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# VEP Insulated Pipe Supports

For more information about VEP Pipe Support products at ASC, call your local ASC Engineered Solutions sales representative, visit our website [asc-es.com](http://asc-es.com) or email [vepsales@asc-es.com](mailto:vepsales@asc-es.com)

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ASC Engineered Solutions continually delivers products offering excellent performance with a proven track record in design and supply chain management.

## Introduction

### Excellence By Design

ASC Engineered Solutions offers the engineering, mechanical, plumbing and insulation communities a series of insulated pipe supports designed to meet the broadest range of applications. Our VEP branded product line is extremely easy to specify and install and meets or exceeds all industry standards. In addition to offering excellent products, ASC is continually updating and improving our designs and product offerings. This is one of the reasons we have been a trusted industry leader and innovator for over three decades.

### Setting The Standard

All insulated pipe systems require protection at each point of support to maintain the integrity of the insulation system. Descriptions for this type of product vary widely throughout the industry. The most commonly referenced standards are those published by the Manufacturers Standardization Society of the Pipe, Valve and Fitting Industry (MSS)\*.

The MSS document SP-58, Paragraph 7.6 "Protection Saddles and Shields" provides the parameters for Type 40 thermal hanger shields. These standards generically call for 'high-density inserts.' Value Engineered Products has helped to better define 'high-density' in terms of compressive strength, and therefore, offer materials with documented compressive strengths up to 3000 PSI.

In addition to products that meet or exceed the minimum protection requirements, we've designed products that take into account practical matters that occur in the field, such as point loading, moisture resistance, unit weight and overall ease of installation.

VEP Pro-Shield and MaxSpan R.H. meet the design criteria of both the Manufacturers Standardization Society and the American Institute of Architects 'MasterSpec' provisions.

### Simplicity Of Design

Our insulated pipe supports are easy to specify, order and install. Each design works seamlessly together with the standard pipe hanger system to provide the level of protection needed. ASC offers a simple, one-piece hinged construction for high-density insulation for hot or cold pipe systems. Our products have a factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm) and galvanized steel shield in one, easy-to-install, pre-assembled unit that will always meet code specifications.

\*All MSS references and quotes in this catalogue are extracted from MSS SP-58 (2009) with permission of the publisher, The Manufacturers Standardization Society.



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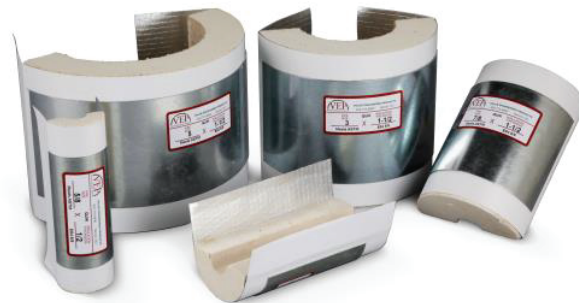
## Product Introduction

ASC Engineered Solutions manufactures a wide array of VEP branded insulated pipe supports to meet the needs of various piping systems and specifications. Units may be ordered to precisely fit copper tube, steel or cast at no additional cost. Custom sized units for ductile Iron and plastic pipes are available also. Standard units are available in 1/2" wall thickness through 6" pipe and 1" wall thickness through 24" pipe diameters. Ultra-high compressive strength structural inserts are standard on 10" pipe with 1" wall thickness and all units for 12" pipe size and larger. Pro-Shield and Quik-Shield units 20" pipe and larger will be entirely of this material.

All products feature a factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm) making the units appropriate for either high or low temperature applications. The jacketing and insulation extend beyond the steel shields to provide a positive, neat seal with the adjoining insulation jacket. Custom units can be manufactured to meet any engineering requirements.



MaxSpan RH



Quik-Shield



Chill-Shield



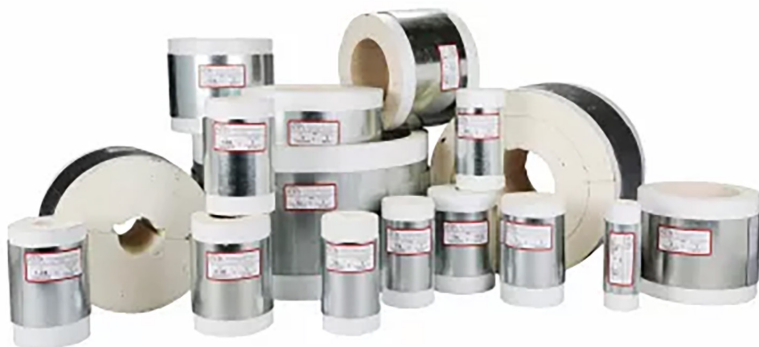
Pro-Shield



Seismic Shield™



## Pro-Shield Thermal Hanger Shield Fig. PRO-SHIELD



### Description

Pro-Shields are 360° thermal hanger shields designed to meet the broadest range of pipe support applications. They provide a continuous section of insulation with factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm) through a wide variety of pipe hangers for pipe systems operating between +20°F and +1200°F. The insulation and jacketing extend beyond the galvanized steel shield for a neatly sealed joint with the adjoining insulation. Pro-Shields are suitable for use in any type of clamp as well as in band-type hangers and on flat surfaces. To assure proper support in all situations, high density 450 PSI inserts are installed in units for 10" pipe with 1" insulation thickness and in all units for 12" pipe and larger. Pro-Shields meet the MSS standard for a Type 40 shield per MSS SP-58, Paragraph 7.63 – 7.66. Pro-Shields Meet ASTM E84 Standards Flame Spread-5-, smoke developed-5-. Rounded shield corners on all commercial size units.

### Dimensions

	½" to 5"	6" to 8"	10" to 12"	14" to 18"	20" to 24"	20" to 48" *
Insulation Length	6" 150 mm	9" 230 mm	9" 230 mm	12" 300 mm	9" 230 mm	9" 230 mm
Shield Length	4" 100 mm	6" 150 mm	6" 150 mm	10" 250 mm	6" 150 mm	6" 150 mm
Shield Gauge	22 ga. 0.9 mm	18 ga. 1.3 mm	18 ga. 1.3 mm	12 ga. 2.8 mm	18 ga. 1.3 mm	14 ga. 2.0 mm
Compressive Strength	100 PSI	100 PSI	Cal Sil 100 PSI Insert 450 PSI	Cal Sil 100 PSI Insert 450 PSI	360° Insert 450 PSI	360° Insert 450 PSI

\* 20"- 48" pipe may be fabricated in 60 degree segments.

### Specifications

#### Applications:

- For indoor use on clamping support systems, flat surfaces, clevis or other band-type hangers (see WeatherShield Upgrade submittal for outdoor use).
- Pipe sizes 16" and larger installed in clevis or two bolt hangers only.
- Suitable for chilled to steam piping and dual temperature lines.
- Hanger spans per MSS SP-58 Table A3.
- Available for pipe ¾" through 48", insulation thickness ¾" through 6". ¾" insulation only available through 6" pipe size.

#### Materials/Construction:

- Suitable for temperature range 20° F to 1200° F.
- 100 PSI Calcium silicate meeting ASTM C-533 Type 1, Pipe sizes ¾" to 18" 100 PSI, C-585, C-795, E-84, Thermal Conductivity, Also, 20" through 48" pipe 450 PSI Type II Grade 5 calcium silicate meeting ASTM 6-656, C-795 and E-84 ('k')=.40 @ 75° F.
- Adhesive complying with NFPA 90-A, ASTM E-84.
- G-90 Galvanized steel shield, small check per ASTM A-653 (replaces A-527). Rounded corners for safety.
- Factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm), ASTM D-774, D-828 and E-84.
- Structural insert (10" pipe with 1" insulation and 12" pipe and larger) minimum 450 PSI calcium silicate meeting ASTM C-656 Type II, and 12" to 18" pipe Grade 5, C-795 and E-84.
- 20" pipe and larger 360° 450 PSI Type 2 calcium silicate meeting ASTM C-656 Type II, Grade 5, C-795 and E-84.
- All units and components are asbestos free and 100% made and assembled in the U.S.A.



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## Pro-Shield Thermal Hanger Shield Fig. PRO-SHIELD

### Allowable Loads – Recommended Spans

	Clevis	Trapeze
½" Pipe	90 lbs. 7 ft. (2.13 m)	35 lbs. 7 ft. (2.13 m)
¾" Pipe	110 lbs. 7 ft. (2.13 m)	45 lbs. 7 ft. (2.13 m)
1" Pipe	140 lbs. 7 ft. (2.13 m)	57 lbs. 7 ft. (2.13 m)
1¼" Pipe	175 lbs. 7 ft. (2.13 m)	72 lbs. 7 ft. (2.13 m)
1½" Pipe	205 lbs. 9 ft. (2.74 m)	82 lbs. 9 ft. (2.74 m)
2" Pipe	255 lbs. 10 ft. (3.0 m)	105 lbs. 10 ft. (3.0 m)
2½" Pipe	275 lbs. 10 ft. (3.0 m)	145 lbs. 10 ft. (3.0 m)
3" Pipe	340 lbs. 10 ft. (3.0 m)	160 lbs. 10 ft. (3.0 m)
4" Pipe	380 lbs. 10 ft. (3.0 m)	170 lbs. 10 ft. (3.0 m)
6" Pipe	605 lbs. 10 ft. (5.2 m)	330 lbs. 10 ft. (3.0 m)
8" Pipe	800 lbs. 10 ft. (3.0 m)	510 lbs. 10 ft. (3.0 m)

	Clevis	Trapeze
10" Pipe	1,160 lbs. 10 ft. (6.7 m)	830 lbs. 10 ft. (3.0 m)
12" Pipe	1,400 lbs. 10 ft. (3.0 m)	1,175 lbs. 10 ft. (3.0 m)
14" Pipe	1,800 lbs. 10 ft. (3.0 m)	1,250 lbs. 10 ft. (3.0 m)
16" Pipe	2,600 lbs. 10 ft. (3.0 m)	See Max Span R.H.
18" Pipe	3,300 lbs. 10 ft. (3.0 m)	See Max Span R.H.
20" Pipe	8,000 lbs. 10 ft. (3.0 m)	See Max Span R.H.
24" Pipe	9,500 lbs. 10 ft. (3.0 m)	See Max Span R.H.
30" Pipe	14,540 lbs. 10 ft. (3.0 m)	See Max Span R.H.
36" Pipe	17,450 lbs. 10 ft. (3.0 m)	See Max Span R.H.
42" Pipe	20,350 lbs. 10 ft. (3.0 m)	See Max Span R.H.
48" Pipe	23,260 lbs. 10 ft. (3.0 m)	See Max Span R.H.

