



NIA's 62nd Annual Convention

Sheraton Grand at Wild Horse Pass

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**Barry Schmitt of Value
Engineered Products**

NIA | National Insulation
Association
THE VOICE OF THE INSULATION INDUSTRY™



Value Engineered Products

Premier provider of insulated pipe supports for all relevant markets, plumbing through industrial

Headquarters: Denver, Colorado

Years in Business: 26

Markets Served: North America, Europe, Africa, Asia

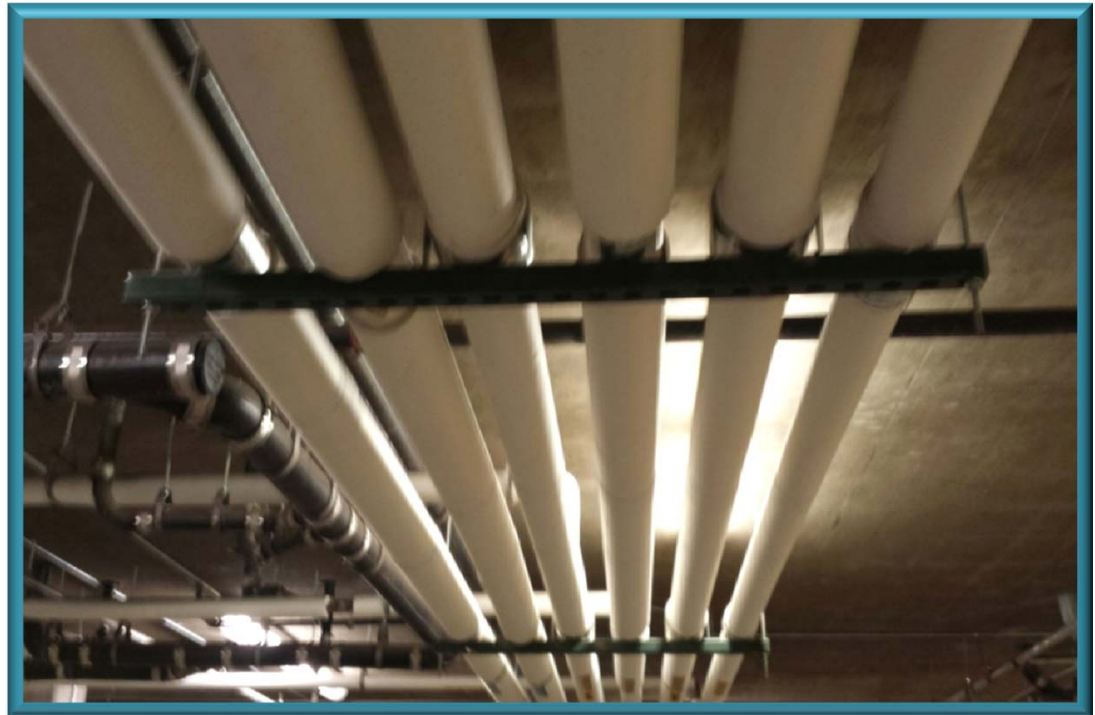
Mission Statement

Value Engineered Products continuously strives for Excellence in our People, Product, Process, and Service



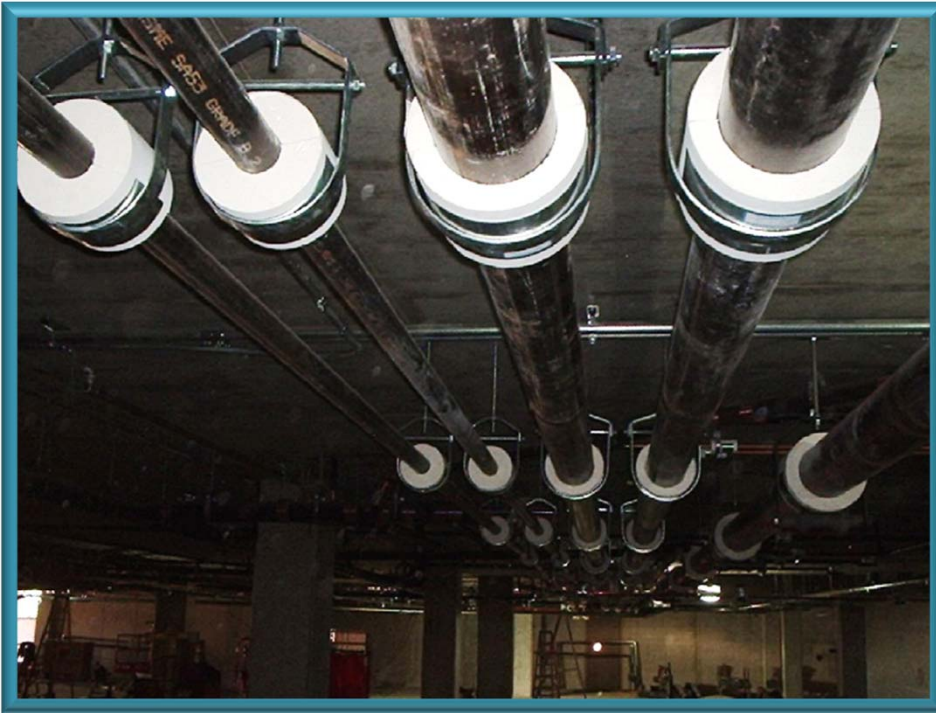
Insulated Pipe Supports Industry Structure

- **Three distinct market segments**
 - Mechanical
 - Plumbing
 - Insulation
- **Ideal state—seamless and integrated systems design**





