

**COMMERCIAL ITEM DESCRIPTION**

**Enamel, Aerosol (Low VOC)**

The General Services Administration has authorized the use of this commercial item description for all federal agencies.

**1.0 SCOPE.** This description covers two types of aerosol enamels meeting National Volatile Organic Compound Emission Standards for Aerosol coatings, 40 CFR 59, Subpart E. 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.

**2.0 CLASSIFICATION**

2.1 Type I – Solvent Thinned Enamel

2.2 Type II – Acrylic Latex Enamel

**3.0 SALIENT CHARACTERISTICS**

Characteristics	Requirements	Methods
(1) Total solids	45 minimum	ASTM D 2697
(2) Specular gloss		ASTM D 523
Gloss colors	80 minimum	
Semigloss	25 – 50	
Flat	15 maximum	ASTM D 2805
(3) Contrast Ratio (1.0 mil DFT)		
Red, yellow and orange	0.80 minimum	
white	0.85 minimum	
all other colors	0.94 minimum	
(4) Drying time (see Note 1)		ASTM D 1640
Type I    Set to touch (minutes)	30 maximum	
Dry through (hours)	18 maximum	
Type II  Tack free (hours)	8 maximum	
Dry through (hours)	48 maximum	
(5) Lead content, % by weight of nonvolatile	0.009 maximum	ASTM D 3335
(6) Chromates (see Note 2)	None detectable	
(7) Halogenated solvents and propellants	None	ASTM E 260
(8) Accelerated Weathering		ASTM G 154 ASTM D 4214 ASTM D 2244
Chalking	None	
Color change after weathering		
Yellow, red or orange hues	6.0 CIELAB units	
Other hues	4.0 CIELAB units	
60° Specular gloss after weathering		ASTM D 523
Gloss colors	65 minimum	
Semigloss colors	25 minimum	

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data which may improve this document should be sent to: Heartland Supply Operations Center, Engineering and Commodity Management Division, GSA/FAS/QSDKC, 1500 E. Bannister Rd, Atrium, Kansas City, Missouri 64131.

### 3.1 QUALITATIVE REQUIREMENTS.

**3.1.1 Flexibility** (Note 1). The enamel film shall bend over a 6.35 mm diameter (1/4 inch) mandrel without cracking or flaking (ASTM D 522).

**3.1.2 Self lifting** (Note 1). When recoated after drying for 2, 24 and 48 hours, the enamel shall not wrinkle or lift.

**3.1.3 Water resistance** (Note 1). The film shall not wrinkle or blister after 1 hour immersion in distilled water at  $23 \pm 2$  degrees C ( $73 \pm 6$  degrees F) (ASTM D 1308). The color change, delta E, 24 hours after removal shall not be greater than 8.0 (ASTM D 2244).

**3.1.4 Color** (Note 1). 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 D 2244) using CIE DE2000 Color Difference Equation ( $dE^*2000$ ) under the following conditions:

Illuminant D65, Diffuse Sphere d/8, 1964 observer (10 degree geometry), CIEL \*a\*b\*, with KL:KC Lightness to Chroma ratio 1:1. The maximum allowable  $dE^*2000$  shall be 2.00.

**4.0 REGULATORY REQUIREMENTS.** Use the version in effect on the date of the solicitation/order.

**4.1 40 CFR, Part 59, Subpart E.** National Volatile Organic Compound Emission Standards for Aerosol coatings

**4.2 40 CFR, Part 60, Appendix A, Method 24.** Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings

**4.3 FED-STD-141.** Paint, Varnish, Lacquer and Related Materials: Methods of Inspection, Sampling and Testing.

**4.4 FED-STD-313.** Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities.

**4.5 Bay Area Air Quality Management District Regulation 8, Rule 49.** Aerosol Paint Products.

### 5. QUALITY ASSURANCE PROVISIONS.

**5.1. Quality Statement.** The products provided shall conform to the producer's own drawings, specifications, standards, and quality assurance practices and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance prior to the first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

### 6. PACKAGING

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

**6.2. Material Safety Data Sheets.** Material Safety Data Sheet (MSDS) shall be submitted in accordance with the current version of FED-STD-313.

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

**7. NOTES.**

- 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 tinfoil 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 coating shall be 0.0125 mm (0.5 mil). For flexibility testing the film shall be baked 2 hours at 60 degrees C (140 degrees 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 ½ 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 40 CFR, Part 60, Appendix A, Method 24.
- 4 For accelerated weathering duplicate films prepared as in Notes, paragraph 1 above. Air dry for 7 days and subject to 200 hours accelerated weathering using UV-A-351/302 lamps and an exposure cycle of 8 hours UV exposure at 60 degrees C (140 degrees F) followed by 4 hours condensation at 50 degrees C (122 degrees F).
- 5 For ASTMs, use the latest method in effect on the date of the solicitation or order. In case of cancellation of a method, the Contractor shall obtain a copy and test in accordance with method revision prescribed herein. ASTM standards and test methods are available from the American Society for Testing and Materials, 100 Barr Harbor Dr., West Conshohocken, PA 19428-2959.

**Preparing Activity:**  
**GSA-FAS**