INNER® ENGINEERING

DESIGN • COMFORT • INSULATION

The Power of 3 in 1

INROCK®

ENCAPSULATED BAGS

DESIGN
COMFORT
INSULATION

INROCK® RB SLABS

- Resin bonded slab consists of long fine fibres spun from molten natural rocks, bonded with a thermosetting resin which provides excellent thermal insulation, fire protection and sound absorption.
- Incombustible when tested as per IS: 3144. Melting point of fibre is above 1000°C & complies with BS - 476 Part 4 and ASTM E -136.

FACINGS

Resin Bonded slabs is Black available in encapsulated bags (non- woven cloth), three side machine stitched and one end closed with hook and loop fasteners.

INROCK® RB SLAB IN ENCAPSULATED BAG (NON WOVEN CLOTH)

STANDARD DIMENSIONS

Thickness (mm)	Width (mm)	Length (mm)
50 & 75	500	1000

STANDARD DENSITY

Density Kg/m3	Thickness (mm)
48	50-75
80	50-75
96	50-75
100	50
120	50
128	50
140	50
144	50
150	50

TECHNICAL DATA

Chemical Composition	Alumina and Silica Oxide
Fire Resistant	Class A (As Per ASTM E 84)
Temperature Range	Up to 750°C (As Per IS:8183)
ph Value	7 to 8
Chloride Content	0.004%
Sulphur Content	0.2%
Acoustic Performance (Noise Reduction coefficient)	NRC upto 0.95 (As per IS:8225 ASTM 423 C)
Physical Properties	CFC & HCFC free Asbestos free Less Shot Content Less smoke develop Less spread of flame Corrosion Resistance High compression resistance
Biological Properties	Non hygroscopic & Rot proof
Environmental Effect	Does not affect Ozone depletion potential (ODP) Global warming potential (GWP)<
Moisture Absorption	0.4%
Product Specification	1000 mm X 500 mm (As per IS:8183: and ASTM C 612)

SR. No.	DESCRIPTION OF TESTS (Core INSULATION Material)	UNITS	SPECIFICATION / REQUIREMENTS
1	Bulk Density (as per Method 9 of IS 3144;1990)	Kg/m³	48 - 150 +15%
2	Recovery after Compression (As per Annex. A of IS 8183)	%	90 - Min.
3	Shot Content – 250 micron (as per Method 13 of IS 3144;1990)	%	15 - Max.
4	Shot Content – 500 micron (as per Method 13 of IS 3144;1990)	%	5 - Max.
5	Moisture Content & Moisture Absorption (as per Method 14 & 15 of IS 3144;1990)	%	2 - Max.
6	Incombustibility - LOI (as per Method 16 of IS 3144;1990)	%	5 - Max.
7	Thermal Conductivity (as per IS 3346 /ASTM C 518/ ASTM C 177)	W/mK	0.043-Max. @ 50deg. C Mean temp
8	Sulphur Content (as per Method 19 of IS 3144;1990)	%	0.6 - Max.
9	Resistance to Micro-organisms (as per Method 17 of IS 3144)		Shall not show any mould or bacterial growth
10	Odour emission Test (as per Method 18 of IS 3144)		Shall not show any apparent odour
11	Resistance to Vibration (as per Method 22.2 of IS 3144)	%	Shall not show more than 1% height of settlement
12	Resistance to Jolting (as per Method 22.3 of IS 3144	%	Shall not show more than 3% height of settlement
13	Heat Resistance at max. Recommended temp. (as per Method 12 of IS 3144)		Shall not suffer any visible deterioration of fibrous structure
14	Alkalinity (As per Annex. B of IS 8183)	pH	7 - 10
15	Corrosive Attack / Chloride content (as per IS 3144)	%	Shall not cause corrosion / 0.01 – Max.
16	Fiber Dia. (as per Method 24 of IS 3144;1990)	Microns (μ)	7 - Max.

