Specification for Threading and Gauging of Rotary Shouldered Thread Connections

ANSI/API SPECIFICATION 7-2 (FORMERLY IN SPEC 7)
FIRST EDITION, JUNE 2008

EFFECTIVE DATE: DECEMBER 1, 2008

CONTAINS API MONOGRAM ANNEX AS PART OF
US NATIONAL ADOPTION

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

Special Notes

API publications necessarily address problems of a general nature. With respect to particular circumstances, local, state, and federal laws and regulations should be reviewed.

Neither API nor any of API's employees, subcontractors, consultants, committees, or other assignees make any warranty or representation, either express or implied, with respect to the accuracy, completeness, or usefulness of the information contained herein, or assume any liability or responsibility for any use, or the results of such use, of any information or process disclosed in this publication. Neither API nor any of API's employees, subcontractors, consultants, or other assignees represent that use of this publication would not infringe upon privately owned rights.

API publications may be used by anyone desiring to do so. Every effort has been made by the Institute to assure the accuracy and reliability of the data contained in them; however, the Institute makes no representation, warranty, or guarantee in connection with this publication and hereby expressly disclaims any liability or responsibility for loss or damage resulting from its use or for the violation of any authorities having jurisdiction with which this publication may conflict.

API publications are published to facilitate the broad availability of proven, sound engineering and operating practices. These publications are not intended to obviate the need for applying sound engineering judgment regarding when and where these publications should be utilized. The formulation and publication of API publications is not intended in any way to inhibit anyone from using any other practices.

Any manufacturer marking equipment or materials in conformance with the marking requirements of an API standard is solely responsible for complying with all the applicable requirements of that standard. API does not represent, warrant, or guarantee that such products do in fact conform to the applicable API standard.

API Foreword

Nothing contained in any API publication is to be construed as granting any right, by implication or otherwise, for the manufacture, sale, or use of any method, apparatus, or product covered by letters patent. Neither should anything contained in the publication be construed as insuring anyone against liability for infringement of letters patent.

This document was produced under API standardization procedures that ensure appropriate notification and participation in the developmental process and is designated as an API standard. Questions concerning the interpretation of the content of this publication or comments and questions concerning the procedures under which this publication was developed should be directed in writing to the Director of Standards, American Petroleum Institute, 1220 L Street, N.W., Washington, D.C. 20005. Requests for permission to reproduce or translate all or any part of the material published herein should also be addressed to the director.

Generally, API standards are reviewed and revised, reaffirmed, or withdrawn at least every five years. A one-time extension of up to two years may be added to this review cycle. Status of the publication can be ascertained from the API Standards Department, telephone (202) 682-8000. A catalog of API publications and materials is published annually and updated quarterly by API, 1220 L Street, N.W., Washington, D.C. 20005.

Suggested revisions are invited and should be submitted to the Standards and Publications Department, API, 1220 L Street, NW, Washington, DC 20005, standards@api.org.

This standard shall become effective on the date printed on the cover but may be used voluntarily from the date of distribution.

Standards referenced herein may be replaced by other international or national standards that can be shown to meet or exceed the requirements of the referenced standard.

This American National Standard is under the jurisdiction of the API Subcommittee on Drill Stem Elements. This standard is considered identical to the English version of ISO 10424-2:2003. ISO 10424-2 was prepared by Technical Committee ISO/TC 67, SC 4, Drilling and production equipment.

This standard adopts ISO 10424-2 and replaces in part API Spec 7, Specification for Rotary Drill Stem Elements, 40th Edition. API Spec 7 Addendum 3 removes Threading and Gauging of rotary Shouldered Connections now covered by this specification.

Tool Joints will remain in API Spec 7 until they are moved into ISO documents in the future. Work is ongoing to cover Tool Joints in ISO 11961/API Spec 5DP.

In this American National Standard, editorial corrections have been noted with an arrow in the margin to point the reader to normative Annex L. These corrections will be forwarded on to ISO/TC 67, SC4, for the creation of a corrigendum to ISO 10424-2.

Contents

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.