

SOLUTIONS FOR ENERGY SAVINGS

AP ArmaFlex[®]

Black Lap Seal

The original flexible elastomeric pipe insulation with a lap seal for greater seam security and increased protection against condensation, mold and energy loss.

- // Durable, low-profile lap seal with wider release tab, stays closed and looks neat
- // Easy to install – an excellent choice for retrofit applications
- // 25/50 rated for use in air plenums
- // Fiber-free, formaldehyde-free, low VOC and non-particulating

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 **armacell[®]**
ArmaFlex[®]

TECHNICAL DATA – AP ArmaFlex® BLACK LAPSEAL TUBE INSULATION

Description

Black flexible closed-cell elastomeric thermal insulation in tubular form with a self-seal system reinforced with lap seal tape

Applications

Insulation for piping associated with HVAC, VRV and VRF systems, chillers, hot and cold water, refrigeration. For use in commercial, industrial, and residential applications.

Specification Compliance

ASTM C 534, Type I – Grade 1	UL 723	UL 181	ASTM D 1056, 2C1
ASTM E 84	NFPA 90A, 90B	ASTM G21/C1338	

Approvals, Certifications, Compliances

- 3rd party certified by FM Approvals through 1-1/2" wall 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.
- Plenum Rated
- 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.

Typical Properties

Specifications	Values		Test Method
	3/8" through 1" Wall (NBR/PVC based)	1-1/2" and 2" Walls (EPDM based)	
Thermal Conductivity: Btu • in/h • ft2 • °F (W/mK)			
50°F Mean Temperature (10°C)	0.235 [0.034]	0.278 [0.040]	ASTM C 177 or C 518
75°F Mean Temperature (24°C)	0.245 [0.0353]	0.28 [0.040]	
100°F Mean Temperature (38°C)	0.257 [0.037]	0.289 [0.041]	
125°F Mean Temperature (52°C)	0.268 [0.039]	0.300 [0.043]	
Water Vapor Permeability: Perm-in. [Kg/ls • m • Pa]]	0.05 [0.725 x 10 ⁻¹³]	0.08 [1.16 x 10 ⁻¹³]	ASTM E 96, Procedure A
Flame Spread and Smoke Developed Index:	25/50 rated	25/50 rated	ASTM E 84, UL 723
Water Absorption, % by Volume:	0.2 %	0.2 %	ASTM C 209 or ASTM C1763
Mold Growth:	Passed	Passed	UL181
Fungi Resistance:			ASTM G21/C1338
Maximum Service Temperature	220°F (105°C) ①	300°F (149°C) ②	ASTM C534
Minimum Service Temperature ③	-297°F (-183°C) ④	-297°F (-183°C) ④	ASTM C534

Sizes

Wall Thickness (nominal) Form	3/8", 1/2", 3/4" 1", 1-1/2", 2" [10, 13, 19, 25, 38, 50 mm]
Inside Diameter, Tubular Form	3/8" ID to 6" ID [10 mm to 153 mm] [3/8" and 1/2" IDs not offered in 3/8" wall thickness]
Length of Sections, Tubular Form	6' [1.8 m]

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.

- ① AP ArmaFlex BST Pipe Insulation can withstand temperatures as high as 250°F for 96 hour time periods when tested according to ASTM C411 - Standard Test Method for Hot-Surface Performance of High-Temperature Thermal Insulation.
- ② 1-1/2" and 2" AP ArmaFlex tubes are formulated with EPDM rubber giving them a higher upper use temperature than AP ArmaFlex tubes less than 1-1/2" wall thickness.
- ③ 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.
- ④ For applications of -40°F to -297°F (-40°C to -183°C), contact Armacell



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 BLACK LAPSEAL TUBE INSULATION - R VALUES

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3/8 " Walls		
IPBST05838	1/2" Copper	2.6
IPBST03438	5/8" Copper	2.4
IPBST07838	3/4" Copper	2.4
IPBST11838	1" Copper	2.3
IPBST13838	1-1/4" Copper	2.2
IPBST15838	1-1/2" Copper	2.5
IPBST11038	1-1/2" IPS	2.4
IPBST21838	2" Copper	2.4

