



Designation: F680 – 80 (Reapproved 2012)

Standard Test Methods for Nails¹

This standard is issued under the fixed designation F680; 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 These test methods cover procedures for the testing of nails. The test or tests selected, and the requirements for compliance, will be as specified in the applicable product standard. Performance tests for nail withdrawal and lateral load capability are not included as they are covered by Test Methods [D1761](#).

1.2 The tests described are as follows:

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Rockwell hardness test	9
Coating weight test	10
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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 *This standard does not purport to address all of the safety problems, 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

[A90/A90M Test Method for Weight \[Mass\] of Coating of Iron and Steel Articles with Zinc or Zinc-Alloy Coatings](#)

[A370 Test Methods and Definitions for Mechanical Testing of Steel Products](#)

[A428/A428M Test Method for Weight \[Mass\] of Coating of Aluminum-Coated Iron or Steel Articles](#)

[D1761 Test Methods for Mechanical Fasteners in Wood](#)

¹ These test methods are under the jurisdiction of ASTM Committee F16 on Fasteners and are the direct responsibilities of Subcommittee F16.05 on Driven and Other Fasteners.

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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.

[E18 Test Methods for Rockwell Hardness of Metallic Materials](#)

[F547 Terminology of Nails for Use with Wood and Wood-Base Materials](#)

[F592 Terminology of Collated and Cohered Fasteners and Their Application Tools](#)

3. Terminology

3.1 *Definitions*—For definitions of terms used in this test method, refer to Terminology [F547](#) and [F592](#).

4. Significance and Use

4.1 When specified, the tests selected for application shall be performed to assure conformance with requirements stipulated in the product specification.

5. Dimensional Tests

5.1 Dimensions to be evaluated include, but shall not be limited to length, stock diameter, diameter or major dimensions of head, straightness, head concentricity to shank, and length of point. For mechanically deformed nails, angle, depth, and configuration of deformations shall be measured as specified. Other dimensional characteristics shall be measured when required. Any suitable measuring means may be applied.

6. Tension Test

6.1 Nails are not subject to tension testing. However, wire used to make the nails may be tested as required by prior agreement or to affect mill product control. The testing of wire is covered in the general section of Test Methods [A370](#) and Supplement IV, Round Wire Products.

7. Conventional Bend Test

7.1 This test is used as a means of testing the ductility of certain types of nails or of the wires used in the manufacture of nails. The angle of bend and the mandrel diameter will be specified in the product specification. The cold bending shall be performed by any hand or power device that will deform the sample closely about a mandrel of specified diameter through the required angle without causing damage to the nail surface. The sample shall be considered to have failed if fracture occurs prior to attainment of the required minimum bend angle. Unless otherwise specified, the conventional bend test shall not