



Standard Test Method of Evaluating Wood Preservatives by Field Tests with Stakes¹

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1. Scope

1.1 This test method covers accelerated procedures for determining the relative permanence and effectiveness of wood preservatives in stakes exposed in field plots.

1.2 The requirements for preparation of the material for testing and the test procedures appear in the following order:

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1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 *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

D 246 Test Method for Distillation of Creosote and Creosote-Coal Tar Solutions

D 390 Specification for Coal-Tar Creosote for the Preservative Treatment of Piles, Poles, and Timbers for Marine, Land, and Freshwater Use

D 1413 Test Method for Wood Preservatives by Laboratory Soil-Block Cultures

D 1625 Specification for Chromated Copper Arsenate

¹ This test method is under the jurisdiction of ASTM Committee D07 on Wood and is the direct responsibility of Subcommittee D07.06 on Treatments for Wood Products.

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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. Summary of Method

3.1 Wood stakes are impregnated with an appropriate series of retentions of a preservative, and then handled, prior to exposure in the field, according to specified procedures. The treated stakes are exposed in the ground to the action of wood-destroying fungi and termites in one or more selected field plots. An index of condition determined from grades assigned to the stakes for degree of decay and termite attack, in the course of periodic inspections, is used to express results periodically and at the termination of the test.

3.2 Two test procedures are outlined, employing two specimen types, 3/4-in. square and nominal 2 by 4-in. stakes, designated hereafter respectively as Method A and Method B. Method A, using smaller and more numerous specimens, is preferred for possibly more rapid results, and Method B for longer-term tests of a quasi service nature.

4. Test Plot

4.1 *General Requirements*—A warm humid climate is preferred. Select a natural area of fertile, fallow, level land of uniform soil character that is moist but well drained and large enough to permit expansion of future stake installations. The presence of wood-destroying fungi and active subterranean termites shall be proved by observation or experience and checked by exposure of suitable small specimens of untreated wood. No natural or artificial fertilizer or other chemicals shall be applied to the plot during its use as a test ground. Protection against fire, predators, and pilferage shall be provided as far as practicable.

4.2 *Control of Vegetation*—As a general rule, vegetation shall be controlled manually or by suitable mechanical means only and with minimum soil disturbance. No chemical controls shall be permitted. Weeding and cleaning the plot shall be uniform over any given test area.

4.3 *Reuse of Ground*—Stakes placed in ground that has been used previously for test purposes shall not be set closer than 150 mm (6 in.) to any earlier stake location.

5. Test Specimens

5.1 *Selection of Wood*—Sapwood of southern pine (*Pinus spp.*), with 6 to 10 rings per inch, shall be the preferred wood for comparative tests. It shall be free of knots, excessive cross-grain and resins, or other obvious defects, and it shall