



Versatile. Durable. Reliable.

“This is my insulation!”®



I N S U L A T I O N B O A R D

KNAUF

FACTS AT A GLANCE

- Versatile and lightweight
- Low-cost installation
- Reduces airborne sound transmission

DESCRIPTION

Knauf Insulation Board is a thermal and acoustical insulation product made from inorganic glass fibers preformed into boards bonded by a thermosetting resin. It is available plain, with a factory-applied FSK facing, PSK (metalized polypropylene-scrim-kraft) facing or with a factory-applied all-service jacket (ASJ).

APPLICATION

Knauf Insulation Board is a versatile product for thermal and acoustical applications such as: heating and air conditioning ducts, power and process equipment, boiler and stack installations, metal and masonry walls, wall and roof panel systems, curtain wall assemblies and cavity walls.

FEATURES AND BENEFITS

Energy Conservation

- Excellent thermal efficiency results in lower operating costs.

Low-Cost Installation

- Lightweight, easy to handle and fabricate.
- Fast, easy installation lowers labor costs.

Noise Reduction

- Excellent acoustical properties effectively reduce noise.

Appearance

- FSK, PSK and ASJ vapor-retardant facings provide a pleasing appearance.

SPECIFICATION COMPLIANCE

In U.S.:

- ASTM C 612
 - Type IA (1.6, 2.25, 3.0, 4.25, 6.0 PCF)
 - Type IB (3.0, 4.25, 6.0 PCF)
 - ASTM C 795
 - ASTM C 1136 (facings)
 - Type I, II, III, IV (ASJ)
 - Type II, IV (FSK, PSK)
 - California Title 24
 - HH-B-100B; Type I (ASJ facing), Type II (FSK, PSK facings)
 - HH-I-558C
 - Form A, Class 1 (1.6, 2.25, 3.0, 4.25, 6.0 PCF)(26, 36, 48, 68, 96 kg/m³)
 - Form A, Class 2 (3.0, 4.25, 6.0 PCF)(48, 68, 96 kg/m³)
 - MIL-I-24244C
 - NFPA 90A and 90B
 - NRC Reg. Guide 1.36
- In Canada:**
- CAN 4-S102
 - CGSB 51-GP-10M
 - CGSB 51-GP-52M (facings)

TECHNICAL DATA

Surface Burning Characteristics (UL Classified)

- Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84, CAN 4-S102, NFPA 90A and 90B, NFPA 255 and UL 723.

Temperature Range (ASTM C 411)

- Operating temperatures from 0°F to 450°F (-18°C to 232°C).

Corrosiveness (ASTM C 665)

- Will not accelerate corrosion of aluminum, steel or copper.
- Meets the stress corrosion requirements of ASTM C 795, MIL-I-24244C and NRC 1.36.

Puncture Resistance (TAPPI Test T803) (Beach Units)

- FSK, PSK Facings: 25
- ASJ Facing: 50

Water Vapor Transmission (ASTM E 96, Procedure A)

- FSK, PSK and ASJ vapor retarders have a maximum vapor transmission rate of .02 perms.

Water Vapor Sorption (ASTM C 1104)

- Less than 5% by weight when exposed to air at 120°F (49°C) and 95% humidity for 96 hours.

Shrinkage (ASTM C 356)

- Less than 0.3% linear shrinkage.

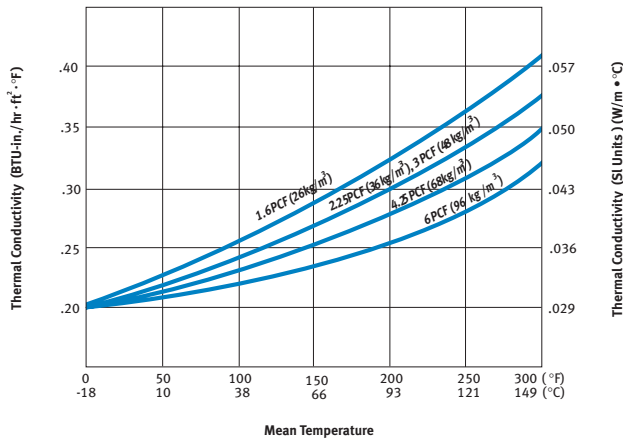
Mold Growth (ASTM C 1338)

- No growth.

