

METRIC

A-A-3164A  
April 18, 2007  
 SUPERSEDING  
 A-A-3164  
 August 20, 1998

## COMMERCIAL ITEM DESCRIPTION

### SYNTHETIC LACQUER, CAMOUFLAGE, EXTERIOR, VOC COMPLIANT

The General Services Administration has authorized the use of this commercial item description as a replacement for Federal Specification TT-L-20 for all federal agencies.

1. **SCOPE.** This description covers a lusterless (flat) and semigloss synthetic resin lacquer for application onto lacquer resistant primer or recoating prepared metal surfaces. Not for use on bare metal without a primer undercoat. Provides a rapid tack free and dry hard condition at temperatures lower than curing type resins.
2. **CLASSIFICATION.** The synthetic resin lacquer shall be of two classes as specified (See 7.2).

#### Classes

- 1 – Flat (Low Sheen)
- 2 – Semigloss

3. **SALIENT CHARACTERISTICS**

3.1 **Pigment.** The following Fed-Std-595 colors shall contain no tinting pigment:

- 3.1.1. 37875 Flat White
- 3.1.2. 27875 Semigloss White

3.2. **Vehicle/ Resin.** Shall be phthalic anhydride modified non-drying oils. Phenolics resins and rosins are not permitted. The finished formulation shall have a minimum useable shelf life of 24 months with periodic warehouse temperatures up to 43° C (110° F).

3.3. **Specular Gloss.** When tested as specified in ASTM D 523, color chips shall meet the following 60 degree specular gloss level requirements.

Semigloss Colors	Minimum	Maximum
25042 Sea Blue	5	8
26081 Seaplane Gray	8	12
27038 Instrument Black	12	17
27875 Insignia White	40	55
Nonspecular Colors		
All Colors	-	5

**Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data which may improve this document should be sent to: General Services Administration, Heartland Global Supply, GSA/FAS/6FLEE, 1500 E. Bannister Rd., Kansas City, MO 64131**

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3.4. **Contrast Ratio.** Shall be in accordance with the following requirements when tested in accordance with ASTM D 2805.

Insignia White Flat, 37875	88 minimum
Insignia White Semigloss, 27875	88 minimum
Orange Yellow 33538	88 minimum
Bright Red 31136	88 minimum
All Other Colors	98 minimum

3.5. **Condition in Container.** The packaged material shall pour freely without stirring. The lacquer, in a freshly opened full container, shall show no grit, skimming, curdling, livering, or excessive pigment flotation, and shall show no more settling or caking than may be easily redispersed with a paddle to a uniform and homogeneous condition.

3.6. **Odor.** The odor of the lacquer, wet or dry, shall not be obnoxious. An air-dried film shall retain no residual odor 48 hours after application.

3.7. **Self Lifting.** Apply a 2<sup>nd</sup> coat of lacquer to the 1<sup>st</sup> “dry-hard” coat of the same lacquer, and observe for any signs of “lifting” of the first coat such as “wrinkling”, bubbling or other disturbance of the smooth lacquer film. There shall be no wrinkles after 30 minutes. Evidence of self-lifting shall be reason for rejection of all lacquer batches or lots manufactured in accordance with the same formulation and raw materials.

3.8. **Water Resistance.** Using a drawn-down bar, apply a 1.0 +/- 0.2 mil dry film of lacquer to three (3) flat plate aluminum surfaces which are mechanically abraded (200 grit+) and degreased with a clean cloth, damp with clean, new lacquer thinner. No primer is under the lacquer which may interfere with results. Cure the film at 23° C and a maximum of 60% relative humidity for 72 hours. Totally submerge the three cured draw down specimens, horizontally under 2.54 cm (1.0 inch) of 23°C tapwater for 24 hours, remove and sponge dry. Repeat this procedure for four (4) cycles with no more than 15 minutes before re-immersion. The lacquer fails if any specimen shows even slight signs of “whitening-clouding”, softening, lifting, blistering, change in color, loss of adhesion or hardness.

3.9. **Removal of Dried Lacquer.** Using a soft cotton wipe, previously wetted with lacquer thinner, a 1.0 mil thickness of dry-hard lacquer shall be dissolved using light to moderate hard pressure. Pre-wetting or softening of the dried lacquer surface is permitted. Two such removal actions using a clean final wipe cloth, dampened with lacquer thinner, shall result in complete lacquer removal to the bare substrate or an insoluble primed surface.

3.10. **Cold Bending and Flaking.** To a degreased, mill finish aluminum sheet, 8mm - 10 mm thick (22-28 gauge), apply a light fog coat of the test coating in lieu of a primer, allow the “fog” coat to dry for 40 minutes at a minimum of 23° C and 40-60% relative humidity. Apply a 40-60 micron thick wet film of test coating over the fogged (primer) base coat and allow to dry for 24 hours, at the above conditions, before testing in accordance with ASTM D 522, Method B.

