	" "	2	15.2	60.3						120.6					120.6
5132013911	" "	2	16.3	71.0						142.0					142.0
5142023911	" "	2	21.5	92.2						184.4					184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5						43.5					43.5
5232024911	" " "	1	37.7	147.4						147.4					147.4
8113011912	WEIGH FEEDER	1	0.96	30.2					30.2						30.2
8113011912	" "	2	1.5	13.8					27.6						27.6
8122011912	" "	1	0.79	24.92					24.92						24.92
8123011912	" "	1	1.24	39.0					39.0						39.0
8123011912	" "	2	2.0	18.5					37.0						37.0
8133011912	" "	2	2.5	23.1					46.2						46.2
8133011912	" "	1	1.15	35.9					35.9						35.9
8133011912	" "	1	2.74	71.5					71.5						71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	154.32					308.64						308.64
TOTAL									620.96	50.34					1571.3

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW

AEGEAN REGION

PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION:

PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1989

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981-1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
74931031413172	REDUCTION GEAR BOX	1	2.5	11.8						11.8							11.8
74931031513712		1	2.3	23.4						23.4							46.8
74931033413141		1	29.6	175.0						175.0							175.0
749310362133142		1	19.7	146.7						293.4							293.4
749310384135152		2	17.8	396.4						792.8							792.8
74522	2 PACKING MACHINE	2	7.3	94.9													189.8
TOTAL										1,509.6							1,509.6
GRAND TOTAL										3,470.68	1,165.35	1,180.9					17,816.93

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 1

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
69211021111111	BUNKER	1	1.2	3.2						3.2					3.2
021131111	FEED HOPPER	1	3.0	7.5						15.8					15.8
0211321111	BUNKER	1	2.0	5.26						5.26					5.26
0211321111	"	1	1.63	4.3						8.6					8.6
0711321111	DAILY TANK	1	1.5	2.63						2.63					2.63
0711321111	" " FUEL-OIL	1	1.1	1.97						1.97					1.97
0711321111	" " DIESEL-FUEL	1	0.8	1.32						1.32					1.32
0744324111	MAIN TANKS	3	36.0	59.20						177.6					177.6
1011321111	DAILY TANK	1	1.5	2.63						2.63					2.63
692430411321411	AIR RECEIVER	2	0.5	1.97						3.94					3.94
0411321411	AIR TANK	2	0.1	0.4						0.8					0.8
71111201143311	BOILER WITH BURNER	2	10.2	84.25						168.5					168.5
TOTAL										392.25					392.25

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UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 3

TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981 1990	
728310245021912	OSCILLATING SCREEN	2	1.33	7.5						15.0						15.0
6040024931	SEPERATOR	1	29.0	92.65							92.65					92.65
604002495	"	2	27.1	109.4							210.8					210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8							398.8					398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3							997.6					997.6
1121718771	BALL MILL	1	419.3	1600.3							1600.3					1600.3
1227111711	CRUSHER	1	4.38	21.8							21.8					21.8
TOTAL										15.0	3,318.95					3,339.9

UNIDO/SPO (ÇIMENTO)

COMMODITY CODE 3692 1

## CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
7 4 1 2 1 0 0 1 0 0 2 1 0 1 1	BURNER	1	0.4	5.26						5.26					5.26
0 0 1 5 0 2 1 0 1 1	"		0.4	5.26						5.26					5.26
0 0 2 5 0 2 1 9 1 2	FOR ROTARY KILN	1	3.1	65.75						65.75					65.75
7 4 1 3 2 2 4 1 4 2 0 2 3 1 1	HOT GAS GENERATOR	1	7.0	3.3						3.3					3.3
2 4 1 4 2 0 2 3 1 1	" " "	1	7.0	3.3						3.3					3.3
7 4 1 6 1 0 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9						14.5					14.5
7 4 1 6 3 1 4 7 6 4 7 9 1 3 1	ROTARY KILN	1	659.2	2300.8						2300.8					2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CLINKER	1	148.4	163.2						163.2					163.2
7 4 1 6 5 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER	1	140.0	460.3						460.3					460.3
7 4 2 2 0 0 1 2 1 2 1 1 8 1 1	WATER PUMP	2	0.06	0.46						0.92					0.92
0 1 3 2 1 1 1 7 1 2	" "	4	0.32	2.1						8.4					8.4
7 4 2 3 0 1 0 2 2 6 1 1 6 1 1	FUEL-OIL PUMP	2	0.11	1.05						2.1					2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05						2.1					2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05						2.1					2.1
1 0 3 3 6 1 1 6 1 1	" " "	2	0.14	2.45						4.9					4.9
1 0 3 3 6 1 1 8 1 1	" " "	3	0.23	3.64						10.92					10.92
TOTAL										3053.11					3053.11

-STO-





UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
743810140025111	ELECTRO-FILTER	2	40.0	224.4						448.8							448.8
1010013111	" "	2	14.7	83.7						167.4							167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00						92.0							92.0
1122012111	CYCLONE	1	7.0	16.4						19.4							18.4
1132013111	"	4	10.5	27.7						110.8							110.8
1240025111	MULTICYCLONE	1	55.0	131.5						131.5							131.5
5011022411	AIR FILTER	5	7.5	14.8						88.8							88.8
743812034015111	COOLING WASHER	1	80.0	131.5						131.5							131.5
TOTAL										1189.2							1189.2

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UNIDO/SPC (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ ('000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC NAME OF ITEM	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ ('000)	YEARS										TOTAL
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
7441120200921	DUMP TRUCKS	3	10.0	52.6								157.8			157.8
204500633		1	23.6	204.62								1,023.1			1,023.1
TOTAL												1,180.9			1,180.9

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744230150041111	FLUX PUMP (PNEUMATIC CONVE.)	2	40	395							79.0					79.0
0250031112	AIR LIFT " "	1	1.6	5.27							5.27					5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6							5.2					5.2
2150021111	" " "	2	0.27	1.2							2.4					2.4
2150021111	" " "	4	0.11	0.35							1.4					1.4
2150021111	" " "	3	0.07	0.24							0.72					0.72
2150021111	" " "	2	1.4	5.52							11.04					11.04
2150021111	" " "	2	0.03	0.12							0.7					0.24
2150021111	" " "	1	0.6	2.0							2.0					2.0
2150021111	" " "	2	1.2	5.1							10.2					10.2
2150021111	" " "	1	0.27	0.87							0.87					0.87
2150021111	" " "	1	0.83	2.71							2.71					2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8							1.6					1.6
744232350031712	FULLER PUMP	2	40	489						97.8						97.8
TOTAL										97.8	122.65					220.45

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 800 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

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~~TOTAL WEIGHT IN TONS~~ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
4426023201911	BELT CONVEYOR	1	2.59	12.36							12.36					12.36
023201911	"	1	1.1	5.2							5.2					5.2
0232021911	"	2	0.7	4.7							9.4					9.4
0232021911	"	1	2.75	12.35							12.35					12.35
0232021911	"	2	3.76	19.1							38.2					38.2
0232021912	"	4	4.9	31.1							124.4					124.4
0242021911	"	1	3.0	16.14							16.14					16.14
0242021911	"	1	2.9	14.1							14.1					14.1
0242021911	"	2	3.5	17.7							35.4					35.4
0242022911	"	1	8.1	38.57							38.57					38.57
0242022911	"	1	8.7	37.0							37.0					37.0
0242023911	"	1	14.7	61.4							61.4					61.4
0242023911	"	1	21.0	85.9							85.9					85.9
025201911	"	1	3.6	17.39							17.39					17.39
025201911	"	1	3.1	14.81							14.81					14.81
025201911	"	1	4.2	17.1							17.1					17.1
0252014911	"	1	28.8	138.5							138.5					138.5
0252014912	"	1	34.1	156.45							156.45					156.45
0272012711	"	1	8.3	35.5							35.5					35.5
0272012911	"	1	5.6	26.07							26.07					26.07
0272012911	"	1	7.6	33.56							33.56					33.56
0272012911	"	1	9.9	43.24							43.24					43.24
0272013911	"	1	17.7	78.96							78.96					78.96
TOTAL											1,052.0					1,052.0



COMMODITY CODE: 3692 1

UNIDO/SPO(CIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
744261024021711	CHAIN CONVEYOR	1	2.95	119.4							119.4						119.4
1212021711	" "	1	4.15	17.62							17.62						17.62
223012711	STEEL PLATE CONVEYOR	1	7.8	31.69							31.69						31.69
1233022711	" " "	1	7.8	31.69							31.69						31.69
1254024711	" " "	1	36.6	162.7							162.7						162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	63.2							138.4						138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0							7.0						7.0
4311011911	" "	4	3.1	12.95							51.8						51.8
4321011911	" "	2	1.3	5.8							11.6						11.6
4322011941	" "	1	12.2	26.67							26.67						26.67
4331011911	" "	2	3.1	12.5							25.0						25.0
4341011911	" "	4	0.8	3.6							14.4						14.4
4341011911	" "	4	0.6	3.6							14.4						14.4
TOTAL											552.37						552.37

UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744265121014911	BUCKET ELEVATOR	1	41.2	165.76						165.76						165.76
5132013911	" "	2	18.5	73.34						146.68						146.68
5132013911	" "	2	15.2	60.3						120.6						120.6
5132013911	" "	2	16.3	71.0						142.0						142.0
5142023911	" "	2	21.5	92.2						184.4						184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5						43.5						43.5
5232024911	" " "	1	37.7	147.4						147.4						147.4
8113011912	WEIGH FEEDER	1	0.96	30.2					30.2							30.2
8113011912	" "	2	1.5	13.8					27.6							27.6
8122011912	" "	1	0.79	24.92					24.92							24.92
8123011912	" "	1	1.24	39.0					39.0							39.0
8123011912	" "	2	2.0	18.5					37.0							37.0
8133011912	" "	2	2.5	23.1					46.2							46.2
8133011912	" "	1	1.15	35.9					35.9							35.9
8133011912	" "	1	2.74	71.5					71.5							71.5
744260460023712	RECLAIMING SCRAPER	2	15.7	154.32					308.64							308.64
TOTAL									620.96	50.34						1571.3

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UNIDO/SPC (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW  
LOCATION

MARMARA REGION PLANT, CAPACITY 600000 TONS / YEAR  
PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1988

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TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQD (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
4931034131722	REPAIRING GEAR BOX	2	25	11.9					11.8								11.8
4931035131722		2	23	23.4					46.8								46.8
493033413474		1	296	75.0					175.0								175.0
495036213374		2	19.7	146.7					293.4								293.4
4930384135752		2	77.8	396.4					792.8								792.8
4522	2 PACKING MACHINE	2	73	94.9													189.8
TOTAL									1,509.6								1,509.6
GRAND TOTAL									8,470.68	1,165.35	1,180.9						17,816.93

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 1

~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
692110211111111	BUNKER	1	1.2	3.2							3.2						3.2
02113111111	FEED HOPPER	2	3.0	7.9							15.8						5.8
02113211111	BUNKER	1	2.0	5.26							5.26						5.26
02113211111	"	2	1.63	4.3							8.6						8.6
07113211111	DAILY TANK	1	1.5	2.63							2.63						2.63
07113211111	" " , FUEL-OIL	1	1.1	1.97							1.97						1.97
07113211111	" " , DIESEL-FUEL	1	0.8	1.32							1.32						1.32
07443241111	MAIN TANKS	3	36.0	59.20							177.6						177.6
10113211111	DAILY TANK	1	1.5	2.63							2.63						2.63
692430411321411	AIR RECEIVER	2	0.5	1.97							3.94						3.94
04113214111	AIR TANK	2	0.1	0.4							0.8						0.8
711112011143311	BOILER WITH BURNER	2	10.2	84.25							168.5						168.5
TOTAL											392.25						392.25

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UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

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TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	SITC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1980	1990	
72931024502	OSCILLATING SCREEN	2	1.33	7.5						15.0						15.0
604002231	SEPERATOR	1	29.0	92.65							92.65					92.65
604002135	"	2	27.1	105.4							210.8					210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8							398.8					398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3							1994.6					1994.6
1121718771	BALL MILL	1	419.3	1600.3							1600.3					1600.3
1227111711	CRUSHER	1	4.36	21.8							21.8					21.8
TOTAL										15.0	2,318.95					4,332.95

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UNIDO/SPO ( ÇİMENTO )

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS/ VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D. (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
74342002111911	VENTILATOR	4	0.20	3.87						15.48					15.48
002111911	"	2	0.32	2.2						4.4					4.4
0021131911	"	2	0.52	6.41						12.82					12.82
003111911	"	4	0.12	2.2						8.8					8.8
003111911	"	2	0.12	2.06						4.12					4.12
0051131911	"	2	1.05	15.6						31.2					31.2
0051131911	"	1	0.52	13.5						13.5					13.5
0051131911	"	6	1.1	10.5						63.0					63.0
0051131911	"	5	2.2	24.3						121.5					121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8					25.8						25.8
0081131922	VENTILATOR	2	19.4	133.45					266.9						266.9
0081132931	"	1	6.2	89.5						89.5					89.5
0081133942	"	1	26.6	175.1					175.1						175.1
0051133921	"	2	14.8	47.4						94.8					94.8
TOTAL									467.8	459.12					926.92

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 7

TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743610140025111	ELECTRO-FILTER	2	40.0	224.4						448.8						448.8
1010013111	"	2	14.7	83.7						167.4						167.4
1113013111	CYCLONE SINGLE	2	17.7	46.00						92.0						92.0
1122012111	CYCLONE	1	7.0	18.4						18.4						18.4
1132013111	"	4	10.5	27.7						110.8						110.8
1240025111	MULTICYCLONE	1	55.0	131.5						131.5						131.5
5011022411	AIR FILTER	6	7.5	14.8						88.8						88.8
743612034015111	COOLING WASHER	1	50.0	131.5						131.5						131.5
TOTAL										1189.2						1,189.2

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COMMODITY CODE: 3692 1

UNIDO/SPO (CEMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION

PLANT, CAPACITY 600 000 TONS / YEAR

LOCATION: \_\_\_\_\_

PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~QTY WEIGHT IN TONS /~~ VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ (NUM)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981 - 1990	
74411202700392	DUMP TRUCKS	3	10.0	52.6								157.8				157.8
2045003632		5	23.8	204.52								1023.1				1023.1
TOTAL												1,180.9				1,180.9

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	40	395						79.0					79.0
0250031112	AIR LIFT " "	1	16	527						5.27					5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6						5.2					5.2
2150021111	" " "	2	0.27	1.2						2.4					2.4
2150021111	" " "	4	0.11	0.35						1.4					1.4
2150021111	" " "	3	0.07	0.24						0.72					0.72
2150021111	" " "	2	1.4	5.52						11.04					11.04
2150021111	" " "	2	0.03	0.12						0.24					0.24
2150021111	" " "	1	0.6	2.0						2.0					2.0
2150021111	" " "	2	1.2	5.1						10.2					10.2
2150021111	" " "	1	0.27	0.87						0.87					0.87
2150021111	" " "	1	0.83	2.71						2.71					2.71
2250021411	OVER FLOW SLUICE(CONVE.)	2	0.2	0.8						1.6					1.6
744232350031712	FULLER PUMP	2	40	489					97.8						97.8
TOTAL									97.8	122.65					220.45

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

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TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990	
744260232011911	BELT CONVEYOR	1	2.59	12.36							12.36					12.36
0232011911	" "	1	1.1	5.2							5.2					5.2
0232021911	" "	2	0.7	4.7							9.4					9.4
0232021911	" "	1	2.75	12.35							12.35					12.35
0232021911	" "	2	3.76	19.1							38.2					38.2
0232021912	" "	4	4.9	31.1							124.4					124.4
0242021911	" "	1	3.0	16.14							16.14					16.14
0242021911	" "	1	2.9	14.1							14.1					14.1
0242021911	" "	2	3.5	17.7							35.4					35.4
0242022911	" "	1	8.1	38.57							38.57					38.57
0242022311	" "	1	8.7	37.0							37.0					37.0
0242023911	" "	1	14.7	61.4							61.4					61.4
0242023911	" "	1	21.0	85.9							85.9					85.9
0252011911	" "	1	3.8	17.39							17.39					17.39
0252011911	" "	1	3.1	14.81							14.81					14.81
0252011911	" "	1	4.2	17.1							17.1					17.1
0252014911	" "	1	28.8	138.5							138.5					138.5
0252014912	" "	1	14.1	156.45							156.45					156.45
0272012711	" "	1	8.3	35.5							35.5					35.5
0272012911	" "	1	5.6	26.07							26.07					26.07
0272012911	" "	1	7.6	33.56							33.56					33.56
0272012911	" "	1	9.9	43.24							43.24					43.24
0272013911	" "	1	17.7	78.96							78.96					78.96
TOTAL											1,052.0					1,052.0

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UNIDO/SPO(ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1986

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~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744261024021711	CHAIN CONVEYOR	1	2.95	119.4						119.4						119.4
1212021711	" "	1	4.15	17.62						17.62						17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69						31.69						31.69
1233022711	" " "	1	7.8	31.69						31.69						31.69
1254024711	" " "	1	36.6	162.7						162.7						162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.						138.4						138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0						7.0						7.0
4311011911	" "	4	3.1	12.95						51.8						51.8
4321011911	" "	2	1.3	5.8						11.6						11.6
4322013941	" "	1	12.2	26.67						26.67						26.67
4331011911	" "	2	3.1	12.5						25.0						25.0
4341011911	" "	4	0.6	3.6						14.4						14.4
4341011911	" "	4	0.6	3.6						14.4						14.4
TOTAL										652.37						652.37

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1988

PAGE: 12

TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
44265121014911	BUCKET ELEVATOR	1	41.2	165.76						165.76						165.76
5132013911	"	2	18.5	73.34						146.68						146.68
5132013911	"	2	15.2	60.3						120.6						120.6
5132013911	"	2	16.3	71.0						142.0						142.0
5142023911	"	2	21.5	92.2						184.4						184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5						43.5						43.5
5232024911	"	1	37.7	147.4						147.4						147.4
8113011912	WEIGH FEEDER	1	0.96	30.2					30.2							30.2
8113011912	"	2	1.5	13.8					27.6							27.6
8122011912	"	1	0.79	24.92					24.92							24.92
8123011912	"	1	1.24	39.0					39.0							39.0
8123011912	"	2	2.0	18.5					37.0							37.0
8133011912	"	2	2.5	23.1					46.2							46.2
8133011912	"	1	1.15	35.9					35.9							35.9
8133011912	"	1	2.74	71.5					71.5							71.5
44280460023712	RECLAIMING SCRAPER	2	15.7	154.32					308.64							308.64
TOTAL									620.96	950.34						1571.3

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW **BLACK SEA** REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE 1

~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITE CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990	
6921021111111	BUNKER	1	1.2	3.2								3.2				3.2
02113111111	FEED HOPPER	2	3.0	7.9								15.8				15.8
02113211111	BUNKER	1	2.0	5.26								5.26				5.26
02113211111	"	2	1.63	4.3								8.6				8.6
07113211111	DAILY TANK	1	1.5	2.63								2.63				2.63
07113211111	" " FUEL-OIL	1	1.1	1.97								1.97				1.97
07113211111	" " DIESEL-FUEL	1	0.8	1.32								1.32				1.32
07443241111	MAIN TANKS	3	36.0	59.20								177.6				177.6
10113211111	DAILY TANK	1	1.5	2.63								2.63				2.63
692430411321411	AIR RECEIVER	2	0.5	1.97								3.94				3.94
04113214111	AIR TANK	2	0.1	0.4								0.8				0.8
71112011143311	BOILER WITH BURNER	2	10.2	84.25								160.5				160.5
TOTAL												392.25				392.25

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITE CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990	
7 2 3 4 2 0 0 3 : 2 2 3 6 2 2	LOADER	1	12.8	98.7								98.7				98.7
0 0 4 1 4 4 6 3 2		1	30.0	225.3								225.3				225.3
1 0 3 2 6 1 5 6 3 2	EXCAVATOR	2	62.0	255.83								511.66				511.66
7 2 3 4 3 0 1 4 9 0 2 1 3 1 2	ROCK DRILL	2	4.4	67.6								135.2				135.2
2 0 1 0 1 6 1 1	AIR GUN	3	0.02	1.5								4.5				4.5
TOTAL												975.36				975.36

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UNIDO/SPO(CEMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT 1

ANTICIPATED DATE OF COMMISSIONING: 1989

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TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QT REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1980	1981	1990
728310245021912	OSCILLATING SCREEN	2	1.33	7.5							15.0					15.0
6040024931	SEPERATOR	1	29.0	92.65								92.65				92.65
604002495	"	2	27.1	105.4								210.8				210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8								398.8				398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3								1994.6				1994.6
1121718771	BALL MILL	1	419.3	1600.3								1600.3				1600.3
1227111711	CRUSHER	1	4.36	21.8								21.8				21.8
TOTAL											15.0	4318.95				4333.95

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

## CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 4

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
7 4 1 2 1 0 0 1 5 0 2 1 0 1 1	BURNER	1	0.4	5.26								5.26			5.26
0 0 1 5 0 2 1 0 1 1	"	1	0.4	5.26								5.26			5.26
0 0 2 5 0 2 1 9 1 2	" FOR ROTARY KILN	1	3.1	65.75								65.75			65.75
7 4 1 3 2 2 4 1 4 2 0 2 3 1 1	HOT GAS GENERATOR	1	7.0	3.3								3.3			3.3
2 4 1 4 2 0 2 3 1 1	" " "	1	7.0	3.3								3.3			3.3
7 4 1 6 1 0 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9								14.5			14.5
7 4 1 6 3 1 4 7 6 4 7 9 1 3 1	ROTARY KILN	1	659.2	2300.8								2300.8			2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CLINKER	1	148.4	163.2								163.2			163.2
7 4 1 6 5 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER	1	140.0	460.3								460.3			460.3
7 4 2 2 0 0 1 2 1 2 1 1 6 1 1	WATER PUMP	2	0.06	0.46								0.92			0.92
0 1 3 2 1 1 1 7 1 2	" " "	4	0.32	2.1								8.4			8.4
7 4 2 3 1 0 2 2 6 1 1 6 1 1	FUEL-OIL PUMP	2	0.11	1.05								2.1			2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05								2.1			2.1
0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05								2.1			2.1
1 0 3 3 6 1 1 6 1 1	" " "	2	0.14	2.45								4.9			4.9
1 0 3 3 6 1 1 6 1 1	" " "	3	0.23	3.64								10.92			10.92
TOTAL												3053.11			3053.11

UNIDO/SPO(ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 5

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
7 4 3 1 3 0 0 3 1 1 2 1 7 1 2	COMPRESSOR	2	0.42	1.84							3.68					3.68
0 1 1 1 1 2 1 7 1 2	"	2	1.0	6.8							13.6					13.6
0 1 2 3 1 2 1 7 1 2	"	2	1.2	3.0							6.0					6.0
0 1 3 2 1 2 1 6 1 2	"	2	1.5	71.82							143.64					143.64
0 2 3 2 1 2 2 7 2 2	"	4	7.95	44.2							176.8					176.8
2 1 2 1 1 1 7 1 2	"	2	0.7	8.9							17.8					17.8
2 1 3 1 1 1 7 1 2	"	2	9.33	32.85							65.7					65.7
2 1 3 1 1 1 7 1 2	"	3	4.28	66.8							200.4					200.4
2 1 4 1 1 1 7 1 2	"	2	2.6	36.6							73.2					73.2
2 2 2 1 1 1 7 1 2	"	4	0.3	13.7							54.8					54.8
2 3 2 1 1 1 7 1 2	"	1	0.26	3.9							3.9					3.9
TOTAL											759.52					759.52

UNIDO/SPO ( CIMENTO )

COMMODITY CODE 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/ YEAR  
LOCATION PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

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TOTAL WEIGHT IN TONS/ VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S \$ (1000)	YEARS										TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743420021111911	VENTILATOR	4	0.20	3.87							15.48				15.48
0021111911	"	2	0.32	2.2							4.4				4.4
0021131911	"	2	0.52	6.41							12.82				12.82
0031111911	"	4	0.12	2.2							8.8				8.8
0031111911	"	2	0.12	2.06							4.12				4.12
0051131911	"	2	1.05	15.6							31.2				31.2
0051131911	"	1	0.52	13.5							13.5				13.5
0051131911	"	6	1.1	10.5							63.0				63.0
0051131911	"	5	2.2	24.3							121.5				121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8						25.8					25.8
0081131922	VENTILATOR	2	19.4	133.45						266.9					266.9
0081132931	"	1	6.2	89.5							89.5				89.5
0081133942	"	1	26.6	175.1						175.1					175.1
0051133921	"	2	14.8	47.4							94.8				94.8
TOTAL										467.8	459.12				926.92

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

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~~TOTAL WEIGHT IN TONS /~~ VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS									TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	
743610140025111	ELECTRO-FILTER	2	40.0	224.4							448.8			448.8
1010013111	" "	2	14.7	83.7							167.4			167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00							92.0			92.0
1122012111	CYCLONE	1	7.0	18.4							18.4			18.4
1132013111	" "	4	10.5	27.7							110.8			110.8
1240025111	MULTICYCLONE	1	55.0	131.5							131.5			131.5
5011022411	AIR FILTER	6	7.5	14.8							88.8			88.8
743612034015111	COOLING WASHER	1	50.0	131.5							131.5			131.5
TOTAL											1,189.2			1,189.2

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

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TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (UNOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
7 4 4 2 3 0 1 5 0 0 4 1 1 1 1	FLUX PUMP(PNEUMATIC CONVE.)	2	4.7	39.5							79.0				79.0
0 2 5 0 0 3 1 1 1 1 2	AIR LIFT " "	1	1.6	5.27							5.27				5.27
7 4 4 2 3 2 1 5 0 0 2 1 1 1 1	AIR-SLIDE (CONVEYOR)	2	0.65	2.6							5.2				5.2
2 1 5 0 0 2 1 1 1 1 1	" " "	2	0.27	1.2							2.4				2.4
2 1 5 0 0 2 1 1 1 1 1	" " "	4	0.11	0.35							1.4				1.4
2 1 5 0 0 2 1 1 1 1 1	" " "	3	0.07	0.24							0.72				0.72
2 1 5 0 0 2 1 1 1 1 1	" " "	2	1.4	5.52							11.04				11.04
2 1 5 0 0 2 1 1 1 1 1	" " "	2	0.03	0.12							0.24				0.24
2 1 5 0 0 2 1 1 1 1 1	" " "	1	0.6	2.0							2.0				2.0
2 1 5 0 0 2 1 1 1 1 1	" " "	2	1.2	5.1							10.2				10.2
2 1 5 0 0 2 1 1 1 1 1	" " "	1	0.27	0.87							0.87				0.87
2 1 5 0 0 2 1 1 1 1 1	" " "	1	0.83	2.71							2.71				2.71
2 2 5 0 0 2 1 4 1 1	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8							1.6				1.6
7 4 4 2 3 2 3 5 0 0 3 1 7 1 2	FULLER PUMP	2	4.0	48.9							97.8				97.8
TOTAL											97.8	122.65			220.45

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UNIDO/SPO (CIMENTO)

COMMODITY CODE 25.42

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT

ANTICIPATED DATE OF COMMISSIONING: 1989

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TOTAL WEIGHT IN TONS/VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

S T C O D E	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TNS)	UNIT COST US \$ (1000)	Y E A R S										TOTAL 1981	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990	
2442502320191	BELT CONVEYOR	1	2.59	12.36								12.36				12.36
023201191	"	1	1.1	5.2								5.2				5.2
023202191	"	2	0.7	4.7								9.4				9.4
023202191	"	1	2.75	12.35								12.35				12.35
0232021911	"	2	3.76	19.1								38.2				38.2
0232021912	"	4	4.9	31.1								124.4				124.4
0242021911	"	1	3.0	16.14								16.14				16.14
0242021911	"	1	2.9	14.1								14.1				14.1
0242021911	"	2	3.5	17.7								35.4				35.4
0242022911	"	1	8.1	38.57								38.57				38.57
024202291	"	1	8.7	37.0								37.0				37.0
0242023911	"	1	14.7	61.4								61.4				61.4
0242023911	"	1	21.0	85.9								85.9				85.9
0252011911	"	1	3.6	17.39								17.39				17.39
0252011911	"	1	3.1	14.81								14.81				14.81
0252011911	"	1	4.2	17.1								17.1				17.1
0252014911	"	1	28.8	138.5								138.5				138.5
0252014912	"	1	34.1	156.45								156.45				156.45
0272012711	"	1	8.3	35.5								35.5				35.5
0272012911	"	1	5.6	26.07								26.07				26.07
0272012911	"	1	7.6	33.56								33.56				33.56
0272012911	"	1	9.9	43.24								43.24				43.24
0272013911	"	1	17.7	78.96								78.96				78.96
TOTAL												1,052.0				1,052.0

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UNIDO/SPO (CIMENTO)  
 CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 I

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

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~~TOTAL WEIGHT IN TONS/ VALUE IN U.S. \$ (1000)~~ (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981- 1990
744261024021711	CHAIN CONVEYOR	1	2.95	119.4							119.4				119.4
1212021711	"	1	4.15	17.62							17.62				17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69							31.69				31.69
1233022711	" " "	1	7.8	31.69							31.69				31.69
1254024711	" " "	1	36.6	162.7							162.7				162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2							138.4				138.4
TOTAL											652.37				652.37

UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

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TOTAL WEIGHT IN TONS/ VALUE IN US \$ (1000) ( STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
744265121014911	BUCKET ELEVATOR	1	41.2	165.76							185.76				165.76
5132013911	"	2	18.5	73.34							146.68				146.68
5132013911	"	2	15.2	60.3							120.6				120.6
5132013911	"	2	16.3	71.0							142.0				142.0
5142023911	"	2	21.5	92.2							184.4				184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5							43.5				43.5
5232024911	"	1	37.7	147.4							147.4				147.4
8113011912	WEIGH FEEDER	1	0.96	30.2							30.2				30.2
8113011912	"	2	1.5	13.8							27.6				27.6
8122011912	"	1	0.79	24.92							24.92				24.92
8123011912	"	1	1.24	39.0							39.0				39.0
8123011912	"	2	2.0	18.5							37.0				37.0
8133011912	"	2	2.5	23.1							46.2				46.2
8133011912	"	1	1.15	35.9							35.9				35.9
8133011912	"	1	2.74	71.5							71.5				71.5
744280460023712	RECLAIMING SCPAPER	2	5.7	154.32							308.64				308.64
TOTAL											620.96	950.34			1571.3

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENTS REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 60000 TONS/YEAR  
 LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1989

