



Designation: A574 – 17

Standard Specification for Alloy Steel Socket-Head Cap Screws¹

This standard is issued under the fixed designation A574; 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 reappraisal. A superscript epsilon (ε) indicates an editorial change since the last revision or reappraisal.

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

1. Scope*

1.1 This specification covers the requirements for quenched and tempered alloy steel hexagon socket-head cap screws, 0.060 through 4 in. in diameter where high strength is required.

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

1.3 The following hazard caveat pertains only to the test method portions, sections 5.1, 5.6, 8, and 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.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

A751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products

E112 Test Methods for Determining Average Grain Size

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 Me-

chanical Properties and Performance Inspection

F1789 Terminology for F16 Mechanical Fasteners

F1940 Test Method for Process Control Verification to Prevent Hydrogen Embrittlement in Plated or Coated Fasteners

F2282 Specification for Quality Assurance Requirements for Carbon and Alloy Steel Wire, Rods, and Bars for Mechanical Fasteners

F2328 Test Method for Determining Decarburization and Carburization in Hardened and Tempered Threaded Steel Bolts, Screws, Studs, and Nuts

2.2 ASME Standards:³

B18.3 Socket Cap, Shoulder, and Set Screws

B18.12 Glossary of Terms for Mechanical Fasteners

B18.24 Part Identifying Number (PIN) Code System Standard for B18 Fastener Products

3. Terminology

3.1 *Definitions of Terms Specific to This Standard*—The definition of terms used in this specification shall be as specified in Terminology F1789, ASME B18.12, or the applicable referenced standards, unless otherwise defined herein. In the event that there are differences for a given term, ASTM definitions shall be used.

4. Ordering Information

4.1 Orders for socket head cap screws under this specification shall include the following information:

4.1.1 ASTM designation and year of issue.

4.1.2 Name of the screw (SHCS).

4.1.3 Quantity (number of pieces by size).

4.1.4 Dimensions, including nominal thread designation, thread pitch, and nominal screw length.

4.2 Orders for socket head cap screws shall include the following optional requirements if specified by the purchaser:

4.2.1 Inspection at point of manufacture.

4.2.2 Coating, if a protective finish other than those, which are described in 5.5 is required, it must be specified (see 5.6).

¹ This specification is under the jurisdiction of ASTM Committee F16 on Fasteners and is the direct responsibility of Subcommittee F16.02 on Steel Bolts, Nuts, Rivets and Washers.

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

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