INCH-POUND

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MILITARY STANDARD

MARKING FOR SHIPMENT AND STORAGE

AREA PACK

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FOREWORD

1. This military standard is approved for use by all Departments and Agencies of the Department of Defense.

2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Director, U.S. Army Materiel Command Packaging, Storage, and Containerization Center, ATTN: SDSTO-TE-S, Tobyhanna, PA 18466-5097, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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1. SCOPE

1.1 Purpose. This standard provides the requirements for the uniform marking of military supplies and equipment for shipment and storage. It accommodates the requirements for movement processing as specified in DOD 4000.25-1-M, Military Standard Requisitioning and Issue Procedures (MILSTRIP); DOD 4000.25-2-M, Military Standard Transaction Reporting and Accounting Procedures (MILSTRAP); and DOD 4500.32-R, Military Standard Transportation and Movement Procedures (MILSTAMP).

NOTE: All marking exceptions and exemptions to this standard must be specified in the acquisition document. Additional marking requirements, not specified in this standard, shall be included in the acquisition document.

1.2 Application. Unless exempted in whole or in part by paragraphs 4.12.1 through 4.12.9 herein, the marking of all supplies and equipment, including materiel shipped from storage, shall be as specified in this standard. As defined in ASTM D996, Standard Terminology of Packaging and Distribution Environments, marking is "the application of numbers, letters, labels, tags, symbols, or colors to provide identification and to expedite handling during shipment and storage."

1.3 English-metric conversion. In order to accommodate the requirements of DOD Directive 4120.18, Metric System of Measurement, two tables describing English-metric conversion applicable to this standard are provided. For convenience in calculation, metric equivalents are expressed to two decimal places (nearest hundredth), wherever practical.

TABLE I. Standard English-metric equivalents

Volume:

1 fluid ounce	=	29.57 milliliters
1 pint	=	0.47 liter
1 quart	=	0.95 liter
1 gallon	=	3.79 liters

Weight:

1 ounce (avoirdupois)	=	28.35 grams
1 pound (avoirdupois)	=	453.59 grams or 0.454 kilogram

TABLE I. Standard English-metric equivalents - Continued.

Length:

1 inch	=	2.54 centimeters
1 foot	=	30.48 centimeters or 0.305 meter
39.37 inches	=	1 meter (3.28 feet = 1 meter)

TABLE II. MIL-STD-129 English-metric conversions

Volume (Liquids):

Gallons	=	Liters
1		3.79
5		18.95
50		189.5
55		208.45

Weight:

Ounces	=	Grams
1		28.35
10		283.5

(1000 grams = 1 kilogram)

Volume (Solids):

Cubic feet	=	Cubic meter	Cubic feet	=	Cubic meters
1.0		0.03	6.0		0.18
1.2		0.036	6.5		0.195
1.3		0.039	8.4		0.25
2.0		0.06	9.0		0.27
2.5		0.075	10.0		0.30
3.0		0.09	12.0		0.36
4.1		0.123	30.0		0.90
4.7		0.141	60.0		1.80
5.3		0.16	66.5		1.995

Pounds	=	Kilograms	Pounds	=	Kilograms
1		0.45	100		45.4
2.2		1.0	125		56.75
10		4.54	144		65.37
11		4.99	150		68.10
50		22.7	200		90.80
52		23.61	500		227.0
65		29.51	1000		454.0
75		34.05	1700		771.8

TABLE II. MIL-STD-129 English-metric conversions - Continued.

Inches	=	Centimeters	Inches	=	Centimeters
0.0258		0.07	1		2.54
0.03		0.08	1.5		3.81
0.0625		0.16	2		5.08
0.095 (3/32)		0.24	2.5		6.35
0.10		0.25	3		7.62
0.125 (1/8)		0.32	4		10.16
0.188 (3/16)		0.48	5		12.7
0.375 (3/8)		0.95	10		25.40
0.50		1.27	50		127.0
0.875 (7/8)		2.22	100		254.0
0.90		2.29	144		365.76

NOTE: 10 millimeters equals 1 centimeter.

Feet	=	Meters
1		0.305
3.28		1.0
25		7.62
50		15.24
150		45.73

Temperature conversion:

To change degrees Celsius (C) to degrees Fahrenheit (F), multiply temperature by 1.8 and add 32 degrees F.

To change degrees Fahrenheit (F) to degrees Celsius (C), subtract 32 from the temperature and divide by 1.8.

Degrees Fahrenheit	=	Degrees Celsius
0		-18
32		0
35		2
46		8
100		38
212		100

2. APPLICABLE DOCUMENTS

(The documents in this section are for guidance and information.)

