KIMMCO-ISOVER
Building Roll (KBR)

KIMMCO ISOVER
SAINT-GOBAIN

شركة قطر للعوازل
Qatar Insulation Company

About Us

Alghanim Industries and French construction giant Saint-Gobain ISOVER join forces together after the recent launch of their new stone wool plant in Yanbu Saudi Arabia and the integration of KIMMCO in Kuwait.

With a 40 year track record in manufacturing, technology and supply of insulation materials and solutions to the Middle East markets, KIMMCO and Saint-Gobain ISOVER now offer their full range of glass wool and stone wool products and solutions under the brand KIMMCO-ISOVER.

Alghanim INDUSTRIES

- Alghanim Industries is one of the largest privately –owned companies in the Gulf region
- A heritage of over 100 years as a successful commercial enterprise in the Gulf region
- Operations in over 40 countries and employing
- Over 14,000 employees
- A multi-billion dollar company with more than 30 businesses.

SAINT-GOBAIN

World leader in sustainable habitat and construction market.

Saint-Gobain designs, manufactures and distributes material and solution which are key ingredients in the wellbeing of each of us and the future of all.

- Founded in 1665
- Nearly 179,000 employees
- Operates in 67 countries
- Close to 400 patents filed each year

KIMMCO-ISOVER Building Roll (KBR)

APPLICATIONS

For thermal and/or acoustic insulations of all buildings walls and roofs.

DESCRIPTION

KBR are manufactured from stable glass fibers bonded with thermosetting resins. They are light in weight, strong, resilient and easy to handle.

Facings

KBR are available unfaced or with a variety of facings to suit the applications: white vinyl, FSK, metallized polyester, kraft paper and glass tissue.

Standard Dimensions

Thickness (mm)	Width (m)	Length (m)
25	0.4, 0.6, 1.0, 1.2	10 to 45 according to the thickness & density
40	,,	
50	,,	
75	,,	
100	,,	

Non-standard sizes may be available on request.

Nominal Density

KBR	kg/m^3	Lbs/ft^3
10	10	0.625
12	12	0.750
16	16	1
18	18	1.125
20	20	1.250
24	24	1.5
32	32	2
36	36	2.25
48	48	3

Other densities may be available on request.

PERFORMANCE

Operating Temperature

Fibre	upto 232 °C (450 °F)
FSK	100 °C (212 °F)
Vinyl	80 °C (176 °F)
Metallized polyester	80 °C (176 °F)

Permanence

Dimensionally stable under varying conditions of temperature and humidity, rot proof, odourless, non-hygroscopic and will not sustain vermin or fungus.

Longer life due to no sag and settling.

No Corrosion

Does not cause or accelerate corrosion of steel, copper or aluminum.

Thermal Conductivity

Thermal conductivity according to BS 874, ASTM C177, 518; ISO 8301, 8302 or DIN 52612 are described in tables below:

Mean Temperature	Thermal Conductivity in W/m.K for the following densities in kg/m^3								
°C	10	12	16	18	20	24	32	36	48
0	0.038	0.036	0.034	0.033	0.032	0.031	0.030	0.029	0.029
10	0.040	0.038	0.036	0.035	0.034	0.032	0.031	0.030	0.030
25	0.044	0.041	0.039	0.038	0.036	0.035	0.033	0.032	0.031
50	0.055	0.048	0.044	0.043	0.041	0.039	0.037	0.036	0.035
75	0.064	0.059	0.051	0.048	0.046	0.043	0.040	0.039	0.037
100	0.074	0.065	0.057	0.053	0.051	0.047	0.044	0.043	0.041

Thickness (mm)	Thermal Resistance (m^2 K/W) At 25 °C Mean Temperature								
	KBR10	KBR12	KBR16	KBR18	KBR20	KBR24	KBR 32	KBR 36	KBR 48
25	0.568	0.610	0.641	0.658	0.694	0.714	0.758	0.781	0.806
40	0.909	0.976	1.026	1.053	1.111	1.143	1.212	1.250	1.290
50	1.136	1.220	1.282	1.316	1.389	1.429	1.515	1.563	1.613
65	1.477	1.585	1.667	1.711	1.806	1.859	1.970	2.031	2.097
75	1.705	1.829	1.923	1.974	2.083	2.143	2.273	2.344	2.419
100	2.273	2.439	2.564	2.632	2.778	2.857	3.030	3.125	3.226
125	2.841	3.049	3.205	3.289	3.472	3.571	3.788	3.906	4.032
150	3.409	3.659	3.846	3.947	4.167	4.286	4.545	4.688	4.839

