



**SLOVENSKI STANDARD  
SIST EN ISO 15546:2004**

**01-maj-2004**

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**Petroleum and natural gas industries - Aluminium alloy drill pipe (ISO 15546:2002)**

Petroleum and natural gas industries - Aluminium alloy drill pipe (ISO 15546:2002)

Erdöl- und Erdgasindustrie - Bohrröhre aus Aluminiumlegierungen (ISO 15546:2002)

Industries du pétrole et du gaz naturel - Tige de forage en alliage d'aluminium (ISO 15546:2002)

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**Ta slovenski standard je istoveten z: EN ISO 15546:2002**

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**ICS:**

75.180.10	Oprema za raziskovanje in odkopavanje	Exploratory and extraction equipment
77.150.10	Aluminijski izdelki	Aluminium products

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**en**

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ICS 75.180.10; 77.150.10

English version

**Petroleum and natural gas industries - Aluminium alloy drill pipe  
(ISO 15546:2002)**

Industries du pétrole et du gaz naturel - Tige de forage en  
alliage d'aluminium (ISO 15546:2002)

This European Standard was approved by CEN on 27 November 2002.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: rue de Stassart, 36 B-1050 Brussels**

## Foreword

This document (EN ISO 15546:2002) has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum and natural gas industries" in collaboration with Technical Committee CEN/TC 12 "Materials, equipment and offshore structures for petroleum and natural gas industries", the secretariat of which is held by AFNOR.

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 June 2003, and conflicting national standards shall be withdrawn at the latest by June 2003.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

**NOTE FROM CMC** The foreword is susceptible to be amended on reception of the German language version. The confirmed or amended foreword, and when appropriate, the normative annex ZA for the references to international publications with their relevant European publications will be circulated with the German version.

## iTeh STANDARD PREVIEW Endorsement notice (standards.iteh.ai)

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**Petroleum and natural gas industries —  
Aluminium alloy drill pipe**

*Industries du pétrole et du gaz naturel — Tige de forage en alliage  
d'aluminium*

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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 15546 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*.

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## Introduction

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

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# Petroleum and natural gas industries — Aluminium alloy drill pipe

## 1 Scope

This International Standard specifies the technical delivery condition, manufacturing process, material requirements, configuration and dimensions, and verification and inspection procedures for aluminium alloy drill pipes with or without attached steel tool joints for use in drilling and production operations in the petroleum and natural gas industries.

## 2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 2566-1, *Steel — Conversion of elongation values — Part 1: Carbon and low alloy steels*

ISO 6892, *Metallic materials — Tensile testing at ambient temperature*

ISO 9303, *Seamless and welded (except submerged arc-welded) steel tubes for pressure purposes — Full peripheral ultrasonic testing for the detection of longitudinal imperfections*

ISO 11484, *Steel tubes for pressure purposes — Qualification and certification of non-destructive testing (NDT) personnel*

ASTM<sup>1)</sup> A370, *Standard Test Methods and Definitions for Mechanical Testing of Steel Products*

ASTM G1, *Standard Practice for Preparing, Cleaning, and Evaluating Corrosion Test Specimens*

ASTM G44, *Standard for Exposure of Metals and Alloys by Alternate Immersion in Neutral 3,5 % Sodium Chloride Solution*

API<sup>2)</sup> Spec 7, *Specification for Rotary Drill Stem Elements*

*Manual on Statistical Planning and Analysis for Fatigue Experiments* — STP-588, ASTM

## 3 Terms, definitions and symbols

### 3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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1) American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103-1187, USA.

2) American Petroleum Institute, 1220 L Street NW, Washington D.C. 20005, USA.

**3.1.1  
defect**

imperfection of sufficient magnitude to warrant rejection of the product

NOTE Rejection will be based on the provisions of this International Standard.

**3.1.2  
drill pipe**

seamless pipe used to rotate the drill bit and circulate the drilling mud, pipes being coupled together by means of tool joints

**3.1.3  
heat**

metal produced by a single cycle of a batch melting process

**3.1.4  
imperfection**

discontinuity or irregularity in the product

NOTE Imperfections are detected by methods outlined in this International Standard.

**3.1.5  
lot**

lengths of pipe with the same specified dimensions and grade, heat treated as part of a continuous operation (or batch), and which are of a single heat or from different heats grouped according to documented procedure

NOTE The documented procedure will ensure that the appropriate requirements of this International Standard are met.

**3.1.6  
manufacturer**

firm, company or corporation responsible for marking the product

NOTE Marking by the manufacturer warrants that the product conforms to this International Standard, and it is the manufacturer who is responsible for compliance with all of its applicable provisions.

**3.1.7  
pipe mill**

firm, company or corporation that operates pipe-making facilities

**3.1.8  
processor**

firm, company or corporation that operates facilities capable of cutting the threads and assembly of the pipe with the tool joints

**3.1.9  
seamless pipe**

wrought tubular product made without a welded seam, manufactured by hot working and, if necessary, by subsequent cold finishing of the tubular product to produce the desired shape, dimensions and properties

**3.2 Symbols**

The following symbols are used in this International Standard.

- $D$  Pipe body outside diameter, expressed in millimetres
- $D_1$  Outside diameter of upset end, expressed in millimetres
- $D_2$  Diameter, thread end groove in the pipe end plane, expressed in millimetres
- $D_3$  Pipe end outside diameter, expressed in millimetres