



Data Sheet

PE-EBL-DS 07-13

# Elevated Temperature Blanket 1000°F

*with ECOSE® Technology*



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## Description

Knauf Insulation Elevated Temperature Blanket 1000°F with ECOSE® Technology is a lightweight thermal insulation blanket (1.1 PCF, 17.6 kg/m<sup>3</sup>) made from highly resilient, inorganic glass fibers bonded by ECOSE Technology.

## ECOSE Technology

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

## Application

Knauf Insulation Elevated Temperature Blanket 1000°F with ECOSE Technology is for industrial heating equipment to 1000°F (538°C), such as industrial furnaces, panel systems, marine applications and irregular surfaces.

## Features and Benefits

### Excellent Thermal Properties

- Low thermal conductivity ratings to 1000°F (538°C).
- Increases system efficiency and decreases fuel usage.

### Low-Cost Installation

- Lightweight, and easy to handle and fabricate.
- Flexibility makes it ideal for flat or irregular surfaces.

## Damage Resistant

- Tough and resilient.
- Resists damage in shipment, and during and after installation.

## Low Emitting

- Knauf Insulation achieved GREENGUARD Gold Certification and is verified to be formaldehyde free. Products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. Knauf Insulation has achieved a UL Environment claim validation for over 50% post-consumer recycled glass content in our insulation products.

## 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.
- Fiber glass 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 verified every 6 months by UL Environment
  - ECOSE Technology which reduces binder embodied energy by up to 70%

## Specification Compliance in U.S.:

- HH-I-558C; Form B, Class 7, 8
- MIL-I-22023D; Type I, Class 3; Type II, Class 3
- GREENGUARD Certified®
- GREENGUARD GOLD<sup>SM</sup> and verified to be formaldehyde free
- USCG 164.109/18/1

- NRC Reg. Guide 1.36
- ASTM C 1139 Type I Grade 5, Type II Grade 5
- Conforms to Marine Equipment
- European 1408/13

## In Canada:

- CAN/ULC S102-M88
- CGSB 51-GP-11M

## Technical Data

### Surface Burning Characteristics

- Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84, CAN/ULC S102-M88, and UL 723.

### Water Vapor Sorption (ASTM C 1104)

- 0.1% or less by volume.

### Temperature Limit (ASTM C 411)

- Up to 1000°F (538°C) at a maximum recommended thickness of 6".

### Microbial Growth (ASTM C 1338)

- No growth.
- Will not rot.
- Will not sustain vermin.

### Corrosiveness (ASTM C 665)

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

### Corrosion (ASTM C 1617)

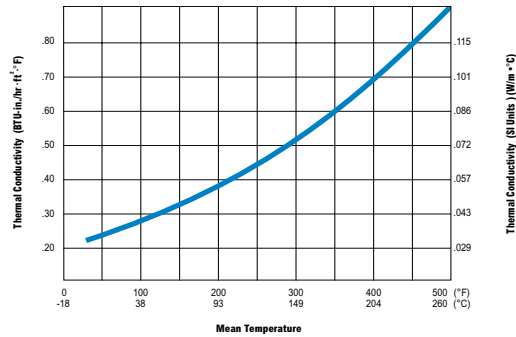
- The corrosion rate in mills/yr will not exceed that of the 1 ppm chloride solution.

## Application & Specification Guidelines Precaution

- During initial heat-up to operating temperatures above 350°F (177°C), a slight odor and some smoke may be given off as a portion of the bonding material used in the insulation begins to undergo a controlled decomposition.
- If natural convection is not adequate in confined areas, forced ventilation should be provided in order to protect against any harmful fumes and



### Thermal Efficiency (ASTM C 177)



Mean Temperature	k	k(SI)
100°F (38°C)	.28	.040
200°F (93°C)	.38	.055
300°F (149°C)	.52	.075
400°F (204°C)	.70	.101
500°F (260°C)	.90	.130

### Standard Sizes (Rolls)

Thickness	Width	Length
1" (25 mm)	48" (1219 mm)	75' (22.90 m)
1½" (38 mm)		50' (15.20 m)
2" (51 mm)		75' (22.90 m)
2½" (64 mm)		60' (18.30 m)
3" (76 mm)		50' (15.20 m)
3½" (89 mm)		45' (13.70 m)
4" (102 mm)		40' (12.20 m)

### Made-To-Order Sizes

Thickness	Width	Length
1" (25 mm)	24" (610 mm) 36" (914 mm) 48" (1219 mm)	Custom
1½" (38 mm)		
2" (51 mm)		
2½" (64 mm)		
3" (76 mm)		
3½" (89 mm)		
4" (102 mm)		

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vapors that might be generated.

#### Storage

- Protect material from water damage or other abuse. Protect from welding sparks and open flame. The material may be stored outside if the packaging is not damaged.

#### Preparation

- Apply the product on clean, dry surfaces.

#### Application

- There is no heat-up cycle required for Knauf ET Blanket 1000°.
- The product should be secured with welded pins or studs and covered with sheet metal. An alternate method entails covering the insulation with a metal mesh and insulating cement, canvassing and painting.
- Pins and washers shall be located a maximum of 4" (102 mm) from each edge and spaced no greater than 16" (406 mm) on center.
- Care should be taken to avoid over compressing the insulation with the retaining washer.
- For application of Knauf ET Blanket 1000° over 450°F (232°C), double layer application is recommended.

#### Caution

Fiber glass may cause temporary skin irritation. Wear long-sleeved, loose-fitting clothing, head covering, gloves and eye protection when handling and applying material. Wash with soap and warm

water after handling. Wash work clothes separately and rinse washer. A disposable mask designed for nuisance type dusts should be used where sensitivity to dust and airborne particles may cause irritation to the nose or throat.

#### Fiber Glass and Mold

Fiber glass 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.

#### Notes

The chemical and physical properties of Knauf Insulation Elevated Temperature Blanket 1000° with ECOSE Technology represent typical average values determined in accordance with accepted test methods. The data is subject to normal manufacturing variations. The data is supplied as a technical service and is subject to change without notice. References to numerical flame spread ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions

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



#### 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



This product has been tested and is certified to meet the EUCEB requirements.



#### GREENGUARD Gold<sup>SM</sup>

Knauf Insulation building insulation achieved GREENGUARD Gold Certification and is verified to be formaldehyde free.

#### GREENGUARD Certification Program<sup>SM</sup>

Products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit [ul.com/gg](http://ul.com/gg).



Knauf Insulation has achieved a UL Environment claim validation for over 50% post-consumer recycled glass content in our insulation products.