

Introduction

We are pleased to introduce ourselves as a prominent company in the field of refractories. We understand that refractory products play a significant role in production processes of various industries including but not limited to steel plants, cement plants, chemical plants, petrochemical plants, power plants, boilers, commercial ovens and other allied industries. Hence, we ensure our clients of best quality products that would improve the production performance and help in achieving optimum outputs with maximum energy saving, resulting in reduced production costs and reduced carbon emissions.

Our product range includes high alumina products, acid resistant products, insulation products & industrial minerals. All these products are manufactured under strict quality controls; right from raw materials testing through to the complete physical and chemical properties testing of finished products. We have a team of skilled packers and supervisors, who ensure that all the products are packed and handled with utmost care, so they can be transported to anywhere across the globe in perfectly secured condition.

We also offer private branding for wholesalers/resellers intending to market our products in their country by their own brand names.



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Industrial Minerals

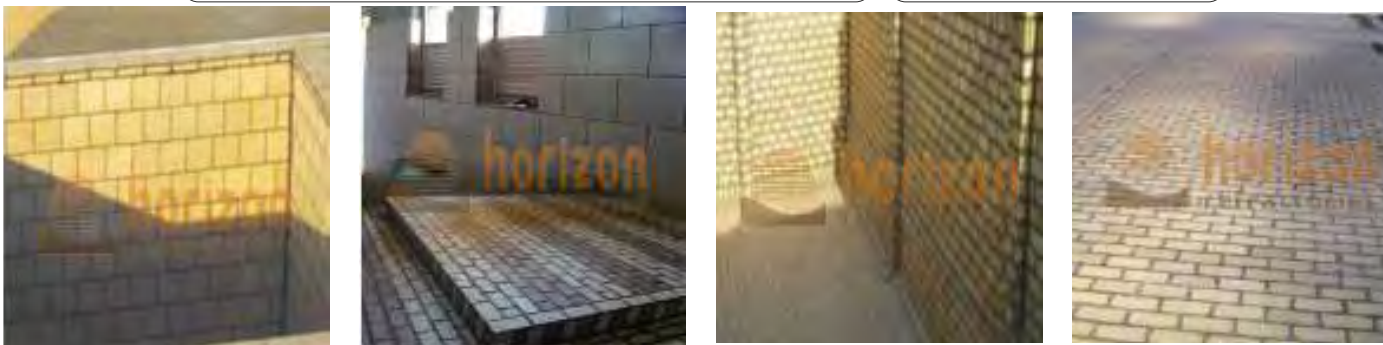


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Acid Resistant Bricks & Tiles (IS 4860), ASTM C279

We offer premium quality acid resistant bricks, tiles and special shapes. These are commonly used in power stations, storage vessels, petrochemical industry, galvanizing plants and similar places where high chemical resistance is required. We also offer customized sizes as per clients' requirements. Our acid bricks comply with ASTM C279 Type-III, ASTM C410 Type H, L, and Indian Standard 4860 - 1982 Class-I for all applications where low absorption and high acid resistance is required.

Characteristic	Our Specification
Water Absorption (%) max.	0.5
Flexural Strength (kg/cm) min.	100
Compressive Strength (kg/cm ²) min.	700
Resistance to Acid/Loss in Weight (%) max.	1.0



Acid Resistant Products

Acid Resistant Mortars

Bituminous Primer:-

It is bituminous air curing ready mixed acid and alkali resistant primer

Mastic:-

It is acid and alkali resistant mastic used as a protective impervious membrane suitable for concrete, brickwork, steel, etc.

Furan Resin Mortar:-

It is widely used for acid resistant bricks and tiles lining work ad bedding and joining mortar for tanks, floor, drain, foundation, chemical reaction vessel, neutralization pit, etc.

Properties

Working time at 30°C : 20 minutes (min)
Density of cured mortar : 1.8 gm/cc
Bond strength : 10 Kg.cm²
Compressive Strength : 350 Kg/cm²
Flexural Strength : 75 Kg/cm²

Phenolic Resin Mortar:-

It is widely used for acid resistant bricks and tiles lining work ad bedding and joining mortar for tanks, floor, drain, foundation, chemical reaction vessel, neutralization pit, etc.

Properties

Working time at 30°C : 20 minutes (min)
Density of cured mortar : 1.8 gm/cc
Bond strength : 10 Kg.cm²
Compressive Strength : 350 Kg/cm²
Flexural Strength : 75 Kg/cm²
Water Absorption : 1%

CNSL Resin Mortar:-

It is widely used for lining of acid resistant bricks as bedding and jointing mortar. It can also be used for jointing chemical resistant stoneware pipes. It is also used for ETP plants. It is suitable where excellent resistance properties and heavy impacts subjected to the surface of floors and tank is required. It can also be applied as monolithic lining for construction of dilute acids storage tanks.

