

Quality People. Building Solutions.

Comfort Systems USA (Arkansas), Inc.
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Phone 501-834-3320
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Date: 10/10/2023

Return Request: 10/16/2023

Project: ASU Mid-South RC & UC Chiller Replacement

Supplier: Core Insulation

Manufacturer: Various

Submittal: HVAC Equipment Insulation

Submittal Number: 23 00 00--04

Drawing # and Installation: Mechanical Drawings

ARCHITECT

Witsell Evans Rasco
901 W. Third Street
Little Rock, AR 72201
501-374-5300

ENGINEER

Pettit & Pettit
201 E. Markham St. #400
Little Rock, AR 72201
501-374-3731

GENERAL CONTRACTOR

Baldwin & Shell
3725 Champion Hills Driver, Suite 1300
Memphis, TN 38125
901-755-2952

MECHANICAL SUBCONTRACTOR

Comfort Systems USA (Arkansas), Inc.
9924 Landers Rd.
N. Little Rock, AR 72117
501-834-3320

Notes:

CSUSA PROJECT NO.

23-1024

jon@comfortar.com



Core Insulation Contractors, LLC
124 W. Capitol Avenue
Suite 2000-CIC
Little Rock, AR 72201

August 21, 2023

To: Jon Davis
Comfort Systems USA (AR)
PO Box 16620
Little Rock, AR 72231

Project: ASU Mid-South

The following items will be insulated with AP/Armaflex sheet. All joints and seams will be sealed with Armaflex 520 Adhesive.

- #1 – Chilled Water Pump.....1” Thick
- #2 – Chilled Water Air Separator.....1” Thick

Thank you,

Scott Martin

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 C 1534 ASTM D 1056, 2C1 ASTM E 84, NFPA 255, UL723	ASTM G21/C1338 CAN/ULC S1021 ① MEA 107-89M	MIL-P-15280J, FORM S ② MIL-C-3133C (MIL STD 670B) Grade SBE 3 ② NFPA 90A, 90B	UL 181 UL 94 5V-A, V-0, File E55798 City of LA – RR 7642
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Approvals, Certifications, Compliances

- 3rd party certified by FM Approvals through 1" thickness.
- 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.

Typical Properties

Specifications	Values			Test Method
	AP Armaflex Through 1"	AP Armaflex FS 1-1/2" and 2"	AP Armaflex 1-1/2" and 2"	
Thermal Conductivity: Btu • in/h • ft ² • °F (W/mK)				
75°F Mean Temperature [24°C]	0.245 [0.0353]	0.28 [0.040]	0.25 [0.036]	ASTM C 177 or C 518
90°F Mean Temperature [32°C]	0.254 [0.0366]	0.286 [0.041]	0.256 [0.037]	
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 CAN/ULC S102 ①
Water Absorption, % by Volume:	0.2 %	0.2 %	0.2 %	ASTM C 209
Mold Growth:	Passed	Passed	Passed	UL181
Fungi Resistance:				ASTM G21/C1338
Bacterial Resistance:				ASTM G22
Upper Use Limit:	220°F [105°C] ③	300°F [149°C] ④	220°F [105°C] ③	ASTM C534
Lower Use Limit: ③	-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.

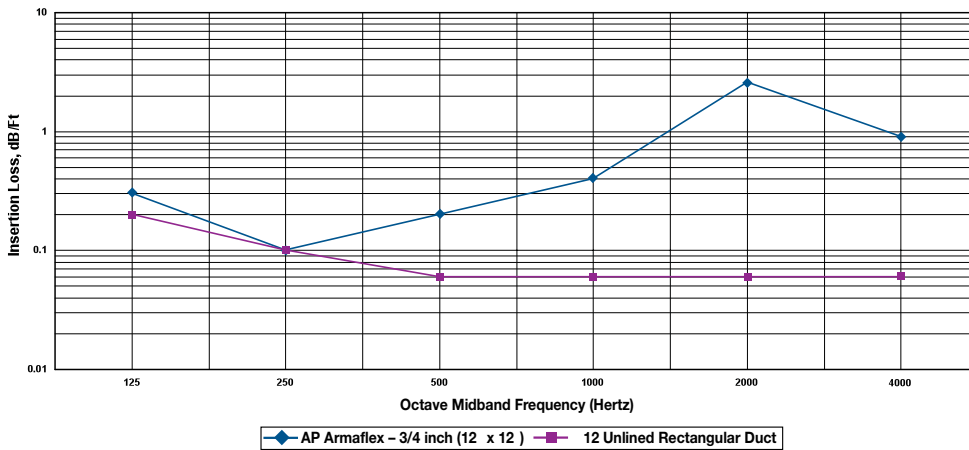


TECHNICAL DATA – AP ARMAFLEX® AND AP ARMAFLEX® FS SHEET AND ROLL INSULATION

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.

TECHNICAL DATA – ArmaFlex® 520 ADHESIVE

Description

An air-drying contact adhesive that is excellent for joining seams and butt joints of ArmaFlex Pipe and Sheet Insulations

Specification Compliance

MIL-A-24179A

ASTM G21/C1338

Approvals, Certifications, Compliances

- All Armacell facilities in North America are ISO 9001:2008 certified.

Typical Properties

Specifications	Values
Color	Light Tan
Net Weight	6.9 pounds per gallon (828 g/l)
Composition	Synthetic rubber base with synthetic resins and fillers added; hydrocarbon- and ketone-type solvents.
Volatile Organic Compounds (VOC) Content	615 g/l
Solids Content	Approximately 22% by weight
Coverage	200 sq ft (5 m ² /l) per gallon max, single coat (depending upon porosity of materials bonded and air temperature)
Shelf Life	1-1/2 years in original sealed container; storage temperature 60°F to 80°F (16°C to 27°C)
Temperature Limits	250°F (120°C) — ArmaFlex Pipe Insulation seams and joints 180°F (82°C) — Full bonding sheet insulation
Tack Time	1-5 minutes depending on ambient conditions
Bond Time	Immediate
Full Cure Time	36 hours
Container Sizes	Half-pint and pint brush-top cans and pint, quart, and gallon containers
Wet Flash Point	Below 20°F (-7°C) (TOC)
Flame Spread and Smoke Developed Index of Sale	25/50 rated ASTM E 84
Minimum Application Temperature	40°F (4°C)

All data and technical information are based on results achieved under typical application conditions. It is the customer's responsibility to verify if the product is suitable for the intended application. The responsibility for professional and correct installation and compliance with relevant building regulations lies with the customer. By ordering/receiving product you accept the **Armacell General Terms and Conditions of Sale** applicable in the region. Please request a copy if you have not received these.

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ArmaFlex | 520 Adhesive TDS | 082018 | NA| EN-A | 083

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 3,000 employees and 26 production plants in 17 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:

www.armacell.us

800-866-5638

