

[INCH-POUND]

Fed. Std. No. 123F  
May 15, 1991  
SUPERSEDING  
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February 25, 1986

FEDERAL STANDARD  
MARKING FOR SHIPMENT (CIVIL AGENCIES)

This standard was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal Agencies.

1. PURPOSE. The purpose of this standard is to provide uniform markings on unit, intermediate, and shipping containers for the following shipments:
  - (a) From a contractor or supplier to a civil agency activity.
  - (b) On any other shipment, when specified.
2. SCOPE. The requirements established herein provide for marking unit, intermediate, and shipping containers, and palletized or unitized loads. Requirements for bar code marking in accordance with MIL-STD-1189 (when specified) are also included.
3. APPLICATION. Civil agencies shall reference this standard in the preparation of commodity specifications, purchase descriptions, purchase or delivery orders, contracts and other purchase documents to insure inclusion of complete marking requirements and clear instructions to contractors for application of markings. Agencies shall select those requirements which are applicable to the commodity purchased and which insure complete item identification and shipping container marking for safe delivery to destination.
4. APPLICABLE DOCUMENTS. The following documents, of the issue in effect on the date of invitation for bids or request for proposal, form a part of this standard to the extent specified herein.

Code of Federal Regulations (CFR)

Title 10 - Energy: Chapter I - Nuclear Regulatory Commission; Part 71, Packaging and transportation of radioactive material.

Title 16 - Commercial Practices: Chapter II - Consumer Product Safety Commission; Sub-chapter C - Federal Hazardous Substances Act Regulations; Parts 1500 and 1505.

Title 21 - Food and Drugs: Chapter I - Food and Drug Administration, Department of Health and Human Services; Part 1, General enforcement regulations; Part 201, Labeling; Part 1302, Labeling and packaging requirements for controlled substances.

FSC PACK

Fed. Std. No. 123F

Title 29 - Labor: Chapter XVII - Occupational Safety and Health Administration, Department of Labor: Subpart Z - Toxic and Hazardous Substances: Part 1910.1200, Hazard communication.

Title 39 - Postal Services: Chapter I - United States Postal Service; Sub-chapter C - Domestic Mail Services; Parts 121 - 126.

Title 40 - Protection of Environment: Chapter I - Environmental Protection Agency; Sub-chapter E - Pesticide Program; Part 156, Labeling requirements for pesticides and devices; Part 157, Packaging requirements for pesticides and devices.

Title 46 - Shipping: Chapter I - Coast Guard, Department of Transportation; Subpart N - Dangerous Cargos; Part 146, Transportation or storage of military explosives aboard vessels; Part 147, Hazardous ships' stores.

Title 49 - Transportation: Chapter I - Research and Special Programs Administration, Department of Transportation Sub-chapter C - Hazardous Materials Regulations; Parts 171-179.

(Application for copies should be addressed to the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

#### Military Standard

MIL-STD-1189 - Standard Department of Defense Bar Code Symbology

Copies of Military standards may be obtained from:

Military Specifications and Standards, Bldg. 4D  
700 Robbins Avenue  
Philadelphia, Pennsylvania 19111-5094

#### International Requirements

International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air.

International Maritime Organization (IMO) International Maritime Dangerous Goods Code.

(Copies available from commercial book sellers)

International Organization for Standardization ISO 780, Packaging - Pictorial marking for handling of goods.

(Application for copies should be addressed to American National Standards Institute, 1430 Broadway, New York, New York 10018).

## 5. REQUIREMENTS

**5.1 Materials and Methods.** Markings shall be clear, legible, durable, and non-fading. Markings shall be typed, or printed in characters as specified in 5.2.1. Hand lettering and numbering shall not be used for marking which remains constant throughout the contract unless authorized by the ordering activity. Hand lettering and numbering is permitted for those markings which could change, such as order number, package or piece number, total packages or pieces, size, date packed, lot number, weight, etc.

**5.1.1 Direct Marking.** When the required marking is applied directly to the container, it shall be done using a quick drying permanent waterproof ink or paint of the type normally used for this purpose, providing that it will withstand normal abrasion. The color of the markings shall be black except when applied to surfaces on which black is not legible, in which case the marking color shall be one that provides definite contrast with the surface being marked. Color of markings shall conform to the CFR (see Section 4) when applicable.

