INTERNATIONAL STANDARD

ISO 10424-2

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Petroleum and natural gas industries — Rotary drilling equipment —

Part 2: Threading and gauging of rotary shouldered thread connections

Industries du pétrole et du gaz naturel — Équipements de forage rotary —

Partie 2: Filetage et calibrage des connexions rotary filetées à épaulement

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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 10424-2 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 10424 consists of the following parts, under the general title *Petroleum and natural gas industries — Rotary drilling equipment*:

— *Part 1: Rotary drill stem elements*

— *Part 2: Threading and gauging of rotary shouldered thread connections*

Introduction

This International Standard is based on API Spec 7, *Specification for rotary drill stem elements*.

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

Petroleum and natural gas industries — Rotary drilling equipment —

Part 2: Threading and gauging of rotary shouldered thread connections

1 Scope

This part of ISO 10424 specifies requirements on rotary shouldered connections for use in petroleum and natural gas industries, including dimensional requirements on threads and thread gauges, stipulations on gauging practice, gauge specifications, as well as instruments and methods for inspection of thread connections. These connections are intended primarily for use in drill-string components.

Other supplementary specifications can be agreed between interested parties for special tolerance requirements, qualification, testing, inspection and finishing.

This part of ISO 10424 is applicable to the following preferred rotary shouldered connection designs:

a) number (NC) style;

b) regular (REG) style;

c) full hole (FH) style.

These are traceable to an internationally supported system of gauges and calibration

2 Conformance — Units of measurement

In this part of ISO 10424, data are expressed in both the International System (SI) of units and the United States Customary (USC) system of units. Separate tables for data expressed in SI units and USC units are given in the body of this part of ISO 10424 and Annex A, respectively. Figures express data in both SI and USC units. For a specific order item, it is intended that only one system of units be used, without combining data expressed in the other system. Annex G provides the conversion between SI and USC units used in this part of ISO 10424.

Products manufactured to specifications expressed in either of these unit systems shall be considered equivalent and totally interchangeable. Consequently, compliance with the requirements of this part of ISO 10424 as expressed in one system provides compliance with requirements expressed in the other system. For data expressed in the SI system, a comma is used as the decimal separator and a space as the thousands separator. For data expressed in the USC system, a dot (on the line) is used as the decimal separator and a space as the thousands separator.

In the text, data in SI units are followed by data in USC units in brackets.

3 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 10424-1, *Petroleum and natural gas industries — Rotary drilling equipment — Part 1: Rotary drill stem elements*

ISO 11961[1)], *Petroleum and natural gas industries — Steel drill pipe*

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

API Spec 7, *Specification for Rotary Drill Stem Elements*

4 Terms, abbreviated terms, definitions and symbols

4.1 Terms and definitions

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

4.1.1
bevel diameter
outside diameter of the contact face of the rotary shouldered connection

4.1.2
box connection
box end
threaded connection on oil country tubular goods with internal (female) threads

4.1.3
box thread
internal (female) threads of a rotary shouldered connection

4.1.4
break-in
procedure applied to newly manufactured threads to assure correct mating

4.1.5
calibration system
documented system of gauge calibration and control

4.1.6
cold working
plastic deformation of the surface of the connection at a temperature low enough to induce strain hardening

4.1.7
first perfect thread
thread furthest from the sealing face on a pin, or closest to the sealing face on a box, where both the crest and the root are fully formed

4.1.8
full-depth thread
thread in which the thread root lies on the minor cone of an external thread or lies on the major cone of an internal thread

1) To be published. (Revision of ISO 11961:1996)