



### Microlite®

Formaldehyde-Free Fiber Glass Duct Wrap Insulation

#### Description

Microlite duct wrap insulation is a light weight, highly resilient, blanket-type thermal and acoustical insulation made of glass fibers, bonded with a white, formaldehyde-free resin.

#### Available Forms

Microlite formaldehyde-free insulation is available in a variety of densities, thicknesses, widths and roll lengths. It is supplied with an FSK vapor barrier facing to meet installed performance requirements, with a 2-inch (51 mm) stapling tab.

#### Uses

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

#### Guide Specifications

**Insulation for Metal Ducts.** All ducts shall be insulated on the outside with a formaldehyde-free, flexible glass fiber blanket. Microlite® Formaldehyde-Free Fiber Glass Duct Wrap Insulation with a minimum installed R-Value\* of \_\_\_\_\_, and a Type\_\_\_\_\_ facing. Insulation shall be furnished with a factory-applied facing with a composite UL rating of 25/50.

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

#### Specification Compliance

ASTM C 553-92 \*

Type II	Type 75, 100 & 150
Type III	Type 150

\* Replaces HH-I-558B, Form B, Type I, Class 6.

ASTM C 1290-95                      Type 75, 100 & 150

ASTM C 1139-90 <sup>†</sup>	
Type II	Grade 1 Type 75 Faced Grade 2 Type 100 Faced Grade 3 Type 150 Faced

<sup>†</sup>Replaces MIL-I-22023D.

ASTM E 84	FHC 25/50	FSK Facing
ASTM C 1136 <sup>▲</sup>	Type II	FSK Facing

<sup>▲</sup> Replaces HH-B-100B, Type II

Canada:  
CGSB 51-GP-11M  
CAN/ULC S102-M88

NYC MEA 40-75-M

#### Physical Properties

Temperature (maximum)	
Faced	250°F (121°C)
Water vapor sorption	<0.2% by volume
Alkalinity	<0.6% expressed as Na <sub>2</sub> O
Corrosivity (with steel, copper or aluminum)	Does not accelerate
Capillarity	Negligible (after 24 hours)
Shrinkage	None
Fungi & bacteria resistance	Does not breed or promote



**Operating Temperature Limits:** 40°F to 250°F (4°C to 121°C) Faced

#### Underwriters Laboratories Surface Burning Characteristics

All products meet the Surface Burning Characteristics and limited combustibility requirements of NFPA 90A and 90B Standards and FHA, as tested by UL. Faced materials are tested as composite products (insulation, adhesive and facing). UL Guide No. 40 U8.3. Card R3711. Fire Hazard Classification 25/50.

(UL labels supplied on packages when requested on order.)

#### Facing Information

FSK Aluminum Foil

Reinforced with fiber glass scrim laminated to UL rated kraft.

Permeance: .02 perms

(Per ASTM E 96, Procedure A for facing material prior to lamination. After lamination, permeance values may be higher.)

#### Standard Thickness and Packaging

Type	Thickness, in (mm)		
	100' Roll (31 m)	75' Roll (23 m)	50' Roll (15 m)
75	1½ (38)	2, 2.3 (51, 59)	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.

# Microlite®

## Formaldehyde-Free Fiber Glass Duct Wrap Insulation

### Application Recommendations

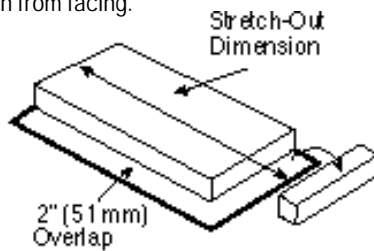
The "R-Value" will vary depending upon how much the insulation is compressed during installation. To obtain the published installed "R-Values," the insulation stretch-out should be determined using the following table.

### Duct Wrap Stretch-Outs

Labeled Thick. (in)	Installed			
	Compressed Thickness (in)	Round	Square	Rectangular
1.0	0.75	P+ 7.0"	P+ 6.0"	P+ 5.0"
1.5	1.125	P+ 9.5"	P+ 8.0"	P+ 7.0"
2.0	1.50	P+ 12.0"	P+ 10.0"	P+ 8.0"
2.3	1.75	P+ 13.0"	P+ 11.0"	P+ 8.5"
3.0	2.25	P+ 17.0"	P+ 14.5"	P+ 11.5"

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

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



### Installed R-Values

Type	Labeled Thickness		Installed "R" <sup>1</sup>		Out of Pkg. "R"	
	in	mm	(hr·ft <sup>2</sup> ·°F)/Btu	m <sup>2</sup> ·°C/W	(hr·ft <sup>2</sup> ·°F)/Btu	m <sup>2</sup> ·°C/W
75	1½	38	4.2	0.74	5.2	0.92
	2	51	5.6	0.99	6.9	1.22
	2.3	59	6.5	1.14	8.0	1.41
100	3	76	8.3	1.46	10.3	1.81
	1½	38	4.5	0.79	5.6	0.99
150	2	51	6.0	1.06	7.4	1.30
	1½	38	4.7	0.83	6.0	1.06
	2	51	6.3	1.11	8.0	1.41

<sup>1</sup> Installed R-Value calculated with a material thickness compressed to a maximum of 25% following recommended duct wrap stretch-outs.

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 approx. 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 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.

### Thermal Conductivity (ASTM C 518)

Type	k*		k	
	Compressed Thickness Btu·in/(hr·ft <sup>2</sup> ·°F)	W/m·°C	Labeled Thickness Btu·in/(hr·ft <sup>2</sup> ·°F)	W/m·°C
75	.27	.039	.29	.042
100	.25	.036	.27	.039
150	.24	.035	.25	.036

Conductivity at 75°F (24°C) mean temperature. \*Tested with material thickness compressed 25%.



### North American Sales Offices, Mechanical Insulations

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### Mechanical Insulations

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The physical and chemical properties of Microlite® Formaldehyde-Free Fiber Glass Duct Wrap Insulation 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 this or any other materials under actual fire conditions. Check with the Regional Sales Office nearest you to assure current information. **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, call the 800 number below.** For information on other Johns Manville thermal insulations and systems, and a copy of the Spec-Line® CSI formatted specification, call **1-800-654-3103**. To access automated fax-on-demand service in the United States and Canada, simply call **1-888-INSULFX** (1-888-467-8539) from a fax or phone.