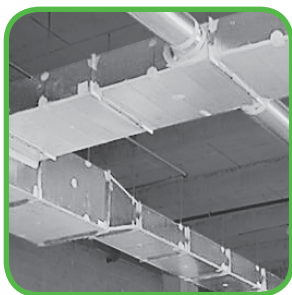


# AP Armaflex® & AP Armaflex® FS

## Duct Liner/Wrap

**Mold resistant. Fiber free. Reduces noise.**



- Mold resistant: Made with Microban® antimicrobial product protection
- Indoor Air Quality: Fiber-free, formaldehyde-free, low VOCs, non-particulating
- GREENGUARD Indoor Air Quality Certified®
- Smooth surface: Reduces dirt, wipes clean
- Plenum rated: Safe for institutional air ducts, meets NFPA standards
- Noise blocking and vibration dampening
- **25/50 rated through 2"**



## Duct Liners/Wraps

**AP Armaflex and AP Armaflex FS Black Duct Liners/Wraps** are patented\* non-fibrous duct liners/wraps. AP Armaflex and AP Armaflex FS Duct Liners/Wraps are a black, flexible elastomeric thermal insulation. Their closed cell structure prevents condensation and moisture wicking, and makes them an efficient insulation. They are manufactured without the use of CFCs, HFCs or HCFCs. The Microban® antimicrobial protection is registered by the Environmental Protection Agency for use in air ducts (EPA Reg. No. 1258-840-42182). AP Armaflex and AP Armaflex FS Duct Liners/Wraps are also effective for reducing HVAC noise. AP Armaflex is supplied in 36" x 48" sheets and in rolls 48" and 60" wide, in thicknesses up to 1". AP Armaflex FS is supplied in 36" x 48" sheets and in rolls 48" wide in 1-1/2" and 2" thicknesses.

### Approvals and Compliance

Product approved through continuing supervision by Factory Mutual Approvals to provide consistent actual values for thermal conductivity, water vapor transmission and fire rating. AP Armaflex and AP Armaflex FS Black Duct Liners/Wraps also meet requirements of NFPA 90A and 90B for Duct Coverings and Linings, and UL 181 for Mold Growth. Approved for use in return air plenums, conforms to ASTM C 1534 requirements and withstands temperatures of 250°F for testing. All AP Armaflex insulation meets requirements of International Energy Conservation Code (IECC) and ASHRAE for R-Value 4.2 at 1" thickness.

### Uses and Applications

AP Armaflex and Armaflex FS Black Duct Liners/Wraps are ideal for air handling systems, VAV units, ducts and other air system components requiring condensation control, resistance to moisture, damage or heat gain or HVAC noise blocking or sound dampening.

### Installation

*Must be installed according to "Installation of Armaflex Insulations" publication (000-005).*

When air stream velocities exceed 4,000 FPM (20.3m/second), metal nosing should be applied to every leading edge. Nosing may be formed on ducts or be channeled or zee-attached by screws, rivets or welds.

No pinning is required when applying AP Armaflex and AP Armaflex FS as a duct liner using Armaflex 520 Adhesive, Armaflex 520 Black Adhesive or Armaflex Low VOC Spray Contact Adhesive.

Pinning according to SMACNA guidelines is required when applying AP Armaflex and AP Armaflex FS as a duct liner using Armaflex BLV Adhesive.

ALL ARMACELL FACILITIES IN NORTH AMERICA ARE ISO 9001:2000 CERTIFIED.

## Physical Properties

Specifications	Values		Test Method
<b>Thermal Conductivity,</b> Btu • in./h • ft <sup>2</sup> • °F (W/mK) 75°F mean temperature (24°C) 90°F mean temperature (32°C)	<b>AP Armaflex</b>	<b>AP Armaflex FS</b>	ASTM C 177 or C 518
	0.25 (0.036) 0.256 (0.037)	0.28 (0.040)	
<b>Water Vapor Permeability,</b> Perm-inch. [Kg/(s•m•Pa)]	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> ① <b>Through 1" (25 mm)</b>	Through 1" (25 mm) 25/50	1-1/2" and 2" 25/50	ASTM E 84 CAN ULC S-102 – AP through 1"
<b>Mold Growth</b> <b>Fungi Resistance</b> <b>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</b> ②	180°F (82°C)		
<b>Lower Use Limit</b> ③	-297°F (-183°C)		
<b>Erosion Resistance</b>	Does not break away, flake off or show evidence of delamination at velocities of 10,000 ft/min		ASTM C 1071
<b>Corrosiveness</b>	Noncorrosive		ASTM C 665
<b>Odor Emissions</b>	No objectionable odors		ASTM C 665

### Notes

- ① AP/Armaflex Duct Liner/Wrap has a flame spread index of less than 25 and a smoke developed index of less than 50 for all thicknesses up to and including 1" (25 mm) when tested according to ASTM E 84 and CAN ULC S-102. AP Armaflex FS has a flame spread index of less than 25 and a smoke developed index of less than 50 for all thicknesses up to and including 1-1/2" and 2" when tested according to ASTM E84 and CAN ULC S-102. 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.
- ② Withstands temperature of 250°F (121°C) when tested according to ASTM C 411. "Test Method for Surface Performance of High-Temperature Insulations". At this temperature, AP/ Armaflex Duct Liner/Wrap insulation shows no evidence of flaming, glowing, smoldering, delamination, melting or insulation collapse. Although this insulation will withstand high temperatures, continuous use temperature should be limited to 180°F (82°C).
- ③ At temperatures below -20°F (-29°C) elastomeric insulation starts to become less flexible. However, this characteristic does not affect thermal efficiency or water vapor permeability of Armaflex insulation.

### Sound Absorption Coefficients at Frequency

Thickness	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	NRC†
Nom. 1" (25 mm)	0.01	0.13	0.39	0.69	0.29	0.26	0.40

### Sound Transmission Class (STC)

Thickness	STC Class
Nom. 1/2" (13 mm)	25
Nom. 1" (25 mm)	25

### Sizes

Sheet Width / Length	36" x 48"
Roll Width	48" (all thicknesses) and 60" (1" only)
Wall Thickness	AP Armaflex: 1/2", 3/4" and 1" AP Armaflex FS: 1-1/2" and 2"

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