Acid Resistant Products

Acid Resistant Mortars

Potassium Silicate Acid Resistant Mortar

It is widely used for lining acid and alkali resistant bricks/tiles as bedding and jointing mortar for tanks, floor, drain, foundation, etc. It has a temperature resistance upto 1000°C

Properties

Working time at 30°C : 20 minutes (min)
Density of cured mortar : 2 gm/cc
Bond strength : 5 Kg.cm²
Compressive Strength : 150 Kg/cm²
Flexural Strength : 40 Kg/cm²
Toluene Absorption : max 18%

Sodium Silicate Acid Resistant Mortar:-

It is widely used for lining acid resistant bricks/tiles as bedding and jointing mortar for tanks, floor, drain, foundation, etc. Sodium silicate mortar is useful in pH range of 0-6 except where sulphuric acid exposure existing in the vapour phase wet-dry exposures or in concentration above 93%. It is also resistant to oxidizing and non-oxidizing acids, except hydrofluoric acid and water. It has temperature resistance upto 1000°C

Properties

Working time at 30°C : 15 minutes (min)
Density of cured mortar : 2 gm/cc
Bond strength : 5 Kg.cm²
Compressive Strength : 100 Kg/cm²
Flexural Strength : 35 Kg/cm²
Toluene Absorption : max 18%

Sulphur Based Acid Resistant Mortar:-

It is a sulphur based mortar containing plasticizer and filler. The melt mortar is extremely fluid and pours quite easily. It is resistant to non-oxidizing acids, dilute oxidizing acids and neutral salts. It has a temperature resistance of 90°C (max)

Properties

Density of cured mortar : 2.1-2.2 gm/cc
Bond strength : 10 Kg.cm²
Compressive Strength : 280 Kg/cm²
Flexural Strength : 70 Kg/cm²
Water Absorption : 1%

High Alumina Products

High Alumina Fire Bricks, Blocks & Tiles

A firebrick / refractory brick is a shape made from refractory ceramics. It is used in lining furnace kilns, fireboxes and fireplaces. Its primary purpose is to withstand high temperature and also to retain the heat for greater energy efficiency. We offer wide range of low, medium & high alumina refractory firebricks. Apart from standard shapes, we can also make special shapes as per custom requirements. Our bricks are made by dry pressing method and are fired in electronically controlled tunnel kiln. We regularly supply bulk quantities of firebricks to wholesalers, cement factories, steel factories, chemical industries, etc. across many countries. We constantly keep close checks on quality and costs, so that our clients can get good quality bricks at most reasonable prices.



High Alumina Products

High Alumina Fire Bricks

We can make firebricks as per custom specifications. Following are the regular types we supply.

Type	Al ₂ O ₃ %	Fe ₂ O ₃ %	PCE OC	A.P. %	BD Gms/cc	CCS kg/cm ²	RUL(TA) 0c	%PLC @ 0C/hrs Max
HE30	30	2.50	29	26	1.90	250	1350	0.5% @ 1350/2 HRS
HE35	35	2.50	30	25	2.00	350	1350	0.75% @ 1350/2 HRS
HE40	40	2.30	31	23	2.05	400	1400	0.5% @ 1400/2 HRS
HE42	42	2.30	32	25	2.10	420	1420	0.5% @ 1420/2 HRS
HE45	45	2.30	32	23	2.20	450	1450	0.5% @ 1450/2 HRS
HE45-D	45	1.20	31	20	2.25	470	1500	0.3% @ 1450/2 HRS
HE50	50	2.75	33	22	2.30	470	1480	0.1 @ 1420/2 HRS
HE55	55	2.75	33	21	2.40	480	1490	1.25 @ 1430/2 HRS
HE60	60	2.70	33	20	2.50	500	1500	1.5% @ 1450/2 HRS
HE70	70	3.10	36	18	2.65	550	1500	1.5% @ 1500/2 HRS
HE80	80	3.40	37	18	2.75	700	1500	2.50% @ 1500/2 HRS
HE85	85	1.5	38	18	2.80	800	1550	1% @ 1500/2 HRS
HE90	88	0.8	38	18	3.0	1000	1550	0.2% @ 1550/2 HRS
HE95	94	0.3	38	18	3.10	1000	1750	0.2% @ 1600/2 HRS
HE99	98.5	0.2	38	18	3.15	1000	1650	0.2% @ 1600/2 HRS

