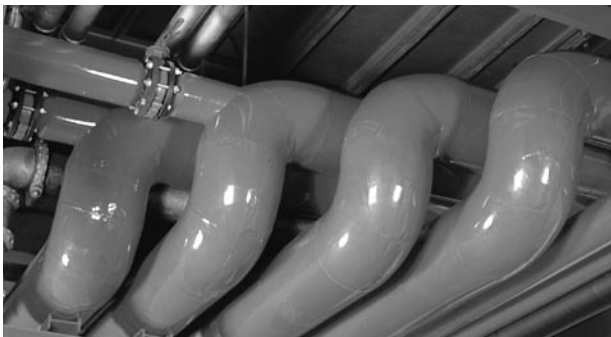




Pipe and Equipment Insulations



Zeston[®]
PVC Insulated Fitting Covers



	Page
The Zeston 2000 PVC System	1
Zeston 2000 Series PVC Insulated Fitting Covers and Zeston PVC Jacketing	2-3
Zeston 300 Series PVC Insulated Fitting Covers and Zeston PVC Jacketing	4-5
Zeston PVC Installation Accessories.....	6
Zeston PVC/Perma-Weld Jacketing System	7
90° (1.6 Rad.) Short Radius Elbow Covers	8
90° (1.6 Rad.) Long Radius Elbow Covers	8
45° (0.8 Rad.) Elbow Covers	8
Tee and Valve Covers	8
Screwed Fitting Covers.....	9
End Caps.....	10
Cone Reducers.....	10
P-Traps	10
Y-Branches	10
Mechanical Line Couplings, Line Flange Couplings, and Soil Pipe Hub Covers	11
Mechanical Groove Type (MGT) Fitting Covers.....	12
Sizing Tables – General Information	13
Sizing Table A (Available Types).....	14
Sizing Table 1 (Outside Diameter or Circumference)	15
Sizing Table 2A (Iron Pipe).....	16
Sizing Table 2B (Copper Tubing).....	16
Sizing Table 3A (LR 90° [1.6 Rad.] Iron Pipe Elbows).....	17
Sizing Table 3B (LR 90° [1.6 Rad.] Copper Tubing Elbows).....	18
Sizing Table 4 (Standard P-Traps, Deep Seal P-Traps, Handicap Swivel P-Traps, Y-Branches)	18
Sizing Table 5 (Flanged Gate Valve Fitting Covers).....	19
Sizing Tables 6A and 6B (MGT Fitting Covers).....	20
Sizing Table 7 (Zeston PVC Cut & Curled Jacketing).....	20
Regional Sales Offices.....	Back Cover



Zeston 2000 PVC System

*White, Gloss; UV Resistant; 25/50 Rated;
Meets USDA Requirements*

Introduction

Zeston 2000 Series PVC insulated fitting covers, Zeston PVC jacketing, the Zeston PVC/Perma-Weld® system, and Zeston installation accessories combine to meet an extensive range of piping and equipment requirements for commercial, institutional, and industrial applications—both indoors and outdoors.

The Zeston PVC/Perma-Weld system is ideal for use in food, pharmaceutical, beverage, chemical processing and similar plants where cleanliness and appearance of insulated pipe are a maintenance concern. When the Zeston 2000 PVC insulated fitting covers are installed using Zeston Perma-Weld solvent welding adhesive and 20 or 30 mil (0.5 or 0.8 mm) System 2000 PVC jacketing, the result is a totally sealed system that meets USDA and FDA hygiene requirements for food processing facilities.

Zeston PVC Cut & Curled™ jacketing is a rugged, high-impact, UV-resistant polyvinyl chloride material designed to provide an inherent vapor retarder and protection to insulated pipes. It will withstand water and most chemical and low-solvency washdowns.

The Zeston system is characterized by fast, simplified installation that results in lower overall costs, high insulating efficiency, long-lasting protection, and an attractive finished appearance.

Background

Zeston insulated fitting covers were developed by insulation engineers who had years of experience in the contracting and industrial supply business. Their purpose was to meet the need for a low-cost insulated fitting cover that combines neatness and good looks with simple installation and maintenance.

In a pipe insulation system the weakest point and, conversely, the most expensive, is the fittings. Conventional methods of insulating fittings include molded halves, mitered segments, cement and wrappings. The many individual handforming operations required to complete a fitting by using any of the conventional methods can build in weaknesses. The Zeston method provides a pre-engineered standard so that each fitting can be insulated to specifications.

