

# Elevated Temperature Batt 1000° & HD Blanket 1000°

Submittal Date \_\_\_\_\_

# KNAUF INSULATION

## Description

Knauf ET Batt 1000° and Knauf ET HD Blanket 1000° are semi-rigid thermal insulations (1.6 pcf, 25.6 kg/m<sup>3</sup>), made from highly resilient, inorganic glass fibers, bonded by a high-temperature thermosetting resin.

## Application

Knauf ET Batt 1000° and Knauf ET HD Blanket 1000° are used in high-temperature marine applications, industrial furnaces, boilers, vessels and industrial ovens, where lighter-weight insulation is needed or flexible and/or semi-rigid high-temperature insulations are needed for irregular surfaces.

## Features and Benefits

### Excellent Thermal Properties

- Low thermal conductivity.
- Increase system efficiency and decrease fuel usage.

### Low-Cost Installations

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

### Damage Resistant

- More resistant to abuse than standard ET blankets.
- Tough and resilient.
- Resist damage in shipment and during and after installation.

### Custom Sizes

- All items are available in made-to-order sizes.

## Specification Compliance

### In U.S.:

- ASTM C 795
- HH-I-558C; Form B, Type I, Class 7, 8
- MIL-I-22023D; Type I, Class 4; Type II, Class 4
- MIL-I-24244C
- NRC 1.36 Reg. Guide
- USCG 164.109/18/0

### In Canada:

- CAN/ULC S102-M88
- CCG F1-314
- CGSB 51-GP-11M

## Technical Data

### Surface Burning Characteristics

- Do 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).

### Microbial Growth (ASTM C 1338)

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

### Non-Corrosive (ASTM C 665)

- Will not accelerate corrosion of steel.
- Comply to stress corrosion requirements of MIL-I-24244C.

## Application and Specification Guidelines

### Precautions

- 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 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 Batt 1000° and Knauf ET HD 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 studs 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 Batt 1000° and Knauf ET HD Blanket 1000° over 500°F (260°C), double layer application is recommended with staggered joints.
- When using the products at 1000°F (538°C), it is recommended that no more than 6" (152 mm) thickness should be used. For thicknesses in excess of 6", contact your Knauf sales representative.

### 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 with organic materials. 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 ET Batt 1000° and Knauf ET HD Blanket 1000° 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.

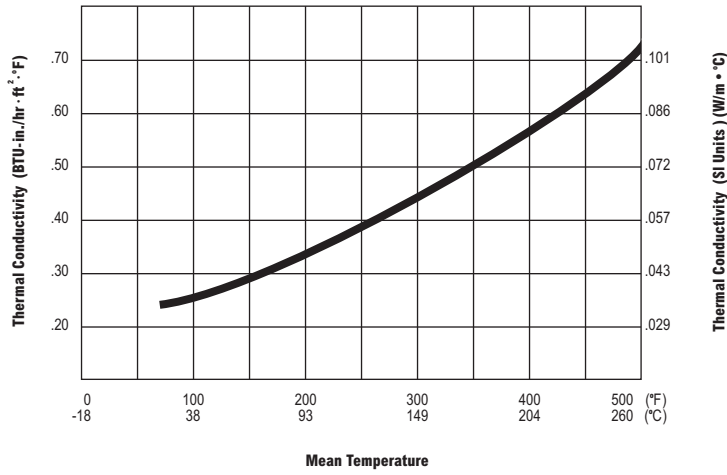
Check with your Knauf sales representative to assure information is current.

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## Thermal Efficiency (ASTM C 177)



Mean Temperature	k	k(SI)
100°F (38°C)	.24	.035
200°F (93°C)	.33	.048
300°F (149°C)	.44	.063

## ET Batt 1000° Forms Available

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

## HD Blanket 1000° Forms Available

Thickness	Width	Length
1½" (38 mm)	48" (1219 mm)	120' (36.6 m)
2" (51 mm)		80' (24.4 m)
2½" (64 mm)		70' (21.3 m)
3" (76 mm)		60' (18.3 m)
3½" (89 mm)		50' (15.2 m)
4" (102 mm)		40' (12.2 m)