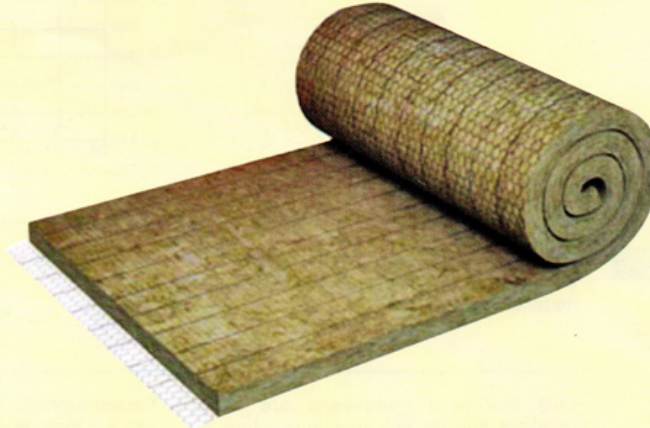


LIGHTLY RESIN BONDED MATTRESSES



Lightly bonded mattresses conforming to IS-8183

Product Description

Rockwool lightly bonded mattress (LRB) consist of fine fibres spun from selected rocks melted at a high temperature and bonded with a thermosetting resin. they are then felted in a predetermined fibre lay pattern and are baked to form preformed mattresses of predetermined density & thickness with uniform fibre distribution. Mattresses are then stitched, slit and chopped to specified dimensions.

LRB has excellent stability and has no chicken feathering which pollutes the atmosphere during application. It has controlled thickness and density resulting in predictable heat losses.

Applications

LRB mattresses are used for both hot and cold insulation to conserve energy, maintain electrostatic precipitators, flues and process temperature, provide personal ventilation ducts, ovens, furnaces, kilns and protection, prevent condensation and reduce noise level. LRB mattresses are used for thermal insulation of fire doors.

Standard Size and Packing

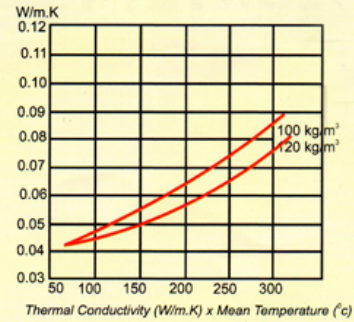
Size of mattresses	1520 mm x 1220 mm or 1640 mm x 1220 mm
Thickness	25mm to 100mm
Density (Kg/Cu.m)	100, 120, 150
Metal Facing	G.I. Hexagonal wire netting 3/4" x 24 G
Standard packing	Polythene bonded hessian
Other sizes of wire netting available on request	

Maximum Service Temperature

Upto 750° C

Thermal Conductivity

LRB Products have extremely low K-values for wide range of temperatures. Typical thermal conductivity values are given in the graph for various densities and mean temperatures.



Thermal Conductivity (W/m.K) x Mean Temperature (°C)

Compression Resistance

LRB Mattresses offer high resistance to compression. LRB mattresses regain their nominal thickness after removal of a normal compressive load.

Moisture Resistance

LRB Rockwool mattresses are water repellent and do not absorb moisture by capillary action or ambient moisture from the atmosphere. Should blankets become wet, full thermal efficiency will be restored on drying out.

Corrosion Resistance

Will not cause, initiate or promote corrosion.

Flexibility

LRB Mattresses are designed for maximum flexibility. They will essentially retain their thickness while conforming to virtually any irregular shape. Retention of fibres by the wire mesh prevents any cracking or breaking.

Fire Resistance

LRB LRB Mattresses are incombustible and resist spread of flames.

