Designation: D 2338 – 02

Standard Test Method for Determining Particle Size of Multicolor Lacquers[1]

This standard is issued under the fixed designation D 2338; 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 employs photographic reference standards to evaluate the particle size of multicolor lacquers.

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

1.3 *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 Adjuncts:*
Grain Sizes (5 photos)[2]

3. Summary of Test Method

3.1 The samples to be tested are mixed by pouring from one container to another until they are uniform in consistency before spraying on coated white paper stock. After the lacquers are dry they are compared with photographic reference standards to determine the particle size.

4. Significance and Use

4.1 This test method provides a uniform nomenclature for the producer and user in the identification of the various particle sizes used in the manufacture of nitrocellulose-type multicolor lacquers.

5. Reference Standards

5.1 The photographic reference standards[2] were prepared by photographing actual sprayed panels of multicolor lacquers that were made in the five particle sizes normally used in commercial multicolor lacquers. The standard designations are as follows (Fig. 1(a), 1(b), 1(c)): fine, small, medium, large, and extra large, and represent the correct nomenclature for properly applied multicolor lacquer.

6. Apparatus

6.1 *Spray Gun*, pressure-feed internal-mix type, tip 0.086 in. (2.2 mm) in diameter with wide-spray nozzle.

7. Procedure

NOTE 1—The particle size of multicolor lacquer is dependent upon the spray conditions during the application procedure. In order to get uniform results the exact spray conditions should be agreed upon between the purchaser and the seller.

7.1 Spray the lacquer on a coated white paper panel with the fluid and atomizing pressures adjusted to give a spreading rate of 150 to 200 ft^2/gal (3.7 to 4.9 m^2/L) for complete covering and 200 to 300 ft^2/gal (4.9 to 7.35 m^2/L) for scatter coat application. After the sprayed lacquer is thoroughly dry, determine the particle size on the panel by comparing it to the photographic reference standards.[2]

8. Precision and Bias

8.1 *Precision*:

8.1.1 This test method entails the use of visual judgment and as such does not readily lend itself to a precision statement.

8.1.2 In general there has been good agreement between operators in judgment of particle size.

8.2 *Bias*:

8.2.1 No information can be presented on the bias of the procedure in Test Method D 2338 for measuring particle size because no material having an accepted reference value is available.

9. Keywords

9.1 lacquer; multicolor lacquers; particle size

[1] This test method is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.55 on Factory Applied Coatings on Preformed Products.

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[2] Glossy prints of the photographic reference standards showing various particle sizes are available at nominal charge from ASTM International Headquarters. Order Adjunct ADJD2338.