High Alumina Products

Premium Firebricks for Critical Applications

Brand Name	62D	70D	70L	70LF	70_IP	70M
Raw Material Base	calcined diaspore/ andalusite grains	calcined bauxite	low ferric calcined bauxite	low ferric calcined bauxite	low ferric calcined bauxite/ phosphate	Fused Mullite Grains
Al ₂ O ₃ % Min.	62-64	68-70	68-70	70-71	70-71	70-72
Fe ₂ O ₃ % Max.	1.2	3.5	2.5	2	2	0.5
					(1.5% PB)	
Physical Properties						
P.C.E.- Orton/ Deg.C	36	36	36	36	36	37
App. Porosity(%) Max	18	23	22	22	19	18
B.D. (gm/cc) Min	2.5	2.6	2.6	2.65	2.65	2.60
CCS (Kg/Cm ²)	650	650	700	780	780	750
Thermal Properties						
RUL (Ta) Deg.C. Min	1550	1460	1470	1470	1470	1600
PLC (%) at Deg.C / Hrs Max	+/-0.5 at 1500 Deg. C/2Hrs	+/-2.0 at 1450 Deg.C/2Hrs	+/-1.0 at 1450 Deg.C/2Hrs	+/-2.0 at 1500 Deg.C/2Hrs	+/-2.0 at 1500 Deg.C/2Hrs	+/-0.2 at 1600 Deg.C/2Hrs
Size Tolerance	+/-1.5 % Or 2mm Whichever is greater					

High Alumina Products

Premium Firebricks for Critical Applications

Brand Name	80D	80P	85D	85P	PCPF90	ZIR	ZM
Raw Material Base	low ferric cal bauxita/ brown fused alumina	low ferric cal bauxita/ brown fused alumina phosphate bonded	low ferric cal bauxita/ brown fused alumina	low ferric cal bauxita/ brown fused alumina phosphate bonded	made from low c ement castables - brown tabular alumina	Fused zirconium oxide grains	Fused mullite & Fused zirconium grains
Al2O3 % Min.	Al2O3: 78-80%	Al2O3: 78-80%	Al2O3: 84-85%	Al2O3: 84-85%	Al2O3: 88-90%	ZrO2: 64%	Al2O3: 68% ZrO2: 20%
Fe2O3 % Max.	1.6	1.6	1.5	1.5	1.5	0.5	0.5
		(1.5% PB)		(1.5% PB)	1.5		
Physical Properties							
P.C.E.- Orton/ Deg.C	37	37	37	37	37	37	37
App. Porosity(%) Max	19	18	19	18	NIL	18	18
B.D. (gm/cc) Min	2.75	2.75	2.8	2.8	3	3.3	3.1
CCS (Kg/Cm2)	820	820	850	850	1100	750	750
Thermal Properties							
RUL (Ta) Deg.C. Min	1500	1500	1500	1500	1500	1600	1700
PLC (%) at Deg.C / Hrs Max	+/-0.5 at 1500 Deg. C/2Hrs	+/-2.0 at 1500 Deg.C/2Hrs	+/-0.5at 1500 Deg.C/2Hrs	+/-0.5at 1500 Deg.C/2Hrs	+/-0.5 at 1500 Deg.C/2Hrs	+/-0.5 at 1600 Deg.C/3Hrs	+/-0.5 at 1700 Deg.C/3Hrs
Size Tolerance	+/-1.5 % Or 2mm Whichever is greater						

High Alumina Products

Refractory Castables

Low Cement Refractory Castables:-

We offer high quality low cement refractory castables which are mainly used in applications requiring abrasion resistance. To achieve the best results, the low cement castables should be installed with high intensity mixing machine and vibrating equipments. Our low cement castables are widely used in sintering furnace roof, soaking pit covers, ladle backup lining, etc. Packing is available in 25/50kg. HDPE bags with liner inside. Bags are then pelletized. Following are the main types we supply regularly:



Product	Al ₂ O ₃ % min	Fe ₂ O ₃ % max	B.D. (gms/cc) at 110°C	PCE (OC)SK	Application Temp °C	PLC		Cold Crushing Strength Kg/cm ² (min) at			
						%(Max)	°C/hr	110°C 24 hrs	800°C 3 hrs	1100°C 3 hrs	1400°C 3 hrs
H-LC-45	45	1.5	2.3	32	1550	1.0	1500/2	700	800	900	1000
H-LC-60	60	1.5	2.6	36	1600	1.0	1500	750	800	800	1000
H-LC-70	70	1.5	2.5	36	1600	1.5	1500/2	750	800	900	1000
H-LC-80	80	1.8	2.9	37	1700	1.5	1500/2	800	900	1000	1100
H-LC-90	90	1.5	3.0	37	1700	0.8	1500/2	900	1000	1100	1200
H-LC-95	94	0.3	3.1	38	1800	0.5	1500/2	1000	1050	1100	1250

High Alumina Products

Refractory Castables

Conventional Refractory Castables:-

We offer wide range of conventional refractory castables. These are general purpose castables. They are extensively used in boiler work, boiler blocks, power plants, sugar plants, steel plants, etc. Our refractory castables have consist segregation of various particle sizes (0-5mm) so that the final cast is strong and perfectly bound. Packing is available in 25/50kg. HDPE bags with liner inside. Bags are then palletized. Following are the main types we supply:



