

Welding Guidelines for the Chemical, Oil, and Gas Industries

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Welding Guidelines for the Chemical, Oil, and Gas Industries

1 Scope

1.1 This recommended practice (RP) provides supplementary guidelines and practices for welding and welding related topics for shop and field fabrication, repair and modification of the following:

- a) pressure-containing equipment such as pressure vessels, heat exchangers, piping, heater tubes, and pressure boundaries of rotating equipment and attachments welded thereto;
- b) tanks and attachments welded thereto;
- c) non-removable internals for process equipment;
- d) structural items attached and related to process equipment;
- e) other equipment or component items when referenced by an applicable purchase document.

1.2 This document is general in nature and augments the welding requirements of ASME BPVC Section IX and similar codes, standards, specifications, and practices such as those listed in Section 2. The intent of this document is to be inclusive of chemical, oil and gas industry standards, although there are many areas not covered herein, e.g. pipeline welding and offshore structural welding are intentionally not covered.

1.3 This document is based on industry experience and any restrictions or limitations may be waived or augmented by the purchaser.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. Other codes and standards are specified by the purchaser.

API 510, *Pressure Vessel Inspection Code: Maintenance, Inspection, Rating, Repair, and Alteration*

API Recommended Practice 934-J, *Materials and Fabrication of 2 1/4Cr-1Mo, 2 1/4Cr-1Mo-1/4V, 3Cr-1Mo, and 3Cr-1Mo-1/4V Steel Heavy Wall Pressure Vessels for High-temperature, High-pressure Hydrogen Service*

API Recommended Practice 934-C, *Materials and Fabrication of 1 1/4Cr-1/2Mo Steel Heavy Wall Pressure Vessels for High-pressure Hydrogen Service Operating at or Below 825 °F (441 °C)*

API Recommended Practice 934-E, *Recommended Practice for Materials and Fabrication of 1 1/4Cr-1/2Mo Steel Pressure Vessels for Service Above 825 °F (440 °C)*

ASME Boiler and Pressure Vessel Code (BPVC)¹, *Section I, Rules for Construction of Power Boilers*

ASME Boiler and Pressure Vessel Code (BPVC) *Section II, Part C: Specifications for Welding Rods, Electrodes, and Filler Metals*

ASME BPVC, *Section VIII: Rules for Construction of Pressure Vessels*

ASME BPVC, *Section IX: Welding and Brazing Qualifications*

¹ ASME International, 3 Park Avenue, New York, New York 10016-5990, www.asme.org.