

SAFETY IS OUR TOP PRIORITY

ArmaFlex Ultra

ArmaFlex® Ultra with FlameDefense™ technology*, is the first elastomeric insulation Classified by UL to UL 723 at 25/50.

Tested. Proven. Certified.

- // Plenum rated
- // Closed cell
- // Saves energy

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*Patent pending

 **armacell**[®]
ArmaFlex[®]

ArmaFlex Ultra and ArmaFlex Ultra LapSeal Pipe Insulation

Description

Gray, flexible, closed-cell elastomeric thermal insulation in tubular form. Available with and without the lap seal closure.

Applications

Refrigeration lines, line sets, chilled water pipes, hot and cold water piping, HVAC systems, VRV and VRF systems, exposed ceilings, air plenums, commercial, mechanical, industrial, construction and OEM transportation and equipment.

Approvals and Specification Compliance

ASTM E 84, UL 723 NFPA 90A, 90B Complies with Toxic Gas Generation by Materials on Combustion Boeing Aircraft Standard BSS 7239.	Conforms to ASHRAE 90.1 and IECC energy code requirements. Conforms to California Building Energy Efficiency Standards, Title 24 Section 120.3. ASTM C 534, Type I – Tubular Grade 1	ASTM D 1056, 2C1 ASTM C1338 Manufactured without CFCs, HFCs, HCFCs, PBDEs, or Formaldehyde. All Armacell facilities in North America are ISO 9001 certified.
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Ultra Tube Sizes

Wall Thickness (nominal)	1/2" and 1" (13 and 25 mm)
Inside Diameter, Tubular	1/2" to 1-3/8" ID in 1/2" walls; 1/2" to 6" IPS ID in 1" walls
Length of Sections, Tubular	6' (1.83 m)

Typical Properties

Physical Properties	Through 1" Wall Thickness	Test Method
Thermal Conductivity: Btu • in/h • ft ² • °F (W/mK)		
75°F Mean Temperature (24°C)	0.27 (0.039)	ASTM C 177 or C 518
100°F Mean Temperature (38°C)	0.28 (0.040)	ASTM C 177 or C 518
Water Vapor Permeability: Perm-in. [Kg/(s • m • Pa)]	0.05 perm-in (0.723 x 10 ⁻¹³)	ASTM E 96, Procedure A
Flame Spread and Smoke Developed Index	25/50 rated	ASTM E 84 or UL 723 (UL Report # 39561)
Water Absorption, % by Volume:	0.2%	ASTM C 209 or ASTM 1763 Procedure B
Mold Growth:	Passed	ASTM C1338
Fungi Resistance:		
Bacterial Resistance:		
Upper Use Limit: ①	220°F (104°C)	ASTM C534
Lower Use Limit: ②	-297°F (-183°C) ③	ASTM C534

① ArmaFlex Ultra Pipe Insulation can withstand temperatures of 250°F (121°C) for 96 hour time periods when tested according to ASTM C 411. "Test Method for Surface Performance of High-Temperature Insulations." At this temperature, ArmaFlex Ultra 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).

② 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 Ultra insulation.

③ For applications between -40°F to -297°F (-40°C to -183°C), contact Armacell.

ArmaFlex Ultra and ArmaFlex Ultra LapSeal Pipe Insulation - R VALUES

1/2" WALLS

Tube Item	LapSeal Item	Pipe Size	R Value
IPULT01212	IPUST01212	3/8" Copper	3.0
IPULT05812	IPUST05812	1/2" Copper	3.0
IPULT03412	IPUST03412	5/8" Copper	3.0
IPULT07812	IPUST07812	3/4" Copper	3.0
IPULT11812	IPUST11812	1" Copper	3.0
IPULT13812	IPUST13812	1-1/4" Copper	3.0