2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

SPECIFICATIONS

FEDERAL

A-A-208	-	Ink, Marking, Stencil, Opaque (Porous & Nonporous Surfaces)
A-A-529	-	Adhesive and Sealing Compound, Cellulose Nitrate Base Solvent Type
A-A-883	-	Tape, Pressure Sensitive Adhesive, Masking
A-A-900	-	Tag, Shipping (Paper)
A-A-1801	-	Coating Compound, Obliterating (Aerosol)
A-A-1907	-	Protector, Packing List
L-P-387	-	Plastic Sheet, Laminated, Thermosetting (for Designation Plates)
NN-P-530	-	Plywood, Flat Panel
TT-E-489	-	Enamel, Alkyd, Gloss, Low VOC Content
TT-E-527	-	Enamel, Alkyd, Lusterless, Low VOC Content
TT-L-20	-	Lacquer Camouflage
TT-P-38	-	Paint, Aluminum, Ready-mixed
TT-V-121	-	Varnish, Spar, Water Resisting
UU-T-81	-	Tag, Shipping and Stock
MMM-A-179		Adhesive: Paper Label
PPP-E-540	-	Envelope, Water Resistant, for Packing Lists and Shipping Documents
PPP-F-320	-	Fiberboard, Corrugated and Solid, Sheet Stock (Container Grade), and Cut Shapes
PPP-T-60	-	Tape, Packaging, Waterproof
PPP-T-70	-	Tape, Packaging, Plastic Film
PPP-T-76	-	Tape, Pressure Sensitive Adhesive, Packaging/paper (for Carton Sealing)

MILITARY

MIL-T-4	-	Tire, Pneumatic, and Inner Tube, Pneumatic Tire, Tire With Flap, Packaging and Packing of

MIL-P-116 - Preservation, Methods of
MIL-B-117 - Bag, Sleeve, and Tubing - Interior Packaging
MIL-S-4473 - Shielding of Magnetron Tubes and Magnets for Air Shipment
MIL-C-17504 - Coating Compound, Acrylic, Clear
MIL-I-43639 - Ink, Marking, Nametape
MIL-C-46168 - Coating, Aliphatic Polyurethane, Chemical Agent Resistant
MIL-P-52108 - Paint, Water Emulsion Type (for Stenciling and Obliterating)
MIL-P-52905 - Paint Arctic Camouflage, Removable
MIL-C-53039 - Coating, Aliphatic Polyurethane, Single Component, Chemical Agent Resistant
MIL-L-61002 - Labels, Pressure-sensitive Adhesive, For Bar Codes and Other Markings

STANDARDS

FEDERAL

FED-STD-595 - Color (Requirements for Individual Color Chips (3X5 Supplements))

MILITARY

MIL-STD-130 - Identification Marking of U.S. Military Property
MIL-STD-163 - Steel Mill Products Preparation for Shipment and Storage
MIL-STD-212 - Preparation of Household Goods and Unaccompanied Baggage for Shipment, Storage, and Intra City and Intra Area Movements
MIL-STD-290 - Packaging of Petroleum and Related Products
MIL-STD-1168 - Lot Numbering of Ammunition
MIL-STD-1189 - Bar Code Symbology

(Unless otherwise indicated, copies of Federal and military specifications and standards are available by mail from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.1.2 Other Government documents and publications. The following other Government documents and publications form a part of this document to the extent specified herein. Unless otherwise specified, issues are those cited in the solicitation.

CODE OF FEDERAL REGULATIONS (CFR)

CFR Title 10 (10CFR)	-	Atomic Energy
CFR Title 29 (29CFR)	-	Labor
CFR Title 40 (40CFR)	-	Protection of Environment
CFR Title 49 (49CFR)	-	Transportation

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

JOINT MILITARY

AFLCR 800-29/AFSCR 800-29/ AMC-R 700-103/NAVSUPINST 4030.50/MCO 4030.39/DLAR 4145.37	-	Policies and Procedures for Hazardous Materials Package Certification
AFR 71-4/TM 38-250/NAVSUP PUB 505 (REV)/MCO P4030.19/DLAM 4145.3	-	Packaging and Materials Handling - Preparation of Hazardous Materials for Military Air Shipment
DOD 4000.25-1-M	-	MILSTRIP
DOD 4000.25-2-M	-	MILSTRAP
DOD 4140.27-M	-	Shelf-life Item Management Manual
DOD 4500.32-R	-	MILSTAMP
DOD 4500.34-R	-	Personal Property Traffic Management Regulation
Cataloging Handbook H4/H8	-	Commercial and Government Entity
Cataloging Handbook H6	-	Federal Item Name Directory for Supply Cataloging

(DOD activities should request copies of Cataloging Handbooks H4/H8 and H6 from the Commander, Defense Logistics Services Center, Battle Creek, MI 49017-3084. All other joint military publications listed above should be requisitioned through the applicable Service/Agency publications distribution office. Non-DOD activities should obtain copies of the publications from the Defense Logistics Agency, ATTN: DLA-XPD, Cameron Station, Alexandria, VA 22304-6100, Commercial Phone: (202) 274-6011.)

