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TT-P-95C
December 8, 1975
SUPERSEDING
Int. Fed. Spec. TT-P-0095B(GSA-FSS)
October 23, 1974 and
Fed. Spec. TT-P-95A
February 15, 1965

FEDERAL SPECIFICATION

PAINT, RUBBER: FOR SWIMMING POOLS AND OTHER CONCRETE AND MASONRY SURFACES

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers self-priming paint primarily for use on interior and exterior concrete swimming pools and other concrete and masonry surfaces which are exposed to moist conditions.

1.2 Classification.

1.2.1 Types and classes. The paint shall be of the following types and classes as specified (see 6.2).

Type I - Chlorinated rubber-base.
Class 1 - Gloss.
2 - Semigloss.
3 - Flat.

Type II - Styrene acrylate copolymer-base.
Class 1 - Gloss.
2 - Semigloss.
3 - Flat.

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issues in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

Federal Specifications

H-B-1490A/GEN - Brushes, Scrub; and Supplement NO. 1
H-B-1490/5 - Brush, Scrubbing, Floor.
O-S-642 - Sodium Phosphate, Tribasic, Technical; Anhydrous, Dodecahydrate, and Monohydrate.
TT-T-291 - Thinner-Paint, Volatile Spirits, Petroleum Spirits.
PPP-P-1892 - Paint, Varnish, Lacquer and Related Materials; Packaging, Packing and Marking of.
PPP-P-60 - Tape, Packaging, Waterproof.

Federal Standards:

Fed. Test Method Std. No. 141 - Paint, Varnish, Lacquer, and Related Materials; Methods of Inspection, Sampling, and Testing.
Fed. Std. No. 595 - Colors.

(Activities outside the Federal Government may obtain copies of Federal

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Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

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(Single copies of this specification and other Federal Specifications required by activities outside the Federal government for bidding purposes are available without charge from business Service Centers at the General Services Administration Regional Offices in Boston, New York, Washington, DC, Atlanta, Chicago, Kansas City, MO, Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, WA.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Standard:

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.

(Copies of Military Specifications and Standards required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

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 562 - Consistency of Pigmented Material.
D 3335 - Low Concentrations of Led in Paint by Atomic Absorption Spectroscopy.

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

3. REQUIREMENTS

3.1 Material. The paint as received shall be ready-mixed for use. The paint shall consist of pigment and vehicle specified herein, combined so as to produce a paint which meets the requirements specified herein.

3.1.1 Pigment. Any suitable alkali and acid resistant pigment or combination of pigments may be used provided the finish product meets all the requirements specified herein.

3.1.2 Vehicle. The vehicle shall be a specified (see 1.2.1) with the necessary additives such a plasticizers, driers, thinners, etc.

3.1.3 Thinner. The thinner shall comply with TT-T-291, type II, Grade A, or shall be a blend of thinners which complies with rule 66[1]. A certificate of compliance from the supplier to this requirement is necessary.

3.2 Qualitative requirements.

3.2.1 Condition in container. The paint as received shall be ready-mixed and shall show no evidence of mold growth, livering, skinning, putrefaction, corrosion of the container, or hard settling of the pigment. Any settled pigment shall be readily dispersible in the liquid portion by hand stirring to form a smooth homogeneous paint.

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3.2.2 Color. The color of the paint shall match the specified standard chip in Fed. Std. No. 595 when tested as in 4.4.2.

3.2.3 Storage stability.

3.2.3.1 Partially full container. When tested as in 4.4.3.1, the paint shall show no skinning within 48 hours. It shall mix readily to a homogeneous state.

3.2.3.2 Full container. The paint shall show no skinning, livering, curdling, hard caking or gummy sediment when tested as in 4.4.3.2. The paint shall remix readily to a homogeneous state an shall have a consistency range of 65 to 85 K.U. The paint shall meet other requirements specified herein.

[1] Information on Rule 66 may be obtained from the Los Angeles Air Pollution Control District, Los Angeles, CA 90013.

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3.2.4 Dilution stability. When thinned as in 4.4.4, the paint shall remain stable and uniform, showing no precipitation or curdling. Slight pigment settling shall be permitted.

3.2.5 Brushing property. When tested as in 4.4.5, the paint shall brush easily without pull or quick set under brush. It shall dry uniformly, free from sags, runs, pinholes, and brush marks.

3.2.6 Flexibility. When tested as described in4.4.6, the paint shall show no evidence or cracking, chipping, or flaking.

3.2.7 Self-lifting properties. Recoating the test surface as tested in 4.4.7 shall produce no lifting, blistering, pinholing, or other film irregularities.

