

Stonewool Insulation for Thermal, Acoustic and Fire Safety Applications in Buildings



TUFFINSUL Rigid Slabs

Rockwool India Pvt Ltd

Plot No. 21 & 22, Survey No. 64 (part)

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TUFFINSUL Rigid Slabs

TUFFINSUL Rigid Slab offers superior rigidity and durability for application areas where high levels of compressive strength are required.

Standard Dimensions

Density (kg/m ³)	Thickness (mm)	Width (mm)	Length (m)
48 to 200	25 to 200	600	1.0 to 1.2



On request Tuffinsul Slabs can be supplied with Facing

The following table compares the compression strength of TUFFINSUL Rigid Slab vs. Regular slabs.

Comparison B/W RB slabs & Tuffinsul compressive strength (Kpa)		
Density (kg/m ³)	RB Slab	Rigid Slab
48	4.60	10.44
64	8.23	12.25
96	9.23	19.68
122	13.32	20.78
144	37.06	40.65
160	43.62	68.74
200	44.12	95.07

These are typical value subject to normal manufacturing and testing variances.

PERFORMANCE

Working Temperature

Fibre : Up to 750 °C
Facing : 100 °C

At temperatures in excess of 230 °C limited migration of binder may occur in the insulation in contact with the hot face. This does not impair the insulation performance.

Thermal Performance (K Value)

The thermal conductivity of TUFFINSUL Rigid Slabs as per ASTM C 177, 518, IS 3346 is displayed. Below:

Mean Temperature °C	Thermal Conductivity in W/m.k for the following densities in kg/m ³							
	48	64	80	100	120	144	160	200
25	0.036	0.035	0.035	0.034	0.034	0.034	0.036	0.037
35	0.038	0.036	0.037	0.036	0.036	0.036	0.037	0.038

Thermal Performance (R Value)

Thickness (mm)	Thermal Resistance (m ² .K/W) at 25 °C mean temp. for following densities in kg/m ³							
	48	64	80	100	120	144	160	200
25	0.694	0.714	0.714	0.735	0.735	0.735	0.694	0.676
50	1.389	1.429	1.429	1.471	1.471	1.471	1.389	1.351
75	2.083	2.143	2.143	2.206	2.206	2.206	2.083	-
100	2.778	2.857	2.857	2.941	2.941	2.941	-	-
125	3.472	3.571	3.571	3.676	3.676	3.676	-	-
150	4.167	4.286	4.286	-	-	-	-	-
200	5.555	-	-	-	-	-	-	-

These are typical values subject to normal manufacturing and testing variances.

Acoustic Performance

TUFFINSUL Rigid Slabs achieve excellent acoustic performances (sound absorption coefficients, sound insulation, and impact sound insulation) when tested in accordance to various relevant ASTM standards. TUFFINSUL Rigid Slabs achieve Noise Reduction coefficient (NRC) values up 1.05, when tested in accordance to ASTM C423.

Fire Safety Performance

Unfaced TUFFINSUL Rigid Slabs are non-combustible when tested in accordance with IS 3144, BS 476 (part 4), ISO 1182 and ASTM E 136 and are classified as Class A1, in accordance with European norms.

TUFFINSUL Rigid Slabs have the following fire safety rating achievements:

1. Class 1 surface spread of flame in accordance to BS 476 (part 7)
2. Class o in accordance to the BS 476 (part 6 & 7) and to British Building Regulations.
3. Surface burning characteristics in accordance to ASTM E84 / UL 723
 - a. Fire Spread Index : Less than 25
 - b. Smoke Developed Index : Less than 50

Moisture Absorption Performance

TUFFINSUL Rigid Slabs absorb less than 1% by volume when tested in accordance with BS 2972, ASTM C 1104 /1104 M, and do not absorb moisture from ambient air or from water by capillary action. Only water under pressure can water into stonewool insulation products; however, it quickly dries out due to the open cell structure of TUFFINSUL Rigid Slabs.

When tested in accordance to ASTM E96, FSK-faced Rigid Slabs achieve water vapour permeability of ≤0.02 perm & ALG-faced Rigid Slabs achieve zero water vapour permeability.

Applications

TUFFINSUL Right Slabs used for thermal and acoustic insulation where high compressive strength is required such as over-desk, floors, sandwich panels, and dry wall partitions.



Before installing TUFFINSUL Rigid Slabs, make sure to clear away any dust or grease and dry the surface. Slabs are pre-cut in required dimensions and placed over the surface to be insulated. Care should be taken to ensure that the joints fit properly and no gaps are left at the jobs. Depending on the surface and equipment, pins or spacers should be used to fix the Slabs in place.

Handling & Storage

Products are to be stored in a well-lit, dry and protected area. They are to be kept in the original packaging, at elevated positions above the ground or on a slab, and away from the walls, in order to avoid any penetration of moisture and dust or foreign contamination. If stored outside and in an open area, packages should be protected with a polyethylene film, canvas or other similar type of covering.



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