Designation: D1791 – 93 (Reapproved 2015)

Standard Test Method for Accelerated Aging of Liquid Water-Emulsion Floor Polishes[1]

This standard is issued under the fixed designation D1791; 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 storage stability of liquid water-emulsion floor polishes.

1.2 Storage for 30 days at 52°C (125°F), while not a guarantee of one year stability at 21°C (70°F), is believed to be a more reliable indicator of storage stability than similar tests of shorter duration.

NOTE 1—The 60° specular gloss on black glass determined by Test Method D1455, may be used to confirm this observation. A substantial difference in gloss between aged and unaged samples is an indication of instability. A shelf stability of one year can be reasonably expected of the material in question if duplicate samples remain unchanged for 30 days at 52 ± 1.1°C (125 ± 2°F). If one or both duplicates show more than slight viscosity increases or slight creaming, other evidence of stability must be sought.

1.3 *This standard does not purport to address all of the safety problems, 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:*[2]

D1455 Test Method for 60° Specular Gloss of Emulsion Floor Polish

3. Significance and Use

3.1 This test method is not absolute but does give an indication of the useful shelf-life of a liquid water-emulsion floor polish. Will indicate whether a polish will gel or remain a usable liquid over the desired storage life of the product. It should be noted that polishes of different composition types will vary in useful storage life under identical storage conditions.

4. Apparatus

4.1 *Flint Glass Bottles,* 4-oz (125 mL) capacity.[3]

4.2 *Drying Oven,* capable of maintaining the temperature of the emulsion samples at 52 ± 1.1°C (125 ± 2°F).

5. Sample

5.1 The sample shall be thoroughly representative of the material in question, and the portion used for the test shall be thoroughly representative of the sample itself.

5.2 Test samples shall be prepared in duplicate for each material in question.

6. Procedure

6.1 Transfer 100 mL of the emulsion to a clean, dry test bottle and hand tighten the screw cap.

6.2 Place the test set or series inverted in a drying oven capable of maintaining the temperature of the emulsions at 52 ± 1.1°C (125 ± 2°F).

6.3 Observe the samples daily for the first 14 days and thereafter twice weekly (for example, Monday and Thursday) for the remainder of the 30-day storage period. Samples should be examined as rapidly as possible with a minimum of agitation, and returned to the oven. *Do not loosen the cap.*

7. Report

7.1 The report shall include the following recorded at the time of each observation on a suitable data sheet:

7.1.1 Date.

7.1.2 Number of days in test.

7.1.3 Condition of the emulsion using the following symbols:

7.1.3.1 OK = no visible change (Note 1).

7.1.3.2 SV = slightly viscous.

7.1.3.3 V = viscous.

7.1.3.4 G = gelled.

7.1.3.5 Cr = creamed.

7.1.3.6 Sep = other types of liquid phase separation.

7.1.3.7 Sed = sedimentation of solid matter.

[1] This test method is under the jurisdiction of ASTM Committee D21 on Polishes and is the direct responsibility of Subcommittee D21.03 on Chemical and Physical Testing.

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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] These bottles are available from Fisher Scientific. Request Catalog 86, 02—883BA.

8. Precision and Bias

8.1 This test method does not necessarily correlate with long-term storage stability of approximately one year. Correlation between this test method and actual long-term stability must be determined for each individual polish. (See 1.2.)

8.2 *Bias*—Since there is no accepted reference material suitable for determining the bias for the procedure in Test Method D1791 for accelerated aging of liquid water–emulsion floor polishes, bias has not been determined.

9. Keywords

9.1 aging; floor polish; gloss; storage stability; water–emulsion