

SSPC: The Society for Protective Coatings

PAINTING SYSTEM NO. 4.04

Four-Coat White or Colored Vinyl Painting System (For Fresh Water, Chemical, and Corrosive Atmospheres)¹

1. Scope

1.1 This specification covers a complete vinyl painting system for structural steel.

1.2 This system is suitable for use on parts or structures exposed in Environmental Zones 2B (frequently wet by salt water), 2C (fresh water immersion), 3A (chemical exposure, acidic), and 3B (chemical exposure, neutral).

1.3 The finish paint allows for a choice of colors.

2. Description

2.1 This painting system consists of surface preparation by commercial blast cleaning or pickling, wash primer when specified, and four coats of white (or colored) vinyl paint. Aluminum and black vinyl paints are alternative finish coats.

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.

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:

PA 1	Shop, Field, and Maintenance Painting of Steel
PA 2	Measurement of Dry Coating Thickness With Magnetic Gages
PA Guide 4	Guide to Maintenance Repainting with Oil Base or Alkyd Painting Systems
Paint 8	Aluminum Vinyl Paint
Paint 9	White (or Colored) Vinyl Paint
Paint 27¹	Basic Zinc Chromate – Vinyl Butyral Wash Primer
Paint 106	Black Vinyl Paint
SP 5/NACE No. 1	White Metal Blast Cleaning

SP 8	Pickling
SP 10/NACE No. 2	Near-White Blast Cleaning

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

D 3925	Standard Practice for Sampling Liquid Paints and Related Pigmented Coatings
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4. Surface Preparation

4.1 SSPC-SP 6, "Commercial Blast Cleaning," or SSPC-SP 8, "Pickling." If specified in the procurement documents, a better degree of cleaning shall be substituted (SSPC-SP 10, "Near-White Blast Cleaning," or SSPC-SP 5, "White Metal Blast Cleaning").

5. Paints

5.1 **WASH PRIMER:** If specified in the procurement documents, a wash primer complying with SSPC-Paint 27*, "Basic Zinc Chromate-Vinyl Butyral Wash Primer," shall be applied.

5.2 **PRIMER:** SSPC-Paint 9, "White (or Colored) Vinyl Paint," tinted with lampblack dispersed in vinyl or with similar vinyl black paint to a color contrasting with the second coat.

5.3 **SECOND COAT:** SSPC-Paint 9, "White (or Colored) Vinyl Paint."

5.4 **THIRD COAT:** SSPC-Paint 9, "White (or Colored) Vinyl Paint," tinted with lampblack dispersed in vinyl or with similar vinyl black paint to a color contrasting with the second coat and the finish paint.

5.5 **FINISH COAT:** SSPC-Paint 9, "White (or Colored) Vinyl Paint."

5.6 **ALTERNATIVE FINISH COAT:** If specified in the procurement documents, a finish coat complying with specification SSPC-Paint 8, "Aluminum Vinyl Paint," shall be applied in place of the standard finish coat.

¹ This paint contains chromate pigments. Users are urged to follow all health, safety, and environmental requirements in applying, handling or disposing of these materials.

5.7 ALTERNATIVE FINISH COAT: If specified in the procurement documents, a finish coat complying with specification SSPC-Paint 106, "Black Vinyl Paint," shall be applied in place of the standard finish coat.

6. Paint Application

6.1 PAINT APPLICATION: Follow the requirements of SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel."

6.2 TOUCH-UP PAINTING: In accordance with specification SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel," and in particular with the section thereof entitled "Field Painting."

6.3 MAINTENANCE PAINTING: For maintenance painting procedures, see SSPC-PA Guide 4, "Guide to Maintenance Repainting with Oil Base or Alkyd Painting Systems."

6.4 NUMBER OF COATS: Minimum of four in addition to the wash primer.

6.5 DRY FILM THICKNESS OF PAINT SYSTEM: Not less than the following as measured in accordance with SSPC-PA 2, "Measurement of Dry Coating Thickness with Magnetic Gages": wash primer, when required, 8 micrometers (0.3 mils); primer 33 micrometers (1.3 mils); for the four-coat painting system 125 micrometers (5.0 mils).

7. Inspection

7.1 All work and materials supplied under this specification are subject to timely inspection by the purchaser or his authorized representative. The contractor shall correct such work or replace such material as is found defective under this specification (See Note 9.1.). In case of dispute, unless otherwise specified, the arbitration or settlement procedure established in the procurement documents shall be followed. If no arbitration or settlement procedure is established, then a procedure mutually agreeable to purchaser, material supplier, and contractor shall be used.

7.2 Samples of paints under this painting system may be requested by the purchaser and shall be supplied upon request along with the manufacturer's name and identification for the materials. Samples may be requested at the time the purchase order is placed, or may be taken from unopened containers at the job site.

7.3 Unless otherwise specified, the sampling shall be in accordance with ASTM D 3925.

8. Disclaimer

8.1 While every precaution is taken to ensure that all information furnished in SSPC standards and specifications is as accurate, complete, and useful as possible, SSPC cannot assume responsibility nor incur any obligation resulting from the use of any materials, coatings, or methods specified herein, or of the specification or standard itself.

8.2 This specification does not attempt to address problems concerning safety associated with its use. The user of this specification, as well as the user of all products or practices described herein, is responsible for instituting appropriate health and safety practices and for insuring compliance with all governmental regulations.

9. Notes

Notes are not a requirement of this specification.

9.1 The procurement documents should establish the responsibility for samples, testing, and any required affidavit certifying full compliance with the specification.

9.2 This painting system is intended primarily for structural steel exposed to chemical solutions, condensation, very severe weather, or chemical atmospheres. It may also be used for the interiors of buildings which are subjected to very corrosive conditions such as chemical fumes, high humidity, and heavy condensation; for floor systems of bridges exposed to brine drippings or de-icing salts; for potable water tanks; and for most chemical exposures including dry loadings of chemicals. It is not generally recommended for constant immersion at temperatures in excess of 66°C (155°F), but it may be used at temperatures up to 82°C (180°F) for atmospheric exposure, spillage, or short or infrequent immersion.