

# K-FIT®

Flexible, closed-cell elastomeric pre-fabricated fittings  
Uniform, Reliable and Cost Effective



## DESCRIPTION

K-Fit® Prefabricated Fittings are the easiest, most reliable way to insulate pipe fittings. They are produced under controlled conditions in our manufacturing location using an automated process to ensure uniformity, good fit and watertight seams. K-Fit® Prefabricated Fittings are available in wall thicknesses of 1/2", 3/4", 1", 1-1/4" and 1-1/2" in sizes ranging from 3/8" I.D. to 6" IPS.

They are also available as Grooved fittings. For pipes greater than 4" IPS, fittings are butterfly design. For pipes 4" IPS and below, fittings are mitered. Reference the K-FLEX Installation Manual for details.

K-Fit® Prefabricated Fittings are available in 45s, 90s, P-Traps and Tees in all K-FLEX elastomeric products - Black, White, and K-FLEX ECO™. K-Fit® Prefabricated Fittings are non-porous, fiber-free, environmentally-friendly, CFC-free, and resist mold growth.

## APPLICATIONS

K-Fit® Prefabricated Fittings are used to retard heat gain and prevent condensation or frost formation on refrigerant lines, cold water plumbing, and chilled water systems. They also retard heat loss for hot water plumbing, liquid heating, dual temperature piping and solar systems. K-Fit® Prefabricated Fittings are manufactured from standard insulation and are recommended for applications ranging from -297°F to 220°F (-182°C to 104°C). Fittings manufactured from K-FLEX ECO™ have a temperature range up to 300°F (150°C). The expanded closed-cell

structure makes K-Fit® Prefabricated Fittings an efficient insulator and an effective moisture vapor retarder.

## INSTALLATION

Installation of K-Fit® Prefabricated Fittings are easy, fast and provide a reliable installation system. For best installation results, apply fittings prior to straight run insulation.

**Step 1:** Slit Fitting.

**Step 2:** Apply contact adhesive to longitudinal seam (both surfaces).

**Step 3:** Allow adhesive to become tacky.

**Step 4:** Apply fitting to pipe.

**Step 5:** Apply pressure to seam.

**Step 6:** Install straight pipe insulation and adhere to fittings.

*K-Fit® P-Traps are specifically designed to fit Mueller Industries Suction Line P-Traps. K-FLEX USA will not warrant the fit of its K-Fit® P-Trap for any other manufacturer's suction line P-Trap.*

## OUTDOOR APPLICATIONS

K-Fit® Prefabricated Fittings are made from a UV-resistant elastomeric blend. For moderate UV exposure, no additional protection is needed. For severe UV exposure (rooftop applications) or for optimum performance, K-FLEX® 374 Protective Coating, appropriate jacketing or K-FLEX Clad® is required.

## RESISTANCE TO MOISTURE VAPOR FLOW

The closed-cell structure and unique formulation of K-Fit® Prefabricated Fittings effectively retards the flow of moisture vapor, and is considered a low transmittance vapor retarder. For most indoor applications, K-Fit® Prefabricated Fittings

need no additional protection. Additional vapor barrier protection may be necessary for K-Fit® Prefabricated Fittings when installed on low temperature surfaces that are exposed to continuous high humidity.

## FLAME AND SMOKE RATING\*

K-Fit® Prefabricated Fittings have a flame spread rating of 25 or less and a smoke development rating of 50 or less as tested according to ASTM E 84, "Surface Burning Characteristics of Building Materials".

K-Fit® Prefabricated Fittings are acceptable for use in duct/plenum applications meeting the requirements of NFPA 90A/B.

\* Not applicable to K-FLEX ECO™

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), Type 1 / Grade 3 (ECO)
- ASTM D 1056-00-2B1
- New York City MEA 186-86-M Vol. IV
- USDA Compliant
- RoHS Compliant
- UL 94-5V Flammability Classification (Recognition No. E300774)
- ASTM E 84 25/50-tested according to UL 723 and NFPA 255
- Complies with requirements of CAN/ULC S102-M88
- FMRC Approval Guide Chapter 14 Pipe Insulation 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)
- GREENGUARD® certified under the "Children & Schools" and "Indoor Air Quality" classifications