## WeatherShield Upgrade Protection System For Outdoor Applications

### Description / Features

WeatherShield modifications are appropriate for hostile environment or outdoor applications. For calcium silicate products we utilize Johns Manville T-1200 water resistant calcium silicate formulated specifically to shed water. The Standard WeatherShield is constructed with the Ventureclad Smooth aluminum jacketing material laminated between the steel protection shield and the insulation material. WeatherShield modifications may be specified on any 360° product from VEP. WeatherShields must be installed as 360° units to maintain their integrity and weather resistance.

### Construction / Installation Procedure

On large units, the bottom shield's weather barrier covers approximately 240° of the unit's circumference. The flaps overlap the top vapor barrier and are then attached with two strips of self-sealing tape, sealing it to the lower half of the unit. If a top metal shield is required, it can be slid into place completing the unit. Insulation and jacketing extend beyond the steel protection shield for a neat, weather-tight connection with the adjoining insulation.

**Standard weather barrier layer is smooth surface Ventureclad aluminum jacketing.**

### Pricing Policy

All WeatherShield upgrades will be quoted on a per job basis to a list of materials.





## Chill-Shield Thermal Hanger Shield Fig. CHILLSHIELD



### Description

Chill-Shields are 360° thermal hanger shields designed to meet a broad range of pipe support applications on low temperature lines. They provide a continuous section of insulation and factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm), and are designed for pipe systems operating between -250° F and 300° F. The insulation and jacketing extend beyond the galvanized steel shield for a neat, joint with the adjoining insulation. Chill-Shields are suitable for use in any type of clamp as well as in band-type hangers. Polyisocyanurate inserts and heavy gauge steel shields ensure proper pipe support. These cost-effective designs meet the requirements of either pipe or tube systems. Chill-Shields are an ASTM fire rated system meeting 25/50 Flame /Smoke rating when tested with fiberglass pipe insulation.

### Specifications

#### Applications:

- For indoor use on clamping support systems, clevis or other band-type hangers.
- Chilled piping to domestic hot water.
- Hanger spans per MSS SP-58 Table A3 (not suitable for extended hanger spans).
- Available for pipe ¾ inch through 24 inches.

#### Materials/Construction:

- 360° Polyisocyanurate 24 PSI material- Thermal Conductivity ('k') .19 @ 75° F for Tube sizes through 6" and pipe sizes ½" through 2¾", 40 PSI material- Thermal Conductivity ('k') .20 @ 75° F for pipe sizes 3" to 5" and tube sizes larger than 6". 80 PSI material for 6" & 8" pipe ('k') .2.
- Meeting ASTM D-1621, D-1622, D-1623, C-203, C-518.
- 360° Non-reactive factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm), ASTM D-774, D-828.
- Adhesive complying with NFPA 90-A.
- G-90 Galvanized steel shield, small check per ASTM A-653 (replaces A-527). Rounded corners for safety.
- All units are asbestos free and 100% made and assembled in the U.S.A.



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## Chill-Shield Thermal Hanger Shield Fig. CHILLSHIELD

### Dimensions

	5/8" Tube to 1 1/2" Pipe	2 1/8" Tube to 3 1/8" Tube	3" Pipe	4 1/8" Tube	4" Pipe	5 1/8" Tube	5" Pipe	6 1/8" Tube & 8 1/8" Tube	6" & 8" Pipe	10" Pipe to 24" Pipe
Insulation Length	6"	6"	6"	6"	6"	6"	6"	9"	9"	
Shield Length	4"	4"	4"	4"	4"	4"	4"	6"	6"	Call Sales
Shield Gauge	22 ga.	22 ga.	22 ga.	22 ga.	22 ga.	22 ga.	22 ga.	18 ga.	18 ga.	
Compression Strength	24 PSI	24 PSI	40 PSI	24 PSI	40 PSI	24 PSI	40 PSI	40 PSI	80 PSI	

### Allowable Loads – MSS Recommended Spans\* – Tube

	Load / Span	Water Svc.		Load / Span	Water Svc.		Load / Span	Water Svc.
5/8" Tube	16.4 # / 5 ft.*	#/ft. – .51	1 1/8" Tube	42.5 # / 7 ft.*	#/ft. – 1.91	4 1/8" Tube	108.0 # / 10 ft.	#/ft. – 10.1
7/8" Tube	22.9 # / 5 ft.*	#/ft. – .66	2 1/8" Tube	55.6 # / 8 ft.*	#/ft. – 3.1	5 1/8" Tube	134.2 # / 10 ft.	#/ft. – 15.7
1 1/8" Tube	29.5 # / 6 ft.*	#/ft. – 1.01	2 3/8" Tube	68.7 # / 8 ft.*	#/ft. – 4.6	6 1/8" Tube	240.5 # / 10 ft.	#/ft. – 21.8
1 3/8" Tube	36.0 # / 7 ft.*	#/ft. – 1.43	3 1/8" Tube	81.8 # / 9 ft.*	#/ft. – 6.3	8 1/8" Tube	510.5 # / 10 ft.	#/ft. – 39.5

### Allowable Loads – MSS Recommended Spans\* – Pipe

	Load / Span	Water Svc.		Load / Span	Water Svc.		Load / Span	Water Svc.	10" to 24"
1/2" Pipe	22.0 # / 7 ft.*	#/ft. – .98	1 1/2" Pipe	49.7 # / 9 ft.*	#/ft. – 3.6	4" Pipe	188.5 # / 10 ft.	#/ft. – 16.3	Call Sales
3/4" Pipe	27.5 # / 7 ft.*	#/ft. – 1.36	2" Pipe	62.2 # / 10 ft.	#/ft. – 5.1	5" Pipe	233.0 # / 10 ft.	#/ft. – 23.3	
1" Pipe	34.4 # / 7 ft.*	#/ft. – 2.1	2 1/2" Pipe	120.4 # / 10 ft.	#/ft. – 7.9	6" Pipe	550.0 # / 10 ft.	#/ft. – 31.5	
1 1/4" Pipe	43.5 # / 7 ft.*	#/ft. – 2.9	3" Pipe	146.6 # / 10 ft.	#/ft. – 10.8	8" Pipe	720.0 # / 10 ft.	#/ft. – 50.3	

\* Designates MSS Maximum Span

### Material Specifications

- Polyisocyanurate, 24 to 80 PSI Meeting ASTM C-203, C-518, C-585, C-795, D-1621, D-1622, D-1623, and E-84. Flame Spread/Smoke Developed – 25/450.
- Insert material on 10" pipe and larger will have compressive strength to match design requirements.
- Polypropylene Vapor Barrier Jacket Meeting ASTM D-744, C-1136, and E-84, Flame Spread – 0-, Smoke Developed – 40-.
- Non-Flammable, Water Based Adhesive Complying to NFPA 90-A.
- Galvanized Steel Shields, G-90 Small Check per ASTM A-653 (replaces A-527).
- 100% American-Made Components and Construction.
- Asbestos-Free Materials.





## Industrial Chill-Shield Thermal Hanger Shield Fig. IndChillShield



### Material Specifications

- Polyisocyanurate, 140 PSI (Trymer 6000) Meeting ASTM C-591 (Grade 2, Type VI) C-203, C-518, C-585, C-795, D-1621, D-1622, D-1623, and E-84, Flame Spread / Smoke Developed 25/450.
- High Compressive Strength Inserts, 10 PCF minimum (Corafoam U100), Standard For Pipe 10" and Larger, Meeting ASTM C-585, and C-795.
- Polypropylene Vapor Barrier Jacket Meeting ASTM D-744, C-1136, and E-84, Flame Spread -0-, Smoke Developed -40-.
- Adhesive Complying to NFPA 90-A and ASTM E-84, Flame Spread -10-, Smoke Developed -0-.
- Galvanized Steel Shields, G-90 Small Check per ASTM A-653 (replaces A-527).
- 100% American-Made Components and Construction.
- Asbestos-Free Materials.
- Applicable for temperature range from -250° to 300° F.

### Description

Industrial Chill-Shields are 360° thermal hanger shields designed to meet a broad range of pipe support applications on low temperature lines. They provide a continuous section of high compressive strength insulation and factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm), and are designed for pipe systems operating between -250°F and 300°F. The insulation and jacketing extend beyond the galvanized steel shield for a neat, joint with the adjoining insulation. Industrial Chill-Shields are suitable for use in any type of clamp as well as in band-type hangers. 140 PSI polyisocyanurate inserts and heavy gauge steel shields ensure proper pipe support.



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## Industrial Chill–Shield Thermal Hanger Shield Fig. IndChillShield

### Dimensions

	½" to 1-½"	2" to 4"	5" to 6"	8"	10" to 24"
Insulation Length	6" 150 mm	6" 150 mm	9" 230 mm	9" 230 mm	12" 300 mm
Insulation Length	4" 100 mm	4" 100 mm	6" 150 mm	6" 150 mm	10" 250 mm
Shield Gauge	22 ga. 1.0 mm	18 ga. 1.3 mm	16 ga. 1.6 mm	16 ga. 1.6 mm	14 ga. 2.0 mm
Compressive Strength	140 PSI	140 PSI	140 PSI	140 PSI	PIF: PSI 140 PUF: Min 280 PSI

### Allowable Loads – Recommended Spans

Pipe Size	Clevis	Trapeze	Pipe Size	Clevis	Trapeze	Pipe Size	Clevis	Trapeze
3" Pipe	300 lbs.	165 lbs.	10" Pipe	1160 lbs.	830 lbs.	18" Pipe	3300 lbs.	Call Factory
	10 ft. (3 m)	10 ft. (3 m)		10 ft. (3 m)	10 ft. (3 m)		10 ft. (3 m)	
4" Pipe	380 lbs.	170 lbs.	12" Pipe	1400 lbs.	1174 lbs.	20" Pipe	4000 lbs.	Call Factory
	10 ft. (3 m)	10 ft. (3 m)		10 ft. (3 m)	10 ft. (3 m)		10 ft. (3 m)	
6" Pipe	605 lbs.	330 lbs.	14" Pipe	1800 lbs.	Call Factory	22" Pipe	4750 lbs.	Call Factory
	10 ft. (3 m)	10 ft. (3 m)		10 ft. (3 m)	Call Factory		10 ft. (3 m)	
8" Pipe	800 lbs.	510 lbs.	16" Pipe	2600 lbs.	Call Factory	24" Pipe	6175 lbs.	Call Factory
	10 ft. (3 m)	10 ft. (3 m)		10 ft. (3 m)	Call Factory		10 ft. (3 m)	





## Quik-Shield Thermal Hanger Shield Fig. QUIKSHIELD



### Description

Quik-Shields are economically priced 180° thermal hanger shields providing a continuous section of insulation and factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm) through a variety of pipe hangers. The jacket extends beyond the galvanized steel shield and beyond the insulation insert for a neat, joint with both the adjoining and the field-applied top insulation. To assure proper support in all situations, high density 450 PSI structural inserts are installed on units for 10" pipe with 1" wall thickness and on all units for 12" pipe and larger. Quik-Shields meet the ASTM E84 Standard Flame Spread -5-, Smoke Developed -5-. Rounded shield corners on all commercial size units.

