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Standard Guide for Painting Inspectors (Metal Substrates)¹

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1. Scope

1.1 This guide is intended as an information aid to painting inspectors in carrying out their task efficiently. It includes the key elements of surface preparation, coatings application, and final approval for both field and shop work. The items should be selected that are pertinent to the specification of a particular job.

NOTE 1—For additional helpful information, refer to the following documents:

*Manual of Coating Work for Light-Water Nuclear Power Plant Primary Containment and Other Safety-Related Facilities*²

*New Concepts for Coating Protection of Steel Structures*³

D16 Terminology for Paint, Related Coatings, Materials, and Applications⁴

D4538 Terminology Relating to Protective Coatings and Lining Work for Power Generation Facilities⁴

Steel Structures Painting Manual Vol 1 Good Painting Practice⁵

Steel Structures Painting Manual Vol 2 Systems and Specifications⁵

Manufacturers Specifications and Instructions (made available to the inspector for reference to special requirements for proper application)

Safety Data Sheets (needed to ensure that personnel take necessary precautions in handling hazardous materials). Available from Materials manufacturer.

1.2 Certain industries or owners may require certified inspection personnel. See Guide **D4537** for establishing procedures to certify inspectors for coatings work in nuclear facilities.

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 This guide is under the jurisdiction of ASTM Committee **D01** on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee **D01.46** on Industrial Protective Coatings.

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² ASTM, 1979.

³ ASTM STP 841, ASTM, 1984.

⁴ 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.

⁵ Available from Association for Materials Protection and Performance (AMPP), 15835 Park Ten Place, Houston, TX 77084, <https://www.ampp.org>.

1.4 This guide is arranged in the following order:

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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:⁴

- D16 Terminology for Paint, Related Coatings, Materials, and Applications
- D1212 Test Methods for Measurement of Wet Film Thickness of Organic Coatings
- D1730 Practices for Preparation of Aluminum and Aluminum-Alloy Surfaces for Painting
- D2200 Practice for Use of Pictorial Surface Preparation Standards and Guides for Painting Steel Surfaces
- D3359 Test Methods for Rating Adhesion by Tape Test
- D3363 Test Method for Film Hardness by Pencil Test
- D4138 Practices for Measurement of Dry Film Thickness of Protective Coating Systems by Destructive, Cross-Sectioning Means
- D4212 Test Method for Viscosity by Dip-Type Viscosity Cups
- D4285 Test Method for Indicating Oil or Water in Compressed Air
- D4414 Practice for Measurement of Wet Film Thickness by Notch Gages
- D4417 Test Methods for Field Measurement of Surface

Profile of Blast Cleaned Steel

- D4537 Guide for Establishing Procedures to Qualify and Certify Personnel Performing Coating and Lining Work Inspection in Nuclear Facilities
 - D4538 Terminology Relating to Protective Coating and Lining Work for Power Generation Facilities
 - D4541 Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
 - D4752 Practice for Measuring MEK Resistance of Ethyl Silicate (Inorganic) Zinc-Rich Primers by Solvent Rub
 - D4940 Test Method for Conductometric Analysis of Water Soluble Ionic Contamination of Blast Cleaning Abrasives
 - D5064 Practice for Conducting a Patch Test to Assess Coating Compatibility
 - D5162 Practice for Discontinuity (Holiday) Testing of Nonconductive Protective Coating on Metallic Substrates
 - D5402 Practice for Assessing the Solvent Resistance of Organic Coatings Using Solvent Rubs
 - D6386 Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting
 - D6677 Test Method for Evaluating Adhesion by Knife
 - D6913 Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
 - 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
 - D7127 Test Method for Measurement of Surface Roughness of Abrasive Blast Cleaned Metal Surfaces Using a Portable Stylus Instrument (Withdrawn 2021)⁶
 - D7393 Practice for Indicating Oil in Abrasives
 - E337 Test Method for Measuring Humidity with a Psychrometer (the Measurement of Wet- and Dry-Bulb Temperatures)
- 2.2 OSHA Standard:⁵
- 29 CFR 1926.59 Hazard Communication
- 2.3 SSPC Standards:⁵
- SSPC-AB 1 Mineral and Slag Abrasives
 - SSPC-AB 2 Cleanliness of Recycled Ferrous Metallic Abrasives
 - SSPC-AB 3 Newly Manufactured or Re-Manufactured Steel Abrasives
 - SSPC-AB 4 Recyclable Encapsulated Abrasive Media
 - SSPC-SP 1 Solvent Cleaning
 - SSPC-SP 2 Hand Tool Cleaning
 - SSPC-SP 3 Power Tool Cleaning
 - SSPC-SP 5/NACE No. 1 White Metal Blast Cleaning
 - SSPC-SP 6/NACE No. 3 Commercial Blast Cleaning
 - SSPC-SP 7/NACE No. 4 Brush-off Blast Cleaning
 - SSPC-SP 8 Pickling
 - SSPC-SP 10/NACE No. 2 Near-White Blast Cleaning
 - SSPC-SP 11 Power Tool Cleaning to Bare Metal
 - SSPC-SP 14/NACE No. 8 Industrial Blast Cleaning
 - SSPC-SP 15 Commercial Grade Power Tool Cleaning

⁶ The last approved version of this historical standard is referenced on www.astm.org.