Product	Al ₂ O ₃ % min	Fe ₂ O ₃ % max	B.D. (gms/cc) at 110°C	PCE (OC)SK	Application Temp °C	PLC		Cold Crushing Strength Kg/cm ² (min) at			
						%(Max)	°C/hr	110°C 24 hrs	800°C 3 hrs	1100°C 3 hrs	1400°C 3 hrs
H-CAST-40	40	2.5	1.9	23	1450	1.5	1400/2	400	250	200	350
H-CAST-45	45	3	2.1	23	1400	1.0	1400/2	250	.....	.....	300
H-CAST-50	50	2	2.1	29	1500	1.5	1500/2	350	.....	.....	300
H-CAST-60	60	1.5	2.2	31	1600	1.5	1500/2	400	.....	.....	300
H-CAST-70	70	4	2.55	32	1600	1.5	1450/2	400	.....	.....	500
H-CAST-90	90	0.8	2.9	37	1750	0.5	1550/2	600	.....	.....	600
H-CAST-94	94	0.15	2.8	38	1800	0.2	1550/2	600	450	400	700
H-CAST-97	97	0.15	2.9	38	1850	0.2	1550/2	400	280	250	400
H-CAST-99	98.5	0.15	3.1	38	1850	0.2	1550/2	600	320	300	600

High Purity Refractory Castables:-

We offer this special range of high purity refractory castables which have very low iron content and excellent physical properties. This makes them very useful for critical applications where there are extreme thermal shocks, etc. Packing is available in 25/50kg. HDPE bags with liner inside. Bags are then palletized. Following are the main types we supply:



Product	Al ₂ O ₃ % min	Fe ₂ O ₃ % max	B.D. (gms/cc) at 110°C	PCE (OC)SK	Application Temp °C	PLC		Cold Crushing Strength Kg/cm ² (min) at			
						%(Max)	°C/hr	110°C 24 hrs	800°C 3 hrs	1100°C 3 hrs	1400°C 3 hrs
H-CAST-A	90	0.8	2.8	37	1750	1	1550/3	550	.....	.....	.....
H-CAST-K	60	1.0	2.2	32	1600	1.5	1550/3	350	.....	.....	.....
H-CAST-C	50	1.5	1.15	32	1500	1.5	1500/3	350	.....	.....	.....

High Alumina Products

Refractory Mortars

Fireclay & High Alumina Mortars:-

Our high alumina refractory mortar is a blend of carefully selected clays and other raw materials. Our refractory mortar has very fine mesh size which is very important for its blending with water and final application.

For easy and quick applications, we have introduced LRM-1500 Premix Ready-To-Use Refractory Mortar (slurry form). It is available in 20/40kg. plastic drums with a shelf life of upto 6 months.



High Alumina Products

Refractory Mortars

Following are the main types of refractory mortar we regularly supply:

Name	Al ₂ O ₃ min	Fe ₂ O ₃ max	P.C.E(O.C) min	Service Temp (°C)	Grain Size (mm)	Type of Setting
LRM-1500 (Premix Slurry)	50	1.5	32	1500	SLURRY FORM	READY-TO-USE
HOR-50	50	2.5	33	1550	0-0.5	AIR SETTING
HOR-60	60	2.5	34	1660	0-0.5	AIR SETTING
HOR-70	70	1.5	35	1700	0-0.5	AIR SETTING
HOR-80	80	1	36	1750	0-0.5	AIR SETTING
HOR-90	90	1	37	1800	0-0.5	AIR SETTING
HOR-MH	30	2	29	1300	0-1	CERAMIC
HOR-HH	36	2	31	1400	0-1	CERAMIC

High Alumina Products

High Alumina Cement

Alumina cement is an inorganic material that form a dense texture when it reacts with water. It has excellent refractoriness, quick hardening and resistance to chemical attacks. Our high alumina cement is widely used for the production of high quality refractory castables and other special materials. It is made from bauxite and limestone with high temperature fusion process.

Characteristics:

- High alumina cement has low pH
- It has high refractoriness
- It has high durability in sulfuric acid
- It hardens rapidly
- It is less reactant than alumina or hydraulic lime
- It acts as a bonding material when added in refractory castables because it forms ceramic bond at high temperatures
- It has high resistance to chemical corrosion. So, it is widely used also in construction of water pipes, sewage pipes, factory drains, coastal constructions and in factory chimneys.

We offer mainly two types of high alumina cement as detailed here

H-CEM-50



H-CEM-70



Particulars	Unit	H-CEM-50	H-CEM-70
	Orton Cone	14-15	31
	°C	1349-1398	1683-1717
CCS of 1:3 vibrated mortar using standard graded sand After 1 day curing After 1 day curing +1 day at 1100C After 3 day curing	kg/cm ²	.... 250(MIN) 350(MIN)	.... 350(MIN) 500(MIN)
Specific Surface Area	cm ² /gm	3400	4000
Setting Time	Minutes	.....	.....
Initial		30 (Min)	30 (Min)
Final		350 (Max)	400 (Max)
Chemical Analysis	%		
Al ₂ O ₃		50 (Min)	72 (Min)
Fe ₂ O ₃		3.5 (Max)	0.4 (Max)

