



Designation: D716 – 86 (Reapproved 2012)

Standard Test Methods for Evaluating Mica Pigment¹

This standard is issued under the fixed designation D716; 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 These test methods cover the evaluation of mica pigment.

1.2 The values stated in SI 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 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

D185 Test Methods for Coarse Particles in Pigments

D280 Test Methods for Hygroscopic Moisture (and Other Matter Volatile Under the Test Conditions) in Pigments

E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

3. Significance and Use

3.1 These test methods are used to determine apparent density of mica pigments and the grit level. This information is significant to the user of mica pigments for inclusion in coatings.

APPARENT DENSITY

4. Apparatus

4.1 *Volumeter*—A Scott volumeter or similar apparatus modified as follows: The screen used shall conform to the requirements of a No. 40 (425- μ m) sieve as prescribed in Specification E11. The funnel below the screen shall be replaced by a conical funnel having a bottom opening 25 mm

¹ These test methods are under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and are the direct responsibility of Subcommittee D01.31 on Pigment Specifications.

Current edition approved Nov. 1, 2012. Published November 2012. Originally approved in 1943. Last previous edition approved in 2007 as D716 – 86 (2007). DOI: 10.1520/D0716-86R12.

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.

(1 in.) in diameter. It may be found necessary to replace the top glass baffle with one that is longer to ensure that all of the sifted mica is caught.

5. Procedure

5.1 Transfer convenient quantities of the mica pigment to the funnel of the modified volumeter and brush the pigment through the screen with a camel-hair brush until the receiver is slightly more than full. Scrape off the excess and weigh the pigment. Care must be taken not to jar the apparatus during the procedure.

6. Calculation

6.1 Calculate the apparent density of the mica pigment and convert to pounds per cubic foot.

7. Report

7.1 Report the mean of three determinations as the apparent density of the mica pigment.

8. Reproducibility of Results

8.1 The mean of the three determinations should check within 5 %.

MOISTURE AND OTHER VOLATILE MATTER

9. Procedure

9.1 Determine the moisture and other volatile matter in accordance with Test Methods D280.

GRIT

10. Apparatus

10.1 *Beaker*, 600-mL, low-form.

10.2 *Metal Tubing*—An L-shape metal tube (Fig. 1) 6.4 mm ($\frac{1}{4}$ in.) in outside diameter with a foot 25 mm (1 in.) in length. The foot of the tube shall be drilled to 4.4 mm (0.173 in.) (No. 17 drill) in inside diameter for a depth of 12.7 mm ($\frac{1}{2}$ in.). The tube shall be placed in the beaker with the long arm in the vertical position, and the foot of the L parallel to the bottom of the beaker and perpendicular to the radius of the bottom at a point such that there is about 1.5-mm ($\frac{1}{16}$ -in.) clearance between the tubing and both the bottom and side of the beaker. The center of the foot shall be placed 90° from the lip of the beaker.