

TECHNICAL BULLETIN

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ARMAFLEX THICKNESS RECOMMENDATIONS FOR CONTROLLING OUTER INSULATION SURFACE CONDENSATION

Design Conditions:

1. **NORMAL DESIGN CONDITIONS:** AP ArmaFlex in the thicknesses noted and within the specified temperature ranges will control outer insulation surface condensation indoors under **normal** design conditions, a maximum severity of **85°F (29°C) and 70% RH**. Armacell research and field experience indicate that indoor conditions anywhere in the United States seldom exceed this degree of severity.
2. **MILD DESIGN CONDITIONS:** AP ArmaFlex in the thicknesses noted and within the specified temperature ranges will control outer insulation surface condensation indoors under mild design conditions, a maximum severity of **80°F (27°C) and 50% RH**. Typical of these conditions are most air-conditioned spaces and arid climates.
3. **SEVERE DESIGN CONDITIONS:** AP ArmaFlex in the thicknesses noted and within the specified temperature ranges will control outer insulation surface condensation indoors under severe design conditions, a maximum severity of **90°F (32°C) and 80% RH**. Typical of these conditions are indoor areas in which excessive moisture is introduced, poorly ventilated areas, or in areas open to humid, outdoor conditions. For constantly, high humid and high temperature conditions, It is recommended that the Insulation be cladded with zero perm rated products such as zero perm laminates.

ArmaFlex Insulation Thickness Recommendations: Pipes

Pipe Size	Line Temperatures			
	50°F (10°C)	35°F (2°C)	0°F (-18°C)	-20°F (-29°C)
BASED ON NORMAL DESIGN CONDIBASED ON NORMAL CONDITIONS 3/8"ID through 1-1/8"ID (10 mm–28mm) Over 1-1/8"ID through 2-1/8"ID (28 mm–54 mm) Over 2-1/8"ID through 2-5/8"ID (54 mm–65 mm) Over 2-5/8"ID through 6"IPS (65 mm–168 mm)	Nom 3/8"(10 mm) Nom 3/8"(10 mm) Nom 3/8"(10 mm) Nom 1/2"(13 mm)	Nom 1/2"(13 mm) Nom 1/2"(13 mm) Nom 1/2"(13 mm) Nom 3/4"(19 mm)	Nom 3/4" (19 mm) Nom 1" (25 mm) Nom 1" (25 mm) Nom 1" (25 mm)	Nom 1" (25 mm) Nom 1" (25 mm) Nom 1-1/4" (32 mm) Nom 1-1/4" (32 mm)
BASED ON MILD DESIGN CONDITIONS** 3/8"ID through 2-5/8"ID (10 mm–65 mm) Over 2-5/8"ID through 6"IPS (65 mm–168 mm)	Nom 3/8"(10 mm) Nom 1/2"(13 mm)	Nom 3/8"(10 mm) Nom 1/2"(13 mm)	Nom 1/2" (13 mm) Nom 1/2" (13 mm)	Nom 3/4" (19 mm) Nom 3/4" (19 mm)
BASED ON SEVERE DESIGN CONDITIONS*** 3/8"ID through 1-5/8"ID (10 mm–40 mm) Over 1-5/8"ID through 3-5/8"ID (40 mm–90 mm) Over 3-5/8"ID through 6"IPS (90 mm–168 mm)	Nom 3/4"(19 mm) Nom 3/4"(19 mm) Nom 3/4"(19 mm)	Nom 1"(25 mm) Nom 1"(25 mm) Nom 1"(25 mm)	Nom 1-1/2" (38 mm) Nom 1-1/2" (38 mm) Nom 1-1/2" (38 mm)	Nom 1-1/2" (38 mm) Nom 1-3/4" (44 mm) Nom 2" (50 mm)

ArmaFlex Insulation Thickness Recommendations: Ducts, Tanks, and Vessels

Ambient Conditions	Ducts-Tanks-Vessels-Equipment Metal Surface Temperature		
	50°F (10°C)	35°F (2°C)	0°F (-18°C)
NORMAL DESIGN CONDITIONS	Nom 3/8" (10 mm)	Nom 3/4" (19 mm)	Nom 1-1/2" (38 mm)
MILD DESIGN CONDITIONS	Nom 1/8" (3 mm)	Nom 1/4" (6 mm)	Nom 1/2" (13 mm)
SEVERE DESIGN CONDITIONS	Nom 1" (25 mm)	Nom 1-1/2" (38 mm)	Nom 2" (50 mm)

For more information, please visit:
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