The Zeston insulated fitting cover system is a complete, factory-supplied system. It consists of two major components, a PVC fitting cover and a fiber glass insert pre-cut to a specific size, shape and thickness. Accessories to mechanically fasten the system to the adjacent pipe covering are part of the system. A fitting, insulated to the most rigid specifications, including a vapor retarder, can be produced in less time, yet last longer than conventionally insulated fittings.



Zeston insulated fitting covers need only your hands to apply. No tools or extra help are required. They are truly the answer to the need for an effective, neat insulation that can be applied quickly and easily with tidy results.

The Zeston system is set apart from competitive products and systems by the high degree of control which Johns Manville exerts over the manufacturing process from PVC compound formulation to extruding, and from thermoforming to packaging. The result of this total production control is a finished product that exhibits exceptional uniformity and consistent quality.

Zeston 2000 Series PVC

Insulated Fitting Covers and Jacketing



Operating Temperature Limits: PVC: 0°F to +150°F (-18°C to +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

Description

Zeston 2000 PVC fitting covers come in many shapes and sizes with a Hi-Lo® Temp fiber glass insulation insert, all of which fit snugly over a variety of fittings. The insulation and the cover provide insulation, plus a vapor retarder, in a simple, quickly applied system.

Zeston 2000 PVC jacketing is a high-impact, UV-resistant polyvinyl chloride covering designed for bare metal or insulated pipe. Easy to install and maintain, it is white in color to match Zeston 2000 PVC insulated fitting covers. The rugged, pliable PVC jacketing provides an inherent vapor retarder and will withstand water and most chemical and low-solveny washdowns.

Available shapes and sizes

Fitting covers. Shapes available for 45° and 90° (0.8 and 1.6 rad.) short and long radius elbows, tees and valves plus a wide variety of other fittings; flanges, reducers, end caps, soil pipe hubs, traps and mechanical line fittings. IPS sizes from ½" through 24" (13 mm through 610 mm); CT sizes from ⅝" through 6⅞" (16 mm through 156 mm).

Rolls. Zeston PVC jacketing is available in standard thicknesses of 10, 15, 20 and 30 mil (0.3, 0.4, 0.5 and 0.8 mm), and in standard widths as shown below. Non-standard sizes are available on special request.

Thickness		Width		Length		Area	
mil	mm	in.	mm	ft.	m	sq. ft.	m²
10	0.3	35½	902	203	62	600	56
15	0.4	35½	902	135	41	400	37
20	0.5	35½	902	102	31	300	28
20	0.5	48	1219	100	31	400	37
30	0.8	35½	902	67½	21	200	19
30	0.8	48	1219	67½	21	270	25

Cut & Curled. Zeston PVC Cut & Curled jacketing in thicknesses of 20 mil or 30 mil (0.5 mm or 0.8 mm) (30 mil [0.8 mm] recommended for outdoor applications) 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.

Applications

For insulating chilled water, hot water, steam and other piping systems in commercial, institutional, industrial construction on indoor or outdoor piping systems. Outdoor covers need not be coated or painted. For use with Micro-Lok® HP fiber glass pipe insulation and a variety of other pipe insulations. The fitting covers, combined with Zeston PVC jacketing and Perma-Weld adhesive form a completely sealed system for USDA and FDA applications in food, beverage, and pharmaceutical facilities. Zeston 2000 PVC jacketing meets the hygiene requirements of USDA and FDA for use in the food processing, beverage and pharmaceutical industries.



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: CAN/ULC S102-M88

CGSB 51-GP-53M

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

Advantages

Code compliance/fire safety. Meets code requirements of flame spread rating of 25 or less and a smoke developed rating of 50 or less according to ASTM E 84.

Weatherability. When used outdoors, jacketing and fitting covers need not be painted or coated.

Ease of maintenance. The jacketing and fitting covers are easily washed down with soap and water and most commercial cleaners. The ability to be easily cleaned, combined with the non-toxic, odorless and tasteless properties of the material and its attractive appearance, make it especially suitable for food, beverage, and pharmaceutical applications.

Zeston 2000 Series PVC

Insulated Fitting Covers and Jacketing

Simple, fast installation. Requires no special tools. Just wrap the fiber glass insert around the fitting and tuck it in as necessary; pop on the fitting cover and smooth it into position; secure with tacks, or tape as required. Over insulation, jacketing is secured with tacks, tape or adhesive. Where the jacketing is applied over bare pipe, it is quickly banded, taped, or solvent welded.

Neat appearance, paintable. Attractive, white Zeston 2000 PVC provides excellent appearance. The smooth finish may be painted if desired. Use pastel-colored, high quality acrylic latex paints outdoors.

