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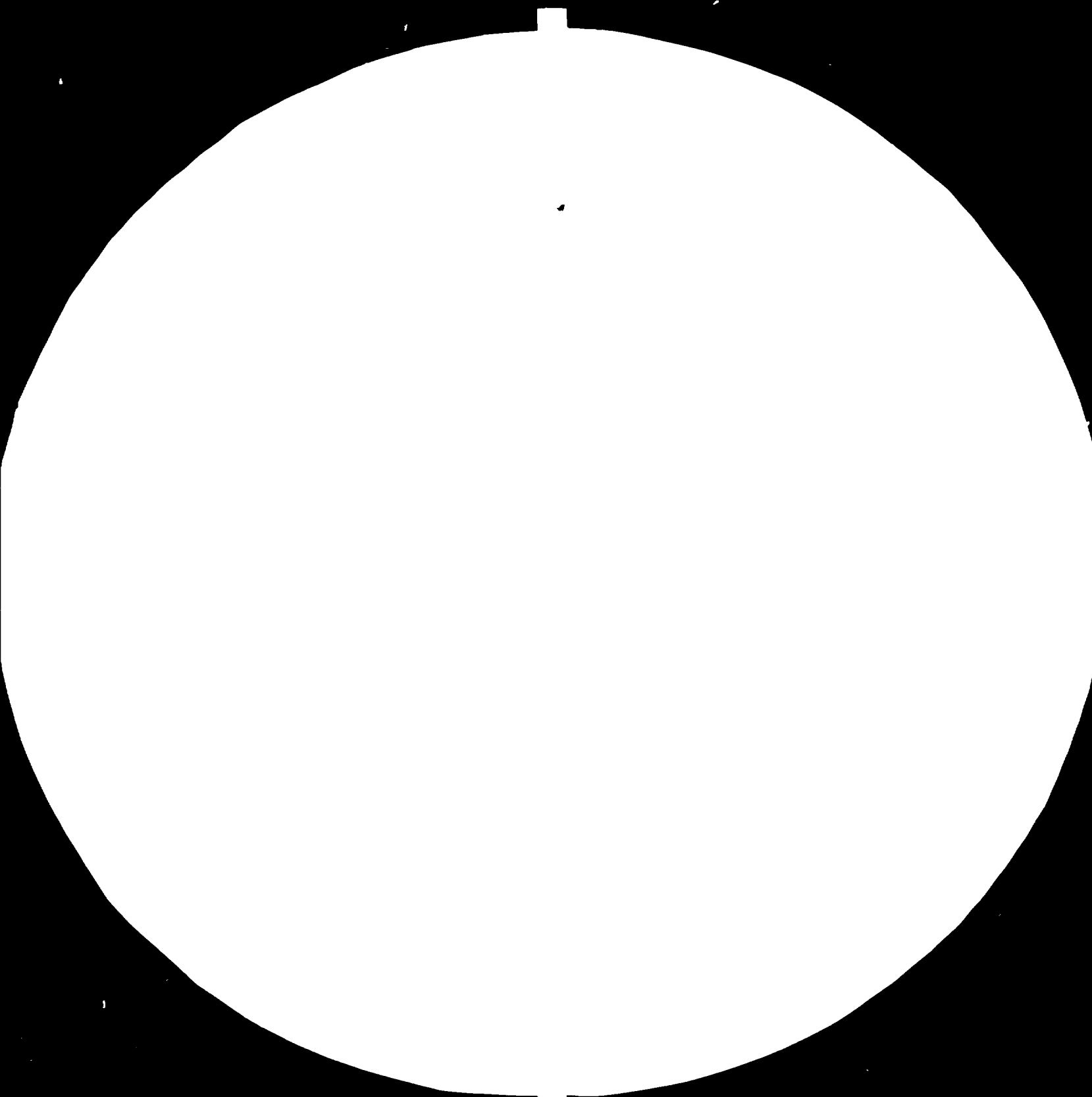
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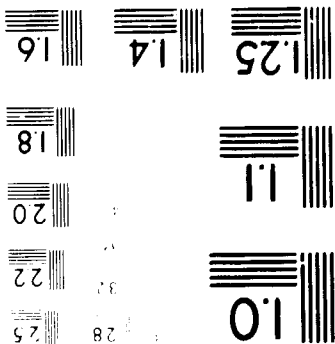
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1981

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

Turkey.

Technical Report II : Role of GERKONSAN in meeting
demand for steel fabrication.

VOLUME I

(M.M. Luther)

Birleşmiş Milletler Kalkınma Programı

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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

RESTRICTED
June 1981

DEVELOPMENT OF
CAPITAL GOODS INDUSTRIES

DP/TUR/76/034

Technical Report II : Role of GEREKONSAN in meeting
demand for steel fabrication.

VOLUME I

by

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

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PROJECT IN TURKEY

ABBREVIATIONS

GERKONSAN - Gerede Steel Construction Plant.
T.D.Ç.İ. - Turkish Iron and Steel Association.
PETKİM - Petrochemicals Industry Corporation.
T.P.A.O. - Turkish Petroleum Corporation.
M.K.E.K. - Machinery and Chemicals Association.
IGSAŞ - İstanbul Fertilizer Industry.
TÜMOSAN - Turkish Motor Industry.
TAKSAN - Turkish Machine Tools Industry.
TÜSAŞ - Turkish Aircraft Industry.
SEKA - Turkish Paper and Cellulose Industry.
TEK - Turkish Electric Corporation.
TRT - Turkish Radio and Television Corporation.

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ROLE OF GERKONSAN IN MEETING DEMAND
FOR STEEL FABRICATION

1. INTRODUCTION

- 1.1. Mr. Yıldırım Aktürk, Undersecretary of the State Planning Organisation, in a meeting held on 29.4.1980 with Mr. M.M.Luther, Chief Technical Adviser (UNIDO) had asked for a study of project plans of major state enterprises including GERKONSAN, so that they could be fitted into the conceptual framework of the Capital Goods Development Programme in Turkey. This report outlines a study in depth by the CTA with the help and cooperation of the management of GERKONSAN and officials of SPO and includes recommendations for future development of GERKONSAN. Vol. I of the report contains a description of investigation made and the conclusions. Vol. II contains all the annexures.
- 1.2. GERKONSAN is the State Enterprise charged with setting up capacity for steel fabricated structures included galvanized transmission towers. The capacity visualised in the feasibility report for the project is 100.000 T per year

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build up of 60.000 T of steel structures and 40.000 T of galvanised towers.

1.3. According to the latest plans of the enterprise,
the build up of this capacity is as under:

Year	Stage I		Stage II		Stage III		TOTAL
	S	G	S	G	S	G	
1981	5.000						5.000
1982	7.500						7.500
1983	15.000						15.000
1984	30.000			20.000			50.000
1985	30.000			20.000	15.000		65.000
1986	30.000			40.000	30.000		100.000

S: Steel structures

G: Galvanised steel structures

1.4. The feasibility report visualises only such steel structures as are used for construction industry mainly consisting of cutting, rivetting/welding of steel plates and sections, in addition to simple technological structures such as silos and tanks.

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1.5. Details of the fabrication programme in the feasibility report and the New Programme(1980) are shown in Ann.I.

2. PARTICIPANTS IN THE STUDY

2.1. The management of GERKONSAN, in response to SPO's letter No. UVPS-118/3.30.3.17.2-1-80-5577 of 15th October 1980 had, on 20th November 1980 nominated the following experts for this study:

Mr. İbrahim Özkan

Mr. Emin Demir

Mr. Özkan Sert

However, for reasons of convenience, Mr. Ertuğrul Amasyalı who is posted at Ankara office of GERKONSAN organised the entire work of data collection with the help and assistance of Mr. Efe Bilkur, of SPO. A series of meetings have been held by Mr. N.M.Luther CTA(UNIDO) with Mr. Ziya Siddiki, National Project Coordinator, for the Capital Goods Development Project, Mrs. Nimet İpek and Mr. Efe Bilkur, experts from SPO and Mr. Ertuğrul Amasyalı. Finally a series of meetings have been held with Mr. Mahmut Yalçın, General Manager of GERKONSAN, to discuss and finalise conclusions and

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findings.