3.11. **Color.** Color shall be as specified in the contract or purchase order in accordance with Fed-Std-595; CIE Lab, Delta E is 1.0 maximum.

3.12. **Fade Resistant Pigments.** In case of dispute or color fading complaints from Government users, commercial lacquer products shall have equal or better fade resistance to the ASTM “Lightfastness II – Very good lightfastness” color group pigments listed in ASTM D 4302, then tested in accordance with ASTM D 2244 or D 822. Test shall be run using unfiltered light, no water exposure and a duration sufficient to detect fading of the standard color lacquer/ paint which shall contain pigments listed within ASTM D 4302.

3.13. **Adhesion.** 3B rating or better using ASTM D 3359.

**TABLE 1**  
**QUANTITATIVE REQUIREMENTS**

Property	Limit or Note	Test Method <sup>1</sup>
Minimum nonvolatile (liquid weight basis)		
Flat	45%	ASTM D 1644
Semi-Gloss	40%	ASTM D 1644
Maximum Pigment (nonvolatile weight basis)		
Flat	60%	ASTM D 1644
Semi-Gloss	50%	ASTM D 1644
Minimum Vehicle/ resin (nonvolatile weight basis)		
Flat	40%	ASTM D 2372
Semi-Gloss	50%	ASTM D 2372
Nitrocellulose Content (all classes)	25-30%	Fed-Std-141D/5205.2
Volatile Organic Content	420 g/l	EPA Test Method 24, ASTM D 2369
Drying Time @ 40-60 microns wet film		
“Dry To Touch”	15 min. maximum	ASTM D 1640
“Dry Hard”	40 minutes max	ASTM D 1640
Dilutable – commercial lacquer thinner	No phasing, coagulation	Visual
Water resistance	No whitening, defects	ASTM D 870
Viscosity (#4 Ford Cup)	16-25 seconds max	Package Lacquer
Removal of Dried Lacquer Film	Shall be removable	See Note 3.7
Cold Bending and Flaking	None	ASTM D 522
Color	Fed-Std-595 reference	ASTM D 1729

1: Test methods prefixed with a letter are ASTM methods. Others are FED-STD-141 test methods.

#### 4. REGULATORY REQUIREMENTS

4.1 **Code of Federal Regulations.** The paint shall not contain any substance listed in the following Code of Federal Regulations as a Hazardous Air Pollutant, Clean Water Act Pollutant, or Ozone Depleting Substance.

- a) 40 CFR part 61
- b) 40 CFR part 401
- c) 40 CFR part 82

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

#### 5. PRODUCT CONFORMANCE PROVISIONS

5.1. **Product Conformance.** The products provided shall meet the salient characteristics of this Commercial Item Description, conform to the producer’s own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace. The government reserves the right to require proof of such conformance.

5.2. **Market Acceptability.** The following market acceptability criteria are necessary to document the quality of the product to be provided under this Commercial Item Description.

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5.2.1. The manufacturer of the item must have been producing a product meeting the requirements of this Commercial Item Description for at least 2 years.

5.2.2. The company must have sold at least 1,000 units meeting this Commercial Item Description in the commercial market place over the past 2 years.

## 6. PACKAGING

6.1. **Packaging, packing, and marking.** The paint shall be furnished in quantities specified and the packaging, packing, and marking shall be as specified (see 7.2).

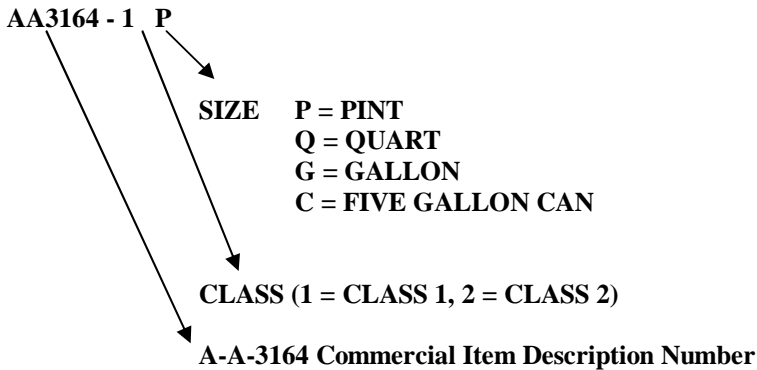
## 7. NOTES

7.1. **Intended use.** The lacquer conforming to this Commercial Item Description is intended for use on metal surfaces. Best performance will be obtained when the lacquer is applied over a metal surface properly pretreated and primed with a lacquer resisting primer. The lacquer should not be used over bare metal.

