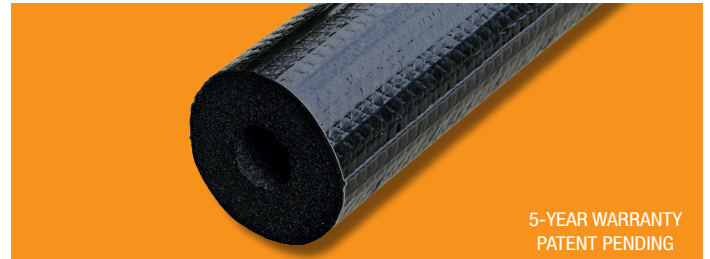


K-FLEX TITAN™

CLOSED-CELL, FLEXIBLE, ELASTOMERIC FOAM INSULATION WITH A FLEXIBLE CO-EXTRUDED UV RESISTANT JACKETING



5-YEAR WARRANTY
PATENT PENDING

DESCRIPTION ▶

K-FLEX TITAN™ is a flexible co-extruded jacketed composite material applied to K-FLEX® NBR/PVC tubular insulation. It is a polymeric jacketed material that offers excellent flexibility, abrasion and weather resistance, making it ideal for outdoor applications. The product is made in K-FLEX USA's ISO 9001 certified manufacturing facility in North Carolina.

AVAILABILITY ▶

K-FLEX TITAN™ is black in color and is available in 1/2", 3/4", 1" and 1-1/2" wall thicknesses, non-slit and pre-slit 6' length tubes. It is available in diameter sizes ranging from 1/4" I.D. to 2-1/8" I.D. across all wall thicknesses and additional IDs dependent on wall thickness.

APPLICATIONS ▶

K-FLEX TITAN™ can be used for outdoor applications with service temperatures ranging from -70 °F to +220 °F. The applications would be consistent with those recommended for K-FLEX Insul-Tube tubing. The product is used to enhance the weather and abuse resistance of the insulation tubing. K-FLEX TITAN™ is ideal for use on HVAC linesets and flex hose applications.

OUTDOOR APPLICATION ▶

K-FLEX TITAN™ provides excellent UV resistance and protection from weather. K-FLEX TITAN's proprietary copolymer blend jacket provides excellent protection from mechanical abuse, including incidental impact from lawn equipment such as weed wackers (plastic string type). The product has a 5-year warranty.

INSTALLATION ▶

1-Step Install: No field applied protective coating or additional jacketing required.

K-FLEX TITAN™ is durable (non-fracturing) and the skin is resistant to tearing from handling and the environment, safe to handle (nondusting and non-abrasive), and lightweight for an efficient installation. It is very flexible and easily conforms to bends. Its low modulus allows it to be pushed back for easy installation of fittings.

K-FLEX recommends that insulation is installed on non-operational systems with clean, dry surfaces in ambient conditions between 40 °F and 100 °F.

Properly sized insulation tubing can be slid over piping (tubing should be pushed, not pulled). All seams, butt joints, termination points and open ends should be sealed with an approved contact adhesive, making sure both surfaces to be joined are coated. Vapor stops should be installed as needed. K-FLEX TITAN™ may be slit longitudinally for retrofit applications. ASTM C1710, Installation Guide for Flexible Closed Cell Foams, and the K-FLEX Installation Manual should be used as comprehensive installation guides.

RESISTANCE TO MOISTURE VAPOR ▶

The expanded closed-cell structure and unique formulation inherently resists moisture vapor intrusion. K-FLEX TITAN™ needs no additional protection.

DIRECT BURIAL APPLICATIONS ▶

K-FLEX TITAN™ can be installed in direct burial application if the lines are above the water table and not in a flood zone. K-FLEX TITAN™ should be installed in a single layer with all butt joint and longitudinal seams completely sealed with an approved contact adhesive (see technical bulletin TA 14). Install in a PVC conduit to prevent insulation compaction or increase insulation thickness by a minimum one wall size to compensate for compaction. Backfill materials shall not contain any angular/sharp edges and shall allow for drainage. For applications below the water table or in a flood zone, install K-FLEX TITAN™ in a sealed conduit or trench. See technical bulletin TA 10 for additional information.