**SOUND ABSORPTION COEFFICIENTS
(ASTM C 423, TYPE A MOUNTING)**

| 1/3 Octave Band Center Frequency (cycles/sec.) | | | | | | | | | |
|---|-------------------------------------|----------------|------------|------|------|------|------|------|------|
| Type | Facing | Thickness | 125 | 250 | 500 | 1000 | 2000 | 4000 | NRC |
| 1.6 PCF (26 kg/m ³) | Plain | 1 1/2" (38 mm) | .19 | .44 | .86 | .98 | 1.00 | 1.02 | .80 |
| | | 2" (51 mm) | .31 | .57 | .96 | 1.04 | 1.03 | 1.03 | .90 |
| | | 2 1/2" (64 mm) | .43 | .82 | 1.12 | 1.07 | 1.04 | 1.03 | 1.00 |
| | | 3" (76 mm) | .47 | .92 | 1.17 | 1.06 | 1.06 | 1.04 | 1.05 |
| 2.25 PCF (36 kg/m ³) | Plain | 1" (25 mm) | .05 | .24 | .59 | .86 | .97 | 1.00 | .65 |
| | | 1 1/2" (38 mm) | .17 | .49 | .93 | 1.03 | 1.03 | .99 | .85 |
| | | 2" (51 mm) | .26 | .62 | 1.05 | 1.07 | 1.04 | 1.05 | .95 |
| | FSK | 1" (25 mm) | .14 | .69 | .81 | .99 | .55 | .27 | .75 |
| | | 2" (51 mm) | .63 | .76 | 1.11 | .75 | .42 | .22 | .75 |
| | | 3" (76 mm) | .08 | .23 | .62 | .88 | .96 | .99 | .65 |
| 3.0 PCF (48 kg/m ³) | Plain | 1" (25 mm) | .08 | .23 | .62 | .88 | .96 | .99 | .65 |
| | | 1 1/2" (38 mm) | .09 | .39 | .89 | 1.03 | 1.06 | 1.01 | .85 |
| | | 2" (51 mm) | .29 | .65 | 1.11 | 1.13 | 1.06 | 1.03 | 1.00 |
| | | 3" (76 mm) | .54 | 1.01 | 1.18 | 1.07 | 1.07 | 1.04 | 1.10 |
| | FSK | 1" (25 mm) | .21 | .63 | .84 | .93 | .51 | .22 | .75 |
| | | 1 1/2" (38 mm) | .45 | .60 | .99 | .73 | .53 | .27 | .70 |
| | | 2" (51 mm) | .67 | .77 | .93 | .74 | .47 | .28 | .75 |
| | ASJ | 1" (25 mm) | .15 | .71 | .65 | .82 | .41 | .16 | .65 |
| | | 1 1/2" (38 mm) | .42 | .55 | .91 | .69 | .40 | .23 | .65 |
| | ASJ | 2" (51 mm) | .75 | .71 | .80 | .66 | .41 | .24 | .65 |
| | | 3" (76 mm) | .95 | 1.11 | 1.17 | 1.07 | 1.07 | 1.06 | 1.10 |
| | 4.25 PCF (68 kg/m ³) | Plain | 1" (25 mm) | .06 | .24 | .69 | .99 | 1.05 | 1.02 |
| ASJ | | 2 1/2" (64 mm) | .75 | .63 | .63 | .62 | .41 | .25 | .55 |
| 6.0 PCF (96 kg/m ³) | Plain | 1" (25 mm) | .05 | .26 | .77 | 1.04 | 1.04 | 1.03 | .80 |
| | | 1 1/2" (38 mm) | .13 | .58 | 1.01 | 1.05 | 1.00 | 1.01 | .90 |
| | | 2" (51 mm) | .32 | .81 | 1.08 | 1.06 | 1.03 | 1.04 | 1.00 |
| | FSK | 1" (25 mm) | .23 | .65 | .39 | .48 | .47 | .32 | .50 |
| | | 1 1/2" (38 mm) | .61 | .47 | .78 | .61 | .51 | .35 | .60 |
| | | 2" (51 mm) | .77 | .50 | .72 | .58 | .53 | .41 | .60 |
| | ASJ | 1 1/2" (38 mm) | .60 | .46 | .62 | .48 | .47 | .31 | .50 |
| | | 2" (51 mm) | .77 | .44 | .60 | .50 | .41 | .30 | .50 |

THERMAL EFFICIENCY (ASTM C 177)



| Mean Temperature | 1.6 PCF | | 3.0 PCF | | 6.0 PCF | |
|------------------|---------|--------|---------|--------|---------|--------|
| | k | k (SI) | k | k (SI) | k | k (SI) |
| 100°F (38°C) | .25 | .036 | .24 | .035 | .23 | .033 |
| 200°F (93°C) | .33 | .048 | .29 | .042 | .27 | .039 |
| 300°F (149°C) | .42 | .061 | .37 | .053 | .34 | .049 |

INSULATION BOARD FORMS AVAILABLE*

| Density (PCF) | Thickness | R-Value | (R-SI) |
|---------------------------------|---------------|---------|--------|
| 1.6 (26 kg/m ³) | 1 1/2" (38mm) | 6.3 | (1.1) |
| | 2" (51mm) | 8.3 | (1.5) |
| | 2 1/2" (64mm) | 10.4 | (1.8) |
| | 3" (76mm) | 12.5 | (2.2) |
| | 3 1/2" (89mm) | 14.6 | (2.6) |
| 2.25 (36 kg/m ³) | 4" (102mm) | 16.7 | (2.9) |
| | 1" (25mm) | 4.3 | (0.8) |
| | 1 1/2" (38mm) | 6.5 | (1.1) |
| | 2" (51mm) | 8.7 | (1.5) |
| | 2 1/2" (64mm) | 10.9 | (1.9) |
| 3.0 (48 kg/m ³) | 3" (76mm) | 13.0 | (2.3) |
| | 3 1/2" (89mm) | 15.2 | (2.7) |
| | 4" (102mm) | 17.4 | (3.1) |
| | 1" (25mm) | 4.3 | (0.8) |
| | 1 1/2" (38mm) | 6.5 | (1.1) |
| 4.25 (68 kg/m ³) | 2" (51mm) | 8.7 | (1.5) |
| | 2 1/2" (64mm) | 10.9 | (1.9) |
| | 1" (76mm) | 4.4 | (0.8) |
| | 1 1/2" (89mm) | 6.7 | (1.2) |
| | 2" (102mm) | 8.9 | (1.6) |

*Available in widths of 24" (610 mm) and 48" (1219 mm) and lengths from 36"-120" (915 mm-3048 mm).