NORTH ATLANTIC TREATY ORGANIZATION (NATO)

STANAG 2023	-	Marking of Military Cargo for International Movement by All International Means of Transport
STANAG 2060	-	Identification of Medical Materiel for Field Medical Installation

(Copies of Standardization Agreements (STANAGs) are available by mail from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

UNITED STATES POSTAL SERVICE (USPS)

USPS Publication #52 - Acceptance of Hazardous, Restricted, or Perishable Matter

(Application for copies should be addressed to the Materiel Distribution Center, Route 206, VA Supply Depot, Somerville, N. 08877-0001. A check for $1.00 payable to the U.S. Postal Servi. must accompany each application.)

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z129.1 - Precautionary Labeling of Hazardous Industrial Chemicals

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

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D996 - Standard Terminology of Packaging and Distribution Environments

ASTM D3953 - Standard Specification for Strapping, Flat Steel (and Seals)

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

Dangerous Goods Regulations

(Application for copies should be addressed to International Air Transport Association, 2000 Peel Street, Montreal, Quebec, Canada H3A 2R4.)

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO)

Technical Instructions for the Safe Transportation of Dangerous Goods by Air

(Application for copies should be addressed to International Regulations Publishing and Distributing Organization, P.O. Box 60105, Chicago, IL 60660.)

INTERNATIONAL MARITIME ORGANIZATION (IMO)

International Maritime Dangerous Goods Code

(Application for copies should be addressed to International Maritime Organization, 4 Albert Embankment, London SE1 7SR, England.)

UNITED NATIONS (UN)

UN Recommendations on the Transport of Dangerous Goods (Orange Book)

(Application for copies should be addressed to LABELMASTER, 5724 North Pulaski Road, Chicago, IL 60646.)

VOLUNTARY PRODUCT STANDARD (PS)

PS-1 - Construction and Industrial Plywood

(Application for copies should be addressed to the American Plywood Association, 7011 South 19th Street, P.O. Box 11700, Tacoma, WA 98411.)

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. DEFINITIONS

General packaging definitions may be found in ASTM D996 and in other referenced documents. Hazardous materials definitions may be found in 49CFR and other related publications. For purposes of this standard, the following definitions shall apply:

3.1 Ammunition. A device that is charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological, or chemical material for use in connection with defense or offense, including demolitions. Ammunition includes the device and all its components and materials, all items assigned DOD identification codes (DODICs), and such ammunition items as missiles, torpedoes, fins, and inert training rounds.

3.2 Assembly. An item of supply composed of two or more related parts which is capable of disassembly (e.g., carburetor, powerpack, intermediate frequency circuit amplifier, etc.).

3.3 Bar code. An array of rectangular bars and spaces in a predetermined pattern representing coded elements of data that can be automatically read and interpreted by automatic bar code reading devices.

3.4 Cognizant activity. The activity having responsibility or jurisdiction. At the contractors' facilities, this is the administrative contracting officer or procuring contracting officer. At DOD installations, this is the head of the agency, bureau, command, or service responsible for storage and shipment.

3.5 Commercial and Government Entity (CAGE) code. CAGE code is a five-position alphanumeric code applicable to all activities which have produced or are producing items used by the Federal Government and to Government activities which control design or are responsible for the development of certain specifications, drawings, or standards which control the design of items. CAGE codes are assigned per CAGE Cataloging Handbook H4/H8.

3.6 Consignee (receiver). Party to whom materiel is shipped and whose name and address appear in "Ultimate Consignee or Mark For" block of the shipping label.

3.7 Consignor (shipper). Party who ships materiel and whose name and address appear in "From" block of the shipping label.

3.8 Consolidation container. A container used to consolidate more than one line item into a single shipping container to be shipped to one destination, but not necessarily to one addressee.

3.9 Contract or purchase order number (including the four-digit delivery number or call number, when specified). The acquisition instrument identification number appearing on the acquisition document. Some DOD contracts refer to the contract or purchase order number, together with the delivery order number, as the procurement instrument identification number (PIIN).

3.10 Controlled items. Items requiring additional control and security in accordance with published statutes and regulations, including money, negotiable instruments, narcotics, registered mail, and drug abuse items (see 3.42).