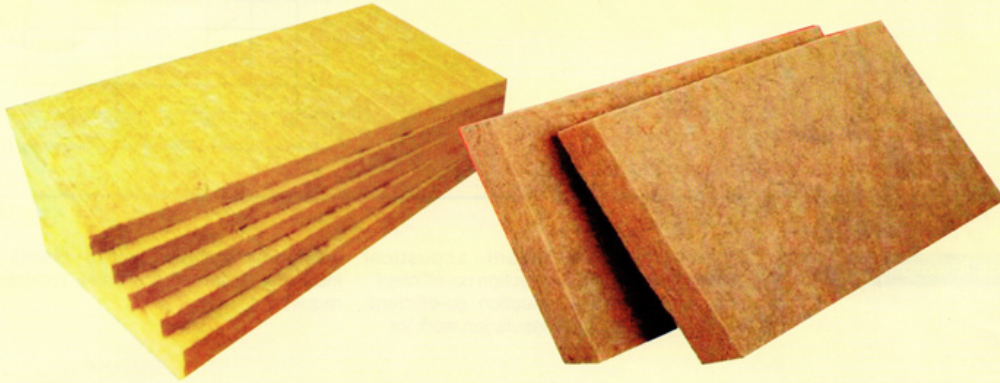


Marudhar REFRACTORIES

HOUSE OF REFRACTORY

SHED NO. C-1-B/41, 1ST PHASE, BEHIND POST OFFICE, GIDC - VAPI - 396 195.
Tel.: (0) (0260) 2424333, Tel FAX : (0260) 2434333 / 34 / 35
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RESIN BONDED SLABS



Slabs conforming to IS-8183

Product Description

Rockwool slabs consist of long fine fibres spun from molten natural rock and bonded with a thermosetting resin. Slabs have the best combination of thermal insulation and fire protection properties.

Applications

Slabs are used for both hot and cold and over false-ceilings, airconditioning duct insulation to conserve energy. Lower density materials are used for building density materials are used for high applications like undertake insulation, wall temperature applications like furnaces, insulation and sound proofing of partitions ovens, autoclaves, kilns, etc.

Standard Size and Packing

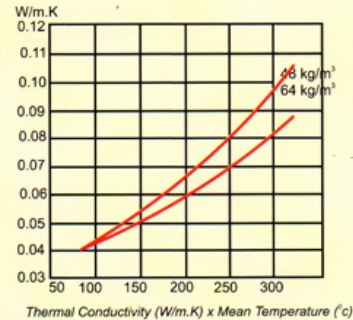
Size of Slabs	1000 mm x 500 mm or 1000 mm x 600 mm
Thickness	25, 40, 50, 65, 75, 100mm
Density (Kg/Cu.m0)	48, 64, 96, 144
Packing	Polythene bonded hessian
* Slabs also available in size 4'x2 (1220 mm x 760 mm)	

Maximum Service Temperature

Upto 750°C

Thermal Conductivity

Thermal conductivity varies with the temperature and density of insulation as shown in fig.



Thermal Conductivity (W/m.K) x Mean Temperature (°C)

Sound Absorption

Slabs provide excellent acoustical absorption and noise reduction co-efficient. Due to high noise reduction co-efficient, they are used acoustic insulation work for auditoria, theatres, public places and industrial areas where noise reduction is required.

Fire Resistance

Slabs are incombustible and resist the spread of flame. They can withstand fire exposure temperatures and hence can be used for fire proofing.

Compression Resistance

Slabs are highly resilient and easily regain their nominal thickness after the removal of normal compressive load.

Moisture Resistance

Slabs are moisture resistant. Should the slabs become wet, full thermal efficiency will be restored after drying out the moisture.

Slabs will not cause, initiate or promote corrosion.

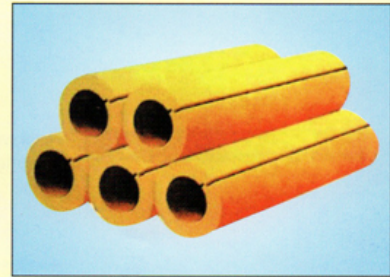


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ROCKWOOL PIPE SECTION INSULATION



Pipe Section Conforming to IS 9842

Product Description

Rockwool Sectional Pipe Insulation (SPI) consists of fine fibres spun from molten natural rock bonded with a thermosetting resin. The sections are moulded to ensure a firm fit around the piping and the outer surface is ground to ensure that correct insulation thickness is achieved and to provide a smooth, even surface.