3. DEMAND PATTERN

3.1. With GERKONSAN expected to go into production in 1981 and with significant changes in the demand of various state enterprises and private sector for the years 1981-1987 for structurals provided for in feasibility report of GERKONSAN it was considered necessary to collect fresh information regards the demand pattern. In order to ensure a realistic approach, the state enterprises were asked to indicate their future requirements, under three different groups:

Group I- For projects already approved by the Government and appearing in 1981 Annual Programme.

Group II-For projects submitted to the Government but not yet approved.

Group III-For projects planned by the enterprise but not yet submitted to the Government for approval.

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3.2. All state enterprises whose requirements had been taken into account for the feasibility report of GERKONSAN were approached again to give their updated requirements. For a variety of reasons including economy and time constraints faced by new projects, all requirements indicated under Group I may not be ordered on GERKONSAN, while requirements for projects under Groups II and III are too vague to be considered as definite load justifying immediate investments for GERKONSAN.

3.2.1. Requirements of the private sector were not taken into consideration in the feasibility study and have not been considered in this study also. In any case it can be assumed that private sector requirements of steel fabrication for construction will be met by the private sector itself.

3.3. STEEL CONSTRUCTION

On the assumption, however, that 100% of load under Group I will fall on GERKONSAN and without taking into account any load for Groups II and III, the load for GERKONSAN works out as under:

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1981	27862 Tonnes
1982	20417 "
1983	25420 "
1984	16915 "

3.3.2. Based on the above analysis it appears the MAXIMUM DEMAND for building structurals from identified sources will be 20.000-30.000 Tonnes per annum upto 1987 and the part of this demand which will actually come to GERKONSAN will vary depending on economic factors such as distance of new factories from Gerece where GERKONSAN is located, availability of alternative sources of supply, from public and private sectors, etc.

3.3.3. Demand figures computed as a part of this report are in the following Annexures, in Vol. II.

- ANN.II - Summary of requirements under Groups I,II and III.
- Ann.III- Requirements of each SEE under each group for 1981.
- Ann.IV - " of each SEE under each group for 1982.
- Ann.V - " " " " " " " " 1983.

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Ann.VI - Details of requirements for 1981 for each SEE
under Group I.

Ann.VII- Details of requirements for 1982 for each SEE
under Group I.

Ann.VIII-Details of requirements for 1983 for each SEE
under Group I.

Ann.IX - Details of requirements for 1984 for each SEE
under Group I.

Ann.X - Details of requirements for 1985 for each SEE
under Group I.

Ann.XI - Details of requirements for 1981 for each SEE
under Group II.

Ann.XII- Details of requirements for 1982 for each SEE
under Group II.

Ann.XIII-Details of requirements for 1983 for each SEE
under Group II.

Ann.XIV -Details of requirements for 1984 for each SEE
under Group II.

Ann. XV -Details of requirements for 1985 for each SEE
under Group II.

Ann.XVI- Details of requirements for 1986 for each SEE
under Group II.

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- Ann.XVII - Details of requirements for 1987 for each SEE under group II.
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- Ann.XIX - Details of requirements for 1981 for each SEE under Group III.
- Ann.XX - Details of requirements for 1982 for each SEE under Group III.
- Ann. XXI- Details of requirements for 1983 for each SEE under Group III.
- Ann. XXII- Details of requirements for 1984 for each SEE under Group III.
- Ann.XXIII- Details of requirements for 1985 for each SEE under Group III.
- Ann.XXIV - Details of requirements for 1986 for each SEE under Group III.
- Ann.XXV - Project wise requirements year by year, under separate groups for TDCI.
- Ann.XXVI - Project wise requirements year by year, under separate groups for ETİBANK.
- Ann.XXVII- Project wise requirements year by year, under separate groups for PETKİM.

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Ann. XXIX - Project wise requirements year by year, under separate groups for MKEK.

Ann. XXX - Project wise requirements year by year, under separate groups for IGSAŞ.

Ann. XXXI - Project wise requirements year by year, under separate groups for TUMOSAN.

Ann. XXXII- Project wise requirements year by year, under separate groups for TAKSAN.

Ann. XXXIII-Project wise requirements year by year, under separate groups for TÜSAŞ.

Ann. XXXIV -Project wise requirements year by year, under separate groups for GERKONSAN.

Ann. XXXV - Project wise requirements year by year, under separate groups for TÜRKİYE ŞEKER FABRİKALARI.

Ann. XXXVI- Project wise requirements year by year, under separate groups for SEKA.

Ann. XXXVII-Project wise requirements year by year, under separate groups for AZOT SANAYİİ.

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3.4. DEMAND FOR GALVANISED STEEL CONSTRUCTION

3.4.1. Demand for galvanised construction is almost entirely from TEK, a small portion being contributed by TRT. With the heavy emphasis on power generation and distribution being placed in the current plans of action by the Government, all their demands are under Group I. A summary of their demand is given below:

1981	24460 Tonnes
1982	39680 "
1983	54870 "
1984	49970 "
1985	31100 "

3.4.2. Details of their demand under the following headings are as Annex:

- XXXVIII - Demand in 1981.
- XXXIX - Demand in 1982.
- XL - Demand in 1983.
- XLI - Demand in 1984.
- XLII - Demand in 1985.

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- XLIII - Demand of TEK for 380 KV transmission lines, year by year.
- XLIV - Demand of TEK for 154 KV transmission lines, year by year.
- XLV - Demand of TEK for distribution lines, year by year.
- XLVI - Demand of TEK for switch yards, year by year.
- XLVII - Demand of MKEK.
- XLVIII- Demand of TRT.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1. A very large portion of capital goods for process industries being covered by the Capital Goods Development Project in Turkey consists of technological structures some of which are steel fabrication of a relatively high degree of sophistication including cutting, bending and welding of thick plates and sections and involving a high level of fabrication and welding technology and particularly strict quality control. Examples are pressure vessels for chemical industry for liquids and gases at widely varying temperatures.

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stainless steel vessels for food and beverages industry, and heat exchangers. There are other technological structures such as vats and containers for other industries where the specified standards of fabrication may be relatively lower.

4.2. The capacity for manufacture of high-complexity technological structure in Turkey is limited at present. The principal reasons are:

4.2.1. Most of them have previously come as a part of turnkey projects and designs. Manufacturing drawings are **not** available.

4.2.2. Demand of these kinds of structures for individual industries can be readily assessed but may have been too limited to interest potential investors.

4.2.3. Their demand projections for ALL industries if clubbed together, are likely to make their manufacture an economically viable propositions. Such an exercise does not seem to have been undertaken at least not in recent years.

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- 4.2.4. Time-frame for mastering their technology of production is relatively long.
- 4.3. Most steel construction for buildings and sheds is relatively simple to organise and it carried out at site. With the present policies of the Government, small and medium scale entrepreneurs should be able to meet a considerable part of these requirements economically-particularly with their low overheads. Turkish construction firms from the private sector operating in foreign countries with credit, support this assumption.
- 4.4. Replacements of technological structures have at present to be imported at considerable expense of foreign exchange. With the rapid changes in designs and technology in foreign firms, their acquisition can be inordinately costly not only on account of high purchase cost but also on account of time loss which may cause shutdown of production facilities of process plants in Turkey.

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4.5. In so far as GERKONSAN's facilities are concerned it is felt that they should be created principally for dealing with high-complexity technological structures. While their actual manufacture can start with low-complexity building structures, gradually as technological capabilities are developed, it should take on more and more complex items, involving besides mild steel, bending, rolling, cutting and welding of alloy and stainless steels of thickness over 50mm and weighing over 10 tonnes. A representative list of technological structures that could be included in the product mix of GERKONSAN is given below:

4.5.1. Vessels such as

- distillation columns
- auto claves
- evaporators
- digestors
- fractionating towers
- gas holders
- vats

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- storage tanks for water and chemicals
- reactors

4.5.2. Heat exchangers such as

- gas generators
- condensors
- evaporators
- economisers

4.5.3. Separation equipment such as

- filters
- screens
- cyclones
- dust collectors
- precipitators

4.5.4. Cranes such as

- EOT cranes
- portal cranes
- container cranes
- jib cranes
- tower cranes
- barge unloaders
- stock yard cranes

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4.5.5. Heating equipment such as

- different types of furnaces for melting and heat treatment,
- industrial boilers
- blast furnace components

4.5.6. Structurals such as

- hydraulic gates
- building structures including columns, beams and trusses and steel work for multistoreyed buildings
- transmission towers(galvanised)
- bridges and bridge sections door and window frames