**5.1.2 Labels.** Typed or printed labels containing the required information in the proper sequence are acceptable for use on unit and intermediate containers. Printed shipping container labels are acceptable when applied with a waterproof adhesive. When specified, or when level A packing is specified, shipping container labels shall be over-coated with a transparent, water-repellent material. All labels shall be completely and securely adhered to their containers. Any container which is re-labeled shall have the preceding label removed or obliterated in accordance with Section 5.4. If it is necessary to use more than one label to mark the standard markings on the container, then the labels shall be located so as to allow the information to be read in the prescribed order. Printed form labels with blank spaces positioned to allow transitory information to be placed next to the category title, (i.e. No. of pieces \_\_\_\_, Lot no. \_\_\_\_, PROJ. \_\_\_\_, PRI. \_\_\_\_, and RDD, \_\_\_\_) may be used.

**5.1.3 Tags.** The marking for items not overpacked or crated, and which cannot be printed or labeled, shall be applied to tags. The tags shall be made of weather-resistant paper, cloth or other durable material, and shall be fastened to the item with a weather-resistant grade of wire, twine, or tape in a manner secure enough to withstand repeated handling. The wire, twine or tape shall be applied in a manner that will not damage the item.

## 5.2 Marking.

**5.2.1 Size of markings.** Shipping containers shall be marked with characters and figures not less than 10 mm (3/8 inch) in height. Where space does not permit this, characters and figures proportionately smaller in size shall be used. Unit and intermediate containers shall be marked with characters and figures not less than 2 mm (3/32 inch) in height. Where space does not permit this, characters and figures proportionately smaller in size shall be used. All marking shall be legible without magnification. Larger marking shall be used when required by the CFR (see Section 4).

Fed. Std. No. 123F

5.2.2 Standard markings. Unit, intermediate and shipping containers shall be marked with the applicable information in English, as required by the following sub-paragraphs, unless otherwise specified by the ordering activity. NOTE: Not all of the items of information in 5.2.2.1 thru 5.2.2.3 are applicable to all items of supply (e.g. only hazardous items require hazardous marking, labeling, etc).

5.2.2.1 Unit containers. Unit containers, including bags, rolls, reels, coils, bundles, etc. shall be marked with the following information, arranged in the order shown and located in accordance with 5.3.1:

- (a) National Stock Number (NSN).
- (b) Item name.
- (c) Specification data. Purchase specification number and classification of the item under the specification: type, class, style, size, color, etc. (as applicable). The purchase specification is the technical product description referenced in the contract (Federal specification, military specification, commercial item description, ASTM or ANSI standard, etc.) (e.g. OO-J-571E, Type I, Class B, Size 6.)
- (d) Formula number. Applicable to Federal Supply Group (FSG) 80 coatings, when a formula number is identified in the specification.
- (e) Qualified Products List data. Qualified Products List (QPL) or qualification reference number for the item.
- (f) Quantity and unit (e.g. each, roll, gallon, pound, liter, etc.).
- (g) Contractor's name and address.
- (h) Name and address of shipping point. If different from Section 5.2.2.1 (g), this marking is applicable only to National Institute for the Blind (NIB), Federal Prison Industries (FPI), and National Institute for the Severely Handicapped (NISH).
- (i) Hazardous material marking. Labeling and marking required by the Code of Federal Regulations (CFR) (see Section 4 for applicable CFR).
- (j) Flash point. Liquids with a flash point of 93.3 degrees C (200 degrees F) or less shall be marked with the flash point, as determined by a test method approved by the U.S. Department of Transportation, Hazardous Materials Regulations Board (see 49 CFR 173). Flash Point marking shall be expressed in degrees Celsius followed with the corresponding degrees Fahrenheit in parentheses.
- (k) Propellant chemical name. The name of the propellant(s) shall be marked on all aerosol containers after the word "PROPELLANT(S)."
- (l) Special marking. Special marking required in the contract or purchase order (see 5.2.4).

5.2.2.2 Intermediate containers. Intermediate containers shall be marked with the following information, arranged in the order shown and located in accordance with 5.3.1:

- (a) National Stock Number.
- (b) Item name.
- (c) Specification data. See 5.2.2.1(c).
- (d) Formula number. See 5.2.2.1(d).

Fed. Std. No. 123F

- (e) Qualified Products List data. See 5.2.2.1(e).
- (f) Quantity and unit.
- (g) Contractor's name and address.
- (h) Name and address of shipping point. If different from Section 5.2.2.2
- (g).
  - (i) Hazardous material marking. See 5.2.2.1(i).
  - (j) Flash point. See 5.2.2.1(j).
  - (k) Propellant chemical name. All intermediate containers which contain aerosol containers shall be marked with the chemical name of the propellant(s) after the word "PROPELLANT(S)."
  - (l) Special marking. See 5.2.2.1(l).

