



Designation: A183 – 14 (Reapproved 2020)

Standard Specification for Carbon Steel Track Bolts and Nuts¹

This standard is issued under the fixed designation A183; 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 carbon steel track bolts and carbon steel nuts for use in conjunction with joint bars to connect rails in railroad track.

1.2 Heat-treated bolts for general track use.

1.3 Medium carbon nuts for general application on track bolts.

1.4 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.5 *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

A700 Guide for Packaging, Marking, and Loading Methods for Steel Products for Shipment

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

2.2 *ASME Standards:*³

B1.1 Unified Inch Screw Threads

B18.10 Track Bolts and Nuts

2.3 *AREMA Standard:*⁴

American Railway Engineering and Maintenance-of-Way Association Manual Design of Track Bolts and Nuts, Chapter 4, Part 1

3. Ordering Information

3.1 Orders for track bolts and nuts under this specification shall include the following information:

3.1.1 Quantity of bolts and nuts (weights),

3.1.2 ASTM designation and date of issue,

3.1.3 Design of bolt: oval or elliptical neck (see 2.3),

3.1.4 Dimensions of bolt: nominal diameter and length under head,

3.1.5 Nominal size of nut, thickness, and chamfer angle (see 2.3),

3.1.6 Thread fit of nuts on bolts: free or wrench-turn fit (see 2.2), and

3.1.7 Certification or test reports, if required (see Section 12).

4. Manufacture

4.1 The steel shall be made by the open-hearth, basic-oxygen, or electric-furnace process, and may be either continuous strand or ingot cast.

4.2 Bolts, including the head and oval or elliptical neck, may be produced by hot or cold forging at the option of the manufacturer.

4.3 Bolt threads may be machine cut or hot- or cold-rolled at the option of the manufacturer.

4.4 Bolts shall be heat-treated by quenching in a liquid medium from above the austenitizing temperature, and tempering at a temperature not less than 750°F (399°C).

5. Chemical Requirements

5.1 The steel shall conform to the requirements for chemical composition specified in Table 1.

¹ This specification is under the jurisdiction of ASTM Committee A01 on Steel, Stainless Steel and Related Alloys and is the direct responsibility of Subcommittee A01.01 on Steel Rails and Accessories.

Current edition approved March 1, 2020. Published March 2020. Originally approved in 1935 to replace A50, A51. Combined with A76 in 1980. Last previous edition approved in 2014 as A183 – 14. DOI: 10.1520/A0183-14R20.

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>.

⁴ Available from the American Railway Engineering and Maintenance-of-Way Association (AREMA), 10003 Derekwood Lane, Suite 210 Lanham, MD 20706, <http://www.arena.org>.