



NSAI
Standards

Irish Standard
I.S. EN ISO 13680:2020

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

I.S. EN ISO 13680:2020

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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National Foreword

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EUROPEAN STANDARD

EN ISO 13680

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Supersedes EN ISO 13680:2010

English Version

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

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 (ISO 13680:2020)

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

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 13680:2020 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 13680:2020) has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" in collaboration with Technical Committee CEN/TC 12 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2020, and conflicting national standards shall be withdrawn at the latest by December 2020.

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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

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



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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

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Contents

	Page
Foreword	vii
Introduction	viii
1 Scope	1
2 Normative references	2
3 Terms, definitions, abbreviated terms and symbols	4
3.1 Terms and definitions.....	4
3.2 Abbreviated terms.....	6
3.3 Symbols.....	7
4 General	8
4.1 Dual normative references.....	8
4.2 Units of measurement.....	8
5 Information supplied by the purchaser	8
6 Manufacturing process	11
6.1 Melting practices.....	11
6.2 Product manufacturing process.....	11
6.3 Pipe end sizing.....	11
6.4 Straightening.....	11
6.5 Process requiring validation.....	12
6.6 Traceability.....	12
6.7 Manufacturing procedure qualification test.....	12
6.8 Process for update of alloys and/or grades.....	12
7 Material requirements	13
7.1 Chemical composition.....	13
7.2 Tensile properties.....	13
7.3 Hardness properties.....	13
7.4 Charpy V-notch test properties — General requirements.....	13
7.4.1 Evaluation of test results.....	13
7.4.2 Critical thickness.....	14
7.4.3 Specimen size, orientation and hierarchy.....	14
7.4.4 Alternative size impact test specimens.....	14
7.4.5 Sub-size test specimens.....	14
7.4.6 Test temperature.....	14
7.5 Charpy V-notch — Absorbed energy requirements for coupling stock and accessory material — All grades.....	14
7.5.1 General.....	14
7.5.2 Requirements for all grades.....	15
7.6 Charpy V-notch — Absorbed energy requirements for pipe — All grades.....	15
7.7 Flattening requirements.....	16
7.8 Charpy V-notch test properties at low temperature for group 2.....	17
7.8.1 General.....	17
7.8.2 Evaluation of test results.....	17
7.8.3 Selection of test specimens.....	17
7.8.4 Test temperature.....	17
7.8.5 Absorbed energy requirements.....	17
7.9 Corrosion properties.....	17
7.9.1 General.....	17
7.9.2 Pitting corrosion properties for group 2.....	18
7.10 Microstructure properties.....	18
7.10.1 Group 1.....	18
7.10.2 Group 2.....	18
7.10.3 Groups 3 and 4.....	18
7.11 Surface condition.....	18

ISO 13680:2020(E)

7.12	Defects.....	19
7.12.1	Pipe.....	19
7.12.2	Coupling stock and accessory material.....	19
7.12.3	Process control plan.....	19
8	Dimensions, masses and tolerances.....	19
8.1	Outside diameter, wall thickness and mass.....	19
8.2	Length.....	20
8.3	Tolerances.....	20
8.3.1	Tolerance on outside diameter, wall thickness and mass.....	20
8.3.2	Inside diameter, <i>d</i>	20
8.3.3	Straightness.....	20
8.3.4	Drift requirements.....	20
8.4	Product ends.....	20
9	Inspection and testing.....	21
9.1	Test equipment.....	21
9.2	Type and frequency of tests.....	21
9.3	Testing of chemical composition.....	21
9.3.1	Chemical analysis.....	21
9.3.2	Test method.....	21
9.3.3	Chromium depletion test — Groups 2, 3 and 4.....	21
9.4	Testing of mechanical characteristics.....	22
9.4.1	Test lot.....	22
9.4.2	Selection and preparation of samples and test pieces.....	22
9.5	Tensile test.....	22
9.5.1	Orientation and size of test pieces.....	22
9.5.2	Test method.....	22
9.5.3	Invalidation of test.....	22
9.5.4	Retest.....	22
9.6	Hardness test.....	23
9.6.1	Test pieces.....	23
9.6.2	Test method.....	23
9.6.3	Invalidation of tests.....	24
9.6.4	Periodic checks of hardness-testing machines.....	24
9.6.5	Verification of hardness-testing machines and indenters.....	24
9.6.6	Retests.....	25
9.7	Impact or flattening test.....	26
9.7.1	Test pieces.....	26
9.7.2	Frequency of testing.....	26
9.7.3	Impact test method.....	26
9.7.4	Flattening test method.....	27
9.7.5	Impact test retest.....	27
9.7.6	Flattening test retest.....	27
9.7.7	Invalidation of tests.....	28
9.8	Impact test at low temperature for group 2.....	28
9.9	Pitting corrosion test for group 2.....	28
9.10	Microstructural examination.....	29
9.10.1	Test pieces.....	29
9.10.2	Test method.....	29
9.10.3	Retest.....	30
9.11	Dimensional testing.....	30
9.11.1	General.....	30
9.11.2	Outside diameter.....	30
9.11.3	Wall thickness at end of products.....	30
9.11.4	Wall thickness of product body.....	30
9.12	Drift test.....	31
9.12.1	Non-upset and external upset pipe.....	31
9.12.2	Internal upset pipe.....	31

