



Theater Insulation

with ECOSE Technology®

- **Wall and Ceiling Liner M**
- **Black Acoustical Board**
- **Insulation Board**

Theater Insulation with ECOSE Technology®

Knauf Insulation® Theater Insulation products provide acoustical as well as thermal insulation to walls and ceilings of theaters, sound studios and auditoriums.

Wall and Ceiling Liner M with ECOSE Technology®

Description

Knauf Insulation Wall® and Ceiling Liner M with ECOSE Technology® is a brown flexible glass mineral wool blanket with a black mat facing adhered



to one surface. It provides thermal and acoustical insulation while a smooth, tough surface resists damage during installation.

Applications

Knauf Insulation® Wall and Ceiling Liner M with ECOSE Technology® is designed for use as an acoustical and visual barrier for walls and ceilings where a black surface is required. It is primarily used in theaters, sound studios, public concourses and other areas where acoustical treatment is needed. It is intended to be mechanically fastened to walls and can be covered with fabric or draping, or suspended above linear metal and metal pan ceiling systems to serve as both a visual and acoustical treatment.

Technical Data

Surface Burning (UL Classified)

Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84 and UL 723.

Indoor Air Quality Excellence

Certified for indoor air quality as a low emitting product by Underwriters Laboratories to both the GREENGUARD Certification ProgramSM and the more stringent GREENGUARD Gold standard.

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.

Black Acoustical Board with ECOSE Technology®

Description

Knauf Insulation Black Acoustical Board with ECOSE Technology® is a heavy density glass mineral wool board insulation made with ECOSE



Technology®. The base board is brown with a black mat applied to provide a smooth tough finish.

Applications

Knauf Insulation® Black Acoustical Board with ECOSE Technology® is designed for use as acoustical insulation and/or visual barrier on walls and ceilings, where system design requires a rigid product and where additional strength and abuse resistance are required. The black surface provides a visual barrier with an aesthetic appearance, in both wall and ceiling applications. The product is typically used where framing members are not present.

Technical Data

Surface Burning (UL Classified)

Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84, NFPA 255 and UL 723.

Indoor Air Quality Excellence

Certified for indoor air quality as a low emitting product by Underwriters Laboratories to both the GREENGUARD Indoor Air Quality Certification ProgramSM and the more stringent GREENGUARD Gold standard.

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.

Insulation Board with ECOSE® Technology

Description

Insulation Board with ECOSE Technology® from Knauf Insulation is a thermal and acoustical insulation product made from inorganic glass fibers preformed into boards. The board is available plain, with a factory applied foil-scrim-kraft (FSK) facing, with a factory-applied all service jacket (ASJ) or with a factory applied metalized polypropylene-scrim-kraft jacket (PSK).



Applications

Insulation Board with ECOSE Technology® from Knauf Insulation® is a versatile product for use on metal and masonry walls, wall and roof panel systems, curtain wall assemblies and cavity walls.

Technical Data

Surface Burning (UL Classified)

Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with NFPA 90A and 90B, ASTM E 84, NFPA 255 and UL 723 and CAN/ULC S102-M88.

Indoor Air Quality Excellence

Certified for low chemical emissions by UL Environment to both the GREENGUARD Certification ProgramSM and the more stringent GREENGUARD Gold standard.

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.

**Wall & Ceiling Liner Noise Reduction Coefficients
(ASTM C 423, Type A Mounting)**

Density	Thickness	NRC
1.0 PCF (16 kg/m ³)	1" (25 mm)	.60
	1½" (38 mm)	.80
	2" (51 mm)	.85
1.5 PCF (24 kg/m ³)	½" (13 mm)	.50
	1" (25 mm)	.70
	1½" (38 mm)	.80
	2" (51 mm)	.90
2.0 PCF (32 kg/m ³)	½" (13 mm)	.45
	1" (25 mm)	.70

Available in 48" (1219 mm) wide rolls in lengths of 100' or 50' (30.48 or 15.24 m). Contact your Knauf Insulation sales representative for additional information.

**Black Acoustical Board Sound Absorption Coefficients
(ASTM C 423, Type A Mounting)**

Density	Thickness	Octave Band Center Frequency (cycles/sec.)						NRC
		125	250	500	1000	2000	4000	
2.25 PCF (36 kg/m ³)	2" (51mm)	.26	.62	1.05	1.07	1.04	1.05	.95
3.0 PCF (48 kg/m ³)	1" (25 mm)	.13	.24	.56	.83	.92	.98	.65
	1½" (38 mm)	.19	.41	.89	1.02	1.03	1.04	.85
	2" (51 mm)	.33	.67	1.07	1.07	1.03	1.06	.95

Available 24" (610 mm) wide x 48" (1219 mm) long.

**Insulation Board Sound Absorption Coefficients
(ASTM C 423, E 795, Type A Mounting)**

Type	Surface	Thickness	Octave Band Center Frequency (cycles/sec.)						NRC
			125	250	500	1000	2000	4000	
2.25 PCF (36 kg/m ³)	FSK	1" (25 mm)	.05	.24	.59	.86	.97	1.00	.65
		1½" (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
3.0 PCF (48 kg/m ³)	Plain	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
	FSK	4" (102 mm)	.95	1.11	1.17	1.07	1.07	1.06	1.10
		1" (25 mm)	.21	.63	.84	.93	.51	.22	.75
		1½" (38 mm)	.45	.60	.99	.73	.53	.27	.70
		2" (51 mm)	.67	.77	.93	.74	.47	.28	.75

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

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 glass mineral wool insulation products. ECOSE Technology® reduces Knauf Insulation binder embodied energy and does not contain phenol, formaldehyde, acrylics or artificial colors.

Sustainability

Knauf Insulation® products used for thermal insulating purposes, recover the energy that it took to make them in just hours or days depending on the application. Once installed, the product continues to save energy and reduce carbon generation as long as it is in place (carbon negative).

Glass mineral wool with ECOSE Technology® contains three primary ingredients:

- Over 50% recycled post-consumer glass content verified every 6 months by UL Environment
- Sand, one of the world's most abundant resources
- Our green chemistry initiative ECOSE Technology®, which reduces binder embodied energy by up to 70%
- It is anticipated to reduce its Global Warming Potential (GWP) by approximately 4%, a significant reduction in our carbon footprint

Glass Mineral Wool and Mold

Glass Mineral Wool 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

For more information call (800) 825-4434, ext. 8300

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Notes

The chemical and physical properties of the Knauf Insulation products Wall and Ceiling Liner M, Black Acoustical Board and Insulation Board Insulation 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.

MR Credit 4.1 - 4.2 Recycled Content
MR Credit 5.1 - 5.2 Regional Materials



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



GREENGUARD Gold

Knauf Insulation achieved GREENGUARD Gold Certification.

GREENGUARD Certification Program

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

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