7.2. **Ordering data.** Purchasers should include the following information in procurement documents:

- a) Title, number, and date of this Commercial Item Description
- b) Class Designation (see Section 2)
- c) Packaging, packing, and marking required.
- d) Size of container and quantity required.

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



7.4. **Referenced Documents.** The following documents of the issues on date of invitation for bids or request for proposal form part of this Commercial Item Description to the extent specified herein.

### Federal Standards:

- FED-STD-141 Paint, Varnish, Lacquer, and Related Materials; Methods of inspection, Sampling, and Testing
- FED-STD-595 Colors Used in Government Procurement

### Code of Federal Regulations:

- 40 CFR part 61 National Emission Standards for Hazardous Air Pollutants
- 40 CFR part 401 Clean Water Act Toxic Pollutants
- 40 CFR part 82 Protection of Stratospheric Ozone

**American Society for Testing and Materials (ASTM) Standards:**

- D 522 Test Methods for Mandrel Bend Test of Attached Organic Coatings
- D 523 Test Method for Specular Gloss
- D 822 Practice for Filtered Open-Flame, Carbon-Arc Exposures of Paint and Related Coatings
- D 870 Practice for Testing Water Resistance of Coatings Using Water Immersion
- D 1640 Drying, Curing, or Film Formation of Organic Coatings at Room Temperature Materials
- D 1644 Test Methods for Nonvolatile Content of Varnishes
- D 1729 Visual Appraisal of Colors and Color Differences of Diffusely-Illuminated Opaque Materials
- D 2244 Practice for Calculation of Color Tolerances and Color Differences From Instrumentally Measured Color Coordinates
- D 2369 Test Method for Volatile Content of Coatings
- D 2372 Practice for Separation of Vehicle from Solvent-Reducible Paints
- D 2805 Test Method for Hiding Power of Paints by Reflectometry
- D 3359 Test Methods for Measuring Adhesion by Tape Test
- D 4302 Specification for Artist's Oil, Resin-Oil, and Alkyd Paints

**7.5. Source of Documents.**

7.5.1. **Federal Regulation.** Code of Federal Regulation references (CFR) can be accessed free, on-line from the Government Printing Office CFR Retrieval site, <http://www.gpoaccess.gov/cfr/retrieve.html>.

7.5.2. **American Society for Testing and Materials.** Copies of ASTM specifications and standards may be purchased on-line from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959 at <http://www.astm.org/>.

7.5.3. **Federal Specifications.** Copies of Federal Specifications and standards may be obtained free, on-line from Defense Logistics Agency Acquisition Streamlining and Standardization Information System (DLA ASSIST) at <http://assist.daps.dla.mil/quicksearch/>. Fed-Std-595 reference color chips can be purchased by contacting the following office:

GSA Property Management  
GSA/CO/3FPD  
470 L'Enfant Plaza East, SW, Suite 8100  
Washington DC 20407  
202-619-8925, Fax 202-619-8985

7.5.4. **U.S. EPA "Method 24".** A copy of U.S. EPA "Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings" (Method 24) is available at the following web site: <http://www.epa.gov/ttn/emc/promgate.html>.

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7.5.5. **National Stock Numbers (NSNs).** The following is a list of NSNs assigned that corresponds to this Commercial Item Description. The list may not be indicative of all possible NSNs associated with the Commercial Item Description.

C=Class; Color Number = Fed-Std-595 Color Number

NSN	C	Color Number
8010-00-042-8899	2	24300
8010-00-043-0692	1	36231
8010-00-118-0858	1	30117
8010-00-151-9990	2	23531
8010-00-166-3147	1	37038
8010-00-166-3150	1	31136
8010-00-166-3151	1	31136
8010-00-166-3152	1	37875
8010-00-166-3155	1	34092
8010-00-166-3158	1	33538
8010-00-190-3360	1	34088
8010-00-243-9767	1	36440
8010-00-515-1568	1	36231
8010-00-524-9766	1	34300
8010-00-527-2495	1	34151

8010-00-530-5326	1	37875
8010-00-584-4209	1	37875
8010-00-663-9434	2	27038
8010-00-664-1913	1	33538
8010-00-664-1914	1	36231
8010-00-664-5413	1	37875
8010-00-664-6155	1	34088
8010-00-664-7651	1	37038
8010-00-680-2810	2	27038
8010-00-702-1053	1	33538
8010-01-326-9697	1	30318
8010-01-326-9699	1	36555

7.5.6 **Key Word.** Lacquer, synthetic

Custodians:  
Army AV  
Navy SH  
Air Force 99

Preparing Activity:  
GSA-FSS

**FSC 8010**