



COMPARISON BETWEEN INSULATING FLANGE CONNECTIONS
AND MONOLITHIC TYPE WELDED INSULATED JOINTS

There are two basic types of insulating connectors manufactured for use in corrosion control systems for cross country pipeline applications.

The oldest system utilizes standard flanges equipped with insulating gaskets. The disadvantages of this system are:

1. Insulating sleeves that surround the flange bolts are a weak point of the insulating flange. Electrically conducting deposits (including moisture) between the insulating sleeves, the bolts and the bolt holes can lead to electrical bridging and very low resistance.
2. The insulating washers can easily be damaged by over tightening the flange bolts which can lead to electrical breakdown or cold flow which can allow reduction of bolt tension and resultant leakage of the joint.
3. Insulated flanges that are installed underground may require the use of a valve type pit in order to check at intervals the tightness and electrical condition of the flanged connection.

Monolithic type insulated joints are factory built sealed units. The advantages of these units are:

1. There are no loose parts to misplace or lose.
2. There are no bolts to retighten after installation.
3. The boltless construction provides ease of final wrapping and coating after installation of the pipeline.
4. Fully welded, sealed construction prevents unauthorized field personnel from disassembling these insulated joints.
5. Tube Turns Insulated Joints have undergone extensive prototype testing to insure their capability of withstanding external substantial bending loadings in addition to the normal internal pressure

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