Mean Temperature	Thermal Conductivity in BTU.in/ft^2.h °F for the following densities in Lbs/ft^3								
°F	0.625	0.750	1	1.125	1.250	1.500	2	2.250	3
32	0.26	0.25	0.23	0.23	0.22	0.21	0.20	0.20	0.20
50	0.28	0.27	0.25	0.24	0.23	0.22	0.22	0.21	0.21
77	0.31	0.29	0.27	0.26	0.25	0.24	0.23	0.22	0.22
122	0.38	0.34	0.31	0.30	0.28	0.27	0.25	0.25	0.24
167	0.45	0.41	0.35	0.34	0.32	0.30	0.27	0.27	0.26
212	0.51	0.45	0.40	0.37	0.36	0.33	0.30	0.30	0.29

Thickness (inch)	Thermal Resistance (ft^2.h/Btu) at 77 °F Mean Temp.								
	KBR10	KBR12	KBR16	KBR18	KBR20	KBR24	KBR 32	KBR 36	KBR 48
1	3.226	3.448	3.704	3.846	4.000	4.121	4.371	4.507	4.653
1.5	4.839	5.172	5.556	5.769	6.000	6.182	6.556	6.761	6.979
2	6.452	6.897	7.407	7.692	8.000	8.242	8.742	9.015	9.306
3	9.677	10.345	11.111	11.538	12.000	12.363	13.113	13.522	13.958
4	12.903	13.793	14.815	15.385	16.000	16.484	17.483	18.030	18.611
5	16.129	17.241	18.519	19.231	20.000	20.833	21.854	22.537	23.264
6	19.355	20.690	22.222	23.077	24.000	25.000	26.225	27.045	27.917

These are typical values subject to normal manufacturing and testing variances

Fire Safety

Combustibility

Base fibers are non combustible when tested in accordance with BS 476 (part 4), ASTM E136 and ISO 1182

Surface Burning characteristics

Glass reinforced aluminum/kraft laminate facing (FSK) are U.L. classified as follows:

Flame spread : Not over 25
Smoke developed : Not over 50

Vinyl facing are U.L. classified as following:

Flame spread : 25
Smoke developed : 80-105

KBR achives class 1 when tested as per BS 476 part 7.
KBR achives class 0 when tested as per BS 476 part 6 & 7.

Moisture Absorption

Less than 1% by volume when tested in accordance with BS 2972 or 6676, ASTM C1104. KBR 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 KBR comply with ASTM E96 desiccant method. Permeance not to exceed 0.02 perms (Federal Standard HH-B-100B type1- superseded by ASTM C1136)

Vinyl faced KBR comply with ASTM E96 desiccant method. Permeance not to exceed 1.0 perm.

NON TOXIC

KBR is not hazardous to health. (See KIMMCO-ISOVER MSDS)

Acoustic Performance

ASTM C423 - Mounting A as per ASTM E795

Product Type	Thickness (mm)	Absorption Coefficient of one-third octave frequencies Hz						
		125	250	500	1,000	2,000	4,000	NRC
KBR 12	25	0.1	0.27	0.45	0.61	0.80	0.6	0.55
	50	0.32	0.65	0.90	0.94	0.94	0.93	0.85
	100	0.60	0.95	1.05	1.08	1.08	1.06	1.05
KBR 16	25	0.15	0.47	0.68	0.84	0.85	0.79	0.70
	50	0.43	0.75	1.06	1.02	0.98	0.93	0.95
	75	0.58	0.98	1.16	1.11	1.04	0.93	1.05
KBR 24	25	0.17	0.46	0.78	0.93	0.90	0.90	0.75
	50	0.44	0.83	1.01	0.97	0.95	0.96	0.95
KBR 32	25	0.17	0.69	0.80	0.94	0.97	0.91	0.80
	50	0.37	0.73	1.07	1.05	1.04	1.03	1.00
KBR 48	25	0.23	0.38	0.81	0.91	0.95	0.96	0.75
	50	0.16	0.78	1.09	1.12	1.03	1.05	1.00

These are typical values subject to normal manufacturing and testing variances

CONFORMITY TO STANDARDS

American Standards		British Standards	ISO	Other Standards
C 167	C 1104/ 1104M	BS 476 (part 4, 6 & 7)	354	UL 723
C 168	C 1136 (type 1 & 2)	BS 874	8301	NFPA 255
C 177	C1290	BS 2972	8302	NAIMA Standards
C 423	C 1304	BS 3533	9229	ASHRAE 90.1 requirements
C 518	C 1338	BS 6676 (part 1)	9291	F.S. HH-1-521F (superseded by ASTM C665)
C 553	E 84			
C 665	E 96			F.S. HH-B-100B (Type 1) (superseded by ASTM C1136)
C 686	E 136			
C 991	E 336			German Standards
C 1101/ 1101 M	E 795			DIN 18165, DIN 52612

TYPICAL FIXING DETAILS

Wall construction of light weight metal sheeted buildings are frequently uninsulated, leading to extremely uncomfortable working conditions or excessive cooling requirements. KBR can be fitted to new and existing buildings to alleviate these problems.