SPECIFICATION COMPLIANCE

- 2012 IECC
 - Section R403.3.1 (residential)
 - Section C403.2.8 (commercial)
- 2015 and 2018 IECC
 - Section R403.4.1 (residential)
 - Section C403.2.10.1 (commercial)
- 2012, 2015 and 2018 IRC
 - Section N1103.4.1
- 2016 California Energy Code, Part 6
 - Subchapter 3, Section 120.3
- ASTM E84 25/50-rated (to 1-1/2")
- UL 94 Flammability Classification (#E300774)
- NFPA 90 A - 90 B

Made in USA



The K-FLEX USA website contains the most recent version of all K-FLEX USA literature. Please refer to the website for current versions of K-FLEX USA literature at www.kflexusa.com



TECHNICAL DATA ▶

PHYSICAL PROPERTIES		K-FLEX TITAN™	TEST METHODS
Main Composition		Flame-retarded NBR/PVC elastomeric foam with proprietary copolymer blend jacket	-
Thermal Conductivity (Btu-in/hr-Ft²-°F)	75°F (24°C) Mean Temp	0.242	ASTM C177
Density		3-6 lb/ft ³	ASTM D1667
Operating Temperature Range		-70°F* (-57°C) to +220°F (+104°C)	ASTM C534
Water Vapor Permeability (Dry Cup)	(Core Material Only)	<0.01 perm-in	ASTM E96
Water Vapor Permeance	(Jacket Material)	≤0.05 perms	ASTM E96
Dimensional Stability		<7% Linear Shrinkage	ASTM C534
Corrosion Risk		pH neutral	DIN 1988
UV Resistance (Artificial Aging)	(Jacket Material)	Pass: No Changes to Surface Condition	ASTM G153
Flammability		25/50 (up to 1-1/2") HF-1, V-0, 5VA	ASTM E84 UL 94
Hot surface Performance at 250°F (121°C)		pass	ASTM C411 NFPA 90 A

*For applications below -40°F (-40°C), contact K-FLEX technical support.

THICKNESS RECOMMENDATIONS		
SERVICE TEMPERATURE	To Prevent Condensation	
	-20°F (-29°C)	50°F (10°C)
3/8" ID to 1-1/2" IPS	1"	1/2"
1-1/2" IPS to 2-7/8" IPS	1"	1/2"

Thickness listed for the specified ranges will prevent condensation on indoor piping under the defined design conditions. Normal: 85°F and 70% R.H.

FOR ENERGY CONSERVATION (ASHRAE 90.1 - 2010)				
NOMINAL PIPE OR TUBE SIZE, INCHES	< 40°F < 4.4°C	40-60 °F 4.4-15.6°C	105-140 °F 40.6-60 °C	141-200°F 60.6-93.3°C
< 1"	0.5	0.5	1.0	1.5
1" to 1 1/2"	1.0	0.5	1.0	1.5
1 1/2" to 4"	1.0	1.0	1.5	2.0

PIPE "R" VALUES PER SQUARE FOOT (ALL SIZES ARE NOMINAL)				
NOMINAL INSULATION I.D.	1/2" WALL	3/4" WALL	1" WALL	1-1/2" WALL
	Insul-Tube	Insul-Tube	Insul-Tube	Insul-Tube
1/4"	4.0	6.1	9.6	16.5
3/8"	3.6	5.6	8.5	14.6
1/2"	3.4	5.4	7.9	13.5
5/8"	3.3	5.4	7.5	12.8
3/4"	3.1	5.4	7.5	12.4
7/8"	3.2	5.4	7.2	11.6
1-1/8"	3.1	5.5	7.1	10.8
1-3/8"	3.2	5.3	7.3	10.2
1-5/8"	3.1	5.1	7.1	9.8
1-1/2" IPS	2.6	4.4	6.2	8.9
2-1/8"	3.0	4.9	6.6	9.2
2" IPS	2.9	4.8	-	-
2-1/2" IPS	3.0	4.6	-	-
2-5/8"	3.1	-	-	-



K-FLEX USA LLC 100 K-Flex Way Youngsville, NC 27596
 Phone: 800-765-6475
 marketing@kflexusa.com
 www.kflexusa.com