TT-P-620C
AMENDMENT-3
June 23, 1977
SUPERSEDING
Amendment-2
March 3, 1971

FEDERAL SPECIFICATION

PRIMER COATING, CONDITIONER FOR
CHALKING EXTERIOR SURFACES

This amendment, which forms a part of Federal Specification TT-P-620C, dated October 11, 1968, was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

PAGE 1

Under Federal Specifications:

Change "TT-P-143" to "PPP-P-1892".
Delete "TT-P-442 - Pigment, Titanium Dioxide, (For Protective Coatings)."

Add new paragraph:

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

American Society for Testing and Materials (ASTM) Standards:

D 185 - Tests for Coarse Particles in Pigments, Pastes and Paints.
D 476 - Specification for Titanium Oxide Pigment.
D 562 - Test for Consistency of Paints Using the Stormer Viscosimeter.
D 1210 - Test for Fineness of Dispersion of Pigment-Vehicle System.
D 2698 - Determination of Pigment Content of Solvent-Type Paints by High Speed Centrifuging.

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

PAGE 2

Paragraph 3.2, line 1. Change "TT-P-442" to "ASTM D 476".

Paragraph 3.3. Delete in its entirety and substitute the following:

3.3 Vehicle.

3.3.1 General use. The vehicle shall consist of modified phenolic-fish oil alkyd combined with alkali-refined linseed oil together with the necessary solvent, drier, anti-skinning agent, etc.

3.3.2 Limited use (see 6.5, page 5). The vehicle shall be the same as 3.3.1 except the volatile solvents used shall conform to the following requirements by volume:

(a) Aromatic compounds with eight or more carbon atoms except benzene: 8 percent maximum.
(b) Ethyl benzene and toluene: 20 percent maximum.
(c) Solvents with an olefinic or cyclo-olefinic type of unsaturation: negative test.
(d) Ketones: negative.
(e) Total of (a) plus (b): 20 percent maximum.

PAGE 2 (con.)

Table I. At end of table I add; under characteristics, "Lead, percent nonvolatile"; under minimum "___", and under maximum, "0.06".

PAGE 3

Paragraph 4.3. Delete and substitute:

4.3 Test procedures. The primer shall be tested as indicated in table II and as hereinafter specified.

Paragraph 4.3.6, line 5. Change "30 minutes" to "10 minutes" and "2 percent" to "1 percent".

PAGE 4

Add new paragraphs.

4.3.12 Lead content.

4.3.12.1 Sample preparation. Using a 0.006-inch film applicator and a mechanical applicator plate, duplicate drawdowns for each sample of well-mixed paint shall be made on a standard paint penetration chart and dried for 24 hours. The drawdown shall be at least 10 inches long on the sealed portion of the penetration chart. The drawdown shall be cut into discs of appropriate size to fit the sample holder of a fluorescence X-ray spectrometer.

4.3.12.2 Procedure. Lead content shall be determined using an X-ray fluorescence spectrometer capable of determining lead content at a minimum level of 0.03 percent by weight of the total nonvolatile. The settings for a wavelength dispersive fluorescence spectrometer shall be as follows: (1)

Element	Analytical Line	Angle	Crystal	Detection	Collimeter	X-ray tube (MO)
Pb	L	33.93	LiF(200)	Flow S.C.	Fine	60Kv 45Ma
Pb (backgrd I)		33.00	LiF(200)	Flow S.C.	Fine	60Kv 45Ma
Pb (backgrd II)		35.50	LiF(200)	Flow S.C.	Fine	60Kv 45Ma
Mo	K	20.33	LiF(200)	Flow S.C.	Fine	60Kv 45Ma

Pulse height selection shall be used in all measurements and counting time shall be 100 seconds. Place the sample disc in the wavelength dispersive unit. Measure the count rates of lead, lead background, and the Molybdenum Compton scattered background from the X-ray tube.

4.3.12.3 Calculation.

$$R = \frac{I_{Pb} - \frac{I_{Pb\ (Background\ I)} + I_{Pb\ (Background\ II)}}{2}}{I_{Mo}}$$

where I equals gross intensity. These results shall be compared to those obtained with a 0.06 percent lead standard made up from the same type of paint sample and evaluated for compliance with table I.

(1) Energy dispersive fluorescence spectrometers shall be set up according to the manufacturer's manual.

PAGE 4 (con.)

Table II. Delete and substitute:

TABLE II.

Characteristics	Requirement Reference	Test Methods: Fed. Test Method Std. No. 141	Test Methods: ASTM Method	Para. Ref.
Condition in container	3.6.1	3011	----	4.3.1
Consistency	Table I	----	D 562	---
Absorption	Table I	4421	----	---
Coarse particle	Table I	----	D 185, Sec 6	---
Fineness of grind	Table I	----	D 1210	---
Adhesion	3.6.2	----	----	4.3.2
Flexibility	3.6.3	6221	----	4.3.3
Brushing property	3.6.4	4321	----	4.3.4
Drying time	Table I	4061	----	---
Lifting property	3.6.5	----	----	4.3.5
Skinning	3.6.6	3021	----	---
Resistance tests:				
Alkali	3.6.7	----	----	4.3.6
Water	3.6.8	----	----	4.3.7
Pigment:	Table I	4021	----	---
Titanium dioxide	Table I	7081	----	---
Extenders	Table I	*	----	---
Vehicle	Table I	----	D 2698	---
Nonvolatile vehicle:	Table I	----	D 2698	---
Alkyd; phenolic-fish oil modified resin	Table I	----	----	4.3.9
Linseed oil, alkali-refined	Table I	----	----	4.3.10
Color	3.4	----	----	4.3.8
Lead content	Table I	----	----	4.3.12

*Calculation of extender pigments from the total pigments: Total pigment minus titanium dioxide (Method 7081) equal extender pigments.

Paragraph 5.1, line 2. Change "TT-P-143" to "PPP-P-1892".

PAGE 5

Paragraph 6.2. Add (f) Composition of vehicle required (see 3.3.1 or 3.3.2).

Add new Paragraph:

6.5 The composition of the primer coating using a vehicle under "limited use" should be specified for use in areas with regulations controlling the emission of solvents into the atmosphere (air pollution).

(8) Quality conformance inspection (see 4.3).