Exceptional durability. The tough, durable Zeston 2000 PVC resists damage from impact and will withstand humidity, salt water, adverse weather conditions, and most industrial fumes.

Corrosion resistance. Unlike aluminum or most stainless steel jacketing materials, Zeston 2000 PVC is immune to galvanic or electrolytic corrosion.

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. 0.125" [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: Data on chemical resistance is available on request.

Ease of system testing. Jobs can be completed more quickly because with the Zeston method the fitting is done last. There is no waiting for the piping system to be completed and pressure tested. Straight runs of insulation can be applied leaving fittings and joints exposed. After pressure testing, fitting covers can be installed.

Economical. Can be easily removed and reused to lower maintenance costs.

Wide temperature range. Applications from 0°F to 450°F (-18°C to 232°C). The temperature to which the PVC is exposed should be within the range of 0°F to +150°F (-18°C to +66°C).

High thermal efficiency. Insulation value of Hi-Lo Temp insert with a thermal conductivity of .28 (0.040) at 75°F (24°C) mean temperature assures you a more efficient insulation installation than an insulating cement system.

Finish. White color blends with present pipe covering jackets. Smooth finish can be painted with a high quality, acrylic latex paint. Pastel colors are recommended for outdoor applications.

Clean. Simple to clean using soap and water. Zeston 2000 PVC products are excellent for use in food and pharmaceutical plants where hygiene requires cleanable materials.

Chemically resistant. Will withstand water, acids, alkalis, or chemical washdowns. Resists alcohols, aliphatic hydrocarbons and oils. Soluble in ketones and esters; swells in aromatic hydrocarbons.

No mixing. Eliminates the need for buckets, hoses, trowels, etc.

Hi-Lo Temp fiber glass insert

Handling comfort. The fitting covers are supplied with Hi-Lo Temp Formaldehyde-free™ fiber glass insulation inserts for a "friendlier feel" during installation.

Conformability. Excellent molding and forming properties—improved workability.

Vapor and moisture resistant. Fibers cannot adsorb moisture. Resistance to moisture facilitates rapid drying out.



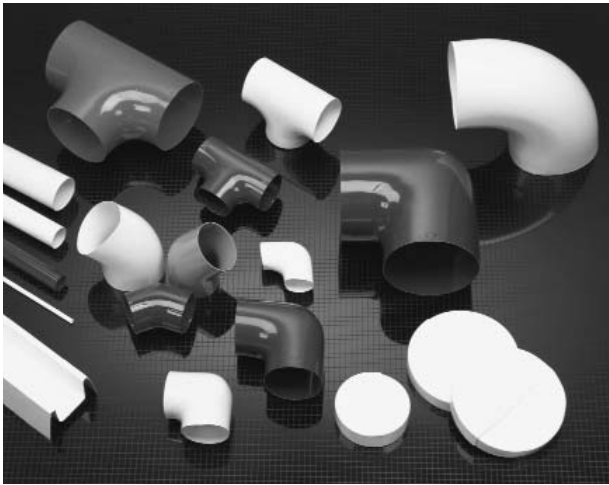
Hi-Lo Temp fiber glass insulation insert

Physical properties

Thermal conductivity	Mean Temp.		"k"	
	°F	°C	Btu·in/(hr·ft²·°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)			

Zeston 300 Series PVC

Fitting Covers, Jacketing and Structural Coverings for Industrial Applications



Operating Temperature Limits: PVC: 0°F to +150°F (-18°C to +66°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 & Colors (for indoor use only)
Finish: Gloss

Description

Zeston 300 Series PVC heavy-duty fitting covers and jacketing are specifically designed for industrial and commercial use.

Because of their added thickness and improved thickness distribution, they exhibit excellent impact resistance, increased durability, superior UV resistance and reduced chance of “burn through” when solvent welding.

Zeston 300 Series PVC fitting covers are produced from a white, glossy, high impact, UV-resistant polyvinyl chloride compound. Available in many shapes and sizes, they fit quickly and snugly over a variety of pipe fittings.

Made from the same rugged, pliable PVC material, Zeston 300 Series PVC jacketing is designed to match the Zeston 300 Series fitting covers. For use over insulated pipe and bare metal, the PVC jacketing is easy to install and maintain, provides an inherent vapor retarder, and will withstand water and most chemical and low-solvency washdowns.

