

Exact-O-Mat® & Exact-O-Board®
HVAC Equipment Liners

Description

These equipment insulations are both made from strong, flame-attenuated borosilicate glass fibers bonded with a thermosetting resin.

Exact-O-Mat® is a flexible, resilient, blanket-type fiber glass insulation faced on one side with a smooth, durable, nonwoven, treated mat. It is recommended specifically for use as a thermal and acoustical control liner in HVAC equipment. It is also suited for other equipment applications requiring effective thermal and acoustical control, low air friction, damage resistance and attractive appearance.

Exact-O-Mat can be manufactured to extremely close thickness tolerances so it is especially suitable for applications in which the restriction of air flow is critical. This strong, resilient insulation resists damage and withstands the effects of high air velocities. It is available as thin as ¼" (6mm) and ⅜" (10mm) for limited-space applications. This product is easily die-cut, trimmed, and folded to specified configurations. It is compression packaged yielding potential shipping and storage savings. An amber core is standard and a black core is available on request.

Exact-O-Board® is a rugged, board-type fiber glass insulation specifically designed for use in air conditioning units and other air handling equipment applications. It is also suitable for other equipment applications requiring strength and durability, high thermal and acoustical values, space adaptability and attractive appearance.

Exact-O-Board liners are formed to close thickness tolerances with smooth uniform surfaces. Their porosity and inherent structure results in highly effective thermal and acoustical control in a minimum amount of space. The standard product is furnished in black with a choice of thicknesses and densities (see reverse).



Available Forms

Both liners are available in a choice of thicknesses and densities as specified on the reverse.

Custom Fabrication

The Johns Manville nationwide network of Approved Fabricators specializes in secondary processing to supply custom parts to meet specific customer requirements. Die-cutting, laminating, special packaging and just-in-time delivery are just a few of the multiple capabilities our fabricators can provide.

Applications

- Air Conditioners
- Furnaces
- Other HVAC Equipment

Properties

- High Thermal and Acoustical Performance
- Resistant to Air Erosion
- Close Thickness Tolerances
- Excellent for Minimum Space Requirements
- Ease of Handling, Fabrication and Installation

Specifications

Temperature Limit	Exact-O-Mat: 250°F (121°C) Exact-O-Board: 350°F (177°C)
Fire Hazard Classification (FHC)	Both products 25/50 (per ASTM E84, UL 723, and CAN/ULC S102-M88). Labels supplied when requested on order. Meets NFPA 90A and 90B.
Maximum Air Velocity	Exact-O-Mat: 5,000 fpm (25.4 m/sec) and tested at two and one-half times (12,500 fpm [63.5 m/sec]) this velocity. Meets the erosion requirements of UL 181. Exact-O-Board: Tested at two and one-half times the recommended service velocities in table to right. Meets the erosion requirements of UL 181.
ASTM C1071	Both products meet all requirements.

Exact-O-Board – Maximum Air Velocity* Test Results

Thicknesses	Actual Test		Recommended Maximum		
	in.	mm	fpm	m/sec	
¼	6	5,000	25.4	2,000	10.2
⅜	10	4,000	20.3	1,600	8.1

*Smoother surface should face the air stream.

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Exact-O-Board – Standard Thicknesses and Densities

Density		Thicknesses		Width		Length (rolls)	
pcf	kg/m ³	in.	mm	in.	mm	ft	m
3.0	48	¼	6	12 - 72	305 - 1,829	100	30
2.0	32	⅜	10	12 - 72	305 - 1,829	100	30

Exact-O-Board – Thermal Conductivity (k)

Density		Thicknesses		75°F (24°C) Mean Temp.	
pcf	kg/m ³	in.	mm	Btu•in/(hr•ft ² •°F)	W/m•°C
3.0	48	¼	6	0.22	.032
2.0	32	⅜	10	0.23	.032

Exact-O-Mat – Standard Thicknesses and Densities

Density		Thicknesses		Width	
pcf	kg/m ³	in.	mm	in.	mm
3.0	48	¼	6	24 - 56	610 - 1,422
2.0	32	¼, ⅜	6, 10	24 - 56	610 - 1,422
1.5	24	½	13	24 - 56	610 - 1,422
1.0	16	1	25	24 - 56	610 - 1,422
0.75	12	1	25	24 - 56	610 - 1,422

Exact-O-Mat – Thermal Conductivity (k)

Density		75°F (24°C) Mean Temp.	
pcf	kg/m ³	Btu•in/(hr•ft ² •°F)	W/m•°C
3.0	48	0.24	.035
2.0	32	0.25	.036
1.5	24	0.25	.036
1.0	16	0.27	.039
0.75	12	0.28	.040

Minimum width of a single roll is 24" (610 mm). Standard Roll Length is 100' + 2' (30 m + 0.6 m) (all thicknesses).

Exact-O-Mat – Acoustical Performance

Type "A" Mounting Sound Absorption Coefficients*

Density		Thicknesses		Frequency (Hz)						
pcf	kg/m ³	in.	mm	125	250	500	1000	2000	4000	NRC**
0.75	12	1	25	0.12	0.30	0.52	0.67	0.77	0.82	0.55
1	16	1	25	0.14	0.27	0.53	0.69	0.79	0.84	0.55
1.5	24	½	13	0.03	0.15	0.38	0.55	0.71	0.87	0.45
2.0	32	¼	6	0.03	0.06	0.16	0.33	0.50	0.69	0.25
2.0	32	⅜	10	0.00	0.06	0.19	0.43	0.64	0.87	0.35
3.0	48	¼	6	0.01	0.01	0.10	0.26	0.48	0.75	0.20

*Tested in accordance with ASTM C423, Type A mounting per ASTM E795.

** Noise reduction coefficient.

Exact-O-Board – Acoustical Performance

Type "A" Mounting Sound Absorption Coefficients*

Density		Thicknesses		Frequency (Hz)						
pcf	kg/m ³	in.	mm	125	250	500	1000	2000	4000	NRC**
3.0	48	¼	6	0.02	0.04	0.08	0.22	0.43	0.61	0.20
2.0	32	⅜	10	0.03	0.10	0.19	0.40	0.57	0.73	0.30

*Tested in accordance with ASTM C423, Type A mounting per ASTM E795.

**Noise reduction coefficient.



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The physical and chemical properties of Exact-O-Mat® and Exact-O-Board® insulations listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Numerical flame spread and smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions. Check with the Regional Sales Office nearest you to ensure current information. **All Johns Manville products are sold subject to Johns Manville's standard Terms and Conditions including Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville standard Terms and Conditions, Limited Warranty and Limitation of Remedy, and information on other Johns Manville thermal insulations and systems, call (800) 654-3103.**