



ENERGY SAVINGS

ProFlex

The ProFlex® family of fiber-free insulation products is the professional's choice for HVAC/R applications. The closed-cell structure controls condensation and maintains thermal integrity to prevent heat loss and keep pipes from freezing.

- // ProFlex: Tubular pipe insulation
- // ProFlex LapSeal: Pipe insulation with easy, self-seal closure
- // ProFlex Sheet and Roll: Flexible sheeting for large pipes, tanks and vessels

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 **armacell**[®]
ProFlex[®]

ProFlex and ProFlex LapSeal Pipe Insulation

Description

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

Applications

Refrigeration lines, chilled water pipes, hot and cold water piping, HVAC systems, VRV and VRF systems, exposed ceilings/air plenums, Commercial/Industrial/Mechanical. Rated for use in air plenum.

Approvals, Certifications, Compliances

- Manufactured without CFCs, HFCs, HCFCs, PBDEs, or Formaldehyde.
- All Armacell facilities in North America are ISO 9001 certified.

Approvals and Specification Compliance

ASTM C 534, Type I – Grade 1	UL 723	ASTM D 1056, 2C1
ASTM E 84	NFPA 90A, 90B	
NFPA 255	ASTM G21/C1338	

ProFlex Tube Sizes

Wall Thickness (nominal)	3/8", 1/2", 3/4", 1" and 1-1/2" (10, 13, 19, 25 and 38 mm)
Inside Diameter, Tubular	3/8" ID to 4" IPS (10 mm to 114 mm) except 3/8" wall (1/4" to 3 IPS ID, 6 mm to 89 mm)
Length of Sections, Tubular	6' (1.83 m)

Typical Properties

Physical Properties	ProFlex through 1" Wall Thickness	ProFlex Values at 1-1/2" Wall Thickness	Test Method
Thermal Conductivity: Btu • in/h • ft ² • °F (W/mK)			
75°F Mean Temperature [24°C]	0.27 [0.039]	0.28 [0.040]	ASTM C 177 or C 518
100°F Mean Temperature [38°C]	0.28 [0.040]	0.286 [0.041]	ASTM C 177 or C 518
Water Vapor Permeability:			
Perm-in. [Kg/[s • m • Pa]]	0.08 [1.16 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
Upper Use Limit: ①	220°F (104°C)	300°F (149°C) ④	ASTM C534
Lower Use Limit: ②	-297°F [-183°C] ③	-297°F [-183°C] ⑤	ASTM C534

① ProFlex 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 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 ProFlex insulation.

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

④ 1-1/2" ProFlex pipe insulation is formulated with EPDM rubber giving it a higher upper use temperature than ProFlex tubes less than 1 1/2" wall thickness.

⑤ For applications of -40°F to -297°F (-40°C to -183°C), contact Armacell.

ProFlex LapSeal

Description

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

ProFlex LapSeal Sizes

Wall Thickness (nominal) Form	3/8", 1/2", 1", 1-1/2", 2" (10, 13, 25, 38, 50 mm)
Inside Diameter, Tubular Form	3/8" ID to 4" ID (10 mm to 114 mm) except 3/8" wall (5/8" to 2 1/8" ID) (19 to 57 mm)
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.

