

SSPC: The Society for Protective Coatings

SSPC-Paint 24

LATEX EXTERIOR FINISH COAT FOR STEEL SURFACES, PERFORMANCE-BASED

1. SCOPE

1.1 This standard covers performance requirements for an air drying, ready-mixed, latex finish coat for blast-cleaned steel. It is intended for use in a multicoated system as a topcoat over a compatible primer or as a direct-to-metal finish coat applied in one or more coats. Individual products meeting minimum performance requirements of this standard may vary in formulation, raw materials, and application characteristics.

2. DESCRIPTION

2.1 This coating is based on a latex resin produced by emulsion polymerization, and containing appropriate pigments and additives.

2.2 This coating is suitable for exposures in SSPC Environmental Zones 1A (interior, normally dry) and 1B (exterior, normally dry). 2A (frequently wet by fresh water), 2B (frequently wet by salt water), and, 3B (chemical exposure, neutral).¹ It is intended for brush, spray, or roller application over properly prepared steel surfaces in accordance with SSPC-PA 1, "Shop, Field, and Maintenance Coating of Metals."

2.3 SSPC standards include measurements in both S.I. and U.S. Custom units. The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other.

3. DEFINITIONS

Aqueous: A water-borne or water-containing material.

Coalescing solvent: A solvent with a high boiling point, which, when added to a coating, aids in film formation by temporarily softening the vehicle.² The coalescing solvent softens and melds the individual pigmented resin particles during the final stages of drying, enabling a relatively continuous coating film to be formed.

Emulsion polymerization: A process for creating polymers, or linked groups of smaller chemical chains called monomers, in a water solution.

Livering: The progressive, irreversible increase in consistency of a pigment-vehicle combination. Livering usually results from a chemical reaction of the vehicle with the solid dispersed material, but it also may result from polymerization of the vehicle. The irreversible character of the changes distinguishes livered material from thixotropic "build-up," which is reversible.²

4. REFERENCED STANDARDS

4.1 The latest issue, revision, or amendment of the referenced standards in effect on the date of publication of this standard are listed below and shall govern unless otherwise specified. Those documents marked with an asterisk (*) are referenced only in the Notes or the Appendix, which are not requirements of this specification.

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

4.3 SSPC STANDARDS:

Guide 13 (2004)	Guide for the Identification and Use of Industrial Coating Materials in Computerized Product Databases
PA 1 (2016)	Shop, Field, and Maintenance Coating of Metals
PA 2 (2015)	Determining Compliance with Dry Coating Thickness Requirements
PA 15 (2013)	Material and Preparation Requirements for Steel Test Panels Used to Evaluate the Performance of Industrial Coatings
PA 16 (2012)	Method for Evaluating Scribe Undercutting of Exposed Test Panels
Paint 23 (2013)	Latex Primer for Steel Surfaces
SP 5/NACE No.1 (2007)	White Metal Blast Cleaning

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

² The Paint and Coatings Dictionary, S. LeSota. ed. (Philadelphia, PA: Federation of Societies for Coatings Technology, 1978).

4.4 ASTM INTERNATIONAL STANDARDS³

D522-13	Standard Test Method for Mandrel Bend Test of Attached Organic Coatings
D523-14	Standard Test Method for Specular Gloss
* D562-(10)2014	Test Method for Consistency of Paints Measuring Krebs Unit (KU) Viscosity Using a Stormer-Type Viscometer
D609-(00)2012	Standard Practice for Preparation of Cold-Rolled Steel Panels for Testing Paint, Varnish, Conversion Coatings, and Related Coating Products
D610-(08)2012	Standard Test Method for Evaluating Degree of Rusting on Painted Steel Surfaces
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
* D1475 (06.04)	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	Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings
D1654-08	Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
D1849-95(2014)e1	Standard Test Method for Package Stability of Paint
* 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
D2574-06(2012)	Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms
* D2621-87(2011)	Standard Test Method for Infrared Identification of Vehicle Solids From Solvent-Reducible Paints.
D2794-06(2012)	Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)

D2805-11	Standard Test Method for Hiding Power of Paints by Reflectometry
D3359-09e2	Standard Test Methods for Measuring Adhesion by Tape Test
D3363-05(2011)e2	Standard Test Method for Film Hardness by Pencil Test
D4060-14	Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
D4400-99(2012)	Standard Test Method for Sag Resistance of Paints Using a Multinotch Applicator
D4417-14	Standard Test Methods for Measurement of Surface Profile of Blast-Cleaned Steel
D4585/D4585M-13	Standard Practice for Testing Water Resistance of Coatings Using Controlled Condensation
D4587-11	Standard Practice for Fluorescent UV-Condensation Exposures of Paint and Related Coatings
D5590-00(2010)e1	Standard Test Method for Determining the Resistance of Paint Films and Related Coatings to Fungal Defacement by Accelerated Four-Week Agar Plate Assay
D5894-00(2010)e1	Standard Practice for Cyclic Salt Fog/UV Exposure of Painted Metal, (Alternating Exposures in a Fog/Dry Cabinet and a UV/Condensation Cabinet)
E1347-06(2011)	Standard Test Method for Color and Color-Difference Measurement by Tristimulus (Filter) Colorimetry

4.5 UNITED NATIONS STANDARD⁴

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

5.1 VEHICLE REQUIREMENT: The vehicle shall be a stable aqueous dispersion of synthetic resin particles (latex)

³ ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. Standards downloadable from website <<http://www.astm.org>>

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>>