Mechanical



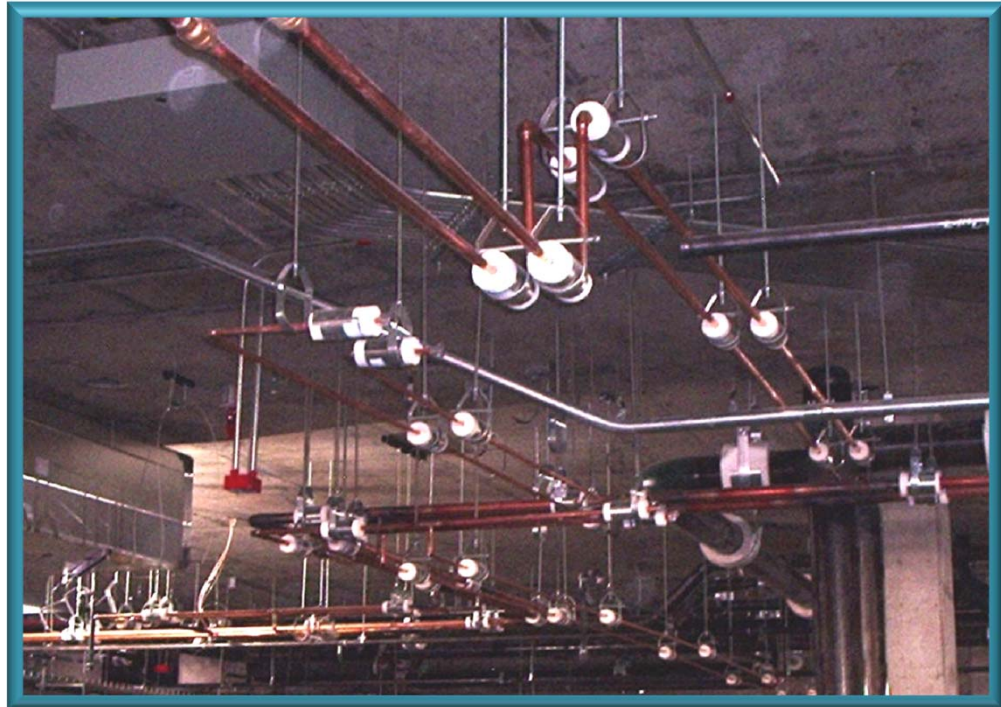
– **Mechanical trade installs the hanger assembly, including:**

- Steel Pipe
- Cast Iron Pipe
- Stainless Steel Pipe



Plumbing

- The plumbing trade installs 3 types of pipe, with supports required for all 3
 - Copper
 - Cast Iron
 - PP-R



Insulation

- **Insulated pipe supports must match the outside diameter of the pipe and insulation, per ASTM C585**
 - Close coordination with the mechanical contractor is required to ensure the outside diameter matches





Other Considerations in the Commercial Market

- 25/50 fire rating per ASTM E84
- Vapor retarders
- Insulation within the support must carry the weight of the pipe
- Seismic conditions





Critical Manufacturer Requirements

- **Products must be composite tested by the manufacturer of the pipe supports, per ASTM E84**
 - Foam-based products have a limited fire rating at this time



Wood blocks are NOT fire rated and provide a food source for mold



Critical Manufacturer Requirements *(cont.)*

- **Insulation vapor barriers are generally stressed on systems below ambient temperature**
 - A sealed vapor barrier is the first line of defense against corrosion under insulation
 - Most prevalent on systems operation between 100°F and 300°F
- **A full sealed vapor barrier through the hanger and extended past the protection shield seals the entire insulation system**



Critical Manufacturer Requirements *(cont.)*

– Vapor barriers include:

- Metalized Polyester ASJ
- Zero Perm Products
- PVDC (Polyvinylidene Chloride)

PVC jacketing and galvanized metal are NOT vapor retarders (.02 perms)





Common Products Used in the Pipe Support Industry

- **Not all address critical requirements, but are commonly deployed:**
 - Calcium Silicate
 - Polyisocyanurate
 - Phenoloic Foam
 - Cellular Glass

Standard is 3.5:1 safety factor per MSS SP 58,



Pipe Support Standards

– Governing bodies:

- ASHRAE, ANSI, ASTM, and AWS sets Standards
- Manufacturers Standardization Society (MSS) of the Valve and Fittings Industry, references these standards when outlining procedures for manufacturing components and systems for the field



MSS Standards

- **Set nearly 60 years ago (1958)**
 - Type 40 shield defined by length and gauge outside of the insulation
 - Minimum 18 gauge and 12” long
- **In 1996 standards were updated to allow for an alternative to a Type 40 shield**
 - High compressive strength insert
 - Vapor barrier
 - Appropriate shield



And then... the Industrial Market

– **Highly customized and engineered (nothing is “off the shelf”)**

- Larger pipes
- Higher loads
- More movement
- Low temperatures
- High temperatures





Industrial Market (*cont.*)

- **In the higher temperature market, denser materials are made from board material**
 - Boards start at 450 PSI and go to 3050 PSI
 - Pipe loads determine length of insulated pipe support
- **Cryogenic applications**
 - Density of foam starts at 2 pounds PCF to 30 PCF
 - Multi layer and zero perm vapor barrier required
- **For hot and cold applications, thickness can be as little as ½ inch to nearly unlimited**
- **Thin wall high compressive strength supports are compatible with micro-porous insulations**



Summary

- **Partner with companies that have deep expertise in this industry**
 - Lower cost
 - Engineering support
 - Responsive delivery
- **Know the markets you serve, and the relevant standards that apply!**





Contact Information



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