### Dimensions

	1/2" to 1 1/2"	2" to 5"	6" to 8"	10" to 12"	14" to 18"	24" to 48"
Insulation Length	6" 150 mm	6" 150 mm	9" 230 mm	9" 230 mm	12" 300 mm	9" 230 mm
Shield Length	4" 100 mm	4" 100 mm	6" 150 mm	6" 150 mm	10" 250 mm	6" 150 mm
Shield Gauge	22 ga. 0.9 mm	22 ga. 0.9 mm	18 ga. 1.3 mm	18 ga. 1.3 mm	12 ga. 2.8 mm	18 ga. 1.3 mm
Compressive Strength	100 PSI	100 PSI	100 PSI	Cal Sil 100 PSI Insert 450 PSI	Cal Sil 100 PSI Insert 450 PSI	180° Insert 450 PSI

### Specifications

#### Applications:

- For indoor use on flat surfaces, clevis or other band-type hangers.
- Pipe sizes 16" and larger in clevis hangers only.
- Chilled to steam piping and dual temperature lines.
- Hanger spans per MSS SP-58 Table A3.
- Available for pipe 3/4" inch through 24". 3/4" inch through 48".
- Insulation thickness Pipe 3/4" to 6" pipe, 18" 100 PSI through 4". Pipe 20-48" 450 PSI Type ii, Grade 5 Calcium Silicat ASTH C-656, D-828 and E-84.

#### Materials / Construction:

- 100 PSI Calcium silicate meeting ASTM C-533 Type 1, C-585, C-795, E-84, Thermal Conductivity ('k') .40 @ 75° mean.
- Adhesive complying with NFPA 90-A, ASTM E-84.
- G-90 Galvanized steel shield, small check per ASTM A-653 (replaces A-527). Rounded corners for safety.
- Factory applied jacketing meeting (10" pipe with 1" wall and 12" through 18" pipe ASTM E 96A (maximum 0.02 perm), ASTM D-774, D-828 and E-84.
- Structural insert (12" pipe and larger) 450 PSI calcium silicate meeting ASTM C-656 Type II, Grade 5, C-795 and E-84.
- All units and components are asbestos free and 100% made and assembled in the U.S.A.



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## Quik-Shield Thermal Hanger Shield Fig. QUIKSHIELD

### Allowal Loads – Recommended Spans

	Clevis	Trapeze
2 1/2" Pipe	275 lbs. 10 ft. (3.0 m)	145 lbs. 10 ft. (3.0 m)
3" Pipe	340 lbs. 10 ft. (3.0 m)	160 lbs. 10 ft. (3.0 m)
4" Pipe	380 lbs. 10 ft. (3.0 m)	170 lbs. 10 ft. (3.0 m)
6" Pipe	605 lbs. 10 ft. (3.0 m)	330 lbs. 10 ft. (3.0 m)
8" Pipe	800 lbs. 10 ft. (3.0 m)	510 lbs. 10 ft. (3.0 m)
10" Pipe	1,160 lbs. 10 ft. (3.0 m)	830 lbs. 10 ft. (3.0 m)
12" Pipe	1,400 lbs. 10 ft. (3.0 m)	1,175 lbs. 10 ft. (3.0 m)
14" Pipe	1,800 lbs. 10 ft. (3.0 m)	1,250 lbs. 10 ft. (3.0 m)
16" Pipe	2,600 lbs. 10 ft. (3.0 m)	See MaxSpan R.H.
18" Pipe	3,300 lbs. 10 ft. (3.0 m)	See MaxSpan R.H.
20" Pipe	8,000 lbs. 10 ft. (3.0 m)	See MaxSpan R.H.
20" Pipe	8,000 lbs. 10 ft. (3.0 m)	See MaxSpan R.H.
24" Pipe	8,000 lbs. 10 ft. (3.0 m)	See MaxSpan R.H.
30" Pipe	14,540 lbs. 369.32 ft. (112.56 m)	14,540 lbs. 369.32 ft. (112.56 m)
36" Pipe	17,450 lbs. 443.23 ft. (135.0 m)	17,450 lbs. 443.23 ft. (135.0 m)
42" Pipe	20,350 lbs. 516.89 ft. (157.5 m)	20,350 lbs. 516.89 ft. (157.5 m)
48" Pipe	23,260 lbs. 590.8 ft. (7089.6 m)	23,260 lbs. 590.8 ft. (7089.6 m)

### Material Specifications

- Calcium Silicate, 100 PSI Meeting ASTM C-533 Type 1, C-585, C-795 and E-84, Flame Spread -0-, Smoke Developed -0-.
- High Compressive Strength Inserts, 450 PSI, Standard For Pipe 12" and Larger, Standard for 10" pipe with 1" wall and 12" to 18" pipe Meeting ASTM C-656 Type II Grade 5, C-585, C-795, E-72, and E-84, Flame Spread -0-, Standard for 10" pipe with 1" wall and 12" to 18" pipe Smoke Developed -0-. 20" Pipe and larger are 180° of this material.
- Vapor Barrier Jacket of Non-Reactive Polyester Meeting ASTM D-744, D-828, C 1136, E 96 and e 84 Flame Spread -5-, Smoke Developed -5-.
- Adhesive Complying to NFPA 90-A and ASTM E-84, Flame Spread -10-, Smoke Developed -0-.
- Galvanized Steel Shields, G-90 Small Check per ASTM A-653 (Replaces A-527).
- 100% American-Made Components and Construction.
- Asbestos-Free Materials.
- Unit Tested to ASTM E-84. Rated Flame Spread -5-, Smoke Developed -5-.





## Max-Span R.H. Thermal Hanger Shield Fig. MAXSPAN R.H.



### Description

The MaxSpan R.H. thermal hanger shield is specifically designed to provide a superior safety margin for pipe mounted on pipe rollers, flat surfaces or with supports where point loading may be a concern. These rugged units allow hanger spans up to the maximum allowed in Table 4 of the MSS SP-58. They are appropriate for either hot or cold pipe systems. The insulation and factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm) extend beyond the galvanized steel shield for a neatly sealed joint with the adjoining insulation. Units for pipe 4" and larger include a wear/weight distribution plate of carbon steel (primer painted). Additionally, a segment of ultra-high density, 900 PSI calcium silicate is fabricated into units for 10" pipe size and larger. The MaxSpan R.H. meets or exceeds the MSS standard for Type 40 Shields per MSS SP-58, Paragraph 7.63 – 7.66. MaxSpan R.H. meets the ASTM E84 Standard Flame Spread -5-, Smoke Developed -5-. Rounded shield corners on all commercial size units.

### Dimensions

	1" to 1½"	2" to 3"	4" to 8"	10" to 12"	14" to 48"
Insulation Length	9" 230 mm	9" 230 mm	9" 230 mm	12" 300 mm	12" 300 mm
Shield Length	6" 150 mm	6" 150 mm	6" 150 mm	8" 200 mm	10" 250 mm
Shield Gauge	18 ga. 1.3 mm	16 ga. 1.6 mm	18 ga. 1.3 mm	18 ga. 1.3 mm	18 ga. 1.3 mm
Plate Thickness / Length	N/A	N/A	1/8" X 6" 3.2 mm X 150 mm	1/4" X 8" 6.35 mm X 200 mm	1/4" X 10" 6.35 mm X 250 mm

### Specifications

#### Applications:

- For indoor use on all roller hanger systems and flat surfaces (see Weather Shield Upgrade data page for outdoor applications)
- Chilled to steam piping and dual temperature lines.
- Hanger spans per MSS SP-58 Table 4.
- Available for pipes 1" to 48".
- Insulation thickness ½" through 4" to 6".

#### Materials/Construction:

- 1" through 8" Pipe - 360° 100 PSI Calcium Silicate meeting ASTM C-533 Type 1, C-585, C-795, E-84, Thermal Conductivity ('k') .40 @ 75° F mean.
- 10" through 18" Pipe - 360° 100 PSI Calcium Silicate meeting ASTM C-533 Type 1, C-585, C-795, E-84, Thermal Conductivity ('k') .40 @ 75° F mean with 900 PSI Type 2 grade 6 Calcium Silicate insert at bottom dead center.
- 20" through 48" Pipe - 360° Type 2 grade 5 Calcium Silicate 450 PSI
- Adhesive complying with NFPA 90-A and ASTM E-84.
- G-90 Galvanized steel shield, small check per ASTM A-653 (replaces A-527).
- Rounded corners for safety.
- Wear/Weight Distribution Plate - carbon steel meeting ASTM A-36.
- Factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm), ASTM D-774, D-828 and E-84.



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## Max-Span R.H. Thermal Hanger Shield Fig. MAXSPAN R.H.

