



Designation: D 2898 – 94 (Reapproved 1999)

Standard Test Methods for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing¹

This standard is issued under the fixed designation D 2898; 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 the durability of a fire-retardant treatment of wood under exposure to accelerated weathering. It is intended that fire-retardant treatment of the specimen be by pressure impregnation, rather than being simply by a surface coating with or without a protective layer. Two conditioning methods are described, both suitable for application to a test specimen prior to subjecting that specimen to an appropriate fire test. These methods are applicable to treated wood products or assemblies thereof. The test specimens will be in the form of, or suitable for fabrication into, fire test specimens, such as those described in Test Methods E 84, E 108, and E 286.

1.2 The text of these test methods references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of these test methods.

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.*

2. Referenced Documents

2.1 ASTM Standards:

E 84 Test Method for Surface Burning Characteristics of Building Materials²

E 108 Test Methods for Fire Tests of Roof Coverings²

E 286 Test Method for Surface Flammability of Building Materials Using an 8-ft (2.44-m) Tunnel Furnace²

3. Significance and Use

3.1 These test methods provide a choice between two methods of exposing fire-retardant-treated wood products or assemblies to controlled accelerated weathering or condition-

ing. The conditioning simulates effects of leaching, drying, temperature and, in one method, ultraviolet light.

3.2 Method A was devised for larger specimens, and Method B for smaller ones. A research study³ showed that the two exposure methods, A and B, were equivalent in leaching effect as demonstrated by the flame-spread results obtained on specimens exposed by either method when tested by Test Methods E 84 and E 286.

4. Apparatus (see Fig. 1 and Fig. 2)

4.1 The test apparatus shall be capable of subjecting the specimen uniformly to the test conditions described in Section 6.

4.2 No special means of protecting the specimen back and edges are required, but water shall not impinge directly on those surfaces which are not exposed either to the weather in the assembled form, or to fire in the subsequent test. Water spray nozzles shall be provided and arranged so as to distribute water evenly over the exposed specimen surface.

4.3 Heating shall be thermostatically controlled. Forced air movement shall be uniform across the specimen surface, with provisions made for adequate air changes to assure thorough drying.

4.4 In Method B, ultraviolet light shall be distributed as evenly as possible over the specimen surface, using sunlamps⁴ directed normal to, and mounted 26 in. (66 cm) above the specimen measured from the bottom of the lamp. One lamp shall be used for each 8 ft²(0.74 m²) of specimen, or fraction thereof.

5. Test Specimen

5.1 The test specimen shall include all those essential parts of the corresponding fire test specimen that may be subjected to weather exposure in normal use. Shingles or shakes shall be applied to their intended sheathing.

¹ These test methods are under the jurisdiction of ASTM Committee D-7 on Wood and are the direct responsibility of Subcommittee D07.07 on Fire Performance of Wood.

Current edition approved July 15, 1994. Published September 1994. Originally published as D 2898 – 70T. Last previous edition D 2898 – 81 (1986).

² *Annual Book of ASTM Standards*, Vol 04.07.

³ Correlation of ASTM Exposure Tests for Evaluating Durability of Fire-Retardant Treatment of Wood. Forest Products Laboratory, Research Paper FPL 194. U.S.D.A. Forest Service. 1973.

⁴ General Electric Type H275 RUV (275 W) or Osram Ultra-Vitalox[®](300 W), or equivalent, is suitable.