

A-A-3067
December 15, 1996
Superseding
TT-P-102F
January 21, 1992

COMMERCIAL ITEM DESCRIPTION

PAINT: ALKYD, EXTERIOR, LOW VOC

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

1. **SCOPE.** This specification describes a chalk free, alkyd, house paint for general exterior use. It can be used on new or previously painted wood trim, siding, primed metal and sealed concrete. It is a lead and chromate free paint and has a low volatile organic compound (VOC) content.

2. SALIENT CHARACTERISTICS.

2.1 General requirements.

2.1.1 **Condition in container.** The paint shall be free from skins, seeds, and hard settled pigment and shall be readily dispersible to a uniform condition by five minutes of hand stirring. A closed, three-quarter filled container shall not skin within 48 hours, when stored at room temperature.

2.1.2 **Prohibited materials.** The manufacturer shall certify that no mercury, cadmium, hexavalent chromium, Hazardous Air Pollutants (HAPs), Ozone Depleting Substances (ODSs), known or suspected human carcinogens, (as defined by the National Toxicology Program's Annual Report on Carcinogens), or toxic pollutants are used in the formulation. If any of these substances are present as an impurity in a raw ingredient, their concentration shall be less than 0.1 percent by weight. The lead content of the nonvolatile portion of the coating shall not exceed 0.06 percent.

2.1.3 **Color.** The color shall be a critical match (DE 7 1.0) to the color specified in the contract or purchase order (see 6.2).

2.2 Special requirements.

2.2.1 **Miscibility with mineral spirits.** The paint shall remain stable and uniform and shall show no precipitation, curdling, seeding, or separation, when mixed with mineral spirits. The paint shall mix readily and easily without excessive stirring or shaking. It shall remain homogeneous for a minimum of four hours. Slight pigment settling is permitted. The mixing ratio of mineral spirits to paint shall be one to eight. For referee testing, the mineral spirits shall conform to the requirements of A-A-2904 type I.

2.2.2 **Quantitative requirements.** The paint shall meet the requirements listed in table I. Unless otherwise stated in the test method, room temperature and referee conditions shall conform to the requirements of ASTM D 3924.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data which may improve this document should be sent to: General Services Administration, Paints and Chemicals Center, Engineering and Commodity Management Division (10FTE), 400 15th St. SW, Auburn, WA. 98001-6599.

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TABLE I**TABLE I Quantitative Requirements.**

Property	Value		ASTM method
	Min	Max	
Total solids, percent by weight	70	---	D 2369
Volatile Organic Compound (VOC) content (less water and exempt solvents), g/L (lb/gal), max.			
Flats	---	250 (2.09)	D 3960 <u>1/</u>
Semigloss and Gloss	---	340 (2.8)	D 3960 <u>1/</u>
Prohibited materials			
Lead content, wt. percent of nonvolatile, max	---	0.06	<u>6/</u>
Other prohibited materials listed in 2.1.2, wt. percent, max.	---	0.1	<u>6/</u>
Flash point, °C (°F).	41 (105)	---	D 56
Viscosity, K.U.	75	100	D 562
Fineness of grind	4	---	D 1210
Coarse particles and skins (retained on No. 325 sieve); percent by weight of paint.	---	0.05	D 185
Drying time, hours			
Set to touch	---	8	D 1640
Dry to recoat	---	24	D 1640 <u>2/</u>
Flexibility, 6.35 mm (0.25 in) diameter cylindrical mandrel	no cracking or flaking	---	D 522 <u>4/</u>
Fungus resistance	8	---	D 3273, D 3274
Color, DE	---	1.0	D 2244
Gloss (60° specular)			
Flat	---	10	D 523
Semigloss	35	55	D 523
Gloss	80	---	D 523
Contrast ratio, @ 51 μ m \pm 2 μ m (2 mils) dft.	0.98	---	D 2805
Accelerated weathering			
Chalking	---	none	G 53 <u>5/</u> , D 659
Difference in yellowness index	---	7	G 53 <u>5/</u> , D 1925
Difference in gloss, percent	---	40	G 53 <u>5/</u> , D 523
Difference in color			
DE for yellow, orange, and red hues	---	+4.0	G 53 <u>5/</u> , D 2244
DE for other hues	---	+2.0	G 53 <u>5/</u> , D 2244
Adhesion	5B	---	D 3359 <u>2/</u> , <u>3/</u>
Package stability of primer			
Viscosity after storage	75	105	D 1849 and D 562
Rigidity after storage	---	10	D 1849 and D 869

1/ The VOC shall be determined on the paint as applied in accordance with the manufacturer's instructions for use.

