



Knauf Data Sheet

OM-DS-7e 07-09

Acoustical Board Smooth

with ECOSE® Technology

with **ECOSE®**
TECHNOLOGY

Acoustical Board Smooth with ECOSE® Technology

Description

Knauf Acoustical Board Smooth with ECOSE Technology is a thermal and acoustical insulation product bonded with ECOSE Technology.

Color

ECOSE Technology gives the product its unique brown color.

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 fiberglass insulation products. ECOSE Technology reduces binder embodied energy and does not contain phenol, formaldehyde, acrylics or artificial colors.

Application

Knauf Acoustical Board Smooth with ECOSE Technology is a versatile product for thermal and acoustical applications such as office partitions, ceiling panels, interior panels and sound baffles.

Features and Benefits

Density and Size Availability

- Knauf Acoustical Board Smooth with ECOSE Technology is available in the densities and sizes required by panel and ceiling manufacturers. Special items not shown on the price and data sheet can be made based on our process capability.

Surface Smoothness

- One surface is smooth which allows for flatness and uniformity.

Precision Tolerances

- Tolerances are $+\/- \frac{1}{16}$ " (1.59 mm) for thickness and $+\/- \frac{1}{8}$ " (3.18 mm) for width and length.

Fabrication

- The board is suitable for machining.

Noise Reduction

- Excellent sound absorption characteristics, an important benefit for today's office and interiors.

Indoor Air Quality

- Certified for indoor air quality as a low emitting product by The GREENGUARD Environmental Institute to both the GREENGUARD Certification ProgramSM and the more stringent GREENGUARD Children and SchoolsSM standard.

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
 - Post-consumer recycled bottle glass
 - ECOSE Technology which reduces binder embodied energy by up to 70%

Packaging

- Available on pallets and in cartons. See Packaging table on right page.

Specification Compliance

In U.S.:

- ASTM C 612; Type IA and Type IB
- GREENGUARD Children & SchoolsSM Certification
- California Title 24
- HH-I-558C; Form A, Class 1 and Class 2
- NFPA 90A and 90B

In Canada:

- CAN/ULC S102-M88
- CGSB 51-GP-10M

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/ULC S102-M88, 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) up to 4" product thickness

Corrosiveness (ASTM C 665)

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

Corrosion (ASTM C 1617)

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

Shrinkage (ASTM C 356)

- Less than 0.3% linear shrinkage.

Mold Growth (ASTM C 1338)

- Does not promote growth.

Water Vapor Sorption (ASTM C 1104)

- Less than 5% by weight.

Odor (ASTM C 1304)

- Not objectionable.

Low Emitting

- Certified for indoor air quality as a low emitting product by the GREENGUARD Environmental Institute.



Sound Absorption Coefficients
(ASTM C 423, Type A Mounting)

Density		Thickness	Octave Band Center Frequency (cycles/sec.)						
			125	250	500	1000	2000	4000	NRC
3.0 PCF (48 kg/m ³)		1" (25 mm)	.08	.23	.62	.88	.96	.99	.65
		1½" (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
4.25 PCF (68 kg/m ³)		1" (25 mm)	.06	.24	.69	.99	1.05	1.02	.75
		1" (25 mm)	.05	.26	.77	1.04	1.04	1.03	.80
		1½" (38 mm)	.13	.58	1.01	1.05	1.00	1.01	.90
6.0 PCF (96 kg/m ³)		2" (51 mm)	.32	.81	1.08	1.06	1.03	1.04	1.00

Thermal Conductivity
(ASTM C 177) @ 75°F Mean Temperature

Density	Thermal Conductivity BTU-in. ft ² F
3.0 PCF (48 kg/m ³)	0.23
4.25 PCF (68 kg/m ³)	0.23
6.0 PCF (96 kg/m ³)	0.22

Packaging Available

Product Dimensions	Carton	Pallet
24" x 48"	•	
48" x 96"	•	•
48" x 120"	•	•
48" x 144"		•
49" x 97"		•
49" x 121"		•
49" x 145"		•

Forms Available

Made-To-Order Sizes

Density	Thickness	Width [†]	Length	Minimum Order
3.0 PCF (48 kg/m ³)	1" (25 mm)	24" (610 mm) 48" (1219 mm) 48" (1219 mm) 49" (1245 mm)	48" (1219 mm) 96" (2438 mm) 97" (2464 mm) 120" (3048 mm) 121" (3073 mm)	24 MSF
	1½" (38 mm)			16 MSF
	2" (51 mm)			12 MSF
	3" (76 mm)			8 MSF
4.25 PCF (68 kg/m ³)	½" (13 mm)	49" (1245 mm)	48" (1219 mm) 96" (2438 mm) 97" (2464 mm) 120" (3048 mm) 121" (3073 mm)	36 MSF
	1" (25 mm)			18 MSF
	1½" (38 mm)			14 MSF
	2" (51 mm)			9 MSF
6.0 PCF (96 kg/m ³)	½" * (13 mm)	49" (1245 mm)	144" (3658 mm) 145" (3683 mm)	24 MSF
	¾" (19 mm)			18 MSF
	7/8" (22 mm)			13.7 MSF
	1" (25 mm)			12 MSF
	1½" (38 mm)			9 MSF
	2" (51 mm)			6 MSF

Stock Sizes Minimum Order is 1 Pallet

6.0 PCF (96 kg/m ³)	1" (25 mm)	49" (1245 mm)	97" (2464 mm)	42 sheets
	1" (25 mm)		121" (3073 mm)	42 sheets
	2" (51 mm)		97" (2464 mm)	21 sheets
	2" (51 mm)		121" (3073 mm)	21 sheets

[†] Tolerances: Width: $\pm \frac{1}{16}$ " (3.18 mm); Length: $\pm \frac{1}{8}$ " (3.18 mm); Thickness: $\pm \frac{1}{16}$ " (1.59 mm) (On 6.0 PCF, Knauf Insulation will attempt to hold the tolerance to $\pm \frac{1}{16}$ ", however, we cannot guarantee the tolerance due to process limitations.

* ½" thick acoustical boards are achieved when 1" thick boards are bisected.

Minimum Runs: Based on the density/thickness combination

For requirements not listed, contact your Knauf Insulation sales representative.

For more information call (800) 825-4434, ext. 8283

or visit us online at www.knaufinsulation.us



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Product Availability

1. Stock items are listed. The remainder of the product line is made-to-order.
2. Acoustical Board Smooth is skidded smooth on one side except for $\frac{1}{2}$ " thick which is bisected as noted below.
3. Product tolerances: $\pm \frac{1}{16}$ " (1.59 mm) thickness; $\pm \frac{1}{8}$ " (3.18 mm) width and length.
4. It is recommended that Acoustical Board Smooth be sampled and evaluated prior to ordering.
5. For requirements not listed, contact your Knauf Insulation sales representative.

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. Air handling insulation used in the air stream must be discarded if exposed to water.

Notes

The chemical and physical properties of Knauf Acoustical Board Smooth 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



Knauf Acoustical Board Smooth Insulation with ECOSE Technology products are certified for indoor air quality as a low emitting product by The GREENGUARD Environmental Institute to both the GREENGUARD Certification ProgramSM and the more stringent GREENGUARD for Children and SchoolsSM standard. www.greenguard.org

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