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TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990			
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990				
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8							11.8							11.8
749310315131712	" " "	2	2.3	23.4							46.8							46.8
749310334134742	" " "	1	29.6	175.0							175.0							175.0
749310362133742	" " "	2	19.7	146.7							293.4							293.4
749310384135752	" " "	2	77.8	386.4							792.8							792.8
74522	2 PACKING MACHINE	2	7.5	94.9							189.8							189.8
TOTAL											1,509.6							1,509.6
GRAND TOTAL											3,470.68	3,165.35	1,180.9					17,816.93

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 1

~~TOTAL WEIGHT IN TONS/ VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
692110211111111	BUNKER	1	1.2	3.2							3.2				3.2
0211311111	FEED HOPPER	2	3.0	7.9							15.8				15.8
0211321111	BUNKER	1	2.0	5.26							5.26				5.26
0211321111	"	2	1.63	4.3							8.6				8.6
0711321111	DAILY TANK	1	1.5	2.63							2.63				2.63
0711321111	" " , FUEL-OIL	1	1.1	1.97							1.97				1.97
0711321111	" " , DIESEL-FUEL	1	0.8	1.32							1.32				1.32
0744324111	MAIN TANKS	3	36.0	59.20							177.6				177.6
1011321111	DAILY TANK	1	1.5	2.63							2.63				2.63
692430411321411	AIR RECEIVER	2	0.5	1.97							3.94				3.94
0411321411	AIR TANK	2	0.1	0.4							0.8				0.8
711120114331	BOILER WITH BURNER	2	10.2	84.25							168.5				168.5
TOTAL											392.25				392.25

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UNIDO/SPO(ÇİMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 2

~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

S ITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
7 2 3 4 2 0 0 3 1 2 2 3 6 2 2	LOADER	1	12.8	98.7								98.7					98.7
0 0 4 7 4 1 4 6 3 2	"	1	30.0	225.3								225.3					225.3
1 0 3 2 6 1 5 6 3 2	EXCAVATOR	2	62.0	255.83								511.66					511.66
7 2 3 4 3 0 1 4 9 0 2 1 3 1 2	ROCK DRILL	2	4.4	67.6								135.2					135.2
2 0 1 1 0 1 6 1 1	AIR GUN	3	0.02	1.5								4.5					4.5
TOTAL												975.36					975.36

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UNIDO/SPO(CIMENTO)-

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 1

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: PLANT E

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 3

TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITE CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1980	1990	
728310245021912	OSCILLATING SCREEN	2	133	7.5							15.0					15.0
6040024931	SEPERATOR	1	29.0	92.65								92.65				92.65
6040024251		2	27.1	105.4								210.8				210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8								398.8				398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3								1994.6				1994.6
1121718771	BALL MILL	1	419.3	1600.3								1600.3				1600.3
1227111711	CRUSHER	1	4.36	21.8								21.8				21.8
TOTAL											15.0	4,318.95				4,339.9

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING 1989

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TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981- 1990	
7 4 1 2 1 0 0 1 5 0 2 1 0 1 1	BURNER	1	0.4	5.26								5.26				5.26
0 0 1 5 0 2 1 0 1 1	"	1	0.4	5.26								5.26				5.26
0 0 2 5 0 2 1 9 1 2	" FOR ROTARY KILN	1	3.1	65.75								65.75				65.75
7 4 1 3 2 2 4 1 4 2 0 2 3 1 1	HOT GAS GENERATOR	1	7.0	3.3								3.3				3.3
2 4 1 4 2 0 2 3 1 1	" " "	1	7.0	3.3								3.3				3.3
7 4 1 6 0 1 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9								14.5				14.5
7 4 1 6 3 1 4 7 6 4 7 9 1 3 1	ROTARY KILN	1	659.2	2300.8								2300.8				2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CLINKER	1	148.4	163.2								163.2				163.2
7 4 1 6 5 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER	1	140.0	460.3								460.3				460.3
7 4 2 2 0 0 1 2 1 2 1 1 6 1 1	WATER PUMP	2	0.06	0.46								0.92				0.92
0 1 3 2 1 1 1 7 1 2	" " "	4	0.32	2.1								8.4				8.4
7 4 2 3 0 1 0 2 2 6 1 1 6 1 1	FUEL-OIL PUMP	2	0.11	1.05								2.1				2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05								2.1				2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.1	1.05								2.1				2.1
1 0 3 3 6 1 1 6 1 1	" " "	2	0.14	2.45								4.9				4.9
1 0 3 3 8 1 1 6 1 1	" " "	3	0.23	3.64								10.92				10.92
TOTAL												3053.11				3053.11

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1989

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TOTAL WEIGHT IN TONS / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743610140025111	ELECTRO-FILTER	2	40.0	224.4							448.8				448.8
1010013111	" "	2	14.7	83.7							167.4				167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00							92.0				92.0
1122012111	CYCLONE	1	7.0	18.4							18.4				18.4
1132013111	"	4	10.5	27.7							110.8				110.8
1240025111	MULTICYCLONE	1	55.0	131.5							131.5				131.5
5011022411	AIR FILTER	6	7.5	14.8							88.8				88.8
743612034015111	COOLING WASHER	1	50.0	131.5							131.5				131.5
TOTAL											1,189.2				1,189.2

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS / YEAR,  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 8

TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990										
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990											
744112027003921	DUMP TRUCKS	3	10.0	52.6									157.8			157.8									
2045003632	" "	5	23.8	204.62									1023.1			1,023.1									
TOTAL																							1,180.9		1,180.9

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 9

TOTAL WEIGHT IN TONS/VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	40	395								79.0				79.0
0250031112	AIR LIFT " "	1	16	527								5.27				5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	065	26								5.2				5.2
2150021111	" " "	2	027	1.2								2.4				2.4
2150021111	" " "	4	0.11	0.35								1.4				1.4
2150021111	" " "	3	007	0.24								0.72				0.72
2150021111	" " "	2	1.4	5.52								11.04				11.04
2150021111	" " "	2	0.03	0.12								0.24				0.24
2150021111	" " "	1	0.6	2.0								2.0				2.0
2150021111	" " "	2	1.2	5.1								10.2				10.2
2150021111	" " "	1	0.27	0.87								0.87				0.87
2150021111	" " "	1	0.83	2.71								2.71				2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8								1.6				1.6
744232350031712	FULLER PUMP	2	40	489								97.8				97.8
TOTAL												97.8	122.65			220.45

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UNIDO/SPO (CIMENTO)

COMMODITY CODE. 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 10

TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990
74426023201911	BELT CONVEYOR	1	2.59	12.36							12.36				12.36
0232011911	"	1	1.1	5.2							5.2				5.2
0232021911	"	2	0.7	4.7							9.4				9.4
0232021911	"	1	2.75	12.35							12.35				12.35
0232021911	"	2	3.76	19.1							38.2				38.2
0232021912	"	4	4.9	31.1							124.4				124.4
0242021911	"	1	3.0	16.14							16.14				16.14
0242021911	"	1	2.9	14.1							14.1				14.1
0242021911	"	2	3.5	17.7							35.4				35.4
0242022911	"	1	8.1	38.57							38.57				38.57
0242022911	"	1	8.7	37.0							37.0				37.0
0242023911	"	1	14.7	61.4							61.4				61.4
0242023911	"	1	21.0	85.9							85.9				85.9
0252011911	"	1	3.6	17.39							17.39				17.39
0252011911	"	1	3.1	14.81							14.81				14.81
0252011911	"	1	4.2	17.1							17.1				17.1
0252014911	"	1	28.8	138.5							138.5				138.5
0252014912	"	1	34.1	156.45							156.45				156.45
0272012711	"	1	8.3	35.5							35.5				35.5
0272012911	"	1	5.6	26.07							26.07				26.07
0272012911	"	1	7.6	33.56							33.56				33.56
0272012911	"	1	9.9	43.24							43.24				43.24
0272013911	"	1	17.7	78.96							78.96				78.96
TOTAL											1,052.0				1,052.0

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UNIDO/SPO(ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 11

TOTAL WEIGHT IN TONS/VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744261024021711	CHAIN CONVEYOR	1	2.95	119.4								119.4				119.4
1212021711	"	1	4.15	17.62								17.62				17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69								31.69				31.69
1233022711	" " "	1	7.8	31.69								31.69				31.69
1254024711	" " "	1	36.6	162.7								162.7				162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	692								130.4				130.4
431011911	SCREW CONVEYOR	1	1.8	7.0								7.0				7.0
43111911	" "	4	3.1	12.95								51.8				51.8
4321011911	" "	2	1.3	5.8								11.6				11.6
4322013941	" "	1	12.2	26.67								26.67				26.67
4331011911	" "	2	3.1	12.5								25.0				25.0
4341011911	" "	4	0.6	3.6								14.4				14.4
4341011911	" "	4	0.6	3.6								14.4				14.4
TOTAL												652.37				652.37

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1989

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~~TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744265121014911	BUCKET ELEVATOR	1	41.2	165.76							165.76				165.76
5132013911	" "	2	18.5	73.34							146.68				146.68
5132013911	" "	2	15.2	60.3							120.6				120.6
5132013911	" "	2	16.3	71.0							142.0				142.0
5142023911	" "	2	21.5	92.2							184.4				184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5							43.5				43.5
5232024911	" " "	1	37.7	147.4							147.4				147.4
8113011912	WEIGH FEEDER	1	0.96	30.2						30.2					30.2
8113011912	" "	2	1.5	13.8						27.6					27.6
8122011912	" "	1	0.79	24.92						24.92					24.92
8123011912	" "	1	1.24	39.0						39.0					39.0
8123011912	" "	2	2.0	18.5						37.0					37.0
8133011912	" "	2	2.5	23.1						46.2					46.2
8133011912	" "	1	1.15	35.9						35.9					35.9
8133011912	" "	1	2.74	71.5						71.5					71.5
744280460023712	RECLAIMING SCRAPER	2	5.7	154.32						308.64					308.64
TOTAL										620.96	50.34				1571.3

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UNIDO/SPO (CIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW BLACK SEA REGION PLANT, CAPACITY 60000 TONS/YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1989

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TOTAL WEIGHT IN TONS / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981- 1990		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990			
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8							11.8						11.8
749310315131712	"	2	2.3	23.4							46.8						46.8
749310334134742	"		296	175.0							175.0						175.0
749310362135742	"	4	19.7	146.7							293.4						293.4
749310384135752	"	2	77.8	396.4							792.8						792.8
74522	2 PACKING MACHINE	2	73	94.9							189.8						189.8
TOTAL											1,509.6						1,509.6
GRAND TOTAL											3,470.88	1,165.35	1,180.9				17,816.93

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 1

TOTAL WEIGHT IN TONS/ VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981 - 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
692110211111111	BUNKER	1	1.2	3.2								3.2			3.2
021131111111111	FEED HOPPER	2	3.0	7.9								15.8			15.8
021132111111111	BUNKER	1	2.0	5.26								5.26			5.26
021132111111111	"	2	1.63	4.3								8.6			8.6
071132111111111	DAILY TANK	1	1.5	2.63								2.63			2.63
071132111111111	" " FUEL-OIL	1	1.1	1.97								1.97			1.97
071132111111111	" " DIESEL-FUEL	1	0.8	1.32								1.32			1.32
074432411111111	MAIN TANKS	3	36.0	59.20								177.6			177.6
101132111111111	DAILY TANK	1	1.5	2.63								2.63			2.63
692430411321411	AIR RECEIVER	2	0.5	1.97								3.94			3.94
041132141111111	AIR TANK	2	0.1	0.4								0.8			0.8
711120111433111	BOILER WITH BURNER	2	10.2	84.25								168.5			168.5
TOTAL												392.25			392.25

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UNIDC/SPO(ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANIAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 3

TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1991	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1980		
728310245021912	OSCILLATING SCREEN	2	1.33	7.5							15.0					15.0
6040024931	SEPARATOR	1	29.0	92.65								92.65				92.65
6040024951	"	2	27.1	105.4								210.8				210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8								398.8				398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3								1994.6				1994.6
1121718771	BALL MILL	1	419.3	1600.3								1600.3				1600.3
1227111711	CRUSHER	1	4.36	21.8								21.8				21.8
TOTAL											15.0	3,318.95				6,333.95

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UNIDO/SPC (CIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANIAN REGION  
LOCATION:PLANT, CAPACITY 6 000 TONS/YEAR  
PLANT

ANTICIPATED DATE OF COMMISSIONING 1989

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TOTAL WEIGHT IN TONS/VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981- 1990		
7 4 1 2 1 0 0 1 5 0 2 1 0 1 1	BURNER	1	0.4	5.26								5.26					5.26
0 0 1 5 0 2 1 0 1 1	"	1	0.4	5.26								5.26					5.26
0 0 2 5 0 2 1 9 1 2	FOR ROTARY KILN	1	3.1	65.75								65.75					65.75
7 4 1 3 2 2 4 1 4 2 0 2 3 1 1	HOT GAS GENERATOR	1	7.0	3.3								3.3					3.3
2 4 1 4 2 0 2 3 1 1	"	1	7.0	3.3								3.3					3.3
7 4 1 6 1 0 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9								14.5					14.5
7 4 1 6 3 1 4 7 6 4 7 9 1 3 1	ROTARY KILN	1	659.2	2300.8								2300.8					2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CLINKER	1	148.4	163.2								163.2					163.2
7 4 1 6 5 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER	1	140.0	460.3								460.3					460.3
7 4 2 2 0 0 1 2 1 2 1 1 6 1 1	WATER PUMP	2	0.06	0.46								0.92					0.92
0 1 3 2 1 1 1 7 1 2	"	4	0.32	2.1								8.4					8.4
7 4 2 3 0 1 0 2 2 6 1 1 6 1 1	FUEL-OIL PUMP	2	0.11	1.05								2.1					2.1
1 0 2 2 0 1 1 6 1 1	"	2	0.11	1.05								2.1					2.1
1 0 2 2 6 1 1 6 1 1	"	2	0.11	1.05								2.1					2.1
1 0 3 3 6 1 1 6 1 1	"	2	0.14	2.45								4.9					4.9
1 0 3 3 8 1 1 6 1 1	"	3	0.23	3.64								10.92					10.92
TOTAL												3053.11					3053.11

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANIAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT

ANTICIPATED DATE OF COMMISSIONING: 1989

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TOTAL WEIGHT IN TONS / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743130031121712	COMPRESSOR	2	0.42	1.84							3.68					3.68
0111121712	"	2	1.0	6.8							13.6					13.6
0123121712	"	2	1.2	3.0							6.0					6.0
0132121612	"	2	1.5	71.82							143.64					143.64
0232122722	"	4	7.95	44.2							176.8					176.8
2121111712	"	2	0.7	8.9							17.8					17.8
2131111712	"	2	5.33	32.85							65.7					65.7
2131111712	"	3	4.28	66.8							200.4					200.4
2141111712	"	2	2.6	36.6							73.2					73.2
2221111712	"	4	0.3	13.7							54.8					54.8
2321111712	"		0.26	3.9							3.9					3.9
TOTAL											759.52					759.52

UNIDO/SPO ( CIMENTO )

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANIE REGION PLANT CAPACITY 600 000 TONS/ YEAR

LOCATION: \_\_\_\_\_

PLANT

ANTICIPATED DATE OF COMMISSIONING: 1989

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~~TOTAL WEIGHT IN TONS/ VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743420021111911	VENTILATOR	4	0.20	3.87							15.48					15.48
0021111911	"	2	0.32	2.2							4.4					4.4
0021131911	"	2	0.52	6.41							12.82					12.82
0031111911	"	4	0.12	2.2							8.8					8.8
0031111911	"	2	0.12	2.06							4.12					4.12
0051131911	"	2	1.05	15.6							31.2					31.2
0051131911	"	1	0.52	13.5							13.5					13.5
0051131911	"	6	1.1	10.5							63.0					63.0
0051131911	"	5	2.2	24.3							121.5					121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8						25.8						25.8
0081131922	VENTILATOR	2	19.4	133.45						266.9						266.9
0081132931	"	1	6.2	89.5							89.5					89.5
0081133942	"	1	26.6	175.1						175.1						175.1
0051133921	"	2	14.8	47.4							94.8					94.8
TOTAL										467.6	459.12					926.92

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UNIDO/SPO (ÇEMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANIAN REGION PLANT, CAPACITY 600 000 TONS /YEAR  
LOCATION: PLANT

ANTICIPATED DATE OF COMMISSIONING: 1989

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743610140025111	ELECTRO-FILTER	2	40.0	224.4							448.8				448.8
1010013111	" "	2	14.7	83.7							167.4				167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00							92.0				92.0
1122012111	CYCLONE	1	7.0	18.4							18.4				18.4
1132013111	" "	4	10.5	27.7							110.8				110.8
1240025111	MULTICYCLONE	1	55.0	131.5							131.5				131.5
5011022411	AIR FILTER	6	7.5	14.8							88.8				88.8
743612034015111	COOLING WASHER	1	50.0	131.5							131.5				131.5
TOTAL											1,189.2				1,189.2

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANIEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT

ANTICIPATED DATE OF COMMISSIONING: 1989

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	39.5								79.0			79.0
0250031112	AIR LIFT " "	1	1.6	5.27								5.27			5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6								5.2			5.2
2150021111	" " "	2	0.27	1.2								2.4			2.4
2150021111	" " "	4	0.11	0.35								1.4			1.4
2150021111	" " "	3	0.07	0.24								0.72			0.72
2150021111	" " "	2	1.4	5.52								11.04			11.04
2150021111	" " "	2	0.03	0.12								0.24			0.24
2150021111	" " "	1	0.6	2.0								2.0			2.0
2150021111	" " "	2	1.2	5.1								10.2			10.2
2150021111	" " "	1	0.27	0.87								0.87			0.87
2150021111	" " "	1	0.83	2.71								2.71			2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8								1.6			1.6
744232350031712	FULLER PUMP	2	40	48.9								97.8			97.8
TOTAL												97.8	122.65		220.45

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UNIDO/SPO (CIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANIAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCAT ON: \_\_\_\_\_ PLANT

ANTICIPATED DATE OF COMMISSIONING: 1989

PAGE: 10

TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981- 1990	
744260232011911	BELT CONVEYOR	1	2.59	12.36								12.36				12.36
0232011911	" "	1	1.1	5.2								5.2				5.2
0232021911	" "	2	0.7	4.7								9.4				9.4
0232021911	" "	1	2.75	12.35								12.35				12.35
0232021911	" "	2	3.76	19.1								38.2				38.2
0232021912	" "	4	4.9	31.1								124.4				124.4
0242021911	" "	1	3.0	16.14								16.14				16.14
0242021911	" "	1	2.9	14.1								14.1				14.1
0242021911	" "	2	3.5	17.7								35.4				35.4
0242022911	" "	1	8.1	38.57								38.57				38.57
0242022911	" "	1	8.7	37.0								37.0				37.0
0242023911	" "	1	14.7	61.4								61.4				61.4
0242023911	" "	1	21.0	85.9								85.9				85.9
0252011911	" "	1	3.6	17.39								17.39				17.39
0252011911	" "	1	3.1	14.81								14.81				14.81
0252011911	" "	1	4.2	17.1								17.1				17.1
0252014911	" "	1	28.8	138.5								138.5				138.5
0252014912	" "	1	34.1	156.45								156.45				156.45
0272012711	" "	1	8.3	35.5								35.5				35.5
0272012911	" "	1	5.6	26.07								26.07				26.07
0272012911	" "	1	7.6	33.56								33.56				33.56
0272012911	" "	1	9.9	43.24								43.24				43.24
0272013911	" "	1	17.7	78.96								78.96				78.96
TOTAL												1,052.0				1,052.0

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UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANIAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT

ANTICIPATED DATE OF COMMISSIONING: 1989

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~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITE CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S \$ (1000)	YEARS										TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744261024021711	CHAIN CONVEYOR	1	2.95	119.4							119.4				119.4
1211021711	"	1	4.15	17.62							17.62				17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69							31.69				31.69
1233022711	"	1	7.8	31.69							31.69				31.69
1254024711	"	1	36.6	162.7							162.7				162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2							138.4				138.4
43101911	SCREW CONVEYOR	1	1.6	7.0							7.0				7.0
43101911	"	4	3.1	12.95							51.8				51.8
43201911	"	2	1.3	5.8							11.6				11.6
432203941	"	1	12.2	26.67							26.67				26.67
433101911	"	2	3.1	12.5							25.0				25.0
434101911	"	4	0.6	3.6							14.4				14.4
434101311	"	4	0.6	3.6							14.4				14.4
TOTAL											652.37				652.37

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MEDITERRANEAN REGION  
LOCATION:

PLANT, CAPACITY 600 000 TONS / YEAR  
PLANT

ANTICIPATED DATE OF COMMISSIONING: 1982

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TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) ( STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990		
744265121014911	BUCKET ELEVATOR	1	41.2	165.76								165.76					165.76
5132013911	"	2	18.5	73.34								146.68					146.68
5132013911	"	2	15.2	60.3								120.6					120.6
5132013911	"	2	16.3	71.0								142.0					142.0
5142023911	"	2	21.5	92.2								184.4					184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5								43.5					43.5
5232024911	" " "	1	37.7	147.4								147.4					147.4
8113011912	WEIGH FEEDER	1	0.96	30.2								30.2					30.2
9113011912	" "	2	1.5	13.8								27.6					27.6
8122011912	" "	1	0.79	24.92								24.92					24.92
8123011912	" "	1	1.24	39.0								39.0					39.0
8123011912	" "	2	2.0	18.5								37.0					37.0
8133011912	" "	2	2.5	23.1								46.2					46.2
8133011912	" "	1	1.15	35.9								35.9					35.9
8133011912	" "	1	2.74	71.5								71.5					71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	154.32								308.64					308.64
TOTAL												620.96	50.34				1571.3

1020







UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT: **I**

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 2

~~TOTAL WEIGHT IN TONS~~ / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990
723420031223522	LOADER	1	12.8	98.7									98.7		98.7
0041414832	"	1	30.0	225.3									225.3		225.3
1032615632	EXCAVATOR	2	62.0	255.83									511.66		511.66
2343014912	ROCK CRUSH	2	4.4	67.6									135.2		135.2
101101511	AIR GUN	5	0.02	1.5									4.5		4.5
TOTAL													975.36		975.36

COMMODITY CODE 3650

UNIDO/SP/DIM/TG) CAPITAL GOOD - DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT CAPACITY 500,000 TONS/YEAR

LOCATION

ANTICIPATED DATE OF COMMISSIONING 1990

PAGE 3

NOTE: ALL VALUES IN US\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITE CODE	EQUIPMENT NAME	QTY	UNIT	UNIT COST US\$ (1000)	WEIGHT (TONS)	QTY	UNIT COST US\$ (1000)	TOTAL COST US\$ (1000)	TOTAL WEIGHT (TONS)	QTY	UNIT COST US\$ (1000)	TOTAL COST US\$ (1000)	TOTAL WEIGHT (TONS)	QTY	UNIT COST US\$ (1000)	TOTAL COST US\$ (1000)	TOTAL WEIGHT (TONS)
72832044715631	CRUSHER (MILL)	1	MT	398.8	84.1	1	398.8	398.8	84.1	1	398.8	398.8	84.1	1	398.8	398.8	84.1
1111718771	CEMENT BALL MILL	2	MT	326.35	997.3	2	326.35	652.7	1994.6	2	326.35	652.7	1994.6	2	326.35	652.7	1994.6
1121718771	BALL MILL	1	MT	419.3	1600.3	1	419.3	419.3	1600.3	1	419.3	419.3	1600.3	1	419.3	419.3	1600.3
1227111711	CRUSHER	1	MT	4.36	21.8	1	4.36	4.36	21.8	1	4.36	4.36	21.8	1	4.36	4.36	21.8
60407499		2	MT	27.4	105.4	2	27.4	54.8	210.8	2	27.4	54.8	210.8	2	27.4	54.8	210.8
728310245019	SEPARATOR	1	MT	92.65	29.0	1	92.65	92.65	29.0	1	92.65	92.65	29.0	1	92.65	92.65	29.0
728310245019	SEPARATOR	2	MT	1.31	7.9	2	1.31	2.62	10.8	2	1.31	2.62	10.8	2	1.31	2.62	10.8
1000	TOTAL							1510.8	1510.8			1510.8	1510.8			1510.8	1510.8
1000	TOTAL							1510.8	1510.8			1510.8	1510.8			1510.8	1510.8

TOTAL

15.0

633339

UNIDO/SPO (ÇIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION

PLANT, CAPACITY 600 000 TONS / YEAR

LOCATION:

PLANT : I

ANTICIPATED DATE OF COMMISSIONING : 1990

PAGE : 4

TOTAL WEIGHT IN TONS / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITE CODE	BASIC MACHINE NAME	QTY REQ'D (UNITS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
7 4 1 2 1 0 0 1 5 0 2 1 0	BURNER		0.4	5.26										5.26		5.26
0 0 1 5 0 2 1 0			0.4	5.26										5.26		5.26
0 0 2 5 0 2 1 9 1 2	ROTARY KILN			65.75										65.75		65.75
7 4 1 3 2 0 4 1 4 2 0 2 3 1 1	HORIZONTAL GENERATOR		7.0	3.3										3.3		3.3
0 4 1 4 2 0 2 3 1 1			7.0	3.3										3.3		3.3
7 4 1 6 1 0 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9										14.5		14.5
7 4 1 6 3 1 4 7 6 4 7 9 1 3 1	ROTARY KILN		659.2	2300.8										2300.8		2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CEMENT		48.4	163.2										163.2		163.2
7 4 1 6 5 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER		460.0	460.3										460.3		460.3
4 2 2 0 0 1 2 1 2 1 1 6 1 1	WATER PUMP	2	0.06	0.46										0.92		0.92
0 1 3 2 1 1 7 1 2	"	4	0.32	2.1										8.4		8.4
7 4 2 3 0 1 0 2 2 6 1 1 6 1 1	FUEL-OIL PUMP	2	0.11	1.05										2.1		2.1
1 0 2 2 6 1 1 6 1 1	"	2	0.11	1.05										2.1		2.1
1 0 2 2 6 1 1 6 1 1	"	2	0.11	1.05										2.1		2.1
1 0 3 3 6 1 1 6 1 1	"	2	0.14	2.45										4.9		4.9
1 0 3 3 6 1 1 6 1 1	"	3	0.23	3.64										10.92		10.92
TOTAL														3,053.11		3,053.11

UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT: I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 5

~~TOTAL WEIGHT IN TONS/VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEAR										TOTAL		
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981		
7 4 3 1 3 0 0 3 1 1 2 1 7 2	COMPRESSOR	2	0.42	1.84													3.68
0 1 1 1 1 2 1 7 1 2		2	1.0	6.8													13.6
0 1 2 3 1 2 1 7 1 2		2	.2	3.0													6.0
0 1 3 2 1 2 1 6 2		2	1.5	71.82													143.64
0 2 3 2 1 2 2 7 2 2		4	7.95	44.2													176.8
2 1 2 1 1 1 1 7 1 2		2	0.7	8.9													17.8
2 1 3 1 1 1 1 7 1 2		2	5.33	32.85								95.7					65.7
2 1 3 1 1 1 1 7 1 2		3	4.28	66.8								200.4					200.4
2 1 4 1 1 1 1 7 1 2		2	2.6	36.6								73.2					73.2
2 2 2 1 1 1 1 7 1 2		4	0.3	13.7								54.8					54.8
2 3 2 1 1 1 1 7 1 2			0.26	3.9								3.9					3.9
TOTAL												759.52					759.52



UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR

LOCATION: \_\_\_\_\_

PLANT: I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 7

TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743610140025111	ELECTRO-FILTER	2	40.0	224.4									448.8		448.8
1010013111	" "	2	14.7	83.7									167.4		167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00									92.0		92.0
1122012111	CYCLONE	1	7.0	18.4									18.4		18.4
1132013111	" "	4	10.5	27.7									110.8		110.8
1240025111	MULTICYCLONE	1	55.0	131.5									131.5		131.5
5011022411	AIR FILTER	6	7.5	14.8									88.8		88.8
743612034015111	COOLING WASHER	1	50.0	131.5									131.5		131.5
TOTAL													1,189.2		1,189.2

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT: I

ANTICIPATED DATE OF COMMISSIONING: 1990

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
7 4 4 2 3 0 1 5 0 0 4 1 1 1 1	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	39.5									79.0		79.0
0 2 5 0 0 3 1 1 1 2	AIR LIFT " "	1	1.6	5.27									5.27		5.27
7 4 4 2 3 2 1 5 0 0 2 1 1 1 1	AIR-SLIDE (CONVEYOR)	2	0.65	2.6									5.2		5.2
2 1 5 0 0 2 1 1 1 1	" " "	2	0.27	1.2									2.4		2.4
2 1 5 0 0 2 1 1 1 1	" " "	4	0.11	0.35									1.4		1.4
2 1 5 0 0 2 1 1 1 1	" " "	3	0.07	0.24									0.72		0.72
2 1 5 0 0 2 1 1 1 1	" " "	2	1.4	5.52									11.04		11.04
2 1 5 0 0 2 1 1 1 1	" " "	2	0.03	0.12									0.24		0.24
2 1 5 0 0 2 1 1 1 1	" " "	1	0.6	2.0									2.0		2.0
2 1 5 0 0 2 1 1 1 1	" " "	2	1.2	5.1									10.2		10.2
2 1 5 0 0 2 1 1 1 1	" " "	1	0.27	0.87									0.87		0.87
2 1 5 0 0 2 1 1 1 1	" " "	1	0.83	2.71									2.71		2.71
2 2 5 0 0 2 1 4 1 1	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8									1.6		1.6
7 4 4 2 3 2 3 5 0 0 3 1 7 1 2	FULLER PUMP	2	4.0	48.9									97.8		97.8
TOTAL													97.8	122.65	220.45

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT: I

ANTICIPATED DATE OF COMMISSIONING: 1990

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~~TOTAL WEIGHT IN TONS/~~ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
744260232011911	BELT CONVEYOR	1	2.59	12.36									12.36		12.36
0232011911	" "	1	1.1	5.2									5.2		5.2
0232021911	" "	2	0.7	4.7									9.4		9.4
0232021911	" "	1	2.75	12.35									12.35		12.35
0232021911	" "	2	3.76	19.1									38.2		38.2
0232021912	" "	4	4.9	31.1									124.4		124.4
0242021911	" "	1	3.0	16.14									16.14		16.14
0242021911	" "	1	2.9	14.1									14.1		14.1
0242021911	" "	2	3.5	17.7									35.4		35.4
0242022911	" "	1	8.1	38.57									38.57		38.57
0242022911	" "	1	8.7	37.0									37.0		37.0
0242023911	" "	1	14.7	61.4									61.4		61.4
0242023911	" "	1	21.0	85.9									85.9		85.9
0252011911	" "	1	3.6	17.39									17.39		17.39
0252011911	" "	1	3.1	14.81									14.81		14.81
0252011911	" "	1	4.2	17.1									17.1		17.1
0252014911	" "	1	28.8	138.5									138.5		138.5
0232014912	" "	1	34.1	156.45									156.45		156.45
0272012711	" "	1	8.3	35.5									35.5		35.5
0272012911	" "	1	5.6	26.07									26.07		26.07
0272012911	" "	1	7.6	33.56									33.56		33.56
0272012911	" "	1	9.9	43.24									43.24		43.24
0272013911	" "	1	17.7	78.96									78.96		78.96
TOTAL															
													1,052.0		1,052.0

UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION: \_\_\_\_\_

PLANT: I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: II

~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744261024021711	CHAIN CONVEYOR	1	2.95	119.4									119.4		119.4
1212021711	" "	1	4.15	17.62									17.62		17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69									31.69		31.69
1233022711	" " "	1	7.8	31.69									31.69		31.69
1254004711	" " "	1	36.6	162.7									162.7		162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2									138.4		138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0									7.0		7.0
4311011911	" "	4	3.1	12.95									51.8		51.8
4321011911	" "	2	1.3	5.8									11.6		11.6
4322013941	" "	1	12.2	26.67									26.67		26.67
4331011911	" "	2	3.1	12.5									25.0		25.0
4341011911	" "	4	0.6	3.6									14.4		14.4
4341011911	" "	4	0.6	3.6									14.4		14.4
TOTAL													652.37		652.37

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT: I

ANTICIPATED DATE OF COMMISSIONING: 1990

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
744265121014911	BUCKET ELEVATOR	1	41.2	165.76									165.76		165.76
5132013911	" "	2	18.5	73.34									146.68		146.68
5132013911	" "	2	15.2	60.3									120.6		120.6
5132013911	" "	2	16.3	71.0									142.0		142.0
5142023911	" "	2	21.5	92.2									184.4		184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5									43.5		43.5
5232024911	" " "	1	37.7	147.4									147.4		147.4
8113011912	WEIGH FEEDER	1	0.96	30.2								30.2			30.2
8113011912	" "	2	1.5	13.8								27.6			27.6
8122011912	" "	1	0.79	24.92								24.92			24.92
8123011912	" "	1	1.24	39.0								39.0			39.0
8123011912	" "	2	2.0	18.5								37.0			37.0
8133011912	" "	2	2.5	23.1								46.2			46.2
8133011912	" "	1	1.15	35.9								35.9			35.9
8133011912	" "	1	2.74	71.5								71.5			71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	154.32								308.64			308.64
TOTAL												520.96	950.34		1571.3

UNIDO/SPO (CIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT: I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 13

TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

COMMODITY CODE: 3692 1

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8							11.8				11.8
749310315131712	" " "	2	2.3	23.4							46.8				46.8
749310331134742	" " "	1	29.6	175.0							175.0				175.0
749310362133742	" " "	2	19.7	146.7							293.4				293.4
749310384135752	" " "	2	77.8	396.4							792.8				792.8
74522	2 PACKING MACHINE	2	7.3	94.9											189.8
TOTAL											1,509.6				1,509.6
GRAND TOTAL											3,470.68	1,165.35	1,180.9		17,814.93

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: PLANT: II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 1

~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981- 1990
69211021111111	BUNKER	1	1.2	3.2										3.2	3.2
0211311111	FEED HOPPER	2	3.0	7.9										15.8	15.8
0211321111	BUNKER	1	2.0	5.26										5.26	5.26
0211321111	"	2	1.63	4.3										8.6	8.6
0711321111	DAILY TANK	1	1.5	2.63										2.63	2.63
0711321111	" " FUEL-OIL	1	1.1	1.97										1.97	1.97
0711321111	" " DIESEL-FUEL	1	0.8	1.32										1.32	1.32
0744324111	WATER TANK	3	36.0	59.20										177.6	177.6
0711321111	DAILY TANK	1	1.5	2.63										2.63	2.63
89243011321411	AIR RECEIVER	2	0.5	1.97										3.94	3.94
8411321411	AIR TANK	2	0.1	0.4										0.8	0.8
7111201143311	BOILER WITH BURNER	2	10.2	84.25										168.5	168.5
TOTAL														392.25	392.25

UNIDO/SPOCUMENTO )

COMMODITY CODE: 3692 1

CAPITAL CROSS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR

LOCATION: \_\_\_\_\_

PLANT: II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 2

~~TOTAL WEIGHT IN TONS~~/ VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
723420031223622	LOADER	1	12.8	98.7											98.7	98.7
0041414632	"	1	30.0	225.3											225.3	225.3
1032615632	EXCAVATOR	2	62.0	255.83											511.66	511.66
723430149021312	ROCK DRILL	2	4.4	67.6											135.2	135.2
2011101611	AIR GUN	3	0.02	1.5											4.5	4.5
TOTAL															975.36	975.36

979

UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT: II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 3

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1980	1990	
728310245021912	OSCILLATING SCREEN	2	1.33	7.5								15.0				15.0
6040024931	SEPARATOR	1	29.0	92.65									92.65			92.65
6040024951	"	2	27.1	105.4									210.8			210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8									398.8			398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3									1994.6			1994.6
1121718771	BALL MILL	1	419.3	1600.3									1600.3			1600.3
1227111711	CRUSHER	1	4.36	21.8									21.8			21.8
TOTAL												15.0	431895			433399

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT: II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 4

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS									TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	
7 4 1 2 1 0 0 1 5 0 2 1 0 1 1	BURNER	1	0.4	5.26								5.26		5.26
0 0 1 5 0 2 1 0 1 1	"	1	0.4	5.26								5.26		5.26
0 0 2 5 0 2 1 9 1 2	" FOR ROTARY KILN	1	3.1	65.75								65.75		65.75
7 4 1 3 2 2 4 1 4 2 0 2 3 1 1	HOT GAS GENERATOR	1	7.0	3.3								3.3		3.3
2 4 1 4 2 0 2 3 1 1	" " "	1	7.0	3.3								3.3		3.3
7 4 1 6 1 0 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9								14.5		14.5
7 4 1 6 3 1 4 7 6 4 7 9 1 3 1	ROTARY KILN	1	6592	2300.8								2300.8		2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CLINKER	1	148.4	163.2								163.2		163.2
7 4 1 6 5 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER	1	140.0	460.3								460.3		460.3
7 4 2 2 0 0 1 2 1 2 1 1 6 1 1	WATER PUMP	2	0.06	0.46								0.92		0.92
0 1 3 2 1 1 1 7 1 2	" "	4	0.32	2.1								8.4		8.4
7 4 2 3 0 1 0 2 2 6 1 1 6 1 1	FUEL - OIL PUMP	2	0.11	1.05								2.1		2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05								2.1		2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05								2.1		2.1
1 0 3 3 6 1 1 6 1 1	" " "	2	0.14	2.45								4.9		4.9
1 0 3 3 6 1 1 6 1 1	" " "	3	0.23	3.64								10.92		10.92
TOTAL												3,053.11		3,053.11

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT: II

ANTICIPATED DATE OF COMMISSIONING: 1990

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981- 1990	
743130031121712	COMPRESSOR	2	0.42	194								3.64				3.68
2111217		2	1.0	6.8								13.6				13.6
2321712		2	1.2	3.0								6.0				6.0
3212612		2	1.5	71.82								143.64				143.64
003122703		4	7.95	44.2								176.8				176.8
2121712		2	0.7	8.9								17.8				17.8
2311712		2	5.33	32.35								64.7				64.7
2131712		3	4.24	66.9								200.4				200.4
2141712		2	2.6	36.6								73.2				73.2
2151712		2	0.3	13.7								54.8				54.8
2161712		2	0.26	3.9								3.9				3.9
TOTAL												759.52				759.52

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UNIDO/SPO ( CEMENTO )

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT: II

ANTICIPATED DATE OF COMMISSIONING: 1990

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~~TOTAL WEIGHT IN TONS/~~ VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S \$ (1000)	YE A P S										TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743420021111911	VENTILATOR	4	0.20	3.87									15.48		15.48
0021111911	"	2	0.32	2.2									4.4		4.4
0021131911	"	2	0.52	6.41									12.82		12.82
0031111911	"	4	0.12	2.2									8.8		8.8
0031111911	"	2	0.12	2.06									4.12		4.12
0051131911	"	2	1.05	15.6									31.2		31.2
0051131911	"	1	0.52	13.5									13.5		13.5
0051131911	"	6	1.1	10.5									63.0		63.0
0051131911	"	5	2.2	24.3									121.5		121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8								25.8			25.8
0081131922	VENTILATOR	2	19.4	133.45								266.9			266.9
0081132931	"	1	6.2	89.5									89.5		89.5
0081133942	"	1	26.6	175.1								175.1			175.1
0051133921	"	2	14.9	47.4									94.8		94.8
TOTAL											467.8	459.12		926.92	

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UNIDO/SPO (CEMENT)

COMMODITY CODE: 3692

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_

ANTICIPATED DATE OF COMMISSIONING: 1991

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TOTAL WEIGHT IN TONS; VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITE CODE	EQUIPMENT MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743610140025111	ELECTRO-FILTER	1	40.0	221.4										448.0	448.8
101001311		1	14.7	33.7										167.4	167.4
111301311	CYCLONE SINGLE	2	11.7	45.00										92.0	92.0
112201011	CYCLONE	1	7.0	18.4										18.4	18.4
11320131111		4	10.5	27.7										110.8	110.8
12400251111	MULTICYCLONE	1	55.0	131.5										131.5	131.5
50110224111	AIR FILTER	5	7.5	14.8										88.8	88.8
743612034015111	COOLING WASHER	1	50.0	131.5										131.5	131.5
TOTAL														1,189.2	1,189.2

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS / YEAR

LOCATION: \_\_\_\_\_

PLANT: II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 8

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744112027003921	DUMP TRUCKS	3	10.0	52.6											157.8	157.8
2045003632	" "	5	23.8	204.82											1,023.1	1,023.1
TOTAL															1,180.9	1,180.9

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT: II

ANTICIPATED DATE OF COMMISSIONING: 1990 -

PAGE: 9

~~TOTAL WEIGHT IN TONS/VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	39.5									79.0		79.0
0250031112	AIR LIFT " "	1	1.6	5.27									5.27		5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6									5.2		5.2
2150021111	" " "	2	0.27	1.2									2.4		2.4
2150021111	" " "	4	0.11	0.35									1.4		1.4
2150021111	" " "	3	0.07	0.24									0.72		0.72
2150021111	" " "	2	1.4	5.52									11.04		11.04
2150021111	" " "	2	0.03	0.12									0.24		0.24
2150021111	" " "	1	0.6	2.0									2.0		2.0
2150021111	" " "	2	1.2	5.1									10.2		10.2
2150021111	" " "	1	0.27	0.87									0.87		0.87
2150021111	" " "	1	0.85	2.71									2.71		2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8									1.6		1.6
744232350031712	FULLER PUMP	2	4.0	48.9									97.8		97.8
TOTAL													97.8	122.65	220.45

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UNIDO/SPO (DIME TO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT: II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 10

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
74426023011911	BELT CONVEYOR	1	2.59	12.36										12.36	12.36
0232011911	"	1	1.1	5.2										5.2	5.2
0232021911	"	2	0.7	4.7										9.4	9.4
0232021911	"	1	2.75	12.35										12.35	12.35
0232021911	"	2	3.76	19.1										38.2	38.2
0232021912	"	4	4.9	31.1										124.4	124.4
0242021911	"	1	3.0	16.14										16.14	16.14
0242021911	"	1	2.9	14.1										14.1	14.1
0242021911	"	2	3.5	17.7										35.4	35.4
0242022911	"	1	8.1	38.57										38.57	38.57
0242022911	"	1	8.7	37.0										37.0	37.0
0242023311	"	1	14.7	61.4										61.4	61.4
0242023911	"	1	21.0	85.9										85.9	85.9
0252011911	"	1	3.6	17.39										17.39	17.39
0252011911	"	1	3.1	14.81										14.81	14.81
0252011911	"	1	4.2	17.1										17.1	17.1
0252014911	"	1	28.1	138.5										138.5	138.5
0252014912	"	1	31.1	156.45										156.45	156.45
0272012711	"	1	8.3	35.5										35.5	35.5
0272012911	"	1	5.6	26.07										26.07	26.07
0272012911	"	1	7.6	33.56										33.56	33.56
0272012911	"	1	9.9	43.24										43.24	43.24
0272013911	"	1	17.7	78.96										78.96	78.96
TOTAL														1,052.0	1,052.0

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT: II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: II

~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744261024021711	CHAIN CONVEYOR	1	2.95	119.4									119.4		119.4
121202	"	1	4.15	17.62									17.62		17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69									31.69		31.69
1233002711	"	1	7.8	31.69									31.69		31.69
1254024711	"	1	36.6	162.7									162.7		162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2									138.4		138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0									7.0		7.0
4311011911	" "	4	3.1	12.95									51.8		51.8
4321011911	" "	2	1.3	5.8									11.6		11.6
4322013941	" "	1	12.2	26.67									26.67		26.67
4331011911	" "	2	3.1	12.5									25.0		25.0
4341011911	" "	4	0.6	3.6									14.4		14.4
4341011911	" "	4	0.6	3.6									14.4		14.4
TOTAL													653.37		653.37

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION

PLANT CAPACITY 600 000 TONS / YEAR

LOCATION: \_\_\_\_\_

PLANT: II

ANTICIPATED DATE OF COMMISSIONING: 1990

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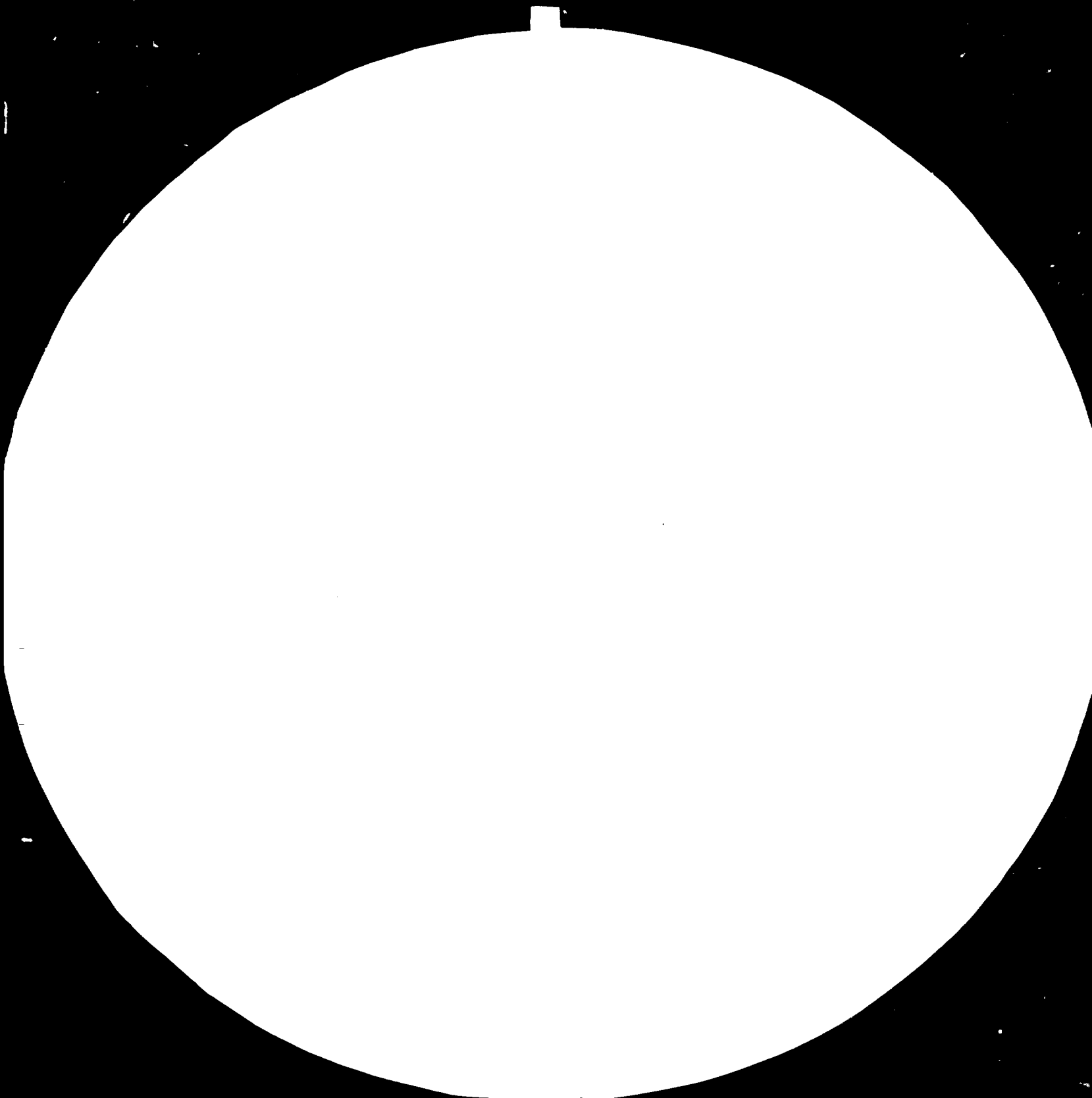
~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
744265121014911	BUCKET ELEVATOR	1	41.2	165.76									135.76		165.76
5132013911	" "	2	18.5	73.34									146.68		146.68
5132013911	" "	2	15.2	60.3									120.6		120.6
5132013911	" "	2	16.3	71.0									142.0		142.0
5142023911	" "	2	21.5	92.2									184.4		184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5									43.5		43.5
5232024911	" " "	1	37.7	147.4									147.4		147.4
8113011912	WEIGH FEEDER	1	0.96	30.2								30.2			30.2
8113011912	" "	2	1.5	13.8								27.6			27.6
8122011912	" "	1	0.79	24.92								24.92			24.92
8123011912	" "	1	1.24	39.0								39.0			39.0
8123011912	" "	2	2.0	18.5								37.0			37.0
8133011912	" "	2	2.5	23.1								46.2			46.2
8133011912	" "	1	1.15	35.9								35.9			35.9
8133011912	" "	1	2.74	71.5								71.5			71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	154.32								308.64			308.64
TOTAL												620.96	950.34		1571.3

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UNIDO/SPO (GIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW CENTRAL ANATOLIA REGION PLANT, CAPACITY 60000 TONS/YEAR

LOCATION: \_\_\_\_\_

PLANT: II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 13

TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS									TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8								11.8			11.8
749310315131712	" " "	2	2.3	23.4								46.8			46.8
749310334134742	" " "	1	29.6	175.0								175.0			175.0
749310362133742	" " "	2	19.7	146.7								293.4			293.4
749310384135752	" " "	2	77.8	396.4								792.8			792.8
74522	2 PACKING MACHINE	2	7.3	94.9											189.8
TOTAL												1,509.6			1,509.6
GRAND TOTAL												2,470.6	1,165.35	1,180.9	12,916.93

UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW  
LOCATION:

AEGEAN REGION

PLANT, CAPACITY 600 000 TONS / YEAR  
PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 1

TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	SITC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
69211021111111	BUNKER	1	1.2	3.2									3.2		3.2
0211311111	FEED HOPPER	2	3.0	7.9									15.8		15.8
0211321111	BUNKER	1	2.0	5.26									5.26		5.26
0211321111	"	2	1.63	4.3									8.6		8.6
0711321111	DAILY TANK	1	1.5	2.63									2.63		2.63
0711321111	" " , FUEL-OIL	1	1.1	1.97									1.97		1.97
0711321111	" " , DIESEL-FUEL	1	0.8	1.32									1.32		1.32
0744324111	MAIN TANKS	3	36.0	59.20									177.6		177.6
1011321111	DAILY TANK	1	1.5	2.63									2.63		2.63
692430411321411	AIR RECEIVER	2	0.5	1.97									3.94		3.94
0411321411	AIR TANK	2	0.1	0.4									0.8		0.8
711112011143311	BOILER WITH BURNER	2	10.2	84.25									168.5		168.5
TOTAL													392.25		392.25

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE 2

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981 1990
723420031223622	LOADER	1	12.8	98.7									98.7		98.7
0041414632	"	1	30.0	225.3									225.3		225.3
1032615632	EXCAVATOR	2	62.0	255.83									511.66		511.66
723430149021312	ROCK DRILL	2	4.4	67.6									135.2		135.2
2011101611	AIR GUN	3	0.02	1.5									4.5		4.5
TOTAL													975.36		975.36



UNIDO/SPO (CIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 4

TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
7 4 1 2 1 0 0 1 5 0 2 1 0 1 1	BURNER	1	0.4	5.26									5.26		5.26
0 0 1 5 0 2 1 0 1 1	"	1	0.4	5.26									5.26		5.26
0 0 2 5 0 2 1 9 1 2	" FOR ROTARY KILN	1	3.1	65.75									65.75		65.75
7 4 1 3 2 2 4 1 4 2 0 2 3 1 1	HOT GAS GENERATOR	1	7.0	3.3									3.3		3.3
2 4 1 4 2 0 2 3 1 1	" " "	1	7.0	3.3									3.3		3.3
7 4 1 6 1 0 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9									14.5		14.5
7 4 1 6 3 1 4 7 6 4 7 9 1 3 1	ROTARY KILN	1	699.2	2300.8									2300.8		2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CLINKER	1	148.4	163.2									163.2		163.2
7 4 1 6 5 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER	1	140.0	460.3									460.3		460.3
7 4 2 2 0 0 1 2 1 2 1 1 6 1 1	WATER PUMP	2	0.06	0.46									0.92		0.92
0 1 3 2 1 1 1 7 1 2	" "	4	0.32	2.1									8.4		8.4
7 4 2 3 0 1 0 2 2 6 1 1 6 1 1	FUEL-OIL PUMP	2	0.11	1.05									2.1		2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05									2.1		2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05									2.1		2.1
1 0 3 3 6 1 1 6 1 1	" " "	2	0.14	2.45									4.9		4.9
1 0 3 3 6 1 1 6 1 1	" " "	3	0.23	3.64									10.92		10.92
TOTAL													3,053.11		3,053.11

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UNIDO/SPO(ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT 1

ANTICIPATED DATE OF COMMISSIONING: 1990

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
7 431 3003 11 21 71 2	COMPRESSOR	2	0.42	1.84								3.68				3.68
0111121712	"	2	1.0	6.8								13.6				13.6
0123121712	"	2	1.2	3.0								6.0				6.0
0132121612	"	2	1.5	71.82								143.64				143.64
0232122722	"	4	7.95	44.2								176.8				176.8
2121111712	"	2	0.7	8.9								17.8				17.8
2131111712	"	2	5.33	32.85								65.7				65.7
2131111712	"	3	4.28	66.8								200.4				200.4
2141111712	"	2	2.6	36.6								73.2				73.2
2221111712	"	4	0.3	13.7								54.8				54.8
2321111712	"	1	0.26	3.9								3.9				3.9
TOTAL												759.52				759.52

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UNIDO/SPO ( CIMENTO )

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AESEAN REGION PLANT, CAPACITY 600 000 TONS/ YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 6

~~TOTAL WEIGHT IN TONS~~/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D. (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743420021111911	VENTILATOR	4	0.20	3.87									15.48		15.48
0021111911	"	2	0.32	2.2									4.4		4.4
0021131911	"	2	0.52	6.41									12.82		12.82
0031111911	"	4	0.12	2.2									8.8		8.8
0031111911	"	2	0.12	2.08									4.12		4.12
0051131911	"	2	1.05	15.6									31.2		31.2
0051131911	"	1	0.52	13.5									13.5		13.5
0051131911	"	6	1.1	10.5									63.0		63.0
0051131911	"	5	2.2	24.3									121.5		121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8								25.8			25.8
0081131922	VENTILATOR	2	19.4	133.45								266.9			266.9
0081132931	"	1	6.2	89.5									89.5		89.5
0081133942	"	1	28.6	175.1								175.1			175.1
0051133921	"	2	14.8	47.4									94.8		94.8
<b>TOTAL</b>												<b>487.8</b>	<b>459.12</b>		<b>926.92</b>

UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 7

~~TOTAL WEIGHT IN TONS~~ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743610140025111	ELECTRO-FILTER	2	40.0	224.4									448.8		448.8
1010013111	" "	2	14.7	83.7									167.4		167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00									92.0		92.0
1122012111	CYCLONE	1	7.0	18.4									18.4		18.4
1132013111	" "	4	10.5	27.7									110.8		110.8
1240025111	MULTICYCLONE	1	55.0	131.5									131.5		131.5
5011022411	AIR FILTER	6	7.5	14.8									88.8		88.8
743612034015111	COOLING WASHER	1	50.0	131.5									131.5		131.5
TOTAL													1,189.2		1,189.2

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UNIDO/SPO (ÇEMENTO )

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 8

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744112027003921	DUMP TRUCKS	3	10.0	52.6											157.8	157.8
2045003632	" "	5	23.8	204.62											1,023.1	1,023.1
TOTAL															1,180.9	1,180.9

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 9

~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	395									79.0			79.0
0250031112	AIR LIFT " "	1	1.6	527									5.27			5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6									5.2			5.2
2150021111	" " "	2	0.27	1.2									2.4			2.4
2150021111	" " "	4	0.11	0.35									1.4			1.4
2150021111	" " "	3	0.07	0.24									0.72			0.72
2150021111	" " "	2	1.4	5.52									11.04			11.04
2150021111	" " "	2	0.03	0.12									0.24			0.24
2150021111	" " "	1	0.6	2.0									2.0			2.0
2150021111	" " "	2	1.2	5.1									10.2			10.2
2150021111	" " "	1	0.27	0.87									0.87			0.87
2150021111	" " "	1	0.83	2.71									2.71			2.71
2250021411	OVER FLOW SLUICE(CONVE.)	2	0.2	0.8									1.6			1.6
744232350031712	FULLER PUMP	2	4.0	48.9									97.8			97.8
TOTAL													97.8	122.65		220.45

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 ;

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 10

~~TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990	
744260232011911	BELT CONVEYOR	1	2.59	12.36									12.36			12.36
0232011911	" "	1	1.1	5.2									5.2			5.2
0232021911	" "	2	0.7	4.7									9.4			9.4
0232021911	" "	1	2.75	12.35									12.35			12.35
0232021911	" "	2	3.76	19.1									38.2			38.2
0232021912	" "	4	4.9	31.1									124.4			124.4
0242021911	" "	1	3.0	16.14									16.14			16.14
0242021911	" "	1	2.9	14.1									14.1			14.1
0242021911	" "	2	3.5	17.7									35.4			35.4
0242022911	" "	1	8.1	38.57									38.57			38.57
0242022911	" "	1	8.7	37.0									37.0			37.0
0242023911	" "	1	14.7	61.4									61.4			61.4
0242023911	" "	1	21.0	85.9									85.9			85.9
0252011911	" "	1	3.6	17.39									17.39			17.39
0252011911	" "	1	3.1	14.81									14.81			14.81
0252011911	" "	1	4.2	17.1									17.1			17.1
0252014911	" "	1	28.8	138.5									138.5			138.5
0252014912	" "	1	34.1	156.45									156.45			156.45
0272012711	" "	1	8.3	35.5									35.5			35.5
0272012911	" "	1	5.6	26.07									26.07			26.07
0272012911	" "	1	7.6	33.56									33.56			33.56
0272012911	" "	1	9.9	43.24									43.24			43.24
0272013911	" "	1	17.7	78.96									78.96			78.96
TOTAL													1,052.0			1,052.0

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UNIDO/SPO(ÇIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 11

~~TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744261024021711	CHAIN CONVEYOR	1	2.95	119.4									119.4		119.4
1212021711	" "	1	4.15	17.62									17.62		17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69									31.69		31.69
1233022711	" " "	1	7.8	31.69									31.69		31.69
1254024711	" " "	1	36.6	162.7									162.7		162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2									138.4		138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0									7.0		7.0
4311011911	" "	4	3.1	12.95									51.8		51.8
4321011911	" "	2	1.3	5.8									11.6		11.6
4322013941	" "	1	12.2	26.67									26.67		26.67
4331011911	" "	2	3.1	12.5									25.0		25.0
4341011911	" "	4	0.6	3.6									14.4		14.4
4341011911	" "	4	0.6	3.6									14.4		14.4
TOTAL													652.37		652.37

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UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR.  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 12

~~TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS									TOTAL 1981-
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
744265121014911	BUCKET ELEVATOR	1	41.2	166.76								165.76		165.76
5132013911	" "	2	18.5	73.34								146.68		146.68
5132013911	" "	2	15.2	60.3								120.6		120.6
5132013911	" "	2	16.3	71.0								142.0		142.0
5142023911	" "	2	21.5	92.2								184.4		184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5								43.5		43.5
5232024911	" " "	1	37.7	147.4								147.4		147.4
8113011912	WEIGH FEEDER	1	0.96	30.2							30.2			30.2
8113011912	" "	2	1.5	13.8							27.6			27.6
8122011912	" "	1	0.79	24.92							24.92			24.92
8123011912	" "	1	1.24	39.0							39.0			39.0
8123011912	" "	2	2.0	18.5							37.0			37.0
8133011912	" "	2	2.5	23.1							46.2			46.2
8133011912	" "	1	1.15	35.9							35.9			35.9
8133011912	" "	1	2.74	71.5							71.5			71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	154.32							308.64			308.64
TOTAL											620.96	950.34		1571.3

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE. 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMET REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 60000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE : 13

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8								11.8				11.8
749310315131712	" " "	2	2.3	23.4								46.8				46.8
749310334134742	" " "	1	29.6	175.0								175.0				175.0
749310362133742	" " "	2	19.7	146.7								293.4				293.4
749310384135752	" " "	2	77.8	396.4								792.8				792.8
74522	2 PACKING MACHINE	2	7.3	94.9												189.8
TOTAL												1,509.6				1,509.6
GRAND TOTAL												3,470.68	3,165.35	1,180.9		17,816.93

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UNIDO/SPO(ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 3

TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1980	1990	
728310245021912	OSCILLATING SCREEN	2	133	75								15.0				15.0
6040024931	SEPERATOR	1	29.0	92.65									92.65			92.65
6040024951	"	2	27.1	105.4									210.8			210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8									398.8			398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3									1994.6			1994.6
1121718771	BALL MILL	1	419.3	1600.3									1600.3			1600.3
122111711	CRUSHER	1	4.36	21.8									21.8			21.8
TOTAL												15.0	431895			43399

