



# Johns Manville

## HVAC Insulation

### Microlite® EQ FSK

Formaldehyde-free™ Fiber Glass Duct Wrap Insulation

#### Description

Microlite® EQ Formaldehyde-free™ duct wrap insulation is a brown, lightweight, highly resilient, blanket-type thermal insulation. The insulation blanket is manufactured from rotary-process fiber glass bonded with a resin made primarily from rapidly renewable plant-based materials.

#### Available Forms

Microlite EQ Formaldehyde-free™ insulation is available in a variety of densities, thicknesses and roll lengths. It is supplied with an FSK (foil-scrim-kraft) vapor barrier facing to meet installed performance requirements, with a 2" (51 mm) stapling tab.

#### Uses

Microlite EQ insulation is recommended as thermal insulation for the exterior of HVAC systems or other spaces or surfaces where temperature control is required.

#### Facing Information

FSK Aluminum Foil  
Reinforced with fiber glass scrim laminated to UL-rated kraft.  
Permeance: 0.02 perms\*

*\*Per ASTM E96, Procedure A for facing material prior to lamination. After lamination, permeance values may be higher.*

#### General Properties

Temperature (max.) – ASTM C411 250°F (121°C)  
Water vapor sorption – ASTM C1104 <5% by weight  
Corrosivity with steel – ASTM C665 Does not accelerate  
Fungi resistance – ASTM C1338 Does not breed or promote

#### Standard Thicknesses and Packaging

Type	Thickness, in (mm)		
	100' Roll (31 m)	75' Roll (23 m)	50' Roll (15 m)
75	1½ (38)	2, 2½ (51, 58)	3 (76)
100	1½ (38)	2 (51)	–
150	–	1½ (38)	2 (51)

*Note: Additional thicknesses, widths and other lengths available on special order. Contact Regional Sales Office for availability.*

#### Recycled Content



NORTH AMERICAN AVERAGE  
24% POST-CONSUMER RECYCLED CONTENT  
ACTUAL RECYCLED CONTENT WILL VARY



#### Surface Burning Characteristics

Microlite EQ insulation meets the Surface Burning Characteristics and Limited Combustibility of the following standards:

Standard/Test Method

- ASTM E84
- UL 723
- NFPA 90A and 90B
- UL Guide No. 40 U8.3. Card R3711
- CAN/ULC S102

Maximum Flame Spread Index	25
Maximum Smoke Developed Index	50

*Note: Faced materials are tested as composite products (insulation, adhesive and facing).*

#### Specification Compliance

ASTM C1290	Type 75, 100, & 150
ASTM C553*	Type I, Type II
Type I, Type II, Type III	Type 75 & 100
Type I, Type II, Type III	Type 150

*\*For faced material: 250°F (121°C) maximum temperature.*

ASTM C1136s†	FSK Facing
Type II	

*†Replaces HH-B-100B, Type II.*

Canada: CGSB 51-GP-11M  
NYC MEA 40-75-M

#### Certified JM Formaldehyde-free™ Fiber Glass Insulation

Certified JM Formaldehyde-free™ fiber glass insulation offers superior thermal and acoustical performance—and it improves indoor air quality because it's made without formaldehyde. Why is that important? Because the U.S. Environmental Protection Agency (EPA) recommends limiting exposure to formaldehyde as much as possible, and the California Air Resources Board, a division of the California EPA, recommends that builders and architects use building materials and insulation made without formaldehyde.



