Designation: D 1546 – 96 (Reapproved 2003)

# Standard Practice for Testing the Performance of Clear Floor Sealers[1]

This standard is issued under the fixed designation D 1546; 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 practice covers the testing of clear floor sealers, intended for use on interior wood floors. It covers the appearance of the sealed wood and of treated worn spots, the resistance of the sealed wood to ink stains, and the appearance of the complete system after the sealer has been coated with varnish, and with solvent- and waterborne waxes.

NOTE 1—The resistance of the sealer to other reagents may be determined using appropriate parts of the procedure, when agreed upon between the purchaser and the seller.

1.2 The values stated in inch-pound units are 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.*

## 2. Referenced Documents

2.1 *U.S. Federal Specifications:*[2]
P-W-155 Wax, Emulsion Type
P-W-158 Wax, Solvent Type
TT-I-563 Ink, Blue-Black
TT-V-71H Varnish, Interior, Floor and Trim

## 3. Significance and Use

3.1 Several coating systems are used to finish or refinish wood floors of the interior of commercial and residential buildings. One system that has commonly been used by home owners and floor refinishers consists of applying two coats of a sealer, frequently of the oleoresinous type, to the wood followed by one or two coats of a durable floor wax. The advantages of this system are the ease of application and, compared to urethane coatings, the facility of refinishing by touching up only the worn areas. This practice is used to establish whether a floor sealer will perform adequately.

## 4. Materials

4.1 *Maple Panels*—First-grade maple flooring 2½ by 12 in. (65 by 300 mm). Other types and sizes of wood may be used when agreed upon between the purchaser and the seller.

4.2 *Sand Paper*—No. 00 garnet paper.

4.3 *Cheesecloth*.

4.4 *Tack Cloth*.

4.5 *Ink, Blue-Black*—Conforming to Federal Specification TT-I-563.

4.6 *Blotting Paper*.

4.7 *Steel Wool*—No. 0 and 00.

4.8 *Varnish*—Conforming to Federal Specification TT-V-71H.

4.9 *Waxes*—Conforming to Federal Specifications P-W-155 and -158.

## 5. Panel Preparation

5.1 Sand five maple panels with the No. 00 garnet paper until the surface is even and smooth. Remove sanding dust with a clean tack cloth.

5.2 To the complete test surface of two of the panels and half of each of the three remaining panels, apply a liberal coat of sealer using a pad of clean cheesecloth, noting the ease of application. Allow the sealer to set 15 min for absorption into the wood. Wipe off sealer using a fresh pad of cheesecloth, evaluating whether the excess can be removed readily and cleanly from the surface. Allow the panels to dry 24 h at a temperature between 70 and 90°F (21 to 32°C) and a relative humidity of 50 ± 10 %.

5.3 Apply a second coat of sealer in accordance with the manufacturer's instructions as to sanding and wiping. Allow the second coat to dry for 24 h before evaluating or finishing.

NOTE 2—Other methods of application and panel preparation may be used when agreed upon between the purchaser and the seller.

## 6. Procedure

6.1 *Appearance of Sealed Wood*—Examine the partially-coated panels, prepared as specified in Section 5, for the presence of surface film. Determine whether the sealed areas of the panels have a soft, uniform sheen, and whether the grain of the wood is clouded, obscured or raised, by comparing with the unsealed halves of the three panels.

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[1] This practice is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.42 on Architectural Coatings.

Current edition approved July 10, 2003. Published July 2003. Originally approved in 1958. Last previous edition approved in 1996 as D 1546 – 96.

[2] Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098

6.2 *Treatment of Worn Spots*—On one completely sealed panel simulate three worn areas by rubbing the surface with No. 0 steel wool. Over these areas apply with cheesecloth, a thin coat of sealer and immediately burnish with No. 00 steel wool. When dry, examine the touched-up areas to determine whether they blend with the surrounding areas of the panel without showing signs of lap marks.

6.3 *Resistance to Ink Stain*—Place several drops of blue-black ink at a few locations on the surface of one of the completely sealed panels and allow to remain for 3 min. Absorb the ink with the blotting paper and wipe the spots lightly with a damp cloth. Examine the surface for indications of the presence of ink.

6.4 *Application and Effect of Finishing Materials*—Apply a coat of the varnish to the entire test surface of one of the partially-sealed panels. Similarly, apply the solvent-borne wax and the waterborne wax to the entire surface of the two other partially-sealed panels. When dry, visually compare in turn the half of each panel that has finish only with the half that has both sealer and finish to determine whether the sealer has beneficially or detrimentally affected the gloss and adhesion of the three finishes. Similarly, compare the complete systems' panel areas, that were not used in 6.2 and 6.3, with areas coated only with sealer, for the effect of each finish on the sealer.

## 7. Report

7.1 Report the following information:

7.1.1 The application properties of the sealer (5.2),

7.1.2 The appearance of the sealed wood surface with regard to the wood grain and sheen uniformity (6.1),

7.1.3 The appearance of the treated worn areas (6.2),

7.1.4 The ink resistance of the sealed wood (6.3),

7.1.5 The effect of the sealer on the finishes and the effect, if any, of each finish on the sealer (6.4), and

7.1.6 Any variations from the described panel preparation and the procedure.

## 8. Precision and Bias

8.1 Precision and bias do not apply to this practice because of the qualitative nature of the procedures and because a standard reference material is not available.

## 9. Keywords

9.1 floor sealer; sealer for wood floors; stain resistance of clear floor sealers