

Welding Guidelines for the Chemical, Oil, and Gas Industries

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Contents

	Page
1	Scope 1
2	Normative References 1
3	Definitions 3
4	General Welding Requirements 3
5	Welding Processes 4
5.1	Acceptable Welding Processes 4
5.2	Limitations of Fusion Welding Processes 4
5.3	Single-sided Welded Joints 7
5.4	Combining Welding Processes 7
5.5	Mechanized and Automated Welding Processes 7
6	Welding Consumables (Filler Metal and Flux) 7
6.1	General 7
6.2	Dissimilar Welding 8
6.3	Low-alloy Steel Welding (P-No. 3 to P-No. 5 and P-No. 15E) 9
6.4	Stainless Steel Welding (P-No. 6, P-No. 7, and P-No. 8) 9
6.5	Duplex and Super Duplex Stainless Steel Welding 10
6.6	SAW 11
6.7	Electroslag Welding (for Corrosion Resistant Weld Overlay) 11
6.8	Consumable Storage and Handling 11
6.9	Alloy Consumable Controls 11
7	Shielding and Purging Gases 11
8	Preheating and Interpass Temperature 12
9	Post-weld Heat Treatment (PWHT) 12
10	Cleaning and Surface Preparation 16
11	Special Procedure Qualification Requirements/Testing 16
11.1	General 16
11.2	Tube-to-tubesheet Welding 17
11.3	Additional Procedure Qualification Requirements for Duplex and Super Duplex Stainless Steels 17
12	Other Items 19
12.1	Backing Materials 19
12.2	Peening 19
12.3	Weld Overlay and Clad Restoration (Back Cladding) 19
12.4	Temporary Attachments 20
12.5	Stud Welding 20
12.6	Hardness Testing—Weld Procedure Qualification and Production Testing 20
12.7	Single-pass Welds 20
12.8	Additional Production Requirements for Welding Duplex and Super Duplex Stainless Steel 20
	Annex A (informative) Welding Consumables for Shielded Metal Arc Welding (SMAW) 22
	Annex B (normative) Weld Overlay and Clad Restoration (Back Cladding) 27

Contents

Page

Tables

1	Diffusible Hydrogen Limits for FCAW Consumables	6
2	Application of Nickel-base Electrodes in Sulfidation and Non-sulfidation Environments	9
3	Additional Chemical Requirements for Duplex and Super Duplex Stainless Steel Consumables and As-welded Deposits 10	
4	Recommended Maximum Interpass Temperatures	13
5	Maximum Recommended Interpass Temperatures for Duplex and Super Duplex Stainless Steels	13
6	PWHT Temperatures and Holding Times	14
A.1	Carbon and Low-alloy Steel	23
A.2	Stainless Steel Alloys	24
A.3	Duplex Stainless Steels	25
A.4	Copper-nickel and Nickel-base Alloys	26
B.1	Filler Material Selection for Overlay of Carbon and Low-alloy Steels	28
B.2	Chemical Composition Requirements for Austenitic Stainless Steel Overlays	29

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-A, *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.