



Data Sheet

February 2014

## **KB Blanket Insulation** with ECOSE<sup>®</sup> Technology



# KB Blanket Insulation with ECOSE® Technology

## Description

Knauf KB Blanket Insulation is a lightweight blanket of Glasswool bonded with ECOSE Technology. The products listed are manufactured single layer. KB Blanket is used as thermal and/or acoustical insulation for appliance, equipment, acoustical, industrial, commercial and marine applications up to 650°F (343°C).

## ECOSE Technology

ECOSE Technology is a revolutionary new binder chemistry that makes Knauf Insulation products even more sustainable than ever. It is based on rapidly renewable bio-based materials rather than non-renewable petroleum-based chemicals traditionally used in Glasswool insulation products. ECOSE Technology reduces binder embodied energy and does not contain phenol, formaldehyde, acrylics, artificial colors or UREA.

## Features and Benefits

### Sustainability

- Carbon-negative - meaning: Knauf insulation products used for thermal insulating purposes recover the energy that it took to make them in just hours or a few days, depending on the application. Once installed, the product continues to save energy and reduce carbon generation as long as it is in place.
- Glasswool insulation with ECOSE Technology contains three primary ingredients:
- Sand, one of the world's most abundant and renewable resources
- A minimum 60% recycled post-consumer glass content and UL Environment verification every 6 months

- ECOSE Technology which reduces binder embodied energy by up to 70%

### Free of Phenol-formaldehyde

- Knauf Insulation with ECOSE Technology is totally free from phenol and formaldehyde.

### Indoor Air Quality

- Certified for indoor air quality as a low emitting product by The GREENGUARD Environmental Institute to both the GREENGUARD Certification Program<sup>SM</sup> and the more stringent GREENGUARD Children and Schools<sup>SM</sup> standard.

## Conformity to Standards

KB Blanket Insulation complies with following standards.

### American Standards:

ASTM C167, 168, 177, 423, 518, 553,653, 665 (clause. 13.8 & 13.9), 795, 991, 1045, 1101/1101M, 1104/1104M, 1136(Type I & II), 1304, 1335; 1338, ASTM E 84, 96, 136, 795. UL 723, NFPA 255, NAIMA Standards, ASHRAE 90.1 requirements.

### British Standards:

BS476 (part 4, 6 & 7), 822, 823, 824, 825, 1602, 1608, 1604, 1609. 13501, 13162, 13823

### ISO Standards:

ISO 1716, 1182

## Technical Data

### Surface Burning Characteristics (UL Classified)

- When tested in accordance with ASTM E 84, UL 723, Knauf KB Blanket Insulation does not exceed 25 Flame Spread, 50 Smoke Developed.

### Maximum Service Temperature (ASTM C 411)

- Knauf KB Blanket Insulation is designed for applications to a maximum operating temperature of 650°F (343°C).

### Odor (ASTM C 1304)

- Not objectionable.

### Resistance to Microbial Growth (ASTM C 1338)

- No growth.

### Water Vapor Sorption (ASTM C 1104)

- Less than 3% by weight.

### Corrosiveness (ASTM C 665 cl.13.8)

- Does not accelerate corrosion on steel, copper or aluminum.

## Availability

KB Blanket Insulation is made-to-order and is available in rolls. For your requirements not listed, contact your Knauf Insulation sales representative.

## Packaging

KB Blanket Insulation is placed in a poly bag, vacuum packaged, and slipped into a poly sleeve. The end of the tube is closed with a plastic tie.

## Glasswool and Mold

Glasswool insulation will not sustain mold growth. However, mold can grow on almost any material when it becomes wet and contaminated. Carefully inspect any insulation that has been exposed to water. If it shows any sign of mold it must be discarded. If the material is wet but shows no evidence of mold, it should be dried rapidly and thoroughly. If it shows signs of facing degradation from wetting, it should be replaced. Air handling insulation used in the air stream must be discarded if exposed to water.

## Notes

The chemical and physical properties of Knauf KB Blanket Insulation represent typical average values determined in accordance with accepted test methods. The data is subject to normal variations. The data is supplied as a technical service and is subject to change without notice. References to numerical flame spread rating are not intended to reflect hazards presented by these, or any other material under actual fire conditions.

Check with your Knauf Insulation sales representative to assure information is current.



