

# DENSE CASTABLES

Dense castable is a type of refractory material that is used in high-temperature environments. It's a cement-like substance that can be poured into molds or placed directly onto surfaces to form a solid, heat-resistant layer.



- **High temperature resistance:** They can withstand extremely high temperatures without breaking down.
- **Versatility:** They can be molded into various shapes and sizes.
- **Durability:** They offer excellent resistance to wear and tear.
- **Ease of application:** They can be installed relatively quickly and easily.

**APPLICATION AREAS:-**

- Furnaces and Kilns
- Foundries
- Incinerators
- Steel Plants
- Cement Plants
- Petrochemical Plants
- Glass Furnaces
- Heat Treatment Furnaces:

PROPERTIES	MAXCAST 97 SPL	MAXHEAT A SPL	MAXHEAT K	MAXHEAT K SUPER
<b>Chemical Properties</b>				
Al <sub>2</sub> O <sub>3</sub> (Wt%)	95.8	90.3	60.10	54.60
Fe <sub>2</sub> O <sub>3</sub> (Wt%)	0.26	0.96	0.94	1.40
TiO <sub>2</sub> (Wt%)	0.28	1.62	2.25	2.16
<b>Physical Properties</b>				
Bulk Density at 110°C/24hrs (g/cm <sup>3</sup> )	2.82	2.86	2.29	2.26
Max. Service Temperature (°C )	1800	1750	1600	1550
Grain Size (mm)	6	5	0 - 5	0 - 5



# INSULATION CASTABLES

Insulation castables are specialized refractory materials designed to resist high temperatures while providing excellent thermal insulation. They are typically used on the cold face of applications to minimize heat loss.

- **Low density:** This contributes to their excellent insulating properties.
- **Low thermal conductivity:** Effectively reduces heat transfer.
- **Lightweight:** Easier to handle and install compared to dense refractory materials.

## APPLICATION AREAS:-

- Industrial Furnaces and Kilns
- Power plants
- Refineries
- Foundries
- Cement and glass Industries

PROPERTIES	MAXLYTE - 7	MAXLYTE - 11	MAXLYTE - 13	MAXLYTE - 1000
<b>Chemical Properties</b>				
Al <sub>2</sub> O <sub>3</sub> (Wt%)	26.4	38.2	31.90	31.60
SiO <sub>2</sub> (Wt%)	48.9	40.14	44.00	42.90
Fe <sub>2</sub> O <sub>3</sub> (Wt%)	7.35	3.2	3.45	6.40
K <sub>2</sub> O + Na <sub>2</sub> O (Wt%)	0.78	0.28	0.75	
<b>Mechanical Properties</b>				
Cold Crushing Strength	13.2	39	70	
After Drying at 110°C/24hrs	4.5	30	40	34
After firing at 800°C/3hrs	6.8	27.5	36	32
After firing at 1100°C/3hrs (kg/cm <sup>2</sup> )			62	
<b>Thermal Properties</b>				
Max.Service Temp (°C)	900	1300	1390	1000
Max. Grain Size (mm)	0-6	0 - 6	0 - 6	0 - 5



# MAXSET - HD 4

Maxset HD4 is a type of refractory mortar. Refractory materials are those capable of withstanding high temperatures without softening or melting. Mortars are used to bind refractory bricks or other components together.

- **High-temperature applications:** Environments with extremely high temperatures.
- **Heavy-duty use:** Areas subject to severe thermal shock or mechanical stress.
- **Specific industries:** Certain sectors with unique refractory requirements.

