

ASME B18.16.4-2008

Serrated Hex Flange Locknuts 90,000 psi (Inch Series)

AN AMERICAN NATIONAL STANDARD



The American Society of
Mechanical Engineers



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ASME
SETTING THE STANDARD

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FOREWORD

This 2008 edition was approved by the American National Standards Institute on August 25, 2008, and designated as ASME B18.16.4-2008.

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Standardization of Bolts, Nuts, Rivets, Screws, Washers, and Similar Fasteners

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Secretary, B18 Standards Committee
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Three Park Avenue
New York, NY 10016-5990

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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.

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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, which 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.

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SERRATED HEX FLANGE LOCKNUTS 90,000 psi (INCH SERIES)

1 SCOPE

This Standard covers the general, dimensional, and mechanical performance requirements for low strength carbon steel, case hardened, regular and large serrated flange locknuts (inch series), recognized as American National Standard.

2 COMPARISON TO ISO STANDARDS

There is no inch series ISO standard for these products at this time.

3 TERMINOLOGY

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

4 REFERENCE STANDARDS

The following is a list of publications referenced in this Standard.

- ASME B1.1, Unified Inch Screw Threads
 ASME B1.3, Screw and Thread Gaging Systems for Dimensional Acceptability — Inch and Metric Screw Threads (UN, UNR, UNJ, M, and MJ)
 ASME B18.12, Glossary of Terms for Mechanical Fasteners
 ASME B18.18.2M, Inspection and Quality Assurance for High-Volume Machine Assembly Fasteners
 ASME Y14.5M, Dimensioning and Tolerancing
 Publisher: The American Society Of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990; Order Department: 22 Law Drive, P.O. Box 2300, Fairfield, NJ 07007-2300
- ASTM F 606, Test Methods for Determining the Mechanical Properties of Externally and Internally Threaded Fasteners, Washers, Direct Tension Indicators, and Rivets
 ASTM F 812, Specification for Surface Discontinuities of Nuts, Inch Series
 ASTM F 1941, Electrodeposited Coatings on Threaded Fasteners [Unified Inch Screw Threads (UN/UNR)]
 ASTM F 2282, Standard Specification for Quality Assurance Requirements for Carbon and Alloy Steel Wire, Rods, and Bars for Mechanical Fasteners

ASTM F 2328, Standard Test Method for Determining Decarburization and Carburization in Hardened and Tempered Threaded Steel Bolts, Screws, and Studs
 Publisher: ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959

5 DIMENSIONS

(a) Unless otherwise specified, all dimensions in this Standard shall be as specified in Tables 1 and 2, and sections 6 through 9. All dimensions in this Standard are in inches and apply before plating or coating is specified. When a plating or coating is specified, the finished product dimensions shall be agreed upon between the supplier and purchaser.

(b) Symbols specifying geometric characteristics are in accordance with ASME Y14.5M.

6 SERRATIONS

The configuration of the serrations shall be at the discretion of the manufacturer, provided the performance requirements as specified in para. 12.2 are met.

7 TOPS OF NUTS

Tops of nuts shall be flat and chamfered. The length of chamfer at hex corners shall be from 5% to 15% of the basic thread size. The surface may be slightly convex or rounded.

8 TRUE POSITION OF HEXAGON TO TAPPED HOLE

At maximum material condition (MMC), the axis of the hexagon shall be located at true position with respect to the axis of the thread pitch diameter within a tolerance zone having a diameter equivalent to 4% of the maximum width across flats.

9 COUNTERSINK

Tapped hole shall be countersunk on the bearing face and may be countersunk on the top. The maximum countersink diameter shall be the thread basic (nominal) major diameter plus 0.030 in. for $\frac{3}{8}$ in. nominal size nuts and smaller, and 1.08 times the basic major diameter for