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 4

TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981- 1990
741210015021011	BURNER	1	0.4	5.26								5.26			5.26
0015021011	"	1	0.4	5.26								5.26			5.26
0025021912	" FOR ROTARY KILN	1	3.1	65.75								65.75			65.75
741322414202311	HOT GAS GENERATOR	1	7.0	3.3								3.3			3.3
2414202311	" " "	1	7.0	3.3								3.3			3.3
7416101111111111	HEAT EXCHANGER	5	0.2	2.9								14.5			14.5
741631476479131	ROTARY KILN	1	659.2	2300.8								2300.8			2300.8
741649073016421	COOLER FOR CLINKER	1	148.4	163.2								163.2			163.2
741650951276111	CYCLONE PREHEATER	1	140.0	460.3								460.3			460.3
742200121211611	WATER PUMP	2	0.06	0.46								0.92			0.92
0132111712	" "	4	0.32	2.1								8.4			8.4
742301022611611	FUEL-OIL PUMP	2	0.11	1.05								2.1			2.1
1022611611	" " "	2	0.11	1.05								2.1			2.1
1022611611	" " "	2	0.11	1.05								2.1			2.1
1033611611	" " "	2	0.14	2.45								4.9			4.9
1033611611	" " "	3	0.23	3.64								10.92			10.92
<b>TOTAL</b>												<b>3.053.11</b>			<b>3.053.11</b>

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UNIDO/SPO (ÇIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

COMMODITY CODE: 3692 I

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 5

~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000)~~ (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITE CODE	BASIC MACHINE NAME	QTY REQ'D	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990	
743130031121712	COMPRESSOR	2	0.42	1.84								3.68				3.68
0111121712		2	1.0	6.8								13.6				13.6
0123121712		2	1.2	3.0								6.0				6.0
0132121612		2	1.5	71.82								143.64				143.64
0232122722		4	7.95	44.2								176.8				176.8
2121111712	"	2	0.7	8.9								17.8				17.8
2131111712	"	2	5.33	32.85								65.7				65.7
2131111712	"	3	4.28	66.9								200.4				200.4
2141111712	"	2	2.6	36.6								73.2				73.2
2221111712	"	4	0.3	13.7								54.8				54.8
2321111712	"	1	0.26	3.9								3.9				3.9
TOTAL												759.52				759.52

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UNIDO/SPO ( CEMENTO )

COMMODITY CODE. 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

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~~TOTAL WEIGHT IN TONS~~/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D. ( NOS )	UNIT WEIGHT ( TONS )	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743420021111911	VENTILATOR	4	0.20	3.87									15.48			15.48
0021111911	"	2	0.32	2.2									4.4			4.4
0021131911	"	2	0.52	6.41									12.82			12.82
0031111911	"	4	0.12	2.2									8.8			8.8
0031111911	"	2	0.12	2.06									4.12			4.12
0051131911	"	2	1.05	15.6									31.2			31.2
0051131911	"	1	0.52	13.5									13.5			13.5
0051131911	"	6	1.1	10.5									63.0			63.0
0051131911	"	5	2.2	24.3									121.5			121.5
0051131912	PRIMARY VENTILATOR	1	1.55	25.8									25.8			25.8
0081131922	VENTILATOR	2	19.4	133.45									266.9			266.9
0081132931	"	1	6.2	89.5									89.5			89.5
0081133942	"	1	26.6	175.1									175.1			175.1
0051133921	"	2	14.8	47.4									94.8			94.8
TOTAL													467.8	459.12		926.92

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

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TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981 - 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
743610140025111	ELECTRO-FILTER	2	40.0	224.4									448.8			448.8
1010013111	"	2	14.7	83.7									167.4			167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00									92.0			92.0
1122012111	CYCLONE	1	7.0	18.4									18.4			18.4
1132013111	"	4	10.5	27.7									110.8			110.8
1240025111	MULTICYCLONE	1	55.0	131.5									131.5			131.5
50102241	AIR FILTER	6	7.5	14.8									88.8			88.8
743612034015	LOADING WASHER	1	50.0	131.5									131.5			131.5
TOTAL													1,189.2			1,189.2



UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 8

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981 - 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744112027003321	DUMP TRUCKS	3	10.0	52.6										157.8	157.8
2045003632	" "	5	23.8	204.62										1,023.1	1,023.1
TOTAL														1,180.9	1,180.9

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

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-TOTAL WEIGHT IN TONS/ VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)-

SITE CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981-
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
744230150041111	FLUX PUMP (RADIUM CONVE.)	2	40	393									79.0		79.0
02500311111111	STAR LIFT		15	5.27									5.27		5.27
744232150021111	AIR SIBER (CONVEYOR)	2	0.65	2.6									5.2		5.2
21500211111	"	2	0.24	1.2									2.4		2.4
21500211111	"	4	0.35	1.4									1.4		1.4
21500211111	"	3	0.07	0.24									0.72		0.72
21500211111	"	2	1.4	5.52									11.04		11.04
21500211111	"	6	0.03	0.12									0.24		0.24
21500211111	"	1	0.6	2.0									2.0		2.0
21500211111	"	2	1.2	5.1									10.2		10.2
21500211111	"	1	0.27	0.87									0.87		0.87
21500211111	"	1	0.83	2.71									2.71		2.71
22500214111	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8									1.6		1.6
744232350031712	FULLER PUMP	2	40	48.9								97.8			97.8
TOTAL												97.8	122.65		220.45

UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

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~~TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
24260232011911	BELT CONVEYOR	1	2.59	12.36									12.36		12.36
0232011911	"	1	1.1	5.2									5.2		5.2
0232021911	"	2	0.7	4.7									9.4		9.4
0232021911	"	1	2.75	12.35									12.35		12.35
0232021911	"	2	3.76	19.1									38.2		38.2
0232021912	"	4	4.9	31.1									124.4		124.4
0242021911	"	1	3.0	16.14									16.14		16.14
0242021911	"	1	2.9	14.1									14.1		14.1
0242021911	"	2	3.5	17.7									35.4		35.4
0242022911	"	1	8.1	38.57									38.57		38.57
0242022911	"	1	8.7	37.0									37.0		37.0
0242023911	"	1	14.7	61.4									61.4		61.4
0242023911	"	1	21.0	85.9									85.9		85.9
0252011911	"	1	3.6	17.39									17.39		17.39
0252011911	"	1	3.1	14.81									14.81		14.81
0252011911	"	1	4.2	17.1									17.1		17.1
0252014911	"	1	28.8	138.5									138.5		138.5
0252014912	"	1	34.1	156.45									156.45		156.45
0272012711	"	1	8.3	35.5									35.5		35.5
0272012911	"	1	5.6	26.07									26.07		26.07
0272012911	"	1	7.6	33.56									33.56		33.56
0272012911	"	1	9.9	43.24									43.24		43.24
0272013911	"	1	17.7	78.96									78.96		78.96
TOTAL															
													1,052.0		1,052.0

UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

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~~TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
744261024021711	CHAIN CONVEYOR	1	2.95	119.4										119.4	119.4
1212021711	" "	1	4.15	17.62										17.62	17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69										31.69	31.69
1233022711	" " "	1	7.8	31.69										31.69	31.69
1254024711	" " "	1	36.6	162.7										162.7	162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2										138.4	138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0										7.0	7.0
4311011911	" "	4	3.1	12.95										51.8	51.8
4321011911	" "	2	1.3	5.8										11.6	11.6
4322013941	" "	1	12.2	26.67										26.67	26.67
4331011911	" "	2	3.1	12.5										25.0	25.0
4341011911	" "	4	0.6	3.6										14.4	14.4
4341011911	" "	4	0.6	3.6										14.4	14.4
TOTAL														652.37	652.37

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT

ANTICIPATED DATE OF COMMISSIONING: 1990

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~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NCS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
744265121014911	BUCKET ELEVATOR	1	41.2	3.76									165.76		165.76
5132013911	" "	2	18.5	73.34									146.68		146.68
5132013911	" "	2	15.2	60.3									120.6		120.6
5132013911	" "	2	16.3	71.0									142.0		142.0
5142023911	" "	2	21.5	92.2									184.4		184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5									43.5		43.5
5232024911	" " "	1	37.7	147.4									147.4		147.4
8113011912	WEIGH FEEDER	1	0.96	30.2								30.2			30.2
8113011912	" "	2	1.5	13.8								27.6			27.6
8122011912	" "	1	0.79	24.92								24.92			24.92
8123011912	" "	1	1.24	39.0								39.0			39.0
8123011912	" "	2	2.0	18.5								37.0			37.0
8133011912	" "	2	2.5	23.1								46.2			46.2
8133011912	" "	1	1.15	35.9								35.9			35.9
8133011912	" "	1	2.74	71.5								71.5			71.5
744280460023712	RECLAIMING SCRAPER	2	15.7	154.32								308.64			308.64
TOTAL												620.96	950.34		1571.3

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UNIDO/SPO(ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW AEGEAN REGION PLANT, CAPACITY 60000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

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TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8							11.8				11.8
749310315131712	" " "	2	2.3	23.4							46.8				46.8
749310334134742	" " "	1	296	175.0							175.0				175.0
749310362133742	" " "	2	19.7	146.7							293.4				293.4
749310384135752	" " "	2	77.8	396.4							792.8				792.8
74522	2 PACKING MACHINE	2	7.3	94.9											189.8
TOTAL											1,509.6				1,509.6
GRAND TOTAL											3,470.68	1,165.35	1,180.9		17,816.93

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE

~~TOTAL WEIGHT IN TONS~~/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
692110211111111	BUNKER	1	1.2	3.2										3.2		3.2
0211311111	FEED HOPPER	2	3.0	7.9										15.8		15.8
0211321111	BUNKER	1	2.0	5.26										5.26		5.26
0211321111	"	2	1.63	4.3										8.6		8.6
0711321111	DAILY TANK	1	1.5	2.63										2.63		2.63
0711321111	" " FUEL-OIL	1	1.1	1.97										1.97		1.97
0711321111	" " DIESEL-FUEL	1	0.8	1.32										1.32		1.32
0744324111	MAIN TANKS	3	36.0	59.20										177.6		177.6
1011321111	DAILY TANK	1	1.5	2.63										2.63		2.63
692430411321411	AIR RECEIVER	2	0.5	1.97										3.94		3.94
0411321411	AIR TANK	2	0.1	0.4										0.8		0.8
711112011143311	BOILER WITH BURNER	2	10.2	84.25										168.5		168.5
TOTAL														392.25		392.25

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UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARKARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

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~~TOTAL WEIGHT IN TONS~~ / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

S TO CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
7 2 3 4 2 0 0 3 1 2 2 3 6 2 2	LOADER	1	12.8	98.7									98.7			98.7
0 0 4 1 4 1 4 6 3 2		1	30.0	225.3									225.3			225.3
1 0 3 2 6 1 5 6 3 2	EXCAVATOR	2	62.0	255.83									511.66			511.66
7 2 3 4 3 0 1 4 9 0 2 1 3 1 2	ROCK DRILL	2	4.4	67.6									135.2			135.2
2 0 1 1 0 1 6 1 1	AIR GUN	3	0.02	1.5									4.5			4.5
<b>TOTAL</b>													<b>975.36</b>			<b>975.36</b>

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UNIDO/SPO(ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

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UNIT: IN UNIT IN THIS VALUE IN US\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	EQUIPMENT NAME	QTY	UNIT	UNIT	YEARS										TOTAL	
					1981	1982	1983	84	85	1986	1987	1988	1989	1990		
72832044715631	BRU... ..	2	31	24								15.0				15.0
6043124931	SE... ..	1	29.0	27.2									92.65			92.65
604300435	"	2	107.1	105.4									210.8			210.8
728320444715631	CRUSHER (MILL)	1	84.1	398.8									398.8			398.8
1111718771	CEMENT BALL MILL	2	326.35	997.3									1994.6			1994.6
1121718771	BALL MILL	1	419.3	1600.3									1600.3			1600.3
1227111711	CRUSHER	1	4.36	21.8									21.8			21.8
<b>TOTAL</b>												15.0	4318.95			4333.95

UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

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TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
7 4 1 2 1 0 0 1 5 0 2 1 0 1 1	BURNER	1	0.4	5.26									5.26		5.26
0 0 1 5 0 2 1 0 1 1	"	1	0.4	5.26									5.26		5.26
0 0 2 5 0 2 1 9 1 2	FOR ROTARY KILN	1	3.1	65.75									65.75		65.75
7 4 1 3 2 2 4 1 4 2 0 2 3 1 1	HOT GAS GENERATOR	1	7.0	3.3									3.3		3.3
2 4 4 2 0 2 3	"	1	7.0	3.3									3.3		3.3
7 4 1 6 1 0 1 1 1 1 1 1 1 1 1	HEAT EXCHANGER	5	0.2	2.9									14.5		14.5
7 4 1 6 3 1 4 7 6 4 7 9 1 3 1	ROTARY KILN	1	659.2	2300.8									2300.8		2300.8
7 4 1 6 4 9 0 7 3 0 1 6 4 2 1	COOLER FOR CLINKER	1	148.4	163.2									163.2		163.2
7 4 1 6 5 0 9 5 1 2 7 6 1 1 1	CYCLONE PREHEATER	1	140.0	460.3									460.3		460.3
7 4 2 2 1 1 1 1 2 1 1 6 1 1	WATER PUMP	2	0.06	0.46									0.92		0.92
0 1 3 2 1 1 7 1 2	"	4	0.32	2.1									8.4		8.4
7 4 2 3 0 1 0 2 2 6 1 1 6 1 1	FUEL-OIL PUMP	2	0.11	1.05									2.1		2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05									2.1		2.1
1 0 2 2 6 1 1 6 1 1	" " "	2	0.11	1.05									2.1		2.1
1 0 3 3 6 1 1 6 1 1	" " "	2	0.14	2.45									4.9		4.9
1 0 3 3 6 1 1 6 1 1	" " "	3	0.23	3.64									10.92		10.92
<b>TOTAL</b>													<b>3,053.11</b>		<b>3,053.11</b>

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UNIDO/SPO ( CIMENTO )

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

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~~TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743420021111911	VENTILATOR	4	0.20	3.87								15.48		15.48	
0021111911	"	2	0.32	2.2								4.4		4.4	
0021131911	"	2	0.52	6.41								12.82		12.82	
0031111911	"	4	0.12	2.2								8.8		8.8	
0031111911	"	2	0.12	2.06								4.12		4.12	
0051131911	"	2	1.05	15.6								31.2		31.2	
0051131911	"	1	0.52	13.5								13.5		13.5	
0051131911	"	6	1.1	10.5								63.0		63.0	
0051131911	"	5	2.2	24.3								121.5		121.5	
0051131912	PRIMARY VENTILATOR	1	1.55	25.8							25.8			25.8	
0081131922	VENTILATOR	2	19.4	133.45							266.9			266.9	
0081132931	"	1	8.2	89.5								89.5		89.5	
0081133942	"	1	26.6	175.1							175.1			175.1	
0051133921	"	2	14.8	47.4								94.8		94.8	
TOTAL											467.8	459.12		926.92	

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UNIDO/SPO (CIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 7

TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 98 - 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
743610140025111	ELECTRO-FILTER	2	40.0	224.4									448.8		448.8
1010013111	" "	2	14.7	83.7									167.4		167.4
1113013111	CYCLONE, SINGLE	2	17.7	46.00									92.0		92.0
1122012111	CYCLONE	1	7.0	18.4									18.4		18.4
3203		4	10.5	27.7									110.8		110.8
1240025111	MULTICYCLONE	1	55.0	131.5									131.5		131.5
5011022411	AIR FILTER	6	7.5	14.8									88.8		88.8
743612034015111	COOLING WASHER	1	90.0	131.5									131.5		131.5
<b>TOTAL</b>													<b>1,189.2</b>		<b>1,189.2</b>

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 8

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744112027003921	DUMP TRUCKS	3	10.0	52.6											157.8	157.8
2045003632	" "	5	23.8	204.62											1,023.1	1,023.1
TOTAL															1,180.9	1,180.9

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 9

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	39.5									79.0			79.0
0250031112	AIR LIFT " "	1	1.6	5.27									5.27			5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6									5.2			5.2
2150021111	" " "	2	0.27	1.2									2.4			2.4
2150021111	" " "	4	0.11	0.35									1.4			1.4
2150021111	" " "	3	0.07	0.24									0.72			0.72
2150021111	" " "	2	1.4	5.52									11.04			11.04
2150021111	" " "	2	0.03	0.12									0.24			0.24
2150021111	" " "	1	0.6	2.0									2.0			2.0
2150021111	" " "	2	1.2	5.1									10.2			10.2
2150021111	" " "	1	0.27	0.87									0.87			0.87
2150021111	" " "	1	0.83	2.71									2.71			2.71
2250021411	OVER FLOW SLUICE(CONVE.)	2	0.2	0.8									1.6			1.6
744232350031712	FULLER PUMP	2	4.0	48.9								97.8				97.8
TOTAL												97.8	122.65			220.45

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UNIDO/SPO (CIMENTO)

COMMODITY CODE 3692 I

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 10

TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744260232011911	BELT CONVEYOR	1	2.59	12.36									12.36		12.36
0232011911	" "	1	1.1	5.2									5.2		5.2
0232021911	" "	2	0.7	4.7									9.4		9.4
0232021911	" "	1	2.75	12.35									12.35		12.35
0232021911	" "	2	3.76	19.1									38.2		38.2
0232021912	" "	4	4.9	31.1									124.4		124.4
0242021911	" "	1	3.0	16.14									16.14		16.14
0242021911	" "	1	2.9	14.1									14.1		14.1
0242021911	" "	2	3.5	17.7									35.4		35.4
0242022911	" "	1	8.1	38.57									38.57		38.57
0242022911	" "	1	8.7	37.0									37.0		37.0
0242023911	" "	1	14.7	61.4									61.4		61.4
0242023911	" "	1	21.0	85.9									85.9		85.9
0252011911	" "	1	3.6	17.39									17.39		17.39
0252011911	" "	1	3.1	14.81									14.81		14.81
0252011911	" "	1	4.2	17.1									17.1		17.1
0252014911	" "	1	28.8	138.5									138.5		138.5
0252014912	" "	1	34.1	156.45									156.45		156.45
0272012711	" "	1	8.3	35.5									35.5		35.5
0272012911	" "	1	5.6	26.07									26.07		26.07
0272012911	" "	1	7.6	33.56									33.56		33.56
0272012911	" "	1	9.9	43.24									43.24		43.24
0272013911	" "	1	17.7	78.96									78.96		78.96
TOTAL													1,052.0		1,052.0



UNIDO/SPO(CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

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TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST (U.S.\$ /1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744261024021711	CHAIN CONVEYOR	1	2.95	119.4									119.4		119.4
1212021711	"	1	4.15	17.62									17.62		17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69									31.69		31.69
1233022711	" " "	1	7.8	31.69									31.69		31.69
1254024711	" " "	1	36.6	62.7									62.7		62.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2									138.4		138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0									7.0		7.0
4311011911	" "	4	3.1	12.95									51.8		51.8
4321011911	" "	2	1.3	5.8									11.6		11.6
4322013941	" "	1	12.2	26.67									26.67		26.67
4331011911	" "	2	3.1	12.5									25.0		25.0
4341011911	" "	4	0.6	3.6									14.4		14.4
4341011911	" "	4	0.6	3.6									14.4		14.4
TOTAL													652.37		652.37

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UNIDO/SPO (CIMENTO)

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 12

TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981 - 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744265121013911	BUCKET ELEVATOR	1	41.2	165.76									165.76	165.76	
5132013911	"	2	18.5	73.34									146.68	146.68	
5132013911	"	2	15.2	60.3									120.6	120.6	
5132013911	"	2	16.3	71.0									142.0	142.0	
5142023911	"	2	21.5	92.2									184.4	184.4	
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5									43.5	43.5	
5232024911	"	1	37.7	147.4									147.4	147.4	
8113011912	WEIGH FEEDER	1	0.96	30.2								30.2	30.2	30.2	
8113011912	"	2	1.5	13.8								27.6	27.6	27.6	
8122011912	"	1	0.79	24.92								24.92	24.92	24.92	
8123011912	"	1	1.24	39.0								39.0	39.0	39.0	
8123011912	"	2	2.0	18.5								37.0	37.0	37.0	
8133011912	"	2	2.5	23.1								46.2	46.2	46.2	
8133011912	"	1	1.15	35.9								35.9	35.9	35.9	
8133011912	"	1	2.74	71.5								71.5	71.5	71.5	
744280650023712	RECLAIMING SCRAPER	2	5.7	154.32								308.64	308.64	308.64	
TOTAL												620.96	950.36	1571.3	

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600000 TONS/YEAR  
 LOCATION: PLANT I

ANTICIPATED DATE OF COMMISSIONING: 1990

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\* - TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS									TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
749310314131712	REDUCTION GEAR BOX	1	2.5	11.8								11.8			11.8
749310315131712	" " "	2	2.3	23.4								46.8			46.8
749310334134742	" " "	1	29.6	175.0								175.0			175.0
749310362133742	" " "	2	19.7	146.7								293.4			293.4
749310384135752	" " "	2	77.8	396.4								792.8			792.8
74522	2 PACKING MACHINE	2	7.3	94.9											189.8
TOTAL												1,509.6			1,509.6
GRAND TOTAL												3,470.68	3,165.35	1,180.9	17,016.93

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7/SPO(CIMENTO)

COMMODITY CODE 3692 1

TAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION PLANT II

ANTICIPATED DATE OF COMMISSIONING 1990

PAGE: 1

TOTAL WEIGHT IN TONS/ VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
692110211111111	BUNKER	1	1.2	32										3.2	3.2
0211311111	FEED HOPPER	2	30	79										15.8	15.8
0211321111	BUNKER	1	20	526										5.26	5.26
0211321111	"	2	1.63	4.3										8.6	8.6
0711321111	DAILY TANK	1	19	2.63										2.63	2.63
0711321111	" " FUEL-OIL	1	11	1.97										1.97	1.97
0711321111	" " DIESEL-FUEL	1	0.8	1.32										1.32	1.32
0744324111	RAIN TANKS	3	360	5920										177.6	177.6
1011321111	DAILY TANK	1	19	2.63										2.63	2.63
692430411321411	AIR RECEIVER	2	09	1.97										3.94	3.94
0411322011	AIR TANK	2	01	0.4										0.8	0.8
71112011143311	BOILER WITH BURNER	2	10.2	8425										160.5	160.5
<b>TOTAL</b>														<b>392.25</b>	<b>392.25</b>

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UNIDO/SPO. ( CEMENTO )

COMMODITY CODE: 3692

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE 2

~~TOTAL WEIGHT IN TONS~~ / VALUE IN US \$ (1000) ( STRIKE OUT WHICHEVER IS NOT APPLICABLE )

SITE CODE	BASIC MACHINE NAME	QTY REQ'D ( NOS )	UNIT WEIGHT ( TONS )	UNIT COST US \$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
723420031223622	LOADER	1	12.8	98.7								98.7			98.7
0047414632		1	30.0	225.3								225.3			225.3
1032615632	EXCAVATOR	2	62.0	255.83								511.66			511.66
723430149021312	ROCK DRILL	2	4.4	67.6								135.2			135.2
201101611	AIR GUN	3	0.02	1.5								4.5			4.5
TOTAL												975.36			975.36

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UNIDO/SPO(ÇIMENTO)

COMMODITY CODE. 3692

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE 3

TOTAL WEIGHT IN TONS / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST US \$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1980	1990	
728310245021912	OSCILLATING SCREEN	2	133	75								15.0				15.0
6040024931	SEPARATOR	1	29.0	92.65									92.65			92.65
604002435	"	2	27.1	105.4									210.8			210.8
72832044475631	CRUSHER (MILL)	1	84.1	398.8									398.8			398.8
1171877	CEMENT BALL MILL	2	326.35	997.3									1994.6			1994.6
2171877	BALL MILL	1	419.3	1600.3									1600.3			1600.3
227111711	CRUSHER	1	4.36	21.8									21.8			21.8
TOTAL													581.5			43395

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UNIDO/SPO (CIMENTO)

COMMODITY CODE 3692

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT CAPACITY 600,000 TONS/YEAR  
LOCATION: II

ANTICIPATED DATE OF COMMISSIONING: 1990

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TOTAL WEIGHT IN TONS/VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
741210015021011	BURNER	1	0.4	5.26										5.26	5.26
0015021011	"	1	0.4	5.26										5.26	5.26
0025021912	FOR ROTARY KILN	1	3.1	65.75										65.75	65.75
741322414202311	HOT GAS GENERATOR	1	7.0	3.3										3.3	3.3
2414202311	"	1	7.0	3.3										3.3	3.3
741610111111111	HEAT EXCHANGER	5	0.2	2.9										14.5	14.5
741631476479131	ROTARY KILN	1	659.2	2300.8										2300.8	2300.8
741649073016421	COOLER FOR CLINKER	1	148.4	163.2										163.2	163.2
741650951276111	CYCLONE PREHEATER	1	140.0	460.3										460.3	460.3
742200121211611	WATER PUMP	2	0.06	0.46										0.92	0.92
0132111712	"	4	0.32	2.1										8.4	8.4
742301022611611	FUEL-OIL PUMP	2	0.11	1.05										2.1	2.1
1022611611	"	2	0.11	1.05										2.1	2.1
1022611611	"	2	0.11	1.05										2.1	2.1
1033611611	"	2	0.14	2.45										4.9	4.9
1033611611	"	3	0.23	3.64										10.92	10.92
TOTAL														3053.17	3053.17

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UNIDO/SPO (ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 5

~~TOTAL WEIGHT IN TONS~~ / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL	
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990	
743130031121712	COMPRESSOR	2	0.42	1.84								3.68				3.68
0111121712	"	2	1.0	6.8								13.6				13.6
0123121712	"	2	1.2	3.0								6.0				6.0
0132121612	"	2	1.5	71.82								143.64				143.64
0232122722	"	4	7.95	44.2								176.8				176.8
2121111712	"	2	0.7	8.9								17.8				17.8
2131111712	"	2	8.33	32.85								65.7				65.7
2131111712	"	3	4.28	66.8								200.4				200.4
2141111712	"	2	2.6	36.6								73.2				73.2
2221111712	"	4	0.3	13.7								54.8				54.8
2321111712	"	1	0.26	3.9								3.9				3.9
TOTAL												758.52				758.52







UNIDO/SPO (CIMENTO)

COMMODITY CODE 3692

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE 8

TOTAL WEIGHT IN TONS / VALUE IN US \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981 - 1990			
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990				
74411202700392	DUMP TRUCKS	3	10.0	52.6													157.8	157.8
2045003632	" "	5	23.8	204.62													1,023.1	1,023.1
TOTAL																	1,180.9	1,180.9

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UNIDO/SPO (CIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 9

~~TOTAL WEIGHT IN TONS/VALUE IN U.S \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S. \$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744230150041111	FLUX PUMP(PNEUMATIC CONVE.)	2	4.0	395									79.0		79.0
0250031112	AIR LIFT " "	1	1.6	5.27									5.27		5.27
744232150021111	AIR-SLIDE (CONVEYOR)	2	0.65	2.6									5.2		5.2
2150021111	" " "	2	0.27	1.2									2.4		2.4
2150021111	" " "	4	0.11	0.35									1.4		1.4
2150021111	" " "	3	0.07	0.24									0.72		0.72
2150021111	" " "	2	1.4	5.52									11.04		11.04
2150021111	" " "	2	0.03	0.12									0.24		0.24
2150021111	" " "	1	0.6	2.0									2.0		2.0
2150021111	" " "	2	1.2	5.1									10.2		10.2
2150021111	" " "	1	0.27	0.87									0.87		0.87
2150021111	" " "	1	0.83	2.71									2.71		2.71
2250021411	OVER FLOW SLUICE (CONVE.)	2	0.2	0.8									1.6		1.6
744232350031712	FULLER PUMP	2	4.0	48.9									97.8		97.8
TOTAL													97.8	122.65	320.65

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UNIDO/SPO (CIMENTO)

COMMODITY CODE 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 10

TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TNS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1990
744260232011911	BELT CONVEYOR		2.59	12.36									12.36		12.36
0232011911	" "	1	1.1	5.2									5.2		5.2
0232021911	" "	2	0.7	4.7									9.4		9.4
0232021911	" "		2.75	12.35									12.35		12.35
0232021911	" "	2	3.76	19.1									38.2		38.2
0232021912	" "	4	4.9	31.1									124.4		124.4
0242021911	" "		3.0	16.14									16.14		16.14
0242021911	" "	1	2.9	14.1									14.1		14.1
0242021911	" "	2	3.5	17.7									35.4		35.4
0242022911	" "	1	8.1	38.57									38.57		38.57
0242022911	" "	1	8.7	37.0									37.0		37.0
0242023911	" "	1	14.7	61.4									61.4		61.4
0242023911	" "	1	21.0	85.9									85.9		85.9
0252011911	" "	1	3.6	17.39									17.39		17.39
0252011911	" "	1	3.1	14.81									14.81		14.81
0252011911	" "	1	4.2	17.1									17.1		17.1
0252014911	" "	1	28.8	138.5									138.5		138.5
0252014912	" "	1	34.1	156.45									156.45		156.45
0272012711	" "	1	8.3	35.5									35.5		35.5
0272012911	" "	1	5.6	26.07									26.07		26.07
0272012911	" "	1	7.6	33.56									33.56		33.56
0272012911	" "	1	9.9	43.24									43.24		43.24
0272013911	" "	1	17.7	78.96									78.96		78.96
TOTAL													1,052.0		1,052.0

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UNIDO/SPO(ÇİMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS / YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 11

~~TOTAL WEIGHT IN TONS / VALUE IN U.S. \$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981-1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744281024021711	CHAIN CONVEYOR	1	2.95	119.4								119.4			119.4
1212021711	" "	1	4.15	17.62								17.62			17.62
1223012711	STEEL PLATE CONVEYOR	1	7.8	31.69								31.69			31.69
1233022711	" " "	1	7.8	31.69								31.69			31.69
1254024711	" " "	1	38.6	162.7								162.7			162.7
2132023711	SCRAPER STEEL CONVEYOR	2	15.7	69.2								138.4			138.4
4311011911	SCREW CONVEYOR	1	1.6	7.0								7.0			7.0
4311011911	" "	4	3.1	12.95								51.8			51.8
4321011911	" "	2	1.3	5.8								11.6			11.6
4322013941	" "	1	12.2	26.67								26.67			26.67
4331011911	" "	2	3.1	12.5								25.0			25.0
4341011911	" "	4	0.6	3.6								14.4			14.4
4341011911	" "	4	0.6	3.6								14.4			14.4
TOTAL												652.37			652.37

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UNIDO/SPO (ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600 000 TONS/YEAR  
 LOCATION: \_\_\_\_\_ PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