### Allowable loads (Minimum 3.5 to 1 safety margin applied) – Recommended Spans

	Roller	Flat Surface		Roller	Flat Surface
1" Pipe	140 lbs. 7 ft. (2.2 m)	140 lbs. 7 ft. (2.2 m)	10" Pipe	2,450 lbs. 22 ft. (6.7 m)	2,575 lbs. 22 ft. (6.7 m)
1¼" Pipe	175 lbs. 7 ft. (2.2 m)	175 lbs. 7 ft. (2.2 m)	12" Pipe	3,480 lbs. 23 ft. (7.0 m)	3,550 lbs. 23 ft. (7.0 m)
1½" Pipe	205 lbs. 9 ft. (2.7 m)	205 lbs. 9 ft. (2.7 m)	14" Pipe	4,770 lbs. 25 ft. (7.6 m)	4,820 lbs. 25 ft. (7.6 m)
2" Pipe	255 lbs. 10 ft. (3.0m)	255 lbs. 10 ft. (3.0m)	16" Pipe	8,050 lbs. 27 ft. (8.2 m)	8,250 lbs. 27 ft. (8.2 m)
2½" Pipe	325 lbs. 11 ft. (3.4 m)	350 lbs. 11 ft. (3.4 m)	18" Pipe	9,025 lbs. 28 ft. (8.5 m)	9,505 lbs. 28 ft. (8.5 m)
3" Pipe	360 lbs. 12 ft. (3.6 m)	375 lbs. 12 ft. (3.6 m)	20" Pipe	9,550 lbs. 30 ft. (9.1 m)	10,550 lbs. 30 ft. (9.1 m)
4" Pipe	405 lbs. 14 ft. (4.3 m)	405 lbs. 14 ft. (4.3 m)	24" Pipe	15,500 lbs. 32 ft. (9.8 m)	17,350 lbs. 32 ft. (9.8 m)
6" Pipe	1,015 lbs. 17 ft. (5.2 m)	1,070 lbs. 17 ft. (5.2 m)	30" Pipe	22,000 lbs.	24,200 lbs.
8" Pipe	1,555 lbs. 19 ft. (5.8 m)	1,625 lbs. 19 ft. (5.8 m)	36" Pipe	27,500 lbs.	29,080 lbs.
			42" Pipe	31,200 lbs.	33,900 lbs.
			48" Pipe	37,300 lbs.	38,750 lbs.

## WeatherShield Upgrade Protection System For Outdoor Applications

### Description / Features

WeatherShield modifications are appropriate for hostile environment or outdoor applications. For calcium silicate products we utilize Johns Manville T-1200 water resistant calcium silicate formulated specifically to shed water. The Standard WeatherShield is constructed with the Ventureclad Smooth aluminum jacketing material laminated between the steel protection shield and the insulation material. WeatherShield modifications may be specified on any 360° product from VEP. WeatherShields must be installed as 360° units to maintain their integrity and weather resistance.

### Construction / Installation Procedure

On large units, the bottom shield's weather barrier covers approximately 240° of the unit's circumference. The flaps overlap the top vapor barrier and are then attached with two strips of self-sealing tape,

sealing it to the lower half of the unit. If a top metal shield is required, it can be slid into place completing the unit. Insulation and jacketing extend beyond the steel protection shield for a neat, weather-tight connection with the adjoining insulation.

**Standard weather barrier layer is smooth surface Ventureclad aluminum jacketing.**

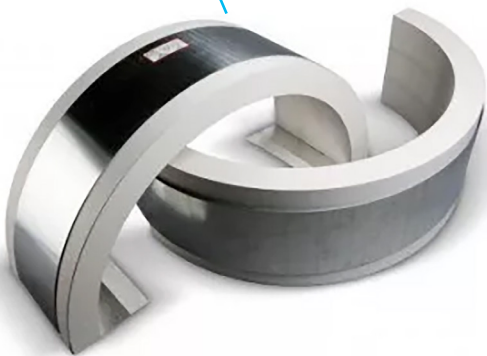
### Pricing Policy

All WeatherShield upgrades will be quoted on a per job basis to a list of materials.





## Ultimate-Span Thermal Hanger Shield Fig. Ultimate-Span



### Description

Ultimate-Span thermal hanger shields are designed to provide a superior safety margin when supporting pipe with hanger spans up to the maximum allowed in Table 4 of the MSS SP-58 in clevis or clamp hangers. These 360° thermal hanger shields provide a continuous section of insulation and factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm) through the hanger and can be used on piping systems operating between +20° F. and +1800° F. The insulation and jacketing extend beyond the galvanized steel shield for a neatly sealed joint with the adjoining insulation. To achieve the protection required by long hanger spans, Ultimate-Span thermal hanger shields utilize heavier gauge shields, and utilize Type 2 calcium silicate (Grade 5, 450 PSI for 10" through 18" and Grade 6, 900 PSI for 20" pipe and larger). The Ultimate-Span meets or exceeds the MSS standard for Type 40 Shields per MSS SP-58, Paragraph 7.63 – 7.66. Ultimate-Span meets the ASTM E84 Standard Flame Spread –5–, Smoke Developed –5–. Rounded shield corners on all commercial size units.

### Dimensions

	1/2" to 2"	2 1/2" to 3"	4" to 8"	10" to 18"	20" to 24"	30" to 48"
Insulation Length	6" 150 mm	9" 230 mm	9" 230 mm	9" 230 mm	9" 230 mm	9" 230 mm
Shield Length	4" 100 mm	6" 150 mm	6" 150 mm	6" 150 mm	6" 150 mm	6" 150 mm
Shield Gauge	22 ga. 1.3 mm	18 ga. 1.6 mm	14 ga. 2.0 mm	14 ga. 2.0 mm	14 ga. 2.75 mm	12 ga. 2.65 mm
Compressive Thickness	100 PSI	100 PSI	100 PSI	Top 100 PSI Bottom 450 PSI	360° 900 PSI	360° 900 PSI

### Specifications

#### Applications:

- For indoor use on all band and clamping hanger systems (see WeatherShield Upgrade data sheet for outdoor applications).
- Chilled to steam piping and dual temperature lines.
- Hanger spans per MSS SP-58 Table 4 in clevis or two-bolt clamp hangers.
- Available for pipe through 24 inches. Pipe larger than 24" will be custom quoted.
- Insulation thickness 1/2 inch through 4 inches. 1/2" insulation available only through 6" pipe size

#### Materials/Construction:

- 1/2" through 8" pipe – 360° 100 PSI Calcium silicate meeting ASTM C-533 Type 1, C-585, C-795, E-84, Thermal Conductivity ('k') .40 @ 75° F mean.
- 10" through 18" pipe 100 PSI Calcium Silicate top, 450 PSI Type 2 Grade 5 Calcium Silicate bottom.
- 20" through 48" pipe 900 PSI Type 2 Grade 6 Calcium Silicate.
- Adhesive complying to NFPA 90-A and ASTM E-84.
- G-90 Galvanized steel shield, small check per ASTM A-653 (replaces A-527). Rounded corners for safety.
- Factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm), ASTM D-774, D-828 and E-84.
- All units and components are asbestos free and 100% made and assembled in the U.S.A.



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## Ultimate-Span Thermal Hanger Shield

### Fig. Ultimate-Span

#### Allowable Loads – Recommended Spans

	Clevis Hanger	Two-Bolt Clamp
2½" Pipe	325 lbs. 11 ft. (3.4 m)	350 lbs. 11 ft. (3.4 m)
4" Pipe	405 lbs. 14 ft. (4.3 m)	405 lbs. 14 ft. (4.3 m)
6" Pipe	1,015 lbs. 17 ft. (5.2 m)	1,070 lbs. 17 ft. (5.2 m)
8" Pipe	1,555 lbs. 19 ft. (5.8 m)	1,625 lbs. 19 ft. (5.8 m)
10" Pipe	2,450 lbs. 22 ft. (6.7 m)	2,575 lbs. 22 ft. (6.7 m)
12" Pipe	3,480 lbs. 23 ft. (7.0 m)	3,550 lbs. 23 ft. (7.0 m)
14" Pipe	4,770 lbs. 25 ft. (7.6 m)	4,820 lbs. 25 ft. (7.6 m)
16" Pipe	8,050 lbs. 27 ft. (8.2 m)	8,250 lbs. 27 ft. (8.2 m)
18" Pipe	9,025 lbs. 28 ft. (8.5 m)	9,505 lbs. 28 ft. (8.5 m)
20" Pipe	9,550 lbs. 30 ft. (9.1 m)	10,550 lbs. 30 ft. (9.1 m)
22" Pipe	10,500 lbs. 30 ft. (9.1 m)	11,850 lbs. 30 ft. (9.1 m)
24" Pipe	15,500 lbs. 32 ft. (9.8 m)	17,350 lbs. 32 ft. (9.8 m)
30" Pipe	20,300	24,400
36" Pipe	24,400	30,500
42" Pipe	28,500	35,500
48" Pipe	32,000	40,000

## WeatherShield Upgrade Protection System For Outdoor Applications

### Description / Features

WeatherShield modifications are appropriate for hostile environment or outdoor applications. For calcium silicate products we utilize Johns Manville T-1200 water resistant calcium silicate formulated specifically to shed water. The Standard WeatherShield is constructed with the Ventureclad Smooth aluminum jacketing material laminated between the steel protection shield and the insulation material. WeatherShield modifications may be specified on any 360° product from VEP. WeatherShields must be installed as 360° units to maintain their integrity and weather resistance.

### Construction / Installation Procedure

On large units, the bottom shield's weather barrier covers approximately 240° of the unit's circumference. The flaps overlap

the top vapor barrier and are then attached with two strips of self-sealing tape, sealing it to the lower half of the unit. If a top metal shield is required, it can be slid into place completing the unit. Insulation and jacketing extend beyond the steel protection shield for a neat, weather-tight connection with the adjoining insulation.

**Standard weather barrier layer is smooth surface Ventureclad aluminum jacketing.**

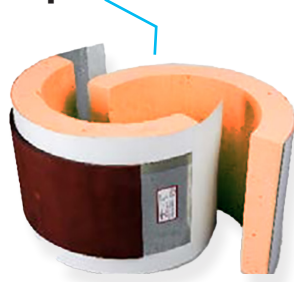
### Pricing Policy

All WeatherShield upgrades will be quoted on a per job basis to a list of materials.





## Urethane Max-Span R.H. Thermal Hanger Shield Fig. Urethane Max-Span R.H.



### Description

The Urethane MaxSpan R.H. thermal hanger shield is specifically designed to provide a superior safety margin for pipe mounted on pipe rollers, flat surfaces or with supports where point loading may be a concern. The Urethane MaxSpan R.H. thermal hanger shield is specifically designed for a superior safety margin for pipe mounted on pipe rollers, flat surfaces or with supports where point loading may be a concern. These rugged units allow hanger spans up to the maximum allowed in Table 4 of the MSS SP-58. They are appropriate for cold pipe systems, with an operating temperature range from -297°F to +300°F. The insulation and vapor barrier extend beyond the galvanized steel shield for a neat, vapor-tight joint with the adjoining insulation. Units for pipe 4" and larger include a wear / weight distribution plate of carbon steel (primer painted). The insulation and vapor barrier extend beyond the galvanized steel shield for a neat, vapor-tight joint with the adjoining insulation. Units for pipe 4" and larger include a wear/weight distribution plate of carbon steel (primer painted).

