AEROTUBE®
Specification Data

PHYSICAL PROPERTIES*

Density, lbs/cu ft (avg.)	5-6	Ozone resistance	good
Thermal conductivity, Btu/hr sq ft (°F/in)		Odor	negligible
75F mean temperature	0.26		
90F mean temperature	0.27	Fire rating, ASTM D1692-59T	self-extinguishing
Temperature limits, F			
Upper**	220		
Lower***	−40		
Thermal stability, % shrinkage			
28 days, 150F	2.0-4.5		
28 days, 200F	3.5-5.5		
28 days, 220F	5.5-6.5		
Water vapor transmission, perm-in. (C355-64 wet cup)	less than 0.1		
Water absorption			
28 days' immersion, % by volume	1.7		
ASTM D1056-62T, % by weight	less than 10		

*The figures given in this table are average values obtained in accordance with accepted test methods.

**Aerotube pipe insulation will withstand pipe temperatures up to 220F. Aerotube sheet insulation secured to a pipe or cylinder only by cementing together the edges may be used on surfaces up to 220F. J-M 57 Adhesive may be used with pipe insulation applications up to 220F (200F limit when using J-M 57 Adhesive). For complete adhesive coverage on sheet applications, the temperature limitation is 180F using J-M 57 Adhesive (150F limit using J-M 57 Adhesive).

***Below 20F flexible Aerotube will be hard and start to become brittle. This characteristic does not impair the low conductivity nor the resistance to water vapor.

COMPLIANCE WITH GOVERNMENT SPECS

Aerotube pipe insulations comply with specification MIL-P-152900 Type II, Form I
Interim Federal Specification HH-I-00573, Class 1

RECOMMENDED THICKNESSES†

NORMAL DESIGN CONDITIONS*

Pipe Size, in.	Thickness (Inches) at Pipe Temperature 50F	85F	0F
½ ID through 3 IPS	Nom. 1½	Nom. 1½	Nom. 2½
Over 3 IPS through 10 IPS	Nom. 1½	Nom. 1½	Nom. 2½
Over 10 IPS	¾ sheet	1 sheet	1 sheet

MILD DESIGN CONDITIONS**

½ ID through 3 IPS	Nom. 1½	Nom. 1½	Nom. 1½
Over 3 IPS through 10 IPS	Nom. 1½	Nom. 1½	Nom. 1½
Over 10 IPS	1 sheet	1½ sheet	1½ sheet

SEVERE DESIGN CONDITIONS***

½ ID through 10 IPS	Nom. 1½	Nom. 1½	See note
Over 10 IPS	1¾ sheet	1¾ sheet	See note

*Normal Design Conditions are temp. 85F, rel. hum. 70%.
**Mild Design Conditions are temp. 85F, rel. hum. 50%.
***Severe Design Conditions are temp. 90F, rel. hum. 75%.
NOTE: Aerotube for zero F or special needs.
†Based on average specified thicknesses.

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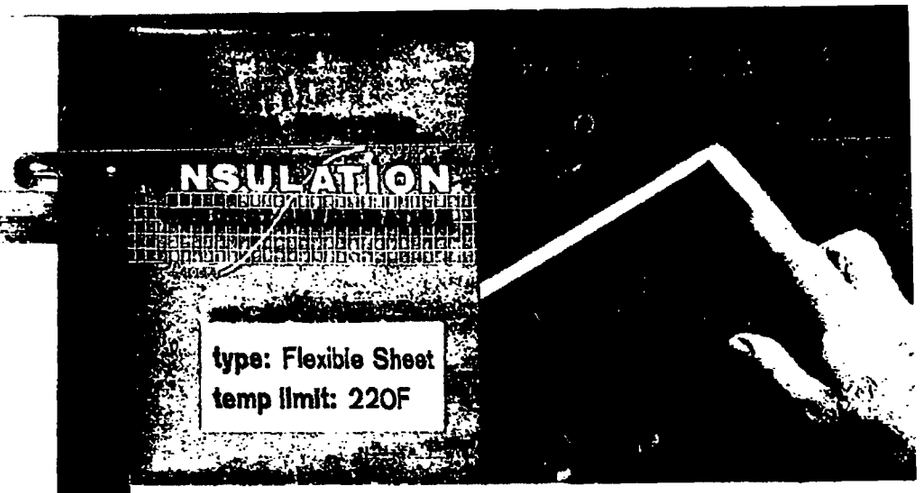

J-M AEROTUBE® plastic sheet insulation

■ **DESCRIPTION:** Johns-Manville Aerotube sheet insulation is a closed cell, foamed plastic sheet material for use on dual-temperature systems at temperatures up to 220F. Because of its flexibility it can be readily applied to irregular shapes and sizes.

■ **AVAILABLE FORMS:** Regularly furnished in 36" x 48" sheets in thicknesses ranging (in ½" increments) from ½" to 1".

■ **USES:** Designed specifically for use on dual-temperature systems. Recommended for tanks, ducts, and for pipe sizes greater than 5", particularly where sweating or condensation is a problem.

■ **ADVANTAGES:**

Built-in Vapor Barrier

Closed cell structure stops passage of moisture.

Flexible & Easy to Apply

Permits economical application to irregular surfaces.

PHYSICAL PROPERTIES*

Density, lbs/cu ft (avg.)	5-6	Air transmission Cu ft/hr sq ft/in. Hg/in. 10" water	< 0.03
Thermal conductivity, Btu/hr sq ft (°F/in)		Fire rating	
75F mean temperature	0.26	ASTM D1692-59T	self-extinguishing
90F mean temperature	0.27		
Temperature limits, F			
Upper**	220		
Lower***	−40		
Thermal stability, % shrinkage			
28 days, 150F	△ 4		
28 days, 200F	△ 4.5		
28 days, 220F	△ 6		
Ozone resistance	good		
Odor	negligible		
Water vapor transmission, perm-in. (C355-64 wet cup)	less than 0.1		
Water absorption			
28 days' immersion, % by volume	1.7		
ASTM D1056-62T, % by weight	less than 10		

*The figures given in this table are average values obtained in accordance with accepted test methods.

**Aerotube sheets secured on a pipe by wrapping around and cementing edges with adhesive 220F. J-M 57 Adhesive may be used with pipe insulation applications up to 220F (200F limit when using J-M 57 Adhesive). Sheets adhered with complete adhesive coverage on flat or curved metal surfaces may be applied on surfaces that will operate at temperatures as high as 180F using J-M 57 Adhesive (150F limit using J-M 57 Adhesive).

***At −20F Aerotube will be hard and at lower temperatures will become progressively brittle. This will not impair the low conductivity nor good resistance to water vapor.

COMPLIANCE WITH GOVERNMENT SPECS

Aerotube sheets comply with the requirements of MIL-P-152900, Type II, Form 2.
Interim Federal Specification HH-I-00573, Class 2.

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PLAINTIFF'S EXHIBIT JM-2392

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