Designation: D332 – 87(Reapproved 2011)

Standard Test Method for Relative Tinting Strength of White Pigments by Visual Observation[1]

This standard is issued under the fixed designation D332; 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 describes the procedure for determining the relative tinting strength of white pigments by visual assessment of blue tints.

1.2 This test method is applicable only for comparing the test pigment with a reference standard of the same type and grade.

NOTE 1—Test Method D2745 describes a procedure for instrumental evaluation of black tinted samples.

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

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]

D262 Specification for Ultramarine Blue Pigment (Withdrawn 2005)[3]

D2745 Test Method for Relative Tinting Strength of White Pigments by Reflectance Measurements

3. Summary of Test Method

3.1 Specified amounts of white pigment and blue tinting pigment are dispersed together in oil using a glass hand muller or an automatic muller. Both the test and standard pigments are treated identically. The pastes are drawn-down together on a panel and visually assessed for tinting strength. To obtain a numerical rating of tinting strength, dispersions with the standard white pigment and more or less of the tinting pigment are made until the lightness of the test pigment paste is matched. The weight of the tinting pigment is used to calculate relative tinting strength.

4. Significance and Use

4.1 This test method is used as a referee method and for quality control. The vehicle (oil) for preparing the dispersions and the tinting pigment (ultramarine blue) are specified but other vehicles and tinting pigments can be used. Any such changes in the test method must be agreed upon between the purchaser and the seller.

4.2 The results obtained with a muller do not necessarily agree with an industrial situation where different dispersing conditions exist. However, dispersing with a muller is a fast and relatively inexpensive way of testing tinting strength for routine quality control.

5. Apparatus

5.1 *Balance,* laboratory-type, sensitive to 0.1 mg, equipped with a counter-balanced watch glass.

5.2 *Buret,* 1-mL capacity, stopcock controlled, graduated in 0.1-mL divisions, or other suitable dispensing apparatus with a delivery accurate to 0.05 mL.

5.3 *Glass Hand Muller*—A weighted glass hand muller with beveled edge having a total weight of 6.8 kg (15 lb) and a grinding face of from 70 to 75 mm (2¾ to 3 in.) in diameter. The face shall be free of blowholes and other imperfections and kept roughened by lightly grinding with No. 303 optical emery, or its equivalent, and turpentine.

5.4 *Rubbing Surface*—A ground glass plate, at least 355 by 510 mm (14 by 20 in.), the surface of which is kept roughened by lightly grinding with No. 303 optical emery, or its equivalent, and turpentine.

[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 D01.26 on Optical Properties.

Current edition approved Feb. 1, 2011. Published February 2011. Originally approved in 1931. Last previous edition approved in 2004 as D332 – 87 (2004). DOI: 10.1520/D0332-87R11.

[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] The last approved version of this historical standard is referenced on www.astm.org.