Available shapes and sizes

Fitting covers. Zeston 300 Series heavy-duty PVC fitting covers are available in many shapes and sizes. Its two piece or two-piece welded construction provides ease of fabrication in the field not available in a traditional one-piece fitting cover. This construction is engineered to accommodate various types of fabricated insulation fittings and an improved “matched” fit in the fitting throat area when solvent welding.

Zeston 300 Series is available in shapes for 90° and 45° (1.6 and 0.8 rad.) short and long radius elbows, tees, and valves plus a wide variety of other fittings, flanges, reducers, end caps, soil pipe hubs, traps, and mechanical line fittings. IPS sizes are available from ½” through 24” (13 mm through 610 mm); CT sizes from ⅝” through 6⅛” (16 mm through 156 mm).

A variety of fitting covers and jacketing are available, in color, on a special order basis. They are recommended for indoor use only and are not UV resistant or 25/50 rated.

Rolls. Zeston PVC jacketing is available in standard thicknesses of 10, 15, 20, 30 and 40 mil (0.3, 0.4, 0.5, 0.8 and 1.0 mm), and in standard widths as shown on the next page. Non-standard sizes are available on request.

Cut & Curled Jacketing. Zeston 300 Series heavy-duty fitting covers may be used with Zeston PVC Cut & Curled jacketing for perfect fit and color match. Zeston PVC jacketing is available in both white and colors for 300 Series fitting applications.

The 30 mil (0.8 mm) thickness is recommended for outdoor applications.

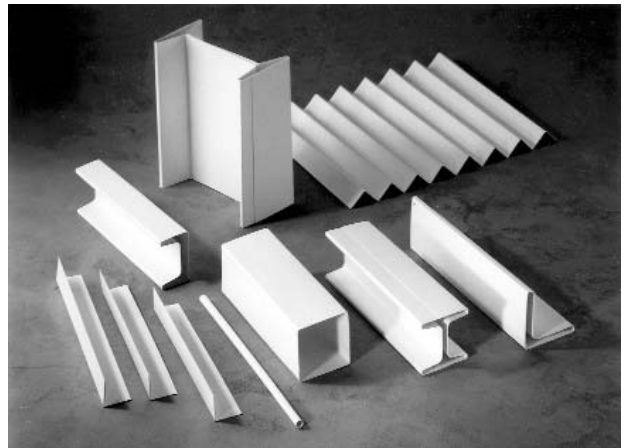
Custom shapes and sizes

For fitting covers and Cut & Curled jacketing sizes larger than 20” (508 mm), and custom shapes and sizes, call for availability.

Advantages

Zeston 300 Series PVC fitting covers and jacketing exhibit the following important advantages:

- Exceptional durability
- Weatherability
- Corrosion resistance
- Ease of maintenance
- Simple, fast installation



Structural Coverings

Structural coverings and custom moldings are designed to fit and protect structural members in industrial applications where protective coatings are necessary or scaling is a concern. They provide an excellent alternative to painting and offer long-term savings. Zeston 300 structural coverings can be used indoors and outdoors.

Structural coverings and moldings are available for I-beams, right angles, roof drains, rod, pipe, conduit, sprinkler systems and tank fluted panels.

Specification compliance

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

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

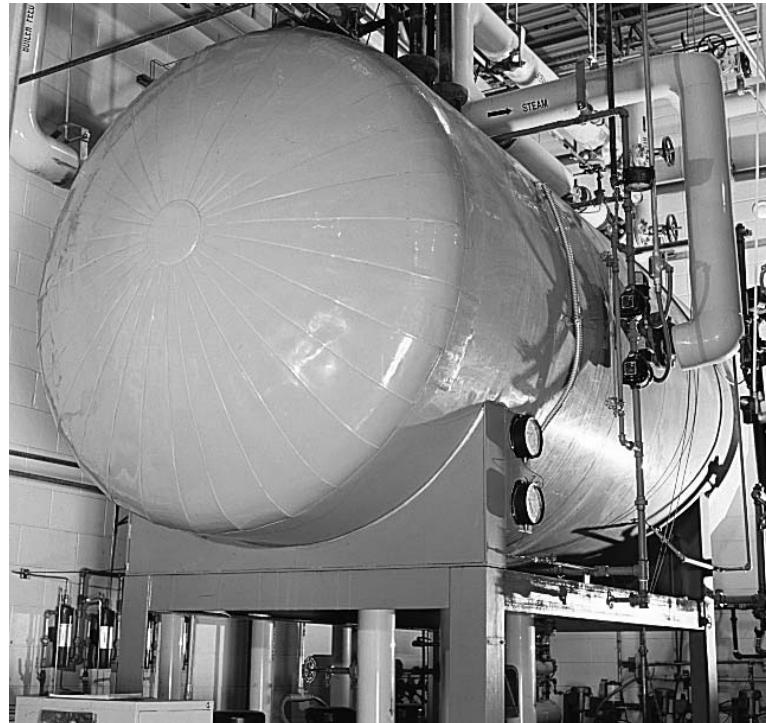
Standard stock dimensions of jacketing rolls

