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260 (ISS) Insulation Saddle System

B U I L D I N G C O N N E C T I O N S T H A T L A S T

BUILDING CONNECTIONS THAT LAST



For over 150 years, Anvil has worked diligently to build a strong, vibrant tradition of making connections — pipe to pipe and people to people.

We pride ourselves in providing the finest-quality pipe products and services with integrity and dedication to superior customer service at all levels.

We provide expertise and product solutions for a wide range of applications, from plumbing, mechanical, HVAC, industrial and fire protection to mining, oil and gas. Our comprehensive line of products includes: grooved pipe couplings, grooved and plain-end fittings, valves, cast and malleable iron fittings, forged steel fittings, steel pipe nipples and couplings, pipe hangers and supports, channel and strut fittings, mining and oil field fittings, along with much more.

As an additional benefit to our customers, Anvil offers a complete and comprehensive Design Services Analysis for mechanical equipment rooms, to help you determine the most effective and cost-efficient piping solutions for your pipe system.

At Anvil, we believe that responsive and accessible customer support is what makes the difference between simply delivering products — and delivering solutions.

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-O UL 94 ASTM E84 Class 1 25/60
- Accommodates up to 2 of insulation

260 (ISS) Insulation Saddle System

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.

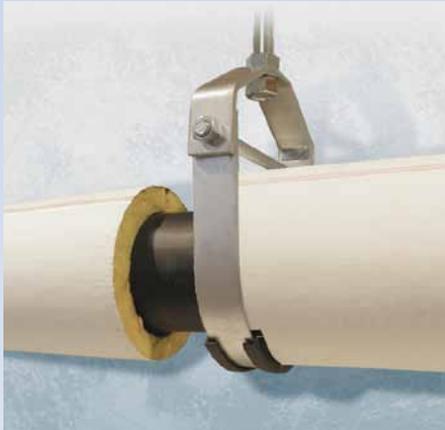
Chilled Water Testing

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

260 (ISS) Insulation Saddle System**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

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.

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.)

