

A-A-208A
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COMMERCIAL ITEM DESCRIPTION

INK, MARKING, STENCIL, OPAQUE
(POROUS AND NON-POROUS SURFACES)

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

This commercial item description covers four types of opaque stencil ink for marking porous and non-porous surfaces.

I. Salient characteristics.

The opaque stencil inks shall be of the following types, as specified:

Type I. Opaque stencil ink for use on non-porous surface.

Type II. A weather resistant, fast drying flat finish stencil ink for use on porous surfaces such as fiberboard cartons, wood crates and boxes, bales, sacks, burlap and similar surfaces.

Type III. A weather resistant, fast drying flat finish, for marking both porous and non-porous surfaces. Furnished in a pressurized container.

Type IV. For use on porous or non-porous surfaces (stencil rollers).

Pigment. The stencil inks shall be made from any pigmentation which will meet the requirements of this commercial item description.

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Vehicle. The vehicle shall be such as to produce a stencil ink conforming to the requirements of this commercial item description.

Effect on applicators. The stencil inks shall contain no ingredients which have a deleterious effect upon the brush, roller, or spray can used in its application. Inks shall not react with nor be reacted upon by the interior surfaces of the spray can or any of the spray can components.

Workmanship. The stencil inks shall be in a homogeneous state and free from foreign matter and shall conform to the levels of quality established herein. The containers (cans, bottles, tubes) shall be in accordance with the manufacturers best commercial practice and shall have no defects that affect serviceability or appearance. The required labeling information shall be printed legibly directly on the container or on a label. If printed on a label, the label shall be neatly, securely and permanently affixed around the circumference of each container.

II. Additional Salient characteristics for Type III (aerosol), only.

Propellant. The propellant shall be environmentally safe.

Container. See section VII under "Unit Packaging".

Dispensing valve. The valve shall have a spray head which can be removed without releasing pressure from the aerosol. The removable spray head shall contain an orifice of such dimensions to produce desirable spraying properties.

Agitator. Each dispenser of the pigmented material shall contain one or more agitators in accordance with the manufacturer's commercial standard practice.

Cover cap. A full cover cap is required and shall visually match the color of the ink in the can. (See section VII under "Unit Packaging".)

III. Regulatory requirements.

The offeror/contractor is encouraged to use recovered materials in accordance with Public Law 94-580 to the maximum extant practicable.

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IV. Test requirements.

A. Drying opacity (hiding power). The dried films of the types I, II, and IV stencil inks, applied at a wet-film thickness of 0.002 inch. The type III ink shall be sprayed to a dry film thickness of 0.001 inch. All types shall show the minimum contrast ratios indicated for the respective colors listed in table I, when tested in accordance with ASTM D 2805.

Table I. Color and contrast ratios

Color 1/	Minimum contrast ratios
White (No. 37875)	0.90
Black (No. 37038)	1.00
Gray (No. 36231)	1.00
Red (No. 31136)	0.80
Yellow (No. 33538)	0.90
Green (No. 34108)	1.00
Blue (Dark) (No. 35044)	1.00
Blue (Light) (No. 35109)	0.95
Orange (No. 32246)	0.95
Maroon (No. 30111)	1.00
Brown (No. 30117)	1.00
Brown (No. 30140)	1.00
Red (No. 31158)	1.00

1/ The numbers in parenthesis following color names are identified in FED-STD-595.

B. Color (For All Types). The color of the stencil inks shall be a general match to the specified color in table I as determined by visual inspection under illumination in accordance with ASTM D 1729. The sample for the test shall be prepared in the following manner: Apply a film of the sample ink at complete hiding to a non-porous panel and allow to dry completely. If the visual inspection described above proves inconclusive, the color shall be inspected in accordance with ASTM D 2244, and a color variance of ΔE 1.75 maximum, will be considered acceptable.

C. Gloss. For types I, III, and IV stencil ink shall be tested on an absorbent surface and, for type II gloss shall be tested on fiberboard with a maximum gloss reading of 10 being acceptable as tested in accordance with ASTM D 523.

