

SECTION TABLE OF CONTENTS

FINISHES

SECTION 09900

PAINTING, GENERAL

PART 1 GENERAL

- 1.1 SUMMARY (Not Applicable)
- 1.2 REFERENCES
- 1.3 DEFINITION
- 1.4 SUBMITTALS
- 1.5 PACKAGING, LABELING, AND STORAGE
- 1.6 COLORS AND TINTS
- 1.7 APPROVAL OF MATERIALS
- 1.8 ENVIRONMENTAL CONDITIONS

PART 2 PRODUCTS

MATERIALS

- 2.1.1 Exterior Oil Paint
- 2.1.2 Ferrous-Metal Primer
- 2.2 HAZARDOUS MATERIALS RESTRICTIONS
  - 2.2.1 Mercury

PART 3 EXECUTION

SURFACE PREPARATION

- 3.1.1 Ferrous Surfaces
- 3.2 MIXING AND THINNING
- 3.3 APPLICATION
  - 3.3.1 Ventilation
  - 3.3.3 Time Between Surface Preparation and Painting
  - 3.3.4 Coating Progress

MISCELLANEOUS

- 3.5.1 Lettering
- 3.6 SURFACES TO BE PAINTED
- 3.9 CLEANING
- 3.10 PAINTING SCHEDULE
  - 3.10.1 Contractor's Options
  - 3.10.2 Shop-Painted Items

End of Table of Contents --

SECTION 09900

PAINTING, GENERAL

PART 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-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 B) Colors
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STEEL STRUCTURES PAINTING COUNCIL (SSPC)

SSPC Paint 1	(1982) Red Lead and Raw Linseed Oil Primer
SSPC Paint 2	(1982) Red Lead, Iron Oxide, Raw Linseed Oil and Alkyd Primer
SSPC Paint 5	(1982) Zinc Dust, Zinc Oxide and Phenolic Varnish Paint
SSPC Paint 9	(1982) White (or Colored) Vinyl Paint
SSPC Paint 11	(1987) Red Iron Oxide, Zinc Chromate, Raw Linseed Oil and Alkyd 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 SP 3

(1989) Power Tool Cleaning

SSPC SP 7

1989) Brush-Off Blast Cleaning

#### 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.

#### 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 SUBMITTAL DESCRIPTIONS:

##### SD-01 Data

Materials; [\_\_\_\_\_]

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; [\_\_\_\_\_] Application; [\_\_\_\_\_].

Manufacturer's current printed product description, material safety and technical data sheets for all coating systems. Detailed mixing, thinning and application instructions, minimum and maximum application temperature, and curing and drying times between coats for epoxy, moisture-cure polyurethane, and liquid glaze coatings. For the liquid glaze coatings, the instructions shall also include surface preparation requirements and the number and types of coats required for each surface. Detailed application instructions for textured coatings shall be included.

##### SD-09 Reports

Materials; [\_\_\_\_\_].

A statement as to the quantity represented and the intended use, plus the following test report for batches in excess of 50 gallons:

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

b. A test report showing that a previous batch of the same formulation as the batch to be used met all specification requirements, plus, on the proposed batch to be used, a report of test results for properties of

weight per gallon, viscosity, fineness of grind, drying time, color, and gloss.

#### SD-13 Certificates

Lead-Based Metal Primers; Mercury; [

Certificate stating that materials contain no mercurial biocides. A certificate of compliance shall be furnished attesting that all paints proposed for use in residential structures or other structures which are readily accessible to children contain not more than 0.06 percent lead, as defined in paragraph HAZARDOUS MATERIALS RESTRICTIONS.

#### SD-14 Samples

Coating; ].

A complete moisture-cured polyurethane coating system applied to a panel of the same material as that on which the coating will be applied in the work and for each color specified. The sample panels will be used for quality control in applying the glaze coating system.

Paint; [\_\_\_\_\_]

While the material is at the site or source of supply, and at a time agreeable to the Contractor and the Contracting Officer, a 1-quart sample of each color and batch, except for quantities of 50 gallons or less, shall be taken by random selection from the sealed containers by the Contractor in the presence of a representative of the Contracting Officer. The contents of the sampled containers shall be thoroughly mixed to ensure that the sample is representative. Samples shall be identified by designated name, specification number, manufacturer name and address, batch number, project contract number, intended use, and quantity involved.

