



Standard Specification for Alloy Steel Socket Set Screws (Metric)¹

This standard is issued under the fixed designation F912M; 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 requirements for quenched and tempered alloy steel socket set screws (SSS) M1.6 through M24 sizes having hardnesses 45 to 53 HRC, ISO 898/5 property class 45H.

1.2 These set screws are intended for compression applications only and are not customarily subjected to embrittlement tests. For tensile applications, consult with the manufacturer for proper alloy and hardness.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

NOTE 1—This specification is the metric companion of Specification F912.

1.4 The hazard statement pertains only to the test method section, Section 11 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

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

E3 Guide for Preparation of Metallographic Specimens

E112 Test Methods for Determining Average Grain Size

E384 Test Method for Knoop and Vickers Hardness of Materials

F606M Test Methods for Determining the Mechanical Properties of Externally and Internally Threaded Fasteners,

Washers, and Rivets (Metric)

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

F2328M Test Method for Determining Decarburization and Carburization in Hardened and Tempered Threaded Steel Bolts, Screws and Studs (Metric)

2.2 ASME Standards:³

B18.3.6M Hexagon Socket Set Screws Metric Series

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

2.3 ISO Standard:

898/5 Mechanical Properties of Fasteners—Set Screws and Similar Threaded Fasteners Not Under Tensile Stress⁴

3. Ordering Information

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

3.1.1 Quantity (number of screws).

3.1.2 Dimensions, including nominal thread designation, thread pitch, nominal screw length (millimetres) and point configuration. A standard part number may be used for this definition.

3.1.3 Name of the screw (SSS).

3.1.4 Coating, if required. See 4.4.

3.1.5 Certification, if required. See 14.1.

3.1.6 ASTM designation and year of issue.

3.1.7 Any special or supplemental requirements.

3.1.8 For establishment of a part identifying system, see ASME B18.24.

3.2 Example—50 000 pieces M6x1x8 cone point SSS—certification per 14.1—ASTM F912M— (state issue date), or 25000 pcs B1836A 060008K SSS—certification per 14.1—ASTM F912M— (state issue date).

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, Three Park Ave., New York, NY 10016-5990.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.