



**Johns Manville**

## Zeston® 2000 PVC

*Insulated Fitting Covers and Jacketing*

### Description

Zeston 2000 fitting covers are designed to insulate and to provide a protective covering for pipe fittings. The fitting covers are supplied with Hi-Lo® Temp formaldehyde-free fiber glass insulation inserts from the factory. Zeston PVC jacketing provides a protective covering for insulated or bare pipes. Zeston 2000 PVC fitting covers and jacketing are manufactured from high-impact, gloss white, UV-resistant, polyvinyl chloride which provides a simple, quickly installed system.

### Available Shapes and Sizes

**Fitting Covers.** Zeston 2000 Series PVC fitting covers are available for the following: 45° and 90° (0.8 and 1.6 rad.) short and long radius elbows, tees and valves, flanges, reducers, end caps, soil pipe hubs, traps and mechanical groove-type fittings.

**Jacketing.** Zeston PVC jacketing is available in rolls in thicknesses of 10, 15, 20 and 30 mil (0.3, 0.4, 0.5 and 0.8 mm).

**Cut & Curled™ Jacketing.** Zeston PVC Cut & Curled jacketing is available in thicknesses of 20 or 30 mil (0.5 mm or 0.8 mm) (30 mil [0.8 mm] recommended for outdoor applications). It is available in factory-cut sizes to fit up to 30" (762 mm) O.D. All sections of Zeston PVC Cut & Curled jacketing are 48" (1219 mm) in length and are factory curled to fit snugly.

### Uses

Zeston 2000 PVC fitting covers and jacketing are ideally suited for indoor or outdoor use on chilled water, hot water, steam and other piping systems in commercial, institutional, and industrial applications. The fitting covers, when combined with Zeston PVC jacketing and Perma-Weld® solvent welding adhesive, form a completely sealed system which meets the requirements of the USDA and FDA for applications in food, beverage, and pharmaceutical facilities.

### Qualifications for Use

#### Hot Systems

- PVC covers must be kept below 150°F (66°C) by use of proper insulation thickness.
- PVC covers should be kept away from contact with, or exposure to, sources of direct or radiated heat.
- For fittings where operating temperatures exceed 250°F (121°C), or where pipe insulation thickness is greater than 1½" (38 mm), two or more layers of Hi-Lo Temp insulation inserts are required beneath fitting cover.

#### Cold Systems

- An approved vapor retarder mastic compatible with PVC must be applied between pipe insulation and fitting cover, and on fitting cover throat overlap seam.
- For fittings where operating temperature is below 45°F (7°C) or where the pipe insulation thickness is greater than 1½" (38 mm), two or more layers of Hi-Lo Temp insulation inserts are required beneath fitting cover.



### Operating Temperature Limits:

**PVC:** Up to 150°F (66°C)

**Insert:** 0°F to 450°F (-18°C to +232°C)

**Flame Spread:** 25 or less (up to 30 mil [0.8 mm])

**Smoke Developed:** 50 or less (up to 30 mil [0.8 mm])

**Grade:** Weatherable

**Color:** White

**Finish:** Gloss

### Refrigerant Systems and Cold Systems in Severe Ambient Conditions

- Mitered pipe insulation segments. Fabricated or premolded insulation shapes may be used in lieu of Hi-Lo Temp insulation inserts.
- An intermediate vapor retarder compatible with PVC is required to completely seal the insulation prior to installing the Zeston 2000 PVC fitting cover. Care should be taken to ensure that the vapor barrier mastic is applied between the pipe insulation and the fitting cover, and on fitting cover throat overlap seam.

### Totally Sealed Systems (USDA Approval)

- System requires that 20 or 30 mil (0.5 mm or 0.8 mm) Zeston PVC jacketing is applied to pipe insulation in conjunction with Zeston PVC fitting covers.
- All circumferential and longitudinal seams of jackets and fitting covers should be sealed with Zeston Perma-Weld solvent welding adhesive. Circumferential seams should be a minimum 1" (25 mm) overlap, and longitudinal seams should be 1½" to 2" (38 mm to 51 mm) overlap.
- Upon completion, all seams should visually be checked for seal and touched up, if necessary.
- Slip joints are required periodically between fixed supports and on continuous long runs of straight piping. Slip joints are achieved by increasing circumferential overlap to 8 to 10 inches (203 mm to 254 mm) and applying a flexible white caulking in the overlap area to maintain a sealed system.

# Zeston® 2000 PVC

## Insulated Fitting Covers and Jacketing

### Physical Properties of Zeston 2000 PVC

Property	Value	ASTM Test Method
Specific Gravity	1.48	D 792
Tensile Strength at Yield, psi (kPa)	6,000 (41,370)	D 638
Elongation at Yield (MD), %	3.0	D 638
Tensile Modulus, psi (kPa)	470,000 (3,240,650)	D 638
Flexural Strength, psi (kPa)	11,600 (79,982)	D 638 (min. .125" [3 mm] thick specimen)
Flexural Modulus, psi (kPa)	460,000 (3,171,700)	D 790
Flame Spread	25 or less (up to 30 mil [0.8 mm])	E 84
Smoke Developed	50 or less (up to 30 mil [0.8 mm])	E 84
Electrical Conductance	Non-Conductor	D 257
Gardner—SPI Impact, in. lb./mil by Ductile Failure	10 mil (0.3 mm) 1.3 15 mil (0.4 mm) 1.4 20 mil (0.5 mm) 1.5 30 mil (0.8 mm) 1.6	D 3679 (4 lb. [1.8 kg] weight; 8 lb. [3.6 kg] for 30 mil [0.8 mm])

Note: Chemical resistance data available on request.

### General Properties of Hi-Lo Temp Formaldehyde-Free Fiber Glass Insulation Insert

Thermal conductivity	Mean Temperature		"k"	
	°F	°C	Btu•in/ (hr•ft <sup>2</sup> •°F)	W/m•°C
	75	24	.28	.040
	150	66	.34	.049
	300	149	.45	.065
Temperature limits	0°F to 450°F (-18°C to +232°C)			
Sanitary	Odorless. Will not absorb odors. Provides no food for insects, rodents, or mildew.			
Vibration resistant	Will not settle or separate.			
Fire safety	Meets most requirements of federal, state and local codes. Accepted for commercial, institutional, industrial, and residential projects in all parts of U.S. The fiber glass inserts have UL 25/50 rating and are non-combustible per ASTM E 136.			

### Specification Compliance

USDA, Agriculture Canada  
New York City MEA #7-87  
ICBO  
SBCCI  
BOCA  
ASTM D 1784, Class 16354-C  
L-P-535E\*, Composition A, Type II, Grade GU  
L-P-1035A\*, Composition A, Type II, Grade GU  
Canada: CGSB 51-GP-53M  
CAN/ULC S102-M88

\* Impact strength determined by Gardner-SPI test method rather than Izod, since Gardner is more appropriate for PVC sheeting materials.



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## Johns Manville

### Performance Materials Division

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The physical and chemical properties of Zeston® insulated fitting covers and jacketing represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Numerical flame spread and smoke developed ratings are not intended to reflect hazards presented by these or other materials under actual fire conditions. Check with the Regional Sales Office to assure current information. **All Johns Manville products are sold subject to Johns Manville's Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville Limited Warranty and Limitation of Remedy, call the 800 number below.** For information on other Johns Manville thermal insulations and systems and a copy of the Spec-Line® CSI formatted specification, call **1-800-654-3103**.