260 (ISS) Insulation Saddle System

2 thru 16 Figure 260 ISS

Patent # 7,281,689

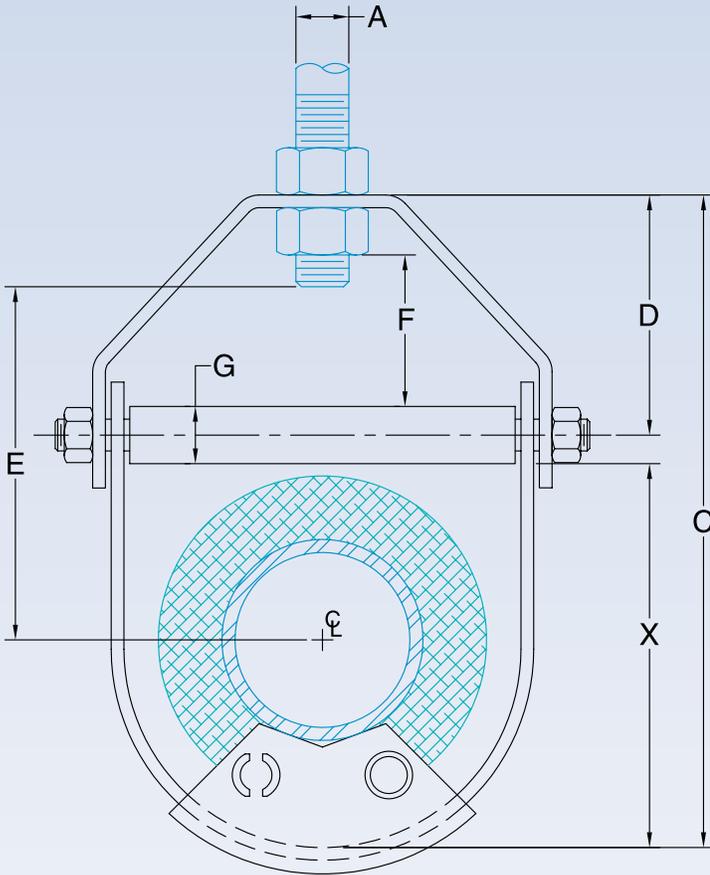


Fig. 260 (ISS) Insulation Saddle System Sizing Table

| Pipe Size | Insulation Thickness | | | | |
|-----------|----------------------|------|----|--------|----|
| | 1/2" | 3/4" | 1" | 1 1/2" | 2" |
| | (Size Number) | | | | |
| 1/2 | 2 | 2 | 3 | — | — |
| 3/4 | 2 | 3 | 3 | — | — |
| 1 | 2 | 3 | 3 | — | — |
| 1 1/2 | 3 | 4 | 4 | — | — |
| 2 | 4 | 4 | 5 | — | — |
| 2 1/2 | 5 | 5 | 5 | 6 | 8 |
| 3 | 5 | 5 | 5 | 6 | 8 |
| 3 1/2 | 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 | | | | |
|------------------|----------------------|------|----|--------|----|
| | 1/2" | 3/4" | 1" | 1 1/2" | 2" |
| | (Size Number) | | | | |
| 3/8 | 2 | 2 | 3 | — | — |
| 1/2 | 2 | 2 | 3 | — | — |
| 5/8 | 2 | 2 | 3 | — | — |
| 3/4 | 2 | 2 | 3 | — | — |
| 1 | 2 | 3 | 3 | — | — |
| 1 1/4 | 3 | 3 | 3 | — | — |
| 1 1/2 | 3 | 3 | 4 | — | — |
| 2 | 4 | 4 | 4 | — | — |
| 2 1/2 | 4 | 5 | 5 | 6 | — |
| 3 | 5 | 5 | 5 | 6 | 8 |
| 3 1/2 | 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 | 3/8 | 4 1/2 | 2 5/8 | 7/8 | 1/4 | 2 3/8 |
| 3 | | 1.32 | 1/2 | 6 1/2 | 4 1/16 | 1 7/16 | | 3 5/8 |
| 4 | | 1.83 | 5/8 | 7 13/16 | 4 1/2 | 1 1/2 | | 4 1/2 |
| 5 | 750 | 2.44 | 3/4 | 8 15/16 | 5 1/2 | 1 3/4 | 3/8 | 5 11/16 |
| 6 | | 3.81 | | 10 1/4 | 5 3/4 | 1 1/2 | | 6 11/16 |
| 8 | | 5.60 | | 12 11/16 | 7 3/16 | 1 3/4 | | 8 13/16 |
| 10 | 1100 | 9.73 | 7/8 | 15 1/4 | 8 7/16 | 1 7/8 | 1/2 | 10 3/4 |
| 12 | | 13.80 | | 17 15/16 | 10 1/8 | 2 9/16 | | 12 7/16 |
| 14 | | 15.60 | | 19 9/16 | 10 11/16 | 2 1/2 | | 14 7/16 |
| 16 | 1700 | 26.81 | 1 | 22 | 12 | 2 3/8 | 1 | 16 5/16 |

* 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.

BRANDS OF ANVIL INTERNATIONAL



Anvil® product lines include malleable and cast iron fittings, unions and flanges; seamless steel pipe nipples; steel pipe couplings; universal anvilets; forged steel fittings and unions; pipe hangers and supports; threaded rod; and engineered hangers.



The Gruvlok® product line consists of couplings for grooved and plain-end fittings, butterfly valves and check valves; flanges; pump protection components; pipe grooving tools; as well as copper and stainless steel system components.



Anvil-Strut™ products include a complete line of channel in stock lengths of 10 and 20 feet, with custom lengths available upon request. A variety of fittings and accessories are also offered. All products can be ordered in an assortment of finishes and material choices including SupR-Green™, Zinc Trivalent Chromium, pre-galvanized, hot-dipped galvanized, electro-galvanized, aluminum, plain, and stainless steel.



JB Smith™ is the leading manufacturer of oil country tubular fittings, swages and bull plugs – all meeting API specifications. Offering tubing nipples, casing nipples as well as a full line of traditional line pipe and oil country threads in every schedule, JB Smith is the resource for all your oilfield needs.



Catawissa™ NACE and API approved wing unions for Standard Service are offered in non-pressure seal ends as well as threaded and butt weld, and are interchangeable with most leading union manufacturers. Fully traceable and available with complete mill certifications, Catawissa's oilfield wing union product line includes the standard ball-and-cone design plus our unique Figure 300 Flat Face design, where space and pipe line separation are a consideration.



The SPF/Anvil™ product line includes a variety of internationally sourced products such as grooved couplings, fittings and flanges, cast iron, malleable iron and ductile iron threaded fittings, steel pipe nipples, as well as o'lets.



The Merit® product line includes a variety of tee-lets, drop nipples, and steel welding flanges for fire protection applications. Most Merit products are UL/ULC Listed, FM Approved, and rated from 175 to 300 psi.



Steel pipe nipples and steel pipe couplings are manufactured in accordance with the ASTM A733 Standard Specification for Welded and Seamless Carbon Steel and Stainless Steel Pipe Nipples. Steel pipe couplings are manufactured in accordance with the ASTM A865 Standard Specification for Threaded Couplings, Steel, Black or Zinc-Coated (Galvanized) Welded or Seamless, for Use in Steel Pipe Joints. API couplings are manufactured in accordance with the API Specification for line pipe.



Canvil® manufactures low pressure hexagon reducer bushings, as well as plugs and hex caps up to 1" in diameter in various finishes including Oil Treat, Phosphate and Electro Galvanized. In addition, Canvil manufactures A105 hex or round material in class 3000 and 6000 pound, forged steel couplings and bar stock products offered as either as normalized (A105N) or non-normalized (A105) that are fully traceable for mechanicals and chemistry through our MTR program.



Anvil EPS-Engineered Pipe Supports are products used to support piping systems under thermal, seismic, and other dynamic loading conditions. The product line encompasses variable spring hangers, constant supports, sway struts and snubbers as well as standard and special design clamps. Anvil EPS brings the highest quality products and innovative engineering solutions to common and uncommon piping system problems.



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BUILDING CONNECTIONS THAT LAST

