

Fiber Free



THE MAKERS OF  
**Armaflex**®



# AP/Armaflex<sup>®</sup> AP/Armaflex<sup>®</sup> W

Tube Insulation

**Superior Moisture Control, Mold-Resistant, Available Black or White**



- Fiber Free, Closed Cell, Non-Wicking
- GREENGUARD Children & Schools Certified®
- Made with Microban® Antimicrobial Product Protection
- Thicknesses up to 2" Wall
- 25/50 Rated Through 2" Wall



# AP Armaflex and AP Armaflex W Pipe (Tube) Insulation

**AP Armaflex Pipe (Tube) Insulation** is the original closed cell, fiber-free elastomeric foam and the world's most recognized brand in flexible mechanical insulation.

- **Proven:** World's first choice for insulating chilled water and refrigeration lines
- **Mold resistant:** Made with Microban antimicrobial product protection
- **Indoor Air Quality-friendly:** Fiber-free, formaldehyde-free, low VOCs, nonparticulating. GREENGUARD Indoor Air Quality Certified®
- **Durable:** No fragile vapor retarder

## Description

**AP Armaflex Pipe (Tube) Insulation** is a black or white flexible elastomeric thermal insulation. The expanded closed-cell structure makes it an efficient insulation. It is manufactured without the use of CFC's, HFC's or HCFC's. All AP Armaflex products are made with Microban® antimicrobial product protection for added defense against mold on the insulation.

- Nominal wall thicknesses of 3/8", 1/2", 3/4", 1", 1-1/2", 2" (10, 13, 19, 25, 38, 50mm)
- Popular sizes up to 8" IPS

## Factory Mutual (FM) Approvals

AP Armaflex is approved through continuing supervision by Factory Mutual Approvals to consistently provide actual values on these key performance criteria for mechanical system insulation:

- **Thermal Conductivity:** 0.25 BTU-in/hr. ft<sup>2</sup> °F
- **Water Vapor Transmission:** 0.05 perm-inch
- **Fire Rating:** will not contribute significantly to fire (simulated end-use testing)

As tested by ASTM E 84 "Method of Test for Surface Burning Characteristics for Building Materials" AP Armaflex Pipe Insulation has a flame-spread index of less than 25 and a smoke-developed index of less than 50.

AP Armaflex meets CAN/UL S102 through 1" wall.

*Note: 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.*

## Uses

- Retards heat gain and controls condensation drip from chilled-water and refrigeration systems. Efficiently reduces heat flow for hot-water plumbing, liquid-heating and dual-temperature piping
- Acceptable for use in air plenums and conforms to NFPA 90A and NFPA 90B requirements

The recommended temperature usage range for AP Armaflex Pipe Insulation is -297°F to +220°F (-183°C to +105°C). For use on cold pipes, thicknesses have been calculated to control condensation on the insulation outer surface, as shown in the table of thickness recommendations. AP Armaflex meets the energy code requirements of ASHRAE 90.1, International Energy Conservation Code (IECC) and other building codes.

## Application

AP Armaflex Pipe Insulation in unslit tubular form can be slipped onto piping before it is connected, or it can be slit lengthwise and snapped over piping already connected. Fitting covers are fabricated from miter-cut tubular form. In all cases, butt joints and seams are to be sealed with one of our Armaflex adhesives: Armaflex 520, 520 Black or, where a low V.O.C. adhesive is required, 520 BLV. 520 Adhesives are contact adhesives; therefore, in all cases, both surfaces to be joined are coated with adhesive.

For pipes greater than 8" IPS\*, use AP/Armaflex Sheet/Roll insulation (black only). For thicknesses greater than 2", sleeve the insulation. See technical bulletin #030 for additional information.

AP Armaflex normally requires no supplemental vapor-retarder protection but additional vapor-retarder protection may be necessary when installed on very-low-temperature piping or exposure to continually high humidity conditions.

AP Armaflex is designed for installation above or below ground. For below ground applications, contact Armacell or see our Technical Bulletin No. 7 on our website, [www.armacell.com](http://www.armacell.com). Outdoors, a weather-resistant protective finish is to be applied and Armaflex WB Finish is recommended.

Armaflex insulation products must be installed according to "Installation of Armaflex Insulations" brochure. Proper installation is required to assure Armaflex insulation performance.

## Specification Compliance

### AP Armaflex Pipe Insulation developed to meet:

ASTM C 534, Type I — Tubular Grade 1	ASTM G-22 ASTM D 1056, 2B1
ASTM E 84, NFPA 255, UL 723	MIL-P-15280J, FORM T (Black)
CAN/ULC S102 through 1" wall	MIL-C-3133C (MIL STD 670B), Black
UL 94 5V-5A, V-O, File E 55798	Grade SBE 3
NFPA 90A, 90B	MEA 96-85-M
UL 181	City of LA – RR 7642
ASTM G-21/C1338,	

ALL ARMACELL FACILITIES  
IN NORTH AMERICA ARE  
ISO 9001:2008 CERTIFIED.

## Physical Properties

Specifications	Values		Test Method
<b>Thermal Conductivity, Btu • in./h • ft<sup>2</sup> • °F (W/mK)</b> 75°F Mean Temperature (24°C) 90°F Mean Temperature (32°C)	<b>Through 1"</b> 0.25 (0.036) 0.256 (0.037)	<b>1-1/2" and 2"</b> 0.28 (0.040) 0.286 (0.041)	ASTM C 177 or C 518
<b>Water Vapor Permeability, Perm-in. [Kg/(s•m•Pa)]</b>	0.05 (0.725 x 10 <sup>-13</sup> )	0.08 (1.16 x 10 <sup>-13</sup> )	ASTM E 96, Procedure A
<b>Flame Spread and Smoke Developed Index</b>	25/50*		ASTM E 84 CAN/ULC S102 <sup>③</sup>
<b>Mold Growth Fungi Resistance Bacterial Resistance</b>	Meets requirements		UL181 ASTM G21/C1338 ASTM G22
<b>Water Absorption, % by Volume</b>	0.2%		ASTM C 209
<b>Upper Use Limit<sup>①</sup></b>	220°F (105°C)		—
<b>Lower Use Limit<sup>②</sup></b>	-297°F (-183°C)**		—
<b>Ozone Resistance</b>	GOOD		—
<b>Sizes</b>			
<b>Wall Thickness, (nominal) Form</b>	3/8", 1/2", 3/4", 1", 1-1/2", 2" (10, 13, 19 25 38, 50mm)		—
<b>Inside Diameter, Tubular Form</b>	3/8" ID to 8" ID (10mm ID to 203mm)		
<b>Length of Sections, Feet, Tubular Form</b>	6 (1.8m)		

### Notes

① On the heating cycle, AP Armaflex Pipe Insulation will withstand temperatures as high as 220°F (105°C). 520, 520 Black or 520 BLV Adhesive may be used with pipe insulation applications up to 220°F (105°C).

② At temperatures below -20°F (-29°C), elastomeric insulation starts to become less flexible. However, this characteristic does not affect thermal efficiency and resistance to water vapor permeability of Armaflex insulation.

③ AP Armaflex Black tested for CAN/ULC S102. AP Armaflex White determined to be comparable through 1" walls.

\*\*For applications of -40°F to -297°F (-40°C to -183°C), contact Armacell.

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