Designation: A66 – 07

StandardSpecification for Steel Screw Spikes[1]

This standard is issued under the fixed designation A66; 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 Department of Defense.

1. Scope*

1.1 This specification covers steel screw spikes used as fastenings between railroad rails, tie plates, and ties.

1.2 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.

1.3 *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]

A370 Test Methods and Definitions for Mechanical Testing of Steel Products

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

3. Ordering Information

3.1 Orders for screw spikes under this specification shall include the following information as appropriate:

3.1.1 *Quantity* (weight),

3.1.2 *Style of Head*—A, B, or C[3] or other, including drawings if necessary,

3.1.3 *Type of Point*—pilot point or not pointed,

3.1.4 *Dimensions*—diameter and length, under head,

3.1.5 *Supplementary Requirement* if to apply (see S1)

3.1.6 *Certification and Test Report* (see 11.1).

4. Manufacture

4.1 The steel shall be made by any of the following processes: electric-furnace or basic-oxygen.

4.2 The steel may be cast by a continuous process, or in ingots.

4.3 The heads and threads of the spikes may be formed by hot- or cold-forming methods.

5. Mechanical Requirements

5.1 *Tensile Requirements:*

5.1.1 The material as represented by a tension test of a full-size finished spike, or a specimen machined from a finished spike, shall conform to the requirements prescribed in Table 1.

5.1.2 Tension tests of full-size spikes shall be performed using a 10° wedge as described in Test Methods A370, Supplement S11.1.5.

5.1.3 Where the design of the spike is such that full-size testing is impracticable, the tension test may be made on a specimen machined from a finished spike. Dimensions of the test specimen shall conform to the requirements of Test Methods A370.

5.1.4 When a machined specimen test is performed, the elongation requirement prescribed in Table 1 shall apply. If a screw spike is machined and the specimen is tested and reported. the elongation meets or exceeds 18 %, the bend test is not required. See 5.2.

5.1.5 The yield point shall be determined by the drop of the beam or halt in the gage of the testing machine.

5.2 *Bend Requirement*—The body of a full-size finished spike shall withstand the bend test described in Table 2 without cracking on the outside of the bent portion.

6. Dimensions and Permissible Variations

6.1 The finished spikes shall conform to the dimensions specified by the purchaser, subject to the permissible variations prescribed in Table 3.

6.2 The threads shall be sharp and true to gage and of the design specified by the purchaser.

[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.

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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] Consult manufacturer's literature for design details for A, B, and C-style heads.

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