Designation: A325M – 14

Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Minimum Tensile Strength (Metric)[1]

This standard is issued under the fixed designation A325M; 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[2] covers two types of quenched and tempered, steel, metric heavy hex structural bolts having a minimum tensile strength of 830 MPa (Note 1).

1.2 The bolts are intended for use in structural connections. These connections are comparable to those covered under the requirements of the Specification for Structural Joints Using High-Strength Bolts, approved by the Research Council on Structural Connections; endorsed by the American Institute of Steel Construction and by the Industrial Fastener Institute.

1.3 The bolts are furnished in sizes M12 to M36 inclusive. They are designated by type denoting chemical composition as follows:

1.3.1 *Type 1*—Medium-carbon, carbon boron, medium carbon alloy, or alloy boron steel.

1.3.2 *Type 2*—Withdrawn in 2003.

1.3.3 *Type 3*—Weathering Steel.

1.4 This specification is applicable to metric heavy hex, structural bolts only.

1.5 Terms used in this specification are defined in Terminology F1789.

1.6 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 to the inch pound Specification A325.

1.7 The following safety hazard caveat pertains only to the test methods 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.*

2. Referenced Documents

2.1 *ASTM Standards:*[3]

A153/A153M Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware

A563M Specification for Carbon and Alloy Steel Nuts (Metric)

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

B695 Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel

D3951 Practice for Commercial Packaging

F436M Specification for Hardened Steel Washers (Metric)

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

F959M Specification for Compressible-Washer-Type Direct Tension Indicators for Use With Structural Fasteners (Metric)

F1136M Specification for Zinc/Aluminum Corrosion Protective Coatings for Fasteners (Metric) (Withdrawn 2011)[4]

F1470 Practice for Fastener Sampling for Specified Mechanical Properties and Performance Inspection

F1789 Terminology for F16 Mechanical Fasteners

G101 Guide for Estimating the Atmospheric Corrosion Resistance of Low-Alloy Steels

2.2 *ASME Standards:*[5]

B 1.13M Metric Screw Threads

B 18.2.3.7M Metric Heavy Hex Structural Bolts

[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.

Current edition approved Sept. 1, 2014. Published September 2014. Originally approved in 1979. Last previous edition approved in 2013 as A325M – 13 . DOI: 10.1520/A0325M-14.

[2] For *ASME Boiler and Pressure Vessel Code* applications, see related Specification SA-325M in Section II of that Code.

[3] 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.

[4] The last approved version of this historical standard is referenced on www.astm.org.

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

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

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