

FlexTherm® Seam-Seal

Self-Seal Pipe Insulation Flexible Closed Cell Insulation



Made in America
Designed for the Plumbing Industry



DESCRIPTION

FlexTherm® Seam-Seal Pipe Insulation is an environmentally friendly, CFC-free, flexible elastomeric insulation, pre-slit with a factory-applied pressure sensitive adhesive. It is black in color and identified as FlexTherm® Seam-Seal. This superior closed cell insulation is designed to retard heat flow and prevent condensation when properly installed. FlexTherm® Seam-Seal Pipe Insulation is pre-slit with a factory applied specially formulated bonding adhesive applied to both seam surfaces and comes with convenient built-in release liners which allow for easy installation. It is available in wall thicknesses of 3/8" through 1" and in sizes ranging from 3/8" to 4" IPS. It is non-porous, non-fibrous and resists mold growth.

APPLICATIONS

FlexTherm® Seam-Seal has the same excellent insulation properties as standard FlexTherm® Pipe Insulation and is used on similar applications such as hot and cold water plumbing. FlexTherm® Seam-Seal is recommended for applications ranging from -70°F to 200°F (-57°C to 93°C) for both new and existing applications. For best results, store and install FlexTherm® Seam-Seal at temperatures above 40°F (4°C).

FlexTherm® Seam-Seal's self-seal closure system is designed to save labor costs, particularly on straight runs. It greatly reduces the use of contact adhe-

sives, thus allowing for improved working conditions and compliance with OSHA requirements. FlexTherm® Seam-Seal can be used with heat tracing/heat tapes.

INSTALLATION

FlexTherm® Seam-Seal is pre-slit with convenient built-in tabs for easy installation: slip on the tube, pull the tab, pinch it shut and apply pressure to the seams. The seam should be positioned to be on the bottom of the pipe. See technical bulletin for installation instructions in cold temperatures.

All butt joints must be sealed with an approved contact adhesive. Fittings are fabricated from miter-cut tubular sections or from FlexTherm® Sheet Insulation.

OUTDOOR APPLICATIONS

FlexTherm® Seam-Seal Pipe Insulation is made from a UV resistant elastomeric blend. For moderate UV exposure, no additional protective coating needed. However, for severe UV exposure (rooftop applications) or where optimum performance is required, 374 Protective Coating or approved jacketing or cladding should be used. For best appearance, two coats are recommended. *For more detailed information refer to the Installation Guidelines.*

FEATURES & BENEFITS

FlexTherm® Seam-Seal offers the advantage of easier handling & installation

- Faster install
- Ideal for straight runs
- Less use of contact adhesives

RESISTANCE TO MOISTURE VAPOR FLOW

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

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

FLAME AND SMOKE RATING

FlexTherm® Seam-Seal Pipe Insulation in wall thicknesses up to 1" (25 mm) 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® Seam-Seal Pipe Insulation 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 1 (Tubing), Grade 1
ASTM D 1056-00-2C1
New York City MEA 186-86-M Vol. IV
USDA Requirements

UL 94-5V Flammability Classification (Recognition No. E300774)
ASTM E 84 1" 25/50-tested according to UL 723 and NFPA 255
Complies with requirements of CAN/ULC S102-03

FMRC 2006 Approval Guide
Chapter 14 Pipe Insulation
Meets requirements of NFPA 90A Sect. 2.3.3 for Supplementary Materials for Air Distribution Systems

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

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

FlexTherm® Seam-Seal Self-Seal Pipe Insulation

PRODUCT DATA

Physical Properties		FlexTherm® Seam Seal	Test Methods
Thermal Conductivity (K)	90°F (32°C) Mean Temp	.270 (.039)	ASTM C 177/C 518
BTU - in/hr - Ft² = °F (W/mK)	75°F (24°C) Mean Temp	.250 (.036)	ASTM C 177/C 518
	50°F (10°C) Mean Temp	260 (.037)	ASTM C 177/C 518
	Operating Temperature Range	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" wall)		Not greater than 25	ASTM E 84
Smoke Developed (up to 1" 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

Thickness Recommendations* - To Control Condensation

Pipe Size	Line Temp		Line Temp		Line Temp		Line Temp	
	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.)								
3/8" I.D. thru 1-3/8"	3/8"	10 mm	1/2"	13 mm	3/4"	19 mm	1"	25 mm
Over 1-3/8" thru 3" IPS	3/8"	10 mm	1/2"	13 mm	1"	25 mm	1"	25 mm
Over 3" IPS thru 4" IPS	1/2"	13 mm	1/2"	13 mm	1"	25 mm	1-1/4"	32 mm**
Mild Conditions (Max 80°F, 26°C - 50% R.H.)								
3/8" I.D. thru 2-1/8" I.D.	3/8"	10 mm	3/8"	10 mm	1/2"	13 mm	1/2"	13 mm
Over 2-1/8" thru 3" IPS	3/8"	10 mm	3/8"	10 mm	1/2"	13 mm	3/4"	19 mm
Over 3" IPS thru 4" IPS	1/2"	13 mm	1/2"	13 mm	3/4"	19 mm	3/4"	19 mm
Severe Conditions (Max 90°F, 32°C - 80% RH)								
3/8" I.D. thru 1-1/8" I.D.	3/4"	19 mm	3/4"	19 mm	1-1/4"	32 mm**	1-1/4"	32 mm**
Over 1-1/8" I.D. thru 4" IPS	3/4"	19 mm	1"	25 mm	1-1/2"	38 mm**	1-1/2"	38 mm**

*FlexTherm® Seam-Seal in thickness noted within the specified temperature ranges will prevent condensation in indoor piping under design conditions defined below.

**Thickness recommendations above 1" can be sleeved to achieve thickness desired.

Normal: Maximum severity of indoor conditions seldom exceed 85°F and 79% 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.

Note: Thickness recommendations calculated using 0.2575 K-Factor (0.25 plus 3% test error allowance)

FlexTherm® Seam Seal "R" Values					
Pipe O.D. or Nominal Insulation I.D.		R Value 3/8" (10 mm) Wall	R Value 1/2" (13 mm) Wall	R Value 3/4" (19 mm) Wall	R Value 1" (25 mm) Wall
3/8"	10 mm	2.6	3.5	5.5	—
1/2"	13 mm	2.5	3.3	5.2	—
5/8"	16 mm	2.4	3.2	5.3	7.4
3/4"	19 mm	2.3	3.0	5.3	7.3
7/8"	22 mm	2.2	3.1	5.3	7.0
1-1/8"	29 mm	2.3	3.1	5.5	7.1
1-3/8"	35 mm	2.1	3.1	5.2	7.2
1-5/8"	41 mm	2.5	3.1	5.2	7.1
1-1/2" IPS	—	2.4	3.0	5.0	6.7
2-1/8"	54 mm	2.5	3.2	5.0	6.8
2" IPS	60 mm	—	3.1	4.9	6.6
2-1/2" IPS	—	—	3.2	4.8	6.4
2-5/8"	67 mm	—	3.2	4.8	6.5
3-1/8"	79 mm	—	3.1	4.6	6.2
3" IPS	—	—	3.3	4.7	6.2
3-5/8"	92 mm	—	3.2	4.6	6.0
4-1/8"	105 mm	—	3.1	4.6	5.9
4" IPS	—	—	3.2	4.6	5.9

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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