1" WALLS

Tube Item	LapSeal Item	Pipe Size	R Value
IPULT01210	IPUST01210	3/8" Copper	6.5
IPULT05810	IPUST05810	1/2" Copper	6.6
IPULT03410	IPUST03410	5/8" Copper	6.3
IPULT07810	IPUST07810	3/4" Copper	6.4
IPULT11810	IPUST11810	1" Copper	6.5
IPULT13810	IPUST13810	1-1/4" Copper	6.5
IPULT15810	IPUST15810	1-1/2" Copper	6.5
IPULT11010	IPUST11010	1 1/2" IPS	6.2
IPULT21810	IPUST21810	2" Copper	6.1
IPULT20010	IPUST20010	2" IPS	6.5
IPULT25810	IPUST25810	2-1/2" Copper	5.9
IPULT21010	IPUST21010	2-1/2" IPS	6.2
IPULT31810	IPUST31810	3" Copper	5.7
IPULT30010	IPUST30010	3" IPS	5.9
IPULT35810	IPUST35810	3-1/2" Copper	5.6
IPULT41810	IPUST41810	4" Copper	5.5
IPULT40010	IPUST40010	4" IPS	5.8
IPULT50010	IPUST50010	5" IPS	5.6
IPULT60010	IPUST60010	6" IPS	5.5

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.



ArmaFlex Ultra is the first elastomeric insulation UL Classified as to UL 723 at 25/50 only. R39561.

ArmaFlex Ultra Sheet/Roll and ArmaFlex Ultra Self Adhering (SA) Sheet/Roll

Description

Gray flexible closed-cell elastomeric thermal insulation in sheet and roll form in both regular and self-adhering options.

Applications

Refrigeration lines, line sets, chilled water pipes, hot and cold water piping, HVAC systems, VRV and VRF systems, exposed ceilings, air plenums, commercial, mechanical, industrial, construction and OEM transportation and equipment.

Approvals and Specification Compliance

ASTM E 84, UL 723 NFPA 90A, 90B Complies with Toxic Gas Generation by Materials on Combustion Boeing Aircraft Standard BSS 7239.	Conforms to ASHRAE 90.1 and IECC energy code requirements. ASTM C 534, Type II — Sheet Grade 1 ASTM D 1056, 2C1 ASTM C1338	Manufactured without CFCs, HFCs, HCFCs, PBDEs, or Formaldehyde. All Armacell facilities in North America are ISO 9001 certified.
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Typical Properties

Physical Properties	Values	Test Method
Thermal Conductivity: Btu • in/h • ft ² • °F (W/mK)		
75°F Mean Temperature (24°C)	0.27 (0.039)	ASTM C 177 or C 518
100°F Mean Temperature (38°C)	0.28 (0.040)	
Water Vapor Permeability: Perm-in. [Kg/(s • m • Pa)]	0.05 perm-in [0.723 x 10 ⁻¹³]	ASTM E 96, Procedure A
Flame Spread and Smoke Developed Index:	25/50 rated	ASTM E 84 or UL 723 (UL Report # 39561)
Water Absorption, % by Volume:	0.2 %	ASTM C 209 or ASTM C1763
Mold Growth:	Passed	ASTM C1338
Fungi Resistance:		
Bacterial Resistance:		
Upper Use Limit: ①	220°F (105°C)	ASTM C534
Lower Use Limit: ②	-297°F (-183°C) ③	ASTM C534

① ArmaFlex Ultra Sheet and Roll Insulation can withstand temperatures of 250°F (121°C) for 96 hour time periods when tested according to ASTM C 411. "Test Method for Surface Performance of High-Temperature Insulations." At this temperature, ArmaFlex Ultra 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).

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 Ultra insulation.

③ For applications between -40°F to -297°F (-40°C to -183°C), contact Armacell.

Sheet and Roll R-Values

	R-2	R-4
Thickness	1/2" [13 mm]	1" [25 mm]

Sound Absorption Coefficients Frequency

	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	NRC	SAA
Thickness Nom. 1" [25 mm]	0.09	0.05	0.15	0.47	0.39	0.29	0.25	0.28

Sizes

Sheet: Width x Length	36" x 48" [9.15 m x 1.22 m]
Thickness (nominal)	1/2" and 1" [13 and 25 mm]
Roll: Width	48" wide [1.22 m]
Thickness (nominal) x Length	1" x 35' [25 mm x 10.7 m] 1/2" x 70' [13 mm x 21.4 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.



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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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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 3100 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.

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