

SSPC: The Society for Protective Coatings

Coating Standard No. 42

EPOXY POLYAMIDE/POLYAMIDOAMINE PRIMER, PERFORMANCE-BASED

1. SCOPE

1.1 This standard contains performance requirements for a two-component epoxy polyamide/polyamidoamine primer coating for use as a primer on blast cleaned steel surfaces. Individual products meeting minimum performance requirements of this standard may vary in formulation, raw materials, and application characteristics.

1.2 This primer, when properly applied and cured, is suitable for use on steel surfaces in SSPC Environmental Zones 2A (frequently wet by fresh water), 2B (frequently wet by salt water), 3A (chemical, acidic), 3B (chemical, neutral), and 3C (chemical, alkaline).¹ Although the coating herein specified has exhibited good chemical protection, its resistance against specific chemicals should, in the absence of applicable case histories, be appropriately tested.

1.3 This coating is intended for application by brush, spray, or roller for use as a primer in a multi-coat system.

2. DESCRIPTION

2.1 This standard contains performance requirements for a two-component polyamide and or polyamidoamine cured epoxy coating for use in the architectural and industrial environments described in Section 1.2 above.

3. REFERENCED STANDARDS

3.1 The date of the referenced standard in effect at the time of publication of this standard is shown below. Upon mutual agreement, the latest revision of a referenced standard in effect on the date of invitation to bid may be used provided it does not change the technical requirements of this SSPC standard. Standards marked with an asterisk (*) are referenced only in the Notes, which are not requirements of this standard..

3.2 If there is a conflict between the requirements of any of the cited reference documents and this standard, the requirements of this standard shall prevail.

3.3 SSPC STANDARDS AND JOINT STANDARDS:

SSPC-Guide 13 (2004)	Guide for the Identification and Use of Industrial Coating Materials in Computerized Product Databases
SSPC PA 2 (2015)	Procedure for Determining Compliance to Dry Coating Thickness Requirements
SSPC PA 15 (2013)	Material and Preparation Requirements for Steel Test Panels Used to Evaluate the Performance of Industrial Coatings
SSPC-PA 16 (2012)	Method for Evaluating Scribe Undercutting on Coated Steel Test Panels Following Corrosion Testing
SSPC SP 1 (2015)	Solvent Cleaning
SSPC SP 5/ NACE No. 1 (2007)	White Metal Blast Cleaning
SSPC SP 6/ NACE No. 3 (2007)	Commercial Blast Cleaning
SSPC VIS 2 (2002)	Standard Method for Evaluating Degree of Rusting on Painted Steel Surfaces

3.4 ASTM INTERNATIONAL STANDARDS:²

D522-13	Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings
* D523-14	Standard Test Method for Specular Gloss
* D562-10(2014)	Standard Test Method for Consistency of Paints Using the Stormer Viscometer
D660-93(2011)	Standard Test Method for Evaluating Degree of Checking of Exterior Paints

¹ SSPC Environmental Zones are defined in "Using SSPC Coating Material Standards," available as a downloadable .pdf file from <http://www.sspc.org/media/documents/Technical_Committee_Documents/Using_SSPC_Coating_Material_Standards_1.pdf>

² ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. 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.

D661-93(2011)	Standard Test Method for Evaluating Degree of Cracking of Exterior Paints
D714 02-(2009)	Standard Test Method for Evaluating Degree of Blistering of Paints
* D1296-01(2012)	Standard Test Method for Odor of Volatile Solvents and Diluents
D1308(2013)	Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
* D1475-13	Standard Test Method for Density of Liquid Coatings, Inks, and Related Products
* D1535-14	Standard Practice for Specifying Color by the Munsell System
* D1640-14	Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature
* D1652-11e1	Standard Test Method for Epoxy Content of Epoxy Resins
D1735-14	Standard Practice for Testing Water Resistance of Coatings Using Water Fog Apparatus
D1849-05(2014)e1	Standard Test Method for Package Stability of Paint
* D2621-87(2011)	Standard Test Method for Infrared Identification of Vehicle Solids From Solvent-Reducible Paints
* D2369-10(2015)e1	Standard Test Method for Volatile Content of Coatings
* D2371-85(2010)	Standard Test Method for Pigment Content of Solvent-Reducible Paints
D2794-93(2010)	Standard Test Method for Resistance of Organic Coatings to Effect of Rapid Deformation (Impact)
D3363-05(2011)	Standard Test Method for Film Hardness by Pencil Test
D4417-14	Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel
D4541-09e1	Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
D4585-13	Standard Practice for Testing Water Resistance of Coatings Using Controlled Condensation
D5402-15	Standard Practice for Assessing the Solvent Resistance of Organic Coatings Using Solvent Rubs
D5894-10	Standard Practice for Cyclic Salt Fog/UV Exposure of Painted Metal, (Alternating Exposures in a Fog/ Dry Cabinet and a UV/Condensation Cabinet)

3.5 FEDERAL SPECIFICATIONS AND STANDARDS:³

FEDERAL TEST METHOD STANDARD 141

* Method 3011	Condition in Container
Method 4331.2	Spraying Properties
Method 4321.3	Brushing Properties

3.6 UNITED NATIONS STANDARD⁴

GHS (2013)	Globally Harmonized System of Classification and Labelling of Chemicals (GHS), 5th Revised Edition.
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4. COMPOSITION REQUIREMENTS

4.1 The base component of the coating shall contain an epoxy resin and may include color pigments, mineral fillers, thixotropes, leveling agents and volatile solvents. The epoxy resin shall be a di-epoxide condensation product of epichlorohydrin with terminal epoxide groups.⁵

4.2 The curing agent component of the coating shall contain a liquid type polyamide/polyamidoamine resin and may include color pigments, mineral fillers, thixotropes, leveling agents and volatile solvents (see Note 11.1). The polyamide/polyamidoamine resin shall be a condensation product of dimerized and/or monofunctional fatty acids and polyamines.

4.3 ANALYTICAL TEST DATA: If required, the coating manufacturer shall provide certificates of analysis for coating batches qualified by independent testing to meet this standard for use in verifying batch-to-batch consistency of material (see Note 11.2).

5. STANDARD TESTING CONDITIONS

5.1 TEST PANELS: Unless otherwise specified, test panels shall comply with requirements of SSPC-PA 15, and profile compliance shall be determined in accordance with Method B or Method C of ASTM D4417. The method used shall be reported.

Panels used for the flexibility test described in Section 7.4 shall meet requirements of ASTM D522.

5.2 APPLICATION: The coating shall be spray applied as a single coat in accordance with requirements of the manufacturer's product data sheet.

5.3 DRY FILM THICKNESS: The dry film thickness (DFT) of the test panels shall meet the manufacturer's recommended range. The DFT shall be measured in accordance with SSPC-PA 2, Level 3 Appendix 5.

³ Federal Test Method 141D is available online from <http://www.assistdocs.com/search/search_basic.cfm>. (Search for 141D).

⁴ United Nations Economic Commission for Europe, Transport Division, Palais des Nations, CH - 1211 Geneva 10, Switzerland. Copies of this standard may be obtained from the United Nations Publications Customer Service, National Book Network, 15200, 15200 NBN Way, Ridge Summit PA 17124 <<https://unp.un.org>>

⁵ The epoxy component should be an epoxy resin with a functionality of 2 or higher.