3.11 Date assembled. The date items or parts are assembled into components, sets, kits, or assemblies, or the date components, sets, kits, or assemblies are assembled into a unit.

3.12 Date packed. The date on which the product (item) was packed in the unit pack, regardless of the date of exterior packing, additional processing, or shipping.

3.13 Defense Transportation System (DTS). The DTS consists of military-controlled or -operated terminal facilities, Military Airlift Command controlled or arranged airlift, Military Sealift Command controlled or arranged sealift, and Government-controlled air or land transportation.

3.14 DOD identification code (DODIC). The DODIC consists of one letter and three numerals or two letters and two numerals assigned to an ammunition generic description within the Federal supply class (FSC).

3.15 Exterior pack or container. A container, bundle, or assembly that is sufficient by design and construction to protect unit and intermediate packs and contents during shipment and storage. It can be a unit pack or a container with a combination of unit or intermediate packs. An exterior pack or container may or may not be used as a shipping container (see 3.56).

3.16 Hardness critical item (HCI). Items at any assembly level which are mission critical and could be designed, repaired, manufactured, installed, or maintained for normal operation and yet degrade system survivability in a nuclear environment if hardness were not considered. HCIs shall only be replaced with other HCI-approved items.

3.17 Hazardous materials. Substances or materials which have been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property

when transported in commerce and which have been so designated in 49CFR, part 172, and in other hazardous materials publications.

3.18 Human-readable interpretation (HRI). The exact interpretation of the encoded bar code data presented in a human-readable font.

3.19 Intermediate pack. A wrap, box, or bundle that contains two or more unit packs of identical items.

3.20 Item description. Exact name and description of the item as it appears in the contract, purchase order, or requisition. Item description shall consist of the item name approved by the Directorate of Item Identification, Defense Logistics Services Center. Approved item names, basic names, and colloquial names are published in Cataloging Handbook H6. Clothing and textile item descriptions shall always include item size. Abbreviated descriptions authorized by the cognizant activity are permitted.

3.21 Kit. A packed unit or group of items normally used in modification, installation, or survival.

3.22 Levels of protection. Levels of protection refer to the extent of preservation and packing required to prevent deterioration or damage to supplies and equipment due to hazards to which they may be exposed during shipment and storage. Level A provides maximum protection under the most severe worldwide shipment, handling, and storage conditions. Level B provides intermediate protection under anticipated favorable environmental conditions of worldwide shipment, handling, and storage. Level C provides minimum protection under known favorable shipment, handling, and storage conditions.

3.23 Loose or unpacked item. An identifiable item that is unencumbered by a tie, wrap, or container.

3.24 Lot, batch, or identification control number. That series of numbers or letters, or both, established to record production and control of the product.

3.25 Low specific activity radioactive materials. Those materials meeting one or more of the criteria listed in 49CFR.

3.26 Manufacturer. A person or firm who owns and operates a factory or establishment that produces (on the premises) materials, supplies, articles, or equipment required under the contract (or of the general character described by the specifications, standards, and publications).

3.27 Military methods of preservation. Preservation methods and procedures defined in MIL-P-116.

3.28 Modification work order (MWO). Official publication providing authentic and uniform instructions for the alteration and modification of existing materiel, including joint service publications published as retrofit orders.

3.29 National/NATO stock number (NSN). The NSN is a 13-digit number divided into two parts, the Federal supply class (FSC) number and the national item identification number (NIIN).

3.29.1 FSC number. The first four digits of the NSN. The FSC number establishes its relationship to other items identified within the same FSC.

3.29.2 NIIN. The last nine digits of the NSN. The first two digits are the National Codification Bureau code identifying the country assigning the number. The remaining seven numbers are a serially assigned number. The NIIN fixes the identity of an item of supply and differentiates it from all other items of supply.

3.30 Packaging. The processes and procedures used to protect materiel from deterioration, damage, or both. It includes cleaning, drying, preserving, packing, marking, and unitizing.

3.31 Packing. Assembling of items into a unit, intermediate, or exterior pack with necessary blocking, bracing, cushioning, weatherproofing, and reinforcement.

3.32 Palletized unit load. A quantity of items, packed or unpacked, which is arranged on a pallet in a specified manner and is secured, strapped, or fastened on the pallet so that the whole palletized load is handled as a single unit.

3.33 Parcel post. Any packed materiel placed in United States Postal Service channels.

3.34 Perishable item. An item which normally requires some type of environmental control, which may include freezing the item, during transportation and storage.

3.35 Pilferable. Materiel having a ready resale value, civilian utility, or application as to personal possession, and which is especially subject to theft.

