



Standard Test Methods for Relative Tinting Strength of Paste-Type Printing Ink Dispersions¹

This standard is issued under the fixed designation D 2066; 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 procedures for determining the relative tinting strength of paste-type printing ink dispersions by visual or instrumental evaluation.

1.2 These test methods are applicable to paste-type printing inks, flushed pigments, and other pigment dispersions that are essentially nonvolatile under ordinary room conditions and for which there is a wet reference standard of the same pigmentation and consistency. With proper choice of tinting base, they are applicable to dispersions of any color, including black and white.

NOTE 1—The instrumental procedures for tinting strength are similar in principle to those described in Test Methods D 387, D 2745, and D 4838.

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

D 16 Terminology For Paint, Related Coatings, Materials, and Applications

D 387 Test Method for Color and Strength of Chromatic Pigments with a Mechanical Muller

D 2244 Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates

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 D1.56 on Printing Inks.

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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.

D 2745 Test Method for Relative Tinting Strength of White Pigments by Reflectance Measurements

D 4838 Test Method for Determining the Relative Tinting Strength of Chromatic Paints

E 284 Terminology of Appearance

E 1331 Test Method for Reflectance Factor and Color by Spectrophotometry Using Hemispherical Geometry

E 1347 Test Method for Color and Color-Difference Measurement by Tristimulus (Filter) Colorimetry

E 1349 Test Method for Reflectance Factor and Color by Spectrophotometry Using Bidirectional Geometry

2.2 ANSI Standards:

PH 2.17 Geometric Conditions for Reflection Density³

PH 2.18 Spectral Conditions for the Measurement of Optical Density³

PH 2.30 Viewing Conditions for Graphic Arts and Photography—Color Prints, Transparencies and Photomechanical Reproductions³

3. Terminology

3.1 Definitions relating to color attributes and color differences are covered in Terminology D 16 and E 284.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *tinting strength, n*—the ability of a material to impart its color to a standard base; the reciprocal of the relative concentration required to match the reference material in a standard base.

3.2.2 *masstone (or masscolor), n*—the color of a material that is thick enough to mask any background.

3.2.3 *undertone (or undercolor), n*—the color of a thin film of a material.

4. Summary of Test Methods

4.1 Thin and thick films of the standard and unknown dispersions are drawn down in juxtaposition on bond and on coated paper. Visual evaluation of the relative undertone and masstone provides a check on color equivalency.

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

*A Summary of Changes section appears at the end of this standard.