
Industrija za predelavo nafte in zemeljskega plina - Nevarjeni cevasti izdelki iz korozijsko odpornih zlitin, ki se uporabljajo kot zaščitne, proizvodne in priključne cevi ter pribor - Tehnični dobavni pogoji - Dopolnilo A1: Industrija za predelavo nafte in zemeljskega plina - Nevarjeni izdelki iz korozijsko odpornih zlitin, ki se uporabljajo kot zaščitne, proizvodne in priključne cevi ter pribor - Tehnični dobavni pogoji (ISO 13680:2020/DAM 1:2023)

Petroleum and natural gas industries - Corrosion-resistant alloy seamless tubular products for use as casing, tubing, coupling stock and accessory material - Technical delivery conditions - Amendment 1: Petroleum and natural gas industries - Corrosion-resistant alloy seamless products for use as casing, tubing, coupling stock and accessory material - Technical delivery conditions (ISO 13680:2020/DAM 1:2023)

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Erdöl- und Erdgasindustrie - Nahtlose Rohre aus korrosionsbeständigen Legierungen zur Verwendung als Futter- oder Steigrohre sowie Muffenvorrohre und Zusatzmaterial - Technische Lieferbedingungen - Änderung 1 (ISO 13680:2020/DAM 1:2023)

Industries du pétrole et du gaz naturel - Produits tubulaires sans soudure en acier allié résistant à la corrosion utilisés comme tubes de cuvelage, tubes de production, tubes-ébauches pour manchons et matériau pour accessoires - Conditions techniques de livraison - Amendement 1: Titre manqué (ISO 13680:2020/DAM 1:2023)

Ta slovenski standard je istoveten z: EN ISO 13680:2020/prA1

ICS:

| | | |
|-----------|---|--|
| 75.180.10 | Oprema za raziskovanje, vrtanje in odkopavanje | Exploratory, drilling and extraction equipment |
| 77.140.75 | Jeklene cevi in cevni profili za posebne namene | Steel pipes and tubes for specific use |

SIST EN ISO 13680:2020/oprA1:2023 en,fr,de

DRAFT AMENDMENT

ISO 13680:2020/DAM 1

ISO/TC 67/SC 5

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Petroleum and natural gas industries — Corrosion-resistant alloy seamless tubular products for use as casing, tubing, coupling stock and accessory material — Technical delivery conditions

AMENDMENT 1: Petroleum and natural gas industries — Corrosion-resistant alloy seamless products for use as casing, tubing, coupling stock and accessory material — Technical delivery conditions

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ICS: 77.140.75; 75.180.10

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 5, *Casing, tubing and drill pipe*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 12, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This amendment modifies the fourth edition (ISO 13680:2020), which has been technically revised.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Petroleum and natural gas industries — Corrosion-resistant alloy seamless tubular products for use as casing, tubing, coupling stock and accessory material — Technical delivery conditions

AMENDMENT 1: Petroleum and natural gas industries — Corrosion-resistant alloy seamless products for use as casing, tubing, coupling stock and accessory material — Technical delivery conditions

Warning statement

Replace the warning statement with the following:

WARNING — It is the purchaser's responsibility to specify the product specification level (PSL), corrosion-resistant alloy (CRA) group, category, grade, delivery conditions and any other requirement in addition to those specified herewith to ensure that the product is adequate for the intended service environment. The ISO 15156:2020 series should be considered when making specific requirements for H₂S-containing environments; see Annex G. It is the product user's responsibility to ensure that the product is suitable for the intended application with consideration of all environmental degradation threats during both normal operation and system upsets. There are other sources of hydrogen besides H₂S-containing environments, which are not addressed by the ISO 15156:2020 series.

