

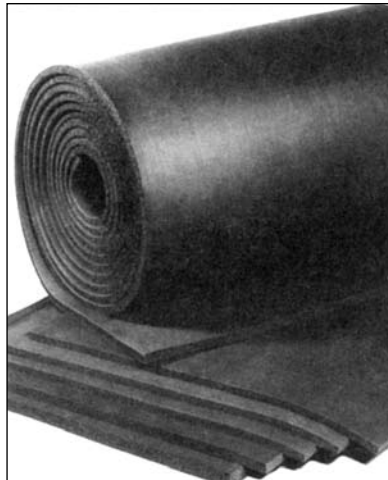
FlexTherm® Sheet Insulation



Made in America

Designed for the Plumbing Industry

Flexible Closed Cell Insulation



DESCRIPTION

FlexTherm® Sheet Insulation is an environmentally friendly, CFC-free, flexible elastomeric thermal insulation. It is black in color, and supplied as flat sheets (36" x 48") in standard thicknesses of 1/8" thru 2". It is supplied skin two sides in 1/4" and above. FlexTherm® Sheet Insulation is also available in rolls, with a standard roll width of 48". FlexTherm® Sheet is non-porous, non-fibrous and resists mold growth.

APPLICATIONS

FlexTherm® Sheet Insulation is used to retard heat gain and prevent condensation or frost formation on cold equipment, ducts, or large O.D. pipes. It also effectively retards heat loss when used on hot equipment, ducts, or large pipes. FlexTherm® Sheet can be used as a duct covering. FlexTherm® Sheet Insulation is recommended for applications ranging from -70°F to 220°F (-57°C to 104°C) when used as pipe insulation where only the seams and butt joints are glued. On full adhesion applications, the upper limit is 200°F (93°C).

FlexTherm® Sheet Insulation has a very tough skin which withstands tearing, rough handling, and severe environmental conditions, and yet is quite flexible for easy

installation. FlexTherm® Sheet Insulation has superior cold weather flexibility.

FlexTherm® Sheet Insulation thickness has been calculated to control condensation on cold surfaces. Refer to the table on the reverse side for specific recommendations.

INSTALLATION

When FlexTherm® with Sheet Insulation is applied to ductwork and equipment, use 100% coverage of approved contact adhesive. When using a contact adhesive, both surfaces to be joined should be coated and then joined after the adhesive is dry to the touch. Compression joints with adhesive applied should be used on all butt edges. Contact factory for specific installation instructions.

OUTDOOR APPLICATIONS

For optimum performance, outdoor applications require 374 Protective Coating or other recommended protective coating, cladding or jacketing. For more detailed information refer to the Installation Guidelines.

RESISTANCE TO MOISTURE VAPOR FLOW

The closed-cell structure and unique formulation of FlexTherm® Sheet Insulation effectively retards the flow of moisture vapor, and is considered a low transmittance vapor retarder. For most indoor applications, FlexTherm® Sheet Insulation needs no additional protection.

Additional vapor barrier protection may be necessary for FlexTherm® Sheet Insulation when installed on low temperature surfaces that are exposed to continuous high humidity.

FLAME AND SMOKE RATING

FlexTherm® Sheet Insulation in thicknesses of 1-1/2" (38 mm) and below has a flame spread rating of 25 or less and a smoke development rating of 50 or less as tested by ASTM E 84 Method

of Testing entitled: "Surface Burning Characteristics of Building Materials." FlexTherm® Sheet is acceptable for use in duct/plenum applications meeting the requirements of NFPA 90A/B.

Numerical flammability ratings alone may not define the performance of products under actual fire conditions. They are provided only for use in the selection of products to meet limits specified, when compared to a known standard.

