ENERGY SAVING SOLUTIONS

AP ArmaFlex
AP ArmaFlex FS

Sheet and Roll Insulation

The original, fiber-free, flexible elastomeric pipe, valve and duct insulation for reliable protection against condensation, mold and energy loss. AP ArmaFlex® FS is PVC free.

// Closed-cell structure provides excellent condensation control
// Built-in vapor barrier eliminates need for additional vapor retarder
// 25/50 rated for use in air plenums up to:
1" thickness in AP ArmaFlex
1-1/2" and 2" thickness in AP ArmaFlex FS
// Thickness up to 2" with R-value up to R-8

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TECHNICAL DATA – AP ARMAFLEX® AND AP ARMAFLEX® FS SHEET AND ROLL INSULATION

Description

Black flexible closed-cell elastomeric thermal insulation in sheet and roll form

Specification Compliance

ASTM C 534, Type II — Sheet Grade 1	ASTM G21/C1338	MIL-C-3133C (MIL STD 670B) Grade SBE 3 ②	UL 94 5V-A, V-0, File E55798
ASTM C 1534	CAN/ULC S1021 ①		
ASTM D 1056, 2C1	City of New York Approval MEA 107-89M	NFPA 90A, 90B	
ASTM E 84, UL723	MIL-P-15280J, FORM S ②	UL 181	

Approvals, Certifications, Compliances

- 3rd party certified by FM Approvals through 1" thickness per FM 4924.
- GREENGUARD Gold Certified.
- Manufactured without CFCs, HFCs, HCFCs, PBDEs, or Formaldehyde.
- Made with EPA registered Microban® antimicrobial product protection.
- All Armacell facilities in North America are ISO 9001 certified.
- Conforms to ASHRAE 90.1 Energy Standards
- Conforms to building codes: International Mechanical Code, IMC, International Energy Conservation Code, IECC, International Residential Code, IRC, Title 24 California Building Energy Efficiency Standards.
- AP ArmaFlex FS meets the living building challenge requirements. Red list compliant.

Typical Properties

Specifications	Values			Test Method
	AP ArmaFlex Through 1" (NBR/PVC based)	**AP ArmaFlex FS 1-1/2" and 2"** (EPDM based)	**AP ArmaFlex 1-1/2" and 2"** (NBR/PVC based)	
Thermal Conductivity: Btu • in/h • ft^2 • °F (W/mK)				
75°F Mean Temperature (24°C) 100°F Mean Temperature (38°C)	0.245 (0.0353) 0.257 (0.037)	0.28 (0.040) 0.289 (0.041)	0.245 (0.0353) 0.257 (0.037)	ASTM C 177 or C 518
Water Vapor Permeability: Perm-in. [Kg/(s • m • Pa)]	0.05 (0.725 x 10^{-13})	0.08 (1.16 x 10^{-13})	0.05 (0.725 x 10^{-13})	ASTM E 96, Procedure A
Flame Spread and Smoke Developed Index:	25/50 rated	25/50 rated	Does not pass	ASTM E 84, UL 723 CAN/ULC S102 ①
Water Absorption, % by Volume:	0.2 %	0.2 %	0.2 %	ASTM C 209 or ASTM C 1763
Mold Growth: **Fungi Resistance:**	Passed	Passed	Passed	UL181 ASTM G21/C1338
Maximum Use Temperature	220°F (105°C) ③	300°F (149°C) ④	220°F (105°C) ③	ASTM C534
Minimum Use Temperature ⑤	-297°F (-183°C) ⑥	-297°F (-183°C) ⑥	-297°F (-183°C) ⑥	ASTM C534
Ozone Resistance:	GOOD	GOOD	GOOD	Ozone Chamber Test

① AP ArmaFlex meets CAN/ULC S102 through 1" thickness.
② AP ArmaFlex meets MIL-P-15280J, FORM S and MIL-C-3133C (MIL STD 670B) Grade SBE through 1" thickness.
③ AP ArmaFlex and AP ArmaFlex FS Sheet and Roll Insulation withstand 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 Sheet and Roll 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 220°F (105°C).
④ AP ArmaFlex FS is formulated with EPDM rubber giving it a higher upper use temperature than AP ArmaFlex.
⑤ 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.
⑥ For applications of -40°F to -297°F (-40°C to -183°C), contact Armacell.

