

DESCRIPTION

Micro-Flex large-diameter pipe and tank wrap is a 2.5 pcf (40.1 kg/m³) density product made from high-temperature, semi-rigid fiberglass blanket bonded to a flexible facing. Shipped in roll form, Micro-Flex's unique fiber orientation gives it increased compressive strength and permits close installation on round surfaces without reducing the thickness of insulation resulting in a loss of insulating efficiency. Micro-Flex can be installed indoors & outdoors depending on the application. Micro-Flex does require a weather barrier cladding such as aluminum jacketing or polyvinyl chloride (PVC) jacketing to protect it from the elements when installed outdoors. The ease of fit is particularly helpful on retrofit installations where existing insulation may result in nonstandard outside diameters.

USES

Micro-Flex large-diameter pipe and tank wrap is ideally suited for application on rounded shapes such as pipes, tanks, ducts, vessels and other similar round and irregular shapes. For applications requiring a vapor seal, all joints and facing penetrations must be sealed.

AVAILABLE TYPES AND SIZES OF ROLLS

Micro-Flex is available in 3-foot (0.92 m) or 4-foot (1.22 m) wide rolls in AP (All Purpose), FSK or Ultra facings. The Ultra facing is a polypropylene coated jacket that is the exact matching facing to Johns Manville's Micro-Lok HP Ultra. For roll lengths, thicknesses and the amount of material per roll, please reach out to your account specialist.

ADVANTAGES

Easy to Apply. For most applications, only a ruler, knife, 3- or 4-inch (76 mm or 102 mm) wide AP, FSK, or polypropylene ASJ coated tape and stapler are required.

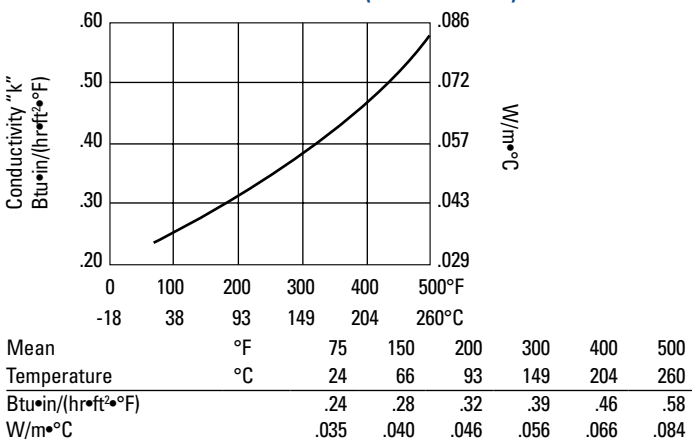
Flexible & Compression-resistant. The unique fiber manufacturing process results in interconnected glass fibers, creating a continuous insulation mat. There are no segments that are prone to delaminate and fall out during handling and fabrication.

Conforms Around Various Diameters and Shapes. Due to the solid mass of fibers rather than cut-and-glued segments, even small diameter vessels can be wrapped without the worry of the "stop-sign effect."

Low Thermal Conductivity. The unique, uniform fiber orientation and a variety of thicknesses provide a dependable thermal conductivity ("k") of .24 Btu•in/(hr•ft²•°F) at 75°F mean temperature (.035 W/m•°C at 24°C).

Superior Strength. The unique fiber manufacturing process results in a highly durable product that exhibits excellent handling properties during shipping and installation.

THERMAL CONDUCTIVITY "K" (ASTM C 518)



Operating Temperature Limits: 0°F to 850°F (-18°C to 454°C)*

Shot-Free Glass Fibers. Due to the advanced fiber-manufacturing process and latest advances in binder technology, Micro-Flex can stand up to the rigors of heavy vibration.

Long Lasting. The continuous fiber blanket remains intact compared to the 4-inch (102 mm) wide strips of conventional pipe and tank insulation, which tend to loosen or fall out over time when the adhesive dries out.

SPECIFICATION COMPLIANCE

ASTM C1393, Type IIIA, IIIB, Category 2

ASTM E84, FHC 25/50

INSTALLATION

When applying, simply determine the circumference of the piece being insulated (remember to add twice the thickness of insulation being used to the diameter). Add 2 to 4 inches (51 mm to 102 mm) for lap seam and cut to length. Remove 2 to 4 inches (51 mm to 102 mm) of glass to provide for the lap. Care should be taken to not cut through the facing. Lap seams should be stapled with outward-clinching staples placed on maximum 4-inch (102 mm) centers. For vapor retarder applications, the staples must be coated with a vapor retarder mastic for a complete vapor seal. All longitudinal and circumferential joints should be sealed with a 3- or 4-inch (76 mm or 102 mm) wide pressure-sensitive tape. For some applications, banding may be required for additional securement.

*A sufficient thickness of properly installed insulation must be used to prevent insulation surface temperature from exceeding 150°F (66°C). A minimum 1½-inch (38 mm) thickness of insulation is required for operating temperatures above 350°F (177°C).

