

TT-P-1510A
 AMENDMENT-1
 June 23, 1977

FEDERAL SPECIFICATION

PAINT, LATEX, EXTERIOR, FOR WOOD SURFACES,
 WHITE AND TENTS

This amendment, which forms a part of Federal Specification TT-P-1510A, dated January 3, 1975, was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

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Under Federal Specifications:

Change "TT-P-143" to "PPP-P-1892"

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Under American Society for Testing and Materials (ASTM) Standards:

Delete: D 3335 - Determination of Low Concentrations of Lead in Paint by Atomic Absorption Spectrometry.

Add: D 34 - Chemical Analysis of White Pigments.
 D 562 - Test for Consistency of Paints Using the Stormer Viscosimeter.
 D 659 - Evaluating Degree of Chalking of Exterior Paints.
 D 1210 - Test for Fineness of Dispersion of Pigment-Vehicle System.
 D 1296 - Test for Odor of Volatile Solvents and Diluents.
 D 1475 - Test for Density of Paint, Varnish, Lacquer and Related Products.
 D 2369 - Volatile Content of Paints.
 D 2486 - Scrub Resistance of Interior Latex Flat Wall Paints.
 D 3273 - Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
 E 97 - Test for 45-Degree, 0-Degree, Directional Reflectance of Opaque Specimens by Filter Photometry.

Table I, line 6. Under "maximum", change "0.5" to "0.06".

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Table II. Delete and substitute:

TABLE II. Tests and methods

Characteristics	Paragraph Reference	Applicable Test		Requirement Reference
		Fed. Test Method Std. No. 141	ASTM Method	
Condition in container	3.3.1	3011	----	----
Weight per gallon	Table I	----	D 1475	----
Total solids, percent by weight of paint	Table I	----	D 2369	----
Drying time	Table I	4061	----	----
Dry opacity	Table I	4121	----	----
Storage stability	3.3.11	3021, 3022	----	----
Color	3.3.2	4250	----	----
Daylight directional reflectance <u>1/</u>	Table I	----	E 97	----
Viscosity	Table I	----	D 562	----
Fineness of grind	Table I	----	D 1210	----
Titanium dioxide pigment <u>2/</u>	Table I	7081	----	----
Lead content	Table I	----	----	4.3.7
Scrub resistance	Table I	----	D 2486	----

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TABLE II. Tests and methods (con.)

Characteristics	Paragraph Reference	Applicable Test		Requirement Reference
		Fed. Test Method Std. No. 141	ASTM Method	
Gloss specular 60°	Table I	6101	----	----
Fungus resistance	3.3.9	----	D 3273	4.3.8
Total vehicle solids	Table I	----	----	4.3.1.8.1
Alkyd resin	Table I	----	----	4.3.8.3 and 4.3.1.5
Flexibility	3.3.3	6221	----	4.3.6
Zinc oxide pigment	Table I	----	D 34	----
Working properties	3.3.4	----	----	4.3.4
Appearance	3.3.5	----	----	4.3.4
Odor	3.3.6	----	D 1296	----
Recoating	3.3.7	----	----	4.3.4
Accelerated weathering	3.3.8	----	D 659	4.3.5
Fungus	3.3.9	----	----	4.3.7
Freeze-thaw stability	3.3.10.1	----	----	4.3.2
Heat stability	3.3.10.2	----	----	4.3.3

1/ Apply the paint to a substrate having a minimum reflectance of 80 percent.

2/ Determine the amount of titanium dioxide in the pigment, the pigment content of the paint, and the weight per gallon of paint as specified. Calculate the pounds of titanium dioxide pigment per gallon of white paint as follows:

$$\text{Titanium dioxide pigment in pounds per gallon of white paint} = \frac{(A) \times (B) \times (C)}{0.80}$$

Where A = percentage of titanium dioxide in pigment, by weight.
 B = percentage of pigment in paint, by weight.
 C = weight of paint in pounds per gallon.

Less than 2.5 pounds of titanium dioxide pigment per gallon of white paint or 1.7 pounds of titanium dioxide pigment per gallon of tinted paint (under 30 percent reflectivity) shall constitute failure of this test.

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Paragraph 4.3.5, lines 5 and 6. Delete "Fed. Test Method Std. No. 141, Method 6121" and substitute "ASTM Method E 97".

Paragraph 4.3.7, Delete in its entirety and substitute:

4.3.7 Lead content.

4.3.7.1 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.

4.3.7.2 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	Collimator	X-ray tube (110)
Pb	I	33.93	LiF(200)	Flow S.C.	Fine	60Kv 45Ma
(backgrd I)		33.00	LiF(200)	Flow S.C.	Fine	60Kv 45Ma
Pb		35.50	LiF(200)	Flow S.C.	Fine	60Kv 45Ma
(backgrd II)		20.33	LiF(200)	Flow S.C.	Fine	60Kv 45Ma
Mo	K					

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

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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.

4.3.7.3 Calculation.

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

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.

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