4.5.7. Sand blasting and shot blasting chambers.

4.5.8. Process equipment for mixing, churning etc. for food and beverages industries.

4.5.9. Heavy duty road trailers.

4.5.10. The industries for which these equipments will be required are as follows:

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- 2100 Coal mining
- 2301 Iron ore mining
- 2302 Non-ferrous ore mining
- 2903 Salt mining
- 3112 Manufacture of dairy products
- 3113 Canning and preserving of fruits and vegetables
- 3115 Manufacture of vegetable and animal oils and fats
- 3116 Grain mill products
- 3117 Manufacture of bakery products
- 3131 Distilling, rectifying and blending spirits
- 3132 Wine industries
- 3133 Malt liquers and malt
- 3134 Soft drinks and carbonated waters industries
- 3311 Sawmills, planing and other wood mills
- 3411 Manufacture of pulp, paper and paperboard
- 3511 Manufacture of basic industrial chemicals except fertilizers
- 3512 Manufacture of fertilizers and pesticides

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- 3513 Manufacture of synthetic resins, plastic materials and man-made fibres except glass.
- 3521 Manufacture of paints, varnishes and lacquers
- 3522 Manufacture of drugs and medicines
- 3523 Manufacture of soap and cleaning preparations, perfumes, cosmetics and other toilet preparations.
- 3530 Petroleum refineries.
- 3540 Manufacture of miscellaneous products of petroleum and coal
- 3610 Manufacture of pottery, china and earthenware .
- 3620 Manufacture of glass and glass products.
- 3691 Manufacture of structural clay products.
- 3710 Iron and steel basic industries.
- 3720 Non-ferrous metal basic industries.
- 4102 Gas manufacture and distribution
- 4103 Steam and hot water supply.
- 4200 Water works and supply.
- 5000 Construction.
- 711 Land transport
- 7114 Freight transport by road.
- 7121 Ocean and coastal water transport.
- 7122 Inland water transport.

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- 4.6. It is inevitable that this change in product-mix will involve provision of facilities for certain machining operations, principally involving general purpose machines like centre lathes, planers, shapers, slotters, milling and drilling machines. Also, besides machinery and plant already provided for, there will be need for additional machinery for steel fabrication to provide for operations of bending, rolling, cutting, punching, forming, shearing, welding. Equipment will also be necessary for heattreatment including normalising and stress relieving.
- 4.7. GERKONSAN will also need to take steps to acquire manufacturing designs through its customers - the user industries and also gradually build up its own design organisation.
- 4.8. It is presumed that all castings and forgings as well as most of the machined parts and components required to be fitted into fabricated structures will be procured from ancillary industries.

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4.9. No change is visualised in their galvanised production programme for galvanised structures. It is however felt that an export marketing organisation should be created for export of transmission tower. There is tremendous potential for them in developing countries.

4.10. In view of the urgency of creating capacity for technological structures, it is felt that GERKONSAN should immediately draw up plans for the following product-mix. For purposes of comparison the current plans are shown in brackets.

	<u>Steel con. truction</u>	<u>Technological structures</u>	<u>Galvanised steel construction</u>	<u>Total</u>
1981	5.000 (5.000)	-	-	5.000
1982	5.000 (7.500)	2.500 (-)	-	7.500
1983	5.000 (15.000)	10.000 (-)	-	15.000
1984	5.000 (30.000)	15.000 (-)	20.000 (20.000)	40.000 (50.000)
1985	5.000 (45.000)	20.000 (-)	20.000 (20.000)	45.000 (65.000)
1986	5.000 (60.000)	20.000 (-)	40.000 (40.000)	65.000 (100.000)

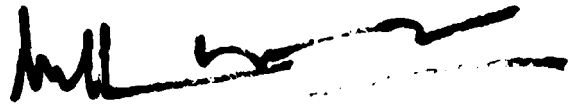
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4.11. GERKONSAN should immediately undertake a feasibility report for the revised product-mix. UNIDO experts will be available for discussion to experts put on this job to ensure that it is suitably coordinated with the Capital Goods Development Project in Turkey being carried out by SPO with UNIDO.



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Ankara
4.6.1981

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**DEVELOPMENT OF
CAPITAL GOODS INDUSTRIES
DP_TUR_76_034**

**Technical Report II : Role of GEKONSAN in meeting
demand for steel fabrication.**

**VOLUME II
(ANNEXURES TO THE MAIN REPORT)**

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Birleşmiş Milletler Kalkınma Programı

UNITED NATIONS

NATIONS UNIES

DEVELOPMENT PROGRAMME IN TURKEY

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

This volume contains all the annexures detailing the investigations regarding demand of building structures and galvanised towers.

- 1 -

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
FABRICATION PROGRAM (TON) IN THE FEASIBILITY REPORT**

	Goods to be Fabricated	1981	1982	1983	1984	1985	1986
I. Stage	Steel Construction	20950	30000	30000	30000	30000	30000
	Connecting elements	2580	3130	2920	2080	1840	1600
	Scrap	2740	3700	3610	3280	3180	3090
II. Stage	Steel Construction	-	13500	24000	30000	30000	30000
	Scrap	-	1100	1960	2450	2450	2450
III. Stage	Galvanised Steel Construction	-	-	-	24000	32000	40000
	Scrap	-	-	-	2070	2760	3450
TOTAL	Steel Construction Cap.	20950	43500	54000	60000	60000	60000
	GALVANISED Steel Construction Cap.	-	-	-	24000	32000	40000
	Connecting element Cap.	2850	3130	2920	2080	1840	1600
	Scrap Cap.	2740	4800	5570	7800	8390	8990
GERKONSAN'S NEW FABRICATION PROGRAM (TON) -1980							
I. Stage	Steel Construction	5000	7500	15000	30000	30000	30000
II. Stage	Galvanised steel construction	-	-	-	20000	20000	40000
III. Stage	Steel Construction	-	-	-	-	15000	30000
TOTAL	Steel Construction	5000	7500	15000	30000	45000	60000
	Galvanised Steel Construction	-	-	-	20000	20000	40000

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

SUMMARY REQUIREMENT
OF FABRICATED STEEL- CONSTRUCTION

ANN. II

Group	Year	Steel Plate (Ton)					Total	Profile (Ton)	Total (Ton)
		20 mm	20-40 mm	40-50 mm	50 mm	mm			
I	1981	6328	2789	103	38	-	9288	18574	27862
	1982	1608	1323	322	53	3000	6306	14111	20417
	1983	812	412	327	-	7000	8551	16870	25420
	1984	-	-	-	-	6000	6000	10915	16915
	TOTAL	8776	4524	752	91	16000	30065	60470	90615
II	1981	30	5	17	-	-	52	830	882
	1982	300	345	62	20	333	1060	9130	10190
	1983	1715	1386	128	43	2123	5395	41108	46503
	1984	2166	1697	72	22	2124	6081	85121	91202
	1985	28704	8443	1260	1251	1790	41448	118183	159631
	1986	28638	8243	1263	1251	1790	41185	106968	148154
	1987	28692	8276	1266	1251	170	39655	97515	137170
	1988	27500	7500	1250	1250	170	37670	81920	119590
	TOTAL	117745	35895	5315	5088	8500	172546	540775	713321
III	1981	33	-	50	-	-	83	1500	1583
	1982	33	-	50	-	116	199	6575	6774
	1983	33	-	50	-	117	200	5098	5298
	1984	33	-	50	-	117	200	1500	1700
	1985	34	-	50	-	-	84	1500	1584
	1986	34	-	50	-	-	84	1500	1584
	TOTAL	200	-	300	-	350	850	17673	18523

May 14th, 1981

REQUIREMENTS OF STATE ENTERPRISES
FOR FABRICATED STEEL FOR
CONSTRUCTION

1981

	Group I (Ton)	Group II (Ton)	Group III (Ton)	Total (Ton)	Demand in the Feasibi- lity Report (Ton)
TDÇİ	-	102	-	102	62500
Etibank	4925	-	-	4925	9500
Petkim	6462	-	-	6462	
TPKO	2521	-	-	2521	12100
MKEK	-	-	-	-	18360
İGSAŞ	110	-	-	110	
Tümosan	3565	255	-	3911	5240
Taksan	1278	-	-	1278	2900
Tusaş	-	525	1583,3	2108,3	600
Gerkonsan	1000	-	-	1000	1500
Türkiye Şeker Fb.	6403	-	-	6403	7190
Seka	405	-	-	405	-
					200000