INROCK®
ENCAPSULATED BAGS

THERMAL CONDUCTIVITY TABLE

(AS PER IS:8183, IS:3346, ASTM C 518)

Mean Temp. (°C)	K Value(W/m.K) at different Mean Temperatures and Various Densities								
	Density Kg/m³								
	48	80	96	100	120	128	140	144	150
50	0.042	0.038	0.037	0.037	0.038	0.039	0.037	0.039	0.039
100	0.051	0.044	0.043	0.043	0.045	0.046	0.043	0.046	0.046
150	0.059	0.053	0.050	0.051	0.051	0.052	0.049	0.051	0.052
200	0.074	0.062	0.059	0.060	0.060	0.060	0.058	0.059	0.059
250	0.088	0.070	0.068	0.069	0.070	0.070	0.068	0.069	0.069
300	0.101	0.086	0.081	0.082	0.083	0.082	0.080	0.081	0.081
350	0.120	0.102	0.095	0.095	0.091	0.091	0.093	0.091	0.091

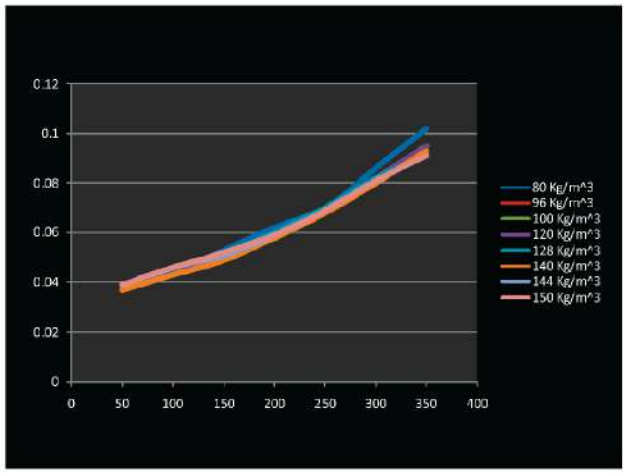
Group 1 (Max Hot Face Temp. upto 250°C)

Group 2 (Max Hot Face Temp. upto 400°C)

Group 3 (Max Hot Face Temp. upto 550°C)

Group 4 (Max Hot Face Temp. upto 750°C)

(Max Recommanded Surface Temp.)



Thermal Conductivity vs Mean Temp.

THERMAL RESISTANCE (R-VALUE)

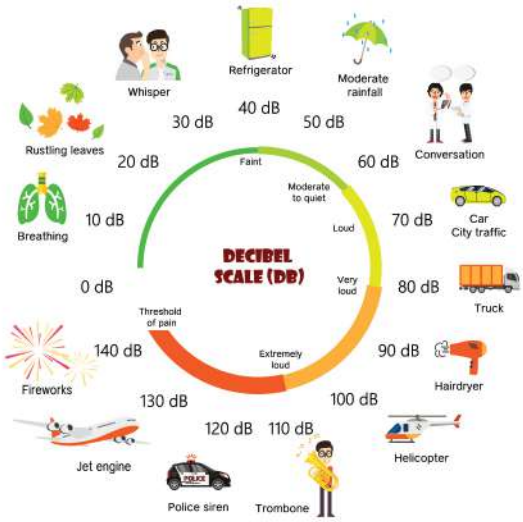
THICKNESS	R Value at 50° Mean Temp in ft²*°F*h/Btu								
	Density Kg/m³								
mm	48	80	96	100	120	128	140	144	150
25	3.40	3.73	3.86	3.86	3.73	3.63	3.86	3.63	3.63
30	4.03	4.48	4.59	4.59	4.48	4.37	4.59	4.37	4.37
50	6.75	7.47	7.67	7.67	7.47	7.26	7.67	7.26	7.26
75	10.13	11.20	11.46	11.46	11.20	10.90	11.46	10.90	10.90
100	13.51	14.94	15.33	15.33	14.94	14.53	15.33	14.53	14.53

ACOUSTIC PROPERTIES OF INROCK® RB SLABS

- Fibrous Structure
- High Porosity
- Higher Resistance To Air Flow
- Good Fibre Orientation
- Fine Fibre Content

