

Building connections that last™



Anvil® 260 (ISS)

Insulation Saddle System

October 2023



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Anvil and Smith–Cooper are now ASC Engineered Solutions™

In 2019, Anvil International merged with Smith–Cooper International. The result was a complementary pair of industry leaders working side by side to provide precision-engineered pipes, valves, fittings and supports, along with related services.

For over 150 years, we have worked to build a strong, vibrant tradition of making connections – pipe to pipe and people to people. We've always been dedicated to building connections that last. As ASC Engineered Solutions, we are ready to make those connections stronger than ever by focusing as much on how we serve our customers as on the products we provide. This is what makes ASC stand out.

We're in the solutions business. That means we go beyond a product portfolio of unmatched quality and breadth. A solution involved much more than products: it takes expertise, reliable availability and dependable partnership. Providing engineered solutions means solving customer challenges – and that's why we exist.

One company.

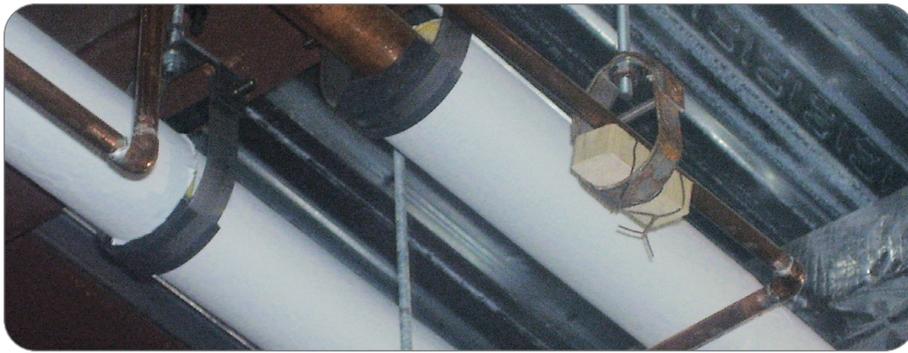
One focus.

Your success.



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260 (ISS) Insulation Saddle System

The Anvil 260 (ISS) Insulation Saddle System reduces your overall installation time and greatly simplifies the way you insulate your copper or steel pipe systems. The revolutionary design of the 260 ISS spreads the load evenly over the hanger's wide base — eliminating the need for wood blocks, shields, or costly hanger adjustments.

Fully tested and rated for a temperature range from 40°F to 200°F, the 260 ISS is ideal for use with both chilled and hot water systems. The 260 ISS comes pre-assembled and accommodates steel pipe sizes from ½- 12. Its innovative V-Block design cradles the pipe at the piping design elevation so that you don't have to re-level each individual hanger. Typically, re-leveling each individual hanger is required with the wood block and shield or the calcium silicon insulation methods. Each V-Block size accommodates multiple pipe sizes, giving installers the flexibility to stock fewer hanger sizes on-site.

With the 260 ISS, dropped wood blocks, point loading, and all the other headaches of insulation become a thing of the past. In four simple steps, plumbing and mechanical contractors can insulate pipes with less hardware, less labor, and less trouble.



Benefits

- Reduces overall installation time
- More competitive quotes
- Saves labor for plumbing, mechanical, and insulating contractors
- Suited for chilled and hot water systems from 40°F to 200°F
- V-Block's wide base design can accommodate multiple pipe sizes
- Pre-assembled 2 to 16 clevis hangers require less hardware
- Low thermal conductivity of .77 BTU-In/Sq.FT-Hr-°F
- Flammability rating of V-0 UL 94 ASTM E84 Class 1 25/60
- Accommodates up to 2 of insulation



ANVIL
An ASC Engineered Solution

Engineers and contractors are specifying and installing the 260 ISS in their buildings, across the United States and Canada.

Step 1



Notch to Fit Saddle

Step 2



Slide Over Saddle

Easy Installation

The 260 ISS needs no wood blocks or shields because the pipe is installed on the saddle. After you ensure that the hanger load nut above the clevis is tightened securely, you will position the pipe on the saddle. Then, notch one section of the insulation to fit around the saddle. The notch should be deep enough to extend $\frac{1}{8}$ to $\frac{1}{4}$ beyond the saddle. Square cut the adjoining insulation section and butt the mating end to the notched section. Finish taping according to standard methods.