3.36 Polychlorinated biphenyl (PCB). An organic chemical, synthetically manufactured and used primarily in electrical equipment. It is harmful to human health and the environment.

3.37 Port of debarkation (POD). An authorized point of entry into a foreign country or the continental United States (CONUS).

3.38 Port of embarkation (POE). An authorized point of departure from a foreign country or CONUS.

3.39 Preservation. Application of protective measures, including cleaning, drying, preservative materials, barrier materials, cushioning, and containers, when necessary.

3.40 Project code. A three-position alphanumeric code which identifies plans, programs, and exercises.

3.41 Proper shipping name. The name of the hazardous material shown in Roman print in 49CFR, part 172, and in capital letters in AFR 71-4/TM 38-250/NAVSUP PUB 505 (REV)/MCO P4030.19/DLAM 4145.3, chapter 4.

3.42 Protective cargo items. Materiel or shipment units which require a high degree of protection and control during movement due to statutory requirements or regulations for materiel that is catalogued as sensitive, controlled, classified, or pilferable. Examples are narcotics and drug abuse or controlled substances, precious metals, currency, conventional arms, ammunition and explosives, and materiel with a security classification.

3.43 Quantity. The number of units of issue (lb, oz, ea) in a unit pack, intermediate pack, shipping container, bundle, or secure lift. (See 3.60.1 for nondefinitive unit of issue.)

3.44 Quantity per unit pack (QUP). The quantity of items in a unit pack given in the terminology of the definitive unit of issue. If a nondefinitive unit of issue is assigned to the stock item, the unit of issue shall be further quantified by a unit of measure and measurement quantity (see 3.60.2).

3.45 Radiation. The emission and transfer of energy through space or through a material medium. As used in this document, the term refers to two types of ionizing radiation. The first is electromagnetic radiation, to include X-rays, gamma rays, and visible, ultraviolet, and infrared light. The second is particulate radiation, to include alpha and beta particles, high speed electrons, protons, and neutrons.

3.46 Radioactive material. Any material, or combination of materials, which spontaneously emits ionizing radiation, including materials that possess artificial, induced, and natural radioactivity. Materials in which the estimated specific activity is not greater than 0.002 microcurie/gram of material, and in which the radioactivity is essentially uniformly distributed, are not considered to be radioactive materials.

3.46.1 Radioactive devices. Instruments and manufactured articles or similar devices having radioactive materials as component parts. These instruments, manufactured articles, and similar devices are classified as radioactive materials for purposes of handling, storing, and working.

3.47 Radioisotope and radionuclide. For transportation purposes, these items are synonymous with radioactive materials.

3.48 Required delivery date (RDD). The ordinal day when material is required by the requisitioner or consignee and is specified on the requisition. Delivery dates computed from the requisition data and priority based on the Uniform Materiel Movement and Issue Priority System are not considered RDDs for purposes of this standard.

3.49 Semiperishable item. Item that does not normally require refrigeration or freezing during transportation and storage.

3.50 Sensitive electronic devices. Electronic parts having highly sensitive characteristics and delicate miniaturized construction. They are susceptible to damage or degradation, in various degrees, from environmental field forces such as static electricity and from mundane sources such as corrosion or shock.

3.51 Serial number. The number on the item assigned by the manufacturer or the Government for identification or control.

3.52 Set. Unit or units and their assemblies, subassemblies, and parts connected or associated together to perform an operational function (e.g., tool set, radio receiving set, etc.).

3.53 Shelf-life. Total period of time beginning with date manufactured, date cured, date assembled, and date packed that an item may remain in the combined wholesale and retail storage system and still be suitable for issue and/or use by the user.

3.54 Shelf-life code (SLC). A code assigned to a shelf-life item to identify the period of time beginning with the date of manufacture, cure, assembly, or pack and terminated by the date

by which an item must be used (expiration date) or subjected to inspection, test, restoration, or disposal action.

3.55 Shelf-life item. An item of supply that possesses deteriorative or unstable characteristics to the degree that a storage time period must be assigned to ensure that the item will perform satisfactorily in service.

3.56 Shipping container. A container which meets carrier regulations and is of sufficient strength, by reason of material, design, and construction, to be shipped safely without further packing either as a primary pack or as an outer container for unit packs (e.g., wooden boxes or crates, fiber and metal drums, and corrugated and solid fiberboard boxes).

3.57 Stamping. Impressing or imprinting by metal dies or rubber stamps.

3.58 Transportation control number (TCN). The 17-position alpha-numeric data element assigned to control a shipment unit through the transportation pipeline (to include the DTS and commercial systems).