3.2.8 Anchorage. A film of the paint, tested as in 4.4.8, shall show no removal or loosening of the paint beyond 1.6 mm (1/16 inch) on either side of the score line.

3.2.9 Water immersion. When tested as in 4.4.9, the paint shall show no discoloration, blistering, cracking, or flaking.

3.2.10 Detergent resistance. The paint, when tested as in 4.4.10, shall show no evidence of detrimental action such as blistering, flaking, whitening, softening, or other film irregularities.

3.2.11 Accelerated weathering. A film of the paint, tested as in 4.4.11, shall show no chalking, a loss of not more than 30 percent of the original gloss (60 deg.), and a color change not too distinct from the original color.

3.3 Quantitative requirements.

3.3.1 The quantitative requirements shall be as specified in table I and table II.

3.3.2 Dry opacity. Not more than 63.5 [mgr]m (0.0025 inch) wet-film thickness of white paint (minimum reflectivity 86 percent) shall be required to give a dry-film contrast ratio of 0.95. The minimum dry-film contrast ratio for tints applied to the same wet-film thickness in terms of apparent reflectivity shall be as specified in table II.

TABLE I. Quantitative requirements

Characteristics	Requirements	
	Minimum	Maximum
Pigment, percent by weight of paint	26	---
Rubber-base, percent by weight of vehicle:		
Type I	16	---
Type II	18	---
Consistency; Equivalent K.U.:		
Class 1	78.0	---
Class 2	70.0	---
Class 3	72.0	---
Dry opacity (hiding power), white	0.95	---
Drying time, hours:		
Set to touch	1/4	3/4
Dry hard	----	24
Gloss (specular 60 deg.):		

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Class 1	70	---
Class 2	25	60
Class 3	----	10
Water content, percent by weight of paint	----	0.5
Lead content, percent of table nonvolatile	----	0.5

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TABLE II. Minimum dry-film contrast ratio for tints

Apparent reflectivity, percent	Contrast ratio
82	0.95
80	.96
78	.96
76	.96
74	.97
72	.97
70	.98
68	.98
66	.99
64	.99
62	.99
60	1.00
Less than 60	1.00

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified for the performance of the inspection requirements specified herein, unless disapproved by the government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.2 Classification of inspection. Inspection shall be classified as follows:

(a) Quality conformance inspection (see 4.3).
(b) Inspection of preparation for delivery (see 4.5).

4.3 Quality conformance inspection.

4.3.1 Sampling and inspection. Sampling and inspection shall be in accordance with Fed. Test Method Std. No. 141, method 1031.

4.4 Test procedures. The paint shall be tested in accordance with the following applicable test methods of Fed. Test Method Std. No. 141 indicated in table III as specified hereinafter. Failure of any test shall be cause for rejection of the lot which the sample represents.

TABLE III. Index

Characteristics	Requirements reference	Applicable Test Methods		
		Fed. Test Method Std. No. 141	ASTM Method	Paragraph reference
Condition in container	3.2.1	3011.1		4.4.1
Color	3.2.2	4250		4.4.2
Storage stability	3.2.3	3021, 3022		4.4.3
Dilution stability	3.2.4	4203.1		4.4.4
Brushing property	3.2.5	4321.1, 4494		4.4.5
Flexibility	3.2.6	6221		4.4.6
Self-lifting	3.2.7	6252		4.4.7

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Anchorage	3.2.8	----		4.4.8
Water immersion	3.2.9	----		4.4.9
Detergent resistance	3.2.10	----		4.4.10
Accelerated weathering	3.2.11	6152, 6122		4.4.11
Rubber-base precipitate	Table I	----		4.4.12
Consistency	Table I	----	D562	------
Drying time	Table I	4061.1		------
Dry opacity (hiding power)	Table I, 3.3.2	4121		4.4.13
Gloss (60 deg. Specular)	Table I	6101		------
Water content	Table I	4081		------
Lead content	Table I	----	D3335[1]	4.4.14

[1] ASTM D 2088 may be used as an alternative method.

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4.4.1 Condition in container. Examine the paint as received in accordance with method 3011 for compliance with 3.2.1.

4.4.2 Color. The film shall be applied to clean, smooth, plate-glass panel with a 76 [mgr]m (0.003-inch) (approximately 152 [mgr]m (0.006-inch) gap clearance) Bird film applicator, or any other doctor blade, and shall be allowed to dry for 24 hours. Compare the color of the dried film in accordance with method 4250. Evaluate for compliance with 3.2.2.