PROPERTIES	MAXSET - HD 4
<b>Chemical Properties</b>	
Base raw material	Calcined Clay
Shelf Life (Months)	12
Packaging/Bags	25 Kg
Maximum Service Temp	1350°
Sintering Temp	1100
Maximum Grain Size	1
<b>Chemical Analysis</b>	
Al <sub>2</sub> O <sub>3</sub> (Wt%)	30.10
SiO <sub>2</sub> (Wt%)	57.70
Fe <sub>2</sub> O <sub>3</sub> (Wt%)	3.40
TiO <sub>2</sub> (Wt%)	3.10
<b>Physical Properties</b>	
Water for trowelling consistency (%)	33-38
Water Required for a ramming consistency (%)	14 - 19

## APPLICATION AREAS:-

- Industrial Furnaces
- Kilns
- Power Plants
- Petrochemical Industry



# PLASTIC REFRACTORY

Plastic refractory is a type of refractory material that is Flexible and can be molded into various shapes before hardening. It's essentially a mixture of refractory aggregates, clay binders, and water that provides enough plasticity for shaping.

- **Moldable:** Can be shaped by hand or with tools.
- **High-temperature resistant:** Able to withstand extreme heat without deteriorating
- **Durable:** Offers good mechanical strength and resistance to wear.
- **Refractory aggregates:** Provide the heat-resistant properties.
- **Clay binder:** Binds the materials together and imparts plasticity.

## APPLICATION AREAS:-

- Industrial furnaces
- Kilns
- Boiler construction
- Metallurgical applications

PROPERTIES	MAXPLAST - AL-AB	MAXPLAST - F45 - AB	MAXPLAST - AL - XAB
<b>Chemical Properties</b>			
Al <sub>2</sub> O <sub>3</sub> (Wt%)	53.1	42.40	72.80
SiO <sub>2</sub> (Wt%)	39.8	50.60	20.60
Fe <sub>2</sub> O <sub>3</sub> (Wt%)	1.20	1.12	1.10
TiO <sub>2</sub> (Wt%)	1.65	2.00	1.80
<b>Physical Properties</b>			
Maximum Service Temperature (°C)	1550	1500	1600

# CERAMIC FIBER PAPER



Ceramic fiber paper is a high-temperature insulation material made from ceramic fibers. It's a non-woven, flexible sheet that exhibits exceptional thermal, chemical, and electrical properties.

- **Excellent Thermal Shock Resistance**
- **Can be Machined, cut, and Shape easily**
- **High Flexibility**
- **Low Thermal Conductivity**
- **Good Dielectric Strength**

Description	CERAMIC STD PAPER
Classification Temperature (°C)	1260
<b>Chemical Composition (%)</b>	
Al <sub>2</sub> O <sub>3</sub>	42 - 47
SiO <sub>2</sub>	52 - 57
ZrO <sub>2</sub>	-
Color	White
Density (kg/m <sup>3</sup> )	200

## APPLICATION AREAS:-

- Gaskets for high Temperature Applications
- Gaskets for Domestic Appliances
- Back - Up Lining for metal troughs
- Thermal barriers for Vehicles
- Expansion Joints



# CERAMIC FIBER MODULE



The ceramic fiber module is made from a compressed ceramic fiber blanket. The Module is specially designed to meet the thermal insulation requirements of industrial furnaces in some special thermal conditions. It is produced with various anchoring systems to enable quick, easy, and efficient installation in most furnace linings. Module Linings can increase the furnace productivity and reduce maintenance costs.

- **Fast and Easy Installation**
- **Fast and Easy Repair**
- **Fast Temperature Cycling**
- **Low Installation and Repair Costs**
- **Low heat Storage**

Description	CERAMIC STD MODULE
Classification Temperature (°C)	1260
<b>Chemical Composition (%)</b>	
Al <sub>2</sub> O <sub>3</sub>	>43
SiO <sub>2</sub>	>54
ZrO <sub>2</sub>	-
Color	White
Density (kg/m <sup>3</sup> )	160 - 220

## APPLICATION AREAS:-

- Petrochemical
- Refining, Iron and Steel
- Non ferrous
- Ceramic and Glass
- Heat Treatment

# CERAMIC FIBER TAPE



Ceramic fiber tape is a narrow, woven fabric manufactured from high-temperature alumina-silicate based ceramic fiber. It's designed for use in high-temperature environments and offers excellent thermal insulation and resistance to chemical corrosion.

