



MANUFACTURED  
UNDER LICENCE OF  
**ISOVER**  
SAINT-GOBAIN

ROCKINSUL BUILDING ROLL (RBR)



APPLICATIONS

For thermal and/or acoustic insulation of walls and roofs.



DESCRIPTION

KIMMCO Rockwool Building Rolls are manufactured from stable rock fibers bonded with thermosetting resins. Light in weight, strong and resilient. Easy to handle.

Rock fibers in Rockwool Building Rolls are fine and uniformly distributed that ensure excellent uniform thermal resistance of Building Roll

FACINGS

KIMMCO Rockwool Building Rolls are available with FSK (Aluminium Foil/glass scrim/Kraft paper laminate) facing which provides an efficient vapor barrier.

Glass scrim, one of the components of FSK, is specially engineered that enable FSK to achieve very high tensile strength of more than 8000 N/m in longitudinal direction (MD). This high tensile strength helps in tightening the roll at the ends and to avoid welded wire mesh conventionally used to support insulation rolls when applied in PEB ceiling.

Glass scrim being non-corrosive does not deteriorate with time and ensures NO SAGGING in FSK faced KIMMCO Rockwool Building Roll over a period as it has least coefficient of thermal expansion.

DENSITY AND DIMENSIONS

Density (kg/m³)	Thickness (mm)		Length (m)	Width (mm)	BR	Density kg/m³	Density lbs/ft³
	min	max					
36/48	40	50	5 to 10	1100	36	36	2.250
	60	100	5 to 8		48	48	4.000
60	30	50	5 to 8		60	60	3.750
	60	100	4 to 7		OTHER DENSITIES AVAILABLE		

PERFORMANCES

WORKING TEMPERATURE	
Fibre	750° C
FSK	100° C

PERMANENCE:

KIMMCO Rockwool Building rolls are dimensionally stable under varying conditions of temperature and humidity, rot proof, odorless, non-hygroscopic and will not sustain vermin or fungus. No sag and settling so longer life.

THERMAL CONDUCTIVITY (K VALUE):

Thermal conductivity of Rockwool Building rolls tested n according to BS 874, ASTM C 177, 518; are shown in the following Table:

MEAN TEMPERATURE		THERMAL CONDUCTIVITY FOR THE FOLLOWING DENSITIES					
		W/m.K			Btu.in/ft2.h. °F		
°C	°F	36 kg/m³	48 kg/m³	60 kg/m³	2.250 lb/ft³	3.000 lb/ft³	3.750 lb/ft³
10	50	0.036	0.033	0.031	0.250	0.229	0.215
25	77	0.039	0.035	0.033	0.270	0.243	0.229
50	122	0.047	0.042	0.038	0.326	0.291	0.263
100	212	0.057	0.051	0.046	0.395	0.354	0.319

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

THERMAL RESISTANCE (R VALUE):

Thermal resistance is a key to direct measure of thermal performance of an insulation material. It is directly proportional to thickness of insulation. Lower the thickness of insulation material is lower the thermal resistance hence lower the thermal performance correspondingly.

It is important to not that Mineral wool (rock wool / Glass wool /Slag wool) of low densities (<24kg/m3) do not retain its original thickness. It regains thickness between 50 – 90%.

Minimum density of KIMMCO Rokwool Building Rolls as 36kg/m3 ensures no change in its thermal performance

Thermal Resistance values of Rokwool Building Rolls for various thicknesses and densities are shown in following Table:

THICKNESS		THERMAL RESISTANCE AT 25 °C MEAN TEMP					
		m².K/W			ft².h.°F/Btu		
mm	inch	BR 36	BR 48	BR 60	BR 36	BR 48	BR 60
30	1.25	-	-	0.909	4.630	5.144	5.463
40	1.50	1.026	1.143	1.212	5.556	6.173	6.556
50	2.00	1.282	1.429	1.515	7.407	8.230	8.741
60	.50	1.538	1.714	1.818	9.259	10.288	10.926
75	3.00	1.923	2.143	2.273	11.111	12.346	13.112
100	4.00	2.564	2.857	3.030	14.815	16.461	17.482



AN EXAMPLE OF CALCULATION OF THERMAL TRANSMITTANCE (U VALUE) AT 25 oC MEAN TEMPERATURE FOR ROOF AND WALL:

ROOF

Elements of Construction	R Value ( ft².h.F/Btu )			
	KIMMCO Rockinsul Building Roll (BR 36)			
	40 mm	50mm	75mm	100mm
Out side Surface Air Resistance	0.250	0.250	0.250	0.250
Metal sheet	0	0	0	0
Rockwool	5.824	7.279	10.919	14.559
Inside Surface Air Resistance	0.908	0.908	0.908	0.908
RTOTAL	6.982	8.437	12.077	17
U Value ( Btu/ ft².h.F )	0.143	0.119	0.083	0.064

WALL

Elements of Construction	R Value ( ft².h.F/Btu )			
	KIMMCO Rockwool Building Roll (BR 36)			
	40 mm	50mm	75mm	100mm
Out side Surface Air Resistance		0.250	0.250	0.250
Metal sheet	0	0	0	0
Rockwool	5.824	7.279	10.919	14.559
Inside Surface Air Resistance	0	0	0	0
Liner	0.681	0.681	0.681	0.681
RTOTAL	6.755	8.21	11.85	15.49
U Value ( Btu/ ft².h.F )	0.148	0.122	0.084	0.065

FIRE SAFETY:

Unfaced KIMMCO Rockwool Building rolls are Non-combustible when tested in accordance to BS 476 (Part 4), ASTM E 136.