4.4.3 Storage stability.

4.4.3.1 Partially full container. Determine skinning after 48 hours in accordance with method 3021 of Fed. Test Method Std. No. 141, except use a 3/4-filled 1/2-pint, multiple friction top can. Observe for compliance with 3.2.3.1.

4.4.3.2 Full container. In accordance with method 3022 of Fed. Test Method Std. No. 141, allow a full quart can of paint to stand undisturbed for 12 months, then examine content for compliance with 3.2.3.2.

4.4.4 Dilution stability. Pour 80 milliliters of paint into a 100-ml graduated cylinder and gradually add, with stirring, a thinner as specified in 3.1.2, until the 100 ml graduation is reached. Observe for compliance with 3.2.4.

4.4.5 Brushing properties. Observe for brushing properties in accordance with method 4321 of Fed. Test Method Std. No. 141, for compliance with 3.2.5, using a concrete panel prepared in accordance with method 2051, procedure A, of Fed. Test Method No. 141, except the surface shall not be troweled. Apply the paint at a coverage of approximately 0.6 square meters per liter (350 square feet per gallon), and allow to dry at room temperature for 24 hours.

4.4.6 Flexibility. Determine flexibility in accordance with method 6221 of Fed. Test Method Std. No. 141. Apply a film of the paint to a phosphate-cleaned soft steel panel, prepared in accordance with method 2011 of Fed. Test Method Std. No. 141. Use a Bird film applicator or similar doctor blade, and apply a wet film thickness of 51 um (0.002 inch). Air dry for 24 hours at room temperature, and bake for 24 hours at 36 deg. +/- 2 deg. C (151 deg. +/- 4 deg. F). Cool to 23 deg. +/- 0.5 deg. C (73 deg. +/- 1 deg. F), bend double rapidly over a 25.4 mm (one-inch) mandrel, and examine for compliance with 3.2.6.

4.4.7 Self-lifting. Brush a coat of paint at a spreading rate of 0.6 square meters per liter (350 square feet per gallon) on the panel prepared in paragraph 4.4.5, and allow to dry in a horizontal position at room temperature. After 24 hours drying, examine for compliance with 3.2.7.

4.4.8 Anchorage. Prepare a panel as described in Method 2051, procedure A, of Fed. Test method Std. No. 141. Air dry for 168 hours at room temperature, and bake for 4 hours at 66 deg. +/- 2 deg. C (151 deg. +/- 4 deg. F). Score a line through to the substrate across the width of the film, using pointed knife. The film shall then be taped perpendicular to and across the score line with waterproof, pressure sensitive tape 19 mm (3/4 inch) wide conforming to PPP-T-00. Press the tape with two passes of 1.66 kg. (4-1/2 pound) rubber covered roller approximately 8.9 cm (3-1/2 inch) diameter by 4.45 cm (1-3/4) wide. The surface of the roller shall have a Durometer hardness value of 70 to 80. Allow approximately 1 minute for the test area to return to room temperature. Grasp a free end of the tape, then, at a rapid speed, strip it from the film by pulling the tape back upon

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itself, then observe for compliance with 3.2.3.

4.4.9 Water immersion. Prepare cement block test panels in accordance with method 2051 of Fed. Test Method Std. No. 141, procedure B. Brush a coat of paint which has been thinned, with one part thinner (see 3.1.2) to four parts of paint by volume, over the troweled sides of two cement blocks and allow to dry at room temperature for 24 hours. Brush a second coat, using the paint as received at an approximate spreading rate of 9.8 square meters per liter (400 square feet per gallon). Allow the second coat to dry for 48 hours at room temperature. Immerse the test panels in water to such a depth as to have the prepared surface 6.35 mm (1/4 inch) above the surface of the water. Allow the test panels to remain partially immersed in water for 10 days; and then totally immersed in water for 48 hours. Remove and examine for compliance with 3.2.9.

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4.4.10 Detergent resistance. Immerse one of the panels used in the immersion water test (4.4.9) in a solution of 20 grams of trisodium phosphate conforming to O-S-642, type I, and maintain the solution at 50 to 60 deg. C. while the panel is immersed, scrub the painted surface with a scrubbing brush conforming to H-B-1490. Place a 1.36 kg (3-pound) weight on the brush. apply 500 cycles to the painted surface. A cycle shall be considered a complete forward and reverse stroke through a distance of 5.1 to 7.6 cm (2 to 3 inches) in each direction. Remove the panel, rinse with water, and wipe dry. Compare the painted surface of the test panel subjected to detergent test against the painted surface of the cement-water test which has not been subjected to detergent test. Evaluate for compliance with 3.2.10.