- **Excellent Thermal Shock Resistance**
- **Excellent Thermal Stability**
- **High Temperature Stability**
- **Low Thermal Conductivity**
- **Flexible and Easy to Use**

Description	TAPE WITH STAINLESS STEEL
Continuous Use Temperature (°C)	1000
Density (kg/m³)	500
Color	White
Organic Content (%)	<15

## APPLICATION AREAS:-

- Gaskets in Furnaces and domestic Appliances.
- Door Seals In Furnaces
- Kiln Car Seals
- Welding Curtains
- Expansion joints

# CERAMIC FIBER CLOTH



Ceramic fiber cloth is a high-temperature resistant fabric made from interwoven ceramic fibers. It's known for its exceptional heat resistance, low thermal conductivity, and excellent flexibility.

- **Excellent Thermal Shock Resistance**
- **Excellent Thermal Stability**
- **High Temperature Stability**
- **Low Thermal Conductivity**
- **Flexible and Easy to Use**

Description	CLOTH WITH STAINLESS STEEL
Continuous Use Temperature (°C)	1000
Density (kg/m³)	500
Color	White
Organic Content (%)	<15

## APPLICATION AREAS:-

- Gaskets in Furnaces and domestic Appliances.
- Door Seals In Furnaces
- Kiln Car Seals
- Welding Curtains
- Expansion joints



# CERAMIC FIBER SQUARE & ROUND ROPE



Ceramic fiber rope is a high-temperature insulation material made from ceramic fibers twisted or braided together. It's known for its excellent thermal resistance, flexibility, and chemical stability.

- **Excellent Thermal Shock Resistance**
- **Excellent Thermal Stability**
- **High-Temperature Stability**
- **Low Thermal Conductivity**
- **Flexible and Easy to Use**

## APPLICATION AREAS:-

- Gaskets in Furnaces and domestic Appliances.
- Door Seals In Furnaces
- Kiln Car Seals
- Welding Curtains
- Expansion joints

Description	SQUARE /ROUND BRAIDED ROPE
Continuous Use Temperature (°C)	1000
Density (kg/m <sup>3</sup> )	500
Color	White
Organic Content (%)	15

# CERAMIC FIBER BULK



Ceramic fiber bulk is a raw material used to produce various ceramic fiber products like blankets, boards, paper, cloth, and ropes.

It consists of loose, flexible ceramic fibers that are produced by melting raw materials at high temperatures and then blowing or spinning them into fibers.

- **Excellent Thermal Shock Resistance**
- **Excellent Chemical Stability**
- **High Temperature Stability**
- **Low Thermal Conductivity**
- **Low Heat Storage**

Description	CERAMIC FIBER BULK
Classification Temperature (°C)	1260
<b>Chemical Composition (%)</b>	
Al <sub>2</sub> O <sub>3</sub>	>43
SiO <sub>2</sub>	>54
ZrO <sub>2</sub>	-
Color	White
Shot Content (%)	<15
Fiber Diameter (um)	2 - 4

## APPLICATION AREAS:-

- Raw Material for finished Ceramic Fiber Products
- Insulating Fill for complex Spaces and difficult Access
- Packing Expansion Joints
- Kiln car infill
- Fire Door infill

# CERAMIC FIBER BOARD



Ceramic fiber board is a rigid, high-temperature insulation material made from ceramic fibers and binders.

It's known for its exceptional heat resistance, low thermal conductivity, and excellent mechanical properties.

- **Excellent Thermal Shock Resistance**
- **Can be Machined, cut and Shape Easily**
- **High Rigidity and Light Weight**
- **Low Thermal Conductivity**
- **low Heat Storage**

Description	CERAMIC FIBER BOARD	
Classification Temperature (°C)	1430	1260
Density (kg/m³)	300/360	250/300/360
Modules Rupture (MPa)	>0.3	>0.3
Compressive Strenght (MPa, 10% relative Deformation)	0.25/0.3	0.15/0.25/0.3
Color	White	White

## APPLICATION AREAS:-

- Furnace hot Face lining in petrochemical furnace
- Furnace hot face lining in ceramic Kiln
- Board over blanket hot face lining
- Back - up insulation to brick and castsble Expansion Joints

# CERAMIC FIBER BLANKET



A ceramic fiber blanket is a flexible insulation material made from interwoven ceramic fibers. It's designed to withstand extremely high temperatures without melting or degrading.