D. Solids. The solids for type III shall be a minimum of 54 grams by weight of the filled aerosol container except black shall have a minimum of 45 grams in a nominal one pint container as tested in accordance with ASTM D 2369.

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E. Stenciling. The stenciling tests below shall be performed upon the inks under two conditions: as manufactured; and, after storing in an oven for 14 days at 120 degrees F.

The applicators for the tests shall be as follows:

- For type I and II ink, a stencil brush;
- For type III ink, a pressurized spray can;
- For type IV, a stencil roller.

In all cases the stencilboard with five letters approximately 3/4 inch high shall be used and the ink shall be stenciled on enameled 3 x 6 inch (20 gage) steel panels for types I, III, IV and, on 3 x 6 inch solid fiberboard panels for types II, III, and IV for the following tests:

1. Resistance to rubbing. Stenciling shall present legible characters of uniform boldness and general appearance and the ink shall not smear 15 minutes after application at 23° C +/- 1.1° C (73.5° F +/- 2° F) when rubbed lightly with fingers.

2. Resistance to water. One hour after stenciling, as described above, place the steel or fiberboard panels, as applicable, in distilled water at 21° C (70° F) for 4 hours. Remove from the water and air-dry for 1 hour. The stenciled lettering shall be legible, retain its characteristic color, not smear with vigorous rubbing with fingers, nor crack or peel.

3. Resistance to gasoline (types I, III, and IV, only). One hour after stenciling, as described above, immerse one of the steel panels in regular grade automotive gasoline and distilled water, for five seconds in each liquid, followed by complete evaporation after each wetting. Repeat this cycle five times. Twenty-four hours later, examine for any deleterious effects such as loss of clarity and sharpness, streaking, blurring, and any appreciable color change.

4. Resistance to light and water spray. Types I, III, and IV, only. Apply ink to enameled steel panels to a wet film thickness of 0.003 inch. Allow the ink to air dry at 23 +/- 1.1 degrees centigrade and a relative humidity of 50 percent for 24 hours. Then expose coated panels in the apparatus described in ASTM G 23 for 100 hours. Examine inked letters for cracking, flaking, eroding, change of color, and legibility.

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5. Types II, III, and IV, only. Apply ink to 3 x 6 x 7/16 inch Western Red Cedar panels using a stencil board with five letters about 3/4 inch high. Use same test procedure, as described above, for types I, III, and IV ink. Examine inked letters for cracking, flaking, eroding, change of color, and legibility.

6. Effect on brass (types I, II, and IV, only). Apply a liberal coat of ink to a 2 x 2 inch brass panel which has been brightly polished and cleaned with solvent. Allow the ink to remain on the panel for 48 hours at $23^{\circ}\text{C} + 1.1^{\circ}\text{C}$ ($73.5^{\circ} + 2^{\circ}\text{F}$) and relative humidity of 50 ± 4 percent. Completely remove the ink by immersing the coated panel in a suitable paint remover or solvent. Examine the metal for etching, corrosion, staining, and discoloration.

V. Hazardous Material requirements.

Toxicity. The use of straight benzene is prohibited. Trace amounts of benzene derivatives present in commercial grades of acceptable aromatics are permissible. Inks shall contain no chlorinated compounds or other toxic hydrolyzable chlorine derivatives. Use of any toxic substance must be in accordance with all applicable federal statutes. The use of any known carcinogens as ingredients is prohibited.

Labeling. Stencil ink containers shall be labeled to comply with the "Federal Hazardous Substances Act Regulations", 16 Code of Federal Regulations, Part 1500

Material safety data sheets. Safety data shall be furnished in accordance with FED-STD-313. The pertinent government mailing addresses for submission of data are listed in appendix B of FED-STD-313. Unless indicated otherwise, and in addition to any other required distribution, a copy of the Material Safety Data Sheet (MSDS) shall be provided prior to the first shipment and prior to the shipment of material whose formulation or known hazards have changed, to the applicable government mailing address.

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VI. Quality assurance requirements.