PHYSICAL PROPERTIES

| Property | Value | ASTM Test Method |
|---------------------------------|-----------------------------------|------------------|
| Maximum Use Temperature | 850°F (454°C) | C 411 |
| Density | 2.5 pcf (40.1 kg/m ³) | C 303 |
| Compressive Resistance | 25 psf (1,197 Pa) | C 165 |
| Surface Burning Characteristics | | E 84 |
| Flame Spread | 25 or Less | |
| Smoke Developed | 50 or Less | |
| Facing Temperature Limit | 150°F (66°C) | C 1136 |
| Water Vapor Permeance | 0.02 Perms | E 96 |

DATA SHEET

MICRO-FLEX STRETCH-OUT CHART (I-P UNITS)

Approximate length in inches to cut rolls to fit large pipes and ducts.

| Nominal Pipe Size (in.*) | Pipe Outside Diameter (in.*) | Thickness (in.) | | | | | | |
|--------------------------------|------------------------------------|-----------------|-------|------|-------|-------|-------|-------|
| | | 1 [†] | 1½ | 2 | 2½ | 3 | 3½ | 4 |
| 10 | 10 ¾ | 40 ⅝ | 44 ⅞ | 47 ⅞ | 50 ⅝ | 53 ⅞ | 56 ½ | 59 ⅝ |
| 12 | 12 ¾ | 47 | 50 ½ | 53 ¾ | 56 ½ | 59 ⅝ | 62 ⅞ | 66 |
| 14 | 14 | 50 ⅞ | 53 ¾ | 56 ⅞ | 59 ⅝ | 62 ⅞ | 66 | 69 ¼ |
| 16 | 16 | 57 ¼ | 60 ⅞ | 63 ¼ | 66 | 69 ¼ | 72 ⅞ | 75 ¼ |
| 18 | 18 | 63 ⅞ | 66 ½ | 69 ⅝ | 72 ⅞ | 75 ¼ | 78 ⅞ | 81 ½ |
| 20 | 20 | 70 | 72 ½ | 75 ⅝ | 78 ⅞ | 81 ½ | 84 ¾ | 87 ⅞ |
| 22 | 22 | 76 | 78 ¾ | 82 | 84 ¾ | 87 ⅞ | 91 ⅞ | 94 ¼ |
| 24 | 24 | 82 ⅞ | 85 ⅞ | 88 ¼ | 91 ⅞ | 94 ¾ | 97 ¾ | 100 ⅝ |
| 26 | 26 | 88 ¾ | 91 ½ | 94 ⅝ | 97 ⅞ | 100 ⅝ | 103 ½ | 106 ⅝ |
| 28 | 28 | 95 | 97 ¾ | 101 | 103 ½ | 106 ⅝ | 109 ¾ | 113 |
| 30 | 30 | 101 ⅞ | 103 ⅞ | 107 | 109 ¾ | 113 | 116 ⅞ | 119 ¼ |

* These dimensions do not include a lap. You must ADD 2 to 4 inches for lap.

† Available FSK Only

MICRO-FLEX STRETCH-OUT CHART (SI UNITS)

Approximate length in mm to cut rolls to fit large pipes and ducts.

| Nominal Pipe Size (mm*) | Pipe Outside Diameter (mm*) | Thickness (mm) | | | | | | |
|-------------------------------|-----------------------------------|-----------------|------|------|------|------|------|------|
| | | 25 [†] | 38 | 51 | 64 | 76 | 89 | 102 |
| 250 | 273 | 1014 | 1104 | 1184 | 1253 | 1333 | 1412 | 1492 |
| 300 | 324 | 1174 | 1263 | 1343 | 1412 | 1490 | 1572 | 1651 |
| 350 | 356 | 1273 | 1343 | 1422 | 1492 | 1571 | 1651 | 1731 |
| 400 | 406 | 1432 | 1502 | 1581 | 1651 | 1731 | 1802 | 1881 |
| 450 | 457 | 1591 | 1661 | 1740 | 1802 | 1881 | 1960 | 2039 |
| 500 | 508 | 1751 | 1812 | 1891 | 1960 | 2039 | 2118 | 2198 |
| 550 | 559 | 1901 | 1970 | 2049 | 2118 | 2198 | 2277 | 2356 |
| 600 | 610 | 2059 | 2128 | 2208 | 2277 | 2356 | 2435 | 2514 |
| 650 | 660 | 2217 | 2287 | 2366 | 2435 | 2514 | 2587 | 2666 |
| 700 | 711 | 2376 | 2445 | 2524 | 2587 | 2666 | 2745 | 2824 |
| 750 | 762 | 2534 | 2597 | 2676 | 2745 | 2824 | 2903 | 2982 |

* These dimensions do not include a lap. You must ADD 51 mm to 102 mm for lap.

† Available FSK Only

EXAMPLE:

To use Micro-Flex large-diameter pipe and tank wrap instead of 20-inch x 2-inch (500 mm x 51 mm) pipe covering:

1. Cut piece 78 ⅞ inches (1991 mm) long (75 ⅞ inches [1915 mm] plus 3 inches [76 mm] for lap).
2. Strip off 3 inches (76 mm) of the fiberglass leaving the jacket intact.
3. Physically apply to the pipe the first section cut of any size to verify dimensional fit.
4. You now have a section that will cover a 3-foot (0.92 m) section of 20-inch (500 mm) pipe.

In order to determine the length for pipe sizes not in the table:

1. Add twice the thickness of the insulation to the outside diameter of the pipe.
2. Multiply this value by 3.14.
3. Add 2 to 4 inches (51 mm to 102 mm) for a lap.



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Technical specifications as shown in this literature are intended to be used as general guidelines only. Please refer to the Safety Data Sheet and product label prior to using this product. The physical and chemical properties of Micro-Flex 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. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.

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