2/ The paint shall be applied to four, primed mahogany, pine, or Douglas fir panels, prepared in accordance with ASTM D 358. After air drying for 24 hours, a second coat shall be applied crosswise to the first coat. The total dry film thickness (dft) shall be $51 \mu\text{m} \pm 4\mu\text{m}$ (0.002 inch \pm 0.0002 inch). There shall be no lifting or any film irregularities during application and after drying.

3/ Use test method B. Allow the paint to dry for 72 hours, at room temperature, prior to testing. Use Scotch Brand Tape number 810 or any other cellophane tape with the same adhesive strength.

4/ Use method B. The test panels used shall be in accordance with FED-STD-141 method 2012. The dry film thickness shall be $25 \mu\text{m} \pm 2\mu\text{m}$ (1 mil \pm 0.1 mils). The coating shall air dry for 24 hours at room temperature. After air drying, heat the panels at $105 \text{ }^\circ\text{C} \pm 2 \text{ }^\circ\text{C}$ ($221 \text{ }^\circ\text{F} \pm 4 \text{ }^\circ\text{F}$) for three hours, and cool 1/2 hour at room temperature. Repeat the heating and cooling for two more cycles. Then bend the panels as specified in D 522. The time for the panel bending shall be 1.5 to 1.6 s.

5/ Two test panels shall be prepared as described in note four, except the dry film thickness shall be $51 \mu\text{m} \pm 2\mu\text{m}$ (2 mils \pm 0.1 mils). Panels shall cure at room temperature for 168 hours prior to testing. Color and gloss shall be measured as described in table I. Yellowness index shall be determined in accordance with ASTM E 313. Expose the panels for 200 hours (16-2/3 cycles) in accordance with ASTM G 53, using UV-A-351/302 lamps and a cycle of eight hours UV exposure at $60 \text{ }^\circ\text{C}$ ($140 \text{ }^\circ\text{F}$) followed by four hours condensation at $50 \text{ }^\circ\text{C}$ ($122 \text{ }^\circ\text{F}$). After exposure, condition the panels for two hours at room temperature. Measure the color, gloss, and yellowness index as described above.

6/ For referee purposes only. Lead content shall be measured using X-Ray fluorescence, antimony content by ASTM D 3717, cadmium content by ASTM D 3335, chromium content by ASTM D 3718, and mercury content by ASTM D 3624. Organic solvents shall be identified using FED-STD-141 methods 7356 and 7375.

3. REGULATORY REQUIREMENTS.

3.1 **Federal Acquisition Regulations (FAR).** The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the FAR.

3.2 **Code of Federal Regulations (CFR).** The primer coatings shall not contain any substance listed in the following Code of Federal Regulations as a hazardous air pollutant or ozone depleting substance:

- a. 40 CFR part 61 - National Emission standard for Hazardous Air Pollutants.
- b. 40 CFR part 82 - Protection of Stratospheric Ozone.

3.3 **MSDS.** The manufacturer must comply with requirements set forth by the Hazardous Communication Standard 29 CFR 1910.1200 (d) through (g). All Material Safety Data Sheets (MSDSs) submitted must comply with provisions of FED-STD-313.

4. QUALITY ASSURANCE PROVISIONS.

4.1 **Product conformance.** The contractor shall maintain substantiating evidence that the product offered meets the salient characteristics of this Commercial Item Description and that the product conforms to the

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producer's own drawing, specifications, standards, and quality assurance practices, and is the same product offered for sale in the commercial marketplace.

The contractor shall provide the required information in a tabulated format and with enough clarity so that the formulation of the tested product can be traced compared to the offered product(s). The contractor shall also provide a summary of performance data, consisting of test reports, substantiating that the product to be supplied under this CID meets the ASTM requirements cited under 2.2 - 2.2.2 and is the same product offered for sale in the commercial marketplace.

