

F.S.P.M.A. PAINT SPECIFICATION

DIVISION 9 - FINISHES SECTION 09920 INTERIOR

FOR GENERAL EDUCATION FACILITIES USE

MP- 6.12 EXTERIOR-INTERIOR ENAMEL, LATEX-BASE, SEMI-GLOSS, WHITES AND TINTS

I. SCOPE, USE AND CLASSIFICATION:

A. SCOPE. The latex-base semi-gloss covered by this specification is intended for use on interior and exterior wall and ceiling surfaces such as wallboard, wall paper, wood and plaster. It may be applied to previously primed or painted wood, plaster or dry wall surfaces.

B. USE. Glossy finishes should be dulled either by sanding or by washing with a solvent-type cleaner prior to application of the paint. All new surfaces should be primed with a primer having adequate enamel holdout. Containers shall have labels, meeting ANSI standards and giving adequate use instructions, firmly secured to each container. Labels shall meet all federal regulation requirements of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard in CFR 1910.1200.

C. CLASSIFICATION. The paint covered by this specification shall be of the following types:

Type I. White. DOE certification shall be for Type I only.

Type II. Tints. All tinted paints supplied to purchaser must meet all requirements of this specification, except pigment.

II. REQUIREMENTS:

A. MATERIALS. The paint shall be formulated from materials as specified herein. Materials not specified shall be selected by the supplier and shall be subject to all the provisions of this specification. The paint shall be free from material which is known to be toxic to personnel under normal conditions of use.

1. PIGMENT. Suitable lightfast and alkali resistant pigments shall be used. Extender pigments, shading pigments, and titanium dioxide conforming to ASTM D 476-84, type II or type III, may be used when necessary to match the color desired provided the paint complies with all the requirements specified herein.

2. VEHICLE. The vehicle shall be a stable aqueous dispersion of resin prepared by emulsion polymerization.

3. RESTRICTED METALS. The paint shall comply with the latest requirements of the Federal, Florida State, City or Local Governments for maximum allowable restricted metals content.

4. VOC COMPLIANCE. The paint shall comply with the latest requirements of the Federal, Florida State, City or Local Governments for the maximum allowable VOC content at the time of purchase.

B. QUANTITATIVE REQUIREMENTS. The paint shall conform to the quantitative requirements as specified in Tables I and II.

Unless otherwise noted, the test methods cited are the latest published revisions.

TABLE I. QUANTITATIVE REQUIREMENTS

CHARACTERISTICS	TOLERANCE REQUIREMENTS	
	MINIMUM	MAXIMUM
1. Nonvolatile matter, % by wt. of paint	45	-
2. Fineness of grind, N.S.	5	-
3. Drying time of enamel		
Set-to-touch, minutes	-	30
Dry hard, hours	-	18
4. Consistency, K.U.	80	112
5. 60 Specular gloss, after 48 hours air drying*	25	60
6. Directional reflectance, 45- 0 White only	86 (-1)	-
7. Opacity, contrast ratio, @ 450 sq. ft./gallon, White only	0.95	-
Tints	See Table II	-
8. Nonvolatile matter, % by volume of paint.	31	-

**Using 3 mil wet film thickness over plate glass backed with white paper.*

*** In order to confirm compliance with this requirement the vendor shall submit either a formal report from an independent laboratory or a confidential, notarized, legally-binding manufacturer's report indicating the method used and the laboratory results obtained for the specific brand submitted for certification.*

TABLE II. MINIMUM DRY FILM CONTRAST RATIO FOR TINTS AT 450 SQ. FT./GALLON

APPARENT REFLECTIVITY, %	CONTRAST RATIO
82	0.95
80	0.96
78	0.96
76	0.96
74	0.97
72	0.97
70	0.98
68	0.98
66	0.99
64	0.99
62	0.99
60 and below	1.00

