

Draft for rebalot #6245

Affected Publication: API Specification 16C, *Choke and Kill Equipment*, 3rd Edition, March 2021

Addendum 1

Throughout document:

Replace word “union” with “union connector(s)”

Section 2 Normative References: shall have the following updates:

- **Replace:** *ASTM E428, Standard Practice for Fabrication and Control of Steel Reference Blocks Used in Ultrasonic Inspection*

with:

ASTM E127 Standard Practice for Fabrication and Control of Flat Bottomed Hole Ultrasonic Standard Reference Blocks

- **Add:** *ISO 10893-2- Non-destructive testing of steel tubes - Part 2: Automated eddy current testing of seamless and welded (except submerged arc-welded) steel tubes for the detection of imperfections*
- **Add:** *ISO 10893-3- Non-destructive testing of steel tubes - Part 3: Automated full peripheral flux leakage testing of seamless and welded (except submerged arc-welded) ferromagnetic steel tubes for the detection of longitudinal and/or transverse imperfections*
- **Add:** *ISO 10893-5- Non-destructive testing of steel tubes - Part 5: Magnetic particle inspection of seamless and welded ferromagnetic steel tubes for the detection of surface imperfections*
- **Add:** *API Specification 20D, Qualification of Nondestructive Examination Services for Equipment Used in the Petroleum and Natural Gas Industry*
- **Add:** *ISO 10893-4- Non-destructive testing of steel tubes - Part 4: Liquid penetrant inspection of seamless and welded steel tubes for the detection of surface imperfections*

Table 6: Shall delete footnote ‘a’

5.13: Shall replace first paragraph:

Materials for mud gas separators shall satisfy the requirements of 10.14.2 and NACE MR0175.

with:

Materials for mud gas separators shall be in accordance with the requirements of NACE MR0175/ISO 15156.

5.13.1: Shall be moved and renumbered to 5.12.2.

Table 10: Shall be renumbered to Table 8.

Table 8: Shall be renumber to Table 9.

Table 9: Shall be renumber to Table 10.

Table 17- Quality Requirement of Impact testing for Metallic Parts (Wetted) reference: **Shall be changed from “5.13.2” to “5.12.2”**

Table 22 - Quality Requirement column reference for Impact testing:

Shall be changed from “5.13.2” to “5.12.2”

6.2.3 Shall replace 1st paragraph with the following:

When impact testing is required by the base material specification, the testing shall be performed in accordance with Annex G or, the alternative method below.

Section 7: The following shall be added and subsequent subsections renumbered and references updated:

7.1 General

The manufacturer shall establish, document, implement, and maintain a quality management system.

7.3.1: Shall be replaced with the following:

7.3.1 Nondestructive Examination (NDE) Personnel

NDE operations referred to in this standard (except visual inspection) shall be conducted by a minimum of a level II inspector.

Personnel performing NDE shall be qualified in accordance with the documented training program that conforms to the requirements specified in ISO 9712 or ASNT SNT-TC-1A.

7.4.1 General: Shall be replaced with the following:

Quality control activities shall be controlled by manufacturer's documented instructions that shall include appropriate methodology and quantitative or qualitative acceptance criteria.

Alternative NDE technologies may be used for surface and volumetric examinations when developed with controls established to require document method in a written practice, equipment calibrated and qualified, personnel trained, qualified and competent, process validated by a known accepted method, records of the validation maintained and approved by a level III. Acceptance criteria to be the same as the NDE method replaced.

7.4.2 Nondestructive Examination-Personnel Qualification: shall be replaced with the following:

Nondestructive examination (NDE) instructions shall be detailed regarding the requirements of this specification and those of applicable referenced standards. All NDE instructions shall be approved by a Level III individual.

Welding inspectors, NDE inspectors and dimensional inspectors, shall take and pass an annual vision examination, that includes near vision and color acuity in accordance with the manufacturer's documented procedures that conforms to the applicable requirements of ISO 9712 or ASNT SNT-TC-1A.

