



Johns Manville

OEM Insulations

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

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, non-woven, 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 1/4" (6mm) and 3/8" (10mm) for limited-space applications. This product is easily die-cut, trimmed, and folded to specified configurations. It is compression packaged (VacPac) 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 side).

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

Custom Fabrication. In addition to the standard dimensions, a JM Approved Fabricator can provide specially-cut pieces and shapes to customer specifications.



Applications:

- **Air Conditioners**
- **Furnaces**
- **Other HVAC Equipment**

Insulation Properties:

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

Exact-O-Mat® & Exact-O-Board®

HVAC Equipment Liners

Specifications

Temperature Limit:

Exact-O-Mat: 250° F (121° C)

Exact-O-Board: 350° F (177° C)

Fire Hazard Classification:

Both products 25/50 (per ASTM E 84, 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 (1,500 mpm) and tested at two and one-half times (12,500 fpm) (3,800 mpm) 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 C 1071:

Both products meet all requirements.

Fabricated Products:

Exact-O-Mat and Exact-O-Board are manufactured to specific customer width requirements. Contact your Johns Manville sales representative for limitations. Die-cut or fabricated pieces are generally supplied by one of the strategically-located Johns Manville fabricators which is specially equipped to provide prompt service to manufacturers in their area.

For Information

Write Johns Manville Product Information Center, P.O. Box 5108, Denver, Colorado 80217-5108, or call toll-free 1-800-654-3103 (outside Colorado); (303) 978-4900 (inside Colorado).

Limited Warranty

All Johns Manville products are sold subject to Johns Manville's Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville Limited Warranty and Limitation of Remedy, write to:

Johns Manville Product Information Center

P.O. Box 5108

Denver, CO 80217-5108

or call toll free: 1-800-654-3103 or contact your local Johns Manville sales representative.

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

Thicknesses		Actual Test		Recommended Maximum	
inches	mm	fpm	mpm	fpm	mpm
1/8	3	6,000	1829	2,400	732
1/4	6	5,000	1524	2,000	610
3/8	10	4,000	1219	1,600	438

*Smoother surface should face the air stream.

Exact-O-Board - Standard Thicknesses and Densities

Thicknesses		Density		Width		Length	
inches	mm	pcf	g/cc	inches	mm	inches	mm
1/8	3	8.0	499	48	1219	69" Boards	1753
1/4	6	3.0	187	48-60	1219 - 1524	100' Rolls	30
3/8	10	2.0	125	48-60	1219 - 1524	100' Rolls	30

Exact-O-Mat - Standard Thicknesses and Densities

Thicknesses		Density		Width	
inches	mm	pcf	g/cc	inches	mm
1	25	0.75	47	84 - 96	2134 - 2438
1, 1 1/2, 2	25, 38, 51	1.0	62	84 - 96	2134 - 2438
2	51	1.3	81	84 - 96	2134 - 2438
1/2, 1, 1 1/2	13, 25, 38	1.5	94	84 - 96	2134 - 2438
1/4, 3/8	6, 10	2.0	125	48 - 60	1219 - 1524
1/4	6	3.0	187	48 - 60	1219 - 1524

Minimum width of a single roll is 20" (508mm). Standard Roll Length is 100' + 2' - 0 (30m +.6m) (all thicknesses). The exception is 1.3 lb. density, 2" (51mm) thick, 50' + 1' - 0 (15m +.3m - 0)

Exact-O-Mat - Thermal Conductivity (k)

Density		Mean Temp @ 75° F (23° C)	
pcf	g/cc	Btu•in./(hr. • ft.² • °F)	W/mK
0.75	47	0.28	.040
1.0	62	0.27	.039
1.3	81	0.26	.037
1.5	94	0.25	.036
2.0	125	0.25	.036
3.0	187	0.24	.035

Exact-O-Board - Thermal Conductivity (k)

Thicknesses		Density		Mean Temp @ 75° F (23° C)	
inches	mm	pcf	g/cc	Btu•in./(hr. • ft.² • °F)	W/mK
1/8	3	8.0	499	0.23	.033
1/4	6	3.0	187	0.22	.032
3/8	10	2.0	125	0.23	.033

Exact-O-Mat - Acoustical Performance

Type "A" Mounting Sound Absorption Coefficients*

Density		Thicknesses		Frequency (Hz)						
pcf	g/cc	inches	mm	125	250	500	1000	2000	4000	NRC**
0.75	47	1	25	0.12	0.30	0.52	0.67	0.77	0.82	0.55
1.0	62	1	25	0.14	0.27	0.53	0.69	0.79	0.84	0.55
1.5	94	1/2	13	0.03	0.15	0.38	0.55	0.71	0.87	0.45
1.5	94	1	25	0.10	0.29	0.59	0.80	0.91	0.97	0.65
2.0	125	1/4	6	0.03	0.06	0.16	0.33	0.50	0.69	0.25
2.0	125	3/8	10	0.00	0.06	0.19	0.43	0.64	0.87	0.35
3.0	187	1/4	6	0.01	0.01	0.10	0.26	0.48	0.75	0.20

Exact-O-Board - Acoustical Performance

Type "A" Mounting Sound Absorption Coefficients*

Density		Thicknesses		Frequency (Hz)						
pcf	g/cc	inches	mm	125	250	500	1000	2000	4000	NRC**
8.0	499	1/8	3	0.00	0.01	0.02	0.10	0.25	0.44	0.10
3.0	187	1/4	6	0.02	0.04	0.08	0.22	0.43	0.61	0.20
2.0	125	3/8	10	0.03	0.10	0.19	0.40	0.57	0.73	0.30

*Tested in accordance with ASTM C 423-84a and ASTM E 795-83

**Noise Reduction Coefficient



Johns Manville

**Johns Manville
OEM Insulations Division**

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The physical and chemical properties of Johns Manville Exact-O-Mat and Exact-O-Board represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. The data is supplied as a technical service and is subject to change without notice. Check with your Johns Manville representative to obtain current information.