

SECTION 09900

PAINTING, GENERAL

1 GENERAL

1.1 SUMMARY (NOT APPLICABLE)

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

FEDERAL SPECIFICATIONS (FS)

FS TT-E-489	(Rev H) Enamel, Alkyd, Gloss, Low Voc Content
FS TT-P-19	(Rev D) Paint, Latex (Acrylic Emulsion, Exterior Wood and Masonry)
FS TT-P-31	(Rev D) Paint Oil: Iron-Oxide, Ready Mixed, Red and Brown
FS TT-P-37	(Rev D; Am 4) Paint, Alkyd Resin, Exterior Trim, Deep Colors
FS TT-P-38	(Rev E) Paint, Aluminum Ready-Mixed
FS TT-P-102	(Rev E; Int Am 1) Paint, Oil, Alkyd Modified, Exterior, White and Tints
FS TT-P-645	(Rev B) Primer, Paint, Zinc-Chromate, Alkyd Type

FEDERAL STANDARDS (FED-STD)

FED-STD 595	(Rev A; Notices 2, 3, 4, 5, 7, 8 & 9; Errata) Colors
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MILITARY SPECIFICATIONS (MS)

MS MIL-P-26915	(Rev B) Primer Coating, Zinc Dust Pigmented: For Steel Surfaces
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STEEL STRUCTURES PAINTING COUNCIL (SSPC)

SSPC SP 1	(1982) Solvent Cleaning
SSPC Paint 1 Primer	(1982) Red Lead and Raw Linseed Oil

SSPC Paint 5	(1982) Zinc Dust, Zinc Oxide and Phenolic Varnish Paint
SSPC Paint 21	(1982) White or Colored Silicone Alkyd Paint
SSPC Paint 25	(1982) Red Iron Oxide, Zinc Oxide, Raw Linseed Oil and Alkyd Primer (without Lead and Chromate Pigments)
SSPC Paint 27	(1982) Basic Zinc Chromate-Vinyl Butyral Wash Primer

1.3 DEFINITION

The term "paint" as used herein includes emulsions, enamels, paints, stains, varnishes, sealers, cement-emulsion filler, and other coatings, whether used as prime, intermediate, or finish coat.

1.4 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01300 SUBMITTALS:

SD-01 Data

Materials; GA.

The names, quantity represented, and intended use for the proprietary brands of materials proposed to be substituted for the specified materials when the required quantity of a particular color is 50 gallons or less.

SD-06 Instructions

Mixing and Thinning; FIO. Application; FIO.

Manufacturer's current printed product description, material safety and technical data sheets for all coating systems.

SD-09 Reports

Materials; GA.

A test report showing that the proposed batch to be used meets all specification requirements.

1.5 PACKAGING, LABELING, AND STORAGE

Paints shall be in sealed containers that legibly show the designated name, formula or specification number, batch number, color, quantity, date of manufacture, manufacturer's formulation number, manufacturer's directions including any warnings and special precautions, and name of manufacturer. Emulsion paints shall be stored to prevent freezing.

1.6 COLORS AND TINTS

Colors shall conform to **FED-STD 595** and shall be as selected by the Contracting Officer. Tinting of vinyl-type paints shall be done by the manufacturer. The color of the undercoats shall vary slightly from the color of the next coat.

1.7 ENVIRONMENTAL CONDITIONS

Unless otherwise recommended by the paint manufacturer, the ambient temperature shall be between 45 and 95 degrees F when applying coatings. Paints, except water-thinned types, shall be applied only to surfaces that are completely free of moisture as determined by sight or touch. In no case shall paint be applied to surfaces which have visible frost or ice.

2 PRODUCTS

2.1 MATERIALS

Materials shall conform to the respective specifications listed for use in PART 3 EXECUTION and to the requirements herein except when the required amount of a material of a particular color is 50 gallons or less, in which case an approved first-line proprietary paint material with similar intended usage and color to that specified may be used.

2.1.1 Mixing Liquid

The mixing liquid shall be a factory-prepared acrylic containing 46 to 47 percent solids. The exterior emulsion paint shall be exterior acrylic emulsion paint conforming to **FS TT-P-19**.

2.1.2 Ferrous-Metal Primer

Ferrous-metal primer shall conform to **SSPC Paint 1** and **SSPC Paint 5**.

2.1.3 International Orange Enamel

Enamel shall conform to **FS TT-E-489**. Color shall conform to **FED-STD 595**, Color Number 12197-1.

2.2 HAZARDOUS MATERIALS RESTRICTIONS

Paints and painting practices shall comply with all applicable state and local laws enacted to insure compliance with Federal Clean Air Standards.

3 EXECUTION

3.1 SURFACE PREPARATION

Items not to be painted which are in contact with or adjacent to painted surfaces shall be removed or protected prior to surface preparation and painting operations. Exposed ferrous metals, including nails on or in contact with surfaces to be painted with water-thinned paints, shall be

spot-primed with a suitable corrosion-inhibitive primer capable of preventing flash rusting and compatible with the coating specified for the adjacent areas. All surfaces shall be clean and free of foreign matter before application of paint or surface treatments. Oil and grease shall be removed with clean cloths and cleaning solvents prior to mechanical cleaning. Cleaning solvents shall be of low toxicity with a flashpoint in excess of 100 degrees F. Cleaning shall be programmed so that dust and other contaminants will not fall on wet, newly painted surfaces. Items removed prior to painting shall be replaced when painting is completed.

