



**AEROFLEX®**

**Ultra-Low Perm EPDM Pipe Insulation**

**Aerocel® ULP®**

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# Aerocel® ULP®

## Ultra-Low Perm EPDM Pipe Insulation Tubes & Pre-slit Stay-Seal® with Protape® (SSPT™)

Sub-zero Refrigeration | Dual Temperature Systems  
Variable Refrigerant Systems | DX Refrigeration  
Liquified Natural Gas | Chilled Water | Cryogenic

Closed-cell elastomeric pipe insulation with built-in vapor retarder for the harshest environments and most demanding applications.

Aerocel® ULP® offers a flexible, lightweight alternative to cellular glass. Eliminates time consuming fabrication and costly product loss due to jobsite and supply chain breakage, both of which are commonly associated with cellular glass. Select it wherever extreme temperatures and humidity are expected and/or when vapor drive is an overriding concern.

A finely-tuned, proprietary blend of non-polar EPDM-rubber with a built-in vapor retarder makes Aerocel ULP suitable for a wide range of operating conditions and environments.

### Reliable in demanding applications

Ideal for low-temperature systems in hot and humid environments (+257°F upper use limit, -320° F lower use limit)

### Industry's lowest permeability for a closed-cell elastomeric insulation - .01 perm-inch!

Helps prevent corrosion under insulation (CUI)

### Easy to handle and install

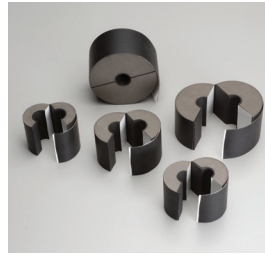
Flexible elastomeric foam - no breakage or fabrication when compared with cellular glass

No gloves or masks required!

Available in un-slit tube and SSPT™ with dual-tape closure

UV-resistant without added protection

### All-inclusive solutions for refrigeration systems:



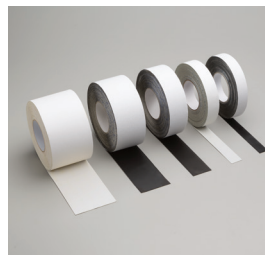
#### Aerofix®

Light-weight, rigid pipe supports, pre-insulated with closed-cell EPDM foam rubber and encased with zero-perm EPDM polymer membrane. Includes built-in pressure sensitive Protape® closure system.



#### AeroFit™

Pre-fabricated fitting insulators made of closed-cell EPDM rubber for fast installation on hot/cold-water and refrigerant piping.



#### Protape®

EPDM-based, self-adhering rubber tape for sealing butt joints and termination points.



#### Aeroflex Adhesives

Specially formulated adhesive for bonding of Aerocel insulations. Fast tack and LVOC formulations available.

### Saves installation and operating costs!

Lower thermal conductivity than cellular glass

Single layer meets thermal requirements on most projects!

Costs less to inventory

Eliminates product waste due to breakage

### Supports Indoor Air Quality

No CFCs, HFCs, HCFCs, PBDEs, formaldehyde, Nitrosamine or fibers

25/50 rated (ASTM E84) and self-extinguishing (ASTM D635) thru 2-inches!

GREENGUARD Gold Certified for low chemical emissions (VOC)

Can contribute to LEED® credits

\*Vapor barrier may be required in extreme low-temperature or extreme high-humidity applications. Protective jacket required for direct-bury applications and if insulation may be subjected to mechanical damage.

**Product:** Closed-cell EPDM (Ethylene Propylene Diene Monomer)-based rubber elastomeric foam pipe insulation for HVAC piping (including variable refrigerant systems), plumbing and refrigeration piping.

**Standard Specification:** ASTM C534 Type I Grade 1

### Thermal Conductivity (K) Btu-in/hr-Ft<sup>2</sup> -°F (W/m.K)

Mean Temperature	K Value	Test Method
75°F (24°C)	0.245 (0.0353)	ASTM C518 /C177
90°F (32°C)	0.250 (0.0360)	

### Physical and Operational Properties

Property	Test Value/Rating	Test Method
Service Temperature, CONTINUOUS	-320°F to +257°F -196°C to +125°C	ASTM C411 <sup>1</sup>
U.V. Resistance	Minimal Cracking or color change	ASTM G7
Ozone Resistance	No cracking	ASTM D1171
Water Vapor Permeability, Max	0.01 perm-inch (1.45 x 10 <sup>-11</sup> g/Pa.s.m)	ASTM E96
Water Absorption (% by Volume), Max	0.2%	ASTM C209
Fire Safety Characteristics thru 2" thickness	Class V-O	UL 94
	25/50	ASTM E84
	Pass	NFPA 90A/90B
	Self-extinguishing	ASTM D635
Corrosion of Stainless Steel	Non-corrosive	ASTM C692, DIN 1988
Fungi Resistance	No Growth	ASTM C1318/G21
Mold Resistance	No Growth	UL181 Section 13
Flexibility	Pass	ASTM C534
Air Erosion	Pass	UL181 Section 18