7.4.3.7.2.3- Shall change first bullet from:

- 1/16 in. (1.6 mm) flat bottom hole for metal thicknesses 1 through 1 1/2 in. (25.4 mm through 38.1 mm);

to:

-1/16 in. (1.6 mm) flat bottom hole for metal thicknesses less than 1 1/2 in. (38.1 mm);

7.4.12.2.1- Shall remove “Through-wall” from title.

7.4.12.2.2 NDE Outside Surface, 1st bullet: Shall change “ISO 9303” to “ISO 10893-10”.

7.4.12.2.2 NDE Outside Surface, 2nd bullet: Shall change “ISO 9402” to “ISO 10893-3” and change “ISO 9598” to “ISO 10893-3”.

7.4.12.2.2 NDE Outside Surface, 3rd bullet: Shall change from “ISO 9304” to “ISO 10893-2”.

7.4.12.2.2 Ultrasonic Testing – Inside Surface and 7.3.12.2.3 NDE Outside Surface: Shall combine to one subsection titled “7.4.12.2.2 NDE- Rigid Piping” and update the numbering of the subsequent subsections and references to the subsections.

7.4.12.2.3- NDE Calibration: shall replace paragraph with:

NDE equipment calibration shall be controlled and calibrated in accordance with 7.2.

NDE Personnel: The subsection shall be deleted, and subsequent subsections renumbered and references to the subsections updated.

7.4.12.2.4 Shall remove “Surface” from the title:

NDE Notch Standard

7.3.12.2.2: Shall change reference in 7.3.12.2.2 from 7.3.12.2.6 to 7.4.12.2.4.

7.5.11 Functional Testing: Shall be deleted.

10.2.5: Shall change title from- “Unions and Swivel Unions” to “Swivel Unions and Union Connectors”

10.2.5.2: Shall change “unions and swivel unions” to “*swivel unions and union connectors*”

10.2.5.3: Shall change “unions and swivel unions” to “*swivel unions and union connectors*”

10.2.5.4: Shall change “unions and swivel unions” to “*swivel unions and union connectors*”

10.6.1 Shall update with the highlighted text:

The pipe wall thickness for a rated working pressure of 10,000 psi (69.0 MPa) or less shall conform with ASME B31.3, Part 2, or ASME BPVC Section VIII, Division 2, or API 6X. For rated working pressures above 10,000 psi (69.0 MPa), ASME B31.3 Chapter 9, or ASME BPVC, Section VIII, Division 2, or API 6X shall be used. **The use of von Mises equivalent stress is permitted.**

10.14.2: Shall be replaced with:

Atmospheric mud gas separators shall be designed and constructed in conformance with ASME BPVC, Section VIII, Division 1, or equivalent national or international standards. The MGS shall be designed to a rated working pressure that conforms to or exceeds the greater of:

- a) the hydrostatic pressure, specified by the purchaser, resulting from the vent line being filled with mud at 2.2 specific gravity, or
- b) the hydrostatic pressure resulting from the vent line being filled with mud of the maximum density, as specified by the purchaser; or
- c) 125 psi.

The mud gas separator rated working pressure (RWP) shall be communicated to the purchaser. The manufacturer shall provide the vessel testing documentation prior to or upon delivery or receipt of the vessel.

A minimum of a 0.063-in. (1.6-mm) corrosion allowance shall be included in the wall thickness calculations. The design package shall state a required minimum acceptable metal thickness for the rated working pressure.

10.14.5 Shall be replaced with:

Structural attachments and the lifting apparatus shall be in conformance with an internationally recognized design code. When intended for offshore use, the additional requirements of API RP 2-A-WSD shall apply.

NOTE: Examples of Internationally recognized design codes include DNV, ABS, and ASME.

B.1: “+/- 25 °F (+/- 4 °C)” shall be changed to “+/- 25 °F (+/- 14 °C)”, and “+/- 15 °F (+/- 9 °C)” shall be changed to “+/- 15 °F (+/- 8 °C)”.

B.3.2 shall be changed to:

“+/- 1 %”

B.3.4 shall be changed to:

“+/- 0.25 %”