



Standard Specification for Stainless Steel Socket Button and Flat Countersunk Head Cap Screws¹

This standard is issued under the fixed designation F879; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 This specification covers the chemical and mechanical requirements for stainless steel inch hexagon socket button (SBHCS) and flat countersunk (SFHCS) head cap screws with nominal thread 0.060 through 0.625 in. intended for use in applications requiring general corrosion resistance.

1.2 Two groups of austenitic stainless steel alloys and three conditions are covered. See [Table 1](#) and [Table 2](#).

1.3 *Units*—The values stated in inch-pound units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 The following precautionary caveat pertains only to the test method portion, Section 12, of this specification: *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

- [A262 Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels](#)
- [A342/A342M Test Methods for Permeability of Weakly Magnetic Materials](#)
- [A380/A380M Practice for Cleaning, Descaling, and Passivation of Stainless Steel Parts, Equipment, and Systems](#)
- [A555/A555M Specification for General Requirements for Stainless Steel Wire and Wire Rods](#)
- [A751 Test Methods, Practices, and Terminology for Chemi-](#)

cal Analysis of Steel Products

[A967/A967M Specification for Chemical Passivation Treatments for Stainless Steel Parts](#)

[D3951 Practice for Commercial Packaging](#)

[E18 Test Methods for Rockwell Hardness of Metallic Materials](#)

[E92 Test Method for Vickers Hardness of Metallic Materials \(Withdrawn 2010\)³](#)

[E384 Test Method for Knoop and Vickers Hardness of Materials](#)

[F593 Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs](#)

[F606/F606M Test Methods for Determining the Mechanical Properties of Externally and Internally Threaded Fasteners, Washers, Direct Tension Indicators, and Rivets](#)

[F788 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 Standard:*

[B 18.3 Socket Cap, Shoulder and Set Screws \(Inch Series\)⁴](#)

2.3 *JIS Standard:⁵*

[JIS G 4309 Stainless Steel Wires](#)

3. Classification

3.1 The designation of the alloy group and condition of this specification shall be consistent with the stainless steel designations in Specification [F593](#).

3.2 Screws shall be designated by group and condition (for example, F879 Group 1 Condition AF).

4. Ordering Information

4.1 Orders for material under this specification shall include the following information:

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

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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>.

⁵ Available from Japanese Industrial Standards Committee (JIS) 1-3-1 Kasumigaseki, Chiyoda-ku, Tokyo 100-8901, JAPAN. <http://www.jisc.go.jp>

*A Summary of Changes section appears at the end of this standard