



Standard Practices for Testing Polymeric Powders and Powder Coatings¹

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1. Scope

1.1 These practices cover the selection and use of procedures for testing polymeric powders and powder coatings. The test methods included are listed in Table 1. Where more than one test method is listed for the same characteristic, no attempt is made to indicate superiority of one method over another. Selection of the methods to be followed must be governed by experience and the requirements in each individual case, together with agreement between the purchaser and the seller.

1.2 These practices describe the testing of polymeric powders as applied by electrostatic spray, fluidized bed, or any other applicable method.

1.3 These practices apply to proper and safe packaging, shipping and receiving, and storage and handling during use and application of polymeric powders.

1.4 *This standard does not purport to address all of the safety problems, 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:

- B 117 Practice for Operating of Salt Spray (Fog) Testing Apparatus²
- D 153 Test Methods for Specific Gravity of Pigments³
- D 522 Test Method for Mandrel Bend Test of Attached Organic Coatings⁴
- D 523 Test Method for Specular Gloss⁴
- D 609 Practice for Preparation of Cold-Rolled Steel Panels for Testing Paint, Varnish, Conversion Coatings, and Related Coating Products⁴
- D 610 Test Method for Evaluating Degree of Rusting on Painted Steel Surfaces⁵
- D 658 Test Method for Abrasion Resistance of Organic Coatings by Air Blast Abrasive⁴

- D 659 Test Method for Evaluating Degree of Chalking of Exterior Paints⁴
- D 660 Test Method for Evaluating Degree of Checking of Exterior Paints⁴
- D 661 Test Method for Evaluating Degree of Cracking of Exterior Paints⁴
- D 662 Test Method for Evaluating Degree of Erosion of Exterior Paints⁴
- D 714 Test Method for Evaluating Degree of Blistering of Paints⁴
- D 772 Test Method for Evaluating Degree of Flaking (Scaling) of Exterior Paints⁴
- D 792 Test Methods for Specific Gravity (Relative Density) and Density of Plastics by Displacement⁶
- D 870 Practice for Testing Water Resistance of Coatings Using Water Immersion⁴
- D 968 Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive⁴
- D 1005 Test Methods for Measurement of Dry-Film Thickness of Organic Coatings Using Micrometers⁴
- D 1044 Test Method for Resistance of Transparent Plastics to Surface Abrasion⁶
- D 1186 Test Methods for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to a Ferrous Base⁴
- D 1193 Specification for Reagent Water⁷
- D 1308 Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes⁵
- D 1400 Test Method for Nondestructive Measurement of Dry Film Thickness of Nonconductive Coatings Applied to a Nonferrous Metal Base⁴
- D 1474 Test Methods for Indentation Hardness of Organic Coatings⁴
- D 1535 Test Method for Specifying Color by the Munsell System⁴
- D 1644 Test Methods for Nonvolatile Content of Varnishes⁴
- D 1729 Practice for Visual Evaluation of Color Differences of Opaque Materials⁴
- D 1730 Practices for Preparation of Aluminum and Aluminum-Alloy Surfaces for Painting⁸
- D 1731 Practices for Preparation of Hot-Dip Aluminum Surfaces for Painting⁸

¹ These practices are under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings, Materials, and Applications and are the direct responsibility of Subcommittee D01.51 on Powder Coatings.

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² Annual Book of ASTM Standards, Vol 03.02.

³ Annual Book of ASTM Standards, Vol 06.03.

⁴ Annual Book of ASTM Standards, Vol 06.01.

⁵ Annual Book of ASTM Standards, Vol 06.02.

⁶ Annual Book of ASTM Standards, Vol 08.01.

⁷ Annual Book of ASTM Standards, Vol 11.01.

⁸ Annual Book of ASTM Standards, Vol 02.05.