Microlite® Standard Duct Wrap

Fiber Glass Duct Wrap Insulation

Description

Microlite Standard Duct Wrap Products are light weight, highly resilient, blanket-type thermal and acoustical insulations made from flame-attenuated glass fibers bonded with a thermosetting phenolic resin.

For information regarding Microlite® XG™ formaldehyde-free density fiber glass duct wrap insulation, see AHS-331.

Available Forms

Microlite® and R-Series Microlite® insulations are available in a variety of densities, thicknesses, widths and roll lengths. All R-Series Microlite is manufactured with a nominal density of 0.6 lbs/ft³ (10 kgs/m³). They can be supplied plain or with factory-applied FSK and white Class 1 vinyl. All facings are supplied with a single 2" (51 mm) stapling tab.

Guide Specifications

Insulation for Metal Ducts. All ducts shall be insulated on the outside with flexible glass fiber blanket. Microlite® (R-Series Microlite®) 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.

** Available facing materials are: FSK with a permeance of .02 or less; vinyl with a permeance of 1.3 or less. Unfaced.

Specification Compliance

	Microlite		R-Series Microlite
ASTM C 553-92*.**	Type I	Type 75, 100 & 150	Type I
	Type II	Type 75, 100 & 150	Type II
	Type III	Type 150	
	* Replaces HH-I-558B, Form B, Type I, Class 6.		
	** To 350°F (177°C) unfaced; 250°F (121°C) faced.		
ASTM C 1290-95	Type 75, 100 & 150		Yes
ASTM C 1139-90†	Type I††	Grade 1 Type 75 Unfaced Grade 2 Type 100 Unfaced Grade 3 Type 150 Unfaced	Type I†† Grade 1
	Type II††	Grade 1 Type 75 Faced Grade 2 Type 100 Faced Grade 3 Type 150 Faced	Type II†† Grade 2
	† Replaces MIL-I-22023D.		
	†† Type I to 350°F (177°C) unfaced; Type II to 250°F (121°C) faced.		
ASTM E 84	FHC 25/50	All Types	
ASTM C 1136▲	Type II	FSK Jacket	
	▲ Replaces HH-B-100B, Type II.		
NYC MEA 40-75-M			
Canada:	CGSB 51-GP-11M CAN/ULC S102-M88		

Operating Temperature Limits: 350°F (177°C) Unfaced
40ºF to 250ºF (4ºC to 122ºC) Faced

Physical Properties

Temperature (maximum)	
Unfaced	350°F (177°C)
Faced	250°F (121°C)
Water vapor sorption	<0.2% by volume
Alkalinity	<0.6% expressed as Na_20
Corrosivity (with steel, copper or aluminum)	Does not accelerate
Capillarity	Negligible (after 24 hours)
Shrinkage	None
Fungi & bacteria resistance	Does not breed or promote

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.

Facing Information

FSK Aluminum Foil
Reinforced with fiber glass scrim laminated to UL rated kraft.
Permeance: .02 perms*

Class I Vinyl
White. Meets NFPA 90A and 90B. UL rated.
Permeance: 1.3 perms*

* Per ASTM E 96, Procedure A for facing materials prior to lamination. After lamination, permeance values may be higher.

Thermal Conductivity (ASTM C 518)

	k** Compressed Thickness		k Labeled Thickness	
Type	Btu•in/(hr•ft²•°F)	W/m•°C	Btu•in/(hr•ft²•°F)	W/m•°C
75	.27	.039	.29	.042
100	.25	.036	.27	.039
150	.24	.035	.25	.036
R-S	.29	.042	.31	.045

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

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Unfaced Flame-Attenuated Duct Wrap

Type	Thick. (in.)	Width (in.)	Length (ft.)	"R"-Values (hr•ft²•°F)/Btu Out-of-Package	Installed
R	1	36	150	3.3	2.7
	1	48	150	3.3	2.7
	1	72	150	3.3	2.7
	1	90	150	3.3	2.7
	1	94	150	3.3	2.7
	1½	48	100	5.0	4.0
	2	48	100	6.7	5.4
	2½	48	50	8.3	6.7
	3	48	50	10.0	8.0
75	1	48	100	3.6	2.9
	1½	48	100	5.3	4.3
	2	48	50	7.1	5.8
	2	48	100	7.1	5.8
	2½	48	50	8.9	7.2
	3	48	50	10.7	8.7
100	1	48	100	3.8	3.0
	1½	48	100	5.8	4.5
	2	48	50	7.7	6.0
150	1	48	100	4.2	3.3
	1½	48	50	6.3	4.9
	2	48	50	8.3	6.5
Vinyl Duct Wrap					
R-S◆	1½	48	100	4.8	3.9
	2	48	75	6.5	5.2
	2½	48	50	8.1	6.5
	3	48	50	9.7	7.8

◆*R-Series (Type R-S) Microlite.*

Availability:

Not all products are stock items. Minimum order quantities may apply. Please contact your JM representative for information.

View MSDS

Application Recommendations

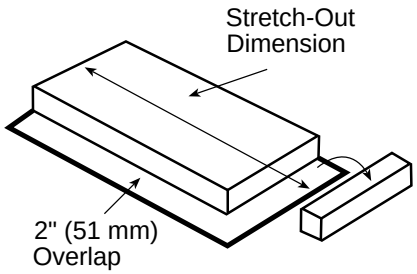
The "R-Value" varies when compressed during installation. To obtain the published installed "R-Values," the insulation stretch-out should be determined using the following table.

Duct Wrap Stretch-Outs

Labeled Thickness in.	Labeled Thickness mm	Installed Compressed Thickness in.	Installed Compressed Thickness mm	Round	Square	Rect-angular
1.0	25	0.75	19	P + 7.0"	P + 6.0"	P + 5.0"
1.5	38	1.125	29	P + 9.5"	P + 8.0"	P + 7.0"
2.0	51	1.50	38	P + 12.0"	P + 10.0"	P + 8.0"
2.3	58	1.75	44	P + 13.0"	P + 11.0"	P + 8.5"
2.5	64	1.875	48	P + 14.5"	P + 12.5"	P + 9.5"
3.0	76	2.25	57	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 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.

Johns Manville

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The physical and chemical properties of the Microlite® Standard Duct Wrap Products 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 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 specifications, call **(800) 654-3103.**