SPECIFICATION COMPLIANCE

ASTM C 534 Type 2 (Sheet), Grade 1
ASTM D 1056-00-2C1

New York City MEA 186-86-M Vol. IV

USDA Requirements

STC = 17 per ASTM E 90

UL 94-5V Flammability Classification

(Recognition No. E300774)

ASTM E 84 1-1/2" 25/50-tested according to
UL 723 and NFPA 255

Complies with requirements of
CAN/ULC S102-03

NFPA No. 101 Class A Rating

Meets requirements of NFPA 90A/B
Sect. 2.3.3 for Supplementary
Materials for Air Distribution Systems

Meets requirements of UL 181
sections 11.0 and 16.0
(Mold Growth/Air Erosion)

Meets requirements of ASTM C 411
(Test Method for Hot Surface Performance of
High Temperature Thermal Insulation)

Meets R-value requirements of the
International Energy Conservation Code for
Outdoor Ductwork.

FlexTherm® Sheet Insulation

PRODUCT DATA

Physical Properties	FlexTherm® Sheet Insulation		Test Methods
Thermal Conductivity (K) BTU - in/hr - Ft² = °F (W/mK)	90°F (32°C) Mean Temp 75°F (24°C) Mean Temp 50°F (10°C) Mean Temp	.270 (.039) .250 (.036) 260 (.037)	ASTM C 177/C 518 ASTM C 177/C 518 ASTM C 177/C 518
Operating Temperature Range Flexible to -40 °F (-40°C)	Upper Lower	200°F (93°C) -70°F (-57°C)	
Water Vapor Permeability Dry Cup. Perm-In		<0.06	ASTM E 96
Water Absorption %		<0.20 by volume	ASTM C 209
Flame Spread (up to 1-1/2" wall)		Not greater than 25	ASTM E 84
Smoke Developed (up to 1-1/2" wall)		Not greater than 50	ASTM E 84
Ozone Resistance		Pass	ASTM D 1171
Chemical/Solvent Resistance		Good	
Mildew Resistance/Air Erosion		Pass	UL 181

Sound Absorption Co-efficients at Frequency							
ASTM C-423/E-795 Type A Mounting/Sabins/Sq. Ft.							
Thickness	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	NRC
1/4" (6mm)	0.00	0.03	0.05	0.10	0.25	0.45	0.10
1/2" (12mm)	0.03	0.04	0.08	0.15	0.40	0.25	0.20
1" (25mm)	0.10	0.15	0.45	0.30	0.40	0.33	0.35

Thickness Recommendations* - To Control Condensation								
Sheet Size	Ducts • Tanks • Vessels • Equipment • Metal • Surface Temperature							
	50°F	10°C	35°F	2°C	0°F	-18°C	-20°F	-29°C
Normal Conditions (Max 85°F, 29°C - 70% R.H.)	1/2"	13 mm	3/4"	19 mm	1"	25 mm	1-1/2"	38 mm**
Mild Conditions (Max 80°F, 26°C - 50% R.H.)	1/8"	3 mm	1/4"	6 mm	1/2"	13 mm	3/4"	19 mm
Severe Conditions (Max 90°F, 32°C -80% RH)	3/4"	19 mm	1"	25 mm	1-3/4"	44 mm**	2"	50 mm**

*FlexTherm® Sheet Insulation in thickness noted within the specified temperature ranges will prevent condensation on indoor piping under design conditions defined below.

**Subject to code compliance

Normal: Maximum severity of indoor conditions seldom exceed 85°F (29°C) and 70% R.H. in United States.

Mild: Typical conditions are most air-conditioned spaces and arid climates.

Severe: Generally found in areas where excessive moisture is introduced or in poorly ventilated areas where the temperature may be depressed below the ambient. Under conditions of higher humidity, additional thickness of insulation may be required.

FlexTherm® Sheet Insulation "R" Values (based on nominal thickness)					
R Value 3/8"	R Value 1/2"	R Value 3/4"	R Value 1"	R Value 1-1/2"	R Value 2"
1.5	2	3	4	6	8

*All sizes are nominal

Note: "R" factors were calculated using a K factor of 0.2575 (0.25 plus 3% test error allowance at 75°F, 24°C mean temp.) and nominal wall thickness in each case. Lower operating temperatures will result in improved R values. Contact Technical Services for specific recommendations.



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