PAGE: 12

~~TOTAL WEIGHT IN TONS/ VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)~~

SITC CODE	BASIC MACHINE NAME	QTY REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL 1981- 1990
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	
744265121014911	BUCKET ELEVATOR	1	41.2	165.76									165.76		165.76
5132013911	" "	2	18.5	73.34									146.68		146.68
5132013911	" "	2	15.2	60.3									120.6		120.6
5132013911	" "	2	16.3	71.0									142.0		142.0
5142023911	" "	2	21.5	92.2									184.4		184.4
5232023911	BUCKET ELEVATING CONV.	1	10.1	43.5									43.5		43.5
5232024911	" " "	1	37.7	147.4									147.4		147.4
8113011912	WEIGH FEEDER	1	0.96	30.2								30.2			30.2
8113011912	" "	2	1.5	13.8								27.6			27.6
8122011912	" "	1	0.79	24.92								24.92			24.92
8123011912	" "	1	1.24	39.0								39.0			39.0
8123011912	" "	2	2.0	18.5								37.0			37.0
8133011912	" "	2	2.5	23.1								46.2			46.2
8133011912	" "	1	1.15	35.9								35.9			35.9
8133011912	" "	1	2.74	71.5								71.5			71.5
744280460023712	RECLAIMING SCRAPER	2	5.7	154.32								308.64			308.64
TOTAL												620.96	950.34		1571.3

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UNIDO/SPO(ÇIMENTO)

COMMODITY CODE: 3692 1

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EQUIPMENT REQUIREMENTS FOR THE NEW MARMARA REGION PLANT, CAPACITY 600000 TONS/YEAR  
LOCATION: PLANT II

ANTICIPATED DATE OF COMMISSIONING: 1990

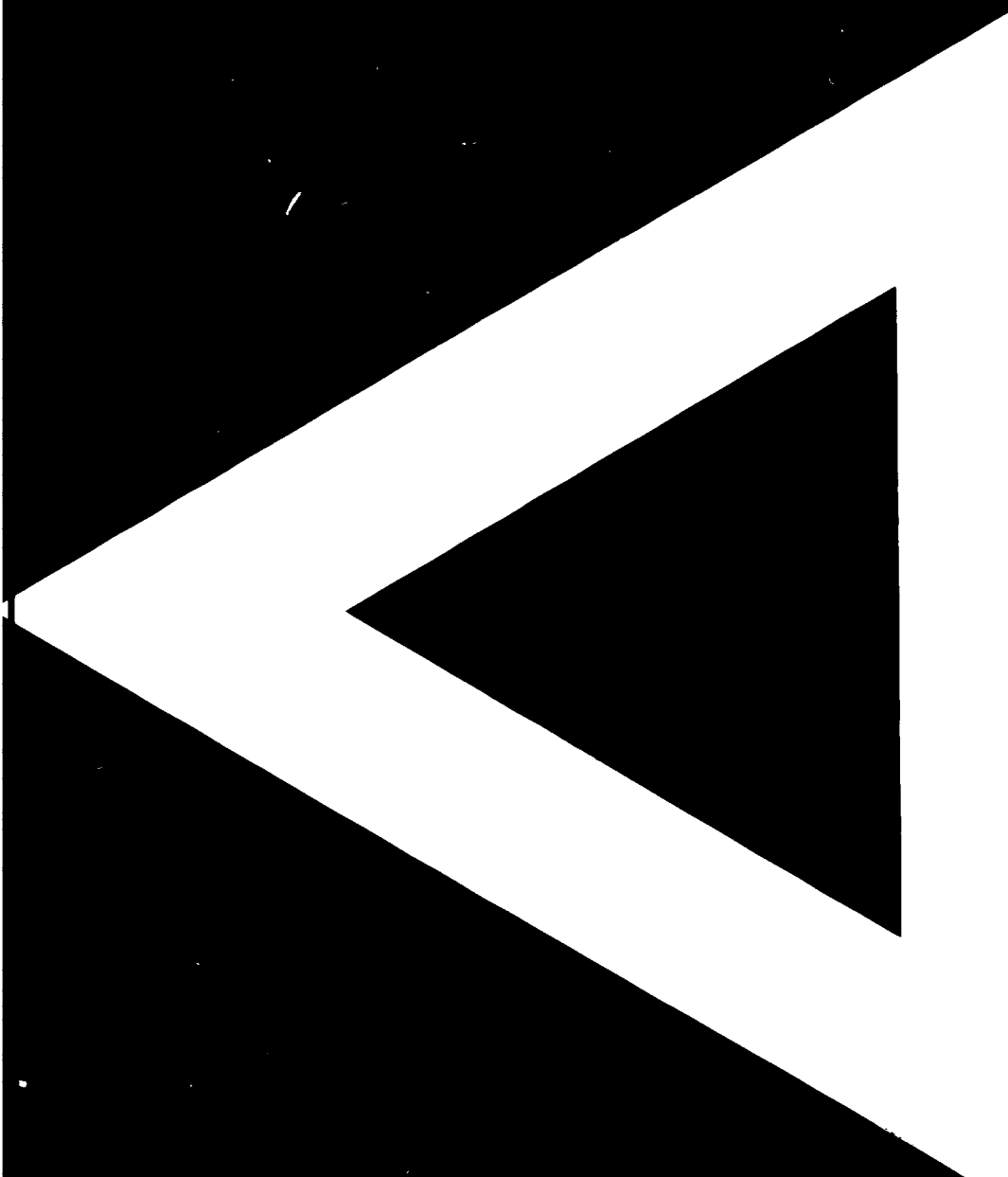
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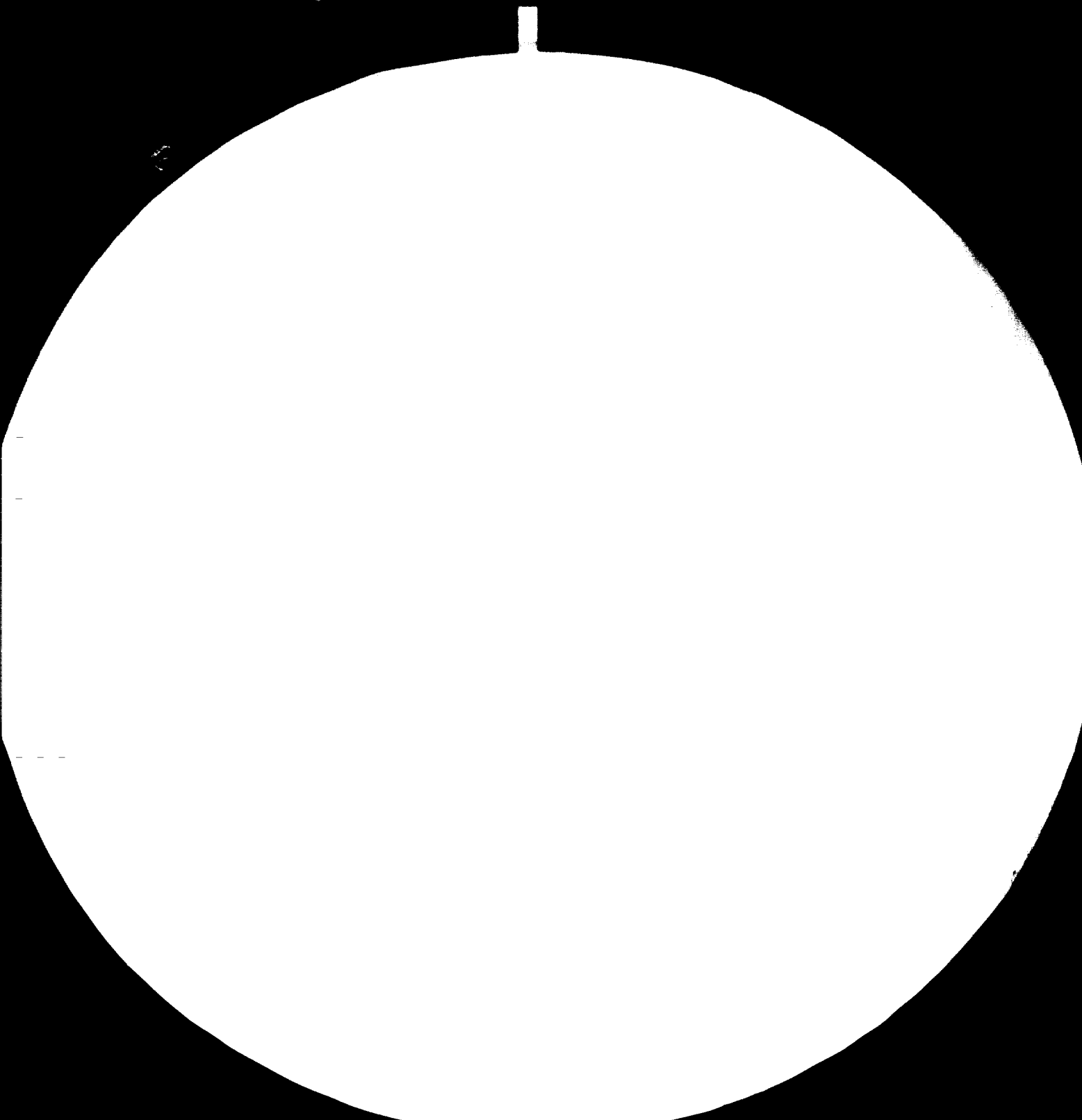
TOTAL WEIGHT IN TONS / VALUE IN U.S.\$ (1000) (STRIKE OUT WHICHEVER IS NOT APPLICABLE)

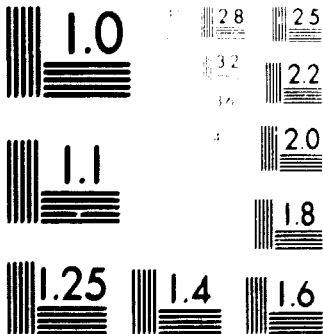
SITC CODE	BASIC MACHINE NAME	QTY. REQ'D (NOS)	UNIT WEIGHT (TONS)	UNIT COST U.S.\$ (1000)	YEARS										TOTAL																																
					1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981- 1990																																
749310314131712	REDUCTION GEAR BOX	1	25	11.8								11.8						11.8																													
749310315131712	" " "	2	23	23.4								46.8						46.8																													
749310334134742	" " "	1	296	175.0								175.0						175.0																													
749310362133742	" " "	2	19.7	146.7								293.4						293.4																													
749310384135752	" " "	2	778	396.4								792.0						792.0																													
74522	2 PACKING MACHINE	2	7.3	94.9														189.8																													
TOTAL																												1,509.6	1,509.6																		
GRAND TOTAL																																												3,470.68	3,165.35	1,180.9	17,816.93

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MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS-1963-A

UNITED NATIONS DEVELOPMENT PROGRAMMES IN TURKEY

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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION

RESTRICTED

11781

May 1982  
English

DEVELOPMENT OF  
CAPITAL GOODS INDUSTRIES.

DP/TUR/76/034

TURKEY,

Technical report: Demand for Capital Goods for Cement Industry /  
Vol. I

Prepared for the Government of Turkey  
by the United Nations Industrial Development Organization  
acting as executing agency for the United Nations Development Programme

Based on the work of  
Capital Goods Development Project Team in Turkey

United Nations Industrial Development Organization,  
Vienna

903335

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This report has not been cleared with the United Nations Industrial Development Organization which does not, therefore, necessarily share the views presented.

UNITED NATIONS DEVELOPMENT PROGRAMMES IN TURKEY

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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Chapter I

INTRODUCTION

1.1. Cement was one of the priority sectors selected by the State Planning Organisation, the counterpart agency for an indepth study of demand for capital goods in Turkey. This report deals with the anticipated demand of capital goods for this sector.

1.2. Initial work on the project was carried out by some part-time experts assigned by T.C.Çimento Sanayii A.Ş. (Çimento) management under the direction of Mr. M.M.Luther, Chief Technical Adviser and Mr. Faruk Yaşız of Çimento. Two full-time local experts Mr. Necati Alper and Mr. Sacit Arıyürek were made available to the Project in June 1981 by Çimhol, a consultancy company to whom the work was contracted by Çimento.

1.3. Mr. A.D.Surie, Mechanical Engineer, joined the project as an expert on March 1981 and was assigned to work on demand projections for capital goods in cement besides some other sectors.

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

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1.4. This report has been discussed with the management of Çimento who are in agreement with the projections.

1.5. Mrs. Güler İzmirlioğlu and Mr. Ziya Siddiki, National Project Coordinators have been continuously associated with the work at all stages.

1.6. All the detailed data including all modular production charts, activity charts, flow diagrams and yearwise details of demand for capital goods for the cement sector are in Vol II.

M.M. Luther  
Chief Technical Adviser  
Capital Goods Development Project

11, May 1982

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Chapter II

DEMAND PROJECTIONS

2.1. METHODOLOGY

The methodology for working out the demand of capital goods for cement has been detailed in Technical Report No. I "Methodology for Planning of Capital Goods Industries in Turkey" of the Capital Goods Development Project in Turkey.

2.2. CLASSIFICATION OF INDUSTRY

The 4 digit ISIC code which includes cement industry is 3692 $\frac{1}{2}$  Manufacture of cement lime and plaster.

Manufacture of all types of cement, such as portland, natural, masonry, puzzolana, roman and keenes, quick, hydrated and dolomitic limes and plaster.

Portland cement for capital goods project has been codified as 3692-1.

2.3. CAPACITY AND DEMAND FOR CEMENT

2.3.1. According to Çimento, the present capacity and production of cement (in 1981) is as under:

Capacity : 20.747 M.T.

Production:18.375 M.T.

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2.3.2. According to the Master Transport Plan, the anticipated production in Turkey is as under:

	<u>Figures in M.T.</u>		
	<u>Domestic</u>	<u>Exports</u>	<u>Total</u>
1988	27,358	3395	31.308
1993	39,912	-	39.912

2.3.3. The investments planned by Çimento are in two phases. Phase I covers those plants which already have been approved by the Government and Phase II are those for which allocation of resources is yet to be determined.

2.3.4. For meeting the anticipated demand the new plants expected to be set up are as follows:

PHASE I

<u>Location</u>	<u>Capacity(m.t./year)</u>	<u>Anticipated year of starting up</u>
Adıyaman	0.62	1982
Samsun	0.61	1982
Diyarbakır	0.61	1983
Siirt	0.62	1983
Denizli	0.63	1984
Edirne	0.58	1984
Urfa	0,58	1984



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2.8.1.2. Large reduction drives which are peculiar to cement industry have been codified under SITC code 74931 as per attached annexure-1, Page 24.

2.4.2. The modular production diagram and the activity charts for portland cement are at pages 17-19.

Samplésheets of the flow diagram, the plant survey form and the demand of capital goods according to the 15 digit codes evolved by the Capital Goods Development Project in Turkey are on pages 20-23.

2.4.3. The summary of demand according to the 5 digit SITC code both weight-wise and value-wise for each plant is on pages 25 in Annexures II to XXXVII.

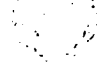
2.4.4. The following grand summaries of demand for capital goods according to the 5 digit SITC code for Phases I and II are on pages 9-16.

- Demand of Capital Goods by

-Weight -Phase I	28971.81 Tons
-Value(at 1980 prices)-Phase I	124,728.51 U.S.\$ <i>(in thousands)</i>
-Weight -Phase II	78,637.77 Tons
-Value(at 1980 prices) -Phase II	338,521.67 U.S.\$ <i>(in thousands)</i>





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3.2.3. Techno-economic feasibility studies for expansion of existing facilities or setting up of new ones in public and/or private sector will be required to be undertaken.

3.2.4. These studies should take into account the considerable potential for export of plants from Turkey.

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

**NEW CEMENT PLANTS-PHASE I - SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984<sup>a</sup> Table No.1**

(Adiyaman , Samsun , Diyarbakir , Siirt , Denizli , Edirne , Urfa )  
 (July 82 July 82 July 83 July 83 July 84 July 84 July 84)  
 (0.62 M.T. 0.61 MT 0.61 MT 0.61 MT 0.63 MT 0.58 MT 0.58 MT)

Figures in Tons

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL			
69211	Reservoirs etc.of steel	250.72	686.80	-		877.52			
69243	Air receiver	2.40	6.00			8.40			
71111	Boiler with burner	40.80	40.80	61.20		142.80			
72342	Loader,excavator,etc.	333.60	333.60	500.40		1167.60			
72343	Rock drill,air gun	17.72	17.72	26.58		62.02			
72831	Swinging screen, Separators	177.04	166.40	257.58		601.02			
72832	Crusher,ball mill, Tube mill	2320.92	2320.92	3451.38		8123.22			
74121	Furnace burners	8.60	7.00	11.70		27.30			
74132	Hot gas generator, Furnaces	28.00	28.00	42.00		98.00			
74161	Heat exchanger	2.00	5.00			7.00			
74163	Rotary kiln	2636.80	1977.60			4614.40			
74164	Cooler for clinker	396.80	742.00			1038.89			
74165	Cyclone preheater	560.00	420.00			980.00			
74220	Water pumps	5.60	4.20			9.80			
74230	Fuel oil pumps	3.26	8.15			11.41			
74313	Compressors	501.20	-			501.20			
74342	Ventilators	504.68	378.51			883.19			

<sup>a</sup> For phase I, New Cement Plants to be commissioned by July 1984, all equipments to be received by 1983.

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

**NEW CEMENT PLANTS PHASE I SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984**

(Adiyaman , Samsun , Diyarbakir , Siirt , Denizli , Edirne , Urfa )  
 (July 82 July 82 July 83 July 83 July 84 July 84 July 84)  
 (0.62 MT 0.61 MT , 0.61 MT 0.61 MT 0.63 MT 0.58 MT 0.58 MT)

Figures in Tons

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators	687.60	687.60	1031.4		2406.60
	Washer					
74411	Dump trucks	298.00	298.00	447.0		1043.00
74423	Air lifts and Fuller pump	123.20	-	-		123.20
	Air slides					
74426	Belt, chain and screw	19.70	19.70	29.55		68.95
	Conveyors, bucket elevators					
	Weigh feeders etc.	1247.04	1171.00	1815.92		4232.48
74428	Reclaiming scraper	62.80	157.00			219.80
74522	Packing machinery	102.20	-			102.20
74931	Reduction gear boxes	926.80	695.10			1621.90
	<b>GRAND TOTAL</b>					
	Out of which	11157.48	10111.62	7702.71		28971.81
	Plate Fabricated Equipment	4505.12	4533.00	1134.60		10173.52
	Machines	2.36	5577.62	6568.11		18798.29

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Table No. 2

NEW CEMENT PLANTS - PHASE I - SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984

(Adiyaman , Samsun , Diyarbakir , Siirt , Denizli , Edirne , Urfa)  
 (July 82 July 82 July 83 July 83 July 84 July 84 July 84)  
 (0.62 MT. 0.61 MT. 0.61 MT. 0.61 MT. 0.63 MT. 0.58 MT. 0.58 MT)

Values in 1000 US Dollars

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel	438.02	1095.05	-		1533.07
69243	Air receiver	9.48	23.70			33.18
71111	Boiler with burner	337.00	337.00	505.50		1179.50
72342	Loader,excavator,etc.	1671.32	1671.32	2506.98		5849.62
72343	Rock drill,air gun	279.40	279.40	419.10		977.90
72831	Swinging screen, Separators	30.00 636.90				30.00 2199.15
72832	Crusher,ball mill, Tube mill	8031.00	8031.00	2046.50		28108.50
74121	Furnace burners	163.06	142.02	228.81		533.89
74132	Hot gas generator, Furnaces	13.20	13.20	19.80		46.20
74161	Heat exchanger	29.00	72.50			101.50
74163	Rotary kiln	9203.20	6902.40			16105.60
74164	Cooler for clinker	326.40	816.00			1142.40
74165	Cyclone preheater	1841.20	1380.90			3222.10
74220	Water pumps	37.28	27.96			65.24
74230	Fuel oil pumps	44.24	110.60			154.84
74313	Compressors	5316.64	-			5316.64
74342	Ventilators	3707.66	2780.76			6488.44

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

NEW CEMENT PLANTS- PHASE I - SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984

(Adiyaman , Samsun, Diyarbakir , Siirt , Denizli , Edirne , Urfa )  
 (July '82 , July '82 , July '83 , July '83 , July '84 , July '84 , July '84)  
 (0.62 MT. , 0.61 MT. , 0.61 MT. , 0.61 MT. , 0.63 MT. , 0.58 MT. , 0.58 MT.)

Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTALS
74361	Filters,cyclones,Precipitators	2378.40	2378.40	3567.60		8324.40
	Washer					
74411	Dump trucks	2361.80	2361.80	3542.70		8266.30
74423	Air lifts and Fuller pump	1274.49				1274.49
	Air slides	76.76	76.76	115.14		268.66
74426	Belt,chain and screw	6558.70	5309.4	8901.09		20769.21
	Conveyors,bucket elevators					
	Weigh feeders etc.					
74428	Reclaiming scraper	617.28	1543.20			2160.48
74522	Packing machinery	1328.60				1328.60
74931	Reduction gear boxes	5279.20	3959.40			9238.60
	<b>GRAND TOTAL</b>	<b>51990.25</b>	<b>39919.69</b>	<b>32808.57</b>		<b>124718.51</b>
	Out of which					
	Plate Fabricated Equipment	14575.90	13019.15	4092.90		31687.95
	Machines	37414.35	26900.54	28715.67		93030.56

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

**NEW CEMENT PLANTS - PHASE II SUMMARY**

Regionwise summary of  
Central Anatolia  
1986-1988-1990  
1.2 1.2 1.2 M.T.

Black Sea  
1987-1989  
1.2 1.2

Marmara  
1988-1990  
1.2 1.2

SITC Code	BASIC MACHINE NAME	1983	1984	1985
69211	Reservoirs etc.of steel		250.72	250.72
69243	Air receiver		2.40	2.40
71111	Boiler with burner		40.80	40.80
72342	Loader,excavator,etc.		333.60	333.60
72343	Rock drill,air gun		17.72	17.72
72831	Swinging screen, Separators	5.32	5.32	5.32
72832	Crusher,ball mill, Tube mill		2320.92	2320.92
74121	Furnace burners		7.80	7.80
74132	Hot gas generator, Furnaces		28.00	28.00
74161	Heat exchanger		2.00	2.00
74163	Rotary kiln		1318.40	1318.40
74164	Cooler for clinker		296.80	296.80
74165	Cyclone preheater		280.00	280.00
74220	Water pumps		2.80	2.80
74230	Fuel oil pumps		3.26	3.26
74313	Compressors	143.20	143.20	429.60
74342	Ventilators	133.90	252.34	520.14

Table No.3

## OF CAPITAL GOODS DEMAND 1983-1990

Aegean  
1988-1990  
1.2 1.2

Mediterranean  
1989  
0.6 M.T.

Figures in Tons

1986	1987	1988	1989	TOTAL
752.16	376.08	752.16		2381.84
7.20	3.60	7.20		22.80
122.40	61.20	122.40		387.60
1000.80	500.40	1000.80		3169.20
53.16	26.58	53.16		168.34
7.98	15.96			50.54
6962.76	3481.38	6962.76		22048.74
32.40	11.72	23.40		74.10
84.00	42.00	84.00		266.00
6.00	3.00	8.00		19.00
3955.20	1977.60	3955.20		12524.80
890.40	445.20	890.40		2819.60
840.00	420.00	840.00		2819.60
8.40	4.20	8.40		26.60
9.78	4.89	9.78		30.97
214.80	429.60			1360.40
556.17	579.36	355.32		2397.23

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Regionwise summary of  
Central Anatolia  
1986-1988-1990  
1.2 1.2 1.2 M.T

Black Sea  
1987-1989  
1.2 1.2

Marmara  
1988-1990  
1.2 1.2

Aegean  
1988-1990  
1.2 1.2

Mediterranean  
1989  
0.6 M.T.

Figures in Tons

SITC Co- <sup>e</sup>	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters, cyclones, Precipitators		687.60	687.60	2062.80	1031.40	2062.80		632.20
	Washer								
74411	Dump trucks			298.00	298.00	894.00	447.00	894.00	2831.00
74423	Air lifts and Fuller pump								
	Air slides	16.00	16.00	48.00	24.00	48.00	-		152.00
74426	Belt, chain and screw								
	Conveyors, bucket elevators								
	Weigh feeders etc.	37.76	1209.25	1248.80	3571.20	1870.56	3514.56		11488.16
74428	Reclaiming scraper	62.80	62.80	188.40	94.20	188.40	-		596.60
74522	Packing machinery	29.28	29.28	87.60	43.80	87.60			277.40
74931	Reduction gear boxes	463.40	463.40	1390.20	695.10	1390.20			4402.30
	<b>GRAND TOTAL</b>	<b>891.58</b>	<b>7979.66</b>	<b>10050.82</b>	<b>22899.61</b>	<b>14200.86</b>	<b>21711.24</b>	<b>894.00</b>	<b>78637.77</b>
	<b>Out of which</b>	<b>-</b>	<b>2906.72</b>	<b>2906.72</b>	<b>8720.16</b>	<b>4360.08</b>	<b>8720.16</b>	<b>-</b>	<b>27613.84</b>
	<b>Plate Fabricated Equipment</b>								
	<b>Machines</b>	<b>891.58</b>	<b>5072.94</b>	<b>7154.10</b>	<b>14179.45</b>	<b>9840.78</b>	<b>12991.08</b>	<b>894.00</b>	<b>51023.93</b>



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Table No.4

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Regionwise summary of  
Central Anatolia  
1986-1988-1990  
1.2 1.2 1.2 MT.

Black Sea  
1987-1989  
1.2 1.2

Marmara  
1988-1990  
1.2 1.2

Aegean  
1988-1990  
1.2 1.2

Mediterranean  
1989  
0.6 MT.

Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTALS
69211	Reservoirs etc.of steel		438.02	438.02	1314.06	657.03	1314.06		4161.19
69243	Air receiver		9.48	9.48	28.44	14.22	28.44		90.06
71111	Boiler with burner		337.00	337.00	1011.00	505.50	1011.00		3201.50
72342	Loader,excavator,etc.		1671.32	1671.32	5018.96	2506.98	5013.96		15877.54
72343	Rock drill,air gun		279.40	279.40	838.20	419.10	838.20		2654.30
72331	Swinging screen, Separators	30.00	30.00	90.00	45.00	90.00			258.00
72832	Crusher,ball mill, Tube mill		8031.00	8031.00	24093.0	12046.5	24093.0		76294.50
74121	Furnace burners		152.54	152.54	457.62	228.81	457.62		1449.13
74132	Hot gas generator, Furnaces		13.20	13.20	39.60	19.80	39.60		125.40
74161	Heat exchanger		29.00	29.00	87.00	43.50	87.00		275.50
74163	Rotary kiln		4601.60	4601.60	13804.80	6902.40	13804.80		43715.20
74164	Cooler for clinker		326.40	326.40	979.20	489.60	979.20		3079.00
74165	Cyclone preheater		920.60	920.60	2761.80	1380.90	2761.80		8745.70
74220	Water pumps		18.64	18.64	55.92	27.96	55.92		117.08
74230	Fuel oil pumps		44.24	44.24	132.72	66.36	132.72		420.28
74313	Compressors	1519.04	1519.04	4557.12	2278.56	4557.12			14430.48
74342	Ventilators	955.60	1853.84	4158.12	4184.16	2754.72			17611.48

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Regionwise summary of  
 Central Anatolia  
 1986-1988-1990  
 1.2 1.2 1.2 MT.

Black Sea  
 1987-1989  
 1.2 1.2

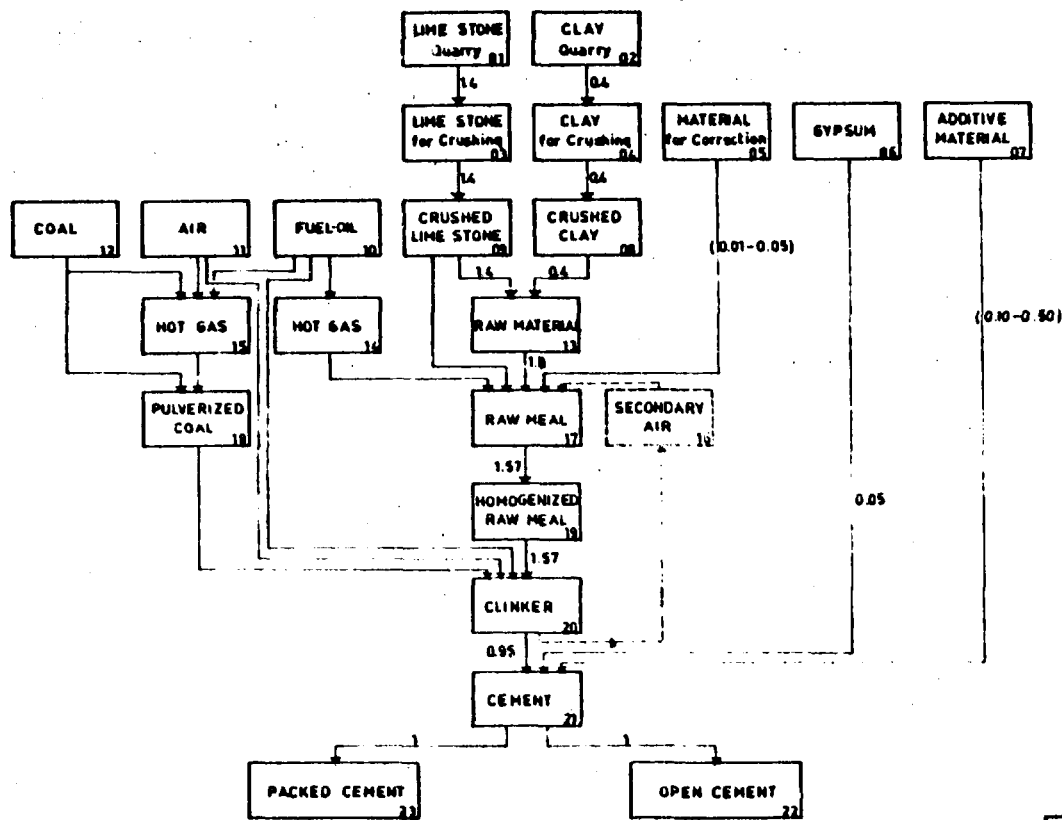
Marmara  
 1988-1990  
 1.2 1.2

Aegean  
 1988-1990  
 1.2 1.2

Mediterranean  
 1989  
 0.6 MT.