Responsibility for inspection. Unless otherwise specified in the contract or purchase order (see Ordering information), the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

Lot definition. Each lot of ink shall be inspected for conformance to the requirements herein. Inspection shall be in accordance with MIL-STD-105 using the sampling plans specified below. The lot shall be expressed in ink-filled unit containers of the same capacity manufactured from the same concentrate, at essentially the same time.

Visual and Dimensional Characteristics. Inspection Level II with an Acceptable Quality Level (AQL) of 4.0 percent defective. The sample unit shall be one container of ink.

Tests. Inspection Level S-2 with an AQL of 4.0 percent defective, for each test. The sample unit shall be one unit container of ink.

Packaging, Packing, and Marking. Inspection Level S-2 with an AQL of 4.0 percent defective. The sample unit shall be one fully prepared shipping container.

VII. Preparation for delivery.

Packaging, packing, and marking. Packaging, packing, and marking shall be as indicated below, unless specified otherwise in the contract or purchase order (see ordering information).

Packaging. The inks shall be packaged in accordance with normal commercial practice and packed in fiberboard boxes that will assure acceptance by common carrier and provide product protection against loss and damage during multiple shipments, handling, and storage. The quantities per unit, intermediate, and shipping containers shall be as indicated below.

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Unit packaging.

For Type I. The ink shall be furnished in one pint quantities in rectangular compound lined, double seamed end cans with screw cap closure of the type normally used for this product, providing that there will be no interaction chemically or physically with the contents so as to damage the container or alter the strength, quality or purity of the contents. Each can shall be provided with inner friction metal seals which shall be rolled or tapped firmly into the screw neck and shall not damage the liner pad or facing. The screw caps shall be secured by mechanical means or by can wrenches to insure that the contents will not spill or leak from the container during shipment, handling, storage and redistribution.

For type II. The ink shall be furnished in one pint, one quart or one gallon quantities (see ordering information) in rectangular compound lined, double seamed end cans with screw cap closure of the type normally used for this product, providing that there will be no interaction chemically or physically with the contents so as to damage the container or alter the strength, quality or purity of the contents. Quart or gallon cans shall be provided with a formed bridge type handle or a wire handle secured to the top in accordance with normal commercial practice. The filled cans shall be provided with inner friction metal seals which shall be rolled or tapped firmly into the screw neck and shall not damage the liner pad or facing. The screw caps shall be secured by mechanical means or by cap wrenches to insure that the contents shall not spill or leak from the container during shipment, handling, storage and redistribution.

For Type III. The ink shall be furnished in a round container, compound lined, double seamed end cans with pressure activated spray orifice type dispensers of the type normally used for this product, providing that there will be no interaction chemically or physically with the contents so as to damage the container or alter the strength, quality or purity of the contents. Each can shall be provided with a removable and replaceable plastic or metal cap to protect the dispenser in accordance with normal commercial practice. The filled cans shall be closed in a manner that will insure that the contents shall not spill or leak from the container during shipment, handling, storage and redistribution.

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For Type IV. The ink shall be furnished in a tube dispenser of the type normally used for this product, providing that there will be no interaction chemically or physically with the contents so as to damage the container or alter the strength, quality or purity of the contents. Each tube shall be provided with a removable and replaceable plastic or metal cap to protect the dispenser in accordance with normal commercial practice. The filled tubes shall be closed in a manner that will insure that the contents shall not leak from the container during shipment, handling, storage and redistribution.

Packing.

For gallon containers. Four (4) cans of ink packaged as specified above shall be packed in a close-fitting fiberboard box.

For Pint or Quart containers. Twelve (12) cans of ink packaged as specified above shall be packed in a close-fitting fiberboard box.

For tubes. Twelve (12) tubes of ink shall be packed in a close-fitting fiberboard box.

The completed packs. The complete pack shall be in compliance with Rule 41 of the Uniform Freight Classification and Item 222 of the National Motor Freight Classification. Closure of the boxes shall be in accordance with Section 7 of Rule 41 of the Uniform Freight Classification. The boxes shall be fitted with full height partitions, or other suitable means to insure that the cans are not damaged during shipment, handling, storage and redistribution.

