

F.S.P.M.A. PAINT SPECIFICATION
DIVISION 9 - FINISHES
SECTION 09920 INTERIOR & 09910 EXTERIOR PAINT
FOR GENERAL EDUCATION FACILITIES USE

MP-29.3

**LATEX-ACRYLIC BASE, INTERIOR ENAMEL, SATIN-GLOSS,
WHITE AND TINTS**

I. SCOPE, USE AND CLASSIFICATION

- A. SCOPE: This specification covers a latex-base satin-gloss enamel intended for use on interior 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 that have been properly prepared. The paint is excellent for use over "orange-peel" textured dry wall and plaster in classrooms, cafeteria, corridors, etc.; the satin sheen provides excellent scrubability while reducing the unsightly appearance of surface imperfections that are associated with higher gloss products.
- B. USE: Glossy finishes should be dulled either by sanding or abrading 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. 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, 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 mechanically stable aqueous dispersion of resin prepared by emulsion polymerization with the end result being a vinyl acrylic polymer with excellent performance characteristics. It is desired that the vehicle contains a minimal amount of styrene content.
 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

Characteristic	Tolerance Requirements	
	Minimum	Maximum
1. Titanium dioxide (Types II, 92% TiO ₂ , & Types III, 80% TiO ₂), % by wt. of enamel*.	17	-
2. Nonvolatile matter, % by wt. of enamel.	43 (-2)	-
3. Fineness of grind, N.S.	4	6
4. Dry time: a. Set-to-touch, hours. b. Dry-to-recoat, hours.	- -	2 4
5. Consistency, K.U.	80 (-3)	108 (+3)
6. 60° specular gloss after 48 hrs. of air drying ** .	10	30
7. Directional reflectance, 45 degrees, white only, %	86	-
8. Opacity, contrast ratio when applied at 450 sq. ft./gallon, a. White only b. Tints	0.95 See Table II	- -
9. Nonvolatile matter, % by volume of paint*.	31.5	-

* 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.

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

TABLE II. MINIMUM DRY FILM CONTRAST RATIO FOR TINTS AT 450 SQ. FT./GAL., DEPENDING ON COLOR (YELLOW AND PINKS ARE LESS).

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

A. 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. CONDITION IN CONTAINER. The paint, when tested as specified in Table II, 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.
3. STORAGE STABILITY IN A PARTIALLY FULL CONTAINER. The paint shall show no skinning after 48 hours when tested as specified in III.G. 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.
4. STORAGE STABILITY IN UNOPENED CONTAINER. All containers shall have sufficient preservatives to prevent spoilage for one year.
5. ODOR. The odor shall not be putrid during or after application.
6. 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.
7. 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 with each sample submitted for certification.
8. FLEXIBILITY. When tested as in III.D., there shall be no cracking, chipping, or flaking.
9. SAG RESISTANCE. The paint shall have a minimum anti-sag index of 7.0 when tested as in III.E.
10. SCRUB RESISTANCE. When tested as specified in III.B., the paint film shall not be worn through to the test panel after 400 cycles (800 separate strokes) of the sponge.

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, all 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. TEST AND METHODS

Test	Methods
Analysis of TiO ₂ pigment.	ASTM D 1394, Aluminum Reduction Method (Not currently tested by M-DCPS)
Condition in container.	FTM Std. 141C, Meth. 3011.2
Skinning.	FTM Std. 141C, Meth. 3012.1
Non-volatile content, % by wt. of paint.	ASTM D 2369
Fineness of grind.	ASTM D 1210
Drying time.	ASTM D 1640
Viscosity, Krebs-Stormer.	ASTM D 562
60° specular gloss.	ASTM D 523
Directional reflectance, 45.	ASTM E 97
Dry opacity	ASTM D 2805
Scrub resistance.	ASTM D 2486
Adhesion test*.	ASTM D 4541
Nonvolatile matter (% by volume)	ASTM D 2697

**ADHESION TEST - 100 lbs. / sq. in. minimum when tested on a film prepared according to MP-6.7, III, B, 1, with two weeks curing time. (Revised from ASTM D 3359 Method A & B per committee vote on 3/10/2000.)*

- B. **SCRUB RESISTANCE.** Use ASTM D 2486 test method except that a synthetic sponge (cut to fit the holder), conforming to Fed. Spec. L-S-626, Type II, porosity B is used in lieu of the nylon bristle brush; and 50 ml. of water is used instead of 5.

- C. **ALKALI RESISTANCE.** Prepare specimens for testing by using a 6-inch by 17-inch by 1/4 inch plain plate glass with a ground surface which has been cleaned as in Method 2012.1 of Federal Test Method Standards No. 141C. Apply enamel with suitable applicator obtaining a dry film thickness of 3.0 (±0.3) mil and a width of 5-1/2 inches. Allow enamel to dry in a horizontal position for 120 hours at 77 (±3)F and 50 (±5)% relative humidity. Place 5 drops of 2% by weight 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.6.

- D. **FLEXIBILITY.** Prepare the test panel in accordance with Method 2012.2 of Federal Test Method Std. 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 Std. No. 141C on the clean, dry panel with a 0.003 inch (approximately 0.0060 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.8.

- 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.

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 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. COMPATIBILITY (for Type II tint base paint only). In a beaker containing approximately 100 ml of Type II paint, place 2.0 grams of tinting medium concentrate supplied by the manufacturer of the paint. Stir thoroughly until the tinting concentrate is evenly dispersed to a homogenous mixture. Allow the mixture to stand undisturbed for five minutes. On one clear plate glass panel prepared in accordance with Method 2021 of Federal Test Method Std. No. 141C, brush a coat of the mixture to approximately 1 mil dry film thickness and allow to dry at room temperature in vertical position for 24 hours. While brushing, observe for streaks and pigment separation. On another panel with same preparation draw down (approximately) 2.0 mils wet film thickness of the mixture. While the paint is still wet, rub up an area using the index finger in circular motion and continue for a minimum of 20 revolutions. Exert light pressure of the finger while rubbing so as not to rub off the film. Allow the paint film to dry at room temperature for 24 hours. Examine the dried film and compare the rubbed-up area

against the non-rubbed-up area. A difference in color, gloss, and texture of the dried film between these areas constitutes incompatibility.

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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