



Designation: D3288/D3288M – 20

Standard Test Methods for Magnet-Wire Enamels¹

This standard is issued under the fixed designation D3288/D3288M; 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 testing liquid enamel coatings used to produce film-insulated magnet wire.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system are not necessarily exact equivalents; therefore, to ensure conformance with the standard, each system shall be used independently of the other, and values from the two systems shall not be combined

1.3 The test methods appear as follows:

	Sections
Density	6 – 10
Determined Solids	16 – 22
Effective Solids	31 – 37
Flash Point	11 – 15
Infrared Analysis	45 – 50
Stack Loss	23 – 30
Viscosity	38 – 44

1.4 There is no known IEC equivalent document.

1.5 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

¹ These test methods are under the jurisdiction of ASTM Committee D09 on Electrical and Electronic Insulating Materials and are the direct responsibility of Subcommittee D09.12 on Electrical Tests.

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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.

D29 Test Methods for Sampling and Testing Lac Resins (Withdrawn 2005)³

D56 Test Method for Flash Point by Tag Closed Cup Tester

D476 Classification for Dry Pigmentary Titanium Dioxide Products

D1298 Test Method for Density, Relative Density, or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method

D1475 Test Method for Density of Liquid Coatings, Inks, and Related Products

D1711 Terminology Relating to Electrical Insulation

D5423 Specification for Forced-Convection Laboratory Ovens for Evaluation of Electrical Insulation

E131 Terminology Relating to Molecular Spectroscopy

E168 Practices for General Techniques of Infrared Quantitative Analysis

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

E2975 Test Method for Calibration or Calibration Verification of Concentric Cylinder Rotational Viscometers

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of terms used in these test methods, refer to Terminology D1711.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 For definitions of terms specific to this standard, see the individual test methods.

4. Significance and Use

4.1 These tests are useful for specification and control purposes during the manufacture, purchase, and use of the magnet-wire enamels, and for determining uniformity of batches.

5. Sampling

5.1 Take a representative sample of liquid enamel and store for future testing. Store the sample at room temperature in a tightly sealed, nearly full container, unless otherwise specified. Use a container that is inert and impermeable to the wire enamel. These precautions avoid either the escape of solvent or

³ The last approved version of this historical standard is referenced on www.astm.org.

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