9.12.3	Drift mandrel coating.....	31
9.13	Length.....	31
9.14	Straightness.....	31
9.15	Mass determination.....	31
9.16	Visual inspection.....	31
9.16.1	General.....	31
9.16.2	Pipe body, coupling stock and accessory material.....	32
9.16.3	Pipe ends.....	32
9.16.4	Disposition.....	32
9.17	Non-destructive examination.....	32
9.17.1	General.....	32
9.17.2	NDE personnel.....	33
9.17.3	Products.....	33
9.17.4	Pup joints.....	33
9.17.5	Untested ends.....	33
9.17.6	Upset ends.....	33
9.17.7	Reference standards.....	34
9.17.8	NDE system capability records.....	34
9.17.9	All product group 1.....	35
9.17.10	Full-body NDE of product — Groups 2, 3 and 4.....	35
9.17.11	Pipe, coupling stock and accessory material requiring further evaluation.....	35
9.17.12	Evaluation of indications (prove-up).....	35
9.17.13	Disposition of pipe containing defects.....	36
9.17.14	Disposition of coupling stock and accessory material containing defects.....	37
9.18	Positive material identification.....	37
10	Surface treatment.....	38
10.1	Group 1.....	38
10.2	Groups 2, 3 and 4.....	38
11	Marking.....	39
11.1	General.....	39
11.2	Colour-code identification.....	39
11.3	Marking content and sequence.....	39
11.4	Marking informative for couplings, pup joints and accessories after threading.....	40
12	Surface protection — Group 1.....	40
13	Documents.....	41
13.1	Electronic media.....	41
13.2	Retention of records.....	41
13.3	Test certificates.....	41
14	Handling, packaging and storage.....	42
14.1	General.....	42
14.2	Handling.....	42
14.3	Packaging.....	42
14.3.1	General.....	42
14.3.2	Identification.....	42
14.4	Storage.....	43
Annex A	(normative) Tables in SI units.....	44
Annex B	(normative) Figures in SI (USC) units.....	68
Annex C	(normative) Tables in USC units.....	73
Annex D	(normative) Purchaser inspection.....	97
Annex E	(normative) Cleanliness requirements.....	98
Annex F	(normative) Coupling blanks and accessory material from bar.....	100
Annex G	(normative) Product specification level 2 (PSL-2).....	115

ISO 13680:2020(E)

Annex H (normative) Standardized manufacturing procedure qualification test.....	117
Annex I (informative) Photographic examples of microstructures, groups 2, 3 and 4.....	121
Bibliography	125

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 fourth edition cancels and replaces the third edition (ISO 13680:2010), which has been technically revised. The main changes compared to the previous edition are as follows:

- change of title and scope so that it includes accessory material and group 5;
- deletion of [Annex E](#);
- addition of new [Annex F](#), [Annex H](#) and [Annex I](#);
- update of warning statement;
- complete revision of the technical content.

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.

ISO 13680:2020(E)

Introduction

Users of this document should be aware that further or differing requirements can be needed for individual applications. This document is not intended to inhibit a vendor from offering, or the purchaser from accepting, alternative equipment or engineering solutions for the individual application. This is particularly relevant to innovative or developing technology. Where an alternative is offered, it is the responsibility of the vendor to identify any variations from this document and provide details.

In this document, the following verbal forms are used:

- a) “shall” indicates a requirement;
- b) “should” indicates a recommendation;
- c) “may” indicates a permission;
- d) “can” indicates a possibility or a capability.

Information marked as “NOTE” is for guidance in understanding or clarifying the associated requirement. “Notes to entry” used in [Clause 3](#) provide additional information that supplements the terminological data and can contain provisions relating to the use of a term.

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

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 series should be considered when making specific requirements for H₂S-containing environment; see [Annex G](#). Other variables which can contribute to hydrogen embrittlement should be considered. There are other sources of hydrogen besides H₂S containing environments, which are not addressed by the ISO 15156 series.

1 Scope

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

- PSL-1, which is the basis of this document;
- 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 series.

At the option of the manufacturer, PSL-2 products can be provided in lieu of PSL-1.

NOTE 1 The corrosion-resistant alloys included in this document are special alloys in accordance with ISO 4948-1 and ISO 4948-2.

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

NOTE 3 Accessory products can be manufactured from coupling stock and tubular material, or from solid bar stock or from bored and heat-treated bar stock as covered in [Annex F](#).

This document contains no provisions relating to the connection of individual lengths of pipe.

This document contains provisions relating to marking of tubing and casing after threading.

This document is applicable to the following five groups of products:

- a) group 1, which is composed of stainless alloys with a martensitic or martensitic/ferritic structure;
- b) group 2, which is composed of stainless alloys with a ferritic-austenitic structure, such as duplex and super-duplex stainless alloy;
- c) group 3, which is composed of stainless alloys with an austenitic structure (iron base);
- d) group 4, which is composed of nickel-based alloys with an austenitic structure (nickel base);
- e) group 5, which is composed of bar only ([Annex F](#)) in age-hardened (AH) nickel-based alloys with austenitic structure.

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

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