PHYSICAL PROPERTIES		K-FIT® BLACK	TEST METHODS
THERMAL CONDUCTIVITY (K)	90°F (32°C) MEAN TEMP	0.258 (0.0372)	ASTM C 177/C 518
BTU - IN/HR - FT² - °F (W/MK)	75°F (24°C) MEAN TEMP	0.245 (0.0353)	ASTM C 177/C 518
DENSITY		3-6 PCF	ASTM D 1622/D 3575
OPERATING TEMPERATURE RANGE (FLEXIBLE TO -40°F (-40°C))		-297°F (-182°C) TO +220°F (104°C)	
WATER VAPOR PERMEABILITY DRY CUP. PERM-IN		0.03	ASTM E 96
WATER ABSORPTION % (VOLUME CHANGE)		0	ASTM C 209
FLAME SPREAD / SMOKE DEVELOPED		<25/50	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

\*For technical information regarding K-FIT® White and K-FIT® ECO please see respective product sheets.

THICKNESS RECOMMENDATIONS - TO CONTROL CONDENSATION				
PIPE SIZE	50°F (10°C)	35°F (2°C)	0°F (-18°C)	-20°F (-29°C)
<b>Normal Conditions (Max 85°F, 29°C - 70% R.H.)</b>				
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)
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)	1-1/2" (38 mm)
Over 4" IPS	1/2" (13 mm)	3/4" (19 mm)	1" (25 mm)	1-1/2" (38 mm)
<b>Mild Conditions (Max 80°F, 26°C - 50% R.H.)</b>				
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)
Over 4" IPS	1/2" (13 mm)	1/2" (13 mm)	3/4" (19 mm)	3/4" (19 mm)
<b>Severe Conditions (Max 90°F, 32°C - 80% RH)</b>				
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)
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)
Over 4" IPS	3/4" (19 mm)	1" (25 mm)	2" (50 mm)	2" (50 mm)

K-FIT® in thickness noted within the specified temperature ranges will prevent condensation on indoor piping under design conditions defined below. Thickness recommendations not within the 1/2" to 1-1/2" range must be field fabricated. Normal: Maximum severity of indoor conditions rarely 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 high humidity, additional thickness of insulation may be required. NOTE: Thickness recommendations calculated using 0.2575 K-factor (0.245 plus 5% test error allowance).

PIPE "R" VALUES PER SQUARE FOOT					
NOMINAL INSULATION I.D.	1/2" WALL	3/4" WALL	1" WALL	1-1/4" WALL	1-1/2" WALL
3/8"	3.6	5.6	8.5	12.0	14.6
1/2"	3.4	5.4	7.9	11.1	13.5
5/8"	3.3	5.4	7.5	10.5	12.8
3/4"	3.1	5.4	7.5	9.9	12.1
7/8"	3.2	5.4	7.2	9.5	11.6
1-1/8"	3.1	5.5	7.1	8.9	10.8
1-3/8"	3.2	5.3	7.3	8.4	10.2
1-5/8"	3.1	5.1	7.1	8.1	9.8
1-1/2" IPS	3.0	4.9	6.7	7.7	9.3
2-1/8"	3.0	4.9	6.8	7.6	9.2
2" IPS	2.9	4.8	6.5	7.4	9.0
2-1/2" IPS	3.0	4.6	6.3	7.2	8.6
2-5/8"	3.1	4.7	6.4	7.3	8.8
3-1/8"	3.0	4.6	6.2	7.1	8.5
3" IPS	3.2	4.6	6.1	7.0	8.3
3-5/8"	3.2	4.6	6.1	6.9	8.3
4-1/8"	3.1	4.6	6.0	6.8	8.1
4" IPS	3.2	4.7	6.0	6.8	8.1
5" IPS	3.2	4.5	5.9	6.6	7.8
6" IPS	3.1	4.5	5.8	6.5	7.6

**Note:** "R" factors were calculated using a K factor of 0.245 (at 75°F, 24°C mean temp.) and nominal wall thickness is each case. Lower operating temperatures will result in improved R values. Contact Technical Services for specific recommendations.



K-FLEX USA - 100 Nomaco Drive - Youngsville, NC 27596 - toll free 800-765-6475 - fax 800-765-6471 - [www.kflexusa.com](http://www.kflexusa.com)

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