C. QUALITATIVE REQUIREMENTS.

1. COLOR. The color of the paint specified in the contract or purchase order shall match that of the standard color chip. If a color other than white is required, the color shall match that of the standard color chip submitted by the purchaser with the bid.
2. STORAGE STABILITY IN A PARTIALLY FULL CONTAINER. The paint shall show no skinning after 48 hours when tested as specified in III.F. After an additional 14 days, at 120 F., the same sample shall show no skinning, livering, curdling, hard caking, or gummy sediment. It shall mix readily to a homogenous state and the viscosity change shall not be greater than ± 10 K.U.
3. STORAGE STABILITY IN UNOPENED CONTAINER. All containers shall have sufficient preservatives to prevent spoilage for one year.
4. ODOR. The odor shall not be putrid during or after application.
5. ALKALI RESISTANCE. The paint film, tested as in III.C., shall show no change in hue and not more than very slight changes in reflectance and gloss. There shall be no evidence of blistering, softening, or wrinkling.
6. MATERIAL SAFETY DATA SHEET (MSDS). An MSDS clearly identifying this product, filled out completely according to the Florida Right-to-Know Law, Chapter 442, Florida Statutes, MUST BE submitted for certification.
7. CONDITION IN CONTAINER. The paint, when tested as specified in Table III, shall be free from grit, seeds, skins, lumps, and livering, and shall show no more pigment settling or caking than can be reincorporated into a smooth homogenous state. In a freshly opened container, there shall be no rusting of the container.
8. FUNGUS PROPERTIES. The paint shall contain no mercury, but shall contain fungicidal protection equivalent to 0.1% mercury as metal by total weight of paint. In order to confirm compliance with this requirement the vendor shall submit either a formal report from an independent laboratory or a confidential, notarized, legally-binding manufacturer's report indicating the method used and the laboratory results obtained for the specific brand submitted for certification.

- 9. FLEXIBILITY. When tested as in III.D., there shall be no cracking, chipping, or flaking.
- 10. SAG RESISTANCE. The paint shall have a minimum anti-sag index of 7.0 when tested as in III.E.
- 11. ADHESION. 100 lbs./sq. in. minimum when tested according to III.B.2. EXPOSURE TEST. When test panels prepared as in III.G. are exposed in a South Florida environment, at 45 South, they shall achieve an overall rating of Good when graded for developments (i.e., cracking, blistering, mildewing, rusting, chalking, flaking, gloss retention, and other deteriorations) by a professional exposure testing company.

III. TEST PROCEDURES FOR LABORATORY ANALYSIS:

The failure of any test in this section shall constitute a failure of the product to conform to the specification.

Unless otherwise noted, the test methods cited are the latest published revisions.

A. PHYSICAL AND CHEMICAL PROPERTIES. The following tests shall be conducted in accordance with the methods as specified in Table III.

TABLE III. TESTS AND METHODS

TEST	METHODS
Condition in container	FTM Std.141C, Meth. 3011.2
Skinning	FTM Std.141C, Meth. 3021.1
Nonvolatile content, % by wt. of paint	ASTM D 2369
Fineness of grind	ASTM D 1210
Drying time:	
Set-to-touch	ASTM D 1640
Dry hard	ASTM D 1640
Consistency, Krebs-Stormer	ASTM D 562
60 specular gloss	ASTM D 523
Directional reflectance, 45- 0	ASTM E 97
Dry opacity	ASTM D 2805
Nonvolatile matter (% by volume)	ASTM D 2697

B. ADHESION.

1. Specimens. Prepare specimens for testing by using a 6" X 12" steel Q panel with a ground surface which has been cleaned as in Method 2011.1 (Revised from 20112.2 on 3/24/2000) of Fed. Test Method Std. No. 141C. Apply alkyd enamel conforming to MP-5 by a draw-down with suitable applicator obtaining a dry film thickness of 3.0(±0.3) mil and a width of 5-1/2 inches. Allow the alkyd enamel to dry in a horizontal position for 3 days at 77 (±3)F. and 50(±5)% relative humidity, then bake for two hours at 200F. Apply the test paint by draw-down as above in a direction perpendicular to the long axis of the panel to obtain a dry film of 2.0(±0.2) mils thickness and a width of approximately 2 inches. Allow the test paint to cure for two weeks at the same conditions cited above (Revised from 48 hours on 3/24/2000).

2. Procedure. Conduct the adhesion test with the PATTI Adhesion Tester as per ASTM D 4541 and determine compliance with II.C.11 (100 lbs./sq. in. minimum).

C. ALKALI RESISTANCE. Prepare 6" X 3" panels as specified in III.B.1 and allow to air dry 120 hours after the application of the paint. Place 5 drops of 2% by wt. aqueous sodium hydroxide solution on the paint and immediately cover the surface with a 50 mm watchglass. After 2 hours, remove the watchglass, wash off the solution. Allow 2 hours for recovery and examine for compliance with II.C.5.