- **Excellent Thermal Shock Resistance**
- **Excellent Thermal Stability**
- **High Tensile Strength**
- **Low Thermal Conductivity**
- **Low Heat Storage**

Description	CERAMIC STD BLANKET	
Classification Temperature (°C)	1430	1260
<b>Chemical Composition (%)</b>		
Al <sub>2</sub> O <sub>3</sub>	>35	>43
SiO <sub>2</sub>	>49	>54
ZrO <sub>2</sub>	>15	-
Color	White	White
Shot Content (%)	>12	>15
Density (kg/m <sup>3</sup> )	128	96/128

## APPLICATION AREAS:-

- Pipe Wrap
- Furnace and Kiln backup Insulation
- Chimney Insulation
- Annealing furnace linings
- Process Heater Linings

# CALCIUM SILICATE BOARD



Calcium silicate board is a non-combustible, asbestos-free building material known for its excellent fire resistance and thermal insulation properties. It's composed primarily of silica, calcium oxide, and cellulose fibers.

- **Excellent Waterproof Performance**
- **No Oil absorption, No Water absorption, maintain the stability of the insulation performance.**
- **Nonasbestos, no toxic and harmless to the human body**
- **High Strength**
- **Excellent corrosion resistance**
- **Excellent Sound Insulation**

Description	CALCIUM SILICATE BOARD
Density (kg/m <sup>3</sup> )	250±10%
Service Temperature (°C)	1100
Linear Shrinkage after heating (1050 °C x 3hrs) (%)	>2
Bending Strength (MPa)	>0.36
Tensile Strength (MPa)	>0.90

## APPLICATION AREAS:-

- Industrial Pipeline
- Heat supply Pipe network System in the fields of Electric Power
- Petroleum Chemistry
- Metallurgy
- Wall Lining and back Lining of industry furnace and heating Device

# INSULATING BRICKS



Insulating bricks are specialized bricks designed to resist high temperatures and, more importantly, to minimize heat transfer. They are typically made from refractory materials with a porous structure. This porosity contributes to their excellent insulating properties.

- **Brick Size: 230x115x75mm**
- **Weight/Bricks: 1.800 - 1.900 kg (min)**

Description	INSULATING BRICKS
<b>Chemical Analysis (%)</b>	
Al <sub>2</sub> O <sub>3</sub>	24 - 28% (Min)
Fe <sub>2</sub> O <sub>3</sub>	2.5 - 2.7%
Temperature (°C)	1100°C

## APPLICATION AREAS:-

- Metallurgy
- Ceramics
- Power Generation
- Chemical Industry
- Glass Industry
- Petrochemical Industry
- Incineration and Waste Management



# REFRACTORY BRICKS



Refractory bricks are specialized ceramic materials designed to withstand extremely high temperatures without melting or deteriorating. 1 They are essential components in industries that require intense heat.

- **Brick Size: 230x115x 75 mm STD**
- **Weight/Bricks: 4.250-4.280 Kg (min)**
- **230x115x75/65mm END ARCH**
- **230x115x75/65mm SIDE ARCH**
- **Energy Efficiency**
- **Improved Productivity**
- **Longer Equipment Life**
- **Safer Working Conditions**
- **Environmental Benefits**

Description	INSULATING BRICKS
<b>Chemical Analysis (%)</b>	
Al <sub>2</sub> O <sub>3</sub>	38 - 40% (Min)
Fe <sub>2</sub> O <sub>3</sub>	3.5-4.0%
Temperature (°C)	1400 - 1450 °C

## APPLICATION AREAS:-

- Metallurgy
- Ceramics
- Power Generation
- Chemical Industry
- Glass Industry
- Petrochemical Industry
- Incineration and Waste Management

# REFRACTORY BRICKS 30%



Refractory bricks are specialized ceramic materials designed to withstand extremely high temperatures without melting or deteriorating. 1 They are essential components in industries that require intense heat.

