

# SLOVENSKI STANDARD

## SIST EN ISO 13628-4:2000

01-december-2000

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### **Petroleum and natural gas industries - Design and operation of subsea production systems - Part 4: Subsea wellhead and tree equipment (ISO 13628-4:1999)**

Petroleum and natural gas industries - Design and operation of subsea production systems - Part 4: Subsea wellhead and tree equipment (ISO 13628-4:1999)

Erdöl- und Erdgasindustrien - Konstruktion und Betrieb von Unterwasser-Produktionssystemen - Teil 4: Bohrlochkopf- und E-Kreuz-Ausrüstungen für den Unterwassereinsatz (ISO 13628-4:1999)

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Industries du pétrole et du gaz naturel - Conception et fonctionnement des systèmes de production immergés - Partie 4: Equipements immergés de tête de puits et tête de production (ISO 13628-4:1999)

**Ta slovenski standard je istoveten z: EN ISO 13628-4:1999**

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#### **ICS:**

75.180.10	Oprema za raziskovanje in odkopavanje	Exploratory and extraction equipment
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EUROPEAN STANDARD  
 NORME EUROPÉENNE  
 EUROPÄISCHE NORM

**EN ISO 13628-4**

June 1999

ICS 75.180.10

English version

**Petroleum and natural gas industries - Design and operation of  
 subsea production systems - Part 4: Subsea wellhead and tree  
 equipment (ISO 13628-4:1999)**

Industries du pétrole et du gaz naturel - Conception et  
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 Unterwasser-Produktionssystemen - Teil 4: Bohrlochkopf-  
 und E-Kreuz-Ausrüstungen für den Unterwassereinsatz  
 (ISO 13628-4:1999)

This European Standard was approved by CEN on 3 March 1999.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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EN ISO 13628-4:1999

## Foreword

The text of the International Standard ISO 13628-4:1999 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 December 1999, and conflicting national standards shall be withdrawn at the latest by December 1999.

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, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Endorsement notice

The text of the International Standard ISO 13628-4:1999 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

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**Annex ZA (normative)**  
**Normative references to international publications**  
**with their relevant European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 11960	1996	Petroleum and natural gas industries - Steel pipes for use as casing or tubing for wells	EN ISO 11960	1998
ISO 13628-1	1999	Petroleum and natural gas industries - Design and operation of subsea production systems - Part 1: General requirements and recommendations	EN ISO 13628-1	1999

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# INTERNATIONAL STANDARD

**ISO**  
**13628-4**

First edition  
1999-06-15

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## **Petroleum and natural gas industries — Design and operation of subsea production systems —**

### **Part 4: Subsea wellhead and tree equipment**

**iTeh STANDARD PREVIEW**

*Industries du pétrole et du gaz naturel — Conception et fonctionnement des  
systèmes de production immergés*

*Partie 4: Équipements immergés de tête de puits et tête de production*

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Reference number  
ISO 13628-4:1999(E)

## ISO 13628-4:1999(E)

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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 3.

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.

International Standard ISO 13628-4 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum and natural gas industries*, Subcommittee SC 4, *Drilling and production equipment*.

ISO 13628 consists of the following parts, under the general title *Petroleum and natural gas industries — Design and operation of subsea production systems*:

- Part 1: *General requirements and recommendations*
- Part 2: *Flexible pipe systems for subsea and marine applications*
- Part 3: *Through Flowline (TFL) systems* [SIST EN ISO 13628-4:2000](https://standards.iteh.ai/catalog/standards/sist/810debfd-e52f-473c-ba50-7179/sist-en-iso-13628-4-2000)
- Part 4: *Subsea wellhead and tree equipment* <https://standards.iteh.ai/catalog/standards/sist/810debfd-e52f-473c-ba50-7179/sist-en-iso-13628-4-2000>
- Part 5: *Subsea control umbilicals*
- Part 6: *Subsea production control systems*
- Part 7: *Workover/completion riser systems*
- Part 8: *Remotely Operated Vehicles (ROV) interfaces on subsea production systems*
- Part 9: *Remotely Operated Tools (ROT) intervention systems*

Annexes E, G and H form a normative part of this part of ISO 13628. Annexes A, B, C, D, F and I are for information only.

## Introduction

This part of ISO 13628 is not intended to obviate the need for sound engineering judgement as to when and where this part of ISO 13628 should be utilized, and the users of this part of ISO 13628 should be aware that additional or differing requirements may be needed to meet the needs for the particular service intended or to meet local legislation.

The objective of this part of ISO 13628 is to define clear and unambiguous requirements which will facilitate international standardization in order to enable safe and economic development of offshore oil and gas fields by the use of subsea wellhead and christmas tree equipment. This part of ISO 13628 is written in a manner which will allow the use of a wide variety of technology varying from the well established to the state of the art. This part of ISO 13628 does not wish to restrict or deter the development of new technology. However, the reader is encouraged to closely look at standard interfaces and the re-use of intervention systems and tools, in the interests of minimizing life cycle costs and increasing reliability by the use of proven interfaces.

The International Organization for Standardization (ISO) draws attention to the fact that it is claimed that compliance with this part of ISO 13628 may involve the use of one or more patents concerning certain of the horizontal tree designs given in subclause 6.1.2, annex B and Figures 4, B.1, B.2 and B.3.

The ISO takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured the ISO that he is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with the applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with the ISO.

Information may be obtained from: Peter A. Bielinski, Esq.  
Intellectual Property attorney  
Cooper Cameron Corporation  
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Houston, Texas 77027  
U.S.A.

Attention is drawn to the possibility that some of the elements of this part of ISO 13628 may be the subject of patent rights other than those identified above. ISO shall not be held responsible for identifying any or all such patent rights.

This part of ISO 13628 is based on API Specification 17D First edition, October 30, 1992, *Specification for Subsea Wellhead and Christmas Tree Equipment* including Supplement 1 (March 1, 1993).

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# Petroleum and natural gas industries — Design and operation of subsea production systems —

## Part 4: Subsea wellhead and tree equipment

### 1 Scope

1.1 This part of ISO 13628 specifies subsea copewellhead, conventional mudline wellhead, drill through mudline wellhead, conventional subsea trees and horizontal subsea trees. It also specifies the associated tooling necessary to handle, test and install the equipment. It also specifies the areas of design, material, welding, quality control (including factory acceptance testing), marking, storing and shipping for both individual sub-assemblies (used to build complete subsea tree assemblies) and complete subsea tree assemblies.

Where applicable, this part of ISO 13628 may also be used for equipment on satellite, cluster arrangements and multiple well template applications.

1.2 Equipment which is within the scope of this part of ISO 13628 is listed as follows:

#### a) Subsea trees

- tree connectors and tubing hanger spools;
- valves, valve blocks, and valve actuators;
- chokes and choke actuators;
- bleed, test and isolation valves;
- TFL wye spool;
- re-entry spool;
- tree cap;
- tree piping;
- tree guide frames;
- tree running tools;
- tree cap running tools;
- tree mounted flowline/umbilical connector;
- control module/pod running/retrieval and testing tools;
- flowline base running/retrieval tools;
- tree mounted controls interfaces (instrumentation, sensors, hydraulic tubing/piping and fittings, electrical controls cable and fittings).