The Urethane MaxSpan R.H. units for 10" through 24" pipe incorporate a 10 PCF (280PSI) polyurethane insert at bottom dead center. Units for 30" through 48" will have a bottom 180° segment of 10 pcf (280 PSI) polyurethane and a top 180° segment of 6 pcf (140 PSI) polyisocyanurate meets or exceeds the MSS standard for Type 40 Shields per MSS SP-58, Paragraph 7.63 – 7.66.

### Dimensions

	½" to 1½"	2" to 3"	4" to 8"	10" to 12"	14" to 20"	24" to 48"
Insulation Length	9" 230 mm	9" 230 mm	9" 230 mm	12" 300 mm	12" 300 mm	12" 300 mm
Shield Length	6" 150 mm	6" 150 mm	6" 150 mm	8" 200 mm	10" 250 mm	10" 250 mm
Shield Gauge	18 ga. 1.3 mm	16 ga. 1.6 mm	18 ga. 1.3 mm	18 ga. 1.3 mm	18 ga. 1.3 mm	18 ga. 1.3 mm
Plate Thickness / Length	N/A	N/A	½" X 6" 3.2 mm X 150 mm	¼" X 8" 6.35 mm X 200 mm	¼" X 10" 6.35 mm X 250 mm	¼" X 10" 6.35 mm X 250 mm
Compressive Strength	140 PSI	140 PSI	140 PSI	140 PSI W/ 280 PSI Insert	140 PSI W/ 280 PSI Insert	140 PSI W/ 280 PSI Bottom

### Specifications

#### Applications:

- For indoor use on all roller hanger systems and flat surfaces (see WeatherShield Upgrade data page for outdoor applications).
- Chilled and dual temperature lines systems operating between -297°F and 300°F.
- Hanger Spans per MSS SP-58 Table 4.
- Available for pipes ¾" through 48".
- Insulation thickness available for pipes ¾" through 48" through 6".
- Structural insert (10" pipe and larger) of minimum 10 PCF Urethane Meeting ASTM D1621, C203 and C518.

#### Materials/Construction:

- 140 PSI Polyisocyanurate meeting ASTM D1621, D1622, C203 and C518. For pipes larger than 24", bottom 180° will be minimum 280 PSI polyurethane with 140 PSI top.
- Adhesive complying with NFPA 90-A and ASTM E-84, Flame Spread - 10-, Smoke Developed - 0-.
- G-90 Galvanized steel shield, small check per ASTM A-653 (replaces A-527).
- Wear/Weight Distribution Plate - carbon steel meeting ASTM A-36.
- Vapor Barrier of all service jacket meeting ASTM D-774, D-828 and E-84.



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## Urethane Max-Span R.H. Thermal Hanger Shield Fig. Urethane Max-Span R.H.

### Allowable Loads – Recommended Spans

	Roller	Flat Surface		Roller	Flat Surface
1" Pipe	140 lbs. 7 ft. (2.2 m)	140 lbs. 7 ft. (2.2 m)	12" Pipe	2,480 lbs. 23 ft. (7 m)	3,550 lbs. 23 ft. (7 m)
1¼" Pipe	175 lbs. 7 ft. (2.2 m)	175 lbs. 7 ft. (2.2 m)	14" Pipe	4,770 lbs. 25 ft. (7.6 m)	4,820 lbs. 25 ft. (7.6 m)
1½" Pipe	205 lbs. 9 ft. (2.7 m)	205 lbs. 9 ft. (2.7 m)	16" Pipe	5,250 lbs. 27 ft. (8.2 m)	6,000 lbs. 27 ft. (8.2 m)
2" Pipe	255 lbs. 10 ft. (3 m)	255 lbs. 10 ft. (3 m)	18" Pipe	5,725 lbs. 477.1 ft. (53.9m)	6,100 lbs. 2260.5 ft. (689 m)
2½" Pipe	325 lbs. 11 ft. (3.4 m)	350 lbs. 11 ft. (3.4 m)	20" Pipe	6,250 lbs. 6250 ft. (1905 m)	6,250 lbs. 6250 ft. (1905 m)
3" Pipe	390 lbs. 12 ft. (3.7 m)	390 lbs. 12 ft. (3.7 m)	24" Pipe	7,250 lbs. 604 ft. (184 m)	7,850 lbs. 654 ft. (199 m)
4" Pipe	405 lbs. 14 ft. (4.3 m)	405 lbs. 14 ft. (4.3 m)	30" Pipe	15,080 lbs. 1256 ft. (382.8 m)	15,080 lbs. 1256 ft. (382.8 m)
6" Pipe	1,015 lbs. 17 ft. (5.2 m)	1,070 lbs. 17 ft. (5.2 m)	36" Pipe	18,090 lbs. 1507 ft. (459.3 m)	18,090 lbs. 1758 ft. (535 m)
8" Pipe	1,300 lbs. 19 ft. (5.8 m)	1,400 lbs. 19 ft. (5.8 m)	42" Pipe	21,100 lbs. 1758 ft. (535 m)	21,100 lbs. 1758 ft. (535 m)
10" Pipe	2,150 lbs. 22 ft. (6.7 m)	2,375 lbs. 22 ft. (6.7 m)	48" Pipe	24,120 lbs. 2009 ft. (612 m)	24,120 lbs. 2009 ft. (612 m)

## WeatherShield Upgrade Protection System For Outdoor Applications

### Description / Features

WeatherShield modifications are appropriate for hostile environments or outdoor applications. For calcium silicate products, we utilize Johns Manville T-1200 water resistant calcium silicate formulated specifically to shed water. The Standard WeatherShield is constructed with the Ventureclad Smooth aluminum jacketing material laminated between the steel protection shield and the insulation material. WeatherShield modifications may be specified on any 360° product from VEP. WeatherShields must be installed as 360° units to maintain their integrity and weather resistance.

### Construction / Installation Procedure

On large units, the bottom shield's weather barrier covers approximately 240° of the unit's circumference. The flaps overlap the top vapor barrier and are then attached with two strips of self-sealing tape, sealing it to the lower half of the unit. If a top metal shield is required, it can be slid into place completing the unit. Insulation and jacketing extend beyond the steel protection shield for a neat, weather-tight connection with the adjoining insulation.

**Standard weather barrier layer is smooth surface Ventureclad aluminum jacketing.**

### Pricing Policy

All WeatherShield upgrades will be quoted on a per job basis to a list of materials.





## Pro-Shield for Aquatherm Pipe Fig. Aquatherm



### Description

PP-R Pro-Shields are 360° thermal hanger shields custom cut for Perfect ID match to metric PP-R OD's. They are designed to meet a broad range of pipe support applications while providing a continuous section of insulation and factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm) through a variety of pipe hangers. These units are appropriate across the entire PP-R temperature range. On all units the insulation and jacketing extend beyond the galvanized steel shield for neatly sealed joint with the adjoining insulation. Units are suitable for use in any type of clamp as well as in band-type hangers and on flat surfaces. PP-R Pro-Shields meet the MSS standard for a Type 40 shield per MSS SP-58, Paragraph 7.63 – 7.66. PP-R Pro-Shields meet ASTM Standards Flame Spread-5-, Smoked Developed -5-.

### Material Specifications

#### Applications

- For indoor use on clamping support systems, flat surfaces, clevis or other band-type hangers (see WeatherShield Upgrade submittal for outdoor use).
- Hanger spans per MSS SP-58 Table A3.
- Available for pipe 20mm through 450mm with insulation thicknesses 1", 1-3/4" and 2".

#### Materials / Construction

- Minimum 100 PSI Calcium silicate meeting ASTM C-533 Type 1, C-795, E-84, E-84, Thermal Conductivity ('k') .40 @ 75° mean.
- Adhesive complying with NFPA 90-A, ASTM E-84.
- G-90 Galvanized steel shield, small check per ASTM A-653 (replaces A-527). Rounded corners for safety.
- Factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm), ASTM D-774, D-828 and E-84.
- All units and components are asbestos free and 100% made and assembled in the U.S.A.



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## Pro-Shield for Aquatherm Pipe Fig. Aquatherm

### Dimensions

	20 mm to 50 mm	63 mm to 125 mm	160 mm to 315 mm	335 mm to 450 mm
Insulation Length	6" 150 mm	6" 150 mm	9" 230 mm	12" 300mm
Shield Length	4" 100 mm	4" 100 mm	6" 150 mm	10" 250mm
Shield Gauge	22 ga. 0.9 mm	22 ga. 1.0 mm	18 ga. 1.3 mm	18 ga. 1.3 mm
Compression Strength	100 PSI	100 PSI	100 PSI	100 PSI

### Allowable Loads (Lbs) – Recommended Spans

	Clevis		Trapeze		Clevis		Trapeze		Clevis		Trapeze	
20 mm	75 7 ft. (2 m)	30 7 ft. (2 m)	50 mm	160 10 ft. (3 m)	60 10 ft. (3 m)	110 mm	400 10 ft. (3 m)	160 10 ft. (3 m)	315 mm	1370 10 ft. (3 m)	875 10 ft. (3 m)	
25 mm	90 7 ft. (2 m)	35 7 ft. (2 m)	63 mm	200 10 ft. (3 m)	75 10 ft. (3 m)	125 mm	450 10 ft. (3 m)	180 10 ft. (3 m)	355 mm	2500 10 ft. (3 m)	1500 10 ft. (3 m)	
32 mm	115 7 ft. (2 m)	40 7 ft. (2 m)	75 mm	250 10 ft. (3 m)	110 10 ft. (3 m)	160 mm	850 10 ft. (3 m)	320 10 ft. (3 m)	415 mm	2870 10 ft. (3 m)	1720 10 ft. (3 m)	
40 mm	140 7 ft. (2 m)	55 7 ft. (2 m)	90 mm	300 10 ft. (3 m)	140 10 ft. (3 m)	200 or 225 mm	1,100 10 ft. (3 m)	550 10 ft. (3 m)	450 mm	3230 10 ft. (3 m)	1930 10 ft. (3 m)	

## WeatherShield Upgrade Protection System For Outdoor Applications

### Description / Features

WeatherShield modifications are appropriate for hostile environment or outdoor applications. For calcium silicate products we utilize Johns Manville T-1200 water resistant calcium silicate formulated specifically to shed water. The Standard WeatherShield is constructed with the Ventureclad Smooth aluminum jacketing material laminated between the steel protection shield and the insulation material. WeatherShield modifications may be specified on any 360° product from VEP. WeatherShields must be installed as 360° units to maintain their integrity and weather resistance.

