ASME B18.31.4M-2009

Threaded Rod (Metric Series)

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Date of Issuance: January 11, 2010

This Standard will be revised when the Society approves the issuance of a new edition. There will be no addenda issued to this edition.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Standard. Periodically certain actions of the ASME B18 Committee may be published as Cases. Cases and interpretations are published on the ASME Web site under the Committee Pages at http://cstools.asme.org as they are issued.

The American Society of Mechanical Engineers
Three Park Avenue, New York, NY 10016-5990

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FOREWORD

In September 2008, ASME B18 Subcommittee 31 received a request to develop a standard for inch dimensioned threaded rod. This resulted in the development and balloting of a draft for ASME B18.31.3, Threaded Rod (Inch Series). Subsequently it was decided that a companion document for metric threaded rod should be developed. Although threaded rod is widely available in the marketplace, there were no current ISO or American National Standards for threaded rod. DOD-S-63543 and DOD-S-63543/2 specifications, covering metric threaded rod in several materials, were cancelled in 1995.

This Standard specifically identifies many of the most common materials and coatings available in threaded rod but is also applicable to other materials and coatings as specified by a purchaser. Standard lengths are identified but this Standard permits other lengths to be ordered.

The first draft was balloted in March 2009 with a single disapproval. Subcommittee 31 adjudicated the comments and agreed to make several changes. The changes were balloted and approved by B18 Subcommittee 31 and by the B18 Standards Committee with the closure of a ballot in August 2009. This Standard was approved by the American National Standards Institute on December 2, 2009.

ASME B18 COMMITTEE
Standardization of Bolts, Nuts, Rivets, Screws, Washers, and Similar Fasteners

(The following is the roster of the Committee at the time of approval of this Standard.)

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CORRESPONDENCE WITH THE B18 COMMITTEE

General. ASME Standards are developed and maintained with the intent to represent the consensus of concerned interests. As such, users of this Standard may interact with the Committee by requesting interpretations, proposing revisions, and attending Committee meetings. Correspondence should be addressed to:

Secretary, B18 Standards Committee
The American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990
http://go.asme.org/Inquiry

Proposing Revisions. Revisions are made periodically to the Standard to incorporate changes that appear necessary or desirable, as demonstrated by the experience gained from the application of the Standard. Approved revisions will be published periodically.

The Committee welcomes proposals for revisions to this Standard. Such proposals should be as specific as possible, citing the paragraph number(s), the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent documentation.

Proposing a Case. Cases may be issued for the purpose of providing alternative rules when justified, to permit early implementation of an approved revision when the need is urgent, or to provide rules not covered by existing provisions. Cases are effective immediately upon ASME approval and shall be posted on the ASME Committee Web page.

Requests for Cases shall provide a Statement of Need and Background Information. The request should identify the standard, the paragraph, figure or table number(s), and be written as a Question and Reply in the same format as existing Cases. Requests for Cases should also indicate the applicable edition(s) of the standard to which the proposed Case applies.

Interpretations. Upon request, the B18 Standards Committee will render an interpretation of any requirement of the Standard. Interpretations can only be rendered in response to a written request sent to the Secretary of the B18 Standards Committee.

The request for an interpretation should be clear and unambiguous. It is further recommended that the inquirer submit his/her request in the following format:

Subject:	Cite the applicable paragraph number(s) and the topic of the inquiry.
Edition:	Cite the applicable edition of the Standard for which the interpretation is being requested.
Question:	Phrase the question as a request for an interpretation of a specific requirement suitable for general understanding and use, not as a request for an approval of a proprietary design or situation. The inquirer may also include any plans or drawings that are necessary to explain the question; however, they should not contain proprietary names or information.

Requests that are not in this format may be rewritten in the appropriate format by the Committee prior to being answered, which may inadvertently change the intent of the original request.

ASME procedures provide for reconsideration of any interpretation when or if additional information that might affect an interpretation is available. Further, persons aggrieved by an interpretation may appeal to the cognizant ASME Committee or Subcommittee. ASME does not "approve," "certify," "rate," or "endorse" any item, construction, proprietary device, or activity.

Attending Committee Meetings. The B18 Standards Committee regularly holds meetings, which are open to the public. Persons wishing to attend any meeting should contact the Secretary of the B18 Standards Committee.

THREADED ROD (METRIC SERIES)

1 INTRODUCTION

This Standard covers the complete general and dimensional data for metric series threaded rod recognized as an American National Standard. This Standard is applicable to both fine and coarse metric series threads of diameters from M1.6 to M56, as indicated in Table 1.

The inclusion of dimensional data in this Standard is not intended to imply that all of the products described herein are stock production sizes. Consumers should consult with suppliers concerning lists of stock production sizes.

2 COMPARISON TO ISO DOCUMENTS

At this time there are no ISO standards for metric series threaded rods.

3 REFERENCED STANDARDS

Unless otherwise specified, the standards referenced shall be the most recent at the time of order placement.

ASME B1.3, Screw Thread Gaging Systems for Dimensional Acceptability — Inch and Metric Screw Threads (UN, UNR, UNJ, M, and MJ)

ASME B1.13M, Metric Screw Threads — M Profile

ASME B18.12, Glossary of Terms for Mechanical Fasteners

ASME B18.18.2, Inspection and Quality Assurance for High-Volume Machine Assembly Fasteners

Publisher: The American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990; Order Department: 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300 (www.asme.org)

ASTM A 193/A 193M, Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for High Temperature or High Pressure Service and Other Special Purpose Applications

ASTM A 380, Standard Practice for Cleaning, Descaling, and Passivation of Stainless Steel Parts, Equipment, and Systems

ASTM F 468M, Nonferrous Bolts, Hex Cap Screws, and Studs for General Use [Metric]

ASTM F 568M, Carbon and Alloy Steel Externally Threaded Metric Fasteners

ASTM F 738M, Stainless Steel Metric Bolts, Screws, and Studs

ASTM F 788/ F 788M, Standard Specification for Surface Discontinuities of Bolts, Screws, and Studs, Inch and Metric Series

ASTM F 1470, Standard Practice for Fastener Sampling for Specified Mechanical Properties and Performance Inspection

ASTM F 1941M, Electrodeposited Coatings on Threaded Fasteners [Metric]

ASTM F 2329, Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners

Publisher: American Society for Testing and Materials (ASTM International), 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959 (www.astm.org)

4 TERMINOLOGY

For definitions of terminology not specifically defined in this Standard, refer to ASME B18.12.

Continuously Threaded Rod (Threaded Bar): a cylindrical continuously threaded bar with unpointed ends.

5 DIMENSIONS

Dimensions for metric threaded rod are in millimeters and apply before coating, unless otherwise specified. Table 1 contains the thread diameter and pitch dimensions for coarse and fine metric thread sizes considered standard.

6 LENGTH

6.1 Overall Length

The length of the threaded rod shall be measured, overall, from end to end.

6.2 Length Increments for Metric Threaded Rod

Threaded rod is commonly available in lengths of 1 m, 2 m, and 3 m but can usually be ordered in other lengths. The length tolerance on threaded rods of 2 m and longer shall be ±10 mm and ±6 mm for nominal lengths less than 2 m.

7 ENDS

The ends shall be of sufficient workmanship to allow easy assembly with an appropriate mating nut.