Thickness		Width		Length		Area	
mil	mm	in.	mm	ft.	m	sq. ft.	m ²
10	0.3	35½	902	203	62	600	56
10	0.3	48	1219	200	61	800	74
10	0.3	48	1219	100	31	200	19
15	0.4	35½	902	135	41	400	37
15	0.4	48	1219	100	31	400	37
15	0.4	48	1219	50	15	200	19
20	0.5	35½	902	102	31	300	28
20	0.5	48	1219	100	31	400	37
20	0.5	48	1219	50	15	200	19
30	0.8	35½	902	102	31	300	28
30	0.8	48	1219	100	31	400	37
30	0.8	48	1219	50	15	200	19

Physical properties

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. 0.125" [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: Data on chemical resistance is available on request.



Zeston PVC Installation Accessories



Zeston installation accessories offer outstanding compatibility and performance in the systems for which they are designed. When used in conjunction with the various Zeston products, they complete a systems package which features ease of installation, uniform appearance, and optimum, long-term insulation and protection.

A complete Zeston system, using components and accessories which are fully integrated, will give you an easy-to-install, professional job which offers peak performance in a neat, uniform installation.

Perma-Weld solvent welding system adhesive

Perma-Weld solvent welding system adhesive is applied with a standard applicator gun and forms a permanent chemical bond between the PVC members. It takes an initial set in 10 minutes with complete adhesive curing in 8 to 10 hours. Perma-Weld adhesive can be used on 20 and 30 mil (0.5 and 0.8 mm) jacketing and most Zeston 2000/300 PVC insulated fitting covers where a totally sealed system is required, such as in the USDA market. Perma-Weld adhesive is available in one quart (0.95 liter) and one gallon (3.78 liter) containers.

Note: It is recommended that Perma-Weld adhesive be applied at temperatures above 40°F (4°C).

White, stainless steel thumb tacks

Annular serrated stainless steel thumb tacks, 500 to a box, help speed the installation of Zeston PVC insulated fitting covers on hot work where a vapor retarder is not required.

PVC Z-Tape

Z-Tape was developed to provide excellent adhesion, even when applied during cold or humid weather. It is flexible polyvinyl chloride film, coated with a specially formulated adhesive. Z-Tape is available in thicknesses of 5 mils (0.13 mm) and 10 mils (0.25 mm) and can be applied indoors and outdoors* at temperatures as low as 40°F (4°C) to achieve a strong, permanent bond. It has an effective installed temperature range of -40°F to +175°F (-40°C to +80°C).

Z-Tape has excellent resistance to chemicals, acids, alkalis, oils, greases, bacteria, and fungus. It can bridge gaps and cover almost any contour or shape for a complete seal.

Perma-Weld adhesive applicator

Pump-type gun for application of Perma-Weld adhesive. Holds 6 ounces (177 ml).

Specification Data

Property	Z-Tape II*	Z-Tape*
Gauge, mils (mm)	5 ± 0.5 (0.13 ± 0.013)	10 ± 1 (0.25 ± 0.025)
Available color	White	White
Upper temperature limit	+175°F (80°C), constant	+175°F (80°C), constant
Lower temperature limit	-40°F (-40°C), constant	-40°F (-40°C), constant
Surface Burning Characteristics per ASTM E 84	Flame spread: 5 Smoke developed: 0	Flame spread: 10 Smoke developed: 0
Adhesion to backing, oz./in. (kg/mm)	14 (0.02)	30 (0.033)
Tensile strength lbs./in. width (kN/m)	15 (2.6)	27 (4.7)
Elongation (%)	150	200
Finish	Smooth	Smooth
Dimensions	Available in 1", 1½" and 2" (25 mm, 38 mm and 51 mm) widths Standard lengths: 108' (33 m)	Available in 1", 1½" and 2" (25 mm, 38 mm and 51 mm) widths Standard lengths: 100' (31 m)
Conforms to MIL-I-7798-C standard packaging	1" (25 mm) size 12 per ctn. 1½" (38 mm) size 8 per ctn. 2" (51 mm) size 6 per ctn.	1" (25 mm) size 12 per ctn. 1½" (38 mm) size 8 per ctn. 2" (51 mm) size 6 per ctn.

