OCCASION

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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org

21239

Queens Road Penkhull
Stoke-on-Trent ST4 7LQ
England
Tel: +44 (0) 1782 45431
Fax: +44 (0) 1782 412331

NAMAS
TESTING
No. 0013

CERAM RESEARCH

TEST REPORT

BHARAT HEAVY ELECTRICALS LTD
CERAMIC TECHNOLOGICAL INSTITUTE
ELECTROPORCELAINS DIVISION
P.B. NO. 1245
BANGALORE-560 012
INDIA
FAO : AP GOSWAMI

REPORT OF TESTS ON ALUMINA POWDER

Your Reference	SAMPLE NO.5
Ceram Sample(s)	950002026

Date Reported	14-Sep-95	Order/Job No	NONE
Date Received	31-Jan-95	Date(s) of Test(s)	01-13-Sep-95

MICROSCOPIC EXAMINATION REPORT

An alumina bar marked sample No.5 was submitted for microstructural evaluation. The sample consisted of a dense alumina and glass on a pore free basis gave 72% and 28% respectively. Overall porosity was measured as 17%. The size distribution of alumina grains within the sample gave the following percentage proportions.

Alumina Grain Size	Proportion %
2μm	15
4μm	35
6μm	42
8μm	6
10μm	1
12μm	0
14μm	1

RNWA
Dr RN White
Authorised Signatory

Ceram Research Limited

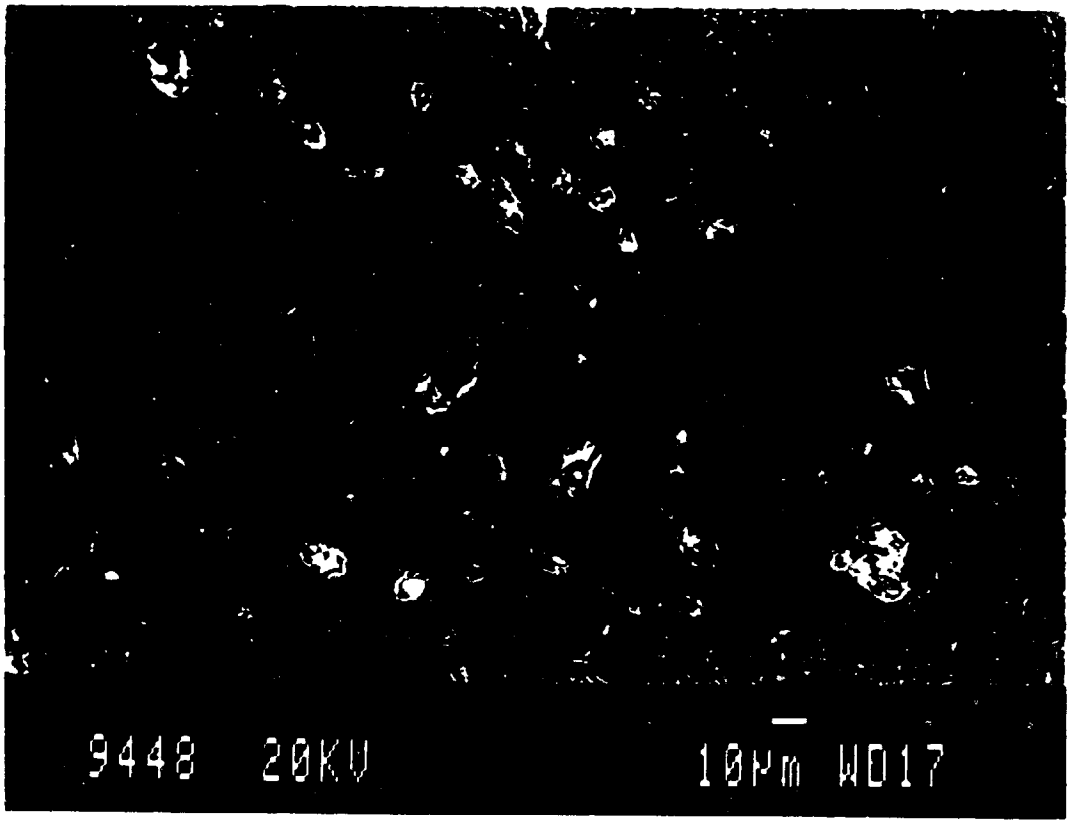
Ceram Sample(s) 950002026
Your Reference SAMPLE NO.5

The comparison of the glass in the sample was determined by energy dispersive analysis, results of which are tabulated below. Due to the fine grained nature of the glass, it is anticipated that the analysis include some of the alumina.