5.2.2.3 Shipping containers. Shipping containers and material not shipped in containers shall be marked with the following information, arranged in the order shown and located in accordance with 5.3.2:

- (a) National Stock Number.
- (b) Item name.
- (c) Specification data. See 5.2.2.1(c).
- (d) Formula number. See 5.2.2.1(d).
- (e) Qualified products list data. See 5.2.2.1(e).
- (f) Quantity and unit (total number of units of purchase in the shipping containers).
- (g) Contractor's name and address.
- (h) Name and address of shipping point. If different from Section 5.2.2.3
- (g).
  - (i) Contract and purchase or delivery order number.
  - (j) Gross weight. The letters "WT" shall precede gross weight numerals. All weights shall be expressed to the nearest pound (e.g. WT 62).
  - (k) Cube. The letters "CU" shall precede the cube (cubic displacement) numerals. The cube shall be given in cubic feet expressed decimally to the nearest tenth of a cubic foot (e.g. CU 2.0).
  - (l) Hazardous material marking. Hazardous materials shall be marked and labeled as required by the regulations referenced in Section 4, as well as any other applicable laws and regulations. In addition, the following requirements shall apply:
    - (1) Each shipping container shall be labeled and marked regardless of the initial mode of transportation, quantity shipped, or location of first destination.
    - (2) The shipping name required on the container shall be preceded by the caption "DOT ARTICLE" or "DOT PROPER SHIPPING NAME".
    - (3) If a warning label is required and the container is eligible for air shipment, the shipment-by-air label shall be applied. The words "CARGO ONLY" shall be shown below or immediately following the proper shipping name on containers eligible for air shipment but not permitted on passenger carrying aircraft.
    - (4) Non-bulk combination packages having inner packagings containing liquid hazardous materials shall marked with orientation markings as specified by ISO 780 on two opposite vertical sides.



Fed. Std. No. 123F

(5) Food containers which have been treated to prevent insect infestation with formulations classed as economic poisons by the Environmental Protection Agency shall be identified with marking approved by that agency. The container must be registered and the label must also state that the container has been registered with the U.S. Department of Agriculture.

(6) Propellant chemical name. Shipping containers which are or contain aerosol containers shall have the chemical name of the propellant(s) marked immediately after the word "PROPELLANT(S)".

(7) Flash point. See S5.2.2.1(j).

(m) Set Marking. Required for single units when shipped in two or more containers. Each container forming a part of the unit or set shall be marked with the number of the unit, the number of the container relative to the number of containers comprising the unit, and a brief description of the contents (e.g. Tool Cabinet in 3 boxes, Box #2 - Intermediate box).

(n) Packing list. Containers having the packing list enclosed or attached and those containing a "short" pack shall be adequately identified by a colored band around both the length and the girth of the container. The band shall be of colored tape or may be applied with a colored felt-tip tube type marker.

(o) Center of balance and sling or lifting points. A 1-inch wide vertical line not less than 3 inches long locating the center of balance shall be extended up from the bottom edge of both sides of shipping containers over 10 feet in length. This line shall be identified by stenciling or printing, in 1-inch letters, the words "CENTER OF BALANCE" immediately above or along side the line. On unboxed equipment, the location of designated sling or lift points shall be marked in white.

On shipping containers and contents subject to damage from bending and twisting, the load bearing areas and lift point shall be marked with the words "LOAD BEARING AREA" on opposite panels of the container directly over the load bearing area. The words "FORKLIFT AREA" shall be placed directly over the forklift entry points of the skid and rubbing strip construction.

(p) Mixed freight marking. When shipping containers are packed with unlike items and where a full description of the contents is not authorized or cannot be shown on the container, separate packing lists shall be prepared as required for each box or container. One copy of the list shall be placed loose inside the container on top of the contents, A second copy shall be placed inside a water-resistant envelope and attached securely to the outside of the container in the most protected location.

(q) Outside dimensions. All unpalletized or nonunitized containers, bundles, etc. having any single dimension of 90 inches or over shall be marked with the dimensions, in the order of length, width and height. Dimensions shall be shown in inches to the nearest inch.

(r) Forwarder's name and address. When listed in the contract or purchase order.

(s) Name and address of consignee, including "Mark For" data. See 5.2.2.4 (c).

(t) Project Code (prefaced with PROJ.). When listed in the contract or purchase order. See 5.2.2.4 (c).

Fed. Std. No. 123F

- (u) Priority (prefaced with PRI.). When listed in the contract or purchase order.
- (v) Required delivery date (prefaced with RDD.). When listed in the contract or purchase order.
- (w) Requisition number. When listed in the contract or purchase order.
- (x) Package number. Required on "MIXED" containers and on shipments of single commodities when all containers comprising the shipment do not contain identical quantities (e.g. pkg. 1 of 20; pkg. 2 of 10). Containers having mixed contents shall be marked "MIXED" with a brief description of contents (e.g. MIXED TOOLS).
- (y) Special marking. See 5.2.2.1(1).