Rockwool SPI products are available for hot face temperatures upto 750c. Rockwool SPI are supplied as one - Piece sections of one metre length, upto 4" N.B. and with slit along the longitudinal axis in two sections for 4" N.B. and above. Section are easily installed by opening the slit and springing the section into position over the Pipe.

Applications

Rockwool SPI is used on both hot and cold piping to conserve energy, maintain, process temperatures, provide personal protection, prevent condensation, and to reduce noise emission. Rockwool SPI

should be retained by wire or metal bands in accordance with the manufacture's recommendations, and protected if required by metal cladding, mastic or other suitable coating.

Standard Size and Packing

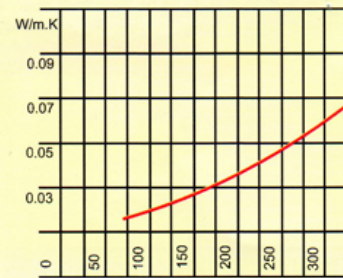
Pipe nominal Bore	15 mm to 350 mm
Wall Thickness	25mm to 100mm
Length	1000mm / 1250mm
Standard Packing	Cardboard cartons
Density (Kg/Cu.m.)	The number of section per pack depends on the size of the section

Maximum Service Temperature

Upto 750°C

Thermal Conductivity

The thermal conductivity of Rockwool SPI varies with the mean temperature of the insulation as shown in the graph. The curve is based on measurements made with a guarded hot-plate apparatus in accordance with IS 3346-1992



Thermal Conductivity (W/m.K) x Mean Temperature (°C)

Compression on Resistance

Rockwool SPI is a resilient insulation material which readily

recovers to its nominal thickness after the removal of a normal compressive load.

Moisture Resistance

Rockwool SPI are water repellent and do not absorb moisture by capillary action or ambient moisture from the

atmosphere. Should they become wet, full thermal efficiency will be restored on drying out.

Corrosion Resistance

Will not cause, initiate or promote corrosion.

Flexibility

Rockwool SPI are incombustible and resist spread of flames



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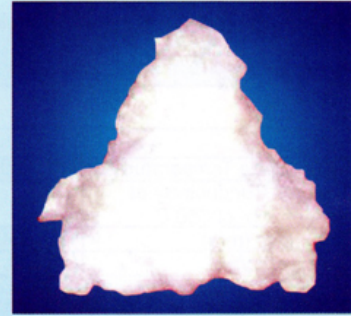
Ceramic Fiber Wool

Ceramic Wool is a light weight thermal insulation material produced by spun process from a high purity alumina-silica composition.

Ceramic Wool		
Type	(1)	(2)
Max. Usage Temperature ^o C	1260	1425
Thermal Conductivity (W/mk) at mean Temperature of 550 ^o C	0.12	0.12
Malting Temperature ^o C	1700	1750
Gravity	2.65	2.65
Percentage Fiber Index	48-52	48-54
Chemical Analysis (Percentage)		
A1 ₂ O ₃	42-47	30-34
SiO ₂	53-58	50-54
ZrO ₂	—	14-18
Others	Traces	Traces

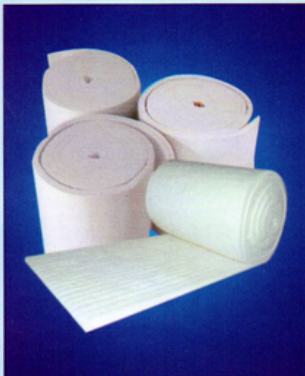
Features :

- Light Weight
- Low Thermal conductivity
- Thermal shock resistant
- Good Sound Absorption
- Very Low curing And dry out time
- Easy for installation
- Excellent Chemical
- Stability
- Free of Asbestos



Application :

- Packing & Filling
- Expansion Joints
- Secondary Processing



Ceramic Fiber Blankets

Ceramic Blanket is a light weight needled blanket, provides effective solution to a wide range of thermal insulation applications. Manufactured using state of the art spinning and double needling technique, these blanket offer low thermal conductivity and superior insulation performance

Ceramic Blanket is made from high purity Alumina, Silica and Zirconia. It is Highly efficient insulator with extremely low shrinkage characteristics.