D. FLEXIBILITY. Prepare the test panel in accordance with Method 2012.2 of Fed. Test Method Standard No. 141C. Supplement the test panel cleaning procedure with an additional cleaning with abrasive soap (such as Bon Ami or equal) so that the entire surface of the panel is wet. Apply the paint in accordance with Method 2162 of Federal Test Method Standard No. 141C on the clean, dry panel with a 0.003-inch (approximately 0.006-inch gap clearance) Bird film applicator or similar blade which produces the same film thickness. Air dry for 18 hours, bake for 3 hours at 105(+2)F., then cool for 1/2 hour. Bend over a 1/8-inch mandrel and examine in accordance with Method 6221 of Federal Test Method Standard No. 141C for compliance with II.C.9.

E. SAG RESISTANCE. Mount a sealed Morest or Leneta test chart on a vacuum plate of an automatic film applicator. Set the Leneta Anti-Sag Meter at the top of the test chart with the open side of the blade facing the operator. Place a suitable quantity of the paint directly in front of the blade, and draw down the paint. The completed draw down shall then be immediately removed from the automatic film applicator and placed in a vertical position with the stripes horizontal and the thinnest stripe at the top. Allow to dry at room temperature in this position and then determine the Anti-Sag Index as follows:

The lowest (heaviest film thickness) stripe which does not touch the next lower stripe is the Index Stripe. Fractional values are obtained by adding to the index value fractional values based on the degree to which the stripe below the index stripe has merged with the next stripe as follows:

<u>DEGREE OF MERGER</u>	<u>ADD</u>
Complete (intervening block is completely wetted)	0.0
Not complete, but definitely more than half	0.2
Approximately half	0.4
Appreciable, but definitely less than half.....	0.6
Slight, just touching	0.8

F. STORAGE STABILITY IN PARTIALLY FULL CONTAINER. Determine skinning after 48 hours in accordance with Federal Test Method Std. 141C, Method 3021.1, except use a 3/4 filled 1 pint, multiple friction-top can. Then reseal and store for 14 days at 120 F. Check for compliance with II.C.2.

G. EXPOSURE TEST. Three 6" X 12" panels shall be prepared using smooth-sanded, clear, yellow pine prepared as in ASTM D 358 and three 6" X 12" masonry panels over non-asbestos fibered board prepared as in ASTM D 1734 modified to substrate size. Application shall be by brushing only, and shall follow the manufacturer's label instructions as closely as possible. Any primer or other product which is recommended by the manufacturer for use in preparing the surface for application of the test sample shall be furnished with the sample. Check for compliance with II.C.12.

IV. METHODS OF SAMPLING, INSPECTION AND OTHER TESTS:

A. SAMPLING. At the option of the purchaser, representative samples shall be taken from deliveries made under this invitation and submitted for quality control testing. If the purchaser's sample fails, the manufacturer shall pay for the actual cost of testing. Failure of any sample so taken to comply with the specification requirements shall invalidate any purchase contract made under this invitation unless the manufacturer requests a repeat quality control test. This second sample shall be from the same batch. The manufacturer shall also pay for the second quality control test should the sample fail, and this invalidates any purchase contract made under this invitation. If the second sample passes, the manufacturer is not responsible for paying the actual cost of the test, and results obtained from the second quality control test shall prevail.

B. INSPECTION. Physical inspection of package, condition, quantity, and labeling shall be made at point of delivery by the purchaser. MSDS shall be submitted with each shipment in accordance with the Florida Right-to-Know Law, Chapter 442, Florida Statutes, and shall be identical to the MSDS supplied for initial certification.

C. OTHER TESTS.

1. WORKING PROPERTIES. Take two 1-foot square gypsum wall board panels conforming to SS-L-30 or LLL-B-1188. On the first panel apply one coat of an approved MP-22 primer/sealer spreading at a rate of 450 square feet per gallon using a 3-inch nylon brush conforming to H-B-420, grade AA, allow to dry for 24 hours and then repeat the whole procedure this time applying the sample paint as a top coat. On the second panel, apply a coat of an approved MP-22 primer/sealer using a latex semi-gloss, short-nap roller with 1/4 inch pile depth and then repeat the whole procedure this time applying the sample paint as a top coat. Allow both panels to dry for 24 hours. The resulting dried films shall not show brush marks, laps, sagging, or unevenness of gloss.

NOTE: TESTING TO MEET THIS SPECIFICATION DOES NOT INCLUDE AN IN-USE PERFORMANCE TEST. ALL EDUCATIONAL AGENCIES SHOULD CONSIDER AN IN-USE PERFORMANCE TEST BEFORE PURCHASING THIS PRODUCT.

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