NOISE REDUCTION COEFFICIENT (AS PER IS:8225:87)

Frequency (HZ)	4850RBS/ PL	8050RBS/ PL	8075RBS/ PL	9650RBS/ PL	10075RBS/ PL	14050RBS/ PL
250	0.71	0.75	0.93	0.79	0.99	0.84
500	0.98	1.02	1.02	1.02	1.04	1.04
1000	1.04	1.03	1.04	1.03	1.07	1.04
2000	0.95	0.96	1.0	0.96	0.97	1.00
NRC	0.92	0.94	0.98	0.95	1.00	0.98



INROCK® RB SLABS APPLICATIONS

INDUSTRIAL APPLICATIONS

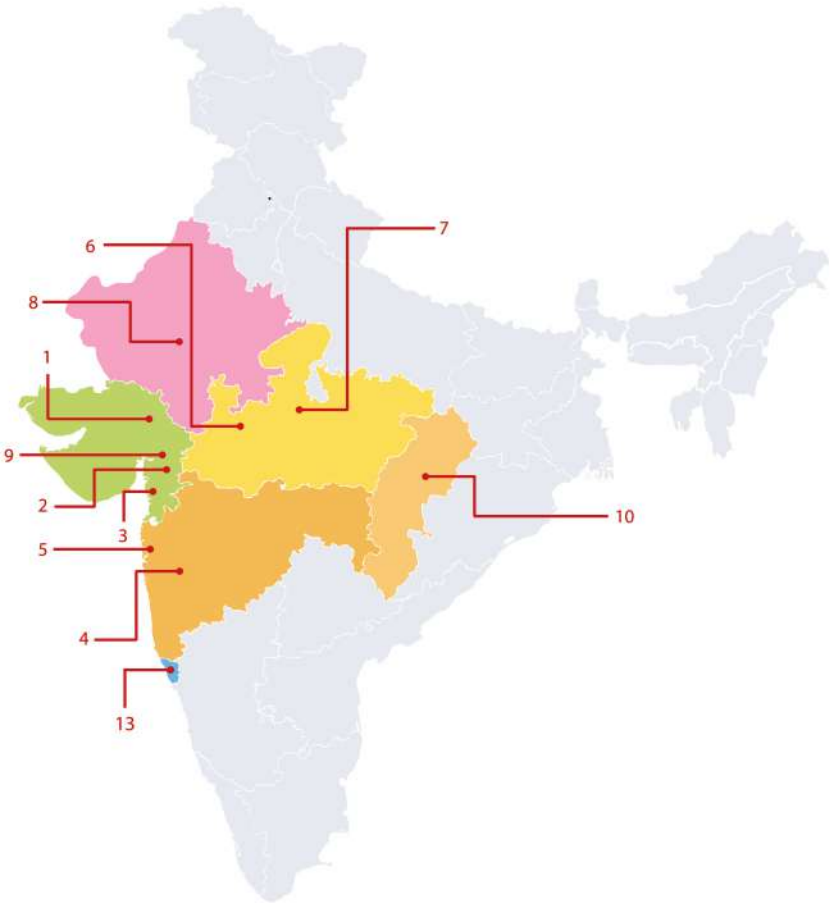
- Tanks
- Large Vessels
- Boilers
- Ovens
- HVAC Duct
- Textile Machinery
- Chimney
- Power Plant
- Furnace

COMMERCIAL APPLICATIONS

- False Ceiling
- Under Deck
- Wall Insulation
- Partition
- Roofing
- Cavity Wall
- Curtain Wall
- Sandwich Panels
- Sound Proofing of Auditorium
- Stadium
- Airport

FEATURES

- Low Thermal Conductivity
- High Temperature Application
- High Sound Absorption
- High Durability
- Non Hygroscopic
- Water Resistance
- Weather Proof
- Fire Resistance
- Non Combustible
- Non Inflammable
- Deformation Resistant
- Easy To Handle
- Easy To Cut
- Easy To Apply
- Non Corrosive
- Non Carcinogenic



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