SLOVENSKI STANDARD
SIST EN ISO 16070:2006

01-september-2006

Industrija za predelavo nafte in zemeljskega plina – Oprema za vrtine – Zaklepna vpenjala in pristajalni prijemki (ISO 16070:2005)

Petroleum and natural gas industries - Downhole equipment - Lock mandrels and landing nipples (ISO 16070:2005)

Erdöl- und Erdgasindustrie - Bohrloch-Ausrüstung - Abhängestücke und Landenippel (ISO 16070:2005)

Industries du pétrole et du gaz naturel - Equipement de fond de trou - Mandrins a clé d'ancrage et sieges d'ancrage (ISO 16070:2005)

Ta slovenski standard je istoveten z: **EN ISO 16070:2005**

ICS:

75.180.10	Oprema za raziskovanje in odkopavanje	Exploratory and extraction equipment

SIST EN ISO 16070:2006 **en,fr**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 16070

December 2005

ICS 75.180.10

Supersedes EN ISO 16070:2001

English Version

Petroleum and natural gas industries - Downhole equipment - Lock mandrels and landing nipples (ISO 16070:2005)

Industries du pétrole et du gaz naturel - Equipement de fond de trou - Mandrins à clé d'ancrage et sièges d'ancrage (ISO 16070:2005)

Erdöl- und Erdgasindustrie - Bohrloch-Ausrüstung - Abhängestücke und Landenippel (ISO 16070:2005)

This European Standard was approved by CEN on 26 September 2005.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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 Central Secretariat has the same status as the official versions.

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

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

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

Ref. No. EN ISO 16070:2005: E

Foreword

This document (EN ISO 16070:2005) 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, petrochemical 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 2006, and conflicting national standards shall be withdrawn at the latest by June 2006.

This document supersedes EN ISO 16070:2001.

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

Endorsement notice

The text of ISO 16070:2005 has been approved by CEN as EN ISO 16070:2005 without any modifications.

INTERNATIONAL STANDARD

ISO 16070

Second edition
2005-12-15

Petroleum and natural gas industries — Downhole equipment — Lock mandrels and landing nipples

Industries du pétrole et du gaz naturel — Équipement de fond de trou — Mandrins à clé d'ancrage et sièges d'ancrage

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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 16070 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 4, *Drilling and production equipment*.

This second edition cancels and replaces the first edition (ISO 16070:2001), which has been technically revised.

Introduction

This International Standard has been developed by users/purchasers and suppliers/manufacturers of lock mandrels and landing nipples intended for use in the petroleum and natural gas industry worldwide. This International Standard is intended to give requirements and information to both parties in the selection, manufacture, testing and use of lock mandrels and landing nipples. Furthermore, this International Standard addresses the minimum requirements with which the supplier/manufacturer is to comply so as to claim conformity to this International Standard.

This International Standard has been structured to allow for grades of increased requirements in quality documentation and design validation. These variations allow the user/purchaser to select the grade required for a specific application.

There are two quality documentation grades which provide the user/purchaser the choice of requirements to meet specific preference or application. Quality documentation grade Q2 is the minimum grade of documentation offered by this International Standard. Grade Q1 provides additional material documentation.

There are three design validation grades which provide the user/purchaser the choice of requirements to meet specific preference or application. Design validation grade V3 is the minimum grade and represents equipment where the validation method has been defined by the supplier/manufacturer. The complexity and severity of the validation testing increases as the grade number decreases.

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

Petroleum and natural gas industries — Downhole equipment — Lock mandrels and landing nipples

1 Scope

This International Standard provides the requirements for lock mandrels and landing nipples within the production/injection conduit for the installation of flow control or other equipment used in the petroleum and natural gas industries. It includes the interface connections to the flow control or other equipment, but does not cover the connections to the well conduit.

2 Normative references

The following referenced documents are indispensable for the application of this document. The way in which these referenced documents are cited determines the extent (in whole or part) to which they apply. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 3601-1, *Fluid power systems — O-rings — Part 1: Inside diameters, cross-sections, tolerances and size identification code*

ISO 3601-3, *Fluid power systems — O-rings — Part 3: Quality acceptance criteria*

ISO 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method*

ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*

ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)*

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

ISO 9712, *Non-destructive testing — Qualification and certification of personnel*

ISO 13628-3, *Petroleum and natural gas industries — Design and operation of subsea production systems — Part 3: Through flowline (TFL) systems*

ISO 13665, *Seamless and welded steel tubes for pressure purposes — Magnetic particle inspection of the tube body for the detection of surface imperfections*

ISO 15156-1, *Petroleum and natural gas industries — Materials for use in H_2S-containing environments in oil and gas production — Part 1: General principles for selection of cracking-resistant materials*

ISO 15156-2, *Petroleum and natural gas industries — Materials for use in H_2S-containing environments in oil and gas production — Part 2: Cracking-resistant carbon and low alloy steels, and the use of cast irons*

ISO 15156-3, *Petroleum and natural gas industries — Materials for use in H_2S-containing environments in oil and gas production — Part 3: Cracking-resistant CRAs (corrosion-resistant alloys) and other alloys*

API Spec 5B[1] , *Specification for threading, gauging, and thread inspection of casing, tubing, and line pipe threads*

ASME Boiler and Pressure Vessel Code:2004[2], Section V, *Non-destructive examination*

ASME Boiler and Pressure Vessel Code:2004, Section VIII, Division 1, *Rules for construction of pressure vessels*

ASME Boiler and Pressure Vessel Code:2004, Section IX, *Welding and brazing qualifications*

ASTM A 388/A 388M[3], *Standard practice for ultrasonic examination of heavy steel forgings*

ASTM A 609/A 609M, *Standard practice for castings, carbon, low-alloy, and martensitic stainless steel, ultrasonic examination thereof*

ASTM D 395, *Standard test methods for rubber property — Compression set*

ASTM D 412, *Standard test methods for vulcanized rubber and thermoplastic rubbers and thermoplastic elastomers — Tension*

ASTM D 638, *Standard test method for tensile properties of plastics*

ASTM D 1414, *Standard test methods for rubber O-rings*

ASTM D 1415, *Standard test method for rubber property — International hardness*

ASTM D 2240, *Standard test methods for rubber property — Durometer hardness*

ASTM E 94, *Standard guide for radiographic examination*

ASTM E 140, *Standard hardness conversion tables for metals (relationship among Brinell hardness, Vickers hardness, Rockwell hardness, Rockwell superficial hardness, Knoop hardness, and scleroscope hardness)*

ASTM E 165, *Standard test method for liquid penetrant examination*

ASTM E 186, *Standard reference radiographs for heavy-walled [2 to 4 ½-in. (51 to 114-mm)] steel castings*

ASTM E 280, *Standard reference radiographs for heavy-walled [4 ½ to 12-in. (114 to 305-mm)] steel castings*

ASTM E 428, *Standard practice for fabrication and control of steel reference blocks used in ultrasonic examination*

ASTM E 446, *Standard reference radiographs for steel castings up to 2 in. (51 mm) in thickness*

BS 2M 54:1991[4], *Specification for temperature control in the heat treatment of metals*

SAE-AMS-H-6875:1998[5], *Heat treatment of steel raw materials*

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2) American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016-5990, USA.

3) American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, USA.

4) BSI, Customer Services, 389 Chiswick High Road, London W4 4AL, UK.

5) SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, USA.