ProFlex and ProFlex LapSeal Pipe Insulation - R VALUES

3/8 " WALLS			1/2 " WALLS			3/4" WALLS			1" WALLS			1-1/2" WALLS		
IPPFT01438	3/16" Copper	2.8	IPPFT01412	3/16" Copper	3.4	IPPFT01434	3/16" Copper	5.8	IPPFT01410	3/16" Copper	7.5	IPPFT03815	1/4" Copper	13.7
IPPFT03838	1/4" Copper	2.5	IPPFT03812	1/4" Copper	3	IPPFT03834	1/4" Copper	5.3	IPPFT03810	1/4" Copper	6.6	IPPFT01215	3/8" Copper	12.7
IPPFT01238	3/8" Copper	2.4	IPPFT01212	3/8" Copper	3	IPPFT01234	3/8" Copper	5.0	IPPFT01210	3/8" Copper	6.5	IPPFT05815	1/2" Copper	12
IPPFT05838	1/2" Copper	2.3	IPPFT05812	1/2" Copper	3.1	IPPFT05834	1/2" Copper	5.1	IPPFT05810	1/2" Copper	6.6	IPPFT03415	5/8" Copper	11.3
IPPFT03438	5/8" Copper	2.2	IPPFT03412	5/8" Copper	3	IPPFT03434	5/8" Copper	5.0	IPPFT03410	5/8" Copper	6.3	IPPFT07815	3/4" Copper	10.8
IPPFT07838	3/4" Copper	2.2	IPPFT07812	3/4" Copper	3	IPPFT07834	3/4" Copper	4.9	IPPFT07810	3/4" Copper	6.4	IPPFT11815	1" Copper	10.1
IPPFT11838	1" Copper	2.1	IPPFT11812	1" Copper	3	IPPFT11834	1" Copper	4.9	IPPFT11810	1" Copper	6.5	IPPFT13815	1-1/4" Copper	9.6
IPPFT13838	1-1/4" Copper	2.0	IPPFT13812	1-1/4" Copper	2.9	IPPFT13834	1-1/4" Copper	4.8	IPPFT13810	1-1/4" Copper	6.5	IPPFT15815	1-1/2" Copper	9.2
IPPFT15838	1-1/2" Copper	2.2	IPPFT15812	1-1/2" Copper	2.9	IPPFT15834	1-1/2" Copper	4.6	IPPFT15810	1-1/2" Copper	6.5	IPPFT11015	1 1/2" IPS	8.7
IPPFT11038	1 1/2" IPS	2.2	IPPFT11012	1 1/2" IPS	2.9	IPPFT11034	1 1/2" IPS	4.4	IPPFT11010	1 1/2" IPS	6.2	IPPFT21815	2" Copper	8.6
IPPFT21838	2" Copper	2.2	IPPFT21812	2" Copper	2.9	IPPFT21834	2" Copper	4.4	IPPFT21810	2" Copper	6.1	IPPFT20015	2" IPS	8.8
IPPFT20038	2" IPS	2.2	IPPFT20012	2" IPS	2.9	IPPFT20034	2" IPS	4.7	IPPFT20010	2" IPS	6.5	IPPFT25815	2-1/2" Copper	8.2
IPPFT25838	2-1/2" Copper	2.2	IPPFT25812	2-1/2" Copper	2.9	IPPFT25834	2-1/2" Copper	4.3	IPPFT25810	2-1/2" Copper	5.9	IPPFT21015	2-1/2" IPS	8.4
IPPFT21038	2-1/2" IPS	2.2	IPPFT21012	2-1/2" IPS	2.9	IPPFT21034	2-1/2" IPS	4.6	IPPFT21010	2-1/2" IPS	6.2	IPPFT31815	3" Copper	7.9
IPPFT31838	3" Copper	2.1	IPPFT31812	3" Copper	2.9	IPPFT31834	3" Copper	4.2	IPPFT31810	3" Copper	5.7	IPPFT30015	3" IPS	8.1
IPPFT30038	3" IPS	2.1	IPPFT30012	3" IPS	2.8	IPPFT30034	3" IPS	4.4	IPPFT30010	3" IPS	5.9	IPPFT35815	3-1/2" Copper	7.7
			IPPFT35812	3-1/2" Copper	2.8	IPPFT35834	3-1/2" Copper	4.1	IPPFT35810	3-1/2" Copper	5.6	IPPFT41815R	4" Copper	7.5
			IPPFT41812R	4" Copper	2.8	IPPFT41834R	4" Copper	4.1	IPPFT41810R	4" Copper	5.5	IPPFT40015R	4" IPS	7.8
			IPPFT40012R	4" IPS	2.8	IPPFT40034R	4" IPS	4.4	IPPFT40010R	4" IPS	5.8			

* 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.

ProFlex Sheet and Roll

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 NFPA 90A, 90B
Approvals, Certifications, Compliances	
• Manufactured without CFCs, HFCs, HCFCs, PBDEs, or Formaldehyde.	• All Armacell facilities in North America are ISO 9001 certified.

Typical Properties

Physical Properties	Values		Test Method
	ProFlex Through 1"	ProFlex 1-1/2" and 2"	
Thermal Conductivity: Btu • in/h • ft² • °F (W/mK)			
75°F Mean Temperature [24°C]	0.27 [0.039]	0.27 [0.039]	ASTM C 177 or C 518
90°F Mean Temperature [32°C]	0.28 [0.040]	0.28 [0.040]	
Water Vapor Permeability: Perm-in. [Kg/[s • m • Pa]]	0.05 [0.725 x 10 ⁻¹³]	0.05 [0.725 x 10 ⁻¹³]	ASTM E 96, Procedure A
Flame Spread and Smoke Developed Index:	25/50 rated	Not 25/50 rated	ASTM E 84
Water Absorption, % by Volume:	0.2 %	0.2 %	ASTM C 209 or ASTM C1763
Mold Growth: Fungi Resistance: Bacterial Resistance:	Passed	Passed	ASTM G21/C1338
Upper Use Limit:	220°F [105°C] ①	220°F [105°C] ①	ASTM C534
Lower Use Limit: ②	-297°F [-183°C] ③	-297°F [-183°C] ③	ASTM C534

① ProFlex 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, ProFlex 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].

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 ProFlex insulation.

③ For applications of -40°F to -297°F [-40°C to -183°C], contact Armacell.

ProFlex and ProFlex LapSeal Pipe Insulation

Sheet and Roll R-Values	R-0.9	R-1.4	R-1.9	R-2.8	R-3.7	R-5.6	R-7.4	
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 (1.22 m)				3/4" x 50' (19 mm x 15.2 m)			
Thickness (nominal) x Length	1/4" x 140' (6 mm x 42.6 m)				1" x 35' (25 mm x 10.7 m)			
	3/8" x 100' (10 mm x 30.5 m)				1-1/2" x 25' (38 mm x 7.6 m)			
	1/2" x 70' (13 mm x 21.4 m)				2" x 18' (50 mm x 5.4 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.							

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 3,000 employees and 25 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:
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