#### 5.2.2.4 Palletized and unitized loads.

(a) Homogeneous loads. Loads comprised of shipping containers all having equal quantities of the same item shall require no additional marking if the container marking can be read from two sides of the load. Where the container markings are obscured, the load shall be marked on two adjacent sides with the shipping container marking.

(b) Mixed loads. Mixed loads shall be marked on two adjacent sides with the following information in characters not less than 1-inch high: NSN's; quantity per NSN; total weight; total cube.

(c) Consignee and freight forwarder markings required for each shipping container may be omitted when full truckload/carload deliveries or deliveries in the vendor's own conveyance are made to GSA Federal Supply Service facilities, provided each palletized/unitized load has consignee or freight forwarder marking on two (2) adjacent sides of the load. Markings may be inside any transparent shrink or stretch wrap, if legible after wrapping.

(d) When indicated on the delivery order that items are intended for GSA Federal Supply Service facilities, marking (t) PROJ, (u) PRI and (v) RDD specified for shipping containers may be omitted for full truckload or carload deliveries, and deliveries in the vendor's own conveyance.

5.2.3 Bar code marking. When bar code marking is specified in the contract or order, the unit, intermediate and shipping containers shall be marked with the national stock number (NSN) using standard symbology conforming to MIL-STD-1189. The bar coded NSN shall consist of the basic 13 digit data characters. Prefixes and suffixes to stock numbers as well as spaces and dashes will not be bar coded. The manufacturers/part number shall not be bar coded. Bar code marking shall be located as illustrated in figures 11 thru 14 for unit and intermediate containers and as specified in 5.2.3.1 for shipping containers. When containers are too small to accommodate the bar code marking on the same surface as the other required marking, the bar code, including the human readable interpretation (HRI), shall be located on the most practicable adjacent surface. Containers too small to accommodate a high density bar code are exempt from this requirement. NOTE: For the purposes of bar code marking, the unit container is defined as the first tie, wrap, or container applied to a single item or group of items that form a single stock number.

Fed. Std. No. 123F

5.2.3.1 Location and configuration of bar code marking on shipping container.

When bar code marking is required, it shall be located above the NSN, on containers such as those illustrated by figures 2, 3, 5, 6, 7, 8, and 10, or the reverse side of tags, such as those shown in figures 1 and 9. On boxes made of wood, plywood or fiberboard, the bar code shall be located as shown in figure 4A, and as specified in paragraph 5.2.3.1.2.

5.2.3.1.1 Configuration. The bar code marking or label shall be in a "picket fence" configuration except on cylindrical containers measuring 5 inches or less in diameter, in which case the bar code shall be in the "ladder" configuration. The HRI (Human-Readable Interpretation) shall be located above, beside or below the bar coding as explained in MIL-STD-1189. Where it is not possible to label directly on the shipping container, such as with bales, coils, or pipe, then the tags required shall have the bar code and HRI marking on the reverse side of each tag used.

5.2.3.1.2 Fiberboard and wood shipping containers. As shown in figure 4A, when bar code markings or labels are required on wood, plywood or fiberboard boxes, they shall be applied to the identification side (or end) of the container and within the dimensions specified. On fiberboard shipping containers, either bar code labels or direct printing of the bar code on the container may be used. On wood or plywood containers, labels shall be used and shall be applied to an area made smooth by sanding or coating with light colored paint or other suitable material. When a Level A pack is specified, bar code labels shall be over-coated with transparent, water-repellent material, which will not affect the readability.

5.2.4 Special marking. Special markings are required when specified in contracts, purchase or delivery orders, purchase descriptions, specifications, or by the contracting officer. Unless otherwise specified they shall be located on the container as specified in 5.3. The following are some examples of special markings which may be specified:

- (a) Lot control number.
- (b) Date of pack or date of manufacture.
- (c) Expiration date.
- (d) Shelf-life marking.
- (e) Special handling instructions.
- (f) Instructions for use.
- (g) Critical End Use item.  
Type I Shelf Life.  
Manufactured (month and year).  
Expiration date.  
Store at \_\_\_\_\_ (degrees F.), dry and in the absence of direct light.
- (h) Critical End Use item.  
Type II Self Life.  
Manufactured (month and year).  
Expiration date.  
Store at \_\_\_\_\_ (degrees F.), dry and in the absent of direct light.



Fed. Std. No. 123F

## (i) Preferred Storage Items.

Type I Shelf Life.

Manufactured (month and year).

Expiration date.

Store at \_\_\_\_\_ (degrees F.), dry and in the absence of direct light.

