Specification for Casing and Tubing

API Specification 5CT
Eighth Edition, July 1, 2005

ISO 11960:2004, Petroleum and natural gas industries—Steel pipes for use as casing or tubing for wells

EFFECTIVE DATE: JANUARY 1, 2006

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API Foreword

This standard is under the jurisdiction of the API Standards Subcommittee on Tubular Goods (API C1/SC5). This API standard is identical with the English version of ISO 11960:2004. ISO 11960 was prepared by Technical Committee ISO/TC 67, Materials, equipment and offshore structures for petroleum and natural gas industries, SC 5, Casing, Tubing, and Drilling Pipe.

This standard shall become effective on the date printed on the cover but may be used voluntarily from the date of publication.

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Contents

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 11960 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 11960:2001), which has been technically revised. It also incorporates the Technical Corrigendum ISO 11960:2001/Cor.1:2002.

It is the intent of TC 67 that the second and third editions of ISO 11960 both be applicable, at the option of the purchaser (as defined in 4.1.35), for a period of six months from the first day of the calendar quarter immediately following the date of publication of this third edition, after which period the second edition will no longer be applicable.

Introduction

This International Standard is based on API 5CT (Specification for Casing and Tubing).

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.

Petroleum and natural gas industries — Steel pipes for use as casing or tubing for wells

1 Scope

1.1 This International Standard specifies the technical delivery conditions for steel pipes (casing, tubing, plain-end casing liners and pup joints), coupling stock and accessories and establishes requirements for three Product Specification Levels (PSL-1, PSL-2, PSL-3). The requirements for PSL-1 are the basis of this International Standard. The requirements that define different levels of standard technical requirements for PSL-2 and PSL-3, for all Grades except H-40 and L-80 9Cr, are contained in Annex H.

For pipes covered by this International Standard, the sizes, masses and wall thicknesses as well as grades and applicable end-finishes are listed in Tables C.1 to C.3 and Tables E.1 to E.3.

By agreement between the purchaser and manufacturer, this International Standard can also be applied to other plain-end pipe sizes and wall thicknesses.

This International Standard is applicable to the following connections in accordance with API Spec 5B:

— short round thread casing (STC);

— long round thread casing (LC);

— buttress thread casing (BC);

— extreme-line casing (XC);

— non-upset tubing (NU);

— external upset tubing (EU);

— integral joint tubing (IJ).

For such connections, this International Standard specifies the technical delivery conditions for couplings and thread protection. Supplementary requirements that may optionally be agreed for enhanced leak resistance connections are given in Annex A.11 (SR22).

This International Standard can also be applied to tubulars with connections not covered by ISO/API standards.

1.2 The four groups of products to which this International Standard is applicable include the following grades of pipe:

— Group 1: All casing and tubing in Grades H, J, K and N;

— Group 2: All casing and tubing in Grades C, L, M and T;

— Group 3: All casing and tubing in Grade P;

— Group 4: All casing in Grade Q.