



Designation: D3052 – 23

Standard Practice for Rating Water-Emulsion Floor Polishes¹

This standard is issued under the fixed designation D3052; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 This practice covers the comparison of the performance of water-emulsion floor polishes on test floors against a reference material. It is applicable to the following types of polishes:

- 1.1.1 Wax emulsion polishes,
- 1.1.2 Nonbuffable emulsion polishes,
- 1.1.3 Detergent-resistant emulsion polishes, household type, and
- 1.1.4 Detergent-resistant emulsion polishes, industrial type.

1.2 Gloss, leveling, discoloration, traffic marking, slip resistance, and removal ease of these types of floor polishes is rated in comparison to a reference material. Where applicable, detergent resistance is also evaluated. This method is not to be considered as a recommended maintenance procedure.

1.3 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.5 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

¹ This practice is under the jurisdiction of ASTM Committee D21 on Polishes and is the direct responsibility of Subcommittee D21.04 on Performance Tests.

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2. Referenced Documents

- 2.1 *ASTM Standards*:²
[D523 Test Method for Specular Gloss](#)
- 2.2 *HCPA Bulletin*:
[245-70 Comparative Determination of Slip Resistance of Floor Polishes](#)³

3. Significance and Use

3.1 When comparing different floor polishes for an actual field performance, it is important that all surfaces used be prepared in the same way. When this procedure is followed, variations in the test surfaces are minimized.

4. Apparatus

- 4.1 *Test Tile*, Official Vinyl Composition Tile (OVCT).⁴
- 4.2 *Glossmeter*, 60°—The instrument and the reference standards shall conform to the requirements prescribed in Test Method [D523](#), using an angle of reflection of 60°.
- 4.3 *Floor Machine*.

5. Procedure

- 5.1 The preferred substrate shall be OVCT.
- 5.2 The test floor shall include both dark (black) and light (white) colored tiles laid out so that one half of the panel is all white and the other half is all black.
- 5.3 The minimum test panel size for each polish tested shall be 3 ft (0.9 m) in width and 3 ft in length.
- 5.4 Prepare all of the test panels with scrub-cleaned new tiles, or strip completely of dirt and old wax, rinse thoroughly, and dry before application of the test polishes. Under no circumstances should comparative tests be made on new versus

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 Available from the Household & Commercial Products Association, 1625 I Street NW Suite 700, Washington, DC 20006.

⁴ OVCT tile may be obtained through Armstrong Flooring from various home improvement stores. The following Armstrong tile substrates have been found to perform adequately for this test method: Armstrong Excelon Feature Tile: Black (56790).

old tiles. Similarly, where old tiles are employed, care should be taken to employ tiles or panels with approximately equivalent traffic history.

5.5 Mask a small portion of a black tile prior to polishing so as to provide an unpolished control area. The masking is to remain during the entire traffic period.

5.6 Take glossmeter readings on the clean and dry center four tiles (two light tiles and two dark tiles) with a 60° glossmeter prior to application of the polish.

5.7 Apply the test polish and the reference (standard) polish equally to the same test panel in such a manner that each polish covers half of the black tiles and half of the white tiles. A typical panel is illustrated in Fig. 1. An alternative approach is to apply each polish to a separate panel.

5.8 Apply each of the test polishes to the test panels at a rate of 1500 ft²/gal to 2000 ft²/gal (37 m²/L to 49 m²/L), using any suitable and controlled procedure. This spreading rate is equivalent to:

$$0.06 \text{ fluid oz/ft}^2 \text{ to } 0.09 \text{ fluid oz/ft}^2$$

$$1.9 \text{ mL/ft}^2 \text{ to } 2.5 \text{ mL/ft}^2$$

5.9 Apply a second coat of a like amount 2 h after the first coat.

5.10 In the instance of wax emulsion polishes, machine buff the test panels coated with the test wax and the reference material with a new white polish pad, 00 steel wool pad, or clean bristle brush attachment 30 min after the second coat is apparently dry. Consider the small area and do not over buff. Do not buff any other polish types considered in this method at this time.

5.11 Allow each test panel to dry 1 h before being exposed to traffic. (Environmental conditions outside the norm of 70 °F

to 90 °F (21.1 °C to 32.2 °C) and above 70 % relative humidity may necessitate longer periods of drying time.) Again take gloss readings on the four center tiles prior to exposure to traffic. Comparatively rate the films visually for leveling, for any discoloration tendencies, and for slip resistance following HCPA Bulletin 245-70. In the instance of the wax emulsion polishes, make the leveling and gloss ratings after buffing.

5.12 Daily maintenance should include dry brushing or sweeping.

6. Maintenance and Evaluation Schedule for Wax Emulsion Polishes

6.1 Damp mop the test panels weekly, or when necessary, with a commercial neutral cleaner used in accordance with label instructions as to dilution, water temperature, etc. Rinse the panel with clear water and allow to dry thoroughly.

6.2 Machine buff the test panels weekly, following the damp mopping and a suitable drying period, by the technique described in 5.10.

6.3 Evaluate the test panels for traffic marking (heel marking, soiling, scuffing, and scratching), visually and with a 60° glossmeter (four center tiles) for gloss, and for slip resistance following HCPA Bulletin 245-70.

6.3.1 After 1 day's exposure to normal traffic.

6.3.2 Before and after the first damp mop cleaning and buffing operation. (This operation should be performed no later than the end of the first traffic week.)