*Tests are conducted in accordance with ASTM D 1000. Values indicated are typical.

Tape width recommended and approximate number of covers sealed per roll of tape (includes 2" [51 mm] tape overlap)

Tape width to use	Zeston cover size	No. of covers per roll*		Long radius 90° (1.6 rad.) sizes		No. of covers per roll*	Long radius 90° (1.6 rad.) sizes		No. of covers per roll*	
		90's & 45's	Tees	in.	mm		in.	mm		
1	25	1	84	56	2 x 1	51 x 25	36	14 x 1	356 x 25	11
		2	80	53	2½ x 1½	67 x 38	30	14 x 1½	356 x 38	11
		3	73	49	3 x ½	76 x 13	36	14 x 2	356 x 51	10
		4	67	44	3 x 1	76 x 25	30	14 x 3	356 x 76	9
		5	61	41	4 x ½	102 x 13	30	16 x 1	406 x 25	10
		6	56	38	4 x 1	102 x 25	26	16 x 1½	406 x 38	10
		7	53	35	5 x ½	127 x 13	26	16 x 2	406 x 51	9
		8	48	32	5 x 1	127 x 25	23	16 x 3	406 x 76	8
1½	38	9	44	29	6 x ½	152 x 13	23	18 x 1	457 x 25	9
		10	40	27	6 x 1	152 x 25	20	18 x 1½	457 x 38	9
		11	36	24	6 x 1½	152 x 38	18	18 x 2	457 x 51	8
		12	32	22	8 x ½	203 x 13	18	18 x 3	457 x 76	8
		13	30	20	8 x 1	203 x 25	17	20 x 1	508 x 25	8
		14	28	19	8 x 1½	203 x 38	15	20 x 1½	508 x 38	8
		15	26	17	8 x 2	203 x 51	14	20 x 2	508 x 51	8
		16	24	16	10 x 1	254 x 25	14	20 x 3	508 x 76	7
		17	23	15	10 x 1½	254 x 38	13	24 x 1	610 x 25	7
		18	20	14	10 x 2	254 x 51	12	24 x 2	610 x 51	6
2	51	19	18	12	12 x 1	305 x 25	12	24 x 3	610 x 76	6
		20	17	11	12 x 1½	305 x 38	11			
		21	15	10	12 x 2	305 x 51	11			
		22	14	9	12 x 3	305 x 76	10			
		23	13	9						
		24	12	8						
		25	11	8						
		26	11	7						
27	10	7								
28	10	6								
29	9	6								
30	9	—								
32	8	—								

*Use 2" (51 mm) tape only.

*Z-Tape II is recommended for indoor use only.

Zeston 2000/300 PVC Perma-Weld Jacketing System



Surface Temperature Limits: -20°F to +150°F (-29°C to +66°C)

Description

The Zeston PVC/Perma-Weld protective jacketing system consists of pre-molded Zeston 2000/300 PVC insulated fitting covers, Zeston 2000/300 PVC jacketing, and Perma-Weld solvent welding adhesive which creates a permanent chemical bond between the PVC members. Used in combination, these components form a completely sealed, monolithic system that provides an effective vapor retarder and a readily cleanable surface while meeting USDA hygiene requirements.

Available forms

As part of the Zeston PVC/Perma-Weld System, Zeston 2000/300 PVC insulated fitting covers are available in an extensive range of sizes and configurations for 45°, 90° (0.8, 1.6 rad.) short and long radius elbows, humped tees, valves, and other pipe fittings. Both rolls and Cut & Curled sections of Zeston 2000/300 PVC jacketing are furnished in 20 and 30 mil (0.5 and 0.8 mm) thicknesses for the Zeston PVC/Perma-Weld System. Perma-Weld adhesive is available in one quart (0.95 liter) and one gallon (3.78 liter) containers, and can be applied with a Perma-Weld adhesive applicator gun.

Adhesive coverage

Approximately 1 quart (0.95 liters) of adhesive is required to seal 100 linear feet (30.5 m) of fitting covers and pipe jacketing.

Applications

The Zeston PVC/Perma-Weld System provides protective covering for bare and insulated systems, vessels, tanks, and equipment in commercial, institutional, and industrial applications. For excellent insulating efficiency, the Zeston PVC/Perma-Weld System can be installed in conjunction with Micro-Lok *HP* fiber glass pipe insulation from Johns Manville or with other pipe insulations. In these installations, pre-cut fiber glass inserts for insulating the fittings are available as part of the Zeston 2000/300 PVC insulated fitting cover package.

