

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

DIVISION 9 - FINISHES SECTION 09910 EXTERIOR

FOR GENERAL EDUCATION FACILITIES USE

MP- 2.10 **ACRYLIC-BASE, EXTERIOR, FLAT, WHITE AND TINTS**

I. SCOPE, USE AND CLASSIFICATION:

- A. SCOPE. This specification covers an acrylic emulsion paint for application to exterior concrete, stucco, and masonry surfaces which have been properly prepared. This paint may also be used on wood or composition surfaces which have been properly prepared.
- B. USE. 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 following types of paint are included:

Type I. White, pastel base, or ready-mixed colors with reflectance of 60 or above.

Type II. Other ready-mixed colors and bases with reflectance less than 60.

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. (Type I paints only) The pigment shall contain a minimum of 50% of Type III titanium dioxide (ASTM D 476), a minimum of 5% zinc oxide, and a maximum of 45% extenders and tinters, with all percentages by weight of dry pigment.
 2. VEHICLE. The vehicle shall consist of 100% straight acrylic polymer dispersed in water, together with the minimum amounts of necessary additives such as emulsifiers, pigment-dispersants, anti-foaming agents and preservatives.
 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 Table I.

TABLE I. QUANTITATIVE REQUIREMENTS

CHARACTERISTICS	TOLERANCE REQUIREMENTS	
	MINIMUM	MAXIMUM
1. Titanium dioxide (Type III, 80% TiO ₂) % by wt. of pigment, Type I paints only*.	50	-
2. Zinc oxide, % by wt. of pigment, Type I paints only*.	5	-
3. Total solids, % by wt. of paint.	50	-
4. Pigment, % by wt. of paint.	-	38
5. Weight per gallon of paint, lbs.	11.0 (-2)	-
6. Fineness of grind, N.S.	3	-
7. Consistency, K.U.	85 (-4)	95 (+5)
8. Drying time: to recoat, hours.	-	1
9. Daylight directional reflectance, Type I only (0.005 in. wet film thickness).	85 (-1)	-
10. Dry opacity, contrast ratio (0.005 in. wet film thickness) a. Type I paints b. Type II paints	0.98 0.99	- -
11. Nonvolatile matter, % by volume of paint*.	32	-

* In order to confirm compliance with this requirement(s) 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.

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.B. After an additional 14 days, at 120F., 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. APPEARANCE OF DRIED PAINT. When tested as specified in IV.C.2., the paint shall dry to a uniform, smooth appearance. The laps and brush marks shall not be conspicuous.
5. ODOR. The odor shall not be putrid during or after application.
6. COMPATIBILITY (For Type II Paint only). When tested as specified in IV.C.1., there shall be no color streaks or pigment flotation while brushing. The dried film of the rubbed-up area shall show no difference from the non-rubbed-up area.

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. 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.
9. RECOATING PROPERTIES. When tested as specified in IV.C.2., when the painted surfaces are recoated, no film irregularity shall be observed after one hour of air drying under standard laboratory air-drying conditions. There shall be no picking or rolling up of the previous coat.
10. 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.
11. EXPOSURE TEST. When test panels prepared as in III.C. 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 of conform to the specification.

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

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

TABLE II. TESTS AND METHODS

TEST	METHODS
Condition in container	FTM Std 141C Meth. 3011.2
Weight per gallon	ASTM D 1475
Total solids, % by wt. paint	ASTM D 2369
Drying time: to recoat	ASTM D 1640
Dry opacity	ASTM D 2805
Daylight directional reflectance*	ASTM E 97
Consistency	ASTM D 562
Fineness of grind	ASTM D 1210
Analysis of titanium dioxide pigment	ASTM D 1394 (Aluminum Reduction Method)
Analysis of zinc oxide pigment	ASTM D 3280
Vehicle resin type	ASTM D 3168
Pigment content	ASTM D 3723
Nonvolatile matter (% by volume)	ASTM D 2697

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

- B. 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 days at 120. Check for compliance with

II.C.2.

- C. EXPOSURE TEST. Three 6" X 12" panels shall be prepared using masonry panels over non-asbestos fibered board prepared as in ASTM D 1734 modified to size substrate. 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.11.

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. 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 Fed. 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 a vertical position for 24 hours. While brushing, observe for streaks and pigment separation. On another panel with same preparation draw down (approximately) 2.0 mil 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.
 2. RECOATING PROPERTIES AND APPEARANCE. Conduct the test under standard laboratory air-drying conditions. Apply the paint with a 2-inch nylon brush to the unglazed side of a fibered-cement shingle conforming to SS-S-346 at a rate of approximately 300 square feet per gallon. The total area of the shingle shall be not less than 2 square feet. Rinse the brush with water and remove the excess water by shaking the brush vigorously. Apply the paint by brushing across the panel using back-and-forth strokes and leveling up the coat with light cross strokes using the tip of the brush. During application, note the working properties of the paint. After 1 hour of air drying, apply the second coat in the same manner as the first coat. During application, examine the paint film for picking and rolling up of the first coat. After 24 hours examine the dried film for smoothness and uniformity, Check for compliance with II.C.4. and II.C.9.

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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