



Standard Specification for Nonferrous Hex Socket, Slotted Headless, and Square Head Set Screws¹

This standard is issued under the fixed designation F3042; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers the requirements for nonferrous socket set screws sizes 0.125 (#5) through 2.000 in., square head set screws sizes 0.190 (#10) through 1.500 in., and slotted headless set screws 0.125 (#5) through 0.750 in. in diameter manufactured from a number of nonferrous alloys in use in the marine industry and the U.S. Navy subject to seawater wetting and salt atmosphere but that also may be used in other applications. It is recommended that copper-based alloys not be used in attempting to prevent mechanical components from rotating, such as locking shafts, because of the low hardness of the alloys. Some alloys or sizes or both of set screws may not be readily available. Manufacturers or suppliers should be contacted before design development or anticipated procurement.

1.2 *Units*—The values stated in inch-pound units are to be regarded as the standard.

NOTE 1—A complete metric companion to Specification F3042 will be developed—F3042M; therefore, no metric equivalents are shown in this specification.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

- [B154 Test Method for Mercurous Nitrate Test for Copper Alloys](#)
- [E18 Test Methods for Rockwell Hardness of Metallic Materials](#)
- [E29 Practice for Using Significant Digits in Test Data to](#)

Determine Conformance with Specifications

- [E53 Test Method for Determination of Copper in Unalloyed Copper by Gravimetry](#)
 - [E54 Test Methods for Chemical Analysis of Special Brasses and Bronzes \(Withdrawn 2002\)³](#)
 - [E55 Practice for Sampling Wrought Nonferrous Metals and Alloys for Determination of Chemical Composition](#)
 - [E62 Test Methods for Chemical Analysis of Copper and Copper Alloys \(Photometric Methods\) \(Withdrawn 2010\)³](#)
 - [E75 Test Methods for Chemical Analysis of Copper-Nickel and Copper-Nickel-Zinc Alloys \(Withdrawn 2010\)³](#)
 - [E76 Test Methods for Chemical Analysis of Nickel-Copper Alloys \(Withdrawn 2003\)³](#)
 - [E120 Test Methods for Chemical Analysis of Titanium and Titanium Alloys \(Withdrawn 2003\)³](#)
 - [E165 Practice for Liquid Penetrant Examination for General Industry](#)
 - [E350 Test Methods for Chemical Analysis of Carbon Steel, Low-Alloy Steel, Silicon Electrical Steel, Ingot Iron, and Wrought Iron](#)
 - [E354 Test Methods for Chemical Analysis of High-Temperature, Electrical, Magnetic, and Other Similar Iron, Nickel, and Cobalt Alloys](#)
 - [E384 Test Method for Knoop and Vickers Hardness of Materials](#)
 - [E478 Test Methods for Chemical Analysis of Copper Alloys](#)
 - [E1409 Test Method for Determination of Oxygen and Nitrogen in Titanium and Titanium Alloys by Inert Gas Fusion](#)
 - [F788/F788M Specification for Surface Discontinuities of Bolts, Screws, and Studs, Inch and Metric Series](#)
 - [F1470 Practice for Fastener Sampling for Specified Mechanical Properties and Performance Inspection](#)
- ### 2.2 ASME Standards:⁴
- [ASME B1.1 Unified Inch Screw Threads \(UN and UNR Thread Form\)](#)
 - [ASME B18.3 Socket Cap, Shoulder and Set Screws, Hex and Spline Keys \(Inch Series\)](#)

¹ This test method is under the jurisdiction of ASTM Committee F16 on Fasteners and is the direct responsibility of Subcommittee F16.04 on Nonferrous Fasteners.

Current edition approved Nov. 1, 2013. Published March 2014. DOI: 10.1520/F3042-13.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from American Society of Mechanical Engineers (ASME), ASME International Headquarters, Two Park Ave., New York, NY 10016-5990, <http://www.asme.org>.