1

Replace the first paragraph with the following:

This document specifies the technical delivery conditions for corrosion-resistant alloy seamless products for casing, tubing, coupling stock and accessory material (including coupling stock and accessory material from bar) for two product specification levels:

Replace the third paragraph with the following:

- PSL-2, which provides additional requirements for a product that is intended to be both corrosion and cracking resistant for the environments and qualification method specified in Annex G and in the ISO 15156:2020 series.

Replace the NOTE 2 with the following:

NOTE 2 For the purpose of this document, NACE MR0175 is equivalent to the ISO 15156:2020 series.

Replace the NOTE 4 with the following:

NOTE 4 Not all PSL-1 categories and grades can be made cracking resistant in accordance with the ISO 15156:2020 series and are, therefore, not included in PSL-2.

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2

Replace the first paragraph with the following:

The following documents, as applicable for the product, are referred to in the text in such a way that some or all of their content constitutes requirements 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.

Replace the reference to ISO 15156 (all parts) with the following:

ISO 15156:2020 (all parts), *Petroleum and natural gas industries — Materials for use in H₂S-containing environments in oil and gas production*

Replace the reference to ISO 15156-3:2015 with the following:

ISO 15156-3:2020, *Petroleum and natural gas industries — Materials for use in H₂S-containing environments in oil and gas production — Part 3: Cracking-resistant CRAs (corrosion-resistant alloys) and other alloys*

Replace the reference to ASTM E709 with the following:

ASTM E3024, *Standard Practice for Magnetic Particle Testing for General Industry*

3.1.7

Replace the definition with the following:

seamless thick-wall *product* (3.1.18) used for the manufacture of *coupling blanks* (3.1.6)

3.1.8

Replace the definition with the following:

imperfection (3.1.11) having sufficient magnitude to warrant rejection of the *length* (3.1.14) based on criteria defined in this standard

3.1.17

Replace the definition with the following:

plain end, either upset or non-upset, furnished without threads, *casing* (3.1.3), *tubing* (3.1.23) and *pup joint* (3.1.19) as group

3.1.18

Remove: tubular product

4.1, first paragraph

Replace the first paragraph with the following:

In the interests of worldwide application of this document, certain normative references listed in Clause 2 are interchangeable in the context of the relevant requirement with the relevant

2

document prepared by the American Petroleum Institute (API) or the American Society for Testing and Materials (ASTM), as recognized by the American National Standards Institute (ANSI). These latter documents are cited in the running text following the ISO reference and preceded by “or”, for example “ISO XXXX or API YYYY”.

5.1, Table 1

In the column “Requirement” for item g), replace with the following:

Length requirements

5.1, Table 2

In the column “Requirement” for item s), replace with the following:

Alternative drift mandrel

In the column “Requirement” for item w), replace with the following:

Specimen preparation (grinding/polishing/pickling) for group 2 pitting corrosion test

In the column “Requirement” for item x), replace with the following:

Retest provision for group 2 pitting corrosion test

6.4

Replace the section with the following:

6.4.1 When straightening is performed after heat treatment for group 1, products shall be hot-rotary straightened at 400 °C (750 °F) minimum at the end of rotary straightening, unless a higher minimum temperature is specified in the purchase agreement. If hot rotary straightening is not possible, the product may be cold straightened, provided it is then stress-relieved at 510 °C (950 °F) or higher. Light gag-press straightening shall be permitted, without subsequent stress relieving, if the induced maximum fibre strain is not exceeding the value validated by the manufacturer at the time of process validation (see 6.5).

6.4.2 When straightening is performed for groups 2, 3 and 4, products shall be straightened, either using rotary straightening, gag-press straightening or a combination of both when necessary, utilizing parameters not exceeding the limits defined during validation of the process (see 6.5).