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

ANN.IV

REQUIREMENTS OF STATE ENTERPRISES
FOR FABRICATED STEEL FOR
CONSTRUCTION

1988

	Group I (Ton)	Group II (Ton)	Group III (Ton)	Total (Ton)	Demand for the facilities Report (Ton)
TDÇİ	-	5952	-	5952	112 500
Etibank	2125	1050	-	3175	1 200
Petkim	2954	-	-	2954	-
TPMO	3471	-	-	3471	13 900
MEK	8100	-	-	8100	20 420
İGSAŞ	410	-	-	410	-
Tümosan	1387	1625	4575	7587	7 360
Taksan	-	-	-	-	5800
Taşas	-	-	1583,3	1583,3	2 400
Çerçöksen	1400	1100	-	2500	3 500
Türkiye Şeker Fab.	570	-	-	570	9 020
Seka	-	1333	616	1949	-
					271 500

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY

ANN.V

REQUIREMENTS OF STATE ENTERPRISES
FOR FABRICATED STEEL FOR
CONSTRUCTION

1983

	Group I (Ton)	Group II (Ton)	Group III (Ton)	Total (Ton)	Demand in the feasibility Report (Ton)
TDÇİ	-	25144	-	25144	50 000
Etibank	1350	3750	-	5100	-
Petkim	100	-	-	100	
TPAO	1812	-	-	1812	-
MKEK	18900	-	-	18900	9 520
İGSAŞ	-	-	-		
Tümosan	3260	540	3098	6898	9 170
Taksan	-	-	-	-	10 510
Tusaş	-	-	1583,3	1583,3	3 100
Gerkonsan	-	3300	-	3300	-
Türkiye Şeker Fb.	-	2481	-	2481	2 800
Seka	-	1333	616	1949	-
Azot Sanayi'si	-	9955	-	9955	-
					113 100

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

ANN. VI

Group I

Confirmed programmes with money
 (TL and foreign exchange) allotted

1981

	Steel Plate (Ton)				Profiles (Ton)	Total (Ton)
	< 20 mm	20-40 mm	40-50 mm	> 50 mm		
Etibank	1150	125	-	-	3650	4925
Petkim	2069	1001	-	-	4392	7462
TPAO	185	35	27	23	2251	2521
İGSAŞ	-	-	-	-	110	110
Tümosan	-	-	-	-	3656	3656
Taksan	645	13	-	-	620	1278
Gerkonsan	-	240	45	15	700	1000
Türkiye Şeker Fab.	2229	1375	31	-	3070	6685
Seka	80	-	-	-	325	405
TOTAL	6358	2789	103	0	17088	27350

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION**

ANN.VII

Group I

Confirmed programmes with money

(L and foreign exchange) allotted

1982

83

	Steel Plate (Ton)				Total	Profile (Ton)	Total (Ton)
	< 20 mm	40-50 mm	40-50 mm	> 50 mm			
Etiler	200	15	-	-	215	1750	2125
Bozkir	254	101	-	-	355	1699	2954
EPAO	241	273	102	33	649	2822	3471
MEK					3000	5100	8100
IGSAS	-	140	160	-	300	110	410
Tümesan	-	-	-	-	-	1387	1387
Gerkansan	-	320	60	20	400	1000	1400
Türkiye Şeker Fab.	193	134	-	-	327	243	570
TOTAL	1608	1323	322	53	6306	14111	20417

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION**

Group I

ANN.VIII

Confirmed programmes with money
(£ and foreign exchange) allotted

1983

	Steel Plate (ton)				Total	Profile (Ton)	Total (Ton)
	< 20 mm	20-40 mm	40-50 mm	> 50 mm			
Eti bank	320	30	-	-	350	1000	1350
Petkim	25	5	-	-	30	70	100
TPAO	467,5	377	327	-	1171,5	640,5	1812
MKEK					7000	11900	18900
Tümsan	-	-	-	-	-	3260	3260
TOTAL	812,5	412	327	-	3551,5	16870,5	25422

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

Ann. IX

Group I
 Confirmed programmes with money
 (and foreign exchange) allotted

1984

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	20 mm	20-40 mm	40-50 mm	50 mm	Total		
D F E K	-	-	-	-	6000	10200	16200
Timoson	-	-	-	-	-	715	715
TOTAL					6000	10915	16915

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION
 Group I

ANN. X

Confirmed programmes with money
 (Lira and foreign exchanges) allotted

1985

	Steel Plate (Ton)				Total (Ton)	Total (Ton)
	<20 mm	20-40 mm	40-50 mm	>50 mm		
M. S. K					3000	5100
TOTAL					3000	5100

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

ANN. XI

~~Group II~~
 Approved programmes with anticipated
 availability of resources

1981

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	<20 mm	20-40 mm	40-50 mm	50 mm	Total		
T D Ç i	20	5	2	-	27	75	102
Timosan	-	-	-	-	-	255	105
Tisasa	10	-	15	-	25	500	525
TOTAL	30	5	17	-	52	830	882

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

ANN.XII

Group II

Approved programmes with anticipated
 availability of resources

1982

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	< 20 mm	20-40 mm	40-50 mm	50 mm	Total		
İrç i	20	5	2	-	27	5055	5082
Etibank	280	20	-	-	300	750	1050
Timosan	-	-	-	-	-	1625	1625
Gerkonsan	-	320	60	20	400	700	1100
Seka	-	-	-	-	333	1000	1333
TOTAL	300	345	62	20	1060	9130	10190

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

ANN.XIII

Group II

Approved programmes with anticipated
 availability of resources

1983

	Steel Plate (Tcn)					Profile (Ton)	Total (Ton)
	20 mm	20-40 mm	40-50 mm	50 mm	Total		
T D G I	30	10	2	2	44	25100	25144
Etibank	925	75	-	-	1000	2750	3750
Tümosan	-	-	-	-	-	540	540
Gerkonsan	-	640	120	40	800	2500	3300
Türkiye Çelik Fab.	760	661	6	1	1428	1053	2481
Seka	-	-	-	-	333	1000	1333
Azot Sanayi'si					1790	8165	9955
TOTAL	1715	1386	128	43	5395	41108	46503

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

Group II

Approved programmes with anticipated
 availability of resources

1984

	Steel Plate (Ton)				Total	Profile (Ton)	Total (Ton)
	< 20 mm	20-40 mm	40-50 mm	50 mm			
Udri	-	-	-	-	-	70350	70350
Atibank	645	55	-	-	700	2000	2700
Gerkonsan	-	320	60	20	400	1500	1900
Türkiye Şeker Fab.	1521	1322	12	2	2857	2106	4963
Seka	-	-	-	-	334	1000	1334
Azot Sanayi'i					1790	9165	9955
TOTAL	2166	1697	72	22	6081	85121	91202

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION**

Group II

Approved programmes with anticipated
availability of resources

1985

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	< 20 mm	20-40 mm	40-50 mm	50 mm	Total		
T D Ç İ	27500	7500	1250	1250	37500	108350	145850
Türkiye Şeker Fb.	1204	943	10	1	2157	1668	3825
Azot Sanayi'i					1790	8165	9955
TOTAL	28704	8443	1260	1251	41448	118183	159130

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

ANN. XVI

Group II

Approved programmes with anticipated
 availability of resources

1986

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	< 20 mm	40-50 mm	50-50 mm	50 mm	Total		
T D Ç i	27500	7500	1250	1250	37500	97250	134750
Türkiye Şeker Fb.	1138	743	13	1	1895	1553	3449
Azot Sanayi'i					1790	8165	9995
TOTAL	28638	8243	1263	1251	41185	106968	148153

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY ANNEX
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

Group II

Approved programmes with anticipated
 availability of resources

1987

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	20 mm	20-40 mm	40-50 mm	50 mm	Total		
T B S F	27500	7500	1250	1250	37500	95250	132750
Türkiye Şeker Fab.	1192	776	16	1	1885	1595	3480
Azot Sanayi'i					170	670	840
TOTAL	28692	8276	1266	1251	39655	97515	137400

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

ANN.XVIII

Group II

Approved programmes with anticipated
 availability of resources

1982

	Steel Plate (Ton)					Total (Ton)	Total (Ton)
	< 20 mm	20-40 mm	40-50 mm	50 mm	Total		
T.D.G.I.	27500	7500	1250	1250	37500	81250	118750
Azot Sanayi'i					170	670	340
TOTAL	27500	7500	1250	1250	37670	81920	119590

