



Designation: F2882/F2882M – 17

Standard Specification for Screws, Alloy Steel, Heat Treated, 170 ksi and 1170 MPa Minimum Tensile Strength (Inch and Metric)¹

This standard is issued under the fixed designation F2882/F2882M; 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 quenched and tempered alloy steel screws 0.060 through 1½ in. and 1.6 through 48 mm in diameter having a minimum ultimate tensile strength of 170 KSI or 1170 MPa.

1.2 The values are stated in inch-pound units for inch fasteners and SI metric units for metric fasteners. The values stated in each system may not be exact equivalents; therefore each system shall be used independently of the other. Combining values from the two systems may result in non-conformance to the standard.

1.3 *The following hazard caveat pertains only to the test method portion, Section 10, 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/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
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
F2328M Test Method for Determining Decarburization and Carburization in Hardened and Tempered Threaded Steel Bolts, Screws, Studs, and Nuts (Metric)

2.2 ASME Standards:³

B18.2.1 Square and Hex Bolts and Screws
B18.2.3.3M Metric Heavy Hex Screws
B18.2.3.4M Metric Hex Flange Screws
B18.2.3.5M Metric Hex Bolts
B18.2.3.9M Metric Heavy Hex Hex Flange Screws
B18.2.5 12 Point Flange Screws
B18.2.5M Metric 12 Point Flange Screws
B18.2.7.1M Metric 12 Spline Flange Screws
B18.3 Socket Cap, Shoulder, and Set Screws, Hex and Spline Keys (Inch Series)
B18.3.1M Socket Head Cap Screws (Metric Series)
B18.24 Part Identifying Number (PIN) Code System Standard for B18 Fastener Products

3. Ordering Information

3.1 Orders for high strength screws under this specification shall include the following information:

- 3.1.1 Quantity (number of screws),
- 3.1.2 Nominal dimensions, including diameter, thread designation, thread, pitch, and nominal screw length,
- 3.1.3 Name of the screw including specification,

¹ This test method 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.