



Designation: D 2299 – 68 (Reapproved 1982)

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Standard Recommended Practice for DETERMINING RELATIVE STAIN RESISTANCE OF PLASTICS¹

This standard is issued under the fixed designation D 2299; 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 recommended practice covers the determination of the susceptibility to staining of plastic compositions on incidental contact with miscellaneous staining materials.

1.2 This recommended practice does not apply when the plastic compositions are intended to be used in intimate and continuous contact with the staining material.

2. Significance

2.1 Polymeric materials may be stained by many substances. Staining tendencies may be affected by additives and compounding ingredients used in the manufacture of various plastic compounds. This recommended practice determines the susceptibility of these polymeric materials and plastic compounds to staining, under a given set of controlled conditions.

3. Apparatus

3.1 *Closed Glass Containers*, for low-viscosity liquids.

3.2 *Applicator*, for applying viscous liquids and pastes, for example, a doctor blade.

3.3 *Oven*, Type I or Type II, meeting requirements of Grade B, as specified in accordance with ASTM Specifications E 145, for Gravity-Convection and Forced-Ventilation Ovens.²

4. Reagents

4.1 *Staining Reagents* may be found among foods, cosmetics, beverages, pharmaceuticals, cleaning agents, solvents, etc. Examples of these are asphalt, coffee, ink, lipstick, mustard, shoe polish, tobacco juice, tea, and wax crayon.

5. Test Specimens

5.1 The test specimens shall have a flat, smooth surface, large enough to permit a test area 25 mm square for visual examination. For instrumental evaluation the stained area must be large enough to meet the instrumental requirements.

5.2 Wet-rub thermosetting decorative laminates, prior to application of staining materials, with Grade FF or equivalent grade of pumice just sufficiently to remove the surface gloss, and then wash with a mild soap or detergent.

5.3 Should the staining procedure of 7.1.1 cause delamination of the specimen, use 7.1.2.

6. Conditioning

6.1 *Conditioning*—Condition the test specimens at $23 \pm 2^\circ\text{C}$ ($73.4 \pm 3.6^\circ\text{F}$) and $50 \pm 5\%$ relative humidity for not less than 40 h prior to test in accordance with Procedure A of ASTM Methods D 618, Conditioning Plastics and Electrical Insulating Materials for Testing,³ for those tests where conditioning is required. In cases of disagreement, the tolerances shall be $\pm 1^\circ\text{C}$ ($\pm 1.8^\circ\text{F}$) and $\pm 2\%$ relative humidity.

6.2 *Test Conditions*—Conduct tests in the Standard Laboratory Atmosphere of $23 \pm 2^\circ\text{C}$ ($73.4 \pm 3.6^\circ\text{F}$) and $50 \pm 5\%$ relative humidity, unless otherwise specified in the test methods or in this practice. In cases of disagreement, the

¹ This recommended practice is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D20.50 on Permanence Properties.

Current edition approved Sept. 9, 1968. Published November 1968. Originally published as D 2299 – 64 T. Last previous edition D 2299 – 64 T.

² *Annual Book of ASTM Standards*, Vol 10.01.

³ *Annual Book of ASTM Standards*, Vol 08.01.