The government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

5. PACKAGING.

Preservation, Packing, and marking shall be as specified in the contract or order.

6. NOTES.

6.1 Intended use. The paints described here are intended for use on primed wood siding and trim, metals, and concrete. They are commonly referred to as exterior house paints. The recommended primers to be used with this paint are:

Wood	-	A-A-2336
Metal	-	TT-P-664
Concrete	-	TT-P-19.

These paints are not recommended for unprimed concrete, galvanized or other alkaline surfaces. If used on these surfaces, failures can be expected.

6.2 Ordering Data. Purchasers should include the following information in the contract or purchase order.

- (a) Title, number, and date of this commercial item description.
- (b) Color (see 2.1.3).
- (c) Quantity and size of the container required.
- (d) Address to whom MSDSs should be sent.
- (e) Packaging, packing, and marking required.

6.3 Part Identification Number (PIN). The following part identification numbering procedure is for government purposes and does not constitute a requirement for the contractor.

{ EMBED Charisma }

6.4 Referenced documents.**Federal Specifications:**

A-A-2904	-	Thinner, Paint, Mineral Spirits, Regular and Odorless.
A-A-2336	-	Primer Coating (Alkyd, Exterior Wood, White and Tints).
A-A-2994	-	Thinner, Paint, Mineral Spirits, Regular and Odorless.

- TT-P-19 - Paint, Latex (Acrylic Emulsion, Exterior Wood and Masonry)
- TT-P-664 - Primer Coating, Alkyd, Corrosion-Inhibiting, Lead and Chromate Free, VOC Compliant.

Federal Standards:

- FED-STD-141 - Paint, Varnish, Lacquer and Related Materials: Methods of Inspection, Sampling and Testing.
- FED-STD-313 - Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities.

National Toxicology Program

Annual Report on Carcinogens.

ASTM Standards:

- D 56 - Flash point by Tag Closed Tester.
- D 185 - Coarse Particles in Pigments, Pastes, and Paints.
- D 358 - Specification for Wood to Be Used as Panels in Weathering Tests of Coatings.
- D 522 - Mandrel Bend Test of Attached Organic Coatings.
- D 523 - Specular Gloss.
- D 562 - Consistency of Paints Using the Stormer Viscometer.
- D 659 - Evaluating Degree of Chalking of Exterior Paints.
- D 869 - Evaluating Degree of Settling of Paint.
- D 1210 - Fineness of Dispersion of Pigment-Vehicle Systems.
- D 1640 - Drying, Curing, or Film Formation of Organic Coatings at Room Temperature.
- D 1849 - Package Stability of Paint.
- D 2244 - Calculation of Color Difference from Instrumentally Measured Color Coordinates.
- D 2369 - Volatile Content of Coatings.
- D 3273 - Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- D 3274 - Evaluating Degree of surface Disfigurement of Paint Films by Microbial (Fungal or Algal) Growth or Soil and Dirt Accumulation.
- D 3359 - Measuring Adhesion by Tape Test.
- D 3924 - Standard Environment for Conditioning and Testing Paint, Varnish, Lacquers, and Related Materials.
- D 3960 - Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.
- E 313 - Index of Whiteness and Yellowness of Near-White, Opaque Materials.
- G 53 - Operating Light- and Water-Exposure Apparatus (Fluorescent UV-Condensation Type) for Exposure of Nonmetallic Materials.

6.5 Source of Documents.

6.5.1 Contact the contracting officer for a copy of paragraph 23.403 of the FAR and the appropriate paragraphs in 29 and 40 CFR.

6.5.2 Copies of ASTM specifications and standards may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

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6.5.3 Copies of Federal Specifications and standards may be obtained from the Federal Supply Service Bureau, Specification Section, Suite 8100, 470 East L'Enfant Plaza, SW, Washington, DC 20407.

6.5.4 Copies of the Annual Report on Carcinogens may be obtained from the National Toxicology Program, Annual Report on Carcinogens, PO Box 12233, Research Triangle Park, NC 27709.

MILITARY INTERESTS:

Custodian

Air Force - 99

Review Activities

Army - MI

Air Force - 84

User Activities

Army - GL

Navy - OS

**CIVIL AGENCY
COORDINATING ACTIVITY:**

GSA-FSS

Preparing Activity:

GSA-FSS