Adjustments without removal of the hanger, thus saving costs, may be made $\frac{7}{8}$ through $2\frac{3}{8}$ according to the size of the clevis.

Chilled Water Testing

The Anvil 260 ISS was independently field-tested on chilled water systems with operating temperatures in the mid-40°F range, with relative humidity averaging above 85%. Each insulation joint followed standard insulation practices and was thus coated at the coped and flat edges with insulation mastic, and all seams were caulked with

a basic silicon adhesive caulk. This procedure is standard for valves, unions, strainers, and suction diffusers. Upon completion of this extensive testing, each support and adjacent insulation was inspected and no evidence of moisture was present on the 260 ISS, the pipe, or the surrounding insulation.

Insulation R-Value

With the wood block and metal shield installation, insulation wrap, with an R-value of 4.3 per inch, is cut away to allow for the insertion of the wood block. The wood block typically has an R-value of 1.4 to .7 per inch, depending on the grade of wood block used. This effectively reduces the insulation value of the system to that of the wood block at best, or to a significantly less value if the insulation is not removed with care.

If there are gaps between the wood block and the insulation, the only thing between the temperature of the pipe and the outside air is the vapor barrier material and the metal shield.



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Step 3



Square Cut
Adjoining Insulation

Step 4



Finish Taping

Material Specifications



Service Application

For the suspension of stationary insulated chilled or hot water pipelines

How to Size

Hanger must be selected from the sizing table according to pipe size and insulation thickness (see chart next page)

Maximum Temperature

40°F to 200°F

Size Range

2 through 16" clevis hanger with saddle assembly; ½ through 12 pipe diameter

Material

Carbon steel with high-impact glass-reinforced polypropylene saddle and carbon steel pipe spacer

Finish

Plain or galvanized clevis hanger

Ordering

Specify size number, insulation thickness, figure number, and finish

By using the Anvil International Figure 260 ISS system, the insulation, having an R-value of 4.3, is cut away and replaced with the polymer V-Block component having an R-value of 5.0 to 8.7, depending on the size of hanger being used.

ASTM & UL Fire Ratings

The 260 ISS has been independently tested by ASTM and UL for flame spread index (FSI), smoke development (SD), and drip ratings. The product has been approved by both agencies and has qualified for an ASTM E84 Class 1 25/60 rating, as well as a UL E94 VO rating. These are the highest ratings for this type of product for either agency.

Flammability Ratings

Authorities having jurisdiction usually refer to the following categories for flame spread index and smoke development:

- Dual Listed ASTM E84 & UL V-0
- Class 1 or Class A
- Flame spread index 0-25
- Smoke development 450 Maximum

ASTM E-84 testing performed by an independent testing group determined that the results for the Anvil 260 ISS met the criteria for a Class 1 25/60 rating for flame spread index and smoke development, which is in the highest class offered by ASTM.

ASTM UL-94 Flammability Rating: V-0. (A V-0 is defined by burning and self-extinguishes within 10 seconds on a vertical specimen, and no drips are allowed. The V-0 rating is the highest class offered by UL.)

