

SSPC: The Society for Protective Coatings

PAINTING SYSTEM GUIDE 7.00

Guide for Selecting One-Coat Shop Painting Systems

There are no standard one-coat shop painting systems; however, by using the following Guide a painting system may be selected by the specifier. Select the desired surface preparation and primer from those listed and insert them into the standard SSPC Painting System format. In order to aid in the selection, short comments are given. For additional information consult the "Commentary on Painting Systems" and the referenced standards.

1. Scope

1.1 This guide covers one-coat shop painting systems for steel that will not be exposed to corrosive conditions for long periods. They are also suitable for steel encased in concrete in those cases where bonding of steel to concrete is not required. They can be used under fireproofing.

1.2 These systems are suitable for use on parts or structures exposed in Environmental Zones 0 (encased in concrete or masonry, normally dry) and 1A (interior, normally dry).

COMMENT: These one-coat painting systems are not expected to protect steel exposed to the weather for periods longer than six months in normal rural and industrial areas and for even shorter exposure periods for heavy industrial or marine exposures. They can be used on open frames or structural steel in buildings not subjected to high humidity, condensation, or corrosive fumes.

1.3 The paints covered by this guide are primers, and if a color other than the standard color is required, then the color must be specified.

2. Description

2.1 This guide outlines the components of a complete one-coat shop painting system. A painting system shall consist of surface preparation by hand or power tool cleaning and one coat of an inexpensive shop primer.

3. Reference Standards

3.1 The standards referenced in this guide are listed in Sections 3.4 through 3.6 and form a part of the specification.

3.2 The latest issue, revision, or amendment of the reference standards in effect on the date of invitation to bid shall govern unless otherwise specified.

3.3 If there is a conflict between the requirements of any of the cited reference standards and the specification, the requirements of the specification shall prevail.

3.4 SSPC STANDARDS AND JOINT STANDARDS:

PA 1	Shop, Field, and Maintenance Painting of Steel
PA 2	Measurement of Dry Coating Thickness with Magnetic Gages
Paint 25	Red Iron Oxide, Zinc Oxide, Raw Linseed Oil and Alkyd Primer
PS Guide 1.00	Guide to Selecting Oil Base Painting Systems
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 14/NACE No. 8	Industrial Blast Cleaning

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

D 3925	Practice for Sampling Liquid Paints and Related Pigmented Coatings
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3.6 FEDERAL STANDARDS:

A-A-1632	Varnish, Asphalt
TT-E-489	Enamel, Alkyd, Gloss (Low VOC Content)
TT-P-31	(canceled) Paint, Oil: Iron Oxide, Ready Mixed, Red and Brown [Use SSPC-Paint 25]
TT-V-51	(canceled) Varnish, Asphalt [Use A-A-1632]

4. Surface Preparation

4.1 SSPC-SP 2, "Hand Tool Cleaning," or SSPC-SP 3, "Power Tool Cleaning":

COMMENT: Blast cleaning (SSPC-SP 5, 6, 7, 10, or 14) or pickling (SSPC-SP 8) may be substituted. However, for economy, hand or power tool cleaning are generally used with the primers in this painting system guide. The

primers have fair to good wetting ability and do not require removal of all tight rust and tight mill scale if used in normal or mild atmospheric exposures. However, blast cleaning and pickling surface preparation methods are considered more thorough, and the better cleaning they provide may be more economical or may be required for moderately corrosive conditions. They are therefore very satisfactory alternatives unless warping, safety, or other special considerations make them impractical in particular cases.

5. Paints

5.1 SHOP PRIMERS: After cleaning, the steel shall be primed with one coat of paint conforming with one of the following specifications.

5.1.1 Federal Specification TT-P-31*, "Paint Iron Oxide, Ready Mixed, Red and Brown":

COMMENT: A slow drying iron oxide and linseed oil paint containing zinc oxide and varnish. Very good wetting and high build per coat results in greatly increased protection outdoors.

5.1.2 Federal Specification TT-V-51**, "Varnish, Asphalt":

COMMENT: A semi-quick drying paint consisting of asphalt varnish. This paint is black and bleeds through most topcoats.

5.1.3 Proprietary Primer:

COMMENT: A proprietary primer of proved performance capability may be substituted for any of the above if desired by the specifier. Specify the manufacturer, trade name, and product number of the desired proprietary paint. The paint manufacturer should furnish a typical label analysis.

5.2 FINISH COATS: No finish coat shall be required unless otherwise specified.

COMMENT: With one exception, the primers given in this painting system guide can be topcoated without difficulty and are compatible with the finish paints listed in SSPC-PS Guide 1.00, "Guide for Selecting Oil Base Painting Systems"; however TT-V-51** bleeds through most paints. For finish coats of hard drying, medium, or short oil alkyd paints use TT-E-489.

6. Paint Application

6.1 PAINT APPLICATION: Follow 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 Section thereof entitled

"Field Painting."

6.3 NUMBER OF COATS: Minimum of one.

6.4 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": primer 38 micrometers (1.5 mils). If additional coats are to be applied each coat shall not be less than 25 micrometers (1.0 mil).

7. Inspection

7.1 All work and materials supplied under this specification is 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. In case of dispute, unless otherwise specified, the arbitration or settlement procedure established in the procurement documents shall be followed. If no arbitration procedure is established, the procedure specified by the American Arbitration Association 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.

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

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.

*TT-P-31 was canceled. Use SSPC-Paint 25.

**TT-V-51 was canceled. Use A-A-1632.