Designation: D 6625 – 01

Standard Practice for Conducting a Test of Protective Properties of Polish Applied to a Painted Panel Using Fluorescent UV-Condensation Light- and Water-Exposure Apparatus[1]

This standard is issued under the fixed designation D 6625; 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 selection of test conditions from Practice G 53 to be employed for exposure testing of polish-coated paint, related coatings, and materials. This practice covers the basic principles and operating procedures for using fluorescent ultraviolet (UV) and condensation apparatus to simulate the deterioration caused by sunlight and water as rain or dew.

1.2 *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:*

D 523 Test Method for Specular Gloss[2]

G 53 Practice for Operating Light- and Water-Exposure Apparatus (Fluorescent UV-Condensation Type) for Exposure of Nonmetallic Materials[3]

3. Significance and Use

3.1 Organic coatings on exterior exposure are subjected to attack by degrading elements of the weather, particularly ultraviolet light, oxygen, and water. This practice may be used for evaluating the protective behavior of polish film applied to a coating. This polish-coated coating is then exposed in an apparatus that produces ultraviolet radiation, temperature, and water condensation for a given time period.

3.2 No single light exposure apparatus, with or without water, can be specified as a direct simulation of natural exposure. This practice does not imply a specific correlation with outdoor exposure. It is, however, useful in screening the protective quality of a polish within the test parameter.

4. Apparatus and Material

4.1 *Fluorescent UV/Condensation Apparatus*, complying with Practice G 53.

4.2 *Glossmeter*, using an angle of reflection of 60°. The instrument and the reference standards shall conform to the requirements prescribed in Test Method D 523.

4.3 *Forced-air Oven*.

4.4 *Q Panel*, 3 by 6 in. aluminum.

4.5 *Base Paint Coating*—should be a red paint that gives 100 % loss in gloss after being exposed to the test in this practice. Apply this paint to the 3 by 6 in. aluminum panel according to the instructions on the spray can. Allow paint coating to air dry for 24 h followed by 2 h of drying in a forced-air oven at 50°C.

4.6 *Polishing and Application Cloth*— shall be the same size and type for each sample tested. Separate cloths shall be used for each polish and for the application step and buffing step. Materials such as washed cheesecloth, rumple cloth, flannel, cotton diaper cloth, and nonwoven fabrics are suitable for this purpose. Felt or paper shall not be used.

4.7 *Samples of Polish*, to be tested.

5. Procedure

5.1 Apply the test polish to one half of the prepared coated panel. If the polish is a commercially available product, follow the directions on the container so far as is possible. When in doubt of the application method use the following:

5.1.1 Apply the polish, allow it to dry to a haze, and then buff it with a soft cloth to a glossy shine. Equal volumes of test polishes should be applied when comparing products. Avoid excessively thin or heavy coats of polish. The temperature and relative humidity should be measured so that the polish is applied within 70-80°F and 20-80 % humidity. The precoated panels shall have the same temperature as the surrounding area.

5.2 Using a 60° glossmeter, take and record the gloss readings of the polished and unpolished areas of the panel. Also record the gloss differential, which is the gloss reading of the polished half of the panel minus the unpolished half. After determining these initial gloss readings, place the Q panel in the QUV cabinet.

[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] *Annual Book of ASTM Standards*, Vol 06.01.

[3] *Annual Book of ASTM Standards*, Vol 14.04.