1/2 " WALLS		
IPBST03812	1/4" Copper	3.3
IPBST01212	3/8" Copper	3.3
IPBST05812	1/2" Copper	3.4
IPBST03412	5/8" Copper	3.3
IPBST07812	3/4" Copper	3.3
IPBST11812	1" Copper	3.3
IPBST13812	1-1/4" Copper	3.2
IPBST15812	1-1/2" Copper	3.2
IPBST11012	1-1/2" IPS	3.1
IPBST21812	2" Copper	3.2
IPBST20012	2" IPS	3.2
IPBST25812	2-1/2" Copper	3.2
IPBST21012	2-1/2" IPS	3.2
IPBST31812	3" Copper	3.2
IPBST30012	3" IPS	3.1
IPBST35812	3-1/2" Copper	3.1
IPBST41812	4" Copper	3.1
IPBST40012	4" IPS	3.0

3/4 " WALLS		
IPBST03834	1/4" Copper	5.9
IPBST01234	3/8" Copper	5.5
IPBST05834	1/2" Copper	5.6
IPBST03434	5/8" Copper	5.5
IPBST07834	3/4" Copper	5.4
IPBST11834	1" Copper	5.4
IPBST13834	1-1/4" Copper	5.3
IPBST15834	1-1/2" Copper	5.1
IPBST11034	1 1/2" IPS	4.9
IPBST21834	2" Copper	4.8
IPBST20034	2" IPS	5.2
IPBST25834	2-1/2" Copper	4.7
IPBST21034	2-1/2" IPS	5.0
IPBST31834	3 " Copper	4.6
IPBST30034	3" IPS	4.9
IPBST35834	3-1/2" Copper	4.5
IPBST41834	4" Copper	4.5
IPBST40034	4" IPS	4.8

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1" WALLS		
IPBST03810	1/4" Copper	7.3
IPBST01210	3/8" Copper	7.2
IPBST05810	1/2" Copper	7.2
IPBST03410	5/8" Copper	7.0
IPBST07810	3/4" Copper	7.0
IPBST11810	1" Copper	7.2
IPBST13810	1-1/4" Copper	7.2
IPBST15810	1-1/2" Copper	7.2
IPBST11010	1-1/2" IPS	6.9
IPBST21810	2" Copper	6.8
IPBST20010	2" IPS	7.1
IPBST25810	2-1/2" Copper	6.5
IPBST21010	2-1/2" IPS	6.8
IPBST31810	3" Copper	6.3
IPBST30010	3" IPS	6.6
IPBST35810	3-1/2" Copper	6.2
IPBST41810	4" Copper	6.1
IPBST40010	4" IPS	6.4
IPBST50010	5 " IPS	6.2
IPBST40010	6 " IPS	6.1

1-1/2" WALLS		
IPBST03815	1/4" Copper	13.7
IPBST01215	3/8" Copper	12.7
IPBST05815	1/2" Copper	12.0
IPBST03415	5/8" Copper	11.3
IPBST07815	3/4" Copper	10.8
IPBST11815	1" Copper	10.1
IPBST13815	1-1/4" Copper	9.6
IPBST15815	1-1/2" Copper	9.2
IPBST11015	1-1/2" IPS	8.7
IPBST21815	2" Copper	8.6
IPBST20015	2" IPS	8.8
IPBST25815	2-1/2" Copper	8.2
IPBST21015	2-1/2" IPS	8.4
IPBST31815	3" Copper	7.9
IPBST30015	3" IPS	8.1
IPBST35815	3-1/2" Copper	7.7
IPBST41815	4" Copper	7.5
IPBST40015	4" IPS	7.8
IPBST50015	5" IPS	7.5
IPBST60015	6" IPS	7.3

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2" WALLS		
IPBST03820	1/4" Copper	19.7
IPBST01220	3/8" Copper	18.2
IPBST05820	1/2" Copper	17.2
IPBST03420	5/8" Copper	16.2
IPBST07820	3/4" Copper	15.5
IPBST11820	1" Copper	14.5
IPBST13820	1-1/4" Copper	13.7
IPBST15820	1-1/2" Copper	13.1
IPBST11020	1-1/2" IPS	12.4
IPBST21820	2" Copper	12.2
IPBST20020	2" IPS	12.3
IPBST25820	2-1/2" Copper	11.6
IPBST21020	2-1/2" IPS	11.7
IPBST31820	3" Copper	11.1
IPBST30020	3" IPS	11.2
IPBST35820	3-1/2" Copper	10.7
IPBST41820	4" Copper	10.5
IPBST40020	4" IPS	10.7
IPBST50020	5" IPS	10.2
IPBST60020	6" IPS	9.9

* These specifications are based on the measurement methods employed by Armacell. Other methods may not result in the same values and cannot be used to determine if the product is within the given tolerance.

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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 23 production plants in 15 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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