Designation: D3758 – 95 (Reapproved 2010)

Standard Practice for Evaluation of Spray-Buff Products on Test Floors[1]

This standard is issued under the fixed designation D3758; 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 comparison of the performance of spray-buff products on test floors against a reference material. Spray-buff products are to be used to maintain base floor-polish films. This technique is intended to be used on water-emulsion floor polishes with a floor machine not exceeding 95 lb (43 kg) in weight and with a rate of rotation of 350 rpm or less.

1.2 Gloss, heel marking, soil resistance, and slip resistance of the spray-buffed test panels are rated in comparison to test panels similarly maintained with a reference spray-buff product.

1.3 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.

1.4 *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:*[2]

D523 Test Method for Specular Gloss

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

2.2 *Chemical Specialties Manufacturers Association Test Methods:*

245-70 Comparative Determination Slip Resistance of Floor Polishes[3]

3. Terminology

3.1 *Definitions:*

3.1.1 *water emulsion floor polish*—an emulsion-based polish in which water is the continuous or external phase.

3.1.2 *wax emulsion*—a water emulsion polish containing a predominance of natural or synthetic waxes, or both.

4. Significance and Use

4.1 Spray buff products are utilized for the maintenance of polished floors. This practice is for the evaluation of a spray buff product against a reference product. The procedure is a floor test utilizing a rotary-disc floor machine. This practice as currently written may or may not be applicable for machines in excess of 350 R.P.M.

5. Apparatus

5.1 *Floor Machine* of the single-disk type, fitted with a pad driver and a spray-buffing floor maintenance pad.

5.2 *Glossmeter*—The instrument and the reference standards shall conform to the requirements prescribed in Test Method D523, using an angle of reflection of 60°.

6. Description of Test Area

6.1 The preferred area is a corridor in normal traffic service exposed to nearly uniform traffic over the test area.

6.2 The preferred substrate is vinyl tile.

6.3 Divide the area into test sections at least 4 ft (1.2 m) in length and the full width of the corridor. Use one section for each test material in addition to the control section.

7. Preparation of Test Area

7.1 Completely strip the test area of dirt and old floor polish. Thoroughly rinse and dry before applying the base polishes.

7.2 Coat two test sections of the corridor with base polish. Maintain one test section with the test spray-buff product and the other section (control) with a reference spray-buff product.

7.2.1 Apply the base polish to the test section, using any suitable and controlled procedure in accordance with the manufacturer's recommendations.

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[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] 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 Chemical Specialties Manufacturers Assn., Inc., 1913 Eye Street, N. W., Washington, DC 20006. Test Methods and General Information, Waxes, Polishes, and Floor Finishes Div.

7.2.2 Wait 1 h after the first coat has dried to touch before the application of a second coat. Wait 1 h after the second coat has dried to touch before the application of a third coat of polish.

7.3 In the instance of wax-emulsion polishes, machine buff the test section coated with the test wax and the reference materials with a new 00 steel wool pad or clean bristle brush attachment 30 min after the third coat is apparently dry. All other water emulsion polish types considered in this method do not receive any initial buffing.

7.4 Allow each test section to dry 1 h before exposing to traffic. Environmental conditions outside the norms, 70 to 90°F (21 to 32°C), and above 70 % relative humidity, may necessitate longer periods of drying. Make gloss readings on the four center tiles prior to exposure to traffic. (See Test Method D1455.)

8. Maintenance and Evaluation Schedule

8.1 Daily maintenance should include dust mopping, dry brushing, or sweeping.

8.2 The test section should be spray buffed twice weekly, or, if traffic and soiling conditions are heavy, three to five times weekly.

8.2.1 Before spray buffing, use a dust mop or floor brush to remove loose dirt and debris. Apply the spray-buff product with a spray bottle or aerosol to the floor just ahead of the floor-cleaning machine. Apply the spray-buff product uniformly, using as little as possible to achieve cleaning required and obtain optimum appearance level. Typical application rate is 0.08 to 0.30 g/ft^2 (0.86 to 3.23 g/m^2). Weigh the spray bottle or aerosol container of spray-buff product before and after application to the test area to determine the amount of spray-buff product used.

8.2.2 Using a side-to-side movement to pass over a portion of the floor, clean and buff the test area with the floor machine. Use two passes to clean and one or two passes to buff. After finishing one portion of the test area, move forward and repeat application and cleaning procedure. Do not let the machine rest in one place too long while cleaning. Typical rate of cleaning is 25 to 33 ft^2/min (2.32 to 3.07 m^2/min), using a 17-in. (432-mm) diameter rotary-disk floor machine. Dust mop or brush the area. Use a separate spray-buffing floor maintenance pad with each different spray-buff product. Continue to use the same pad with the same spray-buff product. Clean maintenance pads as required. Determine and record application rate for the first, fifth, tenth, and fifteenth spray-buffing operation.

8.2.3 Measure and record the time required to clean and polish each test section after each cleaning. Report an average for each cycle of five cleanings, after the fifth, tenth, and fifteenth spray-buffing operation.

8.3 Evaluate the test sections for visual gloss after spray buffing, heel marking before and after spray buffing, soiling before spray buffing, specular gloss at 60° of the four center tiles in each test area after spray buffing in accordance with Test Method D1455, and for slip resistance after spray buffing in accordance with CSMA Bulletin No. 245-70.

8.3.1 Perform the first evaluation after the first spray-buffing operation. Perform this operation no later than the end of the first traffic week.

8.3.2 Subsequent evaluations should occur after the fifth, tenth, and fifteenth spray-buffing operations.

8.4 Determine slip resistance on tiles that have been most trafficked.

8.5 Report unusual conditions or observations such as traffic, soiling, appearance of test floors, etc.

9. Rating System

9.1 The evaluation of the test panels should be made by at least three qualified observers. Assigning a value of 0 to the reference material, rate each characteristic of the test polish as follows:

0	equal to reference material
+1	slightly better than reference material
+2	much better than reference material
−1	slightly poorer than reference material
−2	much poorer than reference material

9.2 Report the results as the average of the three or more observers carried to two decimal places (for example, 1.25). An additional figure, the range between the highest and lowest value, will help show the agreement between observers. The range between +2 and −2 is 4.

9.3 Tabulate the results on an appropriate data sheet.

10. Report

10.1 Report the average application rate of spray-buff product, the average time (or number of passes) required for cleaning and polishing the test area with the spray-buff product, and the average relative slip resistance of the test area.

10.2 Report the evaluation results as the average of the individual ratings of the three or more observers, carried to two decimal places (for example, 1.25).

10.3 As an indication of the agreement between observers, report the range between the highest and lowest individual observer's evaluation.

10.4 Report unusual conditions or observations relevant to traffic, soiling, appearance of test floors, etc.

11. Keywords

11.1 floor polishes; polishes; spray-buff products