4.4.11 Accelerated weathering. Draw down a film of the paint on triplicate flat tin panels with a 63 cm (0.0025 inch) (126 [mgr]m 0.005 inch) gap clearance) film applicator. Air dry for 96 hours at room temperature. Measure the 60 deg. gloss in accordance with method 6101 of Fed. Test Method Std. No. 141. Subject two coated panels for 168 hours to accelerated weathering in accordance with method 6152 of Fed. Test Method Std. No. 141. Examine the exposed paint for chalking. Wash the panels under running water, remove an scum or dirt, wipe off water with clean cheese cloth and let dry for 2 hours. Measure the gloss and reflectance. Take the average of the three values and evaluate for compliance with 3.2.11.

4.4.12 Determine of rubber-base (ppts.) and pigment.

4.4.12.1 type I (Chlorinated rubber).

(a) Determination of chlorinated paraffin and additives (n-pentane extractables). Weigh by difference to the nearest milligram, 20 to 25 g of well-mixed sample, using a weighing bottle, and add this to 13 g of Celite 110 in a 500-ml glazed porcelain casserole. Mix well and evaporate most of the the solvent by heating the casserole on top of the steam bath (not directly over an opening) for at least 2 hours. Stir mixture occasionally during evaporation. Dry in a regular oven at 60-70 deg. C overnight. There should be no odor of solvent. Open oven door carefully. (Celite, being light and fluffy, has a tendency to scatter.) Crush the lumps in a mortar, taking small portions at a time. Transfer to a Soxhlet thimble (43 x 123 mm) and cover with a plug of glass wool. Extract with 400 ml of n-pentane, under vigorous reflux, for twenty-two hours using a Soxhlet extraction apparatus equipped with a calcium chloride tube. Use Berl saddles as boiling stones in the 500-ml erlenmeyer flask. Remove the extraction thimble and rinse well with n-pentane. Transfer the rinsings to a tared 250-ml beaker containing Berl saddles. Evaporate on a cooler portion of the steam bath. Gradually add the supernatant to the same beaker, making certain that none of the saddles in the flask drop into the beaker. When the n-pentane has been evaporated, dry in a vacuum oven overnight at 60-70 deg. C to constant weight.

$$\frac{\text{Net weight of n-pentane extract} \times 100}{\text{weight of sample}} = \text{percent of chlorinated paraffins and additives}$$

(b) Determination of total extractable material (nonvolatile vehicle). Weigh to the nearest milligram 20 to 25 g of well-mixed sample in to a tared 250-ml round-bottom centrifuge tube with lip. (Use a special holder for the centrifuge tube.) Add a small amount of extraction mixture A (see method 4021 of Fed. test Method Std. No. 141). Mix well, and dilute with the same solvent to 200 ml. Cover the centrifuge tube with aluminum foil, and centrifuge at 2000 rpm for 30 minutes. Decant the supernatant into a tared 400-ml beaker containing Berl saddles. Mix the residue in the centrifuge

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tube with small amount of extraction mixture A, until the lumps are broken up, and repeat the extraction. centrifuge at 2000 rpm for 15 minutes and combine the second supernatant with the first. Evaporate on a cooler portion of the steam bath until the ether has evaporated and finish the evaporation over a steam opening. When all solvent has evaporated, dry in a vacuum oven at 60-70 deg. C to constant weight. This requires 16 hours drying over phosphorus pentaoxide. Save the extract for qualitative identification.

$$\frac{\text{Net weight of extracts} \times 100}{\text{weight of sample}} = \text{percent of total extractables}$$

(c) Calculation of chlorinated rubber content.

Percent of total extractables - percent of n-pentane extractables = Percent of chlorinated rubber, (paint basis)

(d) Determination of pigment. Dry the 250 ml centrifuge tubes form the total extractables determination in an oven at 100-150 deg. C to constant weight. This requires overnight (16 hours) drying.

$$\frac{\text{Net weight of pigment} \times 100}{\text{weight of sample}} = \text{percent of pigment}$$

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(e) Calculation of percent of chlorinated rubber (vehicle basis).

$$\frac{\text{Percent of chlorinated rubber, paint basis} \times 100}{\text{100 percent - percent pigment}} = \text{percent of chlorinated rubber, vehicle basis}$$

(f) Qualitative identification of chlorinated rubber. Dissolve a portion of the total extract in benzene, and produce a film of appropriate thickness on a sodium chloride disc. Dry in a vacuum oven until free of benzene as shown by absence of an absorbance band at 14.7 microns, and then obtain an infrared spectrum. Compare with that shown in Fig 1. There should be a close resemblance. The presence of an alkyd modifier would be indicated by an absorbance band at 5.8 micrometers. Depending upon whether the alkyd was based on phtahalic or isophthalic acid, there would also be a weak doublet or a single absorption band at 6.2 micrometers, and absorbance bands at 13.4 and 14.3 (phthalic) or 13.7 micrometers (isophtalic).

