ASME B18.16.6-2017

(Revision of ASME B18.16.6-2014)

Prevailing Torque Locknuts (Inch Series)

AN AMERICAN NATIONAL STANDARD

The American Society of Mechanical Engineers

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Date of Issuance: June 19, 2017

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FOREWORD

ASME B18.16.6-2008 was balloted and approved by the B18 Standards Committee and B18 Subcommittee 16 on April 29, 2008. The proposal was submitted to the American National Standards Institute and designated as an American National Standard on August 25, 2008.

At the B18 meeting in the fall of 2011, Subcommittee 16 decided to expand this Standard to include all styles of locking nuts. B18.16.6 now contained dimensional and performance requirements for nonmetallic insert and all-metal locking nuts in a variety of grades. This Standard was intended to replace IFI-100/107, which the Industrial Fasteners Institute agreed to withdraw after the publication of this Standard. ASME B18.16.6-2014 was balloted and approved by the B18 Standards Committee and B18 Subcommittee 16 on March 12, 2014.

At the B18 meeting in the spring of 2015, Subcommittee 16 decided to revise this Standard based on several technical and editorial updates. Updates to this Standard include lowering the proof and clamp load values of thin nuts from 60% to 45% of regular hex nuts; harmonizing proof loads with SAE J995 2012, resulting in lower proof loads for fine and 8-UN series nuts; correcting hex height values on style NTM locknuts; clarifying corner fillet requirements; increasing the proof load requirement for style NU locknuts; and correcting various table references.

This revision was approved as an American National Standard on June 1, 2017.

Suggestions for improvement of this Standard are welcome. They should be sent to Secretary, B18 Committee, The American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990.

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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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Secretary, B18 Standards Committee
The American Society of Mechanical Engineers
Two 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 to provide 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 and 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.

Requests for interpretation should preferably be submitted through the online Interpretation Submittal Form. The form is accessible at http://go.asme.org/InterpretationRequest. Upon submittal of the form, the Inquirer will receive an automatic e-mail confirming receipt.

If the Inquirer is unable to use the online form, he/she may mail the request to the Secretary of the B18 Standards Committee at the above address. 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 in one or two words.
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. Please provide a condensed and precise question, composed in such a way that a "yes" or "no" reply is acceptable.
Proposed Reply(ies):	Provide a proposed reply(ies) in the form of "Yes" or "No," with explanation as needed. If entering replies to more than one question, please number the questions and replies.
Background Information:	Provide the Committee with any background information that will assist the Committee in understanding the inquiry. 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.

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Requests that are not in the format described above 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 and/or telephone conferences that are open to the public. Persons wishing to attend any meeting and/or telephone conference should contact the Secretary of the B18 Standards Committee. Future Committee meeting dates and locations can be found on the Committee Page at go.asme.org/B18committee.

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PREVAILING TORQUE LOCKNUTS (INCH SERIES)

1 INTRODUCTION

1.1 Scope

This Standard covers the complete general, dimensional, mechanical, and performance requirements (proof load, prevailing torque, and torque-tension) for carbon steel, inch series nylon insert locknuts of grades N2, N5, and N8 in styles NE (¼ in. to 1½ in.), NTE (¼ in. to 1½ in.), NU (¼ in. to 3 in.), NTU (¼ in. to 3 in.), NM (#2 to #12), NTM (#2 to #12), and hex flange (¼ in. to ¾ in.). This Standard also includes all-metal hex (#4 to 1½ in.) and hex flange (¼ in. to ¾ in.) locking nuts of grades A, B, C, F, and G. These nut designs are designated as American National Standards.

1.2 Comparison to ISO Standards

There is no ISO inch standard for these products.

2 REFERENCE STANDARDS

The following is a list of publications referenced in this Standard. Unless otherwise specified, the reference standard(s) shall be the most recent issue at the time of order placement.

ASME B1.1, Unified Inch Screw Threads (UN and UNR Thread Form)

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

ASME B1.15, Unified Inch Screw Threads (UNJ Thread Form)

ASME B18.2.1, Square, Hex, Heavy Hex, and Askew Head Bolts and Hex, Heavy Hex, Hex Flange, Lobed Head, and Lag Screws (Inch Series)

ASME B18.12, Glossary of Terms for Mechanical Fasteners

ASME B18.18, Quality Assurance for Fasteners

ASME B18.21.1, Washers: Helical Spring-Lock, Tooth Lock, and Plain Washers (Inch Series)

Publisher: The American Society of Mechanical Engineers (ASME), Two Park Avenue, New York, NY 10016-5990 (www.asme.org)

ASTM F436, Standard Specification for Hardened Steel Washers

ASTM F606/F606M, Standard Test Methods for Determining the Mechanical Properties of Externally and Internally Threaded Fasteners, Washers, Direct Tension Indicators, and Rivets

ASTM F788, Standard Specification for Surface Discontinuities of Bolts, Screws, and Studs, Inch and Metric Series

ASTM F812, Standard Specification for Surface Discontinuities of Nuts, Inch and Metric Series

ASTM F1137, Standard Specification for Phosphate/Oil Corrosion Protective Coatings for Fasteners

ASTM F1470, Standard Practice for Fastener Sampling for Specified Mechanical Properties and Performance Inspection

ASTM F1941/F1941M, Standard Specification for Electrodeposited Coatings on Mechanical Fasteners, Inch and Metric

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)

IFI-101, Torque-Tension Requirements for Prevailing-Torque Type Steel Hex and Hex Flange Nuts

Publisher: Industrial Fasteners Institute (IFI), 6363 Oak Tree Boulevard, Independence, OH 44131 (www.indfast.org)

SAE J409, Product Analysis — Permissible Variations from Specified Chemical Analysis of a Heat or Cast of Steel

Publisher: SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001 (www.sae.org)

3 TERMINOLOGY

For definitions of terms relating to fasteners or component features thereof used in this Standard, refer to ASME B18.12.

4 DIMENSIONS

Unless otherwise specified, all dimensions in this Standard are inches and shall be as specified in the tables and sections 6 through 9. All dimensions apply before coating.

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