(j) UN Markings. Each container shall be marked in accordance with the UN Recommendations as implemented in the ICAO, IMO, or DOT regulations. When different from the DOT number or DOT proper shipping name, the UN number or UN proper shipping name shall be marked below or beside its DOT counterpart, and be preceded by the letters "UN". The UN certification marking may be on one or more lines, but if more than one line is used, all but the last line must end at a point where a slash would normally appear. There shall be a clear area not less than 25mm (1 inch) wide around UN certification marking. Containers of liquids classed as flammable by ICAO or IMO shall be marked as flammable, not as combustible.

5.2.5 Commercial marking. Unless otherwise specified herein or in the contract or purchase or delivery order, commercial markings not interfering with the clarity or positioning of required markings on containers need not be obliterated.

5.3 Location of markings.

5.3.1 Unit and intermediate container. Markings required by 5.2.2.1 and 5.2.2.2 shall be applied to one end or one side of all unit and intermediate containers. If there is insufficient space on these panels for legible marking, adjacent panels or the top of the container may be used.

5.3.2 Shipping container. Unless otherwise specified, marking required by 5.2.2.3 and 5.2.3 shall be applied to shipping containers in the approximate locations indicated by the key letters A, B, and C on figure 1 through 10, as appropriate. At the discretion of the supplier, when the containers meet the description shown in figure 4, the required marking may be placed on one side and/or one end of the containers.

5.4 Obliteration of old marking. When necessary to remark original containers all markings not applicable to the shipment shall be obliterated except as indicated in 5.2.5.

5.5 Abbreviations. Abbreviations commonly used by industry shall be permitted. They shall be used only when their meanings are clear. When in doubt, spell it out.

6. CHANGES. When a Federal agency considers that this standard does not provide for its needs, a statement citing inadequacies shall be sent to the General Services Administration, Federal Supply Service, Washington, DC 20406. The Administration will determine the appropriate action to be taken and will notify the agency.

## Fed. Std. No. 123F

KEYS TO FIGURES 1 THROUGH 10. THESE FIGURES ILLUSTRATE THE APPROXIMATE LOCATION OF MARKING ON SHIPPING CONTAINERS (SEE 5.2.2.3, 5.2.3, 5.2.4 AND 5.3.2)

KEY LETTER	ITEM
A	NAME AND ADDRESS OF FORWARDER NAME AND ADDRESS OF CONSIGNEE PROJECT CODE (PROJ) PRIORITY (PRI) REQUIRED DELIVERY DATE (RDD) REQUISITION NUMBER PACKAGE NUMBER
B	STANDARD MARKING
C	SPECIAL MARKING