### Construction / Installation Procedure

On large units, the bottom shield's weather barrier covers approximately 240° of the unit's circumference. The flaps overlap the top vapor barrier and are then attached with two strips of self-sealing tape, sealing it to the lower half of the unit. If a top metal shield is required, it can be slid into place completing the unit. Insulation and jacketing extend beyond the steel protection shield for a neat, weather-tight connection with the adjoining insulation.

**Standard weather barrier layer is smooth surface Ventureclad aluminum jacketing.**

### Pricing Policy

All WeatherShield upgrades will be quoted on a per job basis to a list of materials.





## Compact Two-Bolt hanger Insert Fig. L64 or M64



### Description

The Compact Two-Bolt hanger insert is specifically designed for high temperature applications at maximum spans. They provide a continuous section either 450 PSI or 900 PSI insulation with factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm) through clamping pipe hangers for pipe systems operating between +20° F and +1800° F. The insulation and jacketing extend beyond the galvanized steel shield for a neatly sealed joint with the adjoining insulation. These units are also suitable for use band-type hangers. There are two variations based on the Compressive strength, L64 (450 PSI) or M64 (900 PSI).

These units meet the MSS standard for a Type 40 shield per MSS SP-58, Paragraph 7.63 – 7.66. They also meet ASTM E84 Standards Flame Spread-5-, smoke developed-5-.

### Dimensions

	L64	M64
Insulation Length	6" 150 mm	6" 150 mm
Shield Length	4" 100 mm	4" 100 mm
Shield Gauge	18 ga. 1.3 mm	18 ga. 1.3 mm
Compressive Strength	450 PSI	900 PSI

### Specifications

#### Applications:

- For indoor use on clamping support systems, clevis or other band-type hangers (see WeatherShield Upgrade submittal for outdoor use).
- Chilled to steam piping and dual temperature lines.
- Hanger spans described assure a minimum 3.5:1 Safety Margin.
- Available for pipe 2-½ inch through 48 inches, insulation thickness 1 inch through 4 inches.

#### Materials/Construction:

- Suitable for temperature range 20° F to 1800° F.
- L64 – 450 PSI Calcium Silicate meeting ASTM C-533 Type 2, Grade 5, C-585, C-795, E-84, Thermal Conductivity ('k')=.54 @ 200° F.
- M64 – 900 PSI Calcium Silicate meeting ASTM C-533 Type 2, Grade 6, C-585, C-795, E-84, Thermal Conductivity ('k')=.61 @ 200° F.
- G-90 Galvanized Steel shield, small check per ASTM A-653 (replaces A-527).
- Adhesive complying with NFPA 90-A, ASTM E-84.
- All units and components are asbestos free and 100% made and assembled in the U.S.A.



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## Compact Two-Bolt hanger Insert Fig. L64 or M64

### Allowable Loads – Recommended Spans

	L64	M64
2½" Pipe	930 lbs. 11 ft. (3.3 m)	1,855 lbs. 11 ft. (3.3 m)
3" Pipe	1,130 lbs. 12 ft. (3.5 m)	2,260 lbs. 12 ft. (3.5 m)
4" Pipe	1,450 lbs. 14 ft. (4.3 m)	2,900 lbs. 14 ft. (4.3 m)
6" Pipe	2,785 lbs. 17 ft. (5.2 m)	4,280 lbs. 17 ft. (5.2 m)
8" Pipe	2,780 lbs. 19 ft. (5.8 m)	5,570 lbs. 19 ft. (5.8 m)
10" Pipe	3,475 lbs. 22 ft. (6.7 m)	6,945 lbs. 22 ft. (6.7 m)
12" Pipe	4,120 lbs. 23 ft. (7 m)	8,240 lbs. 23 ft. (7 m)
14" Pipe	4,520 lbs. 25 ft. (7.6 m)	9,050 lbs. 25 ft. (7.6 m)
16" Pipe	5,170 lbs. 27 ft. (8.3 m)	10,340 lbs. 27 ft. (8.3m)
18" Pipe	5,815 lbs. 28 ft. (8.5 m)	11,630 lbs. 28 ft. (8.5 m)
20" Pipe	6,460 lbs. 26 ft. (8 m)	12,925 lbs. 30 ft. (9 m)
24" Pipe	7,755 lbs. 22 ft. (6.7 m)	15,510 lbs. 32 ft. (9.8 m)
30" Pipe	9,695 lbs. 18 ft. (5.5 m)	19,385 lbs. 33 ft. (10 m)
36" Pipe	11,630 lbs. 17 ft. (5.2 m)	23,265 lbs. 33 ft. (10 m)
42" Pipe	13,570 lbs. 18 ft. (5.5 m)	23,265 lbs. 33 ft. (10 m)
48" Pipe	15,510 lbs. 17 ft. (5.2 m)	31,020 lbs. 33 ft. (10 m)



## WeatherShield Upgrade Protection System For Outdoor Applications

### Description / Features

WeatherShield modifications are appropriate for hostile environment or outdoor applications. For calcium silicate products we utilize Johns Manville T-1200 water resistant calcium silicate formulated specifically to shed water. The Standard WeatherShield is constructed with the Ventureclad Smooth aluminum jacketing material laminated between the steel protection shield and the insulation material. WeatherShield modifications may be specified on any 360° product from VEP. WeatherShields must be installed as 360° units to maintain their integrity and weather resistance.

### Construction / Installation Procedure

On large units, the bottom shield's weather barrier covers approximately 240° of the unit's circumference. The flaps overlap the top vapor barrier and are then attached with two strips of self-sealing tape, sealing it to

the lower half of the unit. If a top metal shield is required, it can be slid into place completing the unit. Insulation and jacketing extend beyond the steel protection shield for a neat, weather-tight connection with the adjoining insulation.

**Standard weather barrier layer is smooth surface Ventureclad aluminum jacketing.**

### Pricing Policy

All WeatherShield upgrades will be quoted on a per job basis to a list of materials.





## Slide / Guide Insert Fig. L96 or M96



### Description

The Slide / Guide Insert is specifically designed for single clamp, guided or unguided slide mounts at maximum spans. They provide a continuous section either 450 PSI or 900 PSI insulation with factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm) through the hanger and are appropriate for pipe systems operating between +20° F and +1800° F. The insulation and jacketing extend beyond the galvanized steel shield for a neatly sealed joint with the adjoining insulation. These units are also suitable for use in clamping or band-type hangers. There are two variations based on the Compressive strength, L96 (450 PSI) or M96 (900 PSI).

These units meet the MSS standard for a Type 40 shield per MSS SP-58, Paragraph 7.63 – 7.66. They also meet ASTM E84 Standards Flame Spread-5-, smoke developed-5-.

### Dimensions

	L96	M96
Insulation Length	9"	9"
	230 mm	230 mm
Shield Length	6"	6"
	150 mm	150 mm
Shield Gauge	18 ga.	18 ga.
	1.3 mm	1.3 mm
Compressive Strength	450 PSI	900 PSI

### Specifications

#### Applications

- For indoor use on guided or unguided slides, clamping support systems, clevis or other band-type hangers (see WeatherShield Upgrade submittal for outdoor use).
- Chilled to steam piping and dual temperature lines.
- Hanger spans described assure a minimum 3.5:1 Safety Margin.
- Available for pipe 2 1/2 inch through 48. inches, insulation thickness 1 inch through 4 inches.

#### Materials / Construction

- Suitable for temperature range 20° F to 1800° F 8.
- L96 - 450 PSI Calcium Silicate meeting ASTM C-533 Type 2, Grade 5, C-585, C-795, E-84, Thermal Conductivity ('k')=.54 @ 200° F.
- M96 - 900 PSI Calcium Silicate meeting ASTM C-533 Type 2, Grade 6, C-585, C-795, E-84, Thermal Conductivity ('k')=.61 @ 200° F.
- G-90 Galvanized Steel shield, small check per ASTM A-653 (replaces A-527).
- Adhesive complying with NFPA 90-A, ASTM E-84
- Factory applied jacketing meeting ASTM E 96A (maximum 0.02 perm), ASTM D-774, D-828 and E-84.
- All units and components are asbestos free and 100% made and assembled in the U.S.A.



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## Slide / Guide Insert Fig. L96 or M96

### Allowable Loads – Recommended Spans

	L96	M96
2 1/2" Pipe	1,390 lbs. 11 ft. (3.3 m)	2,785 lbs. 11 ft. (3.3 m)
3" Pipe	1,695 lbs. 12 ft. (3.5 m)	3,390 lbs. 12 ft. (3.5 m)
4" Pipe	2,180 lbs. 14 ft. (4.3 m)	4,360 lbs. 14 ft. (4.3 m)
6" Pipe	3,210 lbs. 17 ft. (5.2 m)	6,420 lbs. 17 ft. (5.2 m)
8" Pipe	4,180 lbs. 19 ft. (5.8 m)	8,360 lbs. 19 ft. (5.8 m)
10" Pipe	5,210 lbs. 22 ft. (6.7 m)	10,420 lbs. 22 ft. (6.7 m)
12" Pipe	6,180 lbs. 23 ft. (7 m)	12,360 lbs. 23 ft. (7 m)
14" Pipe	6,785 lbs. 25 ft. (7.6 m)	13,570 lbs. 25 ft. (7.6 m)
16" Pipe	7,755 lbs. 27 ft. (8.3 m)	15,500 lbs. 27 ft. (8.3m)
18" Pipe	8,725 lbs. 28 ft. (8.5 m)	17,450 lbs. 28 ft. (8.5 m)
20" Pipe	9,690 lbs. 30 ft. (9 m)	19,385 lbs. 30 ft (9 m)
24" Pipe	11,630 lbs. 32 ft. (9.8 m)	23,265 lbs. 32 ft (9.8 m)
30" Pipe	14,540 lbs. 28 ft. (5.5 m)	29,080 lbs. 33 ft (10 m)
36" Pipe	17,450 lbs. 25 ft. (7.6 m)	34,900 lbs. 33 ft (10 m)
42" Pipe	20,355 lbs. 25 ft. (7.6 m)	40,715 lbs. 33 ft (10 m)
48" Pipe	23,260 lbs. 25 ft. (7.6 m)	46,532 lbs. 33 ft (10 m)

## WeatherShield Upgrade Protection System for Outdoor Applications

### Description / Features

WeatherShield modifications are appropriate for hostile environment or outdoor applications. For calcium silicate products we utilize Johns Manville T-1200 water resistant calcium silicate formulated specifically to shed water. The Standard WeatherShield is constructed with the Ventureclad Smooth aluminum jacketing material laminated between the steel protection shield and the insulation material. WeatherShield modifications may be specified on any 360° product from VEP. WeatherShields must be installed as 360° units to maintain their integrity and weather resistance.