4.4.12.2 Type II (Styrene-acrylate).

(a) Determination of additives (n-pentane extractables). Weigh, by difference to the nearest milligram, 20 to 25 g of well-mixed sample, using a weighing bottle, and add this to 15 g of Celite 110 in a 500-ml glazed porcelain casserole. Mix well and evaporate most of the solvent by heating the casserole on top of the steam bath (not directly over an opening) for 2 hours. Stir the mixture occasionally during evaporation. Dry in a regular oven at 60-70 deg. C overnight or until there is no odor of solvent. Open oven door carefully. (Celite, being light and fluffy, has a tendency to scatter.) Crush the lumps in a mortar, taking small portions at a time. Transfer to a Soxhlet thimble, and cover with a plug of glass wool. Extract with 400 ml of n-pentane, under vigorous reflux for two hours, using a Soxhlet
extraction apparatus equipped with a calcium chloride tube. Use Berl saddles as boiling stones in the 500-ml erlenmeyer flask. Remove the extraction thimble and rinse well with n-pentane. Rinse the Soxhlet with n-pentane and return the rinsings to the 500-ml flask. Evaporate the n-pentane extract to a volume of 75 ml on a steam bath. This requires constant watching. Separate the small amount of resin present from the other materials by cooling the n-pentane extract in an ice and salt bath for one hour, moving the flask around in the bath frequently. The resin will separate out on the bottom of the flask as a white solid. Also cool a plastic wash bottle containing n-pentane in an ice and salt bath. At the end of the cooling period, there may be some white particles in the supernatant. If so, filter the supernatant thru a chilled coarse porosity sintered-glass funnel into a tared 250 ml beaker containing Berl saddles. Rinse the flask four times with cold n-pentane, swirling in the ice bath after each rinsing. Transfer the rinsings to the tared beaker. Evaporate the n-pentane extract (supernatant plus rinsings) on a cooler portion of the steam bath. When the n-pentane has been evaporated, dry the beaker and contents in a vacuum oven at 60-70 deg. C to contant weight. This requires overnight (16 hours) drying.

$$\frac{\text{Net weight of n-pentane extract} \times 100}{\text{weight of sample}} = \text{percent of additives}$$

(b) Determination of total benzene extractables (nonvolatile vehicle). Weigh to the nearest milligram 20 to 25 g of well-mixed sample using a weighting bottle, and wash into a supercentrifuge bowl with benzene. Add 10 g of Celite 110, stir, and dilute with benzene to 80% of the bowl capacity. Supercentrifuge at 50,000 rpm for 1/2 hour. Slowly and carefully invert the bowl, cool externally, and remove the cover using a vise. Decant the

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supernatant into a tared 400-ml beaker containing Berl saddles, and evaporate on the steam bath. Scrape the pigment from the sides of the bowl, mix thoroughly with a small amount of benzene, and dilute to 80% of the bowl capacity with benzene. repeat the centrifugation at 50,000 rpm for 1/2 hour. Decant the supernatant as before into a second tared 400-ml beaker containing Berl saddles and evaporate on the steam bath. Save the residue for pigment determination. when all the solvent has evaporated, dry the beakers over phosphorus pentaoxide in a vacuum oven at 60-70 deg. C to constant weight. This requires overnight drying (16 hours). Save the extract for qualitative identification.

$$\frac{\text{Total net weight of benzene extract} \times 100}{\text{weight of sample}} = \text{percent of total benzene extractables}$$

(c) Calculation of styrene-acrylate content.

Percent of toal benzene extractables - percent of additives = percent of styrene-acrylate (paint basis)

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(d) Determination of pigment. Scrape the residue in the supercentrifuge bowl into tared pyrex petri dishes, and dry in a regular oven at 100-150 deg. C. Subtract the weight of the Celite from the total net weight to obtain the weight of pigment.