FSK faced KIMMCO Rockwool Building rolls when tested in accordance to ASTM E84 / UL 723 / NFPA 255 achieve surface burning characteristics as follows:

Flame Spread Index : < 25  
Smoke Developed Index : < 50

Fire Hour Rating:

“Fire Hour Rating” of an insulation material is very important. It reflects the ability of an insulation material to resist the fire for how much time. During fire each extra minute is vital to save the life and property.  
Only Rock wool products among all Mineral wool (rock wool / Glass wool /Slag wool) products are recommended for FIRE Hour Rating.  
It achieves up to 2hrs FIRE Hour Rating.

MOISTURE ABSORPTION:

KIMMCO Rockwool Building Rolls achieve moisture absorption less than 1% by volume when tested in accordance with ASTM C 1101/1101M. KIMMCO Rockwool Building Rolls do not absorb moisture from the ambient air nor water by capillary attraction. Only water under pressure can enter the insulation products, but that will quickly dry out owing to the material’s open cell structure.  
FSK faced KIMMCO Rockinsul Building rolls achieve water vapor permeance of < 0.02 perms when tested in accordance to ASTM E 96 desiccant method (Federal Standard HH-B-100B type 1).

NON TOXIC:

KIMMCO Rockwool Building Roll is not hazardous to health (See RIL MSDS)

ACOUSTICS:

Unfaced KIMMCO Rockwool Building rolls when tested in accordance to ASTM C 423 ( Mounting A as per ASTM E 795) achieve Sound Absorption Coefficient and NRC values as below:

PRODUCT TYPE	ABSORPTION COEFFICIENT AT THE OCTAVE FREQUENCIES Hz							
	THICKNESS mm	125	250	500	1000	2000	4000	NRC
BR 36	50	0.10	0.42	0.93	1.00	0.96	0.92	0.85
	75	0.23	0.81	0.88	1.04	0.99	0.93	0.95
	100	0.29	0.90	0.95	1.06	0.99	0.95	1.00
BR 48	50	0.08	0.46	0.94	1.05	0.99	0.93	0.85
	100	0.39	0.88	1.04	1.11	1.01	0.94	1.00

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

CONFORMITY TO STANDARDS

KIMMCO Rockwool Building Rolls comply with the following standards:

AMERICAN STANDARDS

ASTM C 167, 168, 177,423, 518, 553, 665 § 13.8 & 13.9, 686, 991, 1045, 1101/1101M, 1104/1104M, 1136 (types 1&2),1335; E 84,96,136, 795  
F.S. HH-B-100B (Type1), HH-I-521F, HH-I-558B

BRITISH STANDARDS

BS 476 (parts 4,6 & 7), 874, 2972, 3533, 6676 (part 1)

INDIAN STANDARDS

IS 8183

TYPICAL FIXING DETAILS

Wall Construction of light weight metal sheeted buildings are frequently uninsulated leading to extremely uncomfortable working conditions or excessive cooling requirements. KIMMCO Rockwool Building Roll can be fitted to new and existing buildings to alleviate these problems.

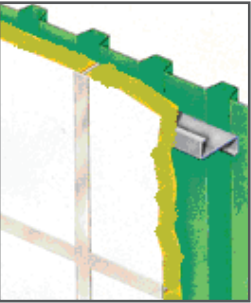
NEW CONSTRUCTION:

KIMMCO Rockwool Building Roll is fixed at the head of the wall and allowed to drape down the length. The insulation roll may be fixed to sheeting rails with the faced side to the inside of the building if no lining sheets are to be used or alternatively by trapping the insulation between external and internal sheeting. Spacer Bars of Non compressible material should be used to prevent undue crushing of the insulation.

EXISTING BUILDINGS:

KIMMCO Rockwool Building Roll may be installed from within existing buildings by using a “T” Bar suspension gride and liner sheets, the insulation can be cut to suit the size of lining sheet and fixed to the back of the sheet with adhesive or mechanical fasteners. The lining is then installed in the grid system in the normal manner.

As an alternative to the above timber packing strips may be cut to suit the sheeting rails and screwed in place, fix the Building Roll at the head of the wall by screws into the timber packer with a steel strip placed on top of the insulation directly over the packer. Repeat as required at other sheeting rail locations, ensuring that the Building roll are closely butted to each other with the edge flanges overlapping.



METAL BUILDING ROOF

OVER PURLIN APPLICATION

Fix end of Building Roll faced side down, at ridge and allow to unroll to eaves. At eaves, Roll should be cut and pulled taut. Each subsequent roll should be overlapped or butted to avoid gaps.  
Packing strips, equal in thickness to the insulation should be placed along the line of each purlin and fixed through the roofliner to the purlin below. This avoids undue compression of the insulation.  
The roof cladding should be carried out in conjunction with the insulation work to avoid accidental damage. Fixing should be through the crown profile of the roofing sheet and down through the spacer to the purlin below.  
Weathering sheets should be fitted as insulation work progresses in order to avoid unnecessary damage to the insulation. Holes for hook bolts shall be sealed against water penetration.

UNDER PURLIN APPLICATION

After application of roof covering the internal lining and insulation can be carried out using a framework of light metal “T” sections suspended from the purlins by straps or hangers.  
a. Cut Building Roll to size and lay on lining board. To assist in handling, the insulation may be adhered or stapled to the lining board. Erect lining board and insulation within the metal “T” grid securing as required.  
b. Alternatively the insulation can be applied from rolls initially secured at the ridge and allowed to unroll progressively towards the eave in conjunction with the application of lining boards. It is important that the adjacent layers of insulation are sufficiently overlapped to prevent heat loss or gain.