Values in 1000 US\$

SITC Co <sup>d</sup> e	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	Totals
74361	Filters, cyclones, Precipitators Washer		2378.40	2378.40	7135.20	3567.60	7135.20		22594.80
74411	Dump trucks			2361.80	2361.80	7085.40	3542.70	7085.40	22437.10
74423	Air lifts and Fuller pump Air slides	195.60	195.60	586.80	293.40	586.80			1858.20
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.	624.64	5934.06	7183.34	16865.22	9838.05	15928.26		56373.57
74423	Reclaiming scraper	617.28	617.28	1851.84	925.92	1851.84			5864.16
74522	Packing machinery	379.60	379.60	1138.80	569.40	1138.80			3606.20
74931	Reduction gear boxes	2639.60	2639.60	7918.80	3959.40	7918.80			25076.20
	GRAND TOTAL	6941.36	33272.06	49516.58	91765.94	67405.53	82534.80	7085.40	338521.67
	Out of which								
	Plate Fabricated Equipment	-	9053.70	9053.70	27161.10	13580.55	27161.10	-	86010.15
	Machines	6941.36	24218.36	40462.88	64604.84		55373.70	7085.40	252511.52



CEMENT, LIME & PLASTER		INDUSTRY CODE
PORTLAND CEMENT		3692 1
UNIDO / SPO (CIMENTO)		
CAPITAL GOODS DEVELOPMENT PROJECT		
MODULAR PRODUCTION DIAGRAM		
PREPARED BY	DRAWN BY	CHECKED BY
NECATI ALPER	SAFAK ARASAN	SACIT ARIYUREK
FEB 7, 1972		UNIDO STA

UNIDO/SPC (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT

INDUSTRY CODE : 3592 -1  
INDUSTRY NAME : PORTLAND CEMENT

PREPARED BY NECATI ALPER	CHECKED BY A. SURIE UNIDO EXPERT	APPROVED BY UNIDO ETA
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INDUSTRY ACTIVITIES CHART

PAGE 1/2

PRODUCTION STAGE		TECHNOLOGY		CRITICAL EQUIPMENT		DESIGN LINE CAPACITY	
Code	Name	Code	Name	Name	Capacity Range	Code	Capacity
03	Lime Stone For Crushing	1	Material Handling	Dump Truck	32 t	1	325 t/h
04	Clay For Crushing	1	Material Handling	Loader	Bucket Cap 2.6 m <sup>3</sup>	1	94 t/h
08	Crushed Clay	1	Hammer Crushing	Double Hammer Crusher	350 t/h	1	315 t/h
09	Crushed Lime Stone	1	Hammer Crushing	Double Hammer Crusher	350 t/h	1	315 t/h
		2	Impact Crushing	Impactor Crusher	700 t/h	1	630 t/h
13	Raw Material	1	Scraping	Reclaiming Scraper	200 t/h	1	144 t/h
14	Hot Gas	1	Fuel Oil Burning	Hot Gas Generator	Oil Consump 09 t/h (8=10 <sup>6</sup> Kcal)	1	Warm Air Output 11350 Nm <sup>3</sup> /h
15	Hot Gas	1	Combined Burning	Hot Gas Generator	Oil Consump 045 t/h (4=10 <sup>6</sup> Kcal)	1	Warm Air Output 11350 Nm <sup>3</sup> /h
		2	Coal Burning	Hot Gas Generator	Coal Consump 075 t/h (4=10 <sup>6</sup> Kcal)	1	Warm Air Output 11350 Nm <sup>3</sup> /h
17	Raw Meal	1	Grinding (Ball Mill)	Ball Mill With Drying And Grinding Chamber	132 t/h	1	118 t/h
		2	Grinding (Roller Mill)	Roller Mill For Combined Drying And Grinding	140 t/h	1	128 t/h
18	Pulverized Coal	1	Grinding (Ball Mill)	Ball Mill With Drying And Grinding Chamber	20 t/h	1	18 t/h
		2	Grinding (Roller Mill)	Roller Mill For Combined Drying And Grinding	20 t/h	1	18 t/h

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT

INDUSTRY CODE: 3692 1  
INDUSTRY NAME: PORTLAND CEMENT

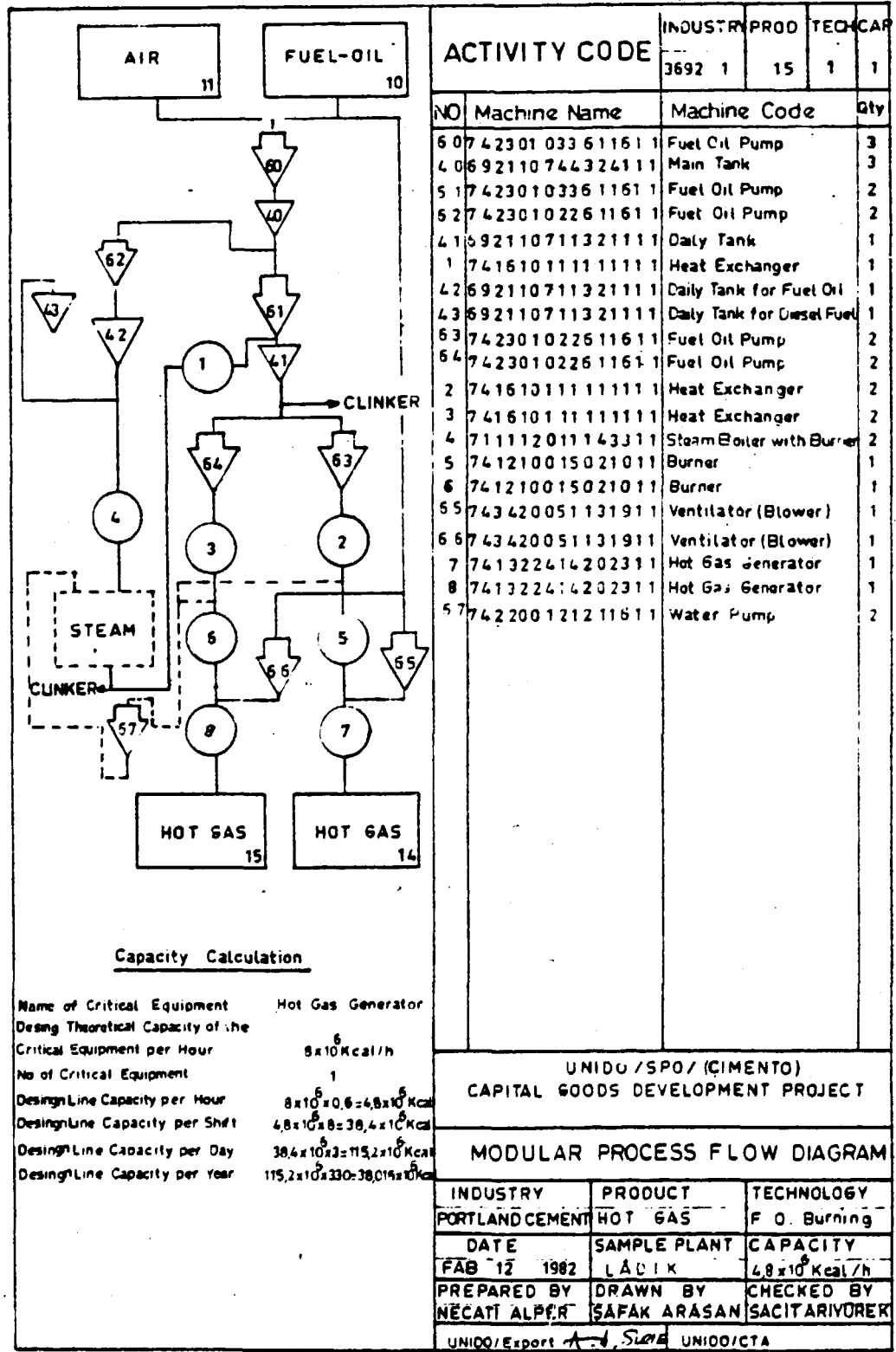
PREPARED BY NECATI ALPER	CHECKED BY <i>A. J. S. / E</i> UNIDO EXPERT	APPROVED BY UNIDO CTA
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INDUSTRY ACTIVITIES CHART

PAGE: 2/2

PRODUCTION STAGE		TECHNOLOGY		CRITICAL EQUIPMENT		DESIGN LINE CAPACITY	
Code	Name	Code	Name	Name	Capacity Range	Code	Capacity
19	Homogenized Raw Meal	1	Homogenizing	Fuller Pump	140 t/h	1	126 t/h
20	Clinker	1	Sintering With Preheater	Rotary Kiln	79 t/h	1	71 t/h
		2	Sintering With Precalsination	Rotary Kiln	104 t/h	1	94 t/h
21	Cement	1	Grinding	Ball Mill With Seperator	80 t/h	1	144 t/h
						2	180 t/h
22	Open Cement	1	Bulk System	Pneumatic Conveyor	120 t/h	1	96 t/h
23	Packed Cement	1	Packing	Rotary Packing Maching	200 t/h	1	180 t/h

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ACTIVITY CODE		INDUSTRY	PROD	TECH	CAP
		3692	1	15	1 1
NO	Machine Name	Machine Code			Qty
60	742301033611611	Fuel Oil Pump			3
40	692110744324111	Main Tank			3
51	742301033611611	Fuel Oil Pump			2
52	742301022611611	Fuel Oil Pump			2
41	692110711321111	Daily Tank			1
1	741610111111111	Heat Exchanger			1
42	692110711321111	Daily Tank for Fuel Oil			1
43	692110711321111	Daily Tank for Diesel Fuel			1
63	742301022611611	Fuel Oil Pump			2
64	742301022611611	Fuel Oil Pump			2
2	741610111111111	Heat Exchanger			2
3	741610111111111	Heat Exchanger			2
4	71112011143311	Steam Boiler with Burner			2
5	741210015021011	Burner			1
6	741210015021011	Burner			1
55	743420051131911	Ventilator (Blower)			1
66	743420051131911	Ventilator (Blower)			1
7	741322414202311	Hot Gas Generator			1
8	741322414202311	Hot Gas Generator			1
57	742200121211611	Water Pump			2

Capacity Calculation

Name of Critical Equipment	Hot Gas Generator
Design Theoretical Capacity of the Critical Equipment per Hour	$8 \times 10^6 \text{ Kcal/h}$
No of Critical Equipment	1
Design Line Capacity per Hour	$8 \times 10^6 \times 0.6 = 4.8 \times 10^6 \text{ Kcal}$
Design Line Capacity per Shift	$4.8 \times 10^6 \times 8 = 38.4 \times 10^6 \text{ Kcal}$
Design Line Capacity per Day	$38.4 \times 10^6 \times 3 = 115.2 \times 10^6 \text{ Kcal}$
Design Line Capacity per Year	$115.2 \times 10^6 \times 330 = 38,016 \times 10^6 \text{ Kcal}$

UNIDO / SPO / (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT

MODULAR PROCESS FLOW DIAGRAM

INDUSTRY	PRODUCT	TECHNOLOGY
PORTLAND CEMENT	HOT GAS	F O. Burning
DATE	SAMPLE PLANT	CAPACITY
FAB 12 1982	LADIK	$4.8 \times 10^6 \text{ Kcal/h}$
PREPARED BY	DRAWN BY	CHECKED BY
NECATI ALPER	SAFAK ARASAN	SACITARIYOREK
UNIDO/Export A-1, SIDA UNIDO/CTA		

UNIDOSPOLICAMENTO CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY		PLANT SURVEY FORM													PAGE: 1/2			
Sr. No.	Mater/Model	Basic Machine Nomenclature	Major Specific (Capacity) L/H	Major Spec-1 (Optional)	Major Spec-2 (Optional)	Type (Description)	Manufac Characteristic-1 (Metric-1) WT (Tons)	Manufac Characteristic-2 (Metric-2) WT (Tons)	Manufac Characteristic-3 (Metric-3) WT (Tons)	Origin	Qty	Purchase Cost (in Thousands) And Currency		Constant 1990 Year Cost (in Thousands) Us\$		Year of Purchase and Remarks	SIC Code (For Computer)	
												Unit	Total	Unit	Total			Unit
1	2																	
60	UNIDOSPOLIC	Fuel Oil Pump	30	80m Ws	Visc 15 KW 100 C	Horizontal (Screw)	0.23	C.S.C.	0.05	Tur	3	2760 TL	810.6 TL	3.64	10.92	1980	7.4.2.3.0.1.0.3.3.6.1.1.6.1.1	
60		Main Tank	1000m³	Dia 12m	Height 10m	Circular	380	M.S.	5	"	3	45000 TL	13500.0 TL	59.2	177.6	1980	6.9.2.1.1.0.7.4.4.3.2.4.1.1.1	
61	UNIDOSPOLIC	Fuel Oil Pump	10	80m Ws	Visc 11 KW 100 C	Horizontal (Screw)	0.14	C.S.C.	0.04	"	2	18617 TL	3723.4 TL	2.45	4.9	1980	7.4.2.3.0.1.0.3.3.6.1.1.5.1.1	
62	UNIDOSPOLIC	Fuel Oil Pump	4	80m Ws	Visc 3 KW 100 C	"	0.11	"	0.04	"	2	788.6 TL	1556.8 TL	1.05	2.1	1980	7.4.2.3.0.1.0.7.2.6.1.1.6.1.1	
61		Daily Tank	10 m³	Dia 1800mm	Leg 578mm	Circular	1.5	M.S.	5	"	1	2000 TL	2000 TL	2.62	2.63	1980	6.9.2.1.1.0.7.1.1.3.2.1.1.1.1	
62		Heat Exchanger	8 m³	Dia 220mm	Leg 283mm (5.41m)	Shell and Tube	0.2	"	6	"	1	2180 TL	2180 TL	2.9	2.9	1980	7.4.3.6.1.0.3.3.1.1.1.1.1.1	
62		Daily Tank for Fuel Oil	6 m³	Leg 4m	100 C	Circular	1.1	"	6	"	1	1500 TL	1500 TL	1.97	1.97	1980	6.9.2.1.1.0.7.1.3.2.1.1.1.1	
63		Daily Tank for Diesel Fuel	3.4 m³ (1200 mm)	Leg 3 m	100 C	"	0.8	"	6	"	1	1000 TL	1000 TL	1.32	1.32	1980	6.9.2.1.1.0.7.1.3.2.1.1.1.1	
63		Daily Tank for Diesel Fuel	3.4 m³ (1200 mm)	Leg 3 m	100 C	"	0.8	"	6	"	1	1000 TL	1000 TL	1.32	1.32	1980	6.9.2.1.1.0.7.1.3.2.1.1.1.1	
63	UNIDOSPOLIC	Fuel Oil Pump	25	60m Ws	Visc 3 Kw	Horizontal (Screw)	0.11	C.S.C.	0.05	"	2	788.6 TL	1556.8 TL	1.05	2.1	1980	7.4.2.3.0.1.0.7.2.6.1.1.6.1.1	
64	UNIDOSPOLIC	Fuel Oil Pump	25	60m Ws	Visc 3 Kw	"	0.11	"	0.05	"	2	788.6 TL	1556.8 TL	1.05	2.1	1980	7.4.2.3.0.1.0.7.2.6.1.1.6.1.1	
2		Heat Exchanger	8 m³	Dia 220mm	Leg 283mm (5.41m)	Shell and Tube	0.2	M.S.	6	"	2	2180 TL	4360 TL	2.9	5.8	1980	7.4.1.6.1.0.1.1.1.1.1.1.1.1	
3		Heat Exchanger	8 m³	Dia 220mm	Leg 283mm (5.41m)	"	0.2	"	6	"	2	2180 TL	4360 TL	2.9	5.8	1980	7.4.1.6.1.0.1.1.1.1.1.1.1.1	
4	DESA DUBO	Boiler with Burner	4 1/4	12.41m	180 C	F.O Fired	10.7	B.S.	mm	"	2	64050 TL	32010 TL	86.75	186.5	1980	7.1.1.1.1.2.0.1.1.4.3.3.1.1	
5	Research	Burner	350-300kg/h F.O.			Underpressure	0.4	Special	0.2	"	1	4000 TL	4000 TL	5.76	5.76	1980	7.4.1.3.1.0.1.1.5.0.2.1.0.1.1	

Continued on the next page

UNIDO/SPO (CIMENTO)  
CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

PLANT SURVEY FORM

PAGE: 2/2

Sample Plant: LADIK

PRODUCTION ACTIVITY Code: 2862 11511

Sr. No	Mark/Model	Basic Machine Nomenclature	Major Specific (Capacity)	Major Spec - 1 (Optional)	Major Spec - 2 (Optional)	Type (Description)	Manufac. Characte-ristic - 1	Manufac. Characte-ristic - 2	Manufac. Characte-ristic - 3	Origin	Qty	Purchase Cost (in thousands) And Currency		Constant 1980 Year Cost (US\$ in thousand)		Year of Purchase and	SITC Code (For Computer)
							WT (Tons)	MATL	WT (Tons)			Unit	Total	Unit	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
6	Monarc	Burner	250-300kg/h	F O		Underpressure	04	Special	03	Tur	1	4000 TL	4000 TL	5.26	5.26	1980	741210015021011
65		Ventilator(Blower)	210mm	530mmWs	AIR	Back ward curved blades	105	S Fab.	01	"	1	182 FF 7500 TL	182 FF 7500 TL	15.6	15.6	1980	743420051131011
66		Ventilator(Blower)	210mm	530mmWs	AIR	"	105	"	01	"	1	182 FF 7500 TL	182 FF 7500 TL	15.6	15.6	1980	743420051131911
7		Hot Gas Generator	09 t/h 16*10 <sup>6</sup> kcal/h	750°C	F O		70	B.S.	6mm	"	1	2500 TL	2500 TL	3.3	3.3	1980	741322414202311
8		Hot Gas Generator	09 t/h 19*10 <sup>6</sup> kcal/h	750°C	F O		70	B.S.	6mm	"	1	2500 TL	2500 TL	3.3	3.3	1980	741322414202311
67	GM 30 PT1120 15KV	Water Pump	2 t/h	10 m WS	Hot clean water	Horizontal	006	C.S.C.	002	"	2	350 TL	700 TL	0.44	0.88	1980	742700121211611





Annexure 1

SITC Code: 74931 - Transmission shafts, cranks, bearing housings, plain shaft bearings, gears and gearing (including friction gears and gear boxes) and other variable speed gears, flywheels, pulleys and pulley blocks, clutches and shaft couplings.

6-7

8

9

10

11

12

13

14

15

Basic Machine Nomenclature		Major Spec. (Capacity)	Major Spec. 1 (Optional)	Major Spec. 2 (Optional)	Type	Manufacturing Characteristic 1	Manufacturing Characteristic 2	Manufacturing Characteristic 3	Origin
Code	Name	Code range Output (KW)	Code Reduction Ratio	Code Drive direction	Code Desc.	Code Weight (Tons)	Code Main body material	Code Max. component weight (Tons)	Code
00	Reduction drives	1 Upto 100	1 1-5	1 Parallel axis	1 Single stage	1 Upto 5	1 Chilled iron casting	1 Upto 1	1 Turkey
		2 100-200	2 1-10		2 Double stage	2 5-10	2 Grey iron casting	2 1-2	2 Imported
01	Speed gears reduction drives	1 200-400	3 1-20	2 Angle axis	2 Double stage	3 10-25	3 Alloy iron casting	3 2-5	
		4 400-800	4 1-50	3 Other	3 Multiple stage	4 25-50	4 Malleable iron casting	4 5+10	
		5 800-1600	5 1-100			5 50-100	5 Spheroidal iron casting	5 10-15	
02	Single helical gear reduction drives.	6 1600-2000	6 1-Over 100			6 100-200	6 Carbon steel casting	6 15-25	
		7 2000-2400				7 200-300	7 Alloy steel casting	7 25-50	
		8 2400-2800				8 300-500	8 Non-ferrous casting	8 50-100	
		9 Above 2800				9 Over 500	9 Steel fabrication	9 Over 100	
03	Double helical gear reduction drives.								
04	Bevel gearing reduction drives.								
05	Worm and worm-wheel reduction drives.								
99	Others								

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure II  
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ADIYAMAN

NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND  
Commissioning July 1982  
0.60 M.T.

1981-1984

Figures in Tons/.

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel	125.36				125.36
69243	Air receiver	1.20				1.20
71111	Boiler with burner	20.40				20.40
72342	Loader,excavator,etc.	166.80				166.80
72343	Rock drill,air gun	8.86				8.86
72831	Swaging screen, Separators	85.86				85.86
72832	Crusher,ball mill, Tube mill	1160.46				1160.46
74121	Furnace burners	3.90				3.90
74132	Hot gas generator, Furnaces	14.00				14.00
74161	Heat exchanger	1.00				1.00
74163	Rotary kiln	659.20				659.20
74164	Cooler for clinker	148.40				148.40
74165	Cyclone preheater	140.00				140.00
74220	Water pumps	1.40				1.40
74230	Fuel oil pumps	1.63				1.63
74313	Compressors	71.60				71.60
74342	Ventilators	126.17				126.17

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure II  
Page 2 of 2

ADYAMAN

NEW CEMENT PLANTS PHASE- I  
Commissioning July 1982

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984  
0.60 M.T.

Figures in Tons/

SITC Co's	Plant-site Commissioning date and capacity	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
74361		Filters, cyclones, Precipitators					
		Washer	343.80				343.80
74411		Dump trucks	149.00				149.00
74423		Air lifts and Fuller pump	17.60				17.60
		Air slides	9.85				9.85
74426		Belt, chain and screw					
		Conveyors, bucket elevators					
		Weigh feeders etc.	604.64				604.64
74428		Reclaiming scraper	31.40				31.40
74522		Packing machinery	14.60				14.60
74931		Reduction gear boxes	231.70				231.70
		<b>GRAND TOTAL</b>	<b>4138.83</b>				<b>4138.83</b>
		Out of which					
		Plate Fabricated Equipment	1453.36				1453.36
		Machines	2685.47				2685.47

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

SAMSUN

**NEW CEMENT PLANTS - PHASE**  
Commissioning July 1982  
0.61 M.T

**SUMMARY OF CAPITAL GOODS DEMAND**

Figures in Tons/

Annexure III  
Page 1 of 2

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc. of steel	125.36				125.36
69243	Air receiver	1.20				1.20
71111	Boiler with burner	20.40				20.40
72342	Loader, excavator, etc.	166.80				166.80
72343	Rock drill, air gun	8.86				8.86
72331	Swinging screen, Separators	85.86				85.86
72032	Crusher, ball mill, Tube mill	1160.46				1160.46
74121	Furnace burners	3.90				3.90
74132	Hot gas generator, Furnaces	14.00				14.00
74151	Heat exchanger	1.00				1.00
74163	Rotary kiln	659.20				659.20
74164	Cooler for clinker	148.40				148.40
74165	Cyclone preheater	140.00				140.00
74220	Water pumps	1.40				1.40
74230	Fuel oil pumps	1.63				1.63
74313	Compressors	71.60				71.60
77342	Ventilators	126.17				126.17

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

Annexure III  
Page 2 of 2

SAMSUN

NEW CEMENT PLANTS PHASE-  
Commissioning July 1982

SUMMARY OF CAPITAL GOODS DEMAND IN  
0.61 M.T

Figures in Tons/

SITC Co- <sup>o</sup>	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators	343.80				343.80
	Washer					
74411	Dump trucks	149.00				149.00
74423	Air lifts and Fuller pump	17.60				17.60
	Air slides	9.85				9.85
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.	604.64				604.64
74423	Reclaiming scraper	31.40				31.40
74522	Packing machinery	14.60				14.60
74931	Reduction gear boxes	231.70				231.70
	<b>GRAND TOTAL</b>	<b>4138.83</b>				<b>4138.83</b>
	Out of which	1453.36				1453.36
	Plate Fabricated Equipment					
	Machines	2685.47				2685.47

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure IV  
Page i of 2

DIYARBAKIR

NEW CEMENT PLANTS - PHASE I

SUMMARY OF CAPITAL GOODS DEMAND

1981-1984

Commissioning July 1983

0.61 M.T.

Figures in Tons/

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc. of steel		125.36			125.36
69243	Air receiver		1.20			1.20
71111	Boiler with burner		20.40			20.40
72342	Loader, excavator, etc.		166.80			166.80
72343	Rock drill, air gun		8.86			8.86
72331	Swaging screen, Separators	2.66				2.66
72832	Crusher, ball mill, Tube mill		83.20			83.20
			1160.46			1160.46
74121	Furnace burners	0.40	3.50			3.90
74132	Hot gas generator, Furnaces		14.00			14.00
74161	Heat exchanger		1.00			1.00
74163	Rotary kiln	659.20				659.20
74164	Cooler for clinker		148.40			148.40
74165	Cyclone preheater	140.00				140.00
74220	Water pumps	1.40				1.40
74230	Fuel oil pumps		1.63			1.63
74313	Compressors	71.60				71.60
74342	Ventilators	126.17				126.17

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**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

Annexure IV

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**DIYARBAKIR**

**NEW CEMENT PLANTS PHASE- I  
Commissioning July 1983**

**SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984**

0.61 M.T.

Figures in Tons/

SITC Co'de	Plant site Commissioning date and capacity	1981	1982	1983	1984	TOTALS	
74361	Filters, cyclones, Precipitators		343.80			343.80	
	Washer		149.00			149.00	
74411	Dump trucks						
74423	Air lifts and Fuller pump	17.60				17.60	
	Air slides		9.85			9.85	
74426	Belt, chain and screw Conveyors, bucket elevators						
	Weigh feeders etc.	18.88	585.76			604.64	
74428	Reclaiming scraper		31.40			31.40	
74522	Packing machinery	14.60				14.60	
74931	Reduction gear boxes	231.70				231.70	
	<b>GRAND TOTAL</b>	<b>1284.21</b>	<b>2854.62</b>			<b>4138.83</b>	
	Out of which						
	Plate Fabricated Equipment	799.20	654.16			1453.36	
	Machines	485.01	2200.46			2685.47	

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**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

SIIRT

NEW CEMENT PLANTS - PHASE

1981-1982

Commission: July 1983

SITC Code	BASIC MACHINE NAME	1981	1982
69211	Reservoirs etc. of steel		125.36
69243	Air receiver		1.20
71111	Boiler with burner		20.40
72342	Loader, excavator, etc.		166.80
72343	Rock drill, air gun		8.86
72331	Swinging screen, Separators	2.66	
72832	Crusher, ball mill, Tube mill		1160.46
74121	Furnace burners	0.40	3.50
74132	Hot gas generator, Furnaces		14.00
74151	Heat exchanger		1.00
74163	Rotary kiln	659.20	
74164	Cooler for clinker		148.40
74165	Cyclone preheater	140.00	
74226	Water pumps	1.40	
74230	Fuel oil pumps		1.63
74313	Compressors	71.60	
74342	Ventilators	126.17	

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984

0.62 M.T

Figures in Tons

1983	1984	TOTAL		
		125.36		
		1.20		
		20.40		
		166.80		
		8.86		
		2.66		
		1160.46		
		3.90		
		14.00		
		1.00		
		659.20		
		140.40		
		140.00		
		1.40		
		1.63		
		71.60		
		126.17		

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**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

Annexure V  
Page 2 of 2

SIIRT

NEW CEMENT PLANTS PHASE-  
Commissioning July 1983

SUMMARY OF CAPITAL GOODS DEMAND IN  
0.62 M.T

Figures in Tons/

SIITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTALS
74361	Filters, cyclones, Precipitators		343.80			343.80
	Washer					
74411	Dump trucks		149.00			149.00
74423	Air lifts and Fuller pump	17.60				17.60
	Air slides		9.85			9.85
74426	Belt, chain and screw	18.88	585.76			604.64
	Conveyors, bucket elevators					
	Weigh feeders etc.					
74423	Reclaiming scraper		31.40			31.40
74522	Packing machinery	14.60				14.60
74931	Reduction gear boxes	231.70				231.70
	<b>GRAND TOTAL</b>	<b>1284.21</b>	<b>2054.62</b>			<b>4138.83</b>
	Out of which	779.20	654.16			1453.36
	Plate Fabricated Equipment					
	Machines	485.01	2200.46			2685.47

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure VI  
Page 1 of 2

Denizli NEW CEMENT PLANTS - PHASE I  
Commission July 1984 0.63 M.T.