3.59 Unitization. Assembly of packs of one or more line items of supply into a single load so that the load can be handled as a unit through the distribution system.

3.60 Unit of issue. A standard or basic quantity expressed as a unit and indicated in a requisition, contract, or order as the minimum quantity issued (e.g., bottle, can, dozen, each, foot, gallon, gross, pair, pound, yard, etc.).

3.60.1 Nondefinitive unit of issue. A type of unit of issue designation that does not indicate an exact quantity of volume, linear measurement, weight, or count such as drum, can, kit, set, box, or roll. When a nondefinitive unit of issue is specified, it must be accompanied by a quantitative expression (e.g., 1 RO (150 ft) and 1 RL (50 ft)).

3.60.2 Quantitative expression. The exact quantity of volume linear measurement, weight, or count contained in a unit of issue (e.g., 5 gallons, 100 feet, 10 pounds, 25 each, etc.).

3.61 Unit pack. The first tie, wrap, or container applied to a single item, or a quantity thereof, or to a group of items of a single stock number, preserved or unpreserved, which constitutes a complete or identifiable package.

4. GENERAL REQUIREMENTS

4.1 Abbreviations. The following authorized abbreviations are provided for information purposes only and shall not be misinterpreted by contractors for unit of issue abbreviations. The correct unit of issue for marking is the unit of issue shown in the contract or requisition. When approved by the cognizant activity concerned, abbreviations of the item descriptions will be permitted. Periods shall not be used with abbreviations.

a. Package units:

Assembly	AY	Keg	KE	Piece	PC
Carton	CT	Kit	KT	Ration	RA
Case	CS	Pack	PK	Set	SE
Container	CO	Package	PG	Skid base	SB
Crate	CR	Pail	PL	Skid deck	SD
Envelope	EN	Pallet	PT	Unit	UN

b. Quantitative units/expressions:

Bag	BG	Drum	DR	Peck	PE
Bale	BE	Each	EA	Ream	RM
Barrel	BL	Five	FV	Reel	RL
Bolt	BO	Fifty	FY	Roll	RO
Bottle	BT	Gross	GR	Spool	SL
Box	BX	Hank	HK	Ten	TE
Bundle	BD	Hundred	HD	Thirty-six	TS
Can	CN	Jar	JR	Thousand	MX
Coil	CL	Lot	LO	Twenty-four	TD
Dozen	DZ	Pair	PR	Twenty-five	TF

c. Weights and measure units:

Board foot	bf	Hundred yard	hy	Pennyweight	dw
Bushel	bu	Inch	in	Pint	pt
Centigram	cg	Kilogram	kg	Pound	lb
Centimeter	cm	Kilometer	km	Quart	qt
Cord	kd	Length	lg	Short ton	st
Cubic foot	cf	Linear foot	lf	Square foot	sf
Cubic inch	ci	Linear yard	ly	Square inch	si
Cubic yard	cd	Liter	li	Square meter	sm
Dram	dm	Long ton	lt	Square yard	sy
Foot	ft	Measurement ton	mt	Thousand feet	mf
Gallon	gl	Meter	mr	Ton	tn
Gram	gm	Mile	mi	Volume	vo
Hundred feet	hf	Ounce	oz	Yard	yd

d. Miscellaneous abbreviations:

Commercial	comm	Manufactured	mfd
Contract	contr	Mark	mk
Copy	cy	Packed	pkd
Dimension	dmn	Quantity	qty
Engine	eng	Report	rept
Identification	ident	Requisition	rqn
Invoice	inv	Vehicle	ve

4.2 Interior and exterior identification and contract data markings. Figure 1 referenced throughout this section is shown at the end of the section. This figure identifies the content and approximate placement of identification markings for unit, intermediate, and exterior containers and contract data markings for exterior containers. In order to highlight specific marking requirements such as bar coding or special markings in other figures illustrated in this standard, the unit, intermediate, and exterior container identification markings shown on containers in the various figures shall be replaced with the letters "IDENT," and the contract data markings on exterior containers shall be replaced with the letters "CONTR" to avoid detracting from the specific intent of the figures. Always refer to figure 1 for the content and placement of identification and contract data markings. Bar code marking requirements are shown in the figures at the end of appendix H.