### Additional Approvals, Compliances, Etc.

ASTM D1056, 2C1	Standard Specification for Flexible Cellular Materials—Sponge or Expanded Rubber (2C1- Closed Cell Rubber, Oil resistant with medium mass change, Compression Deflection of 2 - 5 psi.)
ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1	International Green Construction Code® (igCC®)
ANSI/ASHRAE/IES Standard 90.1	Energy Standard for Buildings Except Low-Rise Residential Buildings
IECC®	International Energy Conservation Code®
CA Title 24	California Building Energy Efficiency Standards
MEA #171-04-M	City of New York Material and Acceptance Pipe Insulation
CDPH Specification 01350	California Department of Public Health (VOC Emissions)
LEED®	U.S. Green Building Council - Leadership in Energy and Environmental Design
REACH	European Chemicals Agency (ECHA) - Registration, Evaluation, Authorization and Restriction of Chemicals
RoHS	European Union - Restriction of Hazardous Substances
MIL-P-15280 (Form S, Form T)	U.S. Department of Defense - Qualified Products List (06/24/2005)

### Potential LEED® Credit Contributions

Energy & Atmosphere (EA)	Prerequisite: Minimum Energy Performance Credit: Optimize Energy Performance
Indoor Environmental Quality (EQ)	Credit: Low-Emitting Materials Credit: Indoor Air Quality Assessment Credit: Thermal Comfort Credit: Acoustic Performance
Innovation (IN)	Credit: Occupant Comfort Survey

<sup>1</sup> AEROCCEL flexibility begins to decrease at -70°F and below.  
This does not impact the insulating properties of the material.

Find us in

**MasterSpec®**

a product of The American Institute of Architects

**BSD**  
**SpecLink**



**Aerocel® ULP® R-Values (Un-slit Tube)**

Pipe Size (in)	IPS (in)	Wall Thickness							
		1/4 in	3/8 in	1/2 in	3/4 in	1 in	1-1/2 in	2 in	3 in
1/4		1.7	3.0	4.0	6.7	10.0	17.5		
3/8		1.6	2.7	3.6	6.0	9.0	15.8	24.0	
1/2	1/4	1.5	2.5	3.4	5.5	8.3	14.4	21.9	
5/8	3/8	1.4	2.4	3.2	5.2	8.0	13.5	20.6	32.6
3/4		1.4	2.3	3.1	5.0	7.7	13.0	19.7	31.2
7/8	1/2	1.3	2.3	3.2	5.3	7.4	12.9	18.5	30.6
1 1/8	3/4	1.3	2.1	3.0	5.0	6.9	12.1	17.3	28.5
1 3/8	1	1.3	2.1	3.1	5.0	6.5	11.3	16.2	26.7
1 5/8	1-1/4		2.3	3.0	4.8	6.3	11.1	15.9	26.0
1 7/8	1-1/2		2.2	2.9	4.7	6.0	10.6	15.2	24.7
2 1/8			2.2	3.0	4.6	5.9	10.3	14.8	24.0
2 3/8	2		2.2	3.0	4.5	5.8	10.0	14.3	23.2
2 5/8			2.2	2.9	4.4	5.7	9.8	14.0	22.6
2 7/8	2-1/2		2.1	2.9	4.3	5.5	9.5	13.6	21.9
3 1/8			2.1	2.9	4.3	5.5	9.4	13.4	21.6
3 1/2	3		2.1	3.0	4.2	5.3	9.1	12.9	20.8
3 5/8			2.1	3.0	4.2	5.3	9.1	12.9	
4 1/8			2.1	2.9	4.1	5.2	8.9	12.5	20.0
4 1/2	4		2.0	2.9	4.0	5.1	8.7	12.2	19.6
5 1/8					4.0	5.1	8.5	11.9	19.0
5 1/2	5			2.8	3.9	5.0	8.4	11.7	18.6
6 1/8				2.8	3.9	4.9	8.2	11.5	
6 5/8	6			2.8	3.9	4.9	8.1	11.3	17.8

**Aerocel® ULP® Stay-Seal® with Protape® (SSPT™) Tube**

Pipe Size (in)	IPS (in)	Wall Thickness					
		3/8 in	1/2 in	3/4 in	1 in	1-1/2 in	2 in
1/4				6.7	10.0		
3/8		2.7	3.6	6.0	9.0	15.8	
1/2	1/4	2.5	3.4	5.5	8.3	14.4	21.9
5/8	3/8	2.4	3.2	5.2	8.0	13.5	20.6
3/4		2.3	3.1	5.0	7.7	13.0	19.7
7/8	1/2	2.3	3.2	5.3	7.4	12.9	18.5
1 1/8	3/4	2.1	3.0	5.0	6.9	12.1	17.3
1 3/8	1	2.1	3.1	5.0	6.5	11.3	16.2
1 5/8	1-1/4	2.3	3.0	4.8	6.3	11.1	15.9
1 7/8	1-1/2	2.2	2.9	4.7	6.0	10.6	15.2
2 1/8		2.2	3.0	4.6	5.9	10.3	14.8



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