



SLOVENSKI STANDARD SIST EN ISO 10424-2:2009

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Petroleum and natural gas industries - Rotary drilling equipment - Part 2: Threading and gauging of rotary shouldered thread connections (ISO 10424-2:2007)

Erdöl- und Erdgasindustrie - Bohr- und Förderanlagen - Teil 2: Verschraubungen, Kalibrierung und Prüfung von drehenden Schulteransatz-Gewindeverbindungen (ISO 10424-2:2007)

Industries du pétrole et du gaz naturel - Equipements de forage rotary - Partie 2: Filetage et calibrage des connexions rotary filetéés a épaulement (ISO 10424-2:2007)

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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 10424-2

November 2007

ICS 75.180.10

English Version

**Petroleum and natural gas industries - Rotary drilling equipment
- Part 2: Threading and gauging of rotary shouldered thread
connections (ISO 10424-2:2007)**

Industries du pétrole et du gaz naturel - Équipements de
forage rotatif - Partie 2: Filetage et calibrage des
connexions rotatives filetées à épaulement (ISO 10424-
2:2007)

Erdöl- und Erdgasindustrie - Bohr- und Förderanlagen - Teil
2: Verschraubungen, Kalibrierung und Prüfung von
drehenden Schulteransatz-Gewindeverbindungen (ISO
10424-2:2007)

This European Standard was approved by CEN on 2 November 2007.

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 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 Management Centre has the same status as the official versions.

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



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COMITÉ EUROPÉEN DE NORMALISATION
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Contents

Page

Foreword.....3

**iTeh STANDARD PREVIEW
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Foreword

This document (EN ISO 10424-2:2007) 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 May 2008, and conflicting national standards shall be withdrawn at the latest by May 2008.

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

Endorsement notice

The text of ISO 10424-2:2007 has been approved by CEN as a EN ISO 10424-2:2007 without any modification.

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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**

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

*Partie 2: Filetage et calibrage des connexions rotaries filetées à
épaulement*

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Contents

Page

Foreword.....	v
Introduction	vi
1 Scope	1
2 Conformance — Units of measurement	1
3 Normative references	2
4 Terms, abbreviated terms, definitions and symbols.....	2
4.1 Terms and definitions	2
4.2 Design types and definitions	4
4.3 Abbreviations and symbols	6
5 Information to be supplied by purchaser	8
6 Threading.....	8
6.1 Thread profile and dimensions	8
6.2 Bevels for drill collars and tools that mate directly with drill collars.....	15
6.3 Low-torque feature	16
7 Product optional features	18
7.1 General.....	18
7.2 Stress-relief features	18
7.3 Benchmarks	21
7.4 Surface treatment	23
7.5 Cold working	23
7.6 Break-in.....	23
8 Product gauging	23
8.1 Gauging	23
8.2 Stand-off measurement.....	24
8.3 Gauge contact points	24
8.4 Lead measurement	25
8.5 Taper measurement.....	27
8.6 Thread height measurement and gauges	27
9 Gauge relationships for rotary shouldered connections	27
9.1 Gauge relationship	27
9.2 Gauge specifications	28
10 Gauge calibration.....	40
10.1 Calibration system.....	40
10.2 Acceptance criteria.....	40
10.3 Gauge measurement methods	40
10.4 Gauge certification	46
Annex A (informative) Tables in USC units	47
Annex B (informative) Care and use of regional master gauges	56
Annex C (normative) Shipment of reference master gauges	58
Annex D (normative) Care and use of working gauges	60
Annex E (informative) API gauge certification requirements	61
Annex F (informative) Other rotary shouldered connections	64
Annex G (informative) USC units conversion table	85

ISO 10424-2:2007(E)

Annex H (informative) Recommended practice for gauging new rotary shouldered connections.....	86
Annex I (informative) Calculations.....	92
Annex J (informative) API grand and regional master rotary connection gauges	96

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SIST EN ISO 10424-2:2009

<https://standards.iteh.ai/catalog/standards/sist/0d1a22e9-8a7d-4678-8421-ec60d934f4bb/sist-en-iso-10424-2-2009>

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*.

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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* [SIST EN ISO 10424-2:2009](https://standards.iteh.ai/catalog/standards/sist/0d1a22e9-8a7d-4678-8421-ec60d934f8bb/sist-en-iso-10424-2-2009)
- *Part 2: Threading and gauging of rotary shouldered thread connections*

ISO 10424-2:2007(E)**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.

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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.

ISO 10424-2:2007(E)**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 11961¹⁾, *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

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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)

4.1.9**gauge point**

imaginary plane, perpendicular to the thread axis of rotary shouldered connections at which the pitch diameter, C , at gauge point is measured

NOTE This plane is located 15,875 mm (0.625 0 in) from the make-up shoulder of the pin thread.

4.1.10**interchange stand-off**

stand-off between each member of a gauge set and a corresponding gauge next higher in the ranking scheme: grand master or regional master, reference master, working gauge

4.1.11**lead**

distance parallel to the thread axis from a point on a thread turn and the corresponding point on the next turn, i.e. the axial displacement of a point following the helix one turn around the thread axis

4.1.12**make-up shoulder**

sealing shoulder on a rotary shouldered connection

4.1.13**manufacturer**

firm, company or corporation that operates facilities capable of cutting the threads and is responsible for compliance with all the applicable provisions of this part of ISO 10424

4.1.14**master gauge**

gauges used for calibration of other gauges

NOTE These include reference master, regional master and grand master gauges.

4.1.15**mating stand-off**

stand-off between the plug and ring members of a gauge set

NOTE Interchange stand-off is the stand-off between each member and a gauge higher in the ranking scheme.

4.1.16**pin connection****pin end**

threaded connection on oil country tubular goods with external (male) threads

4.1.17**pin thread**

external (male) threads of a rotary shouldered connection

4.1.18**pitch**

axial distance between successive threads, which, in a single start thread, is equivalent to lead

4.1.19**pitch cone**

imaginary cone whose diameter at any point is equal to the pitch diameter of the thread at the same point

4.1.20**pitch diameter**

diameter at which the distance across the threads is equal to the distance between the threads