Specification for Corrosion-resistant Alloy Seamless Tubes for Use as Casing, Tubing, and Coupling Stock

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Shall: As used in a standard, “shall” denotes a minimum requirement in order to conform to the specification.

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 13680 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*.

This third edition cancels and replaces the second edition (ISO 13680:2008), which has been technically revised, after the six-month overlap period. (It also incorporates the Technical corrigenda ISO 13680:2000/Cor.1:2002 and ISO 13680:2000/Cor.2:2004, which were covered in the second edition.)

It is the intent of ISO/TC 67 that the first and second editions of ISO 13680 both be applicable, at the option of the purchaser, for a period of six months from the first day of the calendar quarter immediately following the date of publication of this second edition, after which period the first edition will no longer be applicable.

Introduction

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

This International Standard includes requirements of various nature. These are identified by the use of certain verbal forms:

SHALL is used to indicate that a provision is MANDATORY;

SHOULD is used to indicate that a provision is not mandatory, but RECOMMENDED as good practice;

MAY is used to indicate that a provision is OPTIONAL.

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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 requirements in addition to those specified herewith to ensure that the product is adequate for the intended service environment. ISO 15156 (all parts) or NACE MR0175/ISO 15156 should be considered when making specific requirements for H_2S containing environment (see Annex G).

1 Scope

This International Standard specifies the technical delivery conditions for corrosion-resistant alloy seamless tubulars for casing, tubing and coupling stock for two product specification levels:

— PSL-1, which is the basis of this International Standard;

— PSL-2, which provides additional requirements for a product that is intended to be both corrosion resistant and cracking resistant for the environments and qualification method specified in ISO 15156-3 and Annex G of this International Standard.

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 International Standard are special alloys in accordance with ISO 4948-1 and ISO 4948-2.

This International Standard is applicable to the following four groups of product:

a) group 1, which is comprised of stainless alloys with a martensitic or martensitic/ferritic structure;

b) group 2, which is comprised of stainless alloys with a ferritic-austenitic structure, such as duplex and super-duplex stainless alloy;

c) group 3, which is comprised of stainless alloys with an austenitic structure (iron base);

d) group 4, which is comprised of nickel-based alloys with an austenitic structure (nickel base).

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

NOTE 2 The connection or joining method can influence the corrosion performance of the materials specified in this International Standard.

NOTE 3 It is necessary to recognize that not all PSL-1 categories and grades can be made cracking resistant per ISO 15156-3 and are, therefore, not included in PSL-2.