

Zeston® 2000 Series Color PVC

Insulated Fitting Covers and Jacketing

Description

Johns Manville Zeston® 2000 Series Color standard gauge PVC fitting covers are manufactured from high-impact, polyvinyl chloride material designed to provide abuse-resistant protection for insulated piping. The one piece color fittings are available with or without Hi-Lo® Temp Formaldehyde-free fiber glass inserts. Our wide range of products and accessories enable the contractor to design, fabricate and install a complete system with a quality finished appearance.

Available Shapes and Sizes

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

Companion Zeston® Color Jacketing

Jacketing. Zeston PVC Color jacketing rolls are available in thicknesses of 20 and 30 mil (0.5 and 0.8 mm).

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

Applications

Zeston 2000 Series PVC Color fitting covers are ideally suited for indoor use on chilled water, hot water, steam and other piping systems in commercial, institutional, and industrial applications. When combined with Zeston PVC Color jacketing and solvent welding adhesive or Z-tape, 2000 Series Color PVC fitting covers form a completely sealed system that may be used for chilled water applications. The Zeston PVC Color system of fittings and jacketing provide easy identification for different pipe systems. All Zeston Color fittings and jacketing are not recommended for outdoor application.

Qualifications for Use

General

- Install the appropriate Hi-Lo Temp fiber glass insert by wrapping it completely around the pipe fitting without overly compressing it or leaving any voids. Ensure that the insulation insert covers all exposed surfaces. The Zeston PVC fitting cover should then be installed over the pipe fitting and fiber glass insert by securing the throat using either serrated tacks, Perma-Weld adhesive or Zeston Z-Tape.

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 1½" or greater (38 mm), two or more layers of Hi-Lo Temp insulation inserts are required beneath fitting cover.

Available Colors



Operating Temperature Limits:

PVC: Up to 150°F (66°C)

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

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 1½" or greater (38 mm), two or more layers of Hi-Lo Temp insulation inserts are required beneath fitting cover.

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 caulking in the overlap area to maintain a sealed system

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Physical Properties of Zeston 2000 Series Color PVC

Property	Value	ASTM Test Method
Specific Gravity	1.48	D792
Tensile Strength at Yield, psi (kPa)	6,000 (41,370)	D638
Elongation at Yield (MD), %	3.0	D638
Tensile Modulus, psi (kPa)	425,000 (2,930,270)	D638
Flexural Strength, psi (kPa)	11,000 (75,850)	D638 (min. 0.125" [3 mm] thick specimen)
Flexural Modulus, psi (kPa)	430,000 (2,964,750)	D790
Electrical Conductance	Non-Conductor	D257
Flame Spread	25 or less (up to 30 mil [0.8mm])	*ASTM E84
Smoke Developed	50 or less (up to 30 mil [0.8 mm])	*ASTM E84
Gardner—SPI Impact, in. lb./mil by Ductile Failure	20 mil (0.5 mm) 1.5 30 mil (0.8 mm) 1.6	D3679 (4 lb. [1.8 kg] weight; 8 lb. [3.6 kg] for 30 mil [0.8 mm])

Chemical resistance data available on request.

*Standard test method for surface burning characteristics of building materials

General Properties of Hi-Lo® Temp Formaldehyde-free™ Fiber Glass Insulation Insert

Compressed Thermal conductivity	Mean Temperature		"k"	
	°F	°C	Btu•in/ (hr•ft²•°F)	W/m²•C
	75	24	0.23	0.033
	150	66	0.27	0.039
	300	149	0.4	0.058
Temperature limits	0°F to 450°F (-18°C to +232°C)			
Sanitary	Odorless. Will not absorb odors. Provides no food for insects or rodents; will not 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 E84 25/50 rating and are noncombustible per ASTM E136.			

Specification Compliance

USDA, Agriculture Canada
New York City MEA #7-87
ICBO
SBCCI
BOCA
ASTM D1784, 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 S 102.2

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

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The physical and chemical properties of Zeston® 2000 PVC Insulated Fitting Covers and Jacketing listed herein 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 any other materials under actual fire conditions. Check with the Regional Sales Office nearest you to assure current information. **All Johns Manville products are sold subject to Johns Manville's standard Terms and Conditions, including Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville standard Terms and Conditions, Limited Warranty and Limitation of Remedy and information on other Johns Manville thermal insulation and systems, call (800) 654-3103.**

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