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Standards

Standard Recommendation
S.R. CEN ISO/TR 13624-2:2013

Petroleum and natural gas industries -
Drilling and production equipment - Part
2: Deepwater drilling riser methodologies,
operations, and integrity technical report
(ISO/TR 13624-2:2009)

S.R. CEN ISO/TR 13624-2:2013

Incorporating amendments/corrigenda/National Annexes issued since publication:

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This document replaces:

This document is based on:
CEN ISO/TR 13624-2:2013

Published:
11 October, 2013

This document was published under the authority of the NSAI and comes into effect on:
11 October, 2013

ICS number:

75.180.10

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ICS 75.180.10

English Version

Petroleum and natural gas industries - Drilling and production equipment - Part 2: Deepwater drilling riser methodologies, operations, and integrity technical report (ISO/TR 13624-2:2009)

Industries du pétrole et du gaz naturel - Équipement de forage et de production - Partie 2: Méthodologies, opérations et rapport technique d'intégrité relatifs aux tubes prolongateurs pour forages en eaux profondes (ISO/TR 13624-2:2009)

Erdöl- und Erdgasindustrie - Bohr- und Förderanlagen - Teil 2: Riser für die Tiefsee, Methodik, Betrieb und technische Dokumentation (ISO/TR 13624-2:2009)

This Technical Report was approved by CEN on 24 September 2013. It has been drawn up by the Technical Committee CEN/TC 12.

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Foreword

The text of ISO/TR 13624-2:2009 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 CEN ISO/TR 13624-2:2013 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 AFNOR.

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The text of ISO/TR 13624-2:2009 has been approved by CEN as CEN ISO/TR 13624-2:2013 without any modification.

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**Petroleum and natural gas industries —
Drilling and production equipment —**

Part 2:

**Deepwater drilling riser methodologies,
operations, and integrity technical report**

*Industries du pétrole et du gaz naturel — Équipement de forage et de
production —*

*Partie 2: Méthodologies, opérations et rapport technique d'intégrité
relatifs aux tubes prolongateurs pour forages en eaux profondes*



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Published in Switzerland

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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.

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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.

In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

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ISO/TR 13624-2 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*.

ISO/TR 13624 consists of the following parts, under the general title *Petroleum and natural gas industries — Drilling and production equipment*:

- *Part 1: Design and operation of marine drilling riser equipment*
- *Part 2: Deepwater drilling riser methodologies, operations, and integrity technical report*

Introduction

Since API RP 16Q was issued in 1993, hydrocarbon exploration in 1 200+ m (4 000+ ft) water depths has increased significantly. As a consequence, the need was identified to update that code of practice to address the issues particular to deepwater operations.

Under the auspices of the DeepStar programme, substantial work was commissioned during 1999 and 2000 by the DeepStar Drilling Committee 4502 and led to the development of *Deepwater Drilling Riser Methodologies, Operations, and Integrity Guidelines* in February 2001. Several contractors participated in these efforts. These guidelines were intended to supplement and update the existing API RP 16Q:1993 for deepwater application. In a subsequent joint industry project and in collaboration with DeepStar and the API, these guidelines were later supplemented with other identified revisions and technically edited by an API task group to produce the revision of API RP 16Q:1993 as ISO 13624-1 and the API Technical Report TR1.

This Technical Report is a supplement to the revised API RP 16Q and provides guidance on various analysis methodologies and operating practices.

NOTE The figures have been reproduced as provided by the Technical Committee and, in some cases, contain only USC units.

Petroleum and natural gas industries — Drilling and production equipment —

Part 2: Deepwater drilling riser methodologies, operations, and integrity technical report

1 Scope

This part of ISO 13624 pertains to mobile offshore drilling units that employ a subsea BOP stack deployed at the seafloor. It is intended that the drilling riser analysis methodologies discussed in this part of ISO 13624 be used and interpreted in the context of ISO 13624-1.

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 13624-1:2009, *Petroleum and natural gas industries — Drilling and production equipment — Part 1: Design and operation of marine drilling riser equipment*

API RP 16Q:1993, *Design, Selection, Operation and Maintenance of Marine Drilling Riser Systems*

3 Terms and definitions

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

3.1

accumulator

⟨BOP⟩ pressure vessel charged with gas (e.g. nitrogen) over liquid and used to store hydraulic fluid under pressure for operation of blowout preventers

3.2

accumulator

riser tensioner

pressure vessel charged with gas (e.g. nitrogen) over liquid that is pressurized on the gas side from the tensioner high-pressure gas supply bottles and supplies high-pressure hydraulic fluid to energize the riser tensioner cylinder

3.3

air-can buoyancy

tension applied to the riser string by the net buoyancy of an air chamber created by a closed-top, open-bottom cylinder forming an air-filled annulus around the outside of the riser pipe

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