### 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. Pigmented paints shall be furnished in containers not larger than 5 gallons. Paints shall be stored on the project site or segregated at the source of supply sufficiently in advance of need to allow 30 days for testing. 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. Stains shall conform in shade to manufacturer's standard color. The color of the undercoats shall vary slightly from the color of the next coat.

## APPROVAL OF MATERIALS

When samples are tested, approval of materials will be based on tests of the samples; otherwise, materials will be approved based on test reports furnished with them. If materials are approved based on test reports furnished, samples will be retained by the Government for testing should the materials appear defective during or after application. In addition to any other remedies under the contract the cost of retesting defective materials will be at the Contractor's expense.

### 1.8 ENVIRONMENTAL CONDITIONS

Unless otherwise recommended by the paint manufacturer, the ambient temperature shall be between 45 and 95 degrees F when applying coatings other than water-thinned, epoxy, moisture-cure polyurethane, and liquid glaze coatings. Water-thinned coatings will be applied only when ambient temperature is between 50 and 90 degrees F. Epoxy, moisture-cure polyurethane, and liquid glaze coatings will be applied only within the minimum and maximum temperatures recommended by the coating manufacturer. Moisture-cure polyurethane will not be applied when the relative humidity is below 30 percent. 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.

## PART 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 Exterior Oil Paint

Exterior oil paint shall conform to the following:

- a. White: FS TT-P-102, [Type I. [Type II.]
- b. Light tints: FS TT-P-102, Type II.
- c. Red or brown: FS TT-P-31.
- d. Other deep colors: FS TT-P-37.

#### 2 Ferrous-Metal Primer

Ferrous-metal primer shall conform to [SSPC Paint 1] [SSPC Paint 2] [SSPC Paint 5] [SSPC Paint 11] [SSPC Paint 25].

## 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.

### 2.2.1 Mercury

Mercurial fungicides shall not be used in exterior oil paints.

## PART 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 Ferrous Surfaces

Ferrous surfaces that have not been shop-coated shall be solvent-cleaned. Surfaces that contain loose rust, loose mill scale, and other foreign substances shall be cleaned mechanically with power tools according to SSPC SP 3 or by sandblasting according to SSPC SP 7. 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. The semitransparent film applied to some pipes and tubing at the mill is not to be considered a shop coat, but shall be overcoated with the specified ferrous-metal primer prior to application of finish coats. Shop-coated ferrous surfaces shall be protected from corrosion by treating and touching up corroded areas immediately upon detection.

### 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.

## 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. Floor sealer shall be given additional touch-up coats as necessary to eliminate dull spots. Excess sealer shall be wiped off after each application.

### 3.3.1 Ventilation

Adequate ventilation shall be provided during paint application. Respirators shall be worn by all persons engaged in spray painting. Adjacent areas shall be protected by approved precautionary measures.

### 3.3.3 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.

### 3.3.4 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.

## MISCELLANEOUS

### 3.5.1 Lettering

Lettering shall be provided as scheduled on the drawings, and shall be [block] [Gothic] type, [\_\_\_\_\_] inches in height, and shall be [black enamel] [water-type decalcomania, finished with a protective coating of spar varnish]. Samples shall be approved before application.

## SURFACES TO BE PAINTED

Surfaces listed in the PAINTING SCHEDULE will receive the surface preparation, paints, and number of coats prescribed in the schedule.

### 3.9 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.

### 3.10 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.

#### 3.10.1 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.

#### 3.10.2 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 ferrous surfaces, exposed, unless otherwise specified.	Exterior oil paint	Exterior oil paint	
	FS TT-P-38	FS TT-P-38	
	FS TT-E-489, Class A	FS TT-E-489, Class A	
	---or---		
	SSPC Paint 11, SSPC Paint 21, Type I	SSPC Paint 21, Type I	
	---or---		
	FS TT-P-645		
Exterior ferrous surfaces subject to severe atmospheric exposure.	SSPC Paint 9	SSPC Paint 9 [3 coats or as required to to obtain specified thickness.]	SSPC Paint 9

-- End of Section --