4.2.1 Unit and intermediate packs and unpacked items (see figure 1). Unless specifically exempted in the contract or order, the following minimum identification markings shall appear on unit and intermediate packs and on unpacked items in the order listed. Any additional identification markings required in the contract shall be placed immediately below the minimum markings listed herein. Unit packs used as exterior containers shall be marked in accordance with 4.2.2. Hazardous items shall be marked as specified herein and in appendix E. Unless specifically exempted in the contract or order, bar code markings shall be applied as specified in appendix H.

a. NSN/NATO stock number. When shown, the stock number shall include the appropriate spaces or dashes and any prefix or suffix shown in the contract/requisition.

b. CAGE code and part number (PN). The CAGE code and PN applicable to the prime contractor (the company awarded the contract for the item described in c below) shall be

shown followed on the next line by the CAGE code and PN of the actual manufacturer (MFR), if different. The PN applicable to the prime contractor shall be the PN specified in the contract or order. When no PN is specified in the contract or order, the PN assigned by the prime contractor shall be shown. If the manufacturer of the item does not have a CAGE code, such as a foreign manufacturer, then only the CAGE code of the prime contractor shall be shown. The letters CAGE/PRIME, PN/PRIME, CAGE/MFR, and PN/MFR shall be used, as appropriate, to identify this information.

c. Item description.

d. Quantity and unit of issue. When a nondefinitive unit of issue is specified, it must be accompanied by a quantitative expression (e.g., 1 RO (100 ft)) (see 3.60.1).

e. Contract number or purchase order number including four-digit delivery order or call number, when used (see note below).

f. Level of protection and date (e.g., "A 10/90" indicates level A protection (preservation) was provided in October 1990) (see note below).

g. For medical materiel, see appendix D, 30.1.

NOTE: When MIL-STD-1168 lot numbering is specified in the contract or requisition, the contract number and date of protection (see 4.2.1e and f) are not required to be marked.

4.2.1.1 Placement of identification markings on unit and intermediate packs and on unpacked items. Markings on interior packs and unpacked items must be so located to allow the markings to be easily read when stored on shelves or stacked, and to ensure that the markings will not be destroyed when the pack is opened for inspection or until its contents have been used. The marking surface of a unit pack must be the outermost wrap, bag, or container of the unit pack. When a barrier bag is used within an outer container, however, the barrier bag shall also be marked in addition to the outermost container. For medical items, when the outer wrap of the unit pack is a transparent film wrap, the markings shall be applied to the unit pack. When specified,

bundled items shall be marked with a tag or by affixing a paper label under one of the bundle ties. The illustrations in this standard are for guidance only. The exact placement of markings on unit and intermediate containers may vary slightly from those illustrated in this standard. However, required markings must be placed so as not to be obscured by strapping or closure tape.

4.2.2 Exterior container identification markings (see figure 1). Unless specifically exempted in the contract or order, exterior container identification markings shall be composed of the following information in the order listed. Any additional exterior container identification markings required in the contract shall be placed immediately below the exterior container identification markings listed. Unless specifically exempted in the contract or order, bar code markings shall be applied as specified in appendix H.

a. NSN/NATO stock number (see 4.2.1a).

b. CAGE code and PN (see 4.2.1b).

c. Item description.

d. Quantity and unit of issue (see 4.2.1d).

e. Levels of protection and date packed (e.g., "A/B 10/90" indicates level A preservation, level B packing, and 10/90 as the earliest unit pack date (month and year). Unit packs used as exterior containers (e.g., bags, drums, etc.) shall have only the level of pack and date applied.

f. Gross weight and cube (see 4.2.2.2 and 4.2.2.3).

g. Proper shipping names and identification numbers, where assigned, for domestic (DOT) and international (UN) shipments of hazardous items only (see appendix E, 20.1.1). If DOT and UN proper shipping names and their identification numbers, if assigned, are the same, then only one proper shipping name and one identification number will be shown, with no DOT or UN designator preceding the proper shipping name (e.g., POTASSIUM FLUORIDE, UN 1812). If the DOT and UN proper shipping names are different, then they both shall be shown, with each preceded by its DOT or UN designator, followed by its identification number, if assigned (e.g., DOT: ETIOLOGIC AGENT, N.O.S. (TISSUE FLUIDS), NA 2814; UN:

INFECTIOUS SUBSTANCES, AFFECTING HUMANS, UN 2814). Unless otherwise specified, proper shipping name(s) shall be distinct and separate from the item description and shall be placed immediately below the weight and cube data. When shown, the UN proper shipping name and identification number shall be immediately below the DOT proper shipping name and NA or UN identification number. To prelude any mistakes, the proper shipping name(s) is required even though it may be identical to the item description. If both the DOT and UN proper shipping names and their identification numbers must be marked on the container and sufficient space is not available for both, place the DOT and/or UN proper shipping name(s) and identification number(s) in the most conspicuous location on the identification marked side of the container.

h. UN performance oriented packaging (POP) specification markings for hazardous materials packagings shall be distinct and separate from other markings. Unless otherwise specified in the contract, order, or requisition, the UN packaging specification markings shall be placed on the opposite side of the container from the side containing the identification markings (see appendix E, figure 10).