Marking.

Civil agencies. In addition to any special marking required by the contract or order, interior packages and exterior shipping containers shall be marked in accordance with FED-STD-123. Bar code marking is required, unless specified otherwise (See ordering information).

Military activities. In addition to any special marking required by the contract or order, interior packages and exterior shipping containers shall be marked in accordance with MIL-STD-129. Bar code marking is required, unless specified otherwise (See ordering information)

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Additional marking. The shipping containers shall include the date of manufacture and the date of reinspection (12 months after the date of manufacture) and shall include any precautionary marking required by the National Motor Freight Classification, Uniform Freight Classification, US Postal Service and Department of Transportation regulations.

VIII.Applicable documents.

The following documents, of the issues in effect on the date of invitation for bids or request for proposal, (unless otherwise stated) form a part of this document to the extent specified herein.

Federal Regulations:

Code of Federal Regulations and Federal Acquisition Regulations are for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

16 CFR Part 1500 - Federal Hazardous Substances Labeling Act.

Federal Acquisition Regulations - Section 23.403

National Motor Freight Traffic Association, Inc., Agent:

National Motor Freight Classification - Item 222

Application for copies should be addressed to the American Trucking Associations, Inc., Tariff Order Section, 1616 P Street, N.W. Washington, D.C.

Uniform Classification Committee, Agent:

Uniform Freight Classification - Rule 41

Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, Illinois 60606.

American Society for Testing Materials (ASTM):

ASTM standards are available from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

D 523 Standard Test Method for Specular Gloss. DoD Adopted.

D 562 Standard Test Method for Consistency of Paints using the Stormer Viscometer DoD Adopted.

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- D 1729** Practice for Visual Evaluation of Color Differences of Opaque Materials. DoD Adopted.
- D 2244** Method for Calculation of Color differences from Instrumentally Measured Color Coordinates. DoD Adopted.
- D 2369** Standard Test Method for Volatile Content of Coatings.
- D 2805** Test Method for Hiding Power of Paints by Reflectometry.
- G-23** Standard Practice of Operating Light Exposure Apparatus (Carbon Arc Type) With and Without Water for Exposure of Nonmetallic Materials.

Federal Standards and Specifications:

Federal standards and specifications are available from GSA Business Service Centers and Specification and Consumer Information Distribution Section, Building 197, Washington Navy Yard, Washington DC 20407.

Single copies of this specification and other specifications required by activities outside the Federal Government for budding purposes are available without charge from Business Service Centers at the General Services Regional Offices in Boston, New York, Washington, D.C., Atlanta, Chicago, Kansas City, Mo., Fort Worth, Denver, San Francisco, Los Angeles, and Auburn, Washington.

FED-STD-123 Marking for Domestic Shipment (Civil Agencies)

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

FED-STD-595 Colors

Military Standards:

Military Standards are available from the Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

MIL-STD-105 Sampling Procedures and Tables for Inspection by Attributes.

MIL-STD-129 Marking for Shipment and Storage.

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IX. Notes.

Ordering information. Purchasers should select the preferred options permitted herein, and include the following information in procurement documents:

- (a) Title, number, and date of this commercial item description.
- (b) Purchasers should specify the type and color of ink.
- (c) Purchasers should specify the size of container.
- (d) Purchasers should specify arrangement for inspection and inspection facilities, if other than specified (see tests and quality assurance requirements.)
- (e) Purchasers should specify packaging and packing, any special marking for shipment required, if other than specified (see preparation for delivery).
- (f) Identification marking, if other than above.
- (g) If bar code marking is not required.
- (h) Special marking requirements.
- (i) MSDS's required, in addition to those required by FED-STD-313.
- (j) Purchasers should specify palletization , if required.

MILITARY INTERESTS:**Custodians:**

Army - GL

Navy - SA

Air Force - 99

Review Activities:

Air Force - 84

Army - AR, MD, SM

DLA - SS

DOD - DS

User Activity

Navy - MC

Preparing Activity:

GSA-FSS