



Standard Specification for Rivets, Steel, Structural¹

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1. Scope

1.1 This specification covers three grades of steel rivets in diameters from ½ to 1½ in. inclusive, for structural fabricating purposes. The grades are as follows:

Grade	Description
1	Carbon steel rivets for general purpose use
2	Carbon manganese steel rivets for use with high strength carbon and high strength low alloy structural steels
3	Weathering steel rivets

1.2 The values stated in inch-pound units are to be regarded as the standard.

2. Referenced Documents

2.1 ASTM Standards:

A 751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products²

D 3951 Practice for Commercial Packaging³

F 606 Test Methods for Determining the Mechanical Properties of Externally and Internally Threaded Fasteners, Washers, and Rivets⁴

F 1470 Guide for Fastener Sampling for Specified Mechanical Properties and Performance Inspection⁴

G 101 Guide for Estimating the Atmospheric Corrosion Resistance of Low-Alloy Steels⁵

2.2 ASME Standard:

B 18.1.2 Large Rivets (½ Inch Nominal Diameter and Larger)⁶

3. Ordering Information

3.1 Orders for rivets under this specification shall include:

3.1.1 Quantity (number of pieces of rivets),

3.1.2 Name of product, including head type,

3.1.3 Dimensions including nominal diameter and length,

3.1.4 Supplementary Requirement S1, if required (see 8.1.2),

3.1.5 Test report, if required (see 14.1),

3.1.6 Additional package marking, if required (see 17.2),

3.1.7 ASTM designation, including grade and date of issue, and

3.1.8 Any special requirements.

Example—10 000 pieces, Steel Button Head Rivets, ½ × 1 in., Test Report Required, ASTM A 502, Grade 1, dated ____.

4. Materials and Manufacture

4.1 *Process*—The steel for rivets shall be made by the open-hearth, basic-oxygen, or electric-furnace process.

4.2 *Heading*—Rivets shall be made by the hot or cold heading process. It is expected that these rivets ordinarily will be hot driven.

5. Chemical Composition

5.1 Grade 1 and Grade 2 rivets shall conform to the heat analysis requirements given in Table 1.

5.2 Grade 3 rivets shall be weathering steel and shall conform to Class A or Class B chemical composition specified in Table 1. The selection of the composition, A or B, shall be at the option of the rivet manufacturer. See Guide G 101 for methods of estimating the atmospheric corrosion resistance of low alloy steels.

5.3 Application of heats of steel to which bismuth, selenium, tellurium, or lead has been intentionally added shall not be permitted. Compliance with this requirement shall be based on a statement on the steel certificate indicating that these elements were not intentionally added.

5.4 Product analysis made on finished rivets representing each lot shall conform to the product analysis requirements specified in Table 1, as applicable. Product Analysis is not applicable to Grade 1 rivets made from rimmed steel or merchant quality bars.

6. Mechanical Properties

6.1 The rivets shall conform to the hardness requirements shown in Table 2.

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 *Annual Book of ASTM Standards*, Vol 01.01 through 01.05.

³ *Annual Book of ASTM Standards*, Vol 15.09.

⁴ *Annual Book of ASTM Standards*, Vol 01.08.

⁵ *Annual Book of ASTM Standards*, Vol 03.02.

⁶ Available from ASME International, Information Central, 22 Law Drive, PO Box 2300, Fairfield, NJ 07007-2300.