



Designation: E1797 – 12 (Reapproved 2017)^{ε1}

Standard Specification for Reinforced Liquid Coating Encapsulation Products for Leaded Paint in Buildings¹

This standard is issued under the fixed designation E1797; 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.

^{ε1} NOTE—Editorial changes were made throughout in October 2017.

1. Scope

1.1 This specification covers minimum material performance requirements and laboratory test procedures for reinforced liquid coating encapsulation products (single- or multiple-coat systems) for leaded paint in buildings. Performance properties addressed in this specification are:

- 1.1.1 Impact Resistance,
- 1.1.2 Adhesion,
- 1.1.3 Dry Abrasion Resistance,
- 1.1.4 Water Vapor Transmission,
- 1.1.5 Water and Chemical Resistance,
- 1.1.6 Surface Burning Characteristics,
- 1.1.7 Volatile Organic Compound (VOC) Content,
- 1.1.8 Weathering,
- 1.1.9 Aging,
- 1.1.10 Scrub Resistance,
- 1.1.11 Mildew Resistance,
- 1.1.12 Paintability/Repairability,

1.2 This specification does not address the selection of an encapsulation product for specific use conditions. Specific use conditions may require performance values other than those stated in this specification. See Guide E1796 for guidance.

1.3 This specification complements Specification E1795 for non-reinforced liquid coating encapsulation products.

1.4 This specification does not cover the use of encapsulation products on industrial steel structures nor residential exterior coated metal surfaces because no corrosion control requirements are included.

1.5 This specification applies to any liquid-applied product incorporating reinforcement materials as part of the system. Reinforcement materials are continuous fabric or mesh and are applied in the field. These materials are typically applied between a base and top coat. These products are used to

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encapsulate a leaded paint surface with the intent of reducing human exposure to lead in paint.

1.6 The results of the test methods included in this specification will not necessarily predict field performance.

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

1.8 *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.*

1.9 *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

- D16 Terminology for Paint, Related Coatings, Materials, and Applications
- D823 Practices for Producing Films of Uniform Thickness of Paint, Varnish, and Related Products on Test Panels
- D1005 Test Method for Measurement of Dry-Film Thickness of Organic Coatings Using Micrometers
- D1212 Test Methods for Measurement of Wet Film Thickness of Organic Coatings
- D1308 Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
- D1475 Test Method for Density of Liquid Coatings, Inks, and Related Products
- D1653 Test Methods for Water Vapor Transmission of Organic Coating Films

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.

- D2486 Test Methods for Scrub Resistance of Wall Paints
- D2794 Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
- D3273 Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
- D3274 Test Method for Evaluating Degree of Surface Disfigurement of Paint Films by Fungal or Algal Growth, or Soil and Dirt Accumulation
- D3359 Test Methods for Rating Adhesion by Tape Test
- D3924 Specification for Standard Environment for Conditioning and Testing Paint, Varnish, Lacquer, and Related Materials (Withdrawn 2016)³
- D3925 Practice for Sampling Liquid Paints and Related Pigmented Coatings
- D3960 Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings
- D3891 Practice for Preparation of Glass Panels for Testing Paint, Varnish, Lacquer, and Related Products
- D4060 Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
- D4214 Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films
- D4414 Practice for Measurement of Wet Film Thickness by Notch Gages
- D4541 Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
- D7091 Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nonconductive Coatings Applied to Non-Ferrous Metals
- E84 Test Method for Surface Burning Characteristics of Building Materials
- E1605 Terminology Relating to Lead in Buildings
- E1795 Specification for Non-Reinforced Liquid Coating Encapsulation Products for Leaded Paint in Buildings
- E1796 Guide for Selection and Use of Liquid Coating Encapsulation Products for Leaded Paint in Buildings
- E2239 Practice for Record Keeping and Record Preservation for Lead Hazard Activities
- G154 Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

2.2 Federal Test Methods Standard 141C:⁴

- 2011 Preparation of Steel Panels
- 2012 Preparation of Tin Panels

2.3 Federal Test Methods Standard 141D:⁴

- 3011 Condition in Container

3. Terminology

3.1 *Definitions*—For definitions of terms used in this specification, refer to Terminologies **D16** and **E1605**.

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

⁴ Available from DLA Document Services, Bldg. 4/D, 700 Robbins Ave., Philadelphia, PA 19111-5094, <http://quicksearch.dla.mil>.

4. Classification

4.1 *Type I: Interior Use Only*—Type I defines encapsulation products intended for interior use. These products shall meet the requirements of this specification except those for weathering and exterior aging (for example, test methods described in **10.9** and **10.10.1** not conducted).

4.2 *Type II: Exterior Use Only*—Type II defines encapsulation products intended for exterior use. These products shall meet the requirements of this specification except that for interior aging (for example, test method **10.10.2** not conducted).

4.3 *Type III: Either Exterior or Interior Use*—Type III defines encapsulation products intended for either interior or exterior use. These products shall meet all the requirements of this specification.

5. Performance Requirements

5.1 Performance requirements that shall be met for a reinforced liquid coating encapsulation product are given in **Table 1**.

NOTE 1—In addition to those given in **Table 1**, performance requirements for three other properties are of concern for liquid coating encapsulation products. These are combustion toxicity, emissions during application and curing, and lead accessibility. However, requirements for these properties cannot be included in this specification at this time because there are no adequate ASTM or Federal test methods for determining them. Requirements for two of these properties, combustion toxicity and emissions during application and curing, may be subject to regulations or ordinances promulgated by authorities having jurisdiction. The user of this specification is advised to determine whether such regulations or ordinances exist. The addition of requirements for these properties to this specification will be undertaken when suitable test methods are available.

6. Sampling

6.1 A 3.8-L (1-gal) sample of the encapsulant coating is usually sufficient for conducting the specified tests.

6.2 Prior to sampling, establish the condition of the container since damage to it may cause evaporation, skinning, or other undesirable effects. Excessive storage time and temperature fluctuations may cause settling or changes in viscosity. Materials beyond the manufacturer's stated shelf life shall not be sampled. Reinforcement materials shall be evaluated to ensure they are undamaged.

6.3 Thickening, settling, and separation are undesirable and objectionable if the coating cannot be readily made suitable for application with a reasonable amount of stirring. Determine the conditions in the container in accordance with Method 3011 of Federal Test Method Standard No. 141C.

6.4 Sample the encapsulation product in accordance with Practice **D3925**. Determine the density in accordance with Test Method **D1475**, and repeat until two successive readings agree within 90 g (0.2 lb). Samples for testing may then be taken.

6.5 Report the size of the container from which the sample was taken and product identification codes.

7. Number of Tests

7.1 The number of tests that shall be conducted for each performance property is given in **Table 1**.