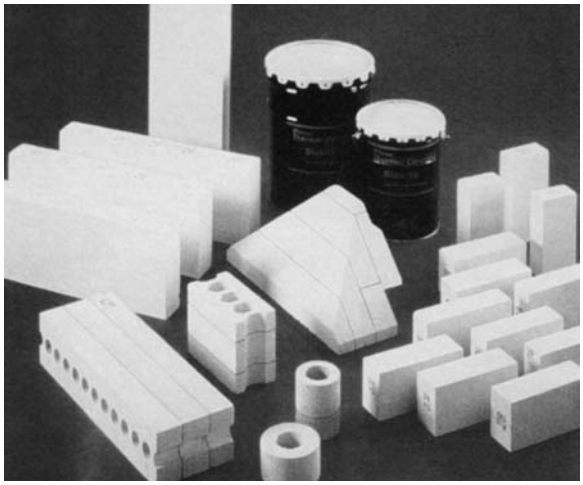

DESCRIPTION

Thermal Ceramics produces six grades of insulating firebricks with limiting temperatures of use ranging from 1260°C to 1790°C. Each grade is formulated to meet specific thermal and physical requirements.

JM Firebricks are made from high-purity refractory clays, with graduated additions of alumina for the higher temperature products, and a carefully graded organic filler, which burns out during manufacture to give a uniform, controlled pore structure.

Each brick is machined to precise tolerances on all six faces.

Thermal Ceramics also produces a range of mortars to suit the different grades of brick.

TYPE

Insulating firebricks

CLASSIFICATION TEMPERATURES FROM

1260°C up to 1790°C

MAXIMUM CONTINUOUS USE TEMPERATURE

The maximum continuous use temperature depends on the application. In case of doubt, refer to your local Thermal Ceramics distributor for advice.

FEATURES

- **Low thermal conductivity**
  Gives good thermal insulation, enabling the use of thin-walled constructions.
- **Low heat storage**
  Due to their light weight and low thermal conductivity, JM bricks absorb minimal heat, giving significant energy savings in cyclically-operated kilns.
- **Purity**
  The very low iron and alkali flux content confers good refractoriness and the high alumina content contributes to their stability in reducing atmosphere.
- **High hot compressive strength**
- **The accurate dimensions**
  Enable the bricks to be laid more quickly, with thin, uniform joints, allowing the construction of strong and stable structures.
- **Large bricks or slabs**
  They are available in sizes 230 x 610 x 64 or 76mm and 250 x 640 x 64mm. These can be machined into special shapes, incurring fewer sections and joints.
- **Purpose-designed packaging**
  Protects the bricks in transit (in cartons containing 4 to 25 item, depending on shape) and facilitates on-site handling.

TYPICAL APPLICATIONS

Recommended for use as a primary hot face refractory lining or as back-up insulation behind other refractories in furnaces, kilns, flues, refining vessels and heaters, regenerators, gas producers and main, soaking pits, stress relieving furnaces, reactor chambers and similar high temperature industrial equipment.

SPECIAL SHAPES

In addition to the standard brick sizes, JM insulating firebricks are available in pre-machined special shapes. The blanks for very large shapes are formed by mortaring together two or more JM slabs, the unique large sizes of these slabs ensuring the least number of sections and joints in the finished article.

A Thermal Ceramics distributor will be pleased to review your requirements.

