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Petroleum and natural gas industries - Modular drilling rigs for offshore fixed platforms (ISO 18647:2017)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/20

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN ISO 18647

October 2019

ICS 75.180.10

English Version

# Petroleum and natural gas industries - Modular drilling rigs for offshore fixed platforms (ISO 18647:2017)

Industries du pétrole et du gaz naturel - Spécifications pour une foreuse modulaire à bord de plateformes fixes offshore (ISO 18647:2017)

This European Standard was approved by CEN on 9 September 2019.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**



Ref. No. EN ISO 18647:2019 E

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## European foreword

The text of ISO 18647:2017 has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 18647:2019 by Technical Committee CEN/TC 12 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.

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

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## Endorsement notice

The text of ISO 18647:2017 has been approved by CEN as EN ISO 18647:2019 without any modification.

INTERNATIONAL STANDARD

**ISO 18647**

First edition
2017-08

# Petroleum and natural gas industries — Modular drilling rigs for offshore fixed platforms

*Industries du pétrole et du gaz naturel — Spécifications pour une foreuse modulaire à bord de plateformes fixes offshore*

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see the following URL: www.iso.org/iso/foreword.html.

This document 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*.

# Introduction

This document is applicable to modular drilling rigs on offshore fixed platform. It is intended to provide wide latitude in the design, construction, installation and commissioning of offshore modular drilling rigs on fixed platforms, without hindering innovation. Sound engineering judgment is therefore necessary in the use of this document.

The design of a modular drilling rig includes choices of drilling equipment, layout of modules, system interface, modular structures and so on. The construction of modular drilling rigs includes the assembly of structures, welding and inspection of structures, prefabrication and installation of the piping and cables, outfitting, corrosion control and onshore installation of equipment.

Annex A provides background to, and guidance on, the use of this document, and is intended to be read in conjunction with the main body of this document. The clause numbering in Annex A follows the same structure as that in the body of the normative text in order to facilitate cross-referencing.

Annex B provides a guidance of load and resistance factor design/working stress design method.

Annex C provides a list of typical fabrication design documents of modular drilling rigs.

Annex D provides a typical loadout and seafastening design document.

Annex E provides a typical acceptance report for modular drilling rigs on offshore fixed platform.

Annex F provides a typical completion acceptance document and record for modular drilling rigs on offshore fixed platform.

Annex G provides a typical in-service inspection plan for modular drilling rigs.

**INTERNATIONAL STANDARD** **ISO 18647:2017(E)**

# Petroleum and natural gas industries — Modular drilling rigs for offshore fixed platforms

## 1 Scope

This document gives requirements for the design, fabrication, installation, commissioning and integrity management of modular drilling rigs on offshore fixed platforms.

The modular drilling rig includes some or all of the equipment as follows:

— drilling equipment including a derrick/mast and its controls that can be moved by skidding a drilling support structure;

— drilling support equipment which includes support facilities such as power supply/distribution system;

— mud and cement storage, mixing, monitoring and control equipment.

This document is applicable to the modular drilling equipment on offshore structures for the petroleum and natural gas industries, as follows:

— new equipment arranged in a modularized form;

— the equipment contained in several modules, each of which can be lifted and installed on to the platform, however, the equipment may be arranged within the modules as is convenient;

— the modules assembled together offshore for hook up and commissioning;

— intended for long term use on a new fixed offshore structure;

— Intended for temporary use on a number of different offshore platforms.

This document is not applicable to drilling equipment

— installed on mobile offshore units, and

— intended primarily for onshore use.

This document does not apply to those parts and functions of an offshore platform that are not directly related to drilling.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 4406, *Hydraulic fluid power — Fluids — Method for coding the level of contamination by solid particles*

ISO 6807, *Rubber hoses and hose assemblies for rotary drilling and vibration applications — Specification*

ISO 13501, *Petroleum and natural gas industries — Drilling fluids — Processing equipment evaluation*

ISO 13535, *Petroleum and natural gas industries — Drilling and production equipment — Hoisting equipment*

 

ISO 13626, *Petroleum and natural gas industries — Drilling and production equipment — Drilling and well-servicing structures*

ISO 13702, *Petroleum and natural gas industries — Control and mitigation of fires and explosions on offshore production installations — Requirements and guidelines*

ISO 13703, *Petroleum and natural gas industries — Design and installation of piping systems on offshore production platforms*

ISO 14693, *Petroleum and natural gas industries — Drilling and well-servicing equipment*

ISO 15138, *Petroleum and natural gas industries — Offshore production installations — Heating, ventilation and air-conditioning*

ISO 15513, *Cranes — Competency requirements for crane drivers (operators), slingers, signallers and assessors*

ISO 19901-3, *Petroleum and natural gas industries — Specific requirements for offshore structures — Part 3: Topsides structure*

ISO 19901-6, *Petroleum and natural gas industries — Specific requirements for offshore structures — Part 6: Marine operations*

ISO 19902, *Petroleum and natural gas industries — Fixed steel offshore structures*

IEC 61892-6, *Mobile and fixed offshore units — Electrical installations — Part-6: Installation*

API RP 2FB, *Recommended Practice for the Design of Offshore Facilities Against Fire and Blast Loading*

API RP 14G, *Recommended Practice for Fire Prevention and Control on Open Type Offshore Production Platforms*

API RP 505, *Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Zone 0, Zone 1 and Zone 2*

API Spec 16A, *Specification for Drill Through Equipment*

API Spec 16D, *Specification for Control Systems for Drilling Well Control Equipment and Control Systems for Diverter Equipment*

API Std 53, *Blowout Prevention Equipment Systems for Drilling Wells*

AWS D1.1/D1M, *Structural Welding Code — Steel*