Because the system is completely sealed, it is particularly well suited for food and beverage, pharmaceutical, and chemical processing applications. In addition, the Zeston PVC/Perma-Weld System can also be used to encapsulate existing pipe systems that have the potential of introducing contaminants into the environment. This application can be more cost effective than the alternatives which include removing or replacing the existing insulation.

Advantages

Simple, fast installation. The system is quickly installed over piping systems and equipment. An initial set should occur in approximately 10 minutes with complete adhesive curing in 8 to 10 hours.

Completely sealed system. The Zeston PVC/Perma-Weld System provides an inherent vapor retarder and an effective seal against fungus, mold, mildew, corrosion, and contaminants. In addition, the PVC material is non-toxic, odorless, and tasteless.

Attractive appearance. The completed system provides a neat, finished look that enhances the overall appearance of the installation.

Ease of cleaning. The positive seal between the Perma-Weld adhesive and the PVC members, along with the cleanability of the PVC material itself, results in a protective jacketing system that readily withstands repeated washdowns.

Total piping system capabilities. By offering the Zeston PVC/Perma-Weld System with Micro-Lok *HP* fiber glass pipe insulation, Johns Manville represents a single source of supply for a complete system—insulation and protective covering.

Applicable standards

Zeston 2000/300 PVC insulated fitting covers and jacketing meet the requirements of most federal, state, and local codes. The Zeston PVC/Perma-Weld System is accepted by the USDA for use in the food processing and beverage industries.

Zeston 2000 PVC

Insulated Fitting Covers

Application: 90° (1.6 rad.) Short & Long Radius Elbows, 45° (0.8 rad.) Elbows, Tees and Valves



90° (1.6 rad.) short radius and 45° (0.8 rad.) elbow covers

These covers are designed to accept short radius 90° (1.6 rad.) elbows, some long radius 90° (1.6 rad.) elbows and 45° (0.8 rad.) elbows.

Stocking problems are minimized by the wide range of universal sizes. Hi-Lo Temp fiber glass insulation inserts are included with sizes #2 through #19. However, these sizes may be ordered without inserts. Inserts must be ordered separately for sizes above #19.

Ordering information. When ordering 90° (1.6 rad.) short radius or 45° (0.8 rad.) elbow covers, designate the cover number selected followed by “-90” or “-45” as required. Check availability per Table A on page 14.

For example, to insulate a fitting on a 2 inch (51 mm) IPS pipe using 1 inch (25 mm) thick fiber glass pipe insulation, (see Sizing Table 2A), the necessary Zeston fitting cover should be ordered as follows:

for a 90° (1.6 rad.) elbow – #11-90
for a 45° (0.8 rad.) elbow – #11-45

Use Sizing Table 1 or 2A for 90° (1.6 rad.) short radius and 45° (0.8 rad.) elbow covers for iron pipe elbow fittings.

Use Sizing Table 1 or 2B for 90° (1.6 rad.) short radius and 45° (0.8 rad.) elbow covers for copper tubing elbow fittings.

90° (1.6 rad.) long radius elbow covers

Fitting covers for 90° (1.6 rad.) long radius elbows are available as listed in Sizing Table 3A and 3B. Several applications use standard short radius covers as noted in the table. When using Hi-Lo Temp insulation inserts on long radius elbows, it is essential that a few turns of fiber glass yarn be made around the inserts to prevent voids or hot spots. Hi-Lo Temp inserts are not included in sizes over 6" x 1½" (152 mm x 38 mm).

Use Sizing Table 1, 3A or 3B for long radius elbow covers for 90° (1.6 rad.) long radius elbow fittings.

Ordering information. When ordering long radius 90° (1.6 rad.) elbow covers, designate the cover size selected followed by LR90.



Tee and valve covers

Tee and valve fitting covers are sold with the Hi-Lo Temp fiber glass insulation inserts precut to shape. Valve covers are supplied on all orders. When tees are needed, simply cut the end off of the valve cover.

While the correct size may be selected from the Sizing Tables, the most accurate method is to measure the circumference of the pipe insulation, then compare the size with the Sizing Tables. Tee or valve insulation inserts require a few turns of fiber glass yarn to prevent voids or hot spots.

The tee and valve number is marked on one end of the cover. This marked end of the one-piece cover is slightly larger than the other end. When applied, it is lapped over the other end to give a tight joint.