Nominal Density*		Thermal conductivity values in W/mK for below mean Temperatures in accordance with ASTM C518					
kg/m <sup>3</sup>	lbs/ft <sup>3</sup>	0°C	10°C	25°C	50°C	75°C	100°C
10	0.625	0.038	0.040	0.044	0.055	0.064	0.074
12	0.75	0.036	0.038	0.041	0.048	0.059	0.065
16	1	0.034	0.036	0.039	0.044	0.051	0.057
24	1.5	0.031	0.032	0.035	0.039	0.043	0.047
32	2	0.030	0.031	0.033	0.037	0.040	0.044
36	2.25	0.029	0.030	0.032	0.036	0.039	0.043

\*Other densities may be available on request

Nominal Density*		Thermal conductivity values in Btu.in/ft <sup>2</sup> .h.F for below mean Temperatures in accordance with ASTM C518					
kg/m <sup>3</sup>	lbs/ft <sup>3</sup>	32°F	50°F	77°F	122°F	167°F	212°F
10	0.625	0.26	0.28	0.31	0.38	0.45	0.51
12	0.75	0.25	0.27	0.29	0.34	0.41	0.45
16	1	0.23	0.25	0.27	0.31	0.35	0.40
24	1.5	0.21	0.22	0.24	0.27	0.30	0.33
32	2	0.20	0.22	0.23	0.25	0.27	0.30
36	2.25	0.20	0.21	0.22	0.25	0.27	0.30

\*Other densities may be available on request

These are typical values subject to normal manufacturing and testing variances

Thermal Resistance (m <sup>2</sup> .K/W) at 25°C mean Temperature							
Thickness	Density (kg/m <sup>3</sup> )						
(mm)	10	12	16	24	32	36	48
25	0.57	0.61	0.64	0.71	0.79	0.78	0.81
40	0.91	0.98	1.03	1.14	1.21	1.25	1.29
50	1.14	1.22	1.28	1.43	1.52	1.56	1.61
75	1.71	1.83	1.92	2.14	2.27	2.34	2.42
100	2.27	2.44	2.56	2.86	3.03	3.13	3.23

Thermal Resistance (ft <sup>2</sup> .h.F/Btu) at 77°F mean Temperature							
Thickness	Density (lb/ft <sup>3</sup> )						
(inch)	0.625	0.75	1	1.5	2	2.25	3
1	3.28	3.52	3.70	4.12	4.37	4.51	4.65
1.5	4.92	5.28	5.55	6.18	6.56	6.76	6.98
2	6.56	7.04	7.40	8.24	8.74	9.02	9.31
3	9.83	10.55	11.10	12.36	13.11	13.52	13.52
4	13.11	14.07	14.79	16.48	17.48	18.03	18.03

These are typical values subject to normal manufacturing and testing variances

Standard Dimensions*		
Thickness	Width	Length
mm	m	m
25	0.4, 0.6, 1.0, 1.1, 1.2	10 to 30 according to thickness and density
40		
50		
75		
100		

\*Non-standard sizes may be available on request

Sound Absorption Coefficients (ASTM C423- Mounting Type A as per ASTM E795)								
Density (kg/m <sup>3</sup> )	Thickness (mm)	Absorption Coefficient of one-third octave Band center Frequency Hz						
		125	250	500	1,000	2,000	4,000	NRC
12	25	0.10	0.27	0.46	0.61	0.82	0.60	0.55
	50	0.20	0.54	0.71	0.88	0.88	0.80	0.75
	100	0.60	0.95	1.05	1.08	1.08	1.06	1.05
16	25	0.06	0.20	0.39	0.70	0.81	0.64	0.55
	50	0.19	0.51	0.74	0.89	0.88	0.88	0.80
	75	0.30	0.80	0.98	0.95	0.92	0.95	0.90
24	25	0.09	0.30	0.59	0.80	0.90	0.91	0.65
	50	0.25	0.58	0.97	1.00	0.98	1.00	0.90

These are typical values subject to normal manufacturing and testing variances

### Properties of Knauf Insulation with ECOSE®

- Phenol-formaldehyde free
- Low thermal conductivity
- Superior Acoustical performance
- Non-combustible, non-corrosive, tough and resilient
- Environmentally friendly. Produced out of renewable and naturally occurring materials
- Dimensionally stable
- No sagging or settling
- Complies with international standards

# KNAUF INSULATION

*it's time to save energy*



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## LEED Eligible Product

Use of this product may help building projects meet green building standards as set by the Leadership in Energy and Environmental Design (LEED) Green Building Rating System.

Credit 4.1 - 4.2 Recycled Content

Credit 5.1 - 5.2 Regional Materials



Knauf KB Blanket with ECOSE® Technology products are certified for indoor air quality as low emitting products by The GREENGUARD Environmental Institute to both the GREENGUARD Certification Program<sup>SM</sup> and the more stringent GREENGUARD Children and Schools<sup>SM</sup> standard and are verified to be formaldehyde free.

[www.greenguard.org](http://www.greenguard.org).

The GREENGUARD INDOOR AIR QUALITY CERTIFIED Mark is a registered certification mark used under license through the GREENGUARD Environmental Institute.

## Memberships

Emirates Green Building Council (EGBC)  
MASDAR (The Future Build)



## Our Product Listing and Certification

UL (Underwriters Laboratory)

DCL (Dubai Central Laboratory)

ISO 9001, ISO 14001, OHSAS 18001 Accreditation