3.1.1 Concrete Surfaces

Surfaces shall be allowed to dry at least 30 days before painting, except concrete slab on grade which shall be allowed to cure 90 days before painting. Glaze, efflorescence, laitance, dirt, grease, oil, asphalt, surface deposits of free iron and other foreign matter shall be removed prior to painting.

3.1.2 Ferrous Surfaces

Ferrous surfaces that have not been shop-coated shall be solvent-cleaned. After cleaning, one coat of ferrous-metal primer shall be applied to all ferrous surfaces to receive paint other than asphalt varnish and vinyl paint. Shop-coated ferrous surfaces shall be protected from corrosion by treating and touching up corroded areas immediately upon detection.

3.1.3 Galvanized and Nonferrous Surfaces

Galvanized, aluminum and aluminum-alloy, lead, copper, and other nonferrous surfaces to be painted shall be solvent-cleaned in accordance with [SSPC SP 1](#) and treated with a vinyl-type wash coat meeting the requirements of [SSPC Paint 27](#).

3.2 MIXING AND THINNING

Unless otherwise recommended by the manufacturer, paints may be thinned immediately prior to application with not more than 1 pint of suitable thinner per gallon when necessary to suit conditions of surface, temperature, weather, and application methods. The use of thinner shall not relieve the Contractor from obtaining complete hiding, full film thickness, or required gloss. Paints of different manufacturers shall not be mixed.

3.3 APPLICATION

Paint may be applied by brush, roller, or spray. At the time of application, paint shall show no signs of deterioration. Uniform suspension of pigments shall be maintained during application. Each coat of paint shall be applied so dry film shall be of uniform thickness and free from runs, drops, ridges, waves, pinholes or other voids, laps, brush marks, and variations in color, texture, and finish. Hiding shall be complete. Rollers for applying paints and enamels shall be of a type designed for the coating to be applied and the surface to be coated. Special attention shall be given to insure that all edges, corners, crevices, welds, and rivets receive a film thickness equal to that of adjacent painted surfaces.

Paints, except water-thinned types, shall be applied only to surfaces that are completely free of moisture as determined by sight or touch.

3.3.1 Time Between Surface Preparation and Painting

Surfaces that have been cleaned, pretreated, and otherwise prepared for painting shall be given a coat of the specified first coat as soon as practical after such pretreatment has been completed, but prior to any deterioration of the prepared surface.

3.3.2 Coating Progress

Sufficient time shall elapse between successive coats to permit proper drying. This period shall be modified as necessary to suit weather conditions. Oil-based or oleoresinous solvent-type paints shall be considered dry for recoating when the paint feels firm, does not deform or feel sticky under moderate pressure of the thumb, and the application of another coat of paint does not cause the undercoat to lift or lose adhesion.

3.3.3 Metal Surfaces

First coats other than vinyl paints or vinyl-type wash coats shall be applied by brush. The three-coat paint systems specified for exterior and interior ferrous surfaces shall be applied so that their dry-film thickness at any point shall be not less than 4.0 mils, with the primer having a minimum dry-film thickness of 1.5 mils.

3.4 SURFACES TO BE PAINTED

Surfaces listed in the PAINTING SCHEDULE, other than those listed in paragraphs SURFACES NOT REQUIRING PAINTING and SURFACES FOR WHICH PAINTING IS PROHIBITED, will receive the surface preparation, paints, and number of coats prescribed in the schedule. Surfaces to be painted include all sides of the door and frame and the exterior of the portal wall.

3.5 CLEANING

Cloths, cotton waste and other debris that might constitute a fire hazard shall be placed in closed metal containers and removed at the end of each day. Upon completion of the work, staging, scaffolding, and containers shall be removed from the site or destroyed in an approved manner. Paint and other deposits on adjacent surfaces shall be removed and the entire job left clean and acceptable.

3.6 PAINTING SCHEDULE

The "PAINTING SCHEDULE" at the end of this section prescribes the surfaces to be painted, and the number and types of coats of paint required.

3.6.1 Contractor's Options

The "PAINTING SCHEDULE" provides for Contractor's options as specified by the word "or" between options for one coat and "---or---" between options for coating systems.

3.6.2 Shop-Painted Items

Surfaces of items finish-painted by the manufacturer, or specified to be finish-painted under other sections of the specifications, are exempted from the requirements for surface preparation and painting. Shop-primed items shall receive surface preparation and finish painting as required by this section.

PAINTING SCHEDULE

Surface	First Coat	Second Coat	Third Coat
Exterior concrete surfaces.	FS TT-P-19	FS TT-P-19	
Ferrous surfaces, exposed, unless otherwise specified.	SSPC Paint 5	FS TT-P-38	FS TT-P-38
	SSPC Paint 25	FS TT-E-489, Class A	FS TT-E-489, Class A
	FS TT-P-645	SSPC Paint 21, Type I	SSPC Paint 21, Type I
		FS TT-P-102, Type [_____]	FS TT-P-102, Type [_____]
		FS TT-P-37	FS TT-P-37
Exterior galvanized surfaces.	SSPC Paint 5 ----or---- MS MIL-P-26915, Type I, Class A	FS TT-P-102, Type [_____]	FS TT-P-102, Type [_____]
		FS TT-P-37	FS TT-P-37
		FS TT-P-31	FS TT-P-31
	FS TT-P-19	FS TT-P-19	FS TT-P-19