# Microlite® EQ FSK

## Formaldehyde-free™ Fiber Glass Duct Wrap Insulation

### Application Recommendations

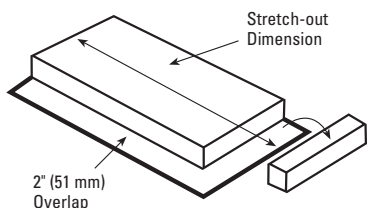
The R-value will vary depending upon how much the insulation is compressed during installation. To obtain the published installed R-values, the insulation stretch-out should be determined using the following table:

#### Duct Wrap Stretch-outs

Labeled Thick. (in)	Installed Compressed Thickness (in)		
	Round	Square	Rectangular
1	P+ 7.0"	P+ 6.0"	P+ 5.0"
1½	P+ 9.5"	P+ 8.0"	P+ 7.0"
2	P+ 12.0"	P+ 10.0"	P+ 8.0"
2½	P+ 13.0"	P+ 11.0"	P+ 8.5"
3	P+ 17.0"	P+ 14.5"	P+ 11.5"

Stretch-outs include 2" (51 mm) for overlap. P = perimeter of duct to be insulated.

Prepare overlap by removing approximately 2" (51 mm) of insulation from facing.



Before applying duct wrap, sheet metal duct shall be clean, dry and tightly sealed at all joints and seams.

Wrap insulation around duct with facing to the outside so the 2" (51 mm) flap completely overlaps facing and insulation at the other end of stretch-out. Insulation shall be snugly butted.

Secure seams with outward clinching staples placed approximately 6" (152 mm) on center. If required, seal seam with pressure-sensitive tape designed for use with duct insulation. Insulation on the underside of ducts spanning 24" (610 mm) or greater shall be secured with mechanical fasteners and speed clips spaced approximately 18" (457 mm) on center. Fasteners should be cut off flush after the speed clips are installed, and when required, sealed with the same tape as specified above.

Adjacent sections of duct wrap insulation shall be snugly butted with the circumferential 2" (51 mm) tape flap overlapping and secured as recommended for the longitudinal seam. When a vapor seal is required, two coats of vapor retarder mastic reinforced with one layer of 4" (102 mm) wide, open-weave glass fabric may be used in lieu of pressure-sensitive tape.

### Guide Specifications

**Insulation for Metal Ducts.** All ducts shall be insulated on the outside with a Formaldehyde-free™, flexible glass fiber blanket. Microlite EQ Formaldehyde-free™ fiber glass duct wrap insulation should have a minimum installed R-value\* of \_\_\_\_\_, and a Type \_\_\_\_\_ facing. Insulation shall be furnished with a factory-applied facing with a composite UL FHC rating of 25/50.

\*The minimum insulation installed R-value should be determined in accordance to the duct operating and ambient conditions.

### Thermal Conductivity (ASTM C518)

Type	k* Compressed Thickness		k Labeled Thickness	
	Btu•in/(hr•ft²•°F)	W/m•°C	Btu•in/(hr•ft²•°F)	W/m•°C
75	0.27	0.039	0.29	0.042
100	0.25	0.036	0.27	0.039
150	0.24	0.035	0.25	0.036

Conductivity at 75°F (24°C) mean temperature.

\*Tested with material thickness compressed 25%.

### Installed R-values

Type	Labeled Thickness	Installed "R"***		Out-of-Package "R"	
		(hr•ft²•°F)/Btu	m²•°C/W	(hr•ft²•°F)/Btu	m²•°C/W
75	1½	38	4.2	0.74	5.2
	2	51	5.6	0.99	6.9
	2½	58	6.5	1.15	8.0
100	3	76	8.3	1.46	10.3
	1½	38	4.5	0.79	5.6
	2	51	6.0	1.06	7.4
150	1½	38	4.7	0.83	6.0
	2	51	6.3	1.11	8.0

\*\*\*Installed R-value calculated with a material thickness compressed to a maximum of 25% following recommended duct wrap stretch-outs.

### North American Sales Offices, Insulation Systems

#### Eastern Region & Canada

P.O. Box 158  
Defiance, OH 43512  
800-334-2399  
Fax: 419-784-7866

#### Western Region

P.O. Box 5108  
Denver, CO 80217  
800-368-4431  
Fax: 303-978-4661



717 17th St.  
Denver, CO 80202  
800-654-3103  
www.JM.com

The physical and chemical properties of the Microlite® EQ Formaldehyde-free™ fiber glass duct wrap insulation 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 insulation and systems, call 800-654-3103.**