SUMMARY OF CAPITAL GOODS DEMAND 1981-1984

Figures in Tons

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel		125.36			125.36
69243	Air receiver		1.20			1.20
71111	Boiler with burner			20.40		20.40
72342	Loader,excavator,etc.			166.80		166.80
72343	Rock drill,air gun			8.86		8.86
72331	Swinging screen, Separators			85.86		85.86
72332	Crusher,ball mill, Tube mill			1160.46		1160.46
74121	Furnace burners			3.90		3.90
74132	Hot gas generator, Furnaces			14.00		14.00
74161	Heat exchanger		1.00			1.00
74163	Rotary kiln		659.20			659.20
74164	Cooler for clinker		148.40			148.40
74165	Cyclone preheater		140.80			140.80
74220	Water pump		1.40			1.40
74230	Fuel oil pumps		1.63			1.63
74313	Compressors	71.60				71.60
74342	Ventilators		126.17			126.17

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

DENIZLI NEW CEMENT PLANTS PHASE-I I SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984  
Commission July 1984 0.63 M.T. Figures in Tons

SITC Co <sup>de</sup>	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators			343.80		343.80
	Washer			149.00		149.00
74411	Dump trucks					
74423	Air lifts and Fuller pump	17.60				17.60
	Air slides			9.85		9.85
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.			604.64		604.64
74423	Reclaiming scraper		31.40			31.40
74522	Packing machinery	14.60				14.60
74931	Reduction gear boxes		231.70			231.70
	<b>GRAND TOTAL</b>	<b>103.80</b>	<b>1467.46</b>	<b>2567.57</b>		<b>4138.83</b>
	<b>Out of which</b>					
	<b>Plate Fabricated Equipment</b>		<b>1075.16</b>	<b>378.20</b>		<b>1453.36</b>
	<b>Machines</b>	<b>103.80</b>	<b>392.30</b>	<b>2189.37</b>		<b>2685.47</b>

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EDIRNE

NEW CEMENT PLANTS - PHASE

Commission. July 1984

SITC Code	BASIC MACHINE NAME	1981	1982
69211	Reservoirs etc. of steel		125.36
69242	Air receiver		1.20
71111	Boiler with burner		
72342	Loader, excavator, etc.		
72343	Rock drill, air gun		
72331	Swinging screen, Separators		
72832	Crusher, ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74161	Heat exchanger		1.00
74163	Rotary kiln		659.20
74164	Cooler for clinker		148.40
74165	Cyclone preheater		140.00
74220	Water pumps		1.40
74230	Fuel oil pumps		1.63
74313	Compressors	71.60	
74342	Ventilators		126.17

SUMMARY OF CAPITAL GOODS DEMAND

0.58 M.T

Figures in Tons/

1983	1984	TOTAL		
		125.36		
		1.20		
20.40		20.40		
166.80		166.80		
8.86		8.86		
85.86		85.86		
1160.46		1160.46		
3.90		3.90		
14.00		14.00		
		1.00		
		659.20		
		148.40		
		140.00		
		1.40		
		1.63		
		71.60		
		126.17		

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**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

Annexure VII  
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EDIRNE

NEW CEMENT PLANTS PHASE-  
Commissioning July 1984

SUMMARY OF CAPITAL GOODS DEMAND IN  
0,58 M.T

Figures in Tons/

SITC Co's	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators			343.80		343.80
	Washer					
74411	Dump trucks			149.00		149.00
74423	Air lifts and Fuller pump	17.60				17.60
	Air slides			9.85		9.85
74426	Belt, chain and screw			604.64		604.64
	Conveyors, bucket elevators					
	Weigh feeders etc.					
74423	Reclaiming scraper		31.40			31.40
74522	Packing machinery	14.60				14.60
74931	Reduction gear boxes		231.70			231.70
	GRAND TOTAL	103.80	1467.46	2567.57		4138.83
	Out of which	-	1075.16	378.20		1453.36
	Plate Fabricated Equipment					
	Machines	103.80	392.30	2189.37		2685.47



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

URFA

NEW CEMENT PLANTS - PHASE

Commission July 1984

SITC Code	BASIC MACHINE NAME	1991	1982
69211	Reservoirs etc.of steel		125.36
69243	Air receiver		1.20
71111	Boiler with burner		
72342	Loader,excavator,etc.		
72343	Rock drill,air gun		
72331	Swinging screen, Separators		
72332	Crusher,ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74161	Heat exchanger		1.00
74163	Rotary kiln		659.20
74164	Cooler for clinker		148.40
74165	Cyclone preheater		140.00
74220	Water pumps		1.40
74230	Fuel oil pumps		1.63
74313	Compressors	71.60	
74342	Ventilators		126.17

SUMMARY OF CAPITAL GOODS DEMAND

0.58 M.T

Figures in Tons/

1983	1984	TOTAL		
		125.36		
		1.20		
20.40		20.40		
166.80		166.80		
8.86		8.86		
85.86		85.86		
1160.46		1160.46		
3.90		3.90		
14.00		14.00		
		1.00		
		659.20		
		148.40		
		140.00		
		1.40		
		1.63		
		71.60		
		126.17		

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure VIII  
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UNFA NEW CEMENT PLANTS PHASE- I SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984  
Commission July 1984 0.58 M.T

Figures in Tons

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators			343.80		343.80
	Washer					
74411	Dump trucks			149.00		149.00
74423	Air lifts and Fuller pump	17.60				17.60
	Air slides			9.85		9.85
74426	Belt, chain and screw			604.64		604.64
	Conveyors, bucket elevators					
	Weigh feeders etc.					
74423	Reclaiming scraper		31.40			31.40
74522	Packing machinery	14.60				14.60
74931	Reduction gear boxes		231.70			231.70
	GRAND TOTAL	103.80	1467.46	2567.57		4138.83
	Out of which		1075.16	378.20		1453.36
	Plate Fabricated Equipment					
	Machines	103.80	392.30	2189.37		2685.47

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

ADIZAMAN

NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND 1981-1984  
 Commissioning July 1982  
 0.60 M.T.

Annexure IX  
 Page 1 of 2

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel	219.01				219.01
69243	Air receiver	4.74				4.74
71111	Boiler with burner	168.50				168.50
72342	Loader,excavator,etc.	835.66				835.66
72343	Rock drill,air gun	139.70				139.70
72831	Swinging screen, Separators	318.45				318.45
72832	Crusher,ball mill, Tube mill	4015.50				4015.50
74121	Furnace burners	76.27				76.27
74132	Hot gas generator, Furnaces	6.60				6.60
74161	Heat exchanger	14.50				14.50
74163	Rotary kiln	2300.80				2300.80
74164	Cooler for clinker	163.20				163.20
74165	Cyclone preheater	460.30				460.30
74220	Water pumps	9.32				9.32
74230	Fuel oil pumps	22.12				22.12
74313	Compressors	759.52				759.52
74342	Ventilators	926.92				926.92

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure IX  
Page 2 of 2

ADIYAMAN

NEW CEMENT PLANTS PHASE- I  
Commissioning July 1982

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984  
0.60 M.T.

/Values in 1000 U.S.\$

SITC Co's	Plant site Commissioning date and capacity	1981	1982	1983	1984	TOTALS		
	<b>BASIC MACHINE NAME</b>							
74361	Filters, cyclones, Precipitators							
	Washer	1189.20				1189.20		
74411	Dump trucks	1180.90				1180.90		
74423	Air lifts and Fuller pump	182.07				182.07		
	Air slides	38.38				38.38		
74426	Belt, chain and screw Conveyors, bucket elevators							
	Weigh feeders etc.	2967.03				2967.03		
74420	Reclaiming scraper	308.64				308.64		
74522	Packing machinery	189.80				189.80		
74931	Reduction gear boxes	1319.80				1319.80		
	<b>GRAND TOTAL</b>	<b>17816.93</b>				<b>17816.93</b>		
	<b>Out of which</b>							
	Plate Fabricated Equipment	4526.85				4526.85		
	Machines	13290.08				13290.08		

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

SAMSUN

NEW CEMENT PLANTS - PHASE

Commissioning July 1982

0.60 M.T

SITC Code	BASIC MACHINE NAME	1981	1982
69211	Reservoirs etc.of steel	219.01	
69243	Air receiver	4.74	
71111	Boiler with burner	168.50	
72342	Loader,excavator,etc.	835.66	
72343	Rock drill,air gun	139.70	
72331	Swinging screen, Separators	318.45	
72332	Crusher,ball mill, Tube mill	4015.50	
74121	Furnace burners	76.27	
74132	Hot gas generator, Furnaces	6.60	
74161	Heat exchanger	14.50	
74163	Rotary kiln	2300.80	
74164	Cooler for clinker	163.20	
74165	Cyclone preheater	460.30	
74220	Water pumps	9.32	
74230	Fuel oil pumps	22.12	
74313	Compressors	759.52	
74342	Ventilators	926.92	

II SUMMARY OF CAPITAL GOODS DEMAND 1981-1984

/Values in 1000 US\$

1983	1984	TOTAL		
		219.01		
		4.74		
		168.50		
		835.66		
		139.70		
		318.45		
		4015.50		
		76.27		
		6.60		
		14.50		
		2300.80		
		163.20		
		460.30		
		9.32		
		22.12		
		759.52		
		926.92		

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

SAMSUN

Commissioning July 1982

NEW CEMENT PLANTS PHASE- II  
0.6 M.T

SITC Co's	BASIC MACHINE NAME	Plant site Commissioning date and capacity	1981	1982
74361	Filters, cyclones, Precipitators			
	Washer		1189.20	
74411	Dump trucks		1180.90	
74423	Air lifts and Fuller pump		182.07	
	Air slidec		38.38	
74426	Belt, chain and screw			
	Conveyors, bucket elevators			
	Weigh feeders etc.		2967.03	
74423	Reclaiming scraper		308.64	
74522	Packing machinery		189.80	
74931	Reduction gear boxes		1319.80	
	<b>GRAND TOTAL</b>		<b>17816.93</b>	
	Out of which		4526.85	
	Plate Fabricated Equipment			
	Machines		13290.08	



SUMMARY OF CAPITAL GOODS DEMAND IN 1981-1984

/Values in 1000 U.S.\$

1983	1984	TOTAL		
		1189.20		
		1180.90		
		182.07		
		28.38		
		2967.03		
		308.64		
		189.80		
		1319.80		
		17816.93		
		4526.85		
		13290.08		

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

DIYARBAKIR

NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND 1981-84

Commissioning July 1983

Annexure XI

Page 1 of 2

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel		219.01			219.01
69243	Air receiver		4.74			4.74
71111	Boiler with burner		168.50			168.50
72342	Loader,excavator,etc.		835.66			835.66
72343	Rock drill,air gun		139.70			139.70
72331	Swaging screen, Separators	15.00	303.45			15.00 303.45
72632	Crusher,ball mill, Tube mill		4015.50			4015.50
74121	Furnace burners	5.26	71.01			5.26 71.01 76.27
74132	Hot gas generator, Furnaces		6.60			6.60
74161	Heat exchanger		14.50			14.50
74163	Rotary kiln	2300.80				2300.80
74164	Cooler for clinker		163.20			163.20
74165	Cyclone preheater	460.30				460.30
74220	Water pumps	9.32				9.32
74230	Fuel oil pumps		22.12			22.12
74313	Compressors	759.52				759.52
74342	Ventilators	926.92				926.92

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

Annexure XI

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DIYARBAKIR

**NEW CEMENT PLANTS PHASE- I SUMMARY OF CAPITAL GOODS DEMAND IN 1981-84**  
Commissioning July 1983

Values in 1000 U.S.\$

SITC Code	BASIC MACHINE NAME	1981.	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators					
	Washer		1189.20			1189.20
74411	Dump trucks		1180.90			1180.90
74423	Air lifts and Fuller pump	182.07				182.07
	Air slides		38.38			38.38
74426	Belt, chain and screw Conveyors, bucket elevators					
	Weigh feeders etc.	312.32	2654.71			2967.03
74423	Reclaiming scraper		308.64			308.64
74522	Packing machinery	189.80				189.80
74931	Reduction gear boxes	1319.80				1319.80
	<b>GRAND TOTAL</b>	<b>6481.11</b>	<b>11335.82</b>			<b>17816.93</b>
	Out of which	2761.10	1765.75			4526.85
	Plate Fabricated Equipment Machines	3720.01				13290.08

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XII

Page 1 of 2

SIIRT

NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND 1981-84  
Commissioning July 1983

/Values in 1000 US\$

SITE Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL		
69211	Reservoirs etc.of steel		219.01			219.01		
69243	Air receiver		4.74			4.74		
71111	Boiler with burner		168.50			168.50		
72342	Loader,excavator,etc.		835.66			835.66		
72343	Rock drill,air gun		139.70			139.70		
72831	Swinging screen, Separators	15.00	303.45			15.00 303.45		
72832	Crusher,ball mill, Tube mill		4015.50			4015.50		
74121	Furnace burners	5.26	71.01			76.27		
74132	Hot gas generator, Furnaces		6.60			6.60		
74161	Heat exchanger		14.50			14.50		
74163	Rotary kiln	2300.80				2300.80		
74164	Cooler for clinker		163.20			163.20		
74165	Cyclone preheater	460.30				460.30		
74220	Water pumps	9.32				9.32		
74230	Fuel oil pumps		22.12			22.12		
74313	Compressors	759.52				759.52		
74342	Ventilators	926.92				926.92		

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XII

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SIIRT

NEW CEMENT PLANTS PHASE- I  
Commissioning July 1983

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-84

Values in 1000 U.S.\$

SITC Code	Plant site Commissioning date and capacity	1981	1982	1983	1984	TOTAL
	<b>BASIC MACHINE NAME</b>					
74361	Filters, cyclones, Precipitators					
	Washer		1189.20			1189.20
74411	Dump trucks		1180.90			1180.90
74423	Air lifts and Fuller pump	182.07				182.07
	Air slides		38.38			38.38
74426	Belt, chain and screw Conveyors, bucket elevators					
	Weigh feeders etc.	312.32	2654.71			2967.03
74423	Reclaiming scraper		308.64			308.64
74522	Packing machinery	189.80				189.80
74931	Reduction gear boxes	1319.80				1319.80
	<b>GRAND TOTAL</b>	<b>6481.11</b>	<b>11335.82</b>			<b>17816.93</b>
	<b>Out of which</b>					
	Plate Fabricated Equipment	2761.10	1765.75			4526.85
	Machines	3720.01				13290.08

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

DENIZLI

NEW CEMENT PLANTS - PHASE

Commissioning July 1984

0.63 M.T Capacity

SITC Code	BASIC MACHINE NAME	1981	1982
69211	Reservoirs etc.of steel		219.01
69243	Air receiver		4.74
71111	Boiler with burner		
72342	Loader,excavator,etc.		
72343	Rock drill,air gun		
72331	Swinging screen, Separators		
72832	Crusher,ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74161	Heat exchanger		14.50
74163	Rotary kiln		2300.80
74164	Cooler for clinker		163.20
74165	Cyclone preheater		460.30
74220	Water pumps		9.32
74230	Fuel oil pumps		22.12
74313	Compressors	759.52	
74342	Ventilators		926.92

Annexure XIII

Page 1 of 2

I SUMMARY OF CAPITAL GOODS DEMAND 1981-84

(Values in 1000 US\$)

1983	1984	TOTAL		
		219.01		
		4.74		
168.50		168.50		
835.66		835.66		
139.70		139.70		
318.45		318.45		
4015.50		4015.50		
76.27		76.27		
6.60		6.60		
		14.50		
		2300.80		
		163.20		
		460.30		
		9.32		
		22.12		
		759.52		
		926.92		

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**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

Annexure XIII  
Page 2 of 2

DENIZLI

NEW CEMENT PLANTS PHASE- I  
Commissioning July 1984 0.63 M.T Capacity

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-84

/Values in 1000 U.S.\$

SITC Co <sup>d</sup> e	Plant site Commissioning date and capacity	1981	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators					
	Washer			1189.20		1189.20
74411	Dump trucks			1180.90		1180.90
74423	Air lifts and Fuller pump	182.07				182.07
	Air slides			38.38		38.38
74426	Belt, chain and screw					
	Conveyors, bucket elevators					
	Weigh feeders etc.			2967.03		2967.03
74423	Reclaiming scraper		308.64			308.64
74522	Packing machinery	189.80				189.80
74931	Reduction gear boxes		1319.80			1319.80
	<b>GRAND TOTAL</b>	<b>1131.39</b>	<b>5749.35</b>	<b>10936.19</b>		<b>17.816.93</b>
	Out of which	-	3162.55	1364.30		4526.85
	Plate Fabricated Equipment					
	Machines	1131.39	2586.80	9571.89		13,290.08



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EDIRNE

NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND 1981-84

Commissioning July 1984  
0.63 M.T Capacity

Annexure XIV

Page 1 of 2

(Values in 1000 US\$)

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel		219.01			219.01
69243	Air receiver		4.74			4.74
71111	Boiler with burner			168.50		168.50
72342	Loader,excavator,etc.			835.66		835.66
72343	Rock drill,air gun			139.70		139.70
72331	Swinging screen, Separators			318.45		318.45
72332	Crusher,ball mill, Tube mill			4015.50		4015.50
74121	Furnace burners			76.27		76.27
74132	Hot gas generator, Furnaces			6.60		6.60
74161	Heat exchanger		14.50			14.50
74163	Rotary kiln		2300.80			2300.80
74164	Cooler for clinker		163.20			163.20
74165	Cyclone preheater		460.30			460.30
74220	Water pumps		9.32			9.32
74230	Fuel oil pumps		22.12			22.12
74313	Compressors	759.52				759.52
74342	Ventilators		926.92			926.92

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XIV  
Page 2 of 2

EDIRNE NEW CEMENT PLANTS PHASE- I  
Commissioning July 1984 0.63 M.T Capacity

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-84

/Values in 1000 U.S.\$

SITC Co <sup>d</sup> e	Plant site Commissioning date and capacity BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
74361	Filters, cyclones, Precipitators					
	Washer			1189.20		1189.20
74411	Dump trucks			1180.90		1180.90
74423	Air lifts and Fuller pump	182.07				182.07
	Air slides			38.38		38.38
74426	Belt, chain and screw Conveyors, bucket elevators					
	Weigh feeders etc.			2967.03		2967.03
74423	Reclaiming scraper		308.64			308.64
74522	Packing machinery	189.80				189.80
74931	Reduction gear boxes		1319.80			1319.80
	GRAND TOTAL	1131.39	3749.35	10936.19		17.816.93
	Out of which	-	3162.55	1364.30		4526.85
	Plate Fabricated Equipment Machines	1131.39	2586.80	3571.89		13,290.08

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XV  
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URFA

NEW CEMENT PLANTS - PHASE I SUMMARY OF CAPITAL GOODS DEMAND 1981-84  
Commissioning July 1984  
0.63 M.T. Capacity

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1981	1982	1983	1984	TOTAL
69211	Reservoirs etc.of steel		219.01			219.01
63243	Air receiver		4.74			4.74
71111	Boiler with burner			168.50		168.50
72342	Loader,excavator,etc.			835.66		835.66
72343	Rock drill,air gun			139.70		139.70
72331	Swinging screen, Separators			318.45		318.45
72832	Crusher,ball mill, Tuba mill			4015.50		4015.50
74121	Furnace burners			76.27		76.27
74132	Hot gas generator, Furnaces			6.60		6.60
74161	Heat exchanger		14.50			14.50
74163	Rotary kiln		2300.80			2300.80
74164	Cooler for clinker		163.20			163.20
74165	Cyclone preheater		460.30			460.30
74220	Water pumps		9.32			9.32
74230	Fuel oil pumps		22.12			22.12
74313	Compressors	759.52				759.52
74343	Ventilators		926.92			926.92

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**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

Annexure XV  
Page 2 of 2

URPA

NEW CEMENT PLANTS PHASE- I  
Commissioning July 1984

SUMMARY OF CAPITAL GOODS DEMAND IN 1981-84  
0.63 M.T. Capacity

/Values in 1000 U.S.\$

SITC Co <sup>de</sup>	Plant site Commissioning date and capacity	1981	1982	1983	1984	TOTAL
	<b>BASIC MACHINE NAME</b>					
74361	Filters, cyclones, Precipitators					
	Washer			1189.20		1189.20
74411	Dump trucks			1180.90		1180.90
74423	Air lifts and Fuller pump	182.07				182.07
	Air slides			38.38		38.38
74426	Belt, chain and screw					
	Conveyors, bucket elevators					
	Weigh feeders etc.			2967.03		2967.03
74428	Reclaiming scraper		308.64			308.64
74522	Packing machinery	189.80				189.80
74931	Reduction gear boxes		1319.80			1319.80
	<b>GRAND TOTAL</b>	1131.39	5749.35	10936.19		17816.93
	Out of which					
	Plate Fabricated Equipment	-	3162.55	1364.30		4526.85
	Machines	1131.39	2586.80	9571.89		13290.08

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CENTRAL ANATOLIA

NEW CEMENT PLANTS - PHASE

Commissioning 1986  
1.2 M.T.

SITC Code	BASIC MACHINE NAME	YEARS	
		1983	1984
69211	Reservoirs etc. of steel		250.72
69243	Air receiver		2.40
71111	Boiler with burner		40.80
72342	Loader, excavator, etc.		333.60
72343	Rock drill, air gun		17.72
72331	Swinging screen, Separators	5.32	166.40
72332	Crusher, ball mill, Tube mill		2320.92
74121	Furnace burners		7.80
74132	Hot gas generator, Furnaces		28.00
74161	Heat exchanger		2.00
74163	Rotary kiln		1318.40
74164	Cooler for clinker		296.80
74165	Cyclone preheater		280.00
74220	Water pumps		2.80
74230	Fuel oil pumps		3.26
74313	Compressors	143.20	
74342	Ventilators	133.90	118.44

## Annexure XVI

Page 1 of 2

## II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Figures in Tons/

1985	1986	1987	1988	1989	TOTALS
					250.72
					2.40
					40.80
					333.60
					17.72
					5.32
					166.40
					2320.92
					7.80
					28.00
					2.00
					1318.40
					296.80
					280.00
					2.80
					3.26
					143.20
					252.34

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CENTRAL ANATOLIA NEW CEMENT PLANTS PHASE- II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990  
Commissioning 1986  
1,2 M.T. Figures in Tons/

SITC Co's	BASIC MACHINE NAME	YEARS	1983	1984	1985	1986	1987	1988	1989	TOTALS
74361	Filters, cyclones, Precipitators			687.60						687.60
	Washer									
74411	Dump trucks				298.00					298.00
74423	Air lifts and Fuller pump		16.00							16.00
	Air slides			38.90						38.90
74426	Belt, chain and screw Conveyors, bucket elevators									
	Weigh feeders etc.		37.76	1171.52						1209.28
74428	Reclaiming scraper		62.80							62.80
74522	Packing machinery		29.20							29.20
74931	Reduction gear boxes		463.40							463.40
	<b>GRAND TOTAL</b>		<b>891.58</b>	<b>7088.08</b>	<b>298.00</b>					<b>8277.66</b>
	Out of which									
	Plate Fabricated Equipment		-	2906.72	-					2906.72
	Machines		891.58	4181.36	298.00					5370.94

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

Annexure XVII

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BLACK SEA

**NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990**

Commissioning 1987  
1.2. M.T.

Figures in Tons/

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc.of steel			250.72					250.72
69243	Air receiver			2.40					2.40
71111	Boiler with burner			40.80					40.80
72342	Loader,excavator,etc.			333.60					333.60
72343	Rock drill,air gun			17.72					17.72
72831	Swinging screen, Separators		5.32	166.40					171.72
72832	Crusher,ball mill, Tube mill			2320.92					2320.92
74121	Furnace burners			7.80					7.80
74132	Hot gas generator, Furnaces			28.00					28.00
74161	Heat exchanger			2.00					2.00
74163	Rotary kiln			1318.40					1318.40
74164	Cooler for clinker			296.80					296.80
74165	Cyclone preheater			280.00					280.00
74220	Water pumps			2.80					2.80
74230	Fuel oil pumps			3.26					3.26
74313	Compressors		143.20						143.20
74342	Ventilators		133.90	118.44					252.34

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XVII

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BLACK SEA NEW CEMENT PLANTS PHASE- II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990  
Commissioning 1987 1.2 M.T.

Figures in Tons/

SITC Co's	Plant site Commissioning date and capacity	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters, cyclones, Precipitators			687.60					687.60
	Washer				298.00				298.00
74411	Dump trucks		16.00						16.00
74423	Air lifts and Fuller pump			38.90					38.90
	Air slides								
74426	Belt, chain and screw								
	Conveyors, bucket elevators								
	Weigh feeders etc.		37.76	1171.52					1209.28
74428	Reclaiming scraper		62.80						62.80
74522	Packing machinery		29.20						29.20
74931	Reduction gear boxes		463.40						463.40
	<b>GRAND TOTAL</b>		891.58	7088.08	298.00				8277.66
	Out of which		-	2906.72	-				2906.72
	Plate Fabricated Equipment								
	Machines		891.58	4181.36	298.00				5370.94

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XVIII

Page 1 of 2

CENTRAL ANATOLIA REGION  
Commissioning 1988  
1.2 M.T.

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Figures in Tons/

SITC Code	BASIC MACHINE NAME	YEARS							TOTAL
		1983	1984	1985	1986	1987	1988	1989	
69211	Reservoirs etc.of steel				250.72				250.72
69243	Air receiver				2.40				2.40
71111	Boiler with burner				40.80				40.80
72342	Loader,excavator,etc.				333.60				333.60
72343	Rock drill,air gun				17.72				17.72
72831	Swinging screen, Separators			5.32	166.40				166.40
72832	Crusher,ball mill, Tube mill				2320.92				2320.92
74121	Furnace burners				7.80				7.80
74132	Hot gas generator, Furnaces				28.00				28.00
74161	Heat exchanger				2.00				2.00
74163	Rotary kiln				1318.40				1318.40
74164	Cooler for clinker				296.80				296.80
74165	Cyclone preheater				280.00				280.00
74220	Water pumps				2.80				2.80
74230	Fuel oil pumps				3.26				3.26
74313	Compressors			143.20					143.20
74342	Ventilators			133.90	118.44				252.34

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**  
**CENTRAL ANATOLIA REGION**

Commissioning 1988 NEW CEMENT PLANTS PHASE-  
 1.2 M.T.

II

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Figures in Tons/

SITC Co'de	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters, cyclones, Precipitators				687.60				687.60
	Washer								
74411	Dump trucks					298.00			298.00
74423	Air lifts and Fuller pump			16.00					16.00
	Air slides				38.90				38.90
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.			37.76	1171.52				1209.28
74428	Reclaiming scraper			62.80					62.80
74522	Packing machinery			29.20					29.20
74931	Reduction gear boxes			463.40					463.40
	GRAND TOTAL			891.58	7088.08	298.00			8277.66
	Out of which								
	Plate Fabricated Equipment			-	2906.72	-			2906.72
	Machines			891.58	4181.36	298.00			5370.94

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

AEGEAN REGION

NEW CEMENT PLANTS - PHASE II

SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Annexure XIX

Page 1 of 2

Commissioning 1988

1.2 M.T

Figures in Tons/

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc.of steel				250.72				250.72
62243	Air receiver				2.40				2.40
71111	Boiler with burner				40.80				40.80
72342	Loader,excavator,etc.				333.60				333.60
72343	Rock drill,air gun				17.72				17.72
72331	Swinging screen, Separators			5.32	166.40				5.32 166.40
72832	Crusher,ball mill, Tube mill				2320.92				2320.92
74121	Furnace burners				7.80				7.80
74132	Hot gas generator, Furnaces				28.00				28.00
74151	Heat exchanger				2.00				2.00
74163	Rotary kiln				1318.40				1318.40
74164	Cooler for clinker				296.80				296.80
74165	Cyclone preheater				280.00				280.00
74220	Water pumps				2.80				2.80
74230	Fuel oil pumps				3.26				3.26
74313	Compressors			143.20					143.20
74342	Ventilators			133.90	118.44				252.34

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

EAGEAN REGION

NEW CEMENT PLANTS PHASE- II  
Commissioning 1988 1.2 M.T

SITC Co <sup>d</sup> e	BASIC MACHINE NAME	1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump		
	Air slides		
74426	Belt, chain and screw		
	Conveyors, bucket elevators		
	Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL		
	Out of which		
	Plate Fabricated Equipment		
	Machines		

Annexure XIX  
Page 2 of 2

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Figures in Tons/

1985	1986	1987	1988	1989	TOTAL
	687.60				687.60
		298.00			298.00
16.00					16.00
	38.90				38.90
37.76	1171.52				1209.28
62.80					62.80
29.20					29.20
463.40					463.40
891.58	7088.08	298.00			8277.66
-	2906.72	-			2906.72
891.58	4181.36	298.00			5870.94

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

**MARMARA REGION - WEST CEMENT PLANTS - PHASE**

one of the Commissioning 1988

CEMENT PLANTS

SITC Code	BASIC MACHINE NAME	YEARS	
		1983	1984
69211	Reservoirs etc. of steel		
69243	Air receiver		
71111	Boiler with burner		
72342	Loader, excavator, etc.		
72343	Rock drill, air gun		
72331	Swinging screen, Separators		
72332	Crusher, ball mill, Tube mill		
74121	Furnace burners		
74132	Furnaces	1983	1984
74151	Heat exchanger		
74163	Rotary kiln		
74164	Roller for clinker		
74165	Cyclone preheater		
74220	Water pumps		
74230	Fuel oil pumps		
74313	Compressors		
74342	Ventilators		

II. SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Figures in Tons/

1985	1986	1987	1988	1989	TOTAL
5000	250.72				250.72
ESTIM	2.40				2.40
5000	40.80				40.80
	333.60				333.60
	17.72				17.72
5.32					5.32
10000	166.40				166.40
	2320.92				2320.92
	7.80				7.80
	28.00				28.00
1000					
	2.00				2.00
	1318.40				1318.40
2000000	296.80				296.80
	280.00				280.00
	2.80				2.80
	3.26				3.26
143.20					143.20
133.90	118.44				252.34



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MARMARA REGION

NEW CEMENT PLANTS PHASE-

II

Commissioning 1988

1.2 M.T

SITC Co <sup>d</sup> e	BASIC MACHINE NAME	1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump		
	Air slides		
74426	Belt, chain and screw		
	Conveyors, bucket elevators		
	Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL		
	Out of which		
	Plate Fabricated Equipment		
	Machines		

Annexure. XX

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SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Figures in Tons/

1985	1986	1987	1988	1989	TOTAL
	687.60				687.60
		298.00			298.00
16.00					16.00
	38.90				38.90
37.76	1171.52				1209.28
62.80					62.80
29.20					29.20
463.40					463.40
891.58	7088.08	298.00			8277.66
-	2906.72	-			2906.72
891.58	4181.36	298.00			5370.94

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXI  
Page 2 of 2

BLACK SEA NEW CEMENT PLANTS PHASE- II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990  
Commissioning - 1989 1.8. M.T. Figures in Tons/

SITC Code	Plant site Commissioning date and capacity BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters, cyclones, Precipitators								
	Washer					687.60			687.60
74411	Dump trucks						298.00		298.00
74423	Air lifts and Fuller pump				16.00				16.00
	Air slides					38.90			38.90
74426	Belt, chain and screw Conveyors, bucket elevators								
	Weigh feeders etc.				37.76	1171.52			1209.28
74423	Reclaiming scraper				62.80				62.80
74522	Packing machinery				29.20				29.20
74931	Reduction gear boxes				463.40				463.40
	GRAND TOTAL				891.58	7088.08	298.00		8277.66
	Out of which				-	2906.72	-		2906.72
	Plate Fabricated Equipment								
	Machines				891.58	4181.36	298.00		5370.94

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

BLACK SEA

NEW CEMENT PLANTS - PHASE

Commissioning 1989

1.2 M.T.

SITC Code	BASIC MACHINE NAME	1983	1984
69211	Reservoirs etc.of steel		
69243	Air receiver		
71111	Boiler with burner		
72342	Loader,excavator,etc.		
72343	Rock drill,air gun		
72331	Swinging screen, Separators		
72332	Crusher,ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74161	Heat exchanger		
74163	Rotary kiln		
74164	Cooler for clinker		
74165	Cyclone preheater		
74220	Water pumps		
74230	Fuel oil pumps		
74313	Compressors		
74342	Ventilators		

II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990  
Figures in Tons/

1985	1986	1987	1988	1989	TOTAL
		250.72			250.72
		2.40			2.40
		40.80			40.80
		333.60			333.60
		17.72			17.72
	5.32				5.32
		166.40			166.40
		2320.92			2320.92
		7.80			7.80
		28.00			28.00
		2.00			2.00
		1318.40			1318.40
		296.80			296.80
		280.00			280.00
		2.80			2.80
		3.26			3.26
	143.20				143.20
	133.90	118.44			292.34

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MEDITERRANEAN

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Annexure XXII

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Commissioning 1989  
Cap. 0.6 M.T.

Figures in Tons/.

