

Inch-Pounds

A-A-59383

22 February 2006

COMMERCIAL ITEM DESCRIPTION
MARKING MEDIA, OPAQUE
(POROUS AND NON-POROUS SURFACES)

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

1. SCOPE

This Commercial Item Description covers the marking of a variety of product containers using various type of marking media and application methods on porous and non-porous surfaces.

2. SALIENT CHARACTERISTICS

2.1 Material. The material for making markings shall be an ink or paint, and may be of any type, such as solvent thinned, solventless aerosol dispensed, carrier supported, hot melt applications, brush, roller, spray, mimeo, machine application, or electrostatic application which shall comply with the requirements of this specification.

2.2 Application. The markings shall be applied on clean, dry surfaces that shall be free of dirt, oil, grease, water, corrosion, or other foreign matter. For verification purposes either the actual package being marked or a test sample of the same material to be marked shall be used to validate the salient characteristics of the marking media.

2.3 Color. The color of the markings shall be as specified in the product drawing or product packaging & marking drawing. (Also, see 6.2)

2.4 Condition and appearance. Markings shall be in their fully dried, cured or set condition at the time the marked item is presented for acceptance by the Government. Markings shall be smooth, uniform, unsmeared in appearance and free of conspicuously ragged edges; i.e., no color extending more than 1/64 inch from the edges of the marking. There shall be no bleeding of color markings or substrate to the extent that it causes a mottled or streaky appearance. Markings shall show no lifting, wrinkling, or other visible effect on the substrate surface.

2.5 Toughness. Markings shall not powder or flake, nor shall the cut edge show the jaggedness characteristic of brittle films when tested by a knife blade. The markings shall be tested by knife blade in accordance with Method 6304 of FED-STD-141, and observed for tendency to powder or flake, or yield a jagged cut. Evidence of a jagged cut, flaking, or powder shall be classified as a failure.

2.6 Resistance to Water. The markings shall be legible, retain their characteristic color, not smear upon vigorous rubbing, nor blister, crack or peel. The marked area shall be immersed in distilled water at room temperature, or slightly above (70° to 90° F) for 4 hours. If immersion is not feasible, the marked area will be kept completely wet for the same time and at the same temperature by dripping wet cloths or sponges. After removal from the water (or out from under the cloths or sponges), the marked area shall be air-dried for 1 hour. The markings shall then be visually examined for legibility, color change, blistering cracking, or peeling.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any other data that may improve this document should be sent to Commander U.S. Army ARDEC, ATTN: AMSRD-AAR-AIS-SS, Picatinny Arsenal, New Jersey 07806-5000. Since contact information can change, you may want to verify using the currency of this address information using the ASSIST Online database at <http://assist.daps.dla.mil>

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2.7 Resistance to Smearing. Markings shall not smear when tested. Rub the markings vigorously for ten strokes with approximately 80 by 80 weave cotton sheeting and examine the markings for smearing. Markings shall be examined visually for evidence of smearing.

2.8 Resistance to Gasoline (non-porous surfaces only). Markings shall remain clear and sharp without streaking or blurring and shall visibly show no appreciable color difference. The markings shall be wetted alternately with gasoline conforming to ASTM-D4814 and distilled water, five times for each liquid, allowing for complete drying before applying the next wetting. After 24 hours the alternately wetted markings shall be visually compared to a set of untreated markings for changes in clarity, sharpness, color, and appearance of blurring and streaking. Evidence of any visible changes in the above listed characteristics shall be evidence of failure.

2.9 Resistance to Weathering. Markings shall show no cracking, checking, flaking, and no more than a visually detectable sight change in color when tested. A portion of the marked product area or the marked test area of identical material shall be exposed to accelerated weathering in accordance with ASTM-D822 for 100 hours. The test specimen may be a separately prepared panel that is the same material as the end item package area to be marked, and shall have the same markings applied by the same method as the markings on the end item. After completion of the 100 hours exposure the markings shall be examined for cracking, checking, flaking, and change of color using an unexposed marked specimen as a reference. Evidence of any changes in the above listed characteristics shall be classified as a failure.

2.10 Other Properties. Other properties shall be as specified in the end item packout contract or the marking medium supply contract (Also, see 6.2).

2.11 Sampling. Test sample sizes shall be in accordance with Table I below. The test shall be conducted by taking a sample from the batch of the marking media and applying it either to (i) actual parts to be marked or to (ii) test samples made out of the same materials used for the end item to be marked.

2.12 Marking Media Lot Formation. An inspection lot of marking media undergoing test/verification of its salient characteristics shall consist of one or more batches of homogeneous marking media, produced by one manufacturer to the same specification under one set of operating conditions and processes.

2.13 Examination and Testing. Each marking inspection lot shall be subjected to the conformance inspection listed in Table I.

2.14 Color. The markings shall be visually examined to verify that the color of the markings are as specified in the end item packaging and marking drawing, or as otherwise specified.

2.15 Drying Opacity (Hiding Power). The contrast ratio shall be a minimum of 0.5 for marking on porous surfaces such as wood or styrofoam; and shall be a minimum of 0.9 for markings on non-porous surfaces such as metal or plastic. Testing shall be conducted using a commercial grade (OTC) optical reflectance scanner using ambient light within the visible spectrum.