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY AN
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

Group III
 Future projections and planned
 programmes

19

	Steel Plate (Ton)					Profile (Ton)
	< 20 mm	20-40 mm	40-50 mm	50 mm	Total	
TUSAN	33,3	-	50	-	83,3	1500
TOTAL	33,3	-	50	-	83,3	1500

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

ANN. XX

Group III

Future projects and planned
 programmes

1982

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	< 20 mm	20-40 mm	40-50 mm	50 mm	Total		
Tümosan	-	-	-	-	-	4575	4575
TUSAŞ	83,3	-	50	-	83,3	1500	1583,3
Seka	-	-	-	-	116	500	616
TOTAL	83,3	-	50	-	199,3	6575	6774,3

**CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION**

ANN. XXI

Group III

Future projections and planned
programmes

1983

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	< 20 mm	20-40 mm	40-50 mm	50 mm	Total		
EMSAŞ	-	-	-	-	-	3098	3098
EMSAŞ	33,3	-	50	-	83,3	1500	1583,3
Seka	-	-	-	-	117	500	617
TOTAL	33,3	-	50	-	200,3	5098	5898,3

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

Group III

Future projections and planned
 programmes

1984

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	< 20 mm	20-40 mm	40-50 mm	50 mm	Total		
TUSAŞ	33,3	-	50	-	83,3	1500	1583,3
Seka	-	-	-	-	117,-	-	117
TOTAL	33,3	-	50	-	200,3	1500	1700,3

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

Group III

Future projections and requirements
 in thousands

1985

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	< 20 mm	20-40 mm	40-50 mm	50 mm	Total		
TUSAS	83,4	-	50	-	83,4	1500	1583,4
TOTAL	83,4	-	50	-	83,4	1500	1583,4

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 REQUIREMENTS FOR FABRICATED STEEL FOR CONSTRUCTION

Group III

Future projections and planned
 programmes

1986

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	<20 mm	20-40 mm	40-50 mm	50 mm	Total		
TUSAS	33,4	-	50	-	83,4	1500	1583,4
TOTAL	33,4	-	50	-	83,4	1500	1583,4

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR
CONSTRUCTION FOR STATE ENTERPRISES

T D Ç İ - (1)

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	>50 mm		
II	İsdehir II. Tevsiatı	74CI70030	1985	27.500	7.500	1.250	1.250	81.250	118.750
	" "	"	1986	27.500	7.500	1.250	1.250	81.250	118.750
	" "	"	1987	27.500	7.500	1.250	1.250	81.250	118.750
	" "	"	1988	27.500	7.500	1.250	1.250	81.250	118.750
	TOTAL			110.000	30.000	5.000	5.000	325.000	475.000
	Divriği Konst.ve Pelet Tes.	70B010020	1981	20	5	2	-	75	102
	" " " "	"	1982	20	5	2	-	55	82
	" " " "	"	1983	30	10	2	2	45	89
	TOTAL			70	20	4	2	175	273

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR
CONSTRUCTION FOR STATE ENTERPRISES

T D Ç i - 2

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)	
				<20 mm	20-40 mm	40-50 mm	>50 mm			
II	Hasan Çelebi Demir Tes.	74B020020	1983	-	-	-	-	10.100	10.100	
	" " " "	"	1984	-	-	-	-	16.000	16.000	
	" " " "	"	1985	-	-	-	-	16.000	16.000	
	" " " "	"	1986	-	-	-	-	16.000	16.000	
	" " " "	"	1987	-	-	-	-	14.000	14.000	
	TOTAL				-	-	-	-	72.100	72.100
	Sidemir Projesi	74C170040	1982	-	-	-	-	5.000	5.000	
	" "	"	1983	-	-	-	-	15.000	15.000	
	" "	"	1984	-	-	-	-	54.350	54.350	
	" "	"	1985	-	-	-	-	11.100	11.100	
	TOTAL				-	-	-	-	85.450	85.450

Ann. XXV (Cont.)

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

ETIBANK - I

PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)
				< 10 mm	10-40 mm	40-50 mm	> 50 mm		
I	Antalya Demir Hıfız Tesisi	77B010270	1981	30	20	-	-	500	600
	TOTAL			30	20	-	-	500	600
	Bandırma Hidrojen Peroksit Tesi.	76C110020	1981	170	30	-	-	400	600
	TOTAL			170	30	-	-	400	600
	Manisa Fosfat Konsantre Tesi.	78B010210	1981	600	50	-	-	2000	2650
	TOTAL			600	50	-	-	2000	2650
	Küre Bakır Konsantre Tesisi	77B010110	1981	300	25	-	-	750	1075
	" " " "	"	1982	300	25	-	-	750	1075
	TOTAL			600	50	-	-	1500	2150
	Elazığ Berrokrom tesisi tevsi'i	77C180030	1982	320	30	-	-	1000	1350
	" " " "	"	1983	320	30	-	-	1000	1350
	TOTAL			640	60	-	-	2000	2700

Ann. XXVI

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES
ETIBANK - 2

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	> 50 mm		
II	Çayeli Bakır Konsantre Tes.	78B010200	1982	280	20	-	-	750	1050
	" " " "	"	1983	280	20	-	-	750	1050
	TOTAL			560	40	-	-	1500	2100
	Gümüşköy Gümüş madeni tes.	79B010250/B	1983	325	25	-	-	1000	1350
	" " " "	"	1984	325	25	-	-	1000	1350
	TOTAL			650	50			2000	2700
	Sivirt Madencilik Bak. Konsant.	79B010260/A	1983	320	30	-	-	1000	1350
	" " " "	"	1984	320	30	-	-	1000	1350
	TOTAL			640	60	-	-	2000	2700

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES. PETKİM

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)	
				<20 mm	20-40 mm	40-50 mm	>50 mm			
I	Petkim Aliaga Kompleksi	71C110040	1981	2000	1000	-	-	4100	7100	
	" " "	"	1982	800	400	-	-	1640	2840	
	TOTAL				2800	1400			5740	9940
	Petkim Yarimca Kompleksi		1981	111	1	-	-	292	404	
	" " "		1982	54	1	-	-	59	114	
	" " "		1983	25	5	-	-	70	100	
	TOTAL				190	7	-	-	421	514

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, TPAO

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	>50 mm		
I	Orta Anadolu Rafinerisi	76C120010	1981	-	-	-	-	1850	1850
	" " "	"	1982	-	-	-	-	1850	1850
	TOTAL			-	-	-	-	3700	3700
	İzmir Rafinerisi Tevsiil Projesi	78C120110	1982	135	195	21,75	33	825	1200,75
	" " " " "	"	1983	45	65	7,25	11	275	403,25
	TOTAL			180	260	29,-	44	1100	1604
	İzmir Rafinerisi T.G Kazan Gr ve Trafo	74C120100	1981	-	-	-	-	51	51
	TOTAL			-	-	-	-	51	51
	İzmir Rafinerisi Makina Yağ DBG Pr.	78C120100	1982	105,6	78	80	-	52	315,6
	" " " " " "	"	1983	422,4	312	320	-	208	1262,4
	TOTAL			528,0	390	400	-	260	1578
	İzmir Rafinerisi DBG Pr.(kükürt)	79C120040	1982	-	-	-	-	36	36
	TOTAL			-	-	-	-	36	36

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, TPAO

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)
				< 20 mm	20-40 mm	40-50 mm	> 50 mm		
I	Izmir Raf. Iskele Tadilatı Pr.	78C120090	1982	-	-	-	-	58,5	58,5
	" " " " "	"	1983	-	-	-	-	157,5	157,5
	TOTAL			-	-	-	-	216,0	216,0
	Sondaj	-	1981	15	-	-	-	60	75
	Üretim	-	1981	50	-	-	-	25	75
	Rafineri	-	1981	25	10	7	3	155	200
	Makina (İmalat-Onarım)	-	1981	95	25	20	20	110	270
TOTAL			185	35	27	23	350	620	

**CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, MKEK**

Group	Project Name	Project No.	Year	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
				< 20 mm	20-40 mm	40-50 mm	> 50 mm	Total		
I	Yüksek Vasıflı Çelik Fab. İzmir	74C170020	1982	-	-	-	-	1000	1700	2700
	" " " " "	"	1983	-	-	-	-	1000	1700	2700
	" " " " "	"	1984	-	-	-	-	1000	1700	2700
	TOTAL			-	-	-	-	3000	5100	8100
	Çg Makinaları Fab. Polatlı	80C200C50	1982	-	-	-	-	1000	1700	2700
	" " " " "	"	1983	-	-	-	-	1000	1700	2700
	TOTAL			-	-	-	-	2000	3400	5400
	Pirinç Fabrikası- Kırıkkale	-	1983					1000	1700	2700
	" " " " "	-	1984					1000	1700	2700
	TOTAL							2000	3400	5400
	Boru Fabrikası	81C100C10	1983					1000	1700	2700
	" " " " "	"	1984					1000	1700	2700
	TOTAL							2000	3400	5400

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, MKEK

Group	Project Name	Project No.	Year	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	>50 mm	Total		
I	Uğaksavar		1982					1000	1700	2700
	"		1983					1000	1700	2700
	"		1984					1000	1700	2700
	"		1985					1000	1700	2700
	TOTAL							4000	6800	10800
	Roket Fabrikası		1983					1000	1700	2700
	" "		1984					1000	1700	2700
	" "		1985					1000	1700	2700
	TOTAL							3000	5100	8100
	Tank Savaş		1983					1000	1700	2700
	" "		1984					1000	1700	2700
	" "		1985					1000	1700	2700

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, IGSAS

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)
				< 20 mm	20-40 mm	40-50 mm	> 50 mm		
I	Tamamlama Projesi	73C110010	1981	-	-	-	-	20	20
	TOTAL			-	-	-	-	20	20
	Rasyonalizasyon Proj.	80C110010	1981	-	-	-	-	90	90
	" "	" "	1982	140	160	-	-	110	410
	TOTAL			140	160	-	-	200	570

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, TÜMOSAN

Sıra No.	Project Name	Project No.	Year	Steel Plate (mm)				Profile (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	>50 mm		
	Traktör Projesi	770210010	1981	-	-	-	-	1738	1738
	" "	"	1982	-	-	-	-	582	582
	" "	"	1983	-	-	-	-	2060	2060
	" "	"	1984	-	-	-	-	388	388
	TOTAL			-	-	-	-	4768	4768
	Kömürlü Güç Merkezi ve Dağıtım S.		1981	-	-	-	-	720	720
	" " " "		1982	-	-	-	-	805	805
	" " " "		1983	-	-	-	-	595	595
	TOTAL			-	-	-	-	2120	2120
I	Traktör Motor Projesi	780230030	1981	-	-	-	-	1098	1098
	" " "	"	1982	-	-	-	-	-	-
	" " "	"	1983	-	-	-	-	605	605
	" " "	"	1984	-	-	-	-	327	327
	TOTAL			-	-	-	-	2030	2030

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES TÜMOSA

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	> 50 mm		
II	Kamyon Motorluca Pb. Aksarı	780230010	1981	-	-	-	-	-	-
	" " " "	"	1982	-	-	-	-	920	920
	" " " "	"	1983	-	-	-	-	-	-
	TOTAL			-	-	-	-	920	920
	Minibüs Kamyonet Motorlu Aks.	780230020	1981	-	-	-	-	-	-
	" " " "	"	1982	-	-	-	-	95	95
	" " " "	"	1983	-	-	-	-	-	-
	TOTAL			-	-	-	-	95	95
	Aktarma Organları, Dişli Ek. ve Arka Aks	790230010	1981	-	-	-	-	255	255
	" " " "	"	1982	-	-	-	-	610	610
	" " " "	"	1983	-	-	-	-	540	540
	TOTAL			-	-	-	-	1405	1405

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, TÜMOSAN

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	> 50 mm		
III	SEVME Fabrikası		1981	-	-	-	-	-	-
	" "		1982	-	-	-	-	1450	1450
	" "		1983	-	-	-	-	983	983
	TOTAL			-	-	-	-	2433	2433
	Döktim Fabrikası		1981	-	-	-	-	-	-
	" "		1982	-	-	-	-	3125	3125
	" "		1983	-	-	-	-	2115	2115
	TOTAL			-	-	-	-	5240	5240

**CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, TAKSAN**

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	> 50 mm		
I	Dişli ve Dişli Kutuları Atel.	77C200040	1981	340	6	-	-	285	631
	TOTAL			340	6	-	-	285	631
	Freze ve Delme Tezgâhları Atel	77C200010	1981	75	3	-	-	29	107
	TOTAL			75	3	-	-	29	107
	Otomat Tezgâhları Atelyesi	77C200030	1981	115	2	-	-	160	277
	TOTAL			115	2	-	-	160	277
	Taglama Tezgâhları Atelyesi	77C200020	1981	50	2	-	-	89	141
	TOTAL			50	2	-	-	89	141
	Suhane binası		1981	20	-	-	-	6	26
	TOTAL			20	-	-	-	6	26
	Dönerhane - Modelhane	77C200050	1981	45	-	-	-	51	96
	TOTAL			45	-	-	-	51	96

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)
				< 20 mm	20-40 mm	40-50 mm	> 50 mm		
II	Uçak Fab. na ait çeşitli binalar	770230010	1983	10	-	15	-	500	525
	TOTAL			10	-	15	-	500	525
III	Uçak Fab. na ait çeşitli binalar	770230010	1981	33,3	-	50	-	1500	1583,3
	" " " " "	"	1982	33,3	-	50	-	1500	1583,3
	" " " " "	"	1983	33,3	-	50	-	1500	1583,3
	" " " " "	"	1984	33,3	-	50	-	1500	1583,3
	" " " " "	"	1985	33,4	-	50	-	1500	1583,4
	" " " " "	"	1986	33,4	-	50	-	1500	1583,4
	TOTAL			200	-	300	-	6000	6500

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, GERKONSAN

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)	
				< 20 mm	20-40 mm	40-50 mm	> 50 mm			
I	Çelik Konst. ve Tech.Fb. I.Etap (30.000ton/yıl Çelik konst.)	78C190010	1981	*	240	45	15	700	1000	
	" " " "	"	1982	-	320	60	20	1000	1400	
	TOTAL				-	560	105	35	1700	2400
II	Çelik Konst.ve Tech.Fb. II.Etap (40.000ton/yıl Galv.Çelik konst.)	78C190010	1982	-	320	60	20	700	1100	
	" " " "	"	1983	-	320	60	20	1000	1400	
	TOTAL				-	640	120	40	1700	2500
	Çelik Konst. ve Tech.Fb.III.Etap (30.000ton/yıl Çelik konst.)	78C190010	1983	-	320	60	20	1500	1900	
	" " " "	"	1984	-	320	60	20	1500	1900	
TOTAL				-	640	120	40	3000	3800	

**CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, T.S.F.**

Group	Project Name	Project No.	Year	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	>50 mm	Total		
H	Susurluk Çekir Fabrikası T.	76.C.01.0040	1981	259	147	-	-	406	344	750
	TOTAL			259	147	-	-	406	344	750
	Ankara Çekir Fb. Tevsi'si	77.C.01.0030	1981	138	80	-	-	218	182	400
	TOTAL			138	80	-	-	218	182	400
	Kastamonu Çekir Fb. tevsi'i	78.C.01.0050	1981	138	80	-	-	218	182	400
	TOTAL			138	80	-	-	218	182	400
	Malatya Çekir Fb. tevsi'i	74.C.01.0050	1981	131	76	-	-	207	173	380
	TOTAL			131	76	-	-	207	173	380
	Yedigöller Çekir Fabrikası	76.C.01.0030	1981	251	178	6	-	435	324	759
	TOTAL			251	178	6	-	435	324	759
	İlgin Çekir Fabrikası	76.C.01.0130	1981	537	266	13	-	816	673	1489
	TOTAL			537	266	13	-	816	673	1489
	Ağrı Çekir Fabrikası	76.C.01.0170	1981	251	178	6	-	435	324	759
	TOTAL			251	178	6	-	435	324	759
	Çan Çekir Fabrikası	76.C.01.0130	1981	251	178	6	-	435	324	759
	TOTAL			251	178	6	-	435	324	759

**CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, T.S.F.**

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Total	Profile (Ton)	Total (Ton)
				< 20 mm	20-40 mm	40-50 mm	> 50 mm			
I	Kizilgur Fabrikası	76.C.01.0050	1983	80	56	-	-	136	101	237
				80	56	-	-	136	101	237
	Erzurum Alkol Pb.	76.C.11.0010	1983	193	134	-	-	327	243	570
				193	134	-	-	327	243	570
	Ankara Alkol Pb.	80.C.11.0010	1982	193	134	-	-	327	243	570
		TOTAL		193	134	-	-	327	243	570
II	Çorum Şeker Fabrikası		1983	760	661	6	1	1428	1053	2481
	" " "		1984	761	661	6	1	1429	1053	2481
		TOTAL		1521	1322	12	2	2857	2106	4963
	Ereğli Şeker Fabrikası		1984	760	661	6	1	1428	1053	2481
	" " "		1985	761	661	6	1	1428	1053	2481
		TOTAL		1521	1322	12	2	2857	2106	4963
	Elbistan Şeker Fabrikası		1986	251	178	6	-	435	324	759
		TOTAL		251	178	6	-	435	324	759

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, T.S.F.

