RECOMMENDED PRACTICE FOR THE FABRICATION OF POLYVINYLIDENE FLUORIDE (PVDF) PIPING

Prepared by

Pipe Fabrication Institute Engineering Committee

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Recommended Practice for the Fabrication of Polyvinylidene Fluoride (PVDF) Piping

1. Scope

1.1 The purpose of this recommended practice is to provide methods for purchasing, material receiving, welder qualification, fabrication and installation, inspection and documentation for Polyvinylidene Fluoride (PVDF) piping systems.

2. General

2.1 This recommended practice applies to Industrial applications and provides additional requirements where high levels of cleanliness and high purity are necessary. Additional measures for high purity applications are delineated in Section 8. of this practice.

2.2 Fabrication of PVDF shall be pre-planned to minimize the quantity of field fabrication required.

2.3 Precautions should be taken to maintain cleanliness for all pipe and components.

2.3.1 Materials should be handled only with latex gloves. Gloves should be changed if they become soiled or torn.

2.3.2 Hand tools that will come in contact with fabrication materials should be pre-cleaned with Iso Propyl Alcohol.

2.4 Completed fabrication should not be exposed to long term direct ultraviolet light.

3. Purchasing, Receiving and Inspection

3.1 All materials should be purchased in accordance with known standards and appropriately specified quality standards.

3.2 Material should be received in accordance with established Quality Control procedures and methods that provide for proper identification and segregation.

3.3 Vendor documentation should be verified for any specified certifications, manuals, etc. accompanying the shipment and should be legible and complete.

3.4 A representative sample from each lot of incoming material should be randomly segregated for detailed inspection. The randomly selected material should be moved into a clean area where QC personnel can perform the required inspections.

3.4.1 Any material received contaminated should be rejected immediately.

3.4.2 Inner and outer legs should be verified for integrity of primary and secondary seals.

3.4.3 End-protection film and end caps shall be verified to be in place per specifications.

3.4.4 A detailed dimensional and surface cleanliness inspection of randomly selected material should be performed to ensure customer requirements are met.

4. Operator Qualification

4.1 The fabricator or installer of PVDF piping materials should qualify all fusion operators in accordance with the PVDF manufacturer's established welding procedures for each size and thickness of tube and fittings to be used. A representative of the PVDF manufacturer may be appointed to oversee the qualifications. (Special arrangements must be made when systems of mixed PVDF materials are being joined.)

4.2 Each fusion operator shall demonstrate their skill in fusion techniques by making (two) pipe-to-pipe horizontal (SG) welds for each type of welding process that the operator will be using.

4.2.1 Qualification coupons shall be identified with the craftsman's name or ID number.

4.3 Qualification coupons shall be inspected for insufficient or excessive bead, cleanliness, and general craftsmanship criteria as listed in Section 7.0 of this bulletin.

5. Fabrication and Installation

5.1 All fusion shall be performed in accordance with both the material manufacturer and equipment manufacturer joining equipment recommendations, unless directed otherwise by the customer.

5.2 All cutting, facing, and welding operations shall be performed in a clean environment, whenever possible.

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