### Construction / Installation Procedure

On large units, the bottom shield's weather barrier covers approximately 240° of the unit's circumference. The flaps overlap the top vapor barrier and are then attached with two strips of self-sealing tape, sealing it to the lower half of the unit. If a top metal shield is required, it can be slid into place completing the unit. Insulation and jacketing extend beyond the steel protection shield for a neat, weather-tight connection with the adjoining insulation.

**Standard weather barrier layer is smooth surface Ventureclad aluminum jacketing.**

### Pricing Policy

All WeatherShield upgrades will be quoted on a per job basis to a list of materials.





## Seismic Shield Insulation Protection Shield Fig. SEISMICSHIELD



### Description

Seismic Shield® is an innovative insulation protection shield offered by Value Engineered Products (VEP). This product is designed to stop shield movement and rotation while allowing for expansion and contraction of piping systems. Seismic Shield® is designed to support the weight of the pipe and insulation. Each shield has Seismic Grip Tabs, which indicate a clear area to center the shield and may be bent down 90° to form a friction fit to strut or bent further to firmly grip a clevis hanger. Each shield has rounded corners for installer safety and vapor barrier protection.

Seismic Shield® is offered in two grades Standard and MSS Compliant\*

\*Complies with MSS Type 40 – minimum requirements for small bore pipe.

The physical and chemical properties of the products listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as technical service and are subject to change without notice. Please contact customer service at (303) 715-9990 to assure current information.



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### Specifications

#### Applications:

Seismic Shields in both Standard and MSS Compliant configurations are designed to be installed following the same guidelines as all VEP's Insulation Protection Shields. Specifications often allow shields without high density inserts on small-bore pipe. Steel shields alone may be permitted on larger diameter pipe, providing the length of the shield is sufficient to prevent the insulation from showing signs of compression from the weight of the pipe plus the weight of the media being transported along with any valves or fittings.

#### Materials/Construction:

- 100% American made steel
- G-90 Galvanized steel shield, small check per ASTM A-653 (replaces A-527)
- Precision pressed or rolled to ASTM C-585 dimensional standards
- Standard Seismic Shield – 12" long, 22 gauge, ID 2.0 through 5.5 and 18 gauge ID 6.5 through 14.0 available in full bucket or box quantities.
- MSS Compliant Shield – 12" long, 18 gauge, ID 2.0 through 5.5 available in full bucket or box quantities
- Custom Seismic Shields are available per MSS SP-58 Table A3 dimensions (Older specifications may reference MSS SP- 69, Table 5 dimensions) – Seismic Grip tabs are not available for 16 gauge or greater.
- Stainless Steel and Custom Shields are available. Call VEP for more information.



## Seismic Shield™ Ordering Guide

### Seismic Shield Sizing Guide Insulation OD per ASTM C-585

Iron Pipe	Insulation Wall Thickness			
	X 1/2"	X 1"	X 1 1/2"	X 2"
1/2	2.0*	3.0*	4.0*	5.0*
3/4	2.5*	3.0*	4.0*	5.0*
1	2.5*	3.5*	4.5*	5.5*
1 1/4	3.0*	3.5*	5.0*	5.5*
1 1/2	3.0*	4.0*	5.0*	6.5
2	3.5*	4.5*	5.5*	6.5
2 1/2	4.0*	5.0*	6.5	7.5
3	4.5*	5.5*	6.5	7.5
4	5.5*	6.5	7.5	8.5
5	6.5	7.5	8.5	9.5
6	7.5	8.5	9.5	11.0
8		11.0	12.0	13.0
10		13.0	14.0	15.0
12		15.0	16.0	17.0
14		16.0	17.0	18.0

Copper Tube	Insulation Wall Thickness			
	X 1/2"	X 1"	X 1 1/2"	X 2"
5/8	2.0*	3.0*	3.5*	4.5*
7/8	2.0*	3.0*	4.0*	5.0*
1 1/8	2.5*	3.0*	4.0*	5.0*
1 3/8	2.5*	3.5*	4.5*	5.5*
1 5/8	3.0*	3.5*	5.0*	5.5*
2 1/8	3.5*	4.0*	5.0*	6.5
2 5/8	4.0*	4.5*	5.5*	6.5
3 1/8	4.5*	5.0*	6.5	7.5
4 1/8	5.5	6.5	7.5	8.5
6 1/8	7.5	8.5	9.5	11.0

Standard and MSS Compliant Seismic Shield – available sizes  
\* Seismic Shield –Stocked Sizes





## Phenolic Shield Fig. PhenShield



### Description / Features

For use in a wide variety of hanger styles. High compressive strength bottom 180 degree insulation. Cost effective top 180 degree insulation.

### Applications

- For indoor use on most hanger systems Systems operating between -250°F and 300°F
- Hanger spans up to 10 feet
- Available for pipes 1/2 inch through 12 inches.
- Insulation thickness 1 inch through 4 inches.

### Materials / Construction

- Bottom of unit constructed of 150 PSI phenolic foam.
- Top of unit constructed of 25 PSI phenolic foam.
- Adhesive complying with NFPA 90-A and ASTM E-84
- Flame Spread/ Smoke < 25/50
- G-90 Galvanized steel shield, small check per ASTM A-653 (replaces A-527).
- Vapor Barrier of all service jacket meeting ASTM D-774, D-828 and E-84.
- All units and components are asbestos free and 100% made and assembled in the U.S.A.

#### Dimensions

	1/2" - 5"	6" - 12"
	In./mm	In./mm
<b>Insulation Length</b>	12 300	12 300
<b>Shield Length</b>	9 225	9 225
<b>Shield Gauge</b>	22 ga.	18 ga.

#### Allowable Loads

	Clevis/ Clamp	Flat Surface		Clevis/ Clamp	Flat Surface
	Lbs.	Lbs.		Lbs.	Lbs.
<b>1/2" Pipe</b>	200	120	<b>3" Pipe</b>	840	500
<b>3/4" Pipe</b>	250	150	<b>4" Pipe</b>	1090	650
<b>1" Pipe</b>	310	190	<b>5" Pipe</b>	1345	800
<b>1 1/4" Pipe</b>	400	240	<b>6" Pipe</b>	1600	960
<b>1 1/2" Pipe</b>	460	270	<b>8" Pipe</b>	2090	1250
<b>2" Pipe</b>	570	340	<b>10" Pipe</b>	2600	1550
<b>2 1/2" Pipe</b>	690	410	<b>12" Pipe</b>	3090	1850



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## Weather Shield Upgrade

Protection System for Outdoor Applications



### Description / Features

WeatherShield modifications are appropriate for hostile environment or outdoor applications. For calcium silicate products we utilize Johns Manville T-1200 water resistant calcium silicate formulated specifically to shed water. The Standard WeatherShield is constructed with the Ventureclad Smooth aluminum jacketing material laminated between the steel protection shield and the insulation material. WeatherShield modifications may be specified for Pro-Shield, MaxSpan or MaxSpan R.H. designs. WeatherShields **must be installed as 360° units** to maintain their integrity and weather resistance.

### Construction / Installation Procedure

On large units, the bottom shield's weather barrier covers approximately 240° of the unit's circumference. The flaps overlap the top vapor barrier and are then attached with two strips of self-sealing tape, sealing it to the lower half of the unit. If a top metal shield is required, it can be slid into place completing the unit. Insulation and jacketing extend beyond the steel protection shield for a neat, weather-tight connection with the adjoining insulation.

Standard weather barrier layer is smooth surface  
Ventureclad aluminum jacketing.

### Pricing Policy

All Weather Shield upgrades will be quoted on a per job basis to a list of materials.





## Pipe Dimensions/MSS Allowable Spans Application Information

### Pro-Shield/ Quik-Shield

Spans are Based on MSS SP-58 Table A3, Type 40 Shields

Nominal Pipe Size	Span		Anticipated Load* (Pounds)	Maximum Allowable Loads		
	Feet	Meters		Clevis	Trapeze	Roller
2	10	3.0	51	160	80	70
4	10	3.0	163	380	170	165
6	10	3.0	315	605	330	N/R
8	10	3.0	502	800	510	N/R
10	10	3.0	747	1160	830	N/R
12	10	3.0	1021	1400	1200	N/R
14	10	3.0	1222	1800	1250	N/R
16	10	3.0	1595	2600	N/R	N/R
18	10	3.0	2018	3300	N/R	N/R
20	10	3.0	2438	4000	N/R	N/R

\*Allowable Loads and Hanger Spans for Calcium Silicate Based Supports. Maximum allowable loads include a minimum 3.5:1 safety factor. Spans may be increased **only** when installed in band-type hangers.

N/R = Not Recommended

### MaxSpan / MaxSpan R.H.

Spans are Based on MSS SP-58 Table 4, Water Service

Nominal Pipe Size	Span		Anticipated Load* (Pounds)	Maximum Allowable Loads		
	Feet	Meters		Clevis	Flat Surface	Roller
4	14	4.3	228	405	405	405
6	17	5.2	535	1015	1070	1015
8	19	5.8	955	1555	1625	1555
10	22	6.1	1644	2450	2575	2450
12	23	7.2	2349	3438	3550	3480
14	25	7.6	3050	4770	4820	4770
16	27	8.3	4307	8050	8250	8050
18	28	8.5	5651	9025	9505	9025
20	30	9.1	7315	9550	10550	9550

'MaxSpan' units may be used to MSS Table 3 maximum hanger spans only when installed in band- or clamping-type (i.e. 'two-bolt') hangers. **All flat surface and roller ratings are for MaxSpan R.H. units.**

\*Anticipated load is the weight (in pounds) of a water filled Schedule 40 pipe for the indicated span. When using the 'Maximum Allowable Loads' to determine hanger spacing, the actual load must include pipe weight, weight of transported media, valves or fittings or other items which may affect the total weight of that span of pipe.

