

SSPC: The Society for Protective Coatings

COATING SYSTEM NO. 26.00

Aluminum Pigmented Epoxy Coating System Materials Specification, Performance-Based Type I, for Use over Blast Cleaned Steel Type II, for Use over Hand Cleaned Steel

1. Scope

1.1 This specification covers the requirements for an ambient temperature cure, two-component aluminum pigmented epoxy coating that is intended for use as a single or multi-coat system on steel.

1.2 Coating systems meeting this specification are suitable for exposures in environmental zones 1A (interior, normally dry), 1B (exterior, normally dry), 2A (frequently wet by fresh water, excluding immersion), 2B (frequently wet by salt water, excluding immersion), and 3B (chemical exposure, neutral). (See Note 13.1.)

1.3 The specified coating system is intended for application by brush, spray, or roller (See Note 13.2). Type I is for use over steel surfaces blast cleaned to SSPC-SP 6 or better (See Note 13.3.) Type II is for use over non-blast cleaned as well as blast cleaned steel surfaces, i.e., surfaces cleaned to SSPC-SP 2 or better. (See Note 13.4.). For either Type I or Type II, the surface should be prepared in accordance with the manufacturer's written recommendations.

2. Description

2.1 COMPONENTS

2.1.1 This coating is typically based on a reactive oxirane (epoxy) functional resin with an amine or polyamide functional curing agent. (See Section 4.)

2.1.2 The principal functional pigment is aluminum paste or flake powder. (See Section 4.)

3. Referenced Standards

3.1 The latest issue, revision, or amendment of the referenced standards in effect on the date of invitation to bid shall govern, unless otherwise specified. Standards marked with an asterisk (*) are referenced only in the Notes, which are not requirements of this specification.

3.2 If there is a conflict between the requirements of any of the cited referenced standards and this specification, the requirements of this specification shall prevail.

3.3 SSPC STANDARDS AND JOINT STANDARDS:

Guide 13	Guide for the Identification and Use of Industrial Coating Systems in Computerized Product Databases
ME 1	Uncontaminated Rusty Steel
PA 1	Shop, Field, and Maintenance Painting of Steel
PA 2	Measurement of Dry Paint Thickness with Magnetic Gauges
SP 1	Solvent Cleaning
SP 2	Hand Tool Cleaning
* SP 3	Power Tool Cleaning
SP 5/NACE No. 1	White Metal Blast Cleaning
SP 6/NACE No. 3	Commercial Blast Cleaning
* SP 7/NACE No. 4	Brush-Off Blast Cleaning
* SP 8	Pickling
* SP 10/NACE No. 2	Near-White Blast Cleaning
* SP 11	Power Tool Cleaning to Bare Metal
* SP 12/NACE No. 5	Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating
* SP 14/NACE No. 8	Industrial Blast Cleaning
VIS 2	Standard Method of Evaluating Degree of Rusting on Painted Steel Surfaces

3.4 AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) STANDARDS:

A 36	Specification for Carbon Structural Steel
A 607	Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Columbium or Vanadium, or Both, Hot-Rolled and Cold-Rolled (Withdrawn 2000)
B 117	Standard Practice for Operating Salt Spray



- (Fog) Apparatus
- D 522 Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings
 - * D 523 Standard Test Method for Specular Gloss
 - D 562 Standard Test Method for Consistency of Paints Using the Stormer-type Viscometer
 - D 609 Standard Practice for Preparation of Cold-Rolled Steel Panels for Testing Paint, Varnish, Conversion Coatings, and Related Coating Products
 - D 660 Standard Test Method for Evaluating Degree of Checking of Exterior Paints
 - D 661 Standard Test Method for Evaluating Degree of Cracking of Exterior Paints
 - D 714 Standard Test Method for Evaluating Degree of Blistering of Paints
 - D 962 Specification for Aluminum Powder and Paste Pigments for Paints
 - * D 1296 Standard Test Method for Odor of Volatile Solvents and Diluents
 - * D 1475 Standard Test Method for Density of Liquid Coatings, Inks, and Related Products
 - * D 1535 Standard Practice for Specifying Color by the Munsell System
 - * D 1640 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature
 - D 1654 Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
 - * D 2369 Standard Test Method for Volatile Content of Coatings
 - * D 2371 Standard Test Method for Pigment Content of Solvent-Reducible Paints
 - * D 2621 Standard Test Method for Infrared Identification of Vehicle Solids from Solvent-Reducible Paints
 - D 3359 Standard Test Methods for Measuring Adhesion by Tape Test
 - D 3924 Specification for Standard Environment for Conditioning and Testing Paint, Varnish, Lacquer, and Related Materials
 - D 3925 Standard Practice for Sampling Liquid Paints and Related Pigmented Coatings
 - D 4417 Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel
 - D 4585 Standard Practice for Testing the Water Resistance of Coatings Using Controlled Condensation
 - D 5894 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 AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) STANDARD:

- Z129.1** Hazardous Industrial Chemicals-Precautionary Labeling

3.6 NACE INTERNATIONAL (NACE) STANDARD:

- RP0287** Field Measurement of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using a Replica Tape

3.7 FEDERAL SPECIFICATIONS AND STANDARDS:

FED-STD-141 Paint, Varnish, Lacquer and Related Materials: Methods of Inspection, Sampling and Testing

- Method 3011** Condition in Container
- Method 4321** Brushing Properties
- Method 4331** Spraying Properties
- Method 4541** Working Properties and Appearance of Dried Film (Canceled)

4. Composition Requirements

4.1 The manufacturer is given wide latitude in the selection of materials and manufacturing processes.

4.2 ALUMINUM REQUIREMENT: The aluminum metal used shall be certified as meeting ASTM D 962 and shall constitute a minimum of 6.0% by weight of the dried film.

4.3 RESIN REQUIREMENT: The epoxy resin together with the curing agent, as described in Section 2.1.1, shall constitute at least 60% by weight of total solids. (See Note 13.5.)

4.4 PIGMENT REQUIREMENT: Lead or chromate based pigments are prohibited.

5. Standard Testing Conditions

5.1 ATMOSPHERIC CONDITIONS: When testing the paint and its application, the conditions under which it is applied and cured shall conform to ASTM D 3924.

5.2 SUBSTRATE: The hot rolled steel test panels shall conform to ASTM A 36 (See Note 13.6).

5.3 TEST PANELS: There are two kinds of standard test panels: blast cleaned panels (Section 5.3.1) and standard rusted panels (Section 5.3.2). Panel size shall be 100 mm x 150 mm x 3.2 mm (4 inch x 6 inch x 1/8 inch) or greater.