MONOLITHIC JOINTS FOR ELECTRICALLY ISOLATING PIPELINES

Global Supply Line can supply monolithic insulating joints from stock in ANSI 150 to 2500 up to 300 NB (12”). Special configurations can be supplied ex our European and USA manufacturers in short delivery times.

Insulated Joints

Triple Protection
1) Insulated gaskets prevent metal-to-metal contact across the insulated joint.
2) All internal cavities of the insulated joints are filled with a special dielectric compound to provide an additional electrical barrier.
3) Each metal component is individually coated with two coats of epoxy paint.

Standard Material
ASTM A694/ASME SA105 or SA 106 Gr.C (Minimum Yield 52,000 psi) High Yield X52, X60, X65, ASTM 707, etc. on request.

Elastomer O-rings
Viton O-rings are standard in each insulated joint. Other O-ring compounds are available upon request.

Insulated Gasket Material
Epoxy base/glass fiber reinforced high strength laminate.

Coating
Epoxy base paint. Coal tar epoxy available upon request.

All dimensions are in inches (mm)

Welded Insulated Joint Dimensions
When ordering, please specify bore required. Insulated joints are normally thru bored to the same ID as the matching pipe. One or both ends can be taper bored at customer request. Joints also available in sizes not listed and for higher pressure ratings.

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Example Specifications

1.0 Scope
This specification applies to the purchase of butt-welding insulated joints used for electrical isolation and cathodic protection of pipelines.

2.0 Codes and Standards
ANSI/ASME B31.8 gas transmission and distribution piping systems. ANSI/ASME B31.4 liquid petroleum transportation piping systems. ASME section IX qualification standards for welding and brazing procedures. ASTM - applicable material standards.

3.0 Materials
Hubs & yokes - ASTM A105, A105 or A694 with 52,000 psi minimum yield strength. O-ring gaskets - non-conductive Viton per Mil-R-83248 Type I. Insulating gaskets - Epoxy base/glass fiber reinforced capable of meeting a minimum electrical strength of 15,000 volts.

4.0 Design
The insulated joints shall be designed to sustain an internal pressure of 1480 psi or 2220 psi in addition to an externally applied bending load which will produce a maximum bending strength of 72% of the minimum yield strength of the attached pipe.

5.0 Testing
Each insulated joint shall be hydrostatically pressure tested to 2225 psi or 350 psi for a minimum of 15 minutes. Each insulated joint shall be subjected to and pass an electrical resistance test of 25 megohms minimum at 1000 VDC.

6.0 Welding
All welders and welding procedures used in the fabrication of the insulated joints shall be qualified in accordance with ASME section IX.

7.0 Clear Bore
The insulated joints shall have a smooth, clear bore suitable for the uninterrupted passage of pigs, spheres and on-line inspection tools (intelligent pigs).

8.0 Weld and Preparation
Internal diameter to match that of the attached pipe and the weld end shall be beveled to an angle of 30°, +5°/-0°, 1/16" land.

9.0 Marking
Each insulated joint shall be marked by low stress steel stencil on the outside of the yoke with the following: manufacturer’s name or trademark, insulating joint serial number, pressure class, material heat number (also mark material heat number on the hub on the outside of hub).

10. Coating
All insulated joints shall be blast cleaned and coated with a prime coat and top coat of epoxy base paint.

11.0 Material Test Reports
The manufacturer shall provide certified material test reports of the physical and chemical properties for each heat and steel used in the manufacture of the hubs and yokes. These properties shall conform to the applicable ASTM specification.
Typical Bill of Materials

**ANSI 150 TO 2500**
Fast track delivery

**TYPE 1**
For PN25 3” - 12” and PN64/100 1/2” - 2”.

**TYPE 2**
For PN25 above 12” and above 2” in all other pressure ratings. Generally not used for ANSI 900 and above.

**TYPE 3**
For all pressure ratings 3” and above.

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### Materials for Standard Joints

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pipe Pups</td>
<td>API 5L (X52 in larger sizes)</td>
</tr>
<tr>
<td>2</td>
<td>Steel Sections</td>
<td>Forgings or Steel Rings to ASTM A694 (F52), DIN 1629 (St 52) or UNI 7729 (Fe 510)</td>
</tr>
<tr>
<td>3</td>
<td>Steel Sections</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Steel Sections</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Sealing Gasket</td>
<td>Nitrile O-Rings</td>
</tr>
<tr>
<td>6</td>
<td>Insulating Rings</td>
<td>Glass or Fabric reinforced epoxy</td>
</tr>
<tr>
<td>7</td>
<td>Insulating Rings</td>
<td>Glass or Fabric reinforced epoxy</td>
</tr>
<tr>
<td>8</td>
<td>Dielectric Filler</td>
<td>Epoxy Resin</td>
</tr>
<tr>
<td>9</td>
<td>Pipe Pups</td>
<td>API 5L (see table)</td>
</tr>
<tr>
<td>10</td>
<td>External Coating, Internal Lining</td>
<td>Epoxy Resin, 150 microns DFT</td>
</tr>
<tr>
<td>11</td>
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</tr>
</tbody>
</table>