6.3.3 Before and after the third damp mop cleaning and buffing operation. (No later than the end of the third traffic week.)

6.3.4 Evaluate for soil and heel mark resistance on the light tiles.

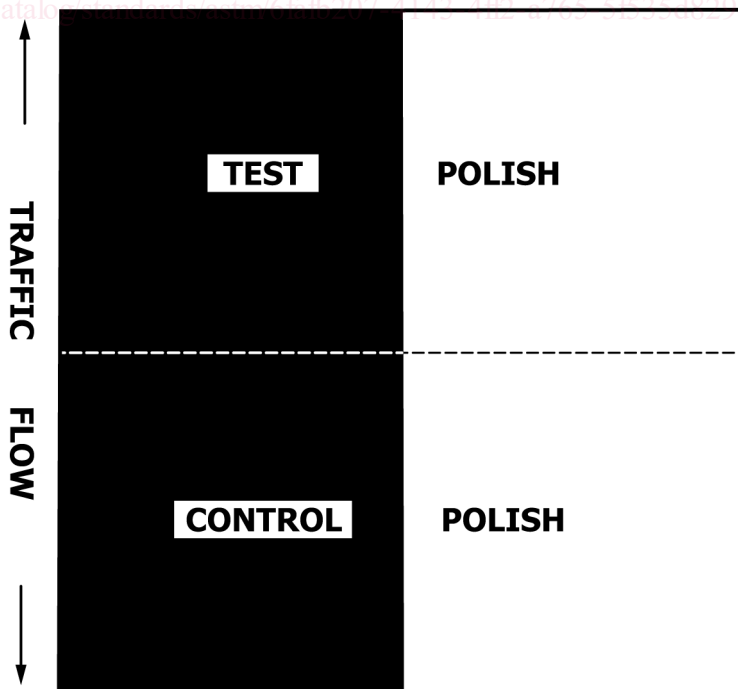


FIG. 1 Typical Floor Service Test Panel

TEST CONDITIONS

Date began _____ Date ended _____ Place _____
 Type of Substrate used _____ Glossmeter Reading on Pre-stripped Surface _____
 Remarks _____
 Test Polish _____ Control Polish _____

TEST RESULTS

	Observer	Fresh	1 Day	1st Cleaning		2nd Cleaning		3rd Cleaning	
				Before	After	Before	After	Before	After
GLOSS	1								
	2								
	3								
	4								
	Average								
	Test Glossmeter								
	Control Glossmeter Range								
Scratch Resistance	1								
	2								
	3								
	4								
	Average Range								
Scuff Resistance	1								
	2								
	3								
	4								
	Average Range								
Slip Resistance	1								
	2								
	3								
	4								
	Average Range								
Detergent Resistance	1								
	2								
	3								
	4								
	Average Range								
Leveling	Observer	Fresh		Removal Ease		Observer	*		
	1					1			
	2					2			
	3					3			
	4					4			
	Average Range					Average Range			

Glossmeter reading on stripped tile

FIG. 2 Data Sheet for Evaluating Water-Emulsion Floor Polishes on Dark Substrate of Test Floors

ASTM D3052-23

<https://standards.iteh.ai/catalog/standards/astm/61afb207-4143-4f02-a765-5f535d829490/astm-d3052-23>

6.3.5 Evaluate scuff and scratch resistance ratings on the dark tiles.

6.3.6 Determine slip resistance on both light and dark tiles that have been most trafficked because of direction of traffic flow.

6.3.7 Determine ease of removal on the black tiles after power-scrubbing the entire test panel with a commercial polish remover used in accordance with label recommendations as to dilution, temperature, wet contact time prior to scrubbing, etc. Rinse the panel with clear water and allow to dry thoroughly. Remove tape masking prior to making visual comparison of removal properties. A 60° glossmeter reading on the stripped tiles may prove helpful. Hand buffing a small area with a soft cloth is suggested as a supplemental aid in determining if stripping is complete. If no appreciable increase in gloss is achieved, it can be concluded that the film has been removed.

7. Maintenance and Evaluation Schedule for Nonbuffable Emulsion Polishes

7.1 Damp mop the test panels twice a week with a commercial neutral cleaner used in accordance with label instructions as to dilution, water temperature, etc. Rinse the panel with clear water and allow to dry thoroughly.

7.2 Evaluate the test panels for traffic marking (scuffing, scratching, soiling, and heel marking), visually and with a 60° glossmeter for gloss (four center tiles), and for slip resistance by following HCPA Bulletin 245-70.

7.2.1 After 1 day’s exposure to normal traffic.

7.2.2 At the end of the first week, both before and after damp mop cleaning.

7.2.3 At the end of the second week, both before and after damp mop cleaning.

7.2.4 At the end of the third week, both before and after damp mop cleaning.

7.3 Evaluate for soil and heel mark resistance on the light tiles.

7.4 Evaluate scuff and scratch resistance ratings on the dark tiles.

7.5 Determine slip resistance as in 6.3.6.

7.6 Determine ease of removal as in 6.3.7.

8. Maintenance and Evaluation Schedule for Detergent-Resistant Emulsion Polishes, Household Type

8.1 Sponge mop clean the test panels after 4 days of traffic minimum, or when necessary, with a solution of ¼ cup (2 oz)