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Total	Profile (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	> 50 mm			
II	Kars-Iğdır Şeker Fb.		1985	443	282	3,5	0,5	729	615	1344
	" " "		1986	444	283	3,5	0,5	731	615	1346
	TOTAL			887	567	7	1	1460	1230	2690
	Çarşamba Şeker Fb.		1987	748	393	13	-	1154	980	2134
	TOTAL			748	393	13	-	1154	980	2234
	Erciş Şeker Fabrikası		1986	443	282	3,5	0,5	729	615	1344
	" " "		1987	444	283	3,5	0,5	731	615	1346
	TOTAL			887	567	7	1	1460	1230	2690

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, SEKA

Group	Project Name	Project No.	Year	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	> 50 mm	Total		
I	Seka Kastamonu Müess. Şişirici Kâğıdı ve Dol. Ft.	75.C.01.0010	1981	60	-	-	-	60	275	335
	TOTAL			60	-	-	-	60	275	335
	Seka Alanya Müess. Kraft Kâğıdı ve Dol. Ft.	75.C.01.0020	1981	20	-	-	-	20	50	70
	TOTAL			20	-	-	-	20	50	70
	Seka İzmit Müessesi		1981	-	-	-	-	-	66	66
	TOTAL			-	-	-	-	-	66	66
	Seka Balıkesir Müessesi		1981	-	-	-	-	-	45	45
TOTAL			-	-	-	-	-	45	45	
II	Seka Bursa Atadök Müess. Entegre Tesisleri	76.C.05.0010	1982	-	-	-	-	333	1000	1333
	" " " "	"	1982	-	-	-	-	333	1000	1333
	" " " "	"	1984	-	-	-	-	334	1000	1334
	TOTAL			-	-	-	-	1000	3000	4000
III	Seka Kastamonu Müess.	75.C.01.0010	1981	-	-	-	-	116	500	616
	" " " "	"	1983	-	-	-	-	117	500	617
	" " " "	"	1984	-	-	-	-	117	-	117
	TOTAL			-	-	-	-	350	1000	1350

Ann. XXXVI

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
PROJECT WISE REQUIREMENTS OF STEEL FABRICATION FOR CONSTRUCTION FOR STATE ENTERPRISES, AZOT SANAYII

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Total	Profile (Ton)	Total (Ton)	
				20 mm	20-40 mm	40-50 mm	50 mm				
II	IV. Gübre Kompleksi	76.C11.0110	1983					1000	4250	5250	
	" "	"	1984					1000	4250	5250	
	" "	"	1985					1000	4250	5250	
	" "	"	1986					1000	4250	5250	
	TOTAL								4000	17000	21000
	Some Gübre Tesisi	76.C11.0130	1983					625	3250	3875	
	" " "	"	1984					625	3250	3875	
	" " "	"	1985					625	3250	3875	
	" " "	"	1986					625	3250	3875	
	TOTAL								2500	13000	15500
	Mazıdağı Gübre tesisi	76.C11.0140	1983					165	665	830	
	" " "	"	1984					165	665	830	
	" " "	"	1985					165	665	830	
	" " "	"	1986					165	665	830	
	" " "	"	1987					170	670	840	
" " "	"	1988					170	670	840		
TOTAL								1000	4000	5000	

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

Ann. XXXVIII

Demand of Galvanised Steel Construction

1981

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	<25 mm	25-40 mm	40-50 mm	>50 mm	Total		
TEK - 380 KV	498	-	-	-	498	8210	8708
TEK - 150 KV	502	-	-	-	502	8290	8792
TEK - Distribution lines	110	-	2	-	110	5000	5110
TEK - Switchyard							1750
TOTAL - TEK							24360
TRT							100
TOTAL							24460

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

Ann. XXXIX

Demand of Galvanised Steel Construction

1982

	Steel Plate (ton)					Profile (Ton)	Total (Ton)
	< 25 mm	25-40 mm	40-50 mm	> 50 mm	Total		
TEK - 380 KV	1108	-	-	-	1108	17380	18488
TEK - 154 KV	572	-	-	-	572	10620	11192
TEK - Dist. lines	150	-	-	-	150	5000	5150
TEK - Switchyard							1750
TEK - TOTAL							36500
MKEK							3000
TRC							100
TOTAL							39600

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

Ann.XL

Demand of Galvanised Steel Construction

1983

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	< 25 mm	25-40 mm	40-50 mm	> 50 mm	Total		
TEK - 380 KV	1576	-	-	-	1576	26080	27656
TEK - 154 KV	724	-	-	-	724	12420	13164
TEK - Dist. lines	150	-	-	-	150	5000	5150
TEK- Switchyard							1750
TEK - TOTAL							47720
MKEK							7000
TRT							150
TOTAL							54870

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

Ann. XLI

Demand of Galvanised Steel Construction

1984

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	<25 mm	25-40 mm	40-50 mm	>50 mm	Total		
TEK - 380 KV	1440	-	-	-	1440	26940	28380
TEK - 154 KV	660	-	-	-	660	8060	8720
TEK- Dist. lines	150	-	-	-	150	5000	5150
TEK - Switchyard							1750
TEK- TOTAL							43970
MKEK							6000
TOTAL							49970

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

Ann.XLII

Demand of Galvanised Steel Construction

1985

	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
	<25 mm	25-40 mm	40-50 mm	50 mm	Total		
TEK - 380 KV	790	-	-	-	790	13100	13890
TEK - 154 KV	410	-	-	-	410	6900	7310
TEK - distr. lines	150	-	-	-	150	8000	5150
TEK -							1750
TEK -							28100
TEK - TOTAL							28100
MKEK							3000
TOTAL							31100

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

Demand of Galvanised Steel Construction
For 380 KV Transmission lines

TEK - (1)

Group	Project Name	Project No.	Year	Steel Plate (ton)					Profile (Ton)	Total (Ton)
				<25 mm	25-40 mm	40-50 mm	50 mm	Total		
	Gömanca-Boğaz hattı II	74 D 02 0070	1982	225	-	-	-	225	3750	3975
	" "	"	1983	30	-	-	-	30	500	530
	TOTAL			225	-	-	-	255	4250	4505
	Sincan (Ank II) Gömanca 3x95	74 D 02 0080	1982	120	-	-	-	120	2000	2120
	" "	"	1983	135	-	-	-	135	2250	2385
	" "	"	1984	120	-	-	-	120	2000	2120
	TOTAL			375	-	-	-	375	6250	6625
	Elbistan-Sincan (Ank.II)	74 D 02 0090	1981	120	-	-	-	120	2000	2120
	" "	"	1982	420	-	-	-	420	7000	7420
	" "	"	1983	160	-	-	-	160	2650	2810
	TOTAL			700	-	-	-	170	11650	12350
	Umraniye-Boğaz At.(II)	75 D 02 0141	1982	30	-	-	-	30	500	530
	TOTAL			30	-	-	-	30	500	530
	İkitelli Boğaz At. II	74 D 02 0240	1982	27	-	-	-	27	450	477
	" "	"	1983	23	-	-	-	23	400	423
	TOTAL			50	-	-	-	50	850	900

Ann. XLIII

**CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY**

Demand of Galvanized Steel Construction
For 380 KV Transmission Lines

TEK - (2)