FIGURE 1

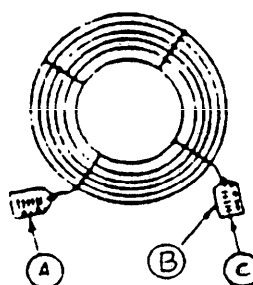


FIGURE 2

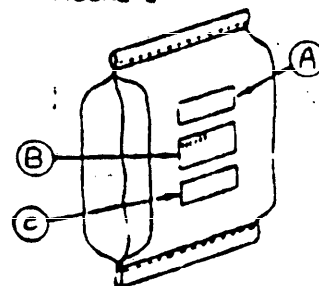


FIGURE 3

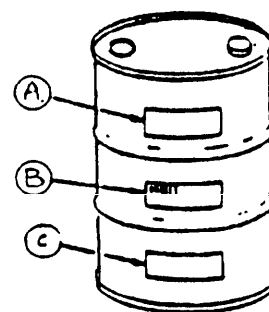


FIGURE 4

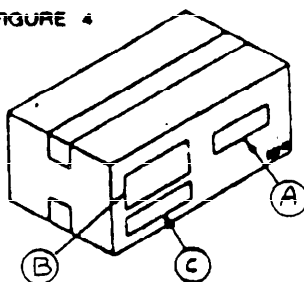


FIGURE 5

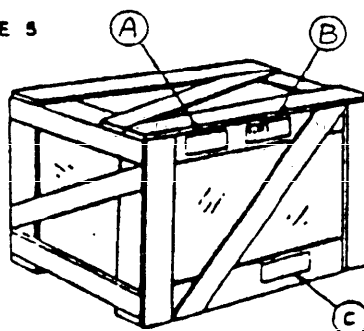


FIGURE 6

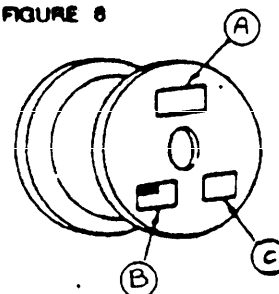


FIGURE 7

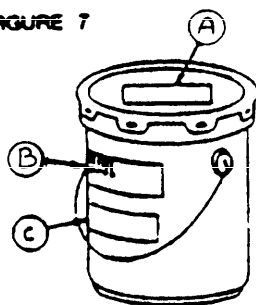


FIGURE 8

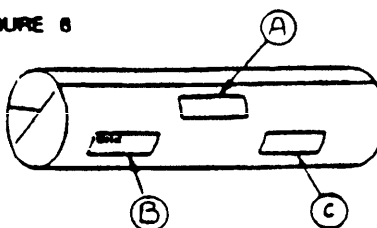


FIGURE 9

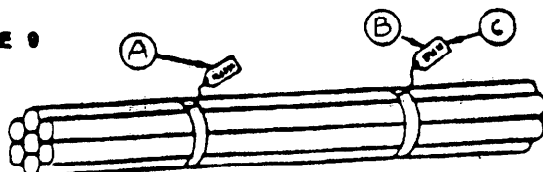
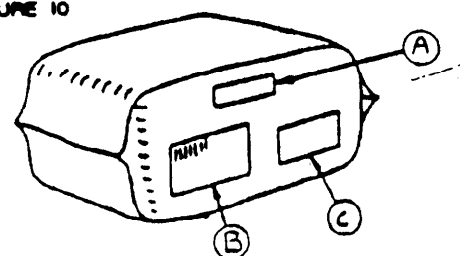


FIGURE 10



Fed. Std. No. 123F

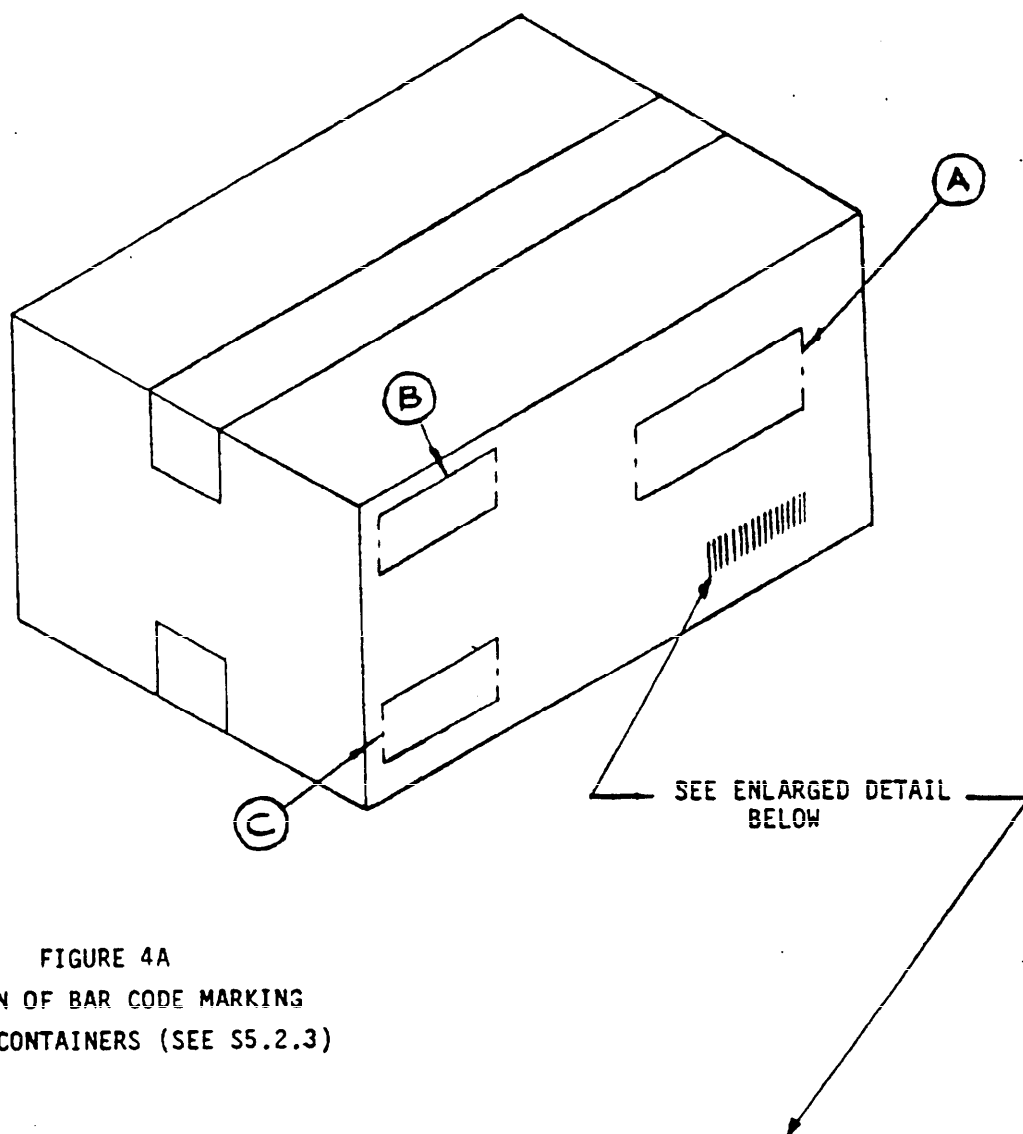
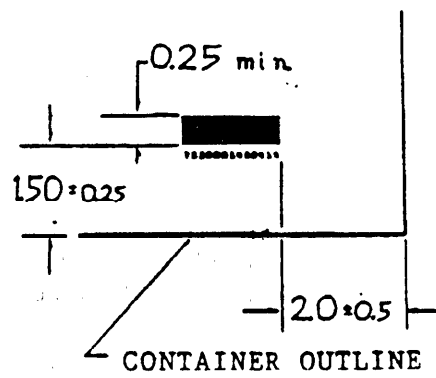
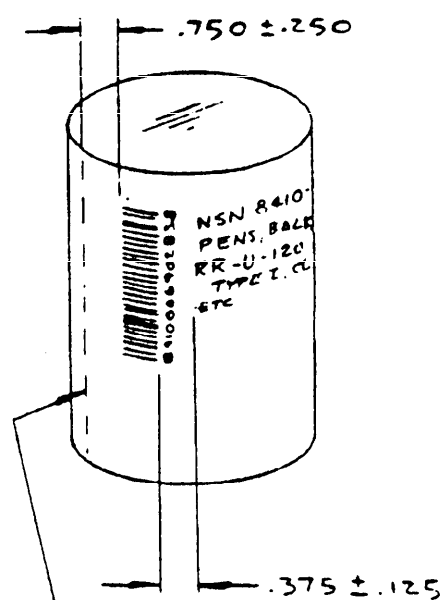