New Construction

KBR 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

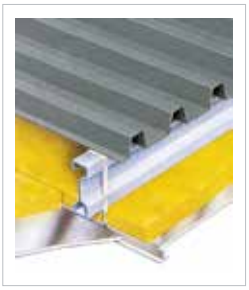
KBR may be installed from within existing buildings by using a "T" bar suspension gride and liner sheets, the insulation can be cut to suit the size of lining sheet and fixed to the back of the sheet with adhesive or mechanical fasteners. The lining is then installed in the grid system in the normal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

As an alternative to the above, timber packing strips may be cut to suit the sheeting rails and screwed in place, fix the KBR 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 KBR are closely butted to each other with the edge flanges overlapping.

Over Purlin Application

Fix end of KBR 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 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 KBR 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.

Sandwich Construction

Roofs which incorporate double sheeting can be easily insulated with KBR due to its flexible nature. After initial fixing of the inner or lining sheeting, KBR should be fitted by unrolling from ridge to eave, ensuring that each subsequent roll overlaps or butts the preceding roll to eliminate gaps and maintain the effective insulation values desired. Fit spacers in the form of timber battens or proprietary profiled strips or other compression resistant materials on top of the insulation directly over the purlins to avoid crushing the insulation when the external weathering sheet is fitted.

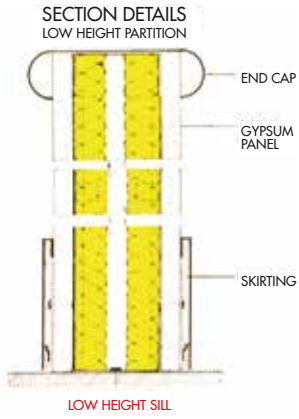
DEMOUNTABLE PARTITIONS

Generally, factory assembled with metal or plasterboard facings. The addition of KBR to the partition void reduces the level of sound transmissions.

"A" Purpose Built Light Weight Partitions

Due to the problems of load and the usual involvement of wet trades, heavy block partitions are commonly being replaced by purpose built light weight partitions. With careful design and construction, these partitions can provide adequate levels of sound transmission reduction.

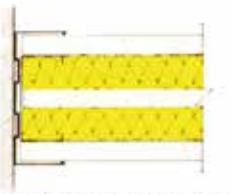
Partitions should be constructed with as little mechanical linkage as possible, studs should be staggered to avoid direct transmission paths, with the insulation fitted or woven between them.



"B" Sound Absorption Treatment

In areas where sound absorption is required, KBR can be used to line the walls, behind a decorative or functional facing which will permit the passage of sound waves to the glass wool behind, thereby reducing the amount of sound reflected back. This type of treatment is commonly used in open plan offices, auditoriums, sports halls, sound studios, multi-purpose school halls and industrial areas.

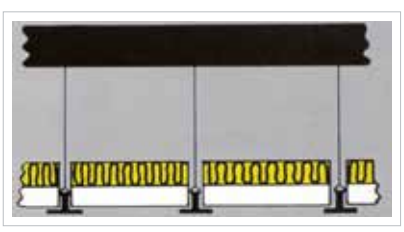
The insulation should be fitted directly against the wall surface, between timber battens. A surface treatment of perforated hard board or sheet metal can be fixed to the timber battens. The area of perforation should be no less than 10% for most common treatments, though a 33% perforation is preferable, as this gives an optimum amount of absorption. Should a more decorative treatment be required, a good quality curtain grade hessian or other decorative fabric can be applied.



FULL / LOW HT. STARTER OR END PANEL

Acoustic Insulation of Existing Ceilings

KBR as overlay to new or existing ceilings to improve "R" value and acoustic performance.



Commitment to Quality

Properties of KIMMCO-ISOVER Products

- Excellent thermal performance
- Superior acoustic performance
- Excellent fire safety
- Environmentally friendly: made from abundantly available, non-strategic materials.
- Suitable for a wide variety of applications (flexible, semi-rigid, rigid and extra-rigid)
- Address a variety of performance requirements (wide range of facing materials)
- Easy to cut and install, minimum wastage on-site
- Comparatively light in weight
- Dimensionally stable
- No sagging or settling
- Complies with international standards

Further, we are members of the following industry associations:

- Emirates Green Building Council (EGBC)
- Kuwait Green Building Council (KGBC)
- Qatar Green Building Council (QGBC)
- Singapore Green Building Council (SGBC)
- MASDAR (The Future Build)
- Middle East Mineral wool Insulation Manufacturers Association (MEMIMA)

Our Commitment to the Environment

KIMMCO-ISOVER was selected as the sole insulation supplier and official collaborator with MASDAR city, the world's first zero-carbon, zero-waste city, in Abu Dhabi. We have a strong commitment to the environment, health and safety of our people, and surrounding communities, and actively collaborate with local and international environmental agencies. Further, KIMMCO-ISOVER products help developers achieve green building rating certifications such as LEED, Estidama and QSAS

Our Product Listing & Certification

- DCL
- UL
- CE
- BV
- ABS

Our Commitment to Quality

we have a strong commitment to quality, as recognized by our certification by international bodies such as ISO.

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