Group	Project Name	Project No.	Year	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
				25 mm	25-40 mm	40-50 mm	50 mm	Total		
	Yatağan-Izmir II	76 D 02 0160	1981	120	-	-	-	120	2000	2120
	" "	"	1982	60	-	-	-	60	1000	1060
	TOTAL			180	-	-	-	180	3000	3180
	Balıkesir-Balıkesir 2x954	77 D 02 0080	1984	180	-	-	-	180	3000	3180
	" "	"	1985	220	-	-	-	220	3600	3820
	TOTAL			400	-	-	-	400	6600	7000
	Balıkesir-Bursa	77 D 02 0100	1981	85	-	-	-	85	1400	1485
	" "	"	1982	60	-	-	-	60	1000	1060
	TOTAL			145	-	-	-	145	2400	2545
	Balıkesir-Soma	77 D 02 0110	1981	80	-	-	-	80	1300	1380
	TOTAL			80	-	-	-	80	1300	1380
	Kayabaşı -Osmanca	77 D 02 0130	1983	150	-	-	-	150	2500	2650
	" "	"	1984	300	-	-	-	300	5000	5300
	" "	"	1985	150	-	-	-	150	2500	2650
	TOTAL			600	-	-	-	600	10000	10600

CAPITAL GOODS DEVELOPMENT PROJECT IN TURKEY
 Use of Galvanised Steel Construct
 For 380 KV Transmission Lines

TAK - (3)

Group	Project Name	Project No.	Year	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
				25 mm	25-40 mm	40-50 mm	> 50 mm	Total		
	Qymapınar - Seyfiçehir	77.D.02.0180	1981	80	-	-	-	80	1300	1380
	" "	"	1982	20	-	-	-	20	300	320
	TOTAL			100	-	-	-	100	1600	1700
	Qymapınar - Konez	78.D.02.0200	1982	60	-	-	-	60	1000	1060
	" "	"	1983	60	-	-	-	60	1000	1060
	TOTAL			120	-	-	-	120	2000	2120
	Karakaya - Keban	79.D.02.0130	1983	100	-	-	-	100	1500	1700
	TOTAL			100	-	-	-	100	1500	1700
	Karakaya - Atatürk - Birecik	79.D.02.0140	1983	165	-	-	-	165	2700	2865
	" " "	"	1984	180	-	-	-	180	3000	3180
	" " "	"	1985	120	-	-	-	120	2000	2120
	TOTAL			465	-	-	-	465	7700	8165
	Keban - Kayabaşı	79.D.02.0150	1983	180	-	-	-	180	3000	3180
	" "	"	1984	250	-	-	-	250	4140	4390
	" "	"	1985	180	-	-	-	180	3000	3180
	TOTAL			610	-	-	-	610	10140	10750

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

Demand of Galvanised Steel Construction
For 330 KV Transmission lines

TEK - (4)

Proj.	Project Name	Project No.	Year	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
				20 mm	25-40 mm	40-50 mm	> 50 mm	Total		
	Seydişehir 330 TL	79.D.02.0200	1982	11	-	-	-	11	180	191
	TOTAL			11	-	-	-	11	180	191
	Göbbaşı-Sökçekaya Br.N. Sincan T. İrtibatı	80.D.02.0090	1981	13	-	-	-	13	210	223
	TOTAL			13	-	-	-	13	210	223
	Karakaya - Elbistan	80.D.02.0110	1983	130	-	-	-	130	2200	2320
	" "	"	1984	120	-	-	-	120	2000	2120
	TOTAL			250	-	-	-	250	4200	4440
	Yeniköy - Yatayın	81.D.02.0870	1982	23	-	-	-	23	380	403
	TOTAL			23	-	-	-	23	380	403
	Yeniköy - Aliaga	81.D.02.0880	1983	140	-	-	-	140	2300	2440
	" "	"	1984	120	-	-	-	120	2000	2120
	TOTAL			260	-	-	-	260	4300	4560
	Yeniköy - Aliaga	81.D.02.0910	1982	75	-	-	-	75	1200	1275
	" "	"	1983	60	-	-	-	60	1000	1060
	TOTAL			135	-	-	-	135	2200	2335

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CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

Demand of Galvanised Steel Construction
For 380 KV Transmission lines

TKK - (5)

Group	Project Name	Project No.	Year	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
				< 25 mm	25-40 mm	40-50 mm	50 mm	Total		
	Bursa TM-Adapazarı TM-II	81.D.02.0950	1983	120	-	-	-	120	2000	2120
	" " "	"	1984	50	-	-	-	50	800	850
	TOTAL			170	-	-	-	170	2800	2950
	Yatağan-Denizli-Kepez	81.D.02.0960	1983	100	-	-	-	100	1600	1700
	" " "	"	1984	120	-	-	-	120	2000	2120
	" " "	"	1985	120	-	-	-	120	2000	2120
	TOTAL			340	-	-	-	340	5600	5940

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY
Demand of Galvanised Steel Construction
For 154 KV Transmission lines

TKR - (6)

Group	Project Name	Project No.	Year	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
				<25 mm	25-40 mm	40-50 mm	50 mm	Total		
	23 Projects named at pages 1-5		1981	502	-	-	-	502	8290	8792
	TOTAL			502	-	-	-	502	8290	8792
	" " "		1982	572	-	-	-	572	10620	11192
	TOTAL			572	-	-	-	572	10620	11192
	" " "		1983	724	-	-	-	724	12420	13164
	TOTAL			724	-	-	-	724	12420	13164
	" " "		1984	660	-	-	-	660	8060	8720
	TOTAL			660	-	-	-	660	8060	8720
	" " "		1985	410	-	-	-	410	6900	7310
	TOTAL			410	-	-	-	410	6900	7310

**CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY**

Demand of Silver and Steel Plate
for Protection Lines

"B" - (7)

Year	Project Name	Project No.	Year	Steel Plate (mm)				Total	mm ² (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	50 mm			
			1981	110	-	-	-	110	5000	5110
			1982	110	-	-	-	110	5000	5110
			1983	150	-	-	-	150	5000	5150
			1984	150	-	-	-	150	5000	5150
			1985	150	-	-	-	150	5000	5150
			TOTAL	150	-	-	-	150	5000	5150
			1984	150	-	-	-	150	5000	5150
			TOTAL	150	-	-	-	150	5000	5150
			1985	150	-	-	-	150	5000	5150
			TOTAL	150	-	-	-	150	5000	5150

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CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

Demand of Galvanized Steel Construction
for switch yards

TEK - (8)

Group	Project Name	Project No.	Year	Steel Plate (Ton)				Profile (Ton)	Total (Ton)
				<25	25-40	40-50 mm	50 mm		
	Şalt Sahaları - Witelyards		1981						1750
	TOTAL								1750
	Şalt Sahaları		1982						1750
	TOTAL								1750
	Şalt Sahaları		1983						1750
	TOTAL								1750
	Şalt Sahaları		1984						1750
	TOTAL								1750
	Şalt Sahaları		1985						1750
	TOTAL								1750

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

Demand of Galvanised Steel Construction

MKEK- (1)

Group	Project Name	Project No.	Year	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	50 mm	Total		
I	Yüksek Vasıflı Çelik Fb.	74.C.17.0020	1982							1000
	" " "	"	1983							1000
	" " "	"	1984							1000
	TOTAL									3000
	İş Makinaları Fabrikası		1982							1000
	" " "		1983							1000
	TOTAL									2000
	İriñç Fabrikası		1983							1000
	" " "		1984							1000
	TOTAL									2000
	Boru Fabrikası		1983							1000
	" " "		1984							1000
	TOTAL									2000

CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

Demand of Galvanised Steel Construction

MKEK - (2)

Group	Project Name	Project No.	Year	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
				<20 mm	20-40 mm	40-50 mm	50 mm	Total		
I	Uçaksavar Fabrikası		1982							1000
	" "		1983							1000
	" "		1984							1000
	" "		1985							1000
	TOTAL									4000
	Toket Fabrikası		1983							1000
	" "		1984							1000
	" "		1985							1000
	TOTAL									3000
	Tanksavar Fabrikası		1983							1000
	" "		1984							1000
	" "		1985							1000
	TOTAL									3000

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CAPITAL GOODS DEVELOPMENT
PROJECT IN TURKEY

Demand of Galvanised Steel Construction

TBT

Group	Project Name	Project No.	Year	Steel Plate (Ton)					Profile (Ton)	Total (Ton)
				< 20 mm	20-40 mm	40-50 mm	50 mm	Total		
I	Adaplıs HED. Ver. Ist.	76.E.05.0040	1981							100
	" " " "	"	1982							100
	TOTAL									200
II	E. e Radya Verici Ist.	78.E.05.0050	1983							75
	TOTAL									75
	E. e Radya Ver. Ist.	80.E.05.0060	1983							75
TOTAL									75	