



Designation: D3345 – 17

Standard Test Method for Laboratory Evaluation of Solid Wood for Resistance to Termites¹

This standard is issued under the fixed designation D3345; 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 This test method covers the laboratory evaluation of treated or untreated solid wood for its resistance to subterranean termites. This test is considered as a screening test for treated material and further evaluation by field methods is required.

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

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. (Warning—See 7.1.4.)*

2. Referenced Documents

2.1 *ASTM Standards:*²

D1413 Test Method for Wood Preservatives by Laboratory Soil-Block Cultures (Withdrawn 2016)³

2.2 *Other Documents:*⁴

AWPA E10 Testing Wood Preservatives by Laboratory Soil-Block Cultures

3. Choice or No-Choice Methodology

3.1 There are two types of basic information that can be obtained from termite bioassays:

3.1.1 Choice test data-termites are presented with multiple feeding targets and preferential mass loss indicates a material preference over an alternative food source.

3.1.2 No-choice data-termites are presented with a singular choice and mass loss indicates ability of the insect to consume the material. In no-choice data, mortality data is needed to determine dose mortality based on consumption of the test material, which is often treated with suspected insecticidal compounds.

3.2 Both choice and no-choice tests shall be permitted when evaluating materials for resistance to subterranean termites as the different tests address different behavioral responses of the termites.

4. Apparatus

4.1 *Containers, Glass or Clean Plastic*, with loosely fitting tops with liners removed, 220 to 450 cm³ (8 to 16 oz).

4.1.1 If volatile chemicals are to be tested, a 4.8 mm (No. 12 or approximately $\frac{3}{16}$ in.) hole is drilled in the center of the top and the appropriate solvent controls shall be included as treatments to identify possible solvent/carrier effects.

4.2 *Tray*, enamel, stainless steel, or plastic, 0.25 m by 0.51 m (10 by 20 in.) and bucket.

4.3 *Paper Towels*.

5. Reagents and Materials

5.1 *Benzalkonium Chloride Solution* (1+750)—Add 1 part benzalkonium chloride to 750 parts water. A comparable surface antiseptic is satisfactory.

5.2 *Distilled Water*.

5.3 *Sand*, brown or white, screened, washed, and heat-sterilized.

5.4 *Southern Yellow Pine (SYP) (Pinus spp.)* measuring 25.4 mm (1.00 in.) square by 6.4 mm (0.25 in.) in the tangential direction. Sapwood, no visible defects, smoothed surfaces equivalent to planed or sanded, 2 to 3 rings/cm (4 to 6 rings/in.). All test samples shall come from same parent board.

5.4.1 Other wood species may be used, but in each separate test using other species as the major test wood, five SYP sapwood blocks shall be used as additional controls to permit the correlation of test results among laboratories.

5.5 *Subterranean Termites*—Use a major common species of the region being studied.

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 The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from the American Wood Protection Association (AWPA), PO Box 361784, Birmingham, AL 35236-1784, <http://www.awpa.com>.