High Alumina Products

Bottom Pouring Sets

Bottom Pouring Sets / Refractory B P Sets are shapes made from different fractions of refractory grog, plastic fire clays and non-plastic clays. The different fractions of these raw materials are mixed and pugged for fully homogeneous mixing. The mixture obtained hence, is then pressed in high capacity presses to give the desired shape and size. These pressed shapes are fired in tunnel kiln at high temperatures. The bottom pouring shapes are generally made in two qualities; 30% alumina and 40% alumina. We can also make bottom pouring sets with higher alumina content as required by the client. Our bottom pouring sets are widely used in various oil refineries, petrochemical plants, paper industry, rolling mills, paint industries, etc



Special Characteristics:

- Perfect shape and sizing
- Accurate fitting of male-female combinations
- Highly resistant to thermal shocks
- Eliminates carbon deposits
- Prevents brick failure at high temperatures
- Increases life of brick lining to great extent
- Withstands the required service temperatures based on quality

General Specification

	30%Alumina (IS:6)	40%Alumina (IS:8)
Safe Working Temperature	1400°C	1450°C
Bulk Density	2 gms/cc	2 gms/cc
Cold Crushing Strength;	200 kg/cm ²	250 kg/cm ²
Appartment Porosity	30% max.	30% max.
P.C.E(Orton Cone)	30	32
RUL	1300 ta0 C min.	1400 ta0 C min.
LC at 1350°C for 5hrs.;	1%	1%
Size Tolerance	+/-2%	+/-2%
Alumina as Al ₂ O ₃	30% min.	40% min.
Iron as Fe	2.5% max.	2.5% max.
Silica as SiO ₂	65% max.	57% max.
Alkalis	Trace	Trace

Insulation Products

Insulating Fire Bricks

Type	H-INS-40	H-INS-50	H-INS-60	HFK
Service Temperature	1350°C	1400°C	1450°C	1350°C
Bulk Density (gm/cc)	0.75 - 0.80	0.85 - 0.90	1.0 - 1.1	1.0 - 1.1
AL ₂ O ₃ / Fe ₂ O ₃	40% / 1%	50% / 1%	60% / 1%	36% / 1%
CCS (Mpa)	1.5	1.8	2.0	2.0
Pyrometric Cone [ASTM] No. (min)CCSMpa	32	34	34	32
Thermal Conductivity (W/mK) @ 600°C mean temp.	0.30	0.40	0.40	0.50
Apparent Porosity (%)	>55	>55	>55	55 - 60
PLC at ervice Temperature (°C/3 hrs,max.)	±1.0	±1.0	±1.5	±1.0

Insulation Products

Insulating Castables

Product	Grading (mm)	Fe ₂ O ₃ % Max.	B.D. (gms/cc) at 110°C	CCSat 110°C 24rs kg/cm ²	PCE (OC) SK	Application Temp°C	PLC		Thermal Conductivity (max) k.caal/m/hr/°C
							%(Max.)	°C /hr	at 500 °C
H-INSULCAST-3	0-6	12	0.45	5	....	850	± 0.4	800/2	0.08
H-INSULCAST-4	0-6	11	0.55	5	....	1000	0.5	950/2	0.10
H-INSULCAST-7	0-6	10	0.55	12	....	1100	± 1.2	1100/2	0.18
H-INSULCAST-9	0-6	6	1.0	15	14	1200	± 0.5	1200/2	0.28
H-INSULCAST-9HS	0-6	6	1.0	20	14	1200	± 1.0	1200/2	0.28
H-INSULCAST-11	0-6	3.5	1.25	35	14	1300	± 1.0	1300/3	0.13
H-INSULCAST-11LI	0-6	1.5	1.25	45	15	1350	± 0.8	1300/3	0.34
H-INSULCAST-13	0-6	3.5	1.45	50	15	1350	± 0.8	1300/3	0.32
H-INSULCAST-13LI	0-6	1.5	1.45	80	15	1400	± 0.8	1300/3	0.40
H-INSULCAST-15	0-6	3.2	1.6	90	15	1350	± 1.0	1300/3	0.44
H-INSULCAST-15LI	0-6	1.5	1.6	130	16	1400	H-INSULCAST-15LI	1300/3	0.42