FIGURE 4A  
LOCATION OF BAR CODE MARKING  
EXTERIOR CONTAINERS (SEE S5.2.3)

NOTE: DIMENSIONS SHOWN  
ARE IN INCHES



Fed. Std. No. 123F



NOTE:  
DIMENSIONS SHOWN ARE IN INCHES

FIGURE 11

CYLINDRICAL CONTAINER -  
5 INCHES OR LESS IN DIA.  
(UNIT CONTAINER MARKING  
SHOWN).

OPTIONAL  
ALTERNATE LOCATION

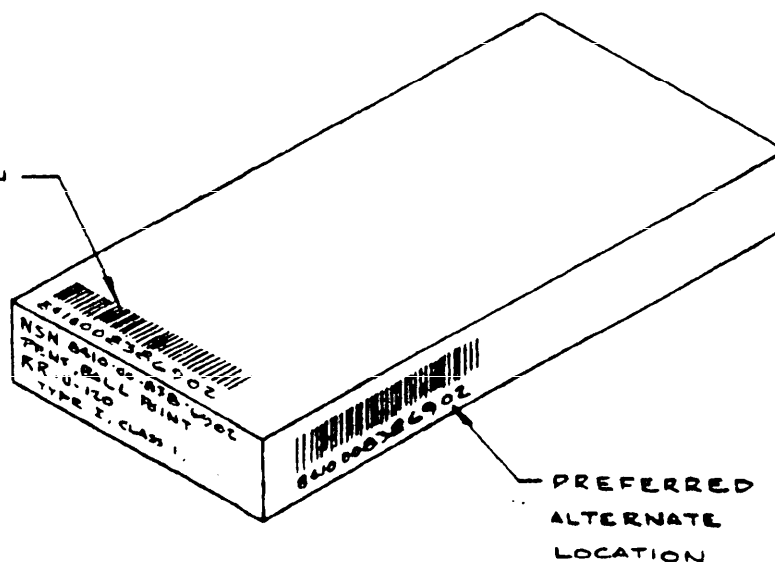


FIGURE 12

ALTERNATE LOCATIONS  
FOR BAR CODE MARKING  
ON SMALL CONTAINERS.