Ceramic Blanket is unaffected by most chemical reactions (except hydrofluoric & phosphoric Acids and Concentrated Alkalis). It is completely inorganic and hence no fumes during initial heating or later heat-ups. In case of wetting by steam, water or other liquids, it retains its thermal and physical properties after drying. It is recommended for dry wrapping of structural steel and variety of other passive fire protection applications. It is available in various chemical compositions, density and thickness combinations.

Ceramic Blankets	
Max. Usage Temperature C	(1) 1260 Regular (2) 1425 High Temp.
Thermal Conductivity at mean temp. of 550 C	0.12
Standard Dimensions	
Thickness (mm)	10, 13, 19, 25, 38, & 50
Density (kg/m)	64, 96, 128

Application :

- High temperature duct, pipe insulation
- Turbine insulation
- Expansion joints & tube seats
- Heat treatment furnace, soaking pit cover sealing
- Ovens and stack linings
- Exhaust duct and Air pre-heater insulation
- Boiler insulation
- Fire retardant



Ceramic Fiber Modules

In the layered construction (Blanket, Baard and Moist pack) the anchors are exposed to hot face temperature and are the limiting factors for use of Ceramic fiber in high temperature applications. **To overcome this limitation Ceramic Fiber Modules are used.**

Modules anchoring systems can provide an option of backup blanket lining with hot face modular lining. A backup blanket lining serves as safety lining in all unlikely event of module failure. It also makes it convenient to provide vapour barrier for protection against attack of sulphurous gases on the furnace shell.

Modules are compressed **Blankets**, folded with specially designed internal anchoring system which gives choice of attaching the module to the shell by welding, bolting or self-tapping screw method.

Modules	
Type	(a) Anchored (b) Veneer
Max. Usage Temperature °C	(1) 1260 (2) 1425
Thermal Conductivity at mean temp. of 550 °C	0.12
Thickness (mm)	100, 150, 200, 300
Density (kg/m)	(A) 160, 192, (B) 128, 1607

Application :

- High temperature linings for furnaces, heaters, kilns, reformers, soaking pit seals etc.
- Hot face veneering over existing brick or monolithic refractory lining in heaters, kilns and furnaces.

Note : Sizes, dimensions and anchoring as per project requirements

Ceramic Fiber Boards

Vacuum formed Ceramic Boards and Shapes are rigid products made from Ceramic Fiber Which is mixed with organic and inorganic binders with or without mineral fillers. The key feature of this product is that it contains no asbestos element but has high strength due to long resilient filament structure and binder system. This gives it very high insulating value, makes it resilient and chemical resistant. It is unaffected by water/chemical spillage and its physical properties are restored on drying.



Modules	
Type	(1) Grade 1260 C Reg. Temp. (2) Grade 1300 C Reg. Temp. (3) Grade 1425 C High Temp.
Thermal Conductivity (w/m k) at mean temp. of 550 C	0.12
Dimensions	500 x 1000 mm
Thickness (mm)	Other sizes & shapes on request
Density (kg/m)	15, 19, 25, 38, 50, 63, 75
	260-400

Application :

- Combustion chambers of boilers & heaters
- Hot face lining for furnaces & kilns
- Backup insulation to castable & bricks
- Ladle covers, Aluminium through lines, trough covers,
- Expansion joints, Hot gas duct lining, Riser sleeves,
- Crucibles, Launderers, Tap out cones, Sight holes, etc.



Ceramic Fiber Ropes

Ceramic Twisted Rope is a three-ply rope manufactured from Ceramic long fibers. It contains 15-20% organic carrier fiber to facilitate the carding process.

Ceramic Braided Rope is a dense resilient high temperature refractory with excellent thermal properties, chemical stability and high mechanical strength.

Ceramic Braided Rope is available with SS 304/SS 310 Braiding.