Insulating Firebricks JM

Product Information

MAIN PROPERTIES

		JM 23	JM 26	JM 28	JM 30	JM 32	Insalcor*
• ISO 2245 classification		125 0.5L	140 0.8L	150 0.9L	160 1.0L	170 1.2L	180 1.3L
• IFB classification temperature	°C	1260	1430	1540	1650	1760	1790
Properties Measured at Ambient Conditions (23°C/50% RH)							
• Density (ASTM C-134-84)	kg/m3	480	800	890	1020	1250	1310
• Modulus of rupture (ASTM C-93-84)	MPa	1.0	1.5	1.8	2.0	2.1	3.1
• Cold crushing strength (ASTM C-93-84)	MPa	1.2	1.6	2.1	2.1	3.5	6.3
High Temperature Performance							
• Permanent linear change (ASTM C-210) after 24 hours soaking at temperature:							
1230°C	%	-0.2	-	-	-	-	-
1400°C	%	-	-0.2	-	-	-	-
1510°C	%	-	-	-0.4	-	-	-
1620°C	%	-	-	-	-0.8	-	-
1730°C	%	-	-	-	-	+0.6	+0.4
• Reversible linear thermal expansion (max)	%	0.5	0.7	0.8	0.9	1.1	1.1
• Hot load strength % deformation after 90mins (ASTM C-16)							
1100°C at 0.034 MPa (5psi)	%	0.1	-	-	-	-	
1260°C at 0.069 MPa (10psi)	%	-	0.2	0.1	-	-	
1320°C at 0.069 MPa (10psi)	%	-	-	0.2	0.1	-	
1370°C at 0.069 MPa (10psi)	%	-	-	-	0.5	0.2	
1450°C at 0.069 MPa (10psi)	%	-	-	-	-	-	+0.1
• Thermal Conductivity (ASTM C-182) at mean temperature of:							
400°C	W/m.K	0.12	0.25	0.30	0.38	0.49	0.79
600°C	W/m.K	0.14	0.27	0.32	0.39	0.50	0.81
800°C	W/m.K	0.17	0.30	0.34	0.40	0.51	0.90
1000°C	W/m.K	0.19	0.33	0.36	0.41	0.53	1.03
1200°C	W/m.K	-	0.35	0.38	0.42	0.56	1.17
1400°C	W/m.K	-	-	-	-	0.60	1.32
• Specific heat at 1000°C	kJ/kg.K	1.05	1.10	1.10	1.10	1.10	1.10
• **Chemical composition (tr = trace)**							
Al_2O_3	%	37.0	58.0	67.1	73.4	77.0	77.0
SiO_2	%	44.4	39.1	31.0	25.1	21.5	21.0
Fe_2O_3	%	0.7	0.7	0.6	0.5	0.3	0.4
TiO_2	%	1.2	0.1	0.1	0.1	tr	0.6
CaO	%	15.2	0.1	0.1	tr	tr	tr
MgO	%	0.3	0.2	0.1	tr	0.1	tr
$Na_2O + K_2O$	%	1.1	1.7	0.9	0.9	0.9	0.3

Availability and Packaging

Insulating firebricks JM are packed in cartons on shrink film wrapped pallets, INSALCOR is supplied on double faced pallets and stabilized.

Quantity of bricks per carton															
L1	x L2														x Thick.
	110	114	124	152	165	172	178	187	220	230	250	305	610	640	
220	25	-	-	-	16	-	-	-	12	-	-	-	-	-	60
230	-	25	-	20	-	20	16	-	-	15	-	10	5	-	64
230	-	20	-	16	-	16	13	-	-	12	-	8	4	-	76
250	-	-	25	-	-	-	-	16	-	-	12	-	-	5	64

Your local contact:

Distributed by:

The values given herein are typical average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Therefore, the data contained herein should not be used for specification purposes. Check with your Thermal Ceramics office to obtain current information. *This product is produced in TC Inc. Augusta (GA) USA.

Thermal Ceramics Marketing Offices

Thermal Ceramics Americas
2102 Old Savannah Road
Augusta, Georgia 30903
Tel: +1 706 796 4200
Fax: +1 706 796 4398
E-mail: tceramics@thermalceramics.com

Thermal Ceramics Asia Pacific
28 Jalan Kilang Barat
Kewalram House, Singapore 159362
Tel: +65 6273 1351
Fax: +65 6273 0165
E-mail: thermalceramics@tcasia.com.sg

Thermal Ceramics Europe
Tebay Road, Bromborough
Wirral CH62 3PH UK
Tel: +44 (0) 151 334 4030
Fax: +44 (0) 151 334 1684
E-mail: marketing@thermalceramics.co.uk

Website: www.thermalceramics.com