Fed. Std. No. 123F

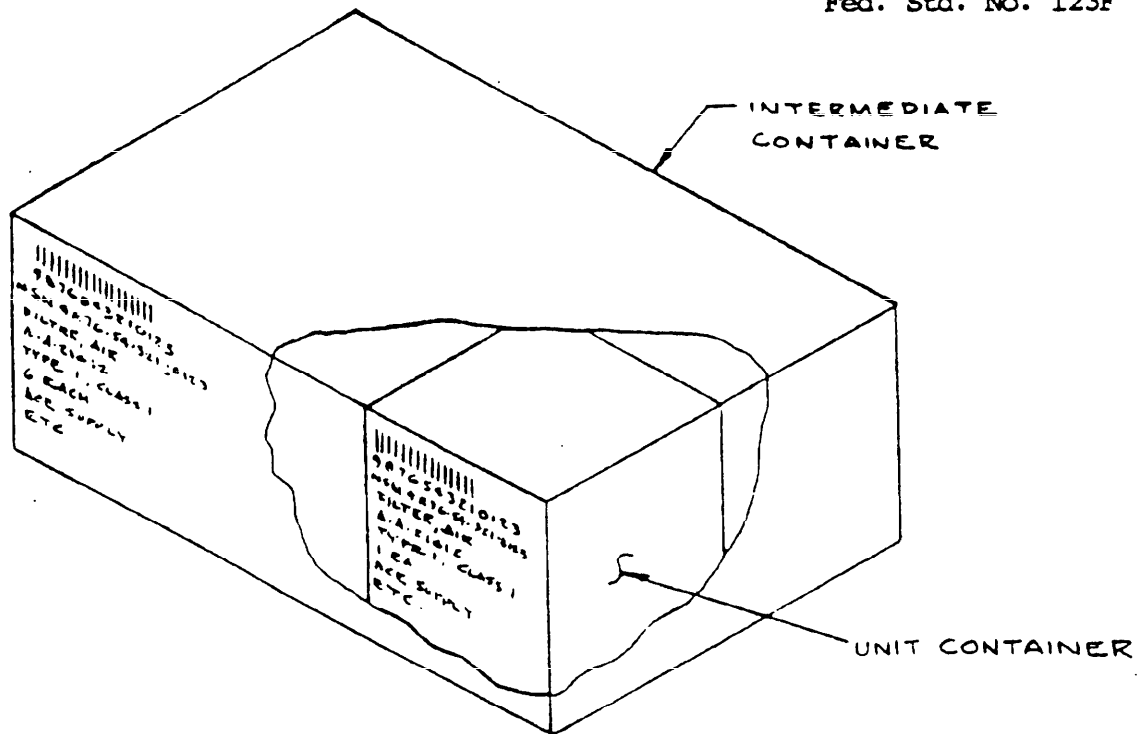


FIGURE 13

UNIT & INTERMEDIATE CONTAINER BAR CODE MARKING WHERE HRI IS LOCATED BELOW BAR CODE.

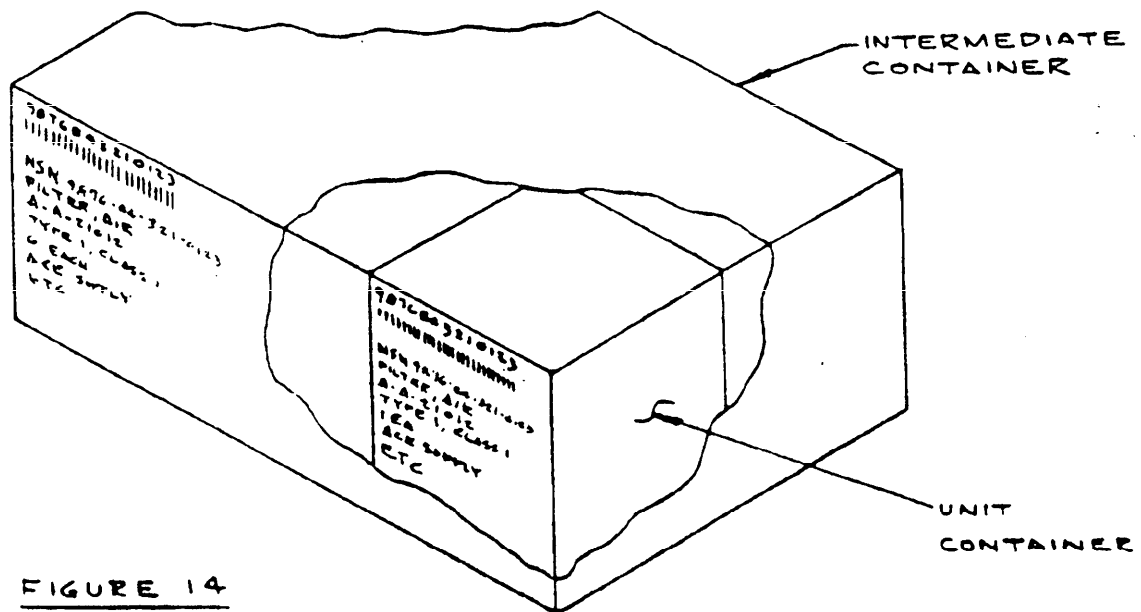


FIGURE 14

UNIT & INTERMEDIATE CONTAINER BAR CODE MARKING WHERE HRI IS LOCATED ABOVE BAR CODE.