6.5

Replace the title with the following:

Processes requiring validation

Replace the section with the following:

6.5.1 Those processes requiring validation are

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- non-destructive examination (see 9.17.8),
- final heat treatment for group 1 (excluding stress relieving) and solution annealed group 2 materials,
- final solution annealing before last cold hardening operations for groups 2, 3 and 4 cold hardened material,
- stress relieving, if applicable,
- cold straightening, if applicable, for group 1 [except when cold straightening is followed by stress relieving (see 6.4)] and solution annealed group 2 materials (see 6.5.3), and
- cold finishing processes not followed by heat treatment for groups 2, 3 and 4 CH materials, including deformation induced by cold straightening (if applicable).

6.5.2 Validation of heat treatment shall include verification of chromium depletion as per 6.2.

6.5.3 Validation of cold straightening shall include verification of mechanical properties.

For rotary cold straightening, validation shall be for all quadrants at both ends and the mid-length of the product. When required, flattening tests shall be performed at both ends and the mid-length of the product.

For gag straightening, validation shall be at the longitudinal location of the product where deformation is greatest and shall include testing at the maximum tensile and compressive strain locations (see Figure B.9). The tested length shall be representative of material that has been subject to the maximum induced fibre strain typical for the straightening operation, as determined by the manufacturer.

Manufacturers shall document the extent of the validation and the method used for validation, including but not limited to the validation data, analyses, conclusions and range of products, size range, wall thickness and manufacturing facilities. For gag straightening, the documentation of maximum induced fibre strain shall take into account maximum deflection, equipment set-up such as distance between supports and product dimensional range.

7.4.2, second paragraph

Replace the second paragraph with the following NOTE:

NOTE As a guideline, the purchaser of accessory material can specify a critical thickness that is no less than the thickness of the cross-section of the intended accessory with the lowest t/D ratio, where D is the specified outside diameter and t is the calculated wall thickness at that section. For special end-finish connections, the critical thickness for externally threaded members is the specified pipe body thickness, while for internally threaded members it is the calculated thickness of the internally threaded member at the plane of the small end of the pin (when the connection is made up power-tight).

7.9.1

Replace the section with the following:

At the purchaser's option, quality control corrosion testing may be specified in the purchase agreement.

NOTE Corrosion testing for quality control purposes is not mandatory and is not normally required.

7.10.1, second paragraph

Replace the second paragraph with the following:

For category 13-1-0, the ferrite content may exceed 2 % by agreement between purchaser and manufacturer.

7.10.2, NOTE

Replace the NOTE with the following:

NOTE While determination of the nitride phase balance is impractical, the presence of nitrides in the ferrite phase reduces the Charpy V-notch property, increases micro hardness in the ferrite phase and reduces the breakthrough pitting corrosion potential. Quality control to avoid excessive nitrides is therefore best achieved by meeting the impact and corrosion properties given in 7.8 and 7.9.

8.2

Replace the section with the following:

Unless otherwise agreed between the purchaser and manufacturer, the pipes shall be delivered with the length requirements listed in Table A.17 or Table C.17.

8.3.4, second paragraph

Replace the second paragraph with the following:

An alternative drift mandrel size may be specified by the purchaser. For common alternative drift sizes, see Table A.20 or Table C.20.

9.6.2, first paragraph

Replace the first paragraph with the following:

A test block shall be tested in one quadrant. A row of three hardness indentations shall be made at required locations (outer, midwall, inner as applicable) and the hardness numbers shall be averaged to give one mean hardness number for each location. An illustration is given in Figure B.4, key item 4.

9.6.6, second and third paragraph

Replace the second and third paragraphs with the following:

If the new mean hardness number conforms to the requirements, the length shall be accepted.

If the new mean hardness number fails to conform to the requirements, the length shall be rejected.

9.11.3

Replace the section with the following:

Wall thickness measurements shall be made with a mechanical calliper, micrometer or with a calibrated non-destructive examination device of appropriate accuracy. When mechanical callipers or micrometers are used, the shape of the contacts or anvil in contact with the inside diameter shall be either round, point or knife edge. In case of dispute, the measurement determined by use of the mechanical calliper shall govern. The mechanical calliper shall be fitted with contact pins having