2 thru 16 Figure 260 ISS

Patent # 7,281,689

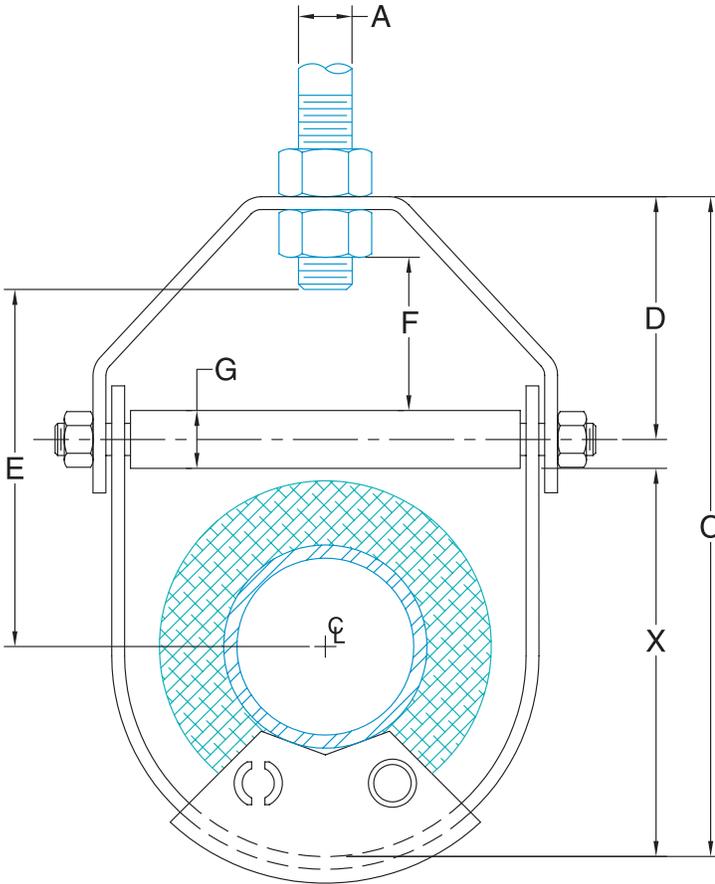


Fig. 260 (ISS) Insulation Saddle System Sizing Table

Pipe Size	Insulation Thickness				
	½"	¾"	1"	1½"	2"
	(Size Number)				
½	2	2	3	—	—
¾	2	3	3	—	—
1	2	3	3	—	—
1½	3	4	4	—	—
2	4	4	5	—	—
2½	5	5	5	6	8
3	5	5	5	6	8
3½	5	6	6	8	8
4	6	6	8	8	8
5	8	8	8	10	10
6	10	10	10	10	10
8	12	12	12	12	12
10	14	14	14	14	16
12	16	16	16	16	—

Fig. 260 (ISS) Insulation Saddle System Sizing Table

Copper Tube Size	Insulation Thickness				
	½"	¾"	1"	1½"	2"
	(Size Number)				
⅜	2	2	3	—	—
½	2	2	3	—	—
⅝	2	2	3	—	—
¾	2	2	3	—	—
1	2	3	3	—	—
1¼	3	3	3	—	—
1½	3	3	4	—	—
2	4	4	4	—	—
2½	4	5	5	6	—
3	5	5	5	6	8
3½	5	5	6	8	8
4	6	6	8	8	8
5	8	8	8	8	10
6	8	10	10	10	10
8	10	10	12	12	12

Figure 260 ISS: Loads • Weights • Dimensions

260 ISS Size Number	* Max Load	Weight	Rod Size A	C	** Rod Take Out E	Adjust. F	G	X
2	550	0.73	⅜	4 ½	2 ⅝	7 ⅞	¼	2 ¾
3		1.32	½	6 ½	4 ⅙	1 ⅞		3 ⅝
4		1.83	⅝	7 ⅙	4 ½	1 ½	⅜	4 ½
5	750	2.44	⅝	8 ⅙	5 ½	1 ¾		5 ⅙
6		3.81	¾	10 ¼	5 ¾	1 ½	½	6 ⅙
8		5.60	¾	12 ⅙	7 ⅙	1 ¾		8 ⅙
10	1100	9.73	⅞	15 ¼	8 ⅙	1 ⅞		10 ¾
12		13.80	⅞	17 ⅙	10 ⅞	2 ⅙	⅝	12 ⅙
14		15.60	1	19 ⅙	10 ⅙	2 ½	¾	14 ⅙
16		26.81	1	22	12	2 ⅝	1	16 ⅝

* Max load exceeds dead weight load requirement of pipe at max span, except 14 and 16 where max load is based on industry standard spacing of 14. See the pipe data and load table on following page for dead weight load calculations.

** Based on maximum insulation thickness, variations due to pipe size and insulation thickness may occur.

About ASC Engineered Solutions

ASC Engineered Solutions is defined by quality—in its products, services and support. With nearly 2,000 employees, the company's portfolio of precision-engineered piping support, valves and connections provides products to more than 4,000 customers across industries, such as mechanical, industrial, fire protection, oil and gas, and commercial and residential construction. Its portfolio of leading brands includes ABZ Valve®, AFCON®, Anvil®, Anvil EPS, Anvil Services, Basic-PSA, Beck®, Catawissa, Cooplet®, FlexHead®, FPPI®, Gruvlok®, J.B. Smith, Merit®, North Alabama Pipe, Quadrant®, SCI®, Sharpe®, SlideLOK®, SPF®, SprinkFLEX®, Trenton Pipe and VEP. With headquarters in Oak Brook, IL, ASC also has ISO 9001:2015 certified production facilities in PA, TN, IL, TX, AL, LA, KS, and RI.



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