



Designation: ~~C514-01~~ Designation: **C 514 – 04 (Reapproved 2009)^{ε1}**

Standard Specification for Nails for the Application of Gypsum Board¹

This standard is issued under the fixed designation C 514; 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.

^{ε1} NOTE—The units statement in 1.3 was revised editorially in May 2009.

1. Scope *

1.1 This specification covers requirements for steel wire nails suitable for use in the application of gypsum board. ~~Note 1—This specification does not necessarily cover nails for use where fire ratings are required. Consult manufacturers for independent data on assembly particulars, materials, and ratings.~~

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

~~1.3 The text of this specification references notes and footnotes that provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the specification.~~

1.2 Details of construction for a specific assembly to achieve the required fire resistance shall be obtained from reports of fire-resistance tests, engineering evaluations, or listings from recognized fire testing laboratories.

1.3 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.

1.4 The following precautionary caveat pertains only to the test method portion, Sections 7 and 8, 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*:²

E 4 [Practices for Force Verification of Testing Machines](#)

3. Materials

3.1 *Steel Wire*, used in the manufacture of nails, shall be of hard-drawn low or medium-low-carbon steel, entirely suitable for the purpose intended. Before fabrication it shall be sufficiently ductile to withstand cold-bending, without fracture, through 180° over a radius not greater than the diameter of the wire (see Section 8).

4. Physical Properties

4.1 *Ductility*—The nail shall be sufficiently ductile to withstand cold bending without fracture when tested according to Section 8.

4.2 *Withdrawal Resistance*—The average withdrawal resistance, both immediate and delayed, shall be at least equal to that provided by 12.5 gage (0.099 ± 0.003 in.) (2.515 ± 0.08 mm) bright, smooth shank, nails with a medium diamond point, when tested according to 8.2.

5. Dimensions and Permissible Variations

5.1 *Heads*—Shall be not less than 0.2375 in. (6.0 mm) and not more than 0.3875 in. (9.8 mm) in diameter, shall be not more than 1/64 in. (0.4 mm) thick at the peripheral edge, shall be uniformly tapered to a small fillet around the shank, shall be either flat or concave, and shall be free from protrusions and sharp, irregular edges.

5.2 *Shanks*—Diameter shall not vary more than ± 0.003 in. (0.08 mm) for shank diameters 0.076 in. (1.93 mm) or larger.

¹ This specification is under the jurisdiction of ASTM Committee C11 on Gypsum and Related Building Materials and Systems and is the direct responsibility of Subcommittee C11.02 on Specifications and Test Methods for Accessories and Related Products.

Current edition approved Sept. 10, 2001. Published November 2001. Originally published as C514-63-T. Last previous edition C514-96.

Current edition approved May 1, 2009. Published September 2009. Originally approved in 1963. Last previous edition approved in 2004 as C 514 – 04.

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* Vol 03.01 volume information, refer to the standard's Document Summary page on the ASTM website.

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