

ITEM 945

TECHNICAL REQUIREMENTS FOR FIELD WELDING

945.1 Scope

The purpose of this standard is to provide minimum requirements for field welding operations. This specification covers manual, semi-automatic, and automatic welding operations for field welding of all construction associated with this project. This specification covers all circumferential, longitudinal, lap joints, tee joints, butt joints and any other joint design listed in the project plans and specifications.

945.2 Reference Documents

This specification references the following documents in their latest editions. They form a part of these specifications and in the case of conflict the more strict shall prevail.

AWS D1.1 Structural Welding Code

AWS A3.0 Standard Welding Terms and Definitions

AWS B2.1 Standard Welding Procedure Specification

945.3 Qualification of Welding Procedures, Welders and Welding Operators

- A. The contractor shall provide welding procedure specifications (WPS) to the engineer for review prior to any welding operations beginning. The procedures maybe pre-qualified as defined in AWS D1.1. Certain joint requirements shall be qualified as defined by AWWA requirements. If a joint design or pressure retaining welds are incorporated in the structure or equipment, then the WPS shall be qualified and a procedure qualification record (PQR) shall be attached to the WPS as defined by AWS and AWWA.
- B. Welders and welding operators shall be qualified by test as prescribed in AWS D1.1 Sec. 4 Part C. If the contractor has employed the welder or welding operator for a period of 6 months then re-qualification is not required if the welder qualification records (WQR) have been maintained. The WQR shall be made available to the site representative prior to the start of any welding operations.

945.4 Deposited Weld Metal

- A. The welds shall be deposited in a manner that will not cause undue distortion that will be considered unacceptable by the owner. A balanced welding technique shall be used at all times to prevent any undue distortion in the completed structure.

- B. The deposited welds shall be free of the following defects as a minimum

Pinholes, cracks, undercut exceeding 1/32", incomplete fusion, concave conditions, incomplete penetration on primary joints, excessive weld re-enforcement on internal or external welds irregular weld profiles, sharp edges.

- C. The welds shall be ground to remove any visual discontinuity that would prevent the application of the protective coating system from adhering to the weld and adjacent area. The degree of grinding shall be at the discretion of the site representative.

945.5 Weld Inspection

- A. The contractor shall visually inspect all welds during welding and after they have been completed and prior to the site representative performing any welding inspection. All welds shall be inspected.
- B. The floor and sidewall to floor welds shall be vacuum box tested using soapsuds to detect any leaks. The gauge shall register at least 2 psig during testing. The equipment shall be suitable for the testing required, if found to be unacceptable by the site representative then it shall be replaced at the expense of the contractor.
- C. All weld inspection and testing shall be performed prior to the application of the protective coating system.

THE REMAINING PORTION OF THIS PAGE HAS BEEN LEFT BLANK.

END OF ITEM 945