

Pipe Insulation Flexible Closed Cell Insulation

Made in USA



DESCRIPTION

RUBAFLEX Pipe Insulation is an environmentally friendly, CFC-free, flexible elastomeric thermal insulation. It is black in color, identified as RUBAFLEX, and is available in unslit tubular form in wall thicknesses of 3/8", 1/2", 3/4" or 1" in sizes ranging from 3/8" I.D. to 4" IPS.

RUBAFLEX is non-porous, non-fibrous and resists mold growth.

APPLICATIONS

RUBAFLEX is used to retard heat gain and prevent condensation on cold water plumbing, and air conditioning lines. It also retards heat flow for hot water plumbing and HVAC systems.

RUBAFLEX is recommended for applications ranging from -40°F to 220°F (-40°C to 104°C). The expanded closed cell structure makes RUBAFLEX an efficient insulator and provides effective moisture vapor resistance. RUBAFLEX can be used with heat tracing/heat tapes.

RUBAFLEX has a very tough skin which withstands tearing, rough handling, and severe environmental conditions, and yet is quite flexible for easy installation.

INSTALLATION

With a factory-applied coating of talc on the smooth inner surface, RUBAFLEX slides easily over pipe or tubing for quick installation. When applied to existing lines, tubing is slit lengthwise and fitted into place. (Slitting can be done on the job with a sharp knife) All seams and butt joints should be sealed with an approved contact adhesive, making sure both surfaces to be joined are coated with adhesive. Fittings are fabricated from miter-cut tubular sections and cover, flanges, etc., from RUBAFLEX-SHEET.

OUTDOOR APPLICATIONS

RUBAFLEX Pipe Insulation is made from a UV resistant elastomeric blend. For moderate UV exposure, no additional protective coating is 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 more detailed information refer to the Installation Guidelines.*

RESISTANCE TO MOISTURE VAPOR FLOW

The closed-cell structure and unique formulation of RUBAFLEX effectively retards the flow of moisture vapor, and is considered a low transmittance vapor retarder. RUBAFLEX needs no additional moisture vapor protection.

FLAME AND SMOKE RATING

RUBAFLEX Pipe Insulation in wall thicknesses of 1" (25 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."

Duct/Plenum Applications

RubaFlex is acceptable for 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 us 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

USDA Requirements

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

NFPA No. 101 Class A Rating

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)

RubaFlex Pipe Insulation

PRODUCT DATA

Physical Properties		RubaFlex Insulation	Test Methods
Thermal Conductivity (K) BTU -in/hr - Ft ² - °F (W/mK)	75° F (24° C) Mean Temp	.290 (.041)	ASTM C 177/C 518
Operating Temperature Range	Upper	220° F (104° C)	
Flexible to -40° F (-40° C)	Lower	-40° F (-40° C)	
Water Vapor Permeability Dry Cup. Perm-In		<0.10	ASTM E 96
Water Absorption %		<0.20 by volume	C209
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
UV Weather Resistance		Pass	QUV Chamber Test

Thickness Recommendations* - To Control Condensation

Pipe Size	Line Temp 50°F		Line Temp 10°C		Line Temp 35°F		Line Temp 2°C		Line Temp 0°F		Line Temp -18°C		Line Temp -20°F		Line Temp -29°C	
Normal Conditions (Max 85°F, 29°C - 70% R.H.)																
3/8" I.D. thru 1-3/8" I.D.	3/8"	10 mm	1/2"	13 mm	3/4"	19 mm	1"	25 mm	1"	25 mm	1-1/2"	38 mm	1"	25 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	1"	25 mm	1-1/2"	38 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"	25 mm	1"	25 mm	1-1/2"	38 mm	1"	25 mm	1"	25 mm
Over 4" IPS	1/2"	13 mm	3/4"	19 mm	1"	25 mm	1"	25 mm	1"	25 mm	1-1/2"	38 mm	1"	25 mm	1"	25 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	3/4"	19 mm	3/4"	19 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	1/2"	13 mm	3/4"	19 mm	3/4"	19 mm	1/2"	13 mm	1/2"	13 mm
Over 3" IPS thru 4" IPS**	1/2"	13 mm	1/2"	13 mm	3/4"	19 mm	3/4"	19 mm	3/4"	19 mm	3/4"	19 mm	3/4"	19 mm	3/4"	19 mm
Over 4" IPS	1/2"	13 mm	1/2"	13 mm	3/4"	19 mm	3/4"	19 mm	3/4"	19 mm	3/4"	19 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	1-1/2"	38 mm	1-1/2"	38 mm	1-1/2"	38 mm	1-1/2"	38 mm	1-1/2"	38 mm	1-1/2"	38 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	1-1/2"	38 mm	1-1/2"	38 mm	1-1/2"	38 mm	1-1/2"	38 mm
Over 4" IPS	3/4"	19 mm	1"	25 mm	1-3/4"	44 mm	1-3/4"	44 mm	2"	50 mm	2"	50 mm	2"	50 mm	2"	50 mm

RubaFlex in thickness noted within the specified temperature ranges will prevent condensation on indoor piping under design conditions defined below.

Thickness recommendations above 1" can be sleeved to achieve thickness desired. Subject to compliance with applicable code requirements.

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.

**Available: Nom. 1/2" or Nom. 3/4" thickness only.

RubaFlex "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	R Value 1 1/2" (38 mm) Wall
3/8"	10 mm	2.5	3.3	5.2	—	—
1/2"	13 mm	2.4	3.1	5.0	—	—
5/8"	16 mm	2.3	3.0	5.0	7.2	—
3/4"	19 mm	2.2	3.0	5.0	7.2	—
7/8"	22 mm	2.1	3.0	5.0	7.0	13.0
1-1/8"	29 mm	2.1	2.9	5.1	6.6	12.0
1-3/8"	35 mm	2.0	2.9	4.9	6.8	11.4
1-5/8"	41 mm	2.2	2.9	4.8	6.6	10.9
1-1/2" IPS	48 mm	2.3	2.7	4.5	6.3	10.5
2-1/8"	54 mm	2.2	2.8	4.5	6.1	10.2
2" IPS	60 mm	2.2	2.7	4.4	6.0	9.9
2-1/2" IPS	64 mm	2.1	2.8	4.3	5.9	9.5
2-5/8"	67 mm	2.0	2.7	4.3	5.8	9.5
3-1/8"	79 mm	2.0	2.7	4.1	5.6	9.1
3" IPS	89 mm	2.1	3.0	4.2	5.7	9.2
3-5/8"	92 mm	2.0	2.8	4.1	5.5	8.9
4-1/8"	105 mm	2.0	2.8	4.1	5.4	8.7
4" IPS	114 mm	—	3.0	4.4	5.6	8.9

Note: Lower operating temperatures will result in improved R values. Contact Technical Services for specific recommendations.