(e) Calculation of pigment content.

$$\frac{\text{Net weight of pigment} \times 100}{\text{weight of sample}} = \text{percent of pigment}$$

(f) Qualitative identification of styrene-acrylate. Dissolve a portion of the total extract in benzene and produce a film of appropriate thickness on a sodium chloride disc. Dry in a vacuum oven until free of benzene as shown by absence of an absorbance band at 14.7 micrometers, and then obtain an infrared spectrum. Compare with that shown in fig. 2. There should be a close resemblance.

4.4.13 Dry opacity. Determine dry opacity of the paint in accordance with method 4121 of Fed. Test Method Std. No. 141, using a 63.5 um (0.0025 inch) wet-film thickness as specified in 3.3.2.

4.4.14 Lead content. Determine lead content of the paint in accordance with ASTM D 3335 for compliance with table I.

4.5 Inspection of preparation for delivery. The packaging, packing, and marking of the paint shall be inspected to determine conformance to the requirements of section 5 of this specification.

5. PREPARATION FOR DELIVERY

5.1 Packaging, packing, and marking. The paint shall be packaged, packed, and marked in accordance with PPP-P-1892. The level of packaging shall be level A, B, or C, and the level of packing shall be level A, B, or C as specified (see 6.2). The paint shall be furnished in 1-gallon metal cans, or 5-gallon steel pails as specified (see 6.2).

5.1.1 Additional marking. In addition to the making requirements specified in 5.1, the directions for use, which shall be clearly legible, shall be shown on the reverse side of each container and shall read as follows:

DIRECTIONS FOR USE

This paint is intended for use on either interior or exterior concrete and masonry surfaces which are exposed to water, severe conditions of moisture, or water vapor, such as swimming pools, shower rooms, water plants, reservoirs, filters basins, laundries, or hydropower plants. The paint is also satisfactory over plaster in shower rooms. It is not intended for use over other types of paint. For best results, this paint should be applied directly to clean, bare, and dry concrete. New concrete or masonry surfaces should age for at least 2 months before being painted. Swimming pools, reservoirs, or tank-like structures should be filled with water during this period in order that the water-soluble salts will be leached out, thus eliminating subsequent blistering of the paint. New concrete shall be prepared by removing all dirt, dust, effloresence, oil and grease stains, or other foreign substances by wire or fiber brushing, scraping, light sandblasting, or other suitable means, followed by surface roughening when necessary to provide good adhesion. The surface should be allowed to dry before painting. Old paint, unless of the same type covered by this

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specification should be removed preferably by sand blasting or grit-blasting. At least two coats of paint should be applied, and for extreme wear resistance, three coats are recommended. The first coat should be thinned with one part of thinner complying with Rule 66 to four parts paint by volume and thoroughly brushed into the pores. The second and third coats may be applied as received. The spreading rate per gallon of paint is approximately 13.2 to 37.2 square meter (250 to 400 square feet) per coat. although the paint dries tack-free within one hour, 48 hours drying is recommended between coats. When the inside of a building is painted, ventilation should be provided while the paint is being applied and during drying. For spray application, the paint may be thinned to spraying consistency with thinner conforming to Rule 66. The paint should be allowed to dry for at least seven days before filling tank-like structures with water. This paint should be stored at 4 to 32 deg. C (40 to 90 deg. F). The estimated shelf-life of closed containers is two years.

5.1.2 Precautionary marking. The marking shall be clearly legible as follows:

1. Keep Paint Away from Flames.
2. Provide Adequate Ventilation while Applying.
3. Avoid Prolonged Inhalation of Vapors.
4. Wear an Approved Respirator during Spray Application.

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6. NOTES

6.1 Intended use. This ready-mixed paint is intended for either interior or exterior use on concrete and masonry surfaces and swimming pools. It is also intended for use where moisture resistance, abrasion resistance, and mild acid and alkali resistance is required.

6.2 Ordering data. Purchasers should select the preferred options permitted herein, and include the following information in procurement documents:

(a) Title, number, and date of this specification.
(b) Type and class of paint required (see 1.2.1).
(c) Color required (see 3.2.2).
(d) Levels of packaging and packing required (see 5.1).
(e) Quantity and size of container required (see 5.1).

6.3 Unit of purchase. The unit of purchase shall be 3.785 liters (equal to 1 U.S. gallon or 231 cubic inches). Paint temperature shall not be in excess of 20 deg. C (68 deg. F) at time of volume measurement.

6.4 The following is a list of some of the raw materials which may serve as a guide to the manufacturer in the formulation and production of the subject paints: Titanium dioxide (rutile), zinc oxide, magnesium silicate, phthalocyanine blue, china clay, chorinated rubber, styrene acrylate, chlorinated paraffin, long oil synthetic resins, driers, and thinners.

