

COMMERCIAL ITEM DESCRIPTION
ENAMEL, (AEROSOL, LOW VOC)

The General Services Administration has authorized the use of this commercial item description.

Salient characteristics:

This description covers two type of aerosol enamels meeting Bay Area Air Quality Management District Regulation 8, Rule 49. The aerosol enamel shall be furnished in nominal 475 mL (1-pint) commercial pressurized dispensers with cover caps protecting the valves. The enamel shall be dispersible by hand shaking for 1 minute at room temperature. The valve shall operate with moderate finger pressure and close immediately upon release of pressure without sputtering. The spray shall be uniform and a smooth film shall be deposited. The can shall deliver a minimum of 98.0 percent by weight of contents.

Type I - Solvent thinned enamel Type II - Acrylic latex enamel

Characteristic	Limits	ASTM Method
Total solids volume, milliliters	45 min	D 2697
60° Specular gloss		D 523
Gloss colors	80 min	
Semigloss	25 - 50	
Flat	15 max	
Contrast ratio (at 1.0 mil dry film) thickness sprayed on Leneta or Moresst hiding power charts) red, yellow and orange white other colors	0.80 min 0.85 min 0.94 min	D 2805
Drying time ¹		D 1640
Type I		
Set to touch, min	30 max	
Dry through, hr	18 max	
Type II		
Tack free, hr	8 max	
Dry through, hr	48 max	
Lead content, % by weight of nonvolatile Chromates ² none detectable	0.06 max	D 3335
Volatile organic compound content, percent by weight ³		
Clear	67 max	
Flat	60 max	
Non flat	65 max	
Halogenated solvents and propellants	None	E 260
Accelerated weathering ⁴		G 53
Chalking	None	D 659
Color change after weathering		D 2244
Yellow, red or orange hues	6.0 CIELAB units	
Other hues	4.0 CIELAB units	
60° Specular gloss after weathering		D 523
Gloss colors	65 min	
Semigloss colors	25 min	

Flexibility.¹ The enamel film shall bend over a 6.35 mm diameter (1/4 inch) mandrel without cracking or flaking (method 6221, FED-STD-141).

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Self-Lifting. When recoated after drying for 2, 24 and 48 hours, the enamel shall not wrinkle or lift.

Water resistance. The film shall not wrinkle or blister after 1 hour immersion in distilled water at $23 \pm 2^\circ \text{C}$ ($73 \pm 5^\circ \text{F}$) (ASTM D 1308). The color change, delta E, 24 hours after removal shall not be greater than 8.0 (ASTM D2244).

Color. When observed both under Illuminant A and Illuminant D65, the opaque enamel, at complete hiding, shall match the color specified (ASTM D 1729). In the event of a dispute, an instrumental color match shall be used (ASTM D2244) using the following conditions:

Illuminant D₆₅, CIE 1976 CIELAB opponent color space using the 1931 CIE standard observer (2° observer), specular component excluded. The maximum allowable Delta E shall be 2.00.

Storage stability. The enamel shall meet all requirements of this description for a minimum of one year after acceptance.

Material Safety Data Sheet. Material Safety Data Sheet (MSDS) shall be submitted in accordance with FED-STD-313.

Quality assurance provisions. Unless otherwise specified, the contractor is responsible for the performance of all inspection requirements specified herein using facilities approved by the Government. The Government reserves the right to perform any of the inspections set forth herein when deemed necessary to assure that the enamel conforms to prescribed requirements. Failure to meet any requirement shall be cause for rejection of the lot from which the sample was taken.

Preservation, packaging, packing, labeling and marking. The preservation, packaging, packing, labeling and marking shall be as specified in the contract or order.

Notes. Purchaser should specify color required and instructions for submission of MSDS.

ASTM standards are available from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103. The issue of the ASTM test methods in effect on the date of the solicitation shall be used to determine compliance with these requirements.

FED-STD-141 Paint, Varnish, Lacquer and Related Materials: Methods of Inspection, Sampling and Testing is available from: General Services Administration, Specification Section, Room 6654, 7th and D Streets, SW, Washington, DC 20407.

1/ Spray two coats, each consisting of 1 horizontal and 1 vertical pass, from a distance of 25 to 30 cm (10 to 12 inches) on tinplate flexibility panels. Unless otherwise specified, allow to dry for 48 hours at standard conditions. The dry film thickness obtained shall be 0.025 mm (1.0 mil) except the clear shall be 0.0125 mm (0.5 mil). For flexibility testing the film shall be baked 2 hours at 60°C (140°F) and cooled to room temperature. For color matching the panel shall be recoated and dried as above until further coats produce no change in reflectance.

2/ Add 5 mL 25 percent aqueous KOH to 1/2 gram extracted pigment in a centrifuge tube. Agitate by shaking and centrifuge. A yellow color in the supernatant liquid indicates the presence of hexavalent chromium.

3/ Determine volatile organic content in accordance with Code of Federal Regulations 40CFR, Part 60, Appendix A, Method 24 (Available for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402)

4/ For accelerated weathering duplicate films prepared as in footnote 1 shall be air-dried 7 days and subjected to 200 hours accelerated weathering using UV-A-351/302 lamps and an exposure cycle of 8 hours UV exposure at 60°C (140°F) followed by 4 hours condensation at 50°C (122°F).

PREPARING ACTIVITY

GSA - FSS