Elevated Temperature Board 850°

Submittal Date _____

Description

Knauf Elevated Temperature Board 850° is a lightweight insulation (2.8 pcf, 44.9 kg/m^3) made from inorganic glass fibers bonded with a high-temperature thermosetting resin. It is a semi-rigid, board-like form with superior handling properties and insulating effectiveness at minimum cost.

Application

Knauf Elevated Temperature Board 850° is used for boiler walls, hot precipitators, hot ductwork, cylindrical tanks, towers, stacks and industrial ovens.

Features and Benefits

Excellent Thermal Properties

- Reduces operating cost.

Low Installed Cost

- Lightweight.
- Easy to fabricate.
- Sizes up to 4' x 10' available.

Polybag and Sleeve Packaging

- Damage resistant.
- Reduces storage space.

Resilient Fiber Glass

- Maintains integrity at elevated temperatures.

Specification Compliance

In U.S.:

- ASTM C 612; Type IA, IB, II
- ASTM C 795
- HH-I-558C (Amend. 3); Form A, Class 1, 2, 3
- MIL-I-22023D; Type III
- MIL-I-24244C
- NRC Reg. Guide 1.36
- USCG 164.109/15/0

In Canada:

- CAN/ULC S102-M88
- CCG F1-315
- CGSB 51-GP-10M

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.

Temperature Limitation (ASTM C 411)

- Up to 850°F (454°C).

Alkalinity (ASTM C 871)

- Less than 0.6% as Na_2O.
- pH between 7.5 and 12.0.

Corrosiveness (ASTM C 665)

- Will not accelerate corrosion of steel.

Microbial Growth (ASTM C 1338)

- Does not support microbial growth.

Application and 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 vapors that might be generated.

Storage

- Protect material from water damage or other abuse. Cartons are not designed for outside storage. Vacuum packaged material can be stored outside if care is taken not to puncture the polybag.

Preparation

- Apply the product on clean, dry surfaces.

Application

- All insulation joints must be firmly butted. Mount flush against surfaces to 850°F (454°C) or use in panels mounted away from operating surface.
- Knauf ET Board 850° is designed to be applied over welded pins and/or studs up to ½" (13 mm) in diameter. The board is to be held in place by speed washers, tension clips or metal mesh reinforcement.
- Installation method should not compress material beyond maximum of 5% at any point.
- 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.
- In temperatures over 550°F (288°C) and designed thickness over 3" (76 mm) dual layer application with staggered joints is recommended. Install thickness recommended by Knauf or NAIMA 3E Plus program.
- Finish surface with metal cover, or with insulating cement and canvas.

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 Elevated Temperature Board 850° 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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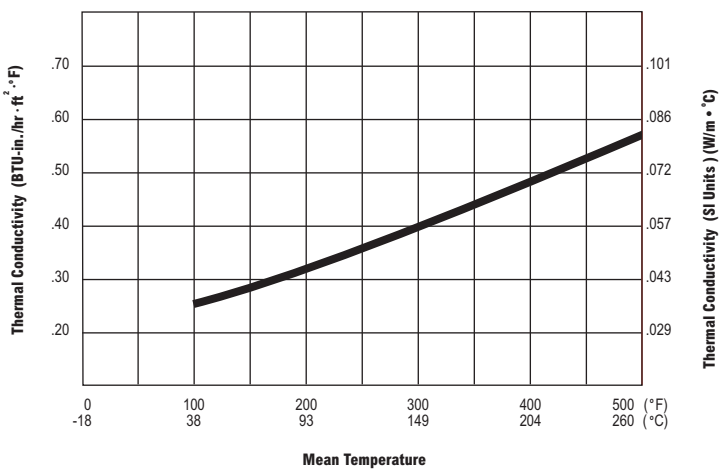
Thermal Efficiency (ASTM C 177)



Mean Temperature	k	k(SI)
100°F (38°C)	.25	.036
200°F (93°C)	.33	.048
300°F (149°C)	.40	.058
400°F (204°C)	.49	.071
500°F (260°C)	.57	.082

Forms Available

Thickness	Width	Length
1" (25 mm)	24" (610 mm) and 48" (1219 mm)	24" (610 mm) to 120" (3048 mm)
1½" (38 mm)		
2" (51 mm)		
2½" (64 mm)		
3" (76 mm)		
3½" (89 mm)		
4" (102 mm)		