TECHNICAL DATA – AP ARMAFLEX® AND AP ARMAFLEX® FS SHEET AND ROLL INSULATION

R-Value	R-1.0	R-1.5	R-2.1	R-3.1	R-4.2	R-6	R-8
Thickness:	1/4" (6 mm)	3/8" (10 mm)	1/2" (13 mm)	3/4" (19 mm)	1" (25 mm)	1-1/2" (38 mm)	2" (50 mm)

Sound Absorption Coefficients Frequency	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	NRC	SAA
Thickness Nom. 1" (25 mm)	0.01	0.13	0.39	0.69	0.29	0.26	0.40	0.38
Thickness Nom. 1-1/2" (38 mm)	0.07	0.26	0.92	0.31	0.49	0.53	0.50	0.49
Thickness Nom. 2" (50 mm)	0.14	0.62	0.44	0.43	0.51	0.45	0.50	0.51

Sizes

Sheet: Width x Length	36" x 48" (.915 m x 1.22 m)	
Thickness (nominal)	1/8", 1/4", 3/8", 1/2", 3/4", 1", 1-1/2" & 2" (3, 6, 10, 13, 19, 25, 38 & 50 mm)	
Roll: Width	48" wide (1.22m)	
Thickness (nominal) x Length	1/4" x 140' (6 mm x 42.6 mm)	1" x 35' (25mm x 10.7m)
	3/8" x 100' (10mm x 30.5m)	1-1/2" x 25' (38mm x 7.6m)
	1/2" x 70' (13mm x 21.4m)	2" x 18' (50mm x 5.4m)
	3/4" x 50' (19mm x 15.2m)	

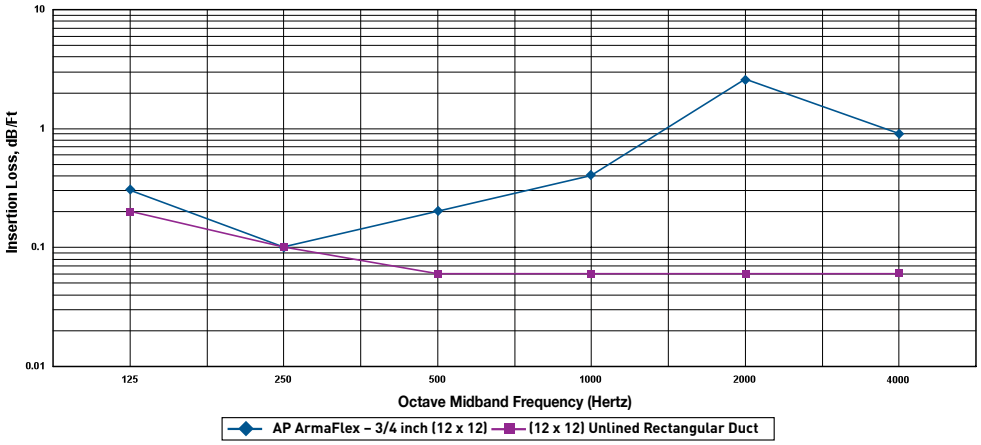
Outdoor Use

Painting with WB Finish or other protective jacketing is required to prevent damage to the insulation in exterior applications and to comply with the insulation protection sections of the International Energy Conservation Code (IECC) and ASHRAE 90.1.

Sound Transmission Class (STC)

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

Acoustics: Insertion Loss



GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg.

Microban antimicrobial product protection is limited to the product itself and is not designed to protect the users of these products from disease causing microorganisms, or as a substitute for normal cleaning and hygiene practices. Microban International, Ltd. makes neither direct nor implied health claims for the products containing Microban® antimicrobial product protection. Data, photomicrographs and information presented are based on standard laboratory tests and are provided for comparative purposes to substantiate antimicrobial activity for non-public health uses. Microban is a registered trademark of Microban International, Ltd.

AP ArmaFlex and AP ArmaFlex FS | Sheet and Roll Insulation TDS | 032020 | NA| EN-A | 015

ABOUT ARMACELL

As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With 3,100 employees and 24 production plants in 16 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next generation aerogel blanket technology.

For more information, please visit:
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