Insulation Products

Calcium Silicate Boards



Properties	ASTM C 533:90		HE Grade:	
	Type -1	Type -2	800	1000
Temperature(°C),Max.	649	871	800	1000
Bulk Density (kg/m3) Test Values:	max() 240	max() 240	220-270	230-275
Compressive Strength	.....	.....	.....	.....
Reduction in thickness,max. Dry,under aload of 415 kN/m2: Wet,under a load of 170 kN/m2,after 18 hrs. of immersion in water: Dry,under a load of 345 kN/m2,after 24 hrs. heat soak:	..... 5% ..... .....	..... 5% ..... .....	..... 3% 3.5% 3.5%	..... 3% 3.5% 3.5%
Flexural Strength(kN/m2),min.	310	310	600	600
Heat Resistance after heat soak at max. temp. for 24 hrs Linear shrinkage (length), Max. Loss in mass, max:	2%	2.5%	1.6% 10	1.8% 9
Thermal conductivity(W/mk)	.....	.....	.....	.....
Max. at mean temp. 200 °C 300 °C 400 °C 500 °C	0.079 0.095	0.095 0.110 0.136	0.070 0.080	0.070 0.080
Cold Crushing Strength (CCS), (N/mm ²), min.	.....	.....	1.4	1.5
Moisture content(%),max.	.....	.....	6.5	6.0
Alkalinity , pH	.....	.....	9	9
Dimensional Tolerance	.....	.....	.....	.....
Length/Width: Thickness: Pipe inside diameter:	±3.2 ±3.2	±3.2 ±3.2	±2 -1.5,+2 -0,+5	±2 -1.5,+2 -0,+5

Insulation Products

Ceramic Fibre Products

Ceramic Fibre Blankets :-

We supply ceramic fibre blankets of world renowned brands. Ceramic fibre blankets are lightweight and thermally efficient, resulting in a material that possesses the advantages of low heat storage and complete resistance to thermal shock. Used in a variety of heat processing applications, the ceramic fiber blanket is produced from high strength spun ceramic fibers and is needed to provide exceptional handling strength. Following are the properties:



Properties	High Temp.	Regular Temp.	Low Temp.
Maximum use temperature, °C	1400	1260	980
Dimensions,mm	Width:610,1220 Length: 7620		
Density,kg/m3 [lbs/ft3]	64,96 and 128 [4,6 and 8]		
Thickness,mm	13,19,25,38 and 50	25 and 50	
Thermal Conductivity for 128 kg/m3 at mean temp.of 550°C,W/m²K [BTU- in/hrft²°F]	0.11 [0.76]		
Application	Crude oil, reformer and pyrolysis heater linings, high temperature pipe, duct and turbine insulation, tube seals, gaskets and expansion joints, heat treating and annealing furnaces, reheating furnaces, soaking pit covers and seals, furnace hot face repairs, kilns and kiln car insulation and seals. Stress relieving insulation, ovens and stack linings. Boiler and air preheater insulation. Fire protection etc		

Insulation Products

Ceramic Fibre Products

Ceramic Fibre Boards / Shapes:-

Ceramic fibre boards are produced by wet forming process of ceramic fiber and binders. These ceramic fiber boards are featured with high temperature stability, low thermal conductivity, consistent density, and excellent resistance against thermal shock and chemical attack. Ceramic fiber board also resists oxidation and reduction. Ceramic fiber boards are available in a variety of temperature ratings, densities, thicknesses, widths and lengths, and custom vacuum formed shapes. Following are the properties:



Properties	High Temp.	A	Regular Temp.	Low Temp.
Maximum use temperature, °C	1400	1260	1200	1000
Dimensions,mm	305x610,457x914,610x610,610x914,914x1219 shapes on request			
Density,kg/m3[lbs/ft3]	288~352	416~480	320~384	1000
	[18~22]	[26~30]	[20~24]	[14~18]
Thickness,mm	13,19,25,38, 50,63 and 75			
Thermal Conductivity for 128 kg/m3s at mean temp.of 550°C, W/m°K[BTU-in/hrft2°F]	0.1 [0.75]			
Application	Combustion chambers of boilers and heaters, hot face lining for furnaces and kilns, backup insulation for monolithic and brick linings. Ladle covers, Aluminum trough liners and special shapes, trough covers. Expansion joints, hot gas duct liners, riser sleeves, crucibles, launders, tap-out cones, sight holes etc.			

Insulation Products

Ceramic Fibre Products

Bulk Ceramic Fibre:-

Properties:

- Excellent Thermal stability : resist devitrification at high Temperature
- Low thermal conductivity
- Excellent thermal shock resistance
- Excellent chemical stability
- High resiliency
- Good sound absorption
- Low heat storage capacity



Prperties	High Temp.	Regular Temp.	Low Temp.
Maximum use temperature, °C	1400	1260	980
Dimensions,mm	Width:610,1220 Length: 7620		
Density,kg/m3[lbs/ft3]	80 ~ 100[5 ~ 6.3]t		
Thermal Conductivity for 128 kg/m3s at mean temp.of 550°C, W/m²K[BTU- in/hrft²°F]	0.12 [0.83]		
Application	Expansion joints, packing and filling, secondary processing		

Insulation Products

Ceramic Fibre Products

Ceramic Fibre Modules:-

- Faster insulation
- Reduced shrinkage compared to layered lining
- Low heat storage
- Superior to thermal stability and shock resistance
- The resilient blanket is resistant to mechanical damage
- It is versatile and the modules can easily be cut, on the site to suit awkward configurations
- Good sound absorption

Major Applications:

- Furnace repair
- Furnace, kiln, reformer and boiler linings
- Furnace door linings and seals
- Reusable insulation for steam and gas turbines
- High-temperature kiln and furnace insulation
- Primary reformer heater insulation
- High temperature gas keting
- Expansion joint seals
- Glass furnace crown insulation
- Field steam generator lining
- Nuclear insulation applications
- Thermal reactor insulation
- Flexible high temperature pipe insulation
- Investment casting mold wrapping
- Removable casting mold wrapping
- Removable insulating blankets for stress relieving welds
- Pressure and cryogenic vessel fire protection
- Soaking pit seals
- High temperature filtration
- Incineration equipment and stack linings



Prperties	Anchored	Vennered
Maximum use temperature, °C	High Temp:1425 Regular Temp:1300	
Dimensions,mm	300x300 and 300x600	300x300
Density,kg/m3[lbs/ft3]	128 ~ 160[8 ~ 10]	96 ~ 128 [6 ~ 8]
Thickness, mm	100,150,200 and 250	50,75,100 and 150
Thermal Conductivity for 128 kg/m3s at mean temp.of 550°C, W/m°K[BTU- in/hrft2°F]	0.12 [0.84]	
Application	High temperature lining for heaters, furnaces, reformers, kilns and soaking pit seals.	Hot face veneering over existing structurally sound brick or monolithic refractory lining in furnaces, heaters, kilns etc.

Industrial Minerals

Acidic (Silica) Ramming Mass

Acidic (Silica) Ramming Mass:-

Introduction:

The role of Acidic Ramming Mass in steel melting through induction Furnace is very important. Due to its important property to withstand thermal shocks without developing any cracks due to interrupted power supply which is the case through out our country We have taken initiative to develop acidic ramming mass of high quality silica Quartz having heavy density.

Product:

Our ramming mass is a product of super snow white crystalline quartz having 99.90% Silicon dioxide (SiO_2) and manufactured under strict quality control and calcined to eliminate the spalling tendency in stabilized form, where silica neither expands nor contracts It is suitable for with standing higher temperature up to 1720°C

Specifications:

SiO_2 - 99.90%
 Al_2O_3 - 0.02%
Free from Iron contents
Softening Point - 1280 C
Porosity : 50
Compression St : 350 Kg /Cm²
Bulk Density : 2.00 to 2.2 Ton/M³
PCE Value ASTM No : 31-32



Industrial Minerals

Acidic (Silica) Ramming Mass

Acidic (Silica) Ramming Mass:-

Important Features:

1. For the first new lining the requirement of Acidic Ramming Mass is almost 50% of the Furnace capacity in weight.
2. Remove iron or steel contents by powerful magnet.
3. It is required to be preheated to 70°C-80°C. So as to eliminate moisture during summer months In winter season or rainy season. the mass should be preheated at a temperature of 140°C - 150°C. then after cooling it down to 50°C - 60°C mix thoroughly 0.8 to 1.5 percent boric acid according to the size of the crucible.
4. Usually 12% of boric acid of medical grade is used for furnaces up to 3 tons Capacity
5. Store the Ramming mass in dry and dust free area.

Our Acidic Ramming Mass Has got three Categories as under :

1. Grade M1 Suitable up to 1.5 Ton furnace capacity.
2. Grade M2 Suitable for 2 to 3 Ton furnace capacity.
3. Grade M3 Suitable For 5 Ton furnace capacity .

In addition to all we guarantee more lining life with our material compared to any other. While sending your quarries and orders please do specify the capacity of furnace and type of steel you are manufacturing to enable us to give you the correct combination of Material and advise.

Application :

Our Acidic Ramming Mass is used by mixing boric acid 0.8% To 1.5% according to the type of metal Low for Steel and high for cast iron melting. Complete lining guidance can be furnished as required according to the size of furnace



Industrial Minerals

Basic (MgO) Ramming Mass

Basic (MgO) Ramming Mass:-

We supply high quality basic ramming mass that has excellent all round fastness heat properties. We supply various grades of basic ramming mass for induction furnaces, arc furnaces, etc to prevent from anti-coating, corrosion and erosion. It is suitable for production of high quality alloy steel, mild steel, low alloy steel and others.



Following are the grades we supply regularly:

Product	Setting	Sintering Temp °C	Grading (mm)	MgO % (min)	SiO ₂ % (max)	Cr ₂ O ₃ % (min)	Application Temp °C	Place of Use
Ram-M-84 F	Chemical	1550	0-5	84	6	....	1750	For dry fettling of EAF
Ram-M-84 F	Chemical	1550	0-5	85	1	....	1750	For hot & cold repair of steel furnaces
Ram-M-95	Chemical	1550	0-5	95	1	....	1750	For BOF tap hole area
Easy-Tap-I	Chemical	.....	0-5	90	2.5	....	1750	EBT filing mass of EAF
Easy-Tap-II	Chemical	.....	0-5	45	....	....	1750	EBT filing mass of EAF
Hearth-I	Chemical	1250	0-10	80	CaO-10	....	1750	Dry ramming mass for EAF
Ram-MCR-I	Chemical	800	0-5	85	.....	8	1750	For induction furnace melting MS,SS,Mn Steel