Use Sizing Table 1, 2A or 2B.

Ordering information. When ordering tee and valve covers, designate the cover number selected followed by “-TV.” Check availability according to Table A.

Zeston 2000 PVC

Insulated Fitting Covers

Application: Screwed Fittings, 90° (1.6 rad.) Ells, 45° (0.8 rad.) Ells, Tees

Humped fitting covers*

PVC humped fitting covers are molded to provide a slight clamping action to make the application fast and easy over the Hi-Lo Temp insulation insert.

Humped PVC insulated fitting covers in 90° (1.6 rad.) and 45° (0.8 rad.) elbows and tees are designed to give proper insulation thickness and a neat finish over screwed fittings or socket weld connections.

In many cases, with standard covers, the adjacent pipe insulation thickness is insufficient to allow the screwed pipe fitting to be properly insulated causing hot and cold spots. Humped fitting covers solve this problem.

Use Sizing Table 1 or 2A.

Humped covers do not fit all screwed and socket weld elbows and tees. Check the dimensions of the fitting and the PVC cover. (Contact the Regional Sales Office nearest you for assistance.)

Ordering information. When ordering humped covers, designate the cover number selected, followed by the fitting type. Examples: H45, H90, HT, as applicable. Check availability according to Table A.



Zeston 2000 PVC

Insulated Fitting Covers

Application: Pipe Terminations, Pipe Size Transitions, P-Traps, Y-Branches



End caps†

These covers provide an easy method of capping off pipes neatly. Zeston 2000 PVC insulated end caps can be used on all insulated cold and hot water plumbing or chilled lines, wherever the pipe insulation terminates, to seal or conceal edges of the pipe insulation.

Use Sizing Table 1, 2A or 2B.

Ordering information. When ordering end cap covers, designate the cover number selected, followed by “- EC.” Check availability according to Table A.



Cone reducers†

Cone reducers are a simple means to accommodate changes of insulation sizes. Cone reducers are available in two sizes, #17-2 and #10-2. For example, #10-2 reducer will reduce sizes 10 or less down to size 2 or more by field cutting.



Standard P-Trap



1¼”-1½” (32 mm-38 mm)
Handicap Swivel P-Trap



Y-Branch

Standard P-Traps, Deep Seal P-Traps, Y-Branches†

These covers are designed specifically for soil pipe. These items are shipped with Hi-Lo Temp inserts.

Availability

Sizes	in.	mm	Standard P-Trap*	Deep Seal P-Trap**	Handicap Swivel	
					P-Trap	Y-Branch
1¼x1½x1		32x38x25	X	—	X	—
3x1		76x25	X	—	—	—
4x1		102x25	X	X	—	—
5x2		127x51	X	—	—	—
6x2		152x51	X	—	—	—
4x4x1		102x102x25	—	—	—	X
6x6x1		152x152x25	—	—	—	X

Former industry fitting name: *½ S-Trap **P-Trap

Zeston 2000 PVC

Insulated Fitting Covers

Application: Mechanical Line & Line Flange Couplings, Soil Pipe Hubs



Mechanical line coupling covers*

The rapid acceptance of groove type fittings in lieu of welding has posed a problem to the insulation contractor, causing insulation contract prices to increase. These covers are designed to reduce these costs.

Groove type fittings are usually insulated by multiple wrappings of insulation, finished off with molded or sculptured insulating cement and coated, lightweight muslin. This time-consuming, non-uniform and, at times, unsightly method of insulation can be eliminated with Zeston 2000 PVC mechanical line coupling fitting covers.

Use Sizing Table 1 or 2A.

Ordering information. When ordering mechanical line coupling covers, designate the cover number selected followed by “-MLC.” Check availability according to Table A.



Line flange coupling covers*

Zeston 2000 PVC insulated line flange covers provide efficient and removable insulation for line flanges and butterfly valves. Having been designed for extra heavy flanges, they have considerable versatility, fitting standard and extra heavy line flanges. Butterfly valves and worm gear butterfly valves can be easily insulated by minor field cutting of line flange covers.

Use Sizing Table 1 or 2A.

Ordering information. When ordering line flange coupling covers, designate the cover number selected followed by “-LFC.” Check availability according to Table A.



Soil pipe hub covers*

These covers are designed to allow up to 1” (25 mm) insulation thickness over hub area and are sold including Hi-Lo Temp insert.

Use Sizing Table 1 or 2A.

Ordering information. When ordering soil pipe hub covers, designate the cover number selected followed by “-SPH.” Check availability according to Table A.