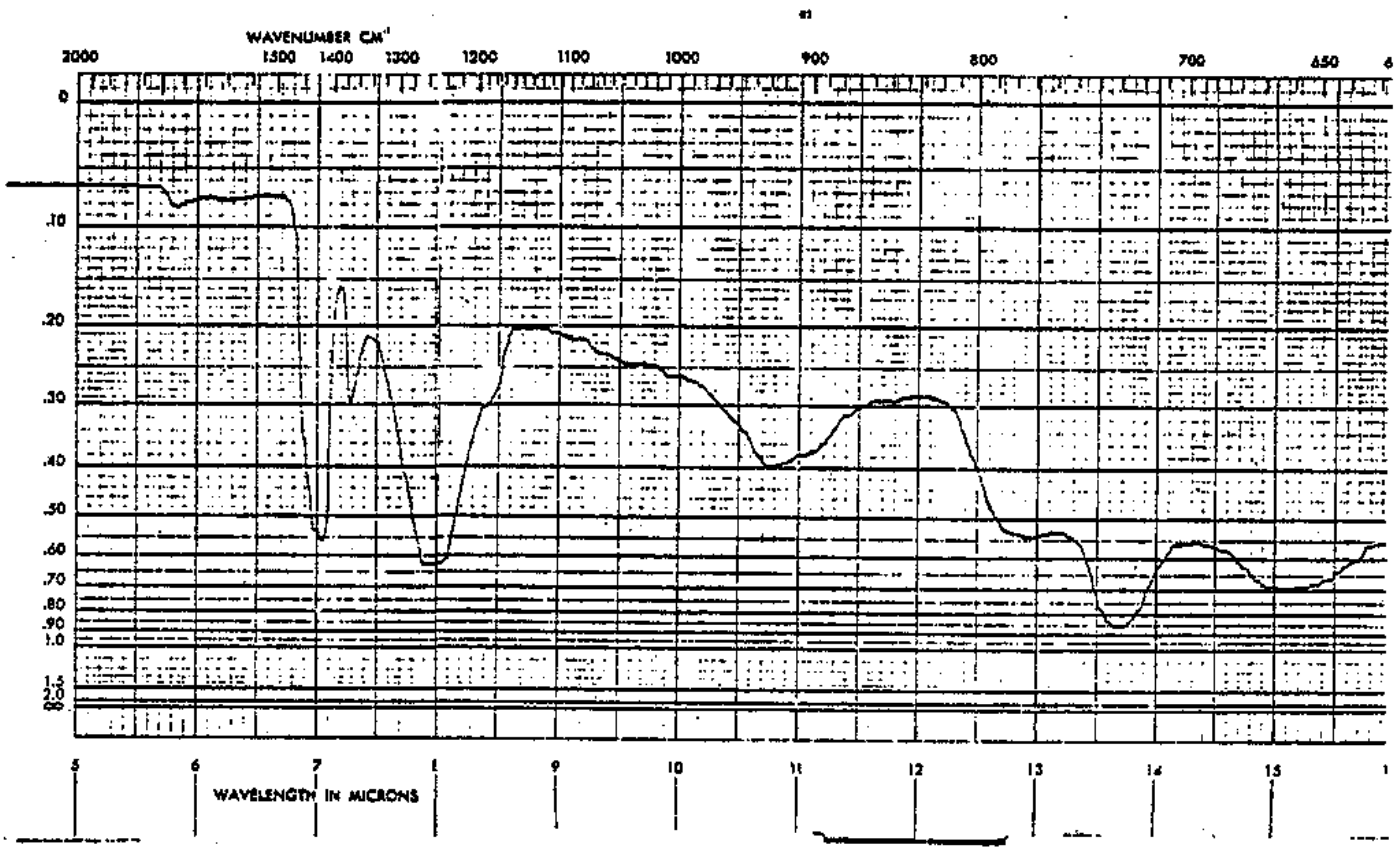

FIGURE 1

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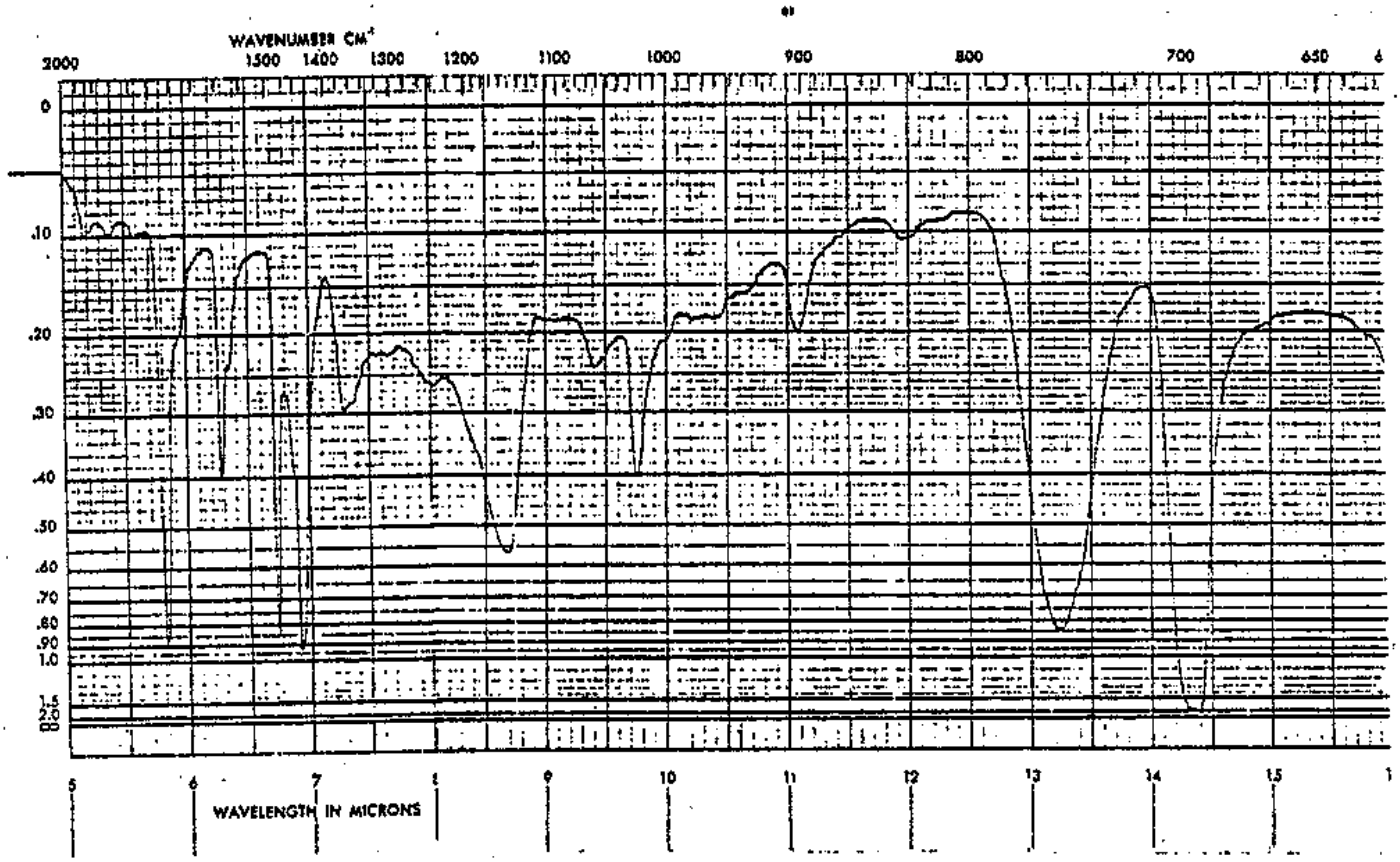

FIGURE 2

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FEDERAL SPECIFICATION

PAINT, RUBBER: FOR SWIMMING POOLS AND OTHER CONCRETE AND MASONRY SURFACES

This amendment, which forms a part of Federal Specification TT-P-95C, dated December 8, 1975, was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

PAGE 2

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

D 3335 - Test for Low Concentrations of Lead in Paint by Atomic Absorption Spectroscopy.

PAGE 3

Table I. Last line - under maximum, change "0.5" to "0.06".

PAGE 4

Table III. Last line, under ASTM method, delete "D 3335[1]" and delete footnote.

PAGE 8

Paragraph 4.4.14. Delete in its entirety and substitute:

4.4.14. Lead content.

4.4.14.1 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 25 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.

4.4.14.2 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	Colli-meter	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

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unit. Measure the count rates of lead, lead background and the Molybdenum Compton scattered background from the X-ray tube.

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

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4.4.14.3 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 with those obtained by a 0.06 percent lead standard made up from the same type of paint sample and evaluated for compliance with table I.