Industrial Minerals

Feldspar

FELDSPAR comprises a group of minerals containing potassium, sodium, calcium and aluminum silicates. They are the most common rock-forming minerals. The common feldspar is potassium feldspar, namely, orthoclase (K_2O , Al_2O_3 , $6SiO_2$). Sodium feldspar is albite (Na_2O , Al_2O_3 , $6SiO_2$) and calcium feldspar is anorthite (CaO , Al_2O_3 , $2SiO_2$). A variety of crossed, hatched, twinned orthoclase (to be seen under the petrological microscope only) is called microcline. Sodium and calcium feldspars form an amorphous mixture known as plagioclase feldspars.

In between sodium and calcium, the other feldspars of the plagioclase series are oligoclase, andesine, labradorite and bytownite. They are composed of suitable proportions of sodium and calcium with an increasing percentage of calcium beginning from mineral oligoclase to bytownite, turning completely into calcium feldspar (anorthite). A rock containing only plagioclase feldspars is called anorthosite.

The commercial feldspar is orthoclase. The potassium molecule is replaced by sodium to some extent and hence, orthoclase feldspar usually contains a small percentage of sodium. The composition range of the commercial feldspar varies within the limits of potash, soda and upto oligoclase. Potash and soda feldspar occur as essential constituents of granite, syenite and gneisses. However, workable deposits are found in pegmatite veins consisting mainly of feldspar, quartz-feldspar veins and also occur with mica pegmatites. Feldspar is of widespread occurrence and is mined in almost all countries.



Analysis	P-Spar 01	P-Spar 02	P-Spar 03
SiO ₂	67.50% (± 01.00%)	69.50% (± 1.00%)	72.50% (± 2.00%)
Al ₂ O ₃	17.75% (± 00.50%)	17.05% (± 0.50%)	15.50% (± 1.00%)
K ₂ O	12.10% (± 0.60%)	10.00% (± 0.50%)	8.00% (± 1.00%)
Na ₂ O	2.50% (± 0.80%)	2.50% (± 0.80%)	2.75% (± 1.00%)
Fe ₂ O ₃	0.07% (± 0.01%)	0.10 (± 0.02%)	0.20 (± 0.05%)
CaO	Nil	Nil	Nil
MgO	Nil	Nil	Nil
TiO ₂ <	Nil	Nil	Nil
LoI @ 1000°C	0.10%	0.10%	0.10%

Industrial Minerals

Quartz

QUARTZ is the most abundant and most common mineral on the Earth. It is found in almost every geological environment and also it is at least a component of almost every rock type. It has a hexagonal crystal structure and is made of trigonal crystallized silica. It is most varied in terms of varieties, colors and forms.

The most important distinction between the types of quartz is that one is of macrocrystalline, which is individual crystal visible to the unaided eye, and the other is microcrystalline or cryptocrystalline varieties, aggregates of crystals visible only under high magnification. Chalcedony is the generic term for cryptocrystalline quartz. The transparent variety tends to be macrocrystalline and the cryptocrystalline varieties are either translucent or mostly opaque.

The name "Quartz" has been derived from the German "Quartz," a Slavic origin. It is the most common material identified as mystical substance Maben in the Australian Aboriginal mythology. Pliny the Elder, a Roman naturalist believed quartz to be a permanently frozen ice. According to him, quartz is found near glaciers in the Alps and that the crystals of quartz were fashioned into spheres to cool the hands. It was also known to him the ability of quartz to split light into a spectrum.



Industrial Minerals

Quartz

Specification		
Properties	Unit	Values
SiO ₂	%	99.70% (± 0.20%)
Fe ₂ O ₃	%	0.04% (max)
Al ₂ O ₃	%	0.12% (± 0.05%)
Cr ₂ O ₃	%	0.00040 (max)
TiO ₂	%	0.016
LOI	%	0.17
Refractive index	1.544-1.553-Dr+0.009(B-G interval)
Specific gravity	2.65 constant;variableinimpure varieties
Melting Point	1650 (±75) °C
Streak	White
Boiling point	2230 °C
Crystal system	Trigonal
Solubility	H ₂ O insoluble

Packing	1000Kgs/ Lumps
Shipment	By container / Bulk
Port of Loading	West Coast of India
Available Mesh Size	100/200/300/400 & lumps
	30x80 / 40x150 / 24x60 / 20x80 / 36x150.
Application	
Glass	Oil Well Drilling
Ceramic (White ware)	Semi-conductor
Foundry	Ferro-Silicon Metal
Water Filtration	Electrode

Industrial Minerals

Fly Ash

We supply Brown and Grey color Fly Ash as per client requirements.

Brown Color Fly Ash



Grey Color Fly Ash



Packing and Container Stuffing Photos




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