TABLE I: Conformance Inspection

Examination or Test	Conformance Criteria		Reqmt Paragraph / Inspection Method
	Sample Size	Accept / Reject	
Condition and Appearance	32	0 1	2.4
Toughness	3	0 1	2.5
Resistance to Water	3	0 1	2.6
Resistance to Smearing	3	0 1	2.7
Resistance to Gasoline	3	0 1	2.8
Resistance to Weathering	3	0 1	2.9
Color	5	0 1	2.14
Drying Opacity	5	0 1	2.15

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3. REGULATORY REQUIREMENTS

3.1 Toxicity. The use of benzene, carbon-tetrachloride, or flourohydrocarbon solvent and any known carcinogens or known ODC-/VOC-containing substances is absolutely forbidden. Trace amounts (< 1ppb) of benzene derivatives present in commercial grades of acceptable aromatic compounds are permissible. Marking substances (media) shall contain no chlorinated or fluorocarbonic compounds or other hydrolysable compounds.

3.2 Labeling. Marking substance containers shall be labeled to comply with the “Federal Hazardous Substances Act Regulations” 16 CFR, Part 1500.

3.3 Material Safety Data Sheets. Safety data sheets shall be furnished in accordance with FED-STD-313 – Appendix B of which shows the pertinent government mailing addresses to which the MSDS are to be submitted.

4. PRODUCT CONFORMANCE

4.1 Contractor/Vendor Certification. The marking products provided shall meet all of the salient characteristics described in this commercial item description, shall conform to the media producer’s own drawings, specifications, and quality assurance practices, and shall be the same product offered for sale in the commercial marketplace. The Government reserves the right to require proof of such conformance.

5. PACKAGING.

5.1 Shipping and Handling. Preservation, packing, and marking shall be as specified in the contract or order.

6. NOTES

6.1 Source Documents. Issues of the following documents, in effect on the date of Invitation for Bid or Request for Proposal form a part of this document to the extent specified herein.

6.1.1 Federal Acquisition Regulations (FARs) may be obtained online at www.gpoaccess.gov/cfr/index.html and from the Superintendent of Documents, Government Printing Office, Washington, DC 20402.

6.1.2 Federal Standards and Specifications may be obtained from ASSIST on-line, <http://assist.daps.dla.mil>.

6.1.3 ASQ B1-B3 may be obtained online from <http://www.asq.org/> and from the American Society for Quality Control, PO Box 3005, 611 E. Wisconsin Avenue, Milwaukee, Wisconsin 53201-4606.

6.1.4 ASTM-D4814 and ASTM-D822 may be obtained online from <http://www.astm.org/> and from ASTM International, 100 Barr Harbor Drive, PO Box C700 West Conshohocken, PA, 19428

6.2 Ordering Information. The purchaser of marking materials/media should select the required options permitted herein, and include the following information in all procurement/ordering documents:

- A. Title, number (& revision #) and date of this commercial item description;
- B. Composition and color(s) of ink/markings media required;
- C. Size of container – and if necessary, shape or type;
- D. Arrangements for inspections and inspection facilities, if other than specified in the basic procurement;
- E. Packaging, packing and special marking – to include necessity, or not, of bar coding, also, if required, alternative applicator style/method, and, if required, palletization;
- F. MSD’s required by FED-STD-313 as a minimum – plus media peculiar MSD’s.

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6.3 Quality Control. Suppliers are reminded that they have an obligation to use traceable and auditable quality control (QC) techniques that exhibit control over their processes – such as Statistical Process Control (as defined in ASQ B1-B3) that systematically reduce process variations. Use of these QC techniques, and their objective results observable in product quality, shall be audited by the Government or the Prime Contractor to find evidence of their use which will demonstrate overall adequacy of measurement techniques and process controls. Consistent use of these QC techniques will ensure product quality levels at least equal to, if not greater than, those cited in applicable technical documents, or herein.

6.4 Superecession Data. Stencil ink types specified in CID A-A-208B (i.e., **Types I thru IV**) may continue to be used where necessary.

6.5 Opacity. Opacity is a measurement of how much light passes thru the material. Opacity is calculated from reflectance measurements of the tested material, first (i) with black backing and then (ii) with white backing. This ratio is the drying opacity measurement. It can be viewed as either a ratio (i.e., 0.0 to 1.0) or as a percentage (i.e., 0% to 100%). The formula for Opacity = [Reflectance of tested material with Black backing] divided by [Reflectance of tested material with White backing].

6.5 Key words.

Ammunition
Ink Jet
Marking
Packaging

Custodians
Army- AR
Navy- SA
Air Force- 99

Preparing Activity
Army- AR

(Project: 7510-2006-003)

Review activities:
Army - CE3, GL
Navy – AS, CG
Air Force – 03, 84
GSA- FSS

NOTE: The activities list above were interested in this document as of its publication date. Since organizations and responsibilities change, you should verify the currency of the information above using the ASSIST Online at <http://assist.daps.dla.mil>