



Designation: D 3345 – 74 (Reapproved 1999)

Standard Test Method for Laboratory Evaluation of Wood and Other Cellulosic Materials for Resistance to Termites¹

This standard is issued under the fixed designation D 3345; 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 cellulosic material for its resistance to subterranean termites. This test should be considered as a screening test for treated material and further evaluation by field methods is required.

1.2 *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.* For specific precautions, see 6.1.5.

2. Referenced Documents

- 2.1 *ASTM Standards:*
D 1413 Test Method for Wood Preservatives by Laboratory Soil-Block Cultures²

3. Apparatus

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

3.1.1 If volatile chemicals are to be tested, a 4.8 mm (No. 12 or approx 3/16 in.) hole is drilled in the center of the top.

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

3.3 *Paper Towels*.

4. Reagents and Materials

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

4.2 *Distilled Water*.

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

4.4 *Southern Yellow Pine (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 should come from same parent board.

4.4.1 Other wood species may be used, but in each separate test using other species as the major test wood, five southern yellow pine sapwood blocks should be used as additional controls to permit the correlation of test results among laboratories.

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

4.5.1 Specific identification of any termites used shall be obtained and reported with the test data.

5. Determination of Sand Water-Holding Capacity

5.1 Determine the quantity of distilled water to be added to the sand during the test as follows:

5.1.1 Place 100 g of oven-dry sand in a beaker and determine the volume of water required to saturate the sand. The saturation point is defined as the point when the addition of more water will result in free water on the surface of the sand.

5.1.2 Calculate the percent saturation as follows:

$$\% \text{ Saturation} = (\text{weight of water/oven dry weight of sand}) \times 100 \quad (1)$$

5.1.3 Add water to the sand as follows:

$$\% \text{ water to add} = \text{saturation} - 7.0 \quad (2)$$

5.1.4 For example, the saturation point was reached at 20 mL of water:

$$\text{Saturation} = (20/100) \times 100 = 20.0 \% \quad (3)$$

$$\% \text{ Water to add} = 20.0 - 7.0 = 13.0 \%$$

6. Collection of Termites

6.1 *Subterranean Termites*, for example, (*Reticulitermes*, *Coptotermes*, spp.)—Collect from a large colony (over 50 000) in a natural forest situation, for example, from fallen logs, stumps, etc, or from strong laboratory cultures.

¹ This test method is under the jurisdiction of ASTM Committee D-7 on Wood and is the direct responsibility of Subcommittee D07.06 on Treatments for Wood Products.

Current edition approved Aug. 30, 1974. Published October 1974.

² *Annual Book of ASTM Standards*, Vol 04.10.