N/R = Not Recommended



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## Hanger Sizing Guide

### Minimum Hanger Inside Hanger Diameters (In Inches) To Fit Standard Insulated Pipe Supports

IPS Pipe Size	Insulation Thickness					
	1/2"	1"	1 1/2"	2"	2 1/2"	3"
1/2	2.000	3.000	4.125	5.125	6.750	7.750
3/4	2.250	3.000	4.125	5.125	6.750	7.750
1	2.500	3.625	4.625	5.692	6.750	7.750
1 1/4	3.000	3.625	5.125	5.692	6.750	7.750
1 1/2	3.155	4.125	5.125	6.750	7.750	8.750
2	3.625	4.625	5.625	6.750	7.750	8.750
2 1/2	4.125	5.125	6.750	7.750	8.750	9.750
3	4.625	5.625	6.750	7.750	8.750	9.750
4	5.625	6.750	7.750	8.750	9.750	10.875
5	6.750	7.750	8.750	9.750	10.875	11.875
6	7.750	8.750	9.750	10.875	11.875	12.875
8	9.875	10.875	11.875	12.875	14.250	15.250
10	12.000	12.875	14.250	15.250	16.375	17.375
12	14.000	15.250	16.250	17.250	18.375	19.375
14	15.125	16.375	17.375	18.375	19.375	20.250
<b>Copper Tube Size</b>						
5/8	2.000	3.000	3.500	4.630	5.630	6.750
7/8	2.000	3.000	4.125	5.125	6.750	7.750
1 1/8	2.250	3.000	4.125	5.125	6.750	7.750
1 3/8	2.500	3.625	4.625	5.692	6.750	7.750
1 5/8	3.000	3.625	5.125	5.692	6.750	7.750
2 1/8	3.625	4.125	5.125	6.750	7.750	8.750
2 5/8	4.125	4.625	5.625	6.750	7.750	8.750
3 1/8	4.625	5.125	6.750	7.750	8.750	9.750
4 1/8	5.625	6.750	7.750	8.750	9.750	10.875
5 1/8	6.750	7.750	8.750	9.750	10.875	11.875
6 1/8	7.750	8.750	9.750	10.875	11.875	12.875

**NOTE:** Hanger inside diameters must be large enough to accommodate the insulation wall thickness and the steel protection shield thickness. Units comply with ASTM C-585 dimensional standards, subject to normal manufacturing tolerances.



## Manufacturers Standardization Society (MSS) Recommended Spans

### Schedule 40 Steel Pipe

Nominal Pipe Size	Actual O.D.	Weight Per Ft. Empty (lb.)	Weight Per Ft. Fully Flooded	Spans Per MSS SP-58 Table 4	Spans Per MSS SP-58 Table A3
1/2	0.840	0.850	0.980	7	7
3/4	1.050	1.130	1.360	7	7
1	1.315	1.680	2.050	7	7
1 1/4	1.660	2.270	2.920	7	7
1 1/2	1.900	2.720	3.600	9	9
2	2.650	3.650	5.110	10	10
2 1/2	2.875	5.790	7.870	11	10
3	3.500	7.580	10.800	12	10
4	4.500	10.800	16.300	14	10
5	5.563	14.600	22.300	16	10
6	6.625	18.900	31.500	17	10
8	8.625	28.600	50.300	19	10
10	10.750	40.500	74.700	22	10
12	12.750	53.500	102.200	23	10
14	14.000	63.400	122.200	25	10
16	16.000	82.800	159.500	27	10
18	18.000	104.700	201.800	28	10
20	20.000	123.100	243.900	30	10
24	24.000	171.300	345.900	32	10

### Copper Tube (Type-K)

Nominal Tube Size	Actual O.D.	Weight Per Ft. Empty (lb.)	Weight Per Ft. Fully Flooded	Spans Per MSS SP-58 Table 4	Spans Per MSS SP-58 Table A3
1/2	0.625	0.340	0.440	5	5
3/4	0.825	0.640	0.870	5	5
1	1.125	0.840	1.220	6	6
1 1/4	1.375	1.040	1.610	7	7
1 1/2	1.625	1.360	2.160	8	8
2	2.125	2.060	3.440	8	8
2 1/2	2.625	2.930	5.060	9	9
3	3.125	4.000	7.030	10	10
4	4.125	6.510	11.800	12	10

All MSS references and quotes in this catalogue are extracted from ANSI / MSS SP-58 (2009) with permission of the publisher, The Manufacturers Standardization Society.



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## Suggested Specification Guidelines for Insulated Pipe Supports

Division 22

(Previous specifications, Division 15):

Section: Hangers and Supports

1. Thermal hanger shields shall be used on all horizontal insulated pipe systems at each point of support. Manufactured units shall comply with MSS SP-58 standards and be tested per MSS guidelines. Each assembly shall fit the various pipe diameters and match the outside diameter of the adjoining pipe insulation.
2. Thermal hanger inserts shall be calcium silicate with a minimum compressive strength of 100 PSI. The insert shall be jacketed with industry standard, non-reactive, all service jacket meeting ASTM E 96A (maximum 0.02 perm). 'Water-resistant coatings', which do not provide a sealable vapor barrier, shall not be allowed. A mastic of a contrasting color may be used (i.e. Childers CP-30 or MEI 55-10 or equal), providing the longitudinal seam is field-sealed during installation.
3. A rolled shield of G-90 galvanized steel shall be an integral part of the unit and shall be of a gauge and length appropriate for the compressive strength of the insert material and type of hanger.
4. Insulation and jacket shall extend a minimum of one inch (1") beyond each end of the galvanized steel shield to provide a complete, neat and vapor-tight seal with the adjoining insulation.
5. Hanger type and span between hangers shall govern the type of thermal hanger shield used and shall be as follows:
  - Band-type hangers to 10 foot maximums** (clevis, teardrop) – Value Engineered Products' (VEP) Pro-Shield, Quik-Shield or equal
  - Roller-type hangers, regardless of hanger spans** – VEP's MaxSpan R.H. or equal.
  - Band-type hangers with spans greater than 10 feet** – VEP's MaxSpan units or equal.
  - Trapeze style and other clamping-type supports to 10-foot maximums** – VEP's Pro-Shield or equal.
  - Trapeze style and other clamping-type supports exceeding 10 feet** – VEP's MaxSpan units or equal.
6. Product must be tested to ASTM E84
7. Safety Ratio shall be a minimum of 3.5:1 – (support capabilities to anticipated pipe load).
8. Independent test results documenting the compliance of 'or equal' products shall be available upon request of the Architect, Engineer or Owner.



## Manufacturers Standardization Society (MSS) Statement

Since 2009, the MSS SP-58 incorporates and supersedes ANSI/MSS SP-69-2003, MSS SP-77-1995 (R 2000), MSS SP-89-2003, and MSS SP-90-2000. Engineering specifications may still reference the out of date material and cause confusion concerning the length requirements for Thermal Hanger Shield Inserts. The Information in paragraph 7.2 through 7.66 of the current MSS SP-58 is gathered from two source documents as follows:

MSS SP-58 and SP-69 were widely referenced throughout the industry for insulation protection shields. Both the SP-58 and SP-69 documents referenced Type 40 shields. Each document had its own 'Table 5' (often referenced in individual specifications). Table 3 from SP-69 might also be included in any given specification and warranted consideration. For specifications referencing these superseded documents, it is essential that the user be aware of the scope of each publication and its purpose.

**MSS SP-69** - Table 3 - Specified the maximum pipe span allowed when hangers are directly attached to the pipe.

**MSS SP-69** - Table 5 - Specified maximum allowable pipe spans as well as protection shield lengths and gauges for insulated systems installed **without** the use of manufactured thermal hanger shields.

**MSS SP-58** - Table 5 and Paragraph 9.2 provided information for insulated pipe systems utilizing protection shields either **with** or **without** high-density inserts.

**IN GENERAL, THE MSS SP-69 ACTED AS A GUIDE FOR INSTALLING THE COMPONENTS OF A MECHANICAL SYSTEM. IT DIRECTED THE READER (PARAGRAPH 5.1 PIPE HANGERS AND SUPPORTS – SELECTION AND APPLICATION) TO REFER TO THE MSS SP-58 FOR INFORMATION RELATED TO PIPE SUPPORTS:**

“The materials of all pipe hanging and supporting elements shall be in accordance with the MSS SP-58.”

The MSS SP-58 was a reference for ‘material, design and manufacture’ of the individual components of the mechanical system. SP-58 paragraph 9.2 specifically addressed the use of Type 40 shields both with and without the use of high-density insulation materials. Paragraph 9.2.2 superseded the shield lengths and gauges shown in this document’s Table 5:

“When pipe covering protection shields are used with high compressive strength inserts, the shield length and thickness shall be appropriate for the compressive strength of the insert material. The insert shall be at least as long as the shield and where a vapor barrier is required, the vapor barrier shall extend two inches beyond the shield and overlap the outside circumference by two inches.”

All Value Engineered Products units are made with high-density insulation with compressive strengths from 24 PSI up to 3000 PSI. Additionally, every model includes the vapor barrier required to meet MSS-based specifications. Therefore, all 360° Value Engineered Products exceed the requirements of a Type 40 shield. The VEP Quik-Shield provides the basic components necessary for field fabrication of a Type 40 shield and may meet MSS-based specifications.



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### About ASC Engineered Solutions

ASC Engineered Solutions connects high-quality products with advanced technology, service, and support. With nearly 2,000 employees, the company's extensive portfolio of precision-engineered piping support, valves and connections provides products to professionals across industries, such as commercial and residential construction, industrial, fire protection, and oil and gas. Its portfolio of leading brands includes ABZ Valve®, AFCON®, Anvil®, Anvil EPS, Basic-PSA, Beck®, Catawissa, Cooplet®, FlexHead®, FPPI®, Gruvlok®, J.B. Smith, Merit®, NAP®, Quadrant®, SCI®, Sharpe®, SPF®, SprinkFLEX®, Trenton Pipe, VEP, and WARDFlex®. With headquarters in Oak Brook, IL, ASC also has ISO 9001:2015 certified production facilities in PA, TN, IL, TX, AL, KS, and RI.



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