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc. of steel					125.36			125.36
69243	Air receiver					1.20			1.20
71111	Boiler with burner					20.40			20.40
72342	Loader, excavator, etc.					166.80			166.80
72343	Rock drill, air gun					8.86			8.86
72331	Swaging screen, Separators				2.66				2.66
72332	Crusher, ball mill, Tube mill					83.20			83.20
74121	Furnace burners					1160.46			1160.46
74132	Hot gas generator, Furnaces					3.90			3.90
74151	Heat exchanger					14.00			14.00
74163	Rotary kiln					1.00			1.00
74164	Cooler for clinker					659.20			659.20
74165	Cyclone preheater					148.40			148.40
74220	Water pumps					140.00			140.00
74230	Fuel oil pumps					1.20			1.20
74313	Compressors					1.63			1.63
74342	Ventilators				71.60				71.60
					66.95	59.22			126.17

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XIII  
Page 2 of 2

MEDITERRANEAN NEW CEMENT PLANTS PHASE- II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990  
Commissioning 1989  
Cap. 0.6 M.T

Figures in Tons/

SITC Co <sup>de</sup>	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters, cyclones, Precipitators								
	Washer					343.80			343.80
74411	Dump trucks						149.00		149.00
74423	Air lifts and Fuller pump				8.00				8.00
	Air slides					19.45			19.45
74426	Belt, chain and screw Conveyors, bucket elevators								
	Weigh feeders etc.				18.88	585.76			604.64
74423	Reclaiming scraper				31.40				31.40
74522	Packing machinery				14.60				14.60
74931	Reduction gear boxes				231.70				231.70
	<b>GRAND TOTAL</b>				445.79	3544.04	149.00		4138.83
	Out of which								
	Plate Fabricated Equipment					1453.36			1453.36
	Machines				445.79	2090.68	149.00		2685.47

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXIII

Page 1 of 2

CENTRAL ANATOLIA REGION NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning - 1990  
1.2 M.T.

Figures in Tons,

SITE Code	BASIC MACHINE NAME	YEARS								TOTAL
		1983	1984	1985	1986	1987	1988	1989		
69211	Reservoirs etc. of steel						250.72		250.72	
69243	Air receiver						2.40		2.40	
71111	Boiler with burner						40.80		40.80	
72342	Loader, excavator, etc.						333.60		333.60	
72343	Rock drill, air gun						17.72		17.72	
72331	Swinging screen, Separators					5.32	166.40		171.72	
72832	Crusher, ball mill, Tube mill						2320.92		2320.92	
74121	Furnace burners						7.80		7.80	
74132	Hot gas generator, Furnaces						28.00		28.00	
74151	Heat exchanger						2.00		2.00	
74163	Rotary kiln						1318.40		1318.40	
74164	Cooler for clinker						296.80		296.80	
74165	Cyclone preheater						280.00		280.00	
74220	Water pumps						2.80		2.80	
74230	Fuel oil pumps						3.26		3.26	
74313	Compressors					143.20			143.20	
74342	Ventilators					133.90	118.44		252.34	



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXIII

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CENTRAL ANATOLIA REGION

Commissioning  
1.2 M.T.

NEW CEMENT PLANTS PHASE-  
- 1990

II

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Figures in Tons/

SITC Co's	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters,cyclones,Precipitators Washer						687.60		687.60
74411	Dump trucks							298.00	298.00
74423	Air lifts and Fuller pump Air slides					16.00	38.90		16.00 38.90
74426	Belt,chain and screw Conveyors,bucket elevators Weigh feeders etc.					37.76	1171.52		1209.28
74428	Reclaiming scraper					62.80			62.80
74522	Packing machinery					29.20			29.20
74931	Reduction gear boxes					463.40			463.40
	GRAND TOTAL					891.58	7088.08	298.00	8277.66
	Out of which								
	Plate Fabricated Equipment					-	2906.72	-	2906.72
	Machines					891.58	4181.36	298.00	5370.94

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

Annexure XXIV

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AEGEAN REGION

**NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990**

Commissioning 1990

1.2 M.T

Figures in Tons/

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc. of steel						250.72		250.72
69243	Air receiver						2.40		2.40
71111	Boiler with burner						40.80		40.80
72342	Loader, excavator, etc.						333.60		333.60
72343	Rock drill, air gun						17.72		17.72
72331	Swaging screen, Separators					5.32	166.40		171.72
72832	Crusher, ball mill, Tube mill						2320.92		2320.92
74121	Furnace burners						7.80		7.80
74132	Hot gas generator, Furnaces						28.00		28.00
74151	Heat exchanger						2.00		2.00
74163	Rotary kiln						1318.40		1318.40
74164	Cooler for clinker						296.80		296.80
74165	Cyclone preheater						280.00		280.00
74220	Water pumps						2.80		2.80
74230	Fuel oil pumps						3.26		3.26
74313	Compressors					143.20			143.20
74342	Ventilators					133.90	118.44		252.34

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

AEGEAN REGION

NEW CEMENT PLANTS PHASE- II  
Commissioning 1990 1.2 M.T

SITC Code	BASIC MACHINE NAME	1983	1984
74361	Filters, cyclones, Precipitators		
	Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump		
	Air slides		
74426	Belt, chain and screw		
	Conveyors, bucket elevators		
	Weigh feeders etc.		
74420	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL		
	Out of which		
	Plate Fabricated Equipment		
	Machines		

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Figures in Tons/

1985	1986	1987	1988	1989	TOTAL
			687.60		687.60
				298.00	298.00
		16.00			16.00
			38.90		38.90
		37.76	1171.52		1209.28
		62.80			62.80
		29.20			29.20
		463.40			463.40
		981.58	7088.08	298.00	8277.66
		-	2906.72	-	2906.72
		891.58	4181.36	298.00	5370.94

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MARMARA REGION

NEW CEMENT PLANTS - PHASE

Commissioning 1990

1.2 M.T

SITC Code	BASIC MACHINE NAME	YEARS	
		1983	1984
69211	Reservoirs etc. of steel		
69243	Air receiver		
71111	Boiler with burner		
72342	Loader, excavator, etc.		
72343	Rock drill, air gun		
72331	Swinging screen, Separators		
72332	Crusher, ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74161	Heat exchanger		
74163	Rotary kiln		
74164	Cooler for clinker		
74165	Cyclone preheater		
74220	Water pumps		
74230	Fuel oil pumps		
74313	Compressors		
74342	Ventilators		

## II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Figures in Tons/

1985	1986	1987	1988	1989	TOTAL
			250.72		250.72
			2.40		2.40
			40.80		40.80
			333.60		333.60
			17.72		17.72
		5.32			5.32
			166.40		166.40
			2320.92		2320.92
			7.80		7.80
			28.00		28.00
			2.00		2.00
			1318.40		1318.40
			296.80		296.80
			280.00		280.00
			2.80		2.80
			3.26		3.26
		243.20			143.20
		133.90	118.44		252.34

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MARMARA REGION

NEW CEMENT PLANTS PHASE- II  
Commissioning 1990 1.2 M.T

SITC Co's	BASIC MACHINE NAME	1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump		
	Air slides		
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL Out of which Plate Fabricated Equipment Machines		

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

Figures in Tons/

1985	1986	1987	1988	1989	TOTAL
			687.60		687.60
				298.00	298.00
		16.00			16.00
			38.90		38.90
		37.76	1171.52		1209.28
		62.80			62.80
		29.20			29.20
		463.40			463.40
		891.58	7088.08	298.00	8277.66
		-	2906.72	-	2906.72
		891.58	4181.36	298.00	5370.94



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXVI

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CENTRAL ANATOLIA

NEW CEMENT PLANTS - PHASE II

SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1986 1.2 M.T

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc. of steel		438.02						483.02
69243	Air receiver		9.48						9.48
71111	Boiler with burner		337.00						337.00
72342	Loader, excavator, etc.		1671.32						1671.32
72343	Rock drill, air gun		279.40						279.40
72331	Swaging screen,	30.00							30.00
	Separators		606.90						606.90
72332	Crusher, ball mill,								
	Tube mill		8031.00						8031.00
74121	Furnace burners		152.54						152.54
74132	Hot gas generator,								
	Furnaces		13.20						13.20
74151	Heat exchanger		29.00						29.00
74163	Rotary kiln		4601.60						4601.60
74164	Cooler for clinker		326.40						326.40
74165	Cyclone preheater		290.60						290.60
74220	Water pumps		18.64						18.64
74230	Fuel oil pumps		44.24						44.24
74313	Compressors	1519.04							1519.04
74342	Ventilators	935.60	918.24						1853.84

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXVI  
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CENTRAL ANATOLIA

NEW CEMENT PLANTS PHASE-  
Commissioning 1986 1.2 M.T

II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

/Values in 1000 U.S.\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters, cyclones, Precipitators Washer		2378.40						2378.40
74411	Dump trucks			2361.80					2361.80
74423	Air lifts and Fuller pump	195.60							195.60
	Air slides		254.30						254.30
74426	Belt, chain and screw Conveyors, bucket elevators								
	Weigh feeders etc.	624.64	5309.42						5934.06
74423	Reclaiming scraper	617.28							617.28
74522	Packing machinery	379.60							379.60
74931	Reduction gear boxes	2639.60							2639.60
	GRAND TOTAL	6941.36	26330.70	2361.80					35633.86
	Out of which	-	9053.70	-					9053.70
	Plate Fabricated Equipment Machines	6941.36	17277.0	2361.80					26580.16

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

**BLACK SEA**

**NEW CEMENT PLANTS - PHASE**

Commissioning 1987

1.2 M.T

SITC Code	BASIC MACHINE NAME	1983	1984
69211	Reservoirs etc. of steel		
69243	Air receiver		
71111	Boiler with burner		
72342	Loader, excavator, etc.		
72343	Rock drill, air gun		
72331	Swinging screen, Separators		30.00
72832	Crusher, ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74151	Heat exchanger		
74163	Rotary kiln		
74164	Cooler for clinker		
74165	Cyclone preheater		
74220	Water pumps		
74230	Fuel oil pumps		
74313	Compressors		1519.04
74342	Ventilators		935.60

## II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

/Values in 1000 US\$

1985	1986	1987	1988	1989	TOTAL
438.02					438.02
9.48					9.48
337.00					337.00
1671.32					1671.32
279.40					279.40
					30.00
606.90					606.90
					8031.00
8031.00					152.54
152.54					
					13.20
13.20					29.00
29.00					4601.60
4601.60					326.40
326.40					290.60
290.60					18.64
18.64					44.24
44.24					1519.04
					1853.84
918.24					

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXVII  
Page 2 of 2

BLACK SEA

NEW CEMENT PLANTS PHASE-  
Commissioning 1987 1.2 M.T

II SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

(Values in 1000 U.S.\$)

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
74361	Filters, cyclones, Precipitators								
	Washer			2378.40					2378.40
74411	Dump trucks				2361.80				2361.80
74423	Air lifts and Fuller pump		195.60						195.60
	Air slides			245.30					245.30
74426	Belt, chain and screw Conveyors, bucket elevators								
	Weigh feeders etc.		624.64	5309.42					5934.06
74423	Reclaiming scraper		617.28						617.28
74522	Packing machinery		379.60						379.60
74931	Reduction gear boxes		2639.60						2639.60
	GRAND TOTAL		6941.36	26330.7	2361.80				35,633.86
	Out of which		-	9053.7	-				9053.7
	Plate Fabricated Equipment								
	Machines		6941.36	17277.0	2361.80				26,580.16

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXVIII

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CENTRAL ANATOLIA

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND In 1983-1990

Commissioning 1988

1.2 M.T

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc. of steel				438.02				438.02
69243	Air receiver				9.48				9.48
71111	Boiler with burner				337.00				337.00
72342	Loader, excavator, etc.				1671.32				1671.32
72343	Rock drill, air gun				279.40				279.40
72331	Swinging screen, Separators			30.00	606.90				30.00 606.90
72332	Crusher, ball mill, Tube mill				8031.00				8031.00
74121	Furnace burners				152.54				152.54
74132	Hot gas generator, Furnaces				13.20				13.20
74151	Heat exchanger				29.00				29.00
74163	Rotary kiln				4601.60				4601.60
74164	Cooler for clinker				326.40				326.40
74165	Cyclone preheater				920.60				920.60
74220	Water pumps				18.64				18.64
74230	Fuel oil pumps				44.24				44.24
74313	Compressors			1519.04					1519.04
74342	Ventilators			935.60	918.24				935.60 918.24 1853.84

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CENTRAL ANATOLIA

NEW CEMENT PLANTS PHASE- II

Commissioning 1988

1.2 M.T

SITC Co'de	BASIC MACHINE NAME	1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump Air slides		
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL		
	Out of which		
	Plate Fabricated Equipment		
	Machines		

## Annexure XXVIII

Page 2 of 2

## SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

/Values in 1000 U.S.\$

1985	1986	1987	1988	1989	TOTAL
	2378.40				2378.40
		2361.80			2361.80
195.60					195.60
	254.30				245.30
624.64	5309.42				5934.06
617.28					617.28
379.60					379.60
2639.60					2639.60
6941.36	26330.7	2361.80			35,633.86
-	9053.7	-			9053.70
6941.36	17277.0	2361.80			26,580.16



CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

AEGEAN

NEW CEMENT PLANTS - PHASE

Commissioning 1988 1.2 M.T

SITC Code	BASIC MACHINE NAME	1983	1984
69211	Reservoirs etc. of steel		
69243	Air receiver		
71111	Boiler with burner		
72342	Loader, excavator, etc.		
72343	Rock drill, air gun		
72331	Swinging screen, Separators		
72832	Crusher, ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74161	Heat exchanger		
74163	Rotary kiln		
74164	Cooler for clinker		
74165	Cyclone preheater		
74220	Water pumps		
74230	Fuel oil pumps		
74313	Compressors		
74342	Ventilators		

## Annexure XXIX

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## II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

/Values in 1000 US\$

1985	1986	1987	1988	1989	TOTAL
	438.02				438.02
	9.48				9.48
	337.00				337.00
	1671.32				1671.32
	279.40				279.40
30.00					30.00
	606.90				606.90
	8031.00				8031.80
	152.54				152.54
	13.20				13.20
	29.00				29.00
	4601.60				4601.60
	326.40				326.40
	920.60				920.60
	18.64				18.64
	44.24				44.24
1519.04					1519.04
935.60	918.24				1853.84

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

AEGEAN

NEW CEMENT PLANTS PHASE- II

Commissioning 1988 1.3 M.T

SITC Code	BASIC MACHINE NAME	1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump Air slides		
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL Out of which Plate Fabricated Equipment Machines		

## SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

/Values in 1000 U.S.\$

1985	1986	1987	1988	1989	TOTAL
	2378.40				2378.40
195.60		2361.80			2361.80
	254.30				195.60
					254.30
624.64	5309.42				5934.06
617.28					617.28
379.60					379.60
2639.60					2639.60
6941.36	26330.7	2361.80			35,633.86
-	9053.7	-			9053.70
6941.36	17277.0	2361.80			26,580.16

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MARMARA

NEW CEMENT PLANTS - PHASE

Commissioning 1986 1.2 M.T

SITC Code	BASIC MACHINE NAME	1983	1984
69211	Reservoirs etc.of steel		
69243	Air receiver		
71111	Boiler with burner		
72342	Loader,excavator,etc.		
72343	Rock drill,air gun		
72331	Swaging screen, Separators		
72832	Crusher,ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74161	Heat exchanger		
74163	Rotary kiln		
74164	Cooler for clinker		
74165	Cyclone preheater		
74220	Water pumps		
74230	Fuel oil pumps		
74313	Compressors		
74342	Ventilators		

## Annexure XXX

Page 1 of 2

## II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

/Values in 1000 US\$

1985	1986	1987	1988	1989	TOTAL
	438.02				438.02
	9.48				9.48
	337.00				337.00
	1671.32				1671.32
	279.40				279.40
30.00					30.00
	606.90				606.90
	8031.00				8031.00
	152.54				152.54
	13.20				13.20
	29.00				29.00
	4601.60				4601.60
	326.40				326.40
	920.60				920.60
	18.64				18.64
	44.24				44.24
1519.04					1519.04
935.60	918.24				1853.84

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MARMARA

NEW CEMENT PLANTS PHASE- II  
Commissioning 1986 1.2 M.T

SITC Co's	BASIC MACHINE NAME	1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump Air slides		
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL Out of which Plate Fabricated Equipment Machines		

## SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

/Values in 1000 U.S.\$

1985	1986	1987	1988	1989	TOTAL
	2378.40				2378.40
195.60		2361.80			2361.80
	245.30				195.60
					245.30
624.64	5309.42				5934.06
617.28					617.28
379.60					379.60
2639.60					2639.60
6941.36	26330.7	2361.80			35,633.86

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

BLACK SEA

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1989 1.2 M.T

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTAL
69211	Reservoirs etc. of steel					438.02			438.02
69243	Air receiver					9.48			9.48
71111	Boiler with burner					337.00			337.00
72342	Loader, excavator, etc.					1671.32			1671.32
72343	Rock drill, air gun					279.40			279.40
72331	Swinging screen, Separators				30.00	606.90			30.00 606.90
72832	Crusher, ball mill, Tuba mill					8031.00			8031.00
74121	Furnace burners					152.54			152.54
74132	Hot gas generator, Furnaces					13.20			13.20
74161	Heat exchanger					29.00			29.00
74163	Rotary kiln					4601.60			4601.60
74164	Cooler for clinker					326.40			326.40
74165	Cyclone preheater					920.60			920.60
74220	Water pumps					18.64			18.64
74230	Fuel oil pumps					44.24			44.24
74313	Compressors				1519.04				1519.04
74342	Ventilators				935.60	918.24			1853.84

US\$

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

BLACK SEA

NEW CEMENT PLANTS PHASE-

II

SITC Co's	Plant site Commissioning date and capacity BASIC MACHINE NAME	1983	1984
74361	Filters,cyclones,Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump Air slides		
74426	Belt,chain and screw Conveyors,bucket elevators Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL Out of which Plate Fabricated Equipment Machines		

## SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

/Values in 1000 U.S.\$

1985	1986	1987	1988	1989	TOTALS
		3278.40			2378.40
			2361.80		2361.80
	195.60				195.60
		245.30			245.30
	624.64	5309.42			5934.06
	617.28				617.28
	379.60				379.60
	2639.60				2639.60
	6941.36	26330.7	2361.80		35,633.86
	-	9053.7	-		9053.70
	6941.36	17277.0	2361.80		26,580.16

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MEDITERRANEAN

NEW CEMENT PLANTS - PHASE

Commissioning 1989 0.6 M.T

SITC Code	BASIC MACHINE NAME	1983	1984
69211	Reservoirs etc.of steel		
69243	Air receiver		
71111	Boiler with burner		
72342	Loader,excavator,etc.		
72343	Rock drill,air gun		
72331	Swinging screen, Separators		
72332	Crusher,ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74151	Heat exchanger		
74163	Rotary kiln		
74164	Cooler for clinker		
74165	Cyclone preheater		
74220	Water pumps		
74230	Fuel oil pumps		
74313	Compressors		
74342	Ventilators		

## Annexure XXII

Page 1 of 2

## II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

/Values in 1000 US\$

1985	1986	1987	1988	1989	TOTALS
		219.01			219.01
		4.74			4.74
		168.50			168.50
		835.66			835.66
		139.70			139.70
	15.00				15.00
		303.45			303.45
		4015.50			4015.50
		76.27			76.27
		6.60			6.60
		14.50			14.50
		2300.80			2300.80
		163.20			163.20
		460.30			460.30
		9.32			9.32
		22.12			22.12
	759.52				759.52
	467.80	459.12			926.92

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MEDITERRANEAN NEW CEMENT PLANTS PHASE- II  
 Commissioning 1989 0.6 M.T

SITC Code	BASIC MACHINE NAME Plant site Commissioning date and capacity	1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump Air slides		
74426	Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL Out of which Plate Fabricated Equipment Machines		

Annexure XXXII  
Page 2 of 2

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

/Values in 1000 U.S.\$

1985	1986	1987	1988	1989	TOTALS
		1189.20			1189.20
			1180.90		1180.90
	97.80				97.80
		122.65			122.65
	312.32	2654.71			2967.03
	308.64				308.64
	189.80				189.80
	1319.80				1319.80

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CENTRAL ANATOLIA

NEW CEMENT PLANTS - PHASE

Commissioning 1990 1.2 M.T.

SITC Code	BASIC MACHINE NAME	1983	1984
69211	Reservoirs etc. of steel		
69243	Air receiver		
71111	Boiler with burner		
72342	Loader, excavator, etc.		
72343	Rock drill, air gun		
72331	Swinging screen, Separators		
72832	Crusher, ball mill, Tube mill		
74121	Furnace burners		
74132	Hot gas generator, Furnaces		
74151	Heat exchanger		
74163	Rotary kiln		
74164	Cooler for clinker		
74165	Cyclone preheater		
74220	Water pumps		
74230	Fuel oil pumps		
74313	Compressors		
74342	Ventilators		



## II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

/Values in 1000 US\$

1985	1986	1987	1988	1989	TOTALS
			438.02		438.02
			9.48		9.48
			337.00		337.00
			1671.32		1671.32
			279.40		279.40
		30.00			30.00
			606.90		606.90
			8031.00		8031.00
			152.54		152.54
			13.20		13.20
			29.00		29.00
			4601.60		4601.60
			326.40		326.40
			920.60		920.60
			18.64		18.64
			44.24		44.24
		1519.04			1519.04
		935.60	918.24		1853.84

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

CENTRAL ANATOLIA

NEW CEMENT PLANTS PHASE- II

Commissioning 1990 1.2 M.T

SITC Code	Plant site Commissioning date and capacity BASIC MACHINE NAME	1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump		
	Air slides		
74426	Belt, chain and screw		
	Conveyors, bucket elevators		
	Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL		
	Out of which		
	Plate Fabricated Equipment		
	Machines		

## SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

/Values in 1000 U.S.\$

1985	1986	1987	1988	1989	TOTALS
			2378.40		2378.40
		195.60		2361.80	2361.80
			245.30		195.60
					245.30
		624.64	5309.42		5934.06
		617.28			617.28
		379.60			379.60
		2639.60			2639.60
		6941.36	26330.7	2361.80	35,633.86
		-	9053.7	-	9053.7
		6941.36	17277.0	2361.80	26580.16

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXXIV  
Page 1 of 2

AEGEAN

NEW CEMENT PLANTS - PHASE II

SUMMARY OF CAPITAL GOODS DEMAND

1983-1990

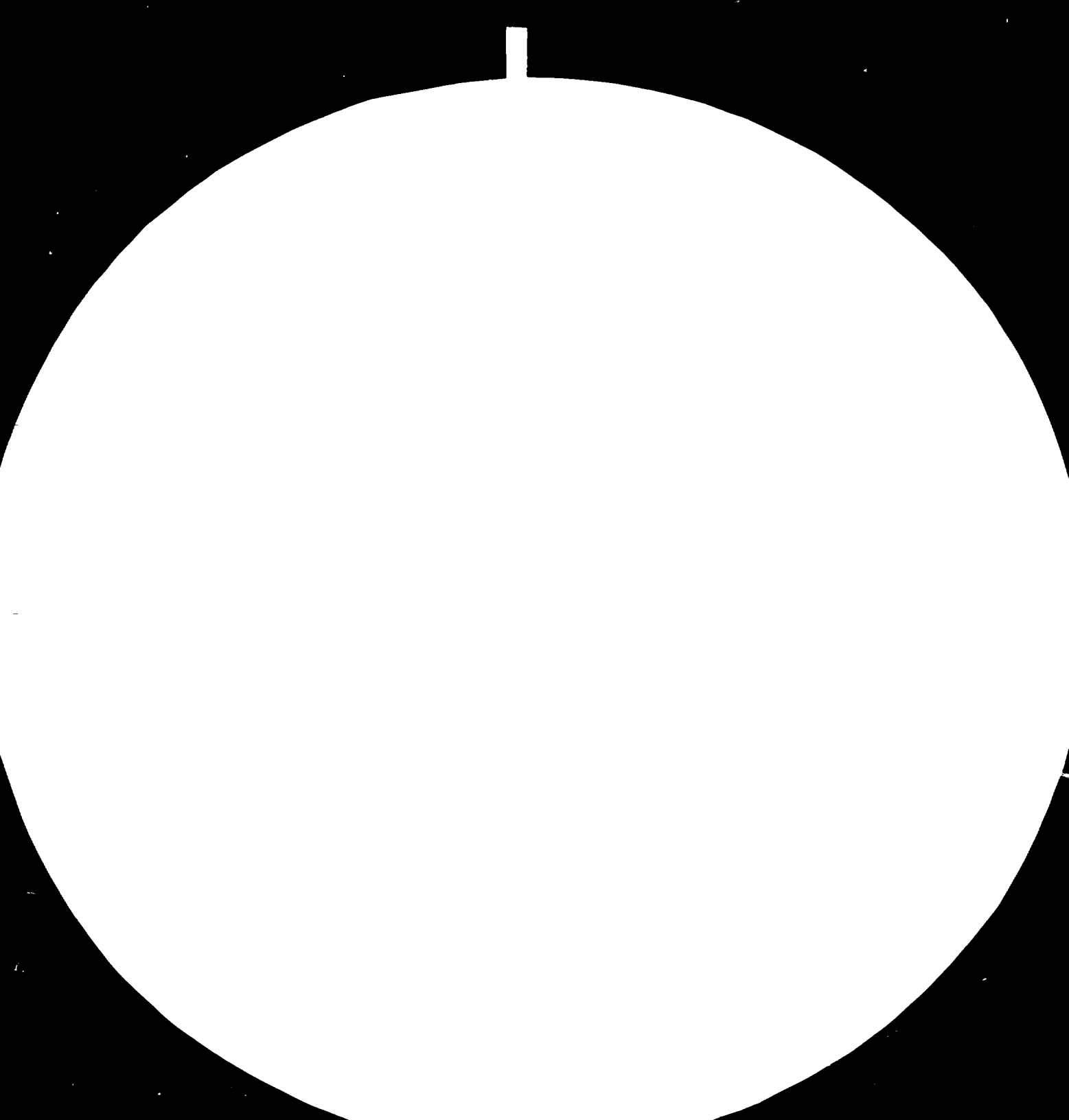
Commissioning 1990 1.2 M.T

/Values in 1000 US\$

NSIC Code	DESCRIPTION OF CAPITAL GOODS	1983	1984	1985	1986	1987	1988	1989	TOTALS
69211	Reservoirs etc. of steel					438.00			438.00
69243	Air receiver					9.48			9.48
71111	Boiler with burner					337.00			337.00
72342	Loader, excavator, etc.					1871.32			1871.32
72343	Rock drill, air gun					279.40			279.40
72331	Swinging screens					3000.00			3000.00
72332	Separators					606.90			606.90
72332	Crusher, ball mill,								
	Tube mill					8031.00			8031.00
74121	Furnace burners					152.54			152.54
74132	Hot gas generator,								
	Furnaces					13.20			13.20
74151	Heat exchanger					29.00			29.00
74163	Rotary kiln					4601.60			4601.60
74164	Cooler for clinker					326.40			326.40
74165	Cyclone preheater					920.60			920.60
74220	Water pumps					18.64			18.64
74230	Fuel oil pumps					44.24			44.24
74313	Compressors					1519.04			1519.04
74342	Ventilators					935.60			935.60
							918.24		1853.84

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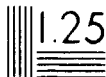
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**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY**

Annexure XXXIII

Page 2 of 2

**AEGEAN**

**NEW CEMENT PLANTS PHASE- II**  
Commissioning 1990 1.2 M.T

**SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990**

Values in 1000 U.S.\$

SITC Code	Plant site Commissioning date and capacity BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTALS
74361	Filters, cyclones, Precipitators								
	Washer						2378.40		2378.40
74411	Dump trucks							2361.80	2361.80
74423	Air lifts and Fuller pump					195.60			195.60
	Air slides						254.30		254.30
74426	Belt, chain and screw Conveyors, bucket elevators								
	Weigh feeders etc.					624.64	5309.42		5934.06
74423	Reclaiming scraper					617.28			617.28
74522	Packing machinery					379.60			379.60
74931	Reduction gear boxes					2639.60			2639.60
	<b>GRAND TOTAL</b>					6941.36	26330.7	2361.80	35,633.86
	Out of which					-	9053.7	-	9053.7
	Plate Fabricated Equipment Machines					694.36	17277.0	2361.80	26580.16

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CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

Annexure XXXV

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MARMARA

NEW CEMENT PLANTS - PHASE II SUMMARY OF CAPITAL GOODS DEMAND 1983-1990

Commissioning 1990 1.2 M.T

/Values in 1000 US\$

SITC Code	BASIC MACHINE NAME	1983	1984	1985	1986	1987	1988	1989	TOTALS
69211	Reservoirs etc.of steel						438.02		438.02
69243	Air receiver						9.48		9.48
71111	Boiler with burner						337.00		337.00
72342	Loader,excavator,etc.						1671.32		1671.32
72343	Rock drill,air gun						279.40		279.40
72331	Swinging screen, Separators					30.00			30.00
72332	Crusher,ball mill, Tube mill						606.90		606.90
74121	Furnace burners						8031.00		8031.00
74132	Hot gas generator, Furnaces						152.54		152.54
74151	Heat exchanger						13.20		13.20
74163	Rotary kiln						29.00		29.00
74164	Cooler for clinker						4601.60		4601.60
74165	Cyclone preheater						326.40		326.40
74220	Water pumps						920.60		920.60
74230	Fuel oil pumps						18.64		18.64
74313	Compressors						44.24		44.24
74342	Ventilators					1519.04			1519.04
						935.60	918.24		1853.84

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

MARMARA

NEW CEMENT PLANTS PHASE-

II

Commissioning 1990

1.2 M.T

SITC Code	Plant site Commissioning date and capacity BASIC MACHINE NAME	1983	1984
74361	Filters, cyclones, Precipitators Washer		
74411	Dump trucks		
74423	Air lifts and Fuller pump		
74426	Air slides Belt, chain and screw Conveyors, bucket elevators Weigh feeders etc.		
74423	Reclaiming scraper		
74522	Packing machinery		
74931	Reduction gear boxes		
	GRAND TOTAL Out of which Plate Fabricated Equipment Machines		

SUMMARY OF CAPITAL GOODS DEMAND IN 1983-1990

/Values in 1000 U.S.\$

1985	1986	1987	1988	1989	TOTALS
			2378.40		2378.40
		195.60		2361.80	195.60
			245.30		245.30
		624.64	5309.42		5934.06
		617.28			617.28
		379.60			379.60
		2639.60			2639.60
		6941.36	26330.7	2361.80	35,633.86
		-	9053.7	-	9053.7
		694.36	17277.0	2361.80	26580.16

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