- **Brick Size: 230x115x25mm**
- **Weight/ Bricks: 3.950 - 4.100 kg (min)**

- **Energy Efficiency**
- **Improved Productivity**
- **Longer Equipment Life**
- **Safer Working Conditions**
- **Environmental Benefits**

Description	INSULATING BRICKS
<b>Chemical Analysis (%)</b>	
Al <sub>2</sub> O <sub>3</sub>	28 - 30 (Min)
Fe <sub>2</sub> O <sub>3</sub>	4.0 - 4.5%
Temperature (°C)	1100°C

## APPLICATION AREAS:-

- Metallurgy
- Ceramics
- Power Generation
- Chemical Industry
- Glass Industry
- Petrochemical Industry
- Incineration and Waste Management

# REFRACTORY BRICKS 70%



Refractory brick 70% typically refers to a high alumina refractory brick containing approximately 70% alumina (aluminum oxide,  $Al_2O_3$ ) by weight.

- **Brick Size: 230x115x75mm**
- **Weight/ Bricks: 5.2kg**
- **Brick Size: 230x115x65mm - SIDE ARCH**
- **230x115x65mm - SIDE ARCH**
- **230x115x75/50mm - END ARCH**
- **230x115x75/65mm - END ARCH**
  
- **Energy Efficiency**
- **Improved Productivity**
- **Longer Equipment Life**
- **Safer Working Conditions**
- **Environmental Benefits**

Description	INSULATING BRICKS
<b>Chemical Analysis (%)</b>	
$Al_2O_3$	28 - 30 (Min)
$Fe_2O_3$	4.0 - 4.5%
Service Temperature (°C)	1100°C

## APPLICATION AREAS:-

- Metallurgy
- Ceramics
- Power Generation
- Chemical Industry
- Glass Industry
- Petrochemical Industry
- Incineration and Waste Management

# CERAFLUX 11



Ceraflux 11 is a pink powder primarily composed of chlorides and fluorides. It's specifically designed for cleansing and drossing operations in the aluminum foundry industry.

- **Protective Layer:** Forms a protective layer on the molten aluminum, acting as a barrier between the metal and the atmosphere.
- **Dross Prevention:** Prevents excessive dross formation, which is the oxide layer that forms on the surface of molten aluminum.
- **Metal and Gas Loss Reduction:** By preventing dross formation, it helps reduce the loss of metal and gas pickup during the melting process.
- **Exothermic Reaction:** Undergoes an exothermic reaction, making it easier to remove dross and non-metallic inclusions from the molten metal.

CHARACTERISTIC	SPECIFICATION
Appearance	Powder
Colour	Pink
Qualitative Test - Fluoride	Positive
Qualitative Test - Sulphate	Positive
Mesh + 22 (%)	14.81
Moisture@100-110 °C (%)	0.19

## APPLICATION AREAS:-

- Crucible furnaces
- Reverberatory furnaces

# D GASSER



A D-gasser is used to remove entrained gases from drilling fluids. D-gasser is a chemical product, typically a tablet, used to remove gases (like hydrogen) from molten metal.

- **Efficient gas removal**
- **Increased drilling efficiency**
- **Reduced environmental impact**
- **Durable construction**

CHARACTERISTIC	SPECIFICATION
Appearance	Tablet
Colour	Blue
Evaporation Test @200 °C (%)	83.19
Moisture by Dean and Stark (%)	0.05

**APPLICATION AREAS:-**

- Aluminum foundries
- Steelmaking
- Copper refining
- Other metal casting processes

# MISCELLANEOUS PRODUCTS



**SS ANCHORS - V TYPE AND Y TYPE - CUSTOMIZED**



**HIGH TEMP BINDER**



**PRECAST BLOCKS FOR BURNER AND BOILER - CUSTOMISED**



**SS NEEDLE**