Wt% Oxide	Glass Area 1	Glass Area 2	Glass Area 3	Glass Area 4
Na_2O	0.78	0.90	0.90	0.62
MgO	1.9	2.1	2.4	1.7
Al_2O_3	65.1	58.2	57.8	66.8
SiO_2	25.8	31.7	31.5	25.1
K_2O	0.29	0.30	0.31	0.22
CaO	5.2	5.8	6.0	4.5
TiO_2	0.59	0.69	0.67	0.62
Fe_2O_3	0.25	0.29	0.37	0.33

Dr RN White
Authorised Signatory

CERAM RESEARCH LIMITED



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95/2026

Alumina Bar 5

NEG: 9448
MAG: ×500

Dr. R. N. White

NAMAS
TESTING
No. 0013

Queens Road Penkhull
Stoke-on-Trent ST4 7LQ
England
Tel: +44 (0) 1782 45431
Fax: +44 (0) 1782 412331

CERAM RESEARCH

TEST REPORT

UNITED NATIONS INDUSTRIAL DEVELOPMENT
ORGANISATION
CHIEF CONTRACTS UNIT
PURCHASE AND CONTRACTS BRANCH
OPERATIONAL SUPPORT DIVISION
PO BOX 300
A-1400 VIENNA
AUSTRIA
FAO : MR M KOHONER

REPORT OF TESTS ON 90% DENSE SINTERED ALUMINA BARS

Your Reference	SAMPLE NO.5 CODE: 132B		
Ceram Sample(s)	950006128		
Date Reported	14-Sep-95	Order/Job No	15-3-2136P/PROJECT DP/IND/88/0
Date Received	30-Mar-95	Date(s) of Test(s)	01-13-Sep-95

MICROSCOPIC EXAMINATION REPORT

An alumina bar marked sample 5 code 132B was submitted for microstructural evaluation. The sample comprised of a dense alumina and glass body. Volume proportions af alumina and glass on a pore free basis gave 78% alumina and 22% glass. Overall porosity was measured at 15%. The size distribution of the alumina grains within the sample gave the following prercentage proportions.

Alumina Grain Size	Proportion %
2μm	18
4μm	43
6μm	31
8μm	5
10μm	2
12μm	1

Dr RN White
Authorised Signatory

Ceram Research Limited

Ceram Sample(s) 950006128
Your Reference SAMPLE NO.5 CODE: 132B

The composition of the glass in the sample was determined by energy dispersive analysis, results of which are tabulated below.

Wt% Oxide	Glass Area 1	Glass Area 2	Glass Area 3	Glass Area 4
Na_2O	1.4	1.3	1.3	1.2
MgO	1.9	2.3	1.6	1.5
Al_2O_3	52.0	55.9	51.5	58.6
SiO_2	35.6	32.9	36.3	31.4
K_2O	0.47	0.48	0.53	0.44
CaO	7.5	6.2	7.7	6.0
TiO_2	0.85	0.63	0.80	0.62
Fe_2O_3	0.25	0.27	0.32	0.26

Dr kN White
Authorised Signatory

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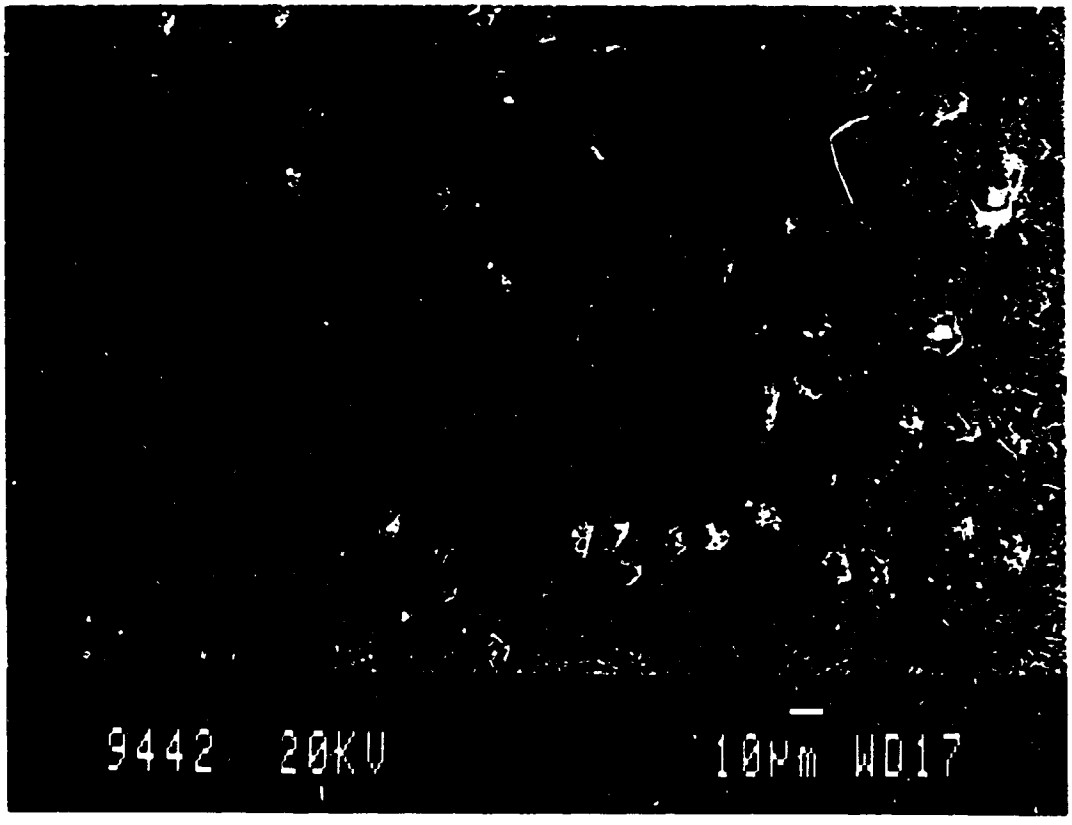

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95/6128

Alumina Bar 5 132B

NEG 9442
mag = x500

Dr. R. N. White