NOTE: When MIL-STD-1168 lot numbering is specified in the contract or requisition, the date of pack (see 4.2.2e) is not required to be marked.

4.2.2.1 Marking for assorted items.

4.2.2.1.1 Related items. When an assortment of related items which cannot be identified under one stock number but support a specific weapon system or end item is packed in a shipping container, the level of pack, date of pack, gross weight, cube, and special markings shall be applied, plus a brief description of the contents in lieu of the entire identification data (e.g., spare parts to NSN XXXX). Kit or set components shall be segregated and identified within the unit pack by PN or NSN.

4.2.2.1.2 Unrelated items. When containers of unrelated items comprised of mixed NSNs which do not support a specific weapon system or end item are consolidated into a shipping container, the shipping container shall be marked with the following information in the order listed: the word "MULTIPACK" (line 1); the level of protection afforded the shipping container (level A, B, or C depending upon the type of shipping container

used) and the date of pack (date the multipack itself was packed) (line 2); and the gross weight and cube (line 3), in lieu of the identification markings required by 4.2.2a through f. Hand lettering on multipack shipping containers is not permitted except for weight and cube data and the date of pack.

Example:

MULTIPACK
A 10/90
WT 100 CU 6

NOTES: 1. When a multipack shipment contains shelf-life material, the following statement shall appear immediately below the identification markings: "CONTAINS SHELF-LIFE ITEMS." This is in addition to any shelf markings that are required to be placed on the multipack.

2. When a multipack shipment contains items that are covered by a warranty agreement, the following statement shall appear immediately below the identification markings: "WARRANTED ITEMS INSIDE."

3. When a multipack shipment contains hazardous materials, refer to appendix E, 20.1.1.

4. Caution markings will be applied as required (e.g., FRAGILE, THIS SIDE UP, DOT hazardous labels, etc.).

4.2.2.2 Marking of gross weight. The capital letters "WT" shall precede gross weight numerals. All weights shall be numerically indicated and shall be expressed in pounds rounded up to the nearest pound.

4.2.2.3 Marking of cubic displacement. The letters "CU" shall precede the cube (cubic displacement) numerals. Cube shall be the cubic displacement of the shipping container, bundle, or secured lift. This shall be calculated from the overall length, width, and height dimensions. Irregular, cylindrical, or round items shall be considered as rectangular solids. To calculate the cubic displacement, multiply the length by the width by the height in inches and divide the answer by 1728. The resulting cubic displacement shall be shown in cubic feet expressed in decimals rounded up to the nearest tenth of a cubic foot.

4.2.2.4 Omission of markings on exterior shipping containers of protected cargo (controlled, sensitive, classified, and pilferable items). Unless otherwise specified in the contract or shipping documents, the item description (nomenclature) shall

be omitted in all instances from exterior shipping containers of protected cargo, including controlled, sensitive, classified, and pilferable items. For medical items, the term "MEDICAL SUPPLIES" shall be used in lieu of the NSN and item description. Unless otherwise exempted in the contract, all other identification markings shall be applied as required by this standard, with the exception of shipments of items in the DPSC Clothing and Textile (C&T) Directorate. The nomenclature, size, and manufacturer's name (when the name identifies the material) shall be omitted from all exterior shipping containers of DPSC C&T items, regardless of the mode of shipment. If the manufacturer's name does not identify the material as being clothing, it may remain. NSNs will be shown on all exterior shipping containers of DPSC C&T items. Markings required for the DODIC, stock number, item description, lot number of ammunition or explosives, hazardous materials proper shipping names and identification numbers, and precautionary markings and labels that are prescribed by DOT regulations and applicable international documents shall not be omitted from the outside of exterior shipping containers. When identification markings have been omitted from exterior shipping containers of protected cargo (sensitive, classified, controlled, or pilferable items), packing lists shall be placed inside the containers. Except for shipments of DPSC C&T items, the packing list shall be placed inside the No. 1 container for all multiple container shipments. For multiple container shipments of DPSC C&T items, the packing list shall be placed inside the last container to be loaded for each shipment, with the words "PACKING LIST HERE" stenciled, not hand lettered, on the container.

4.2.3 Exterior container contract data markings. Unless specifically exempted in the contract or order, contract data markings shall include the minimum information listed herein (see figure 1). Additional information applicable to the contract may be required when specified in the contract or order. When the corporate name of the contractor will require two or more lines, an abbreviation of the name which can be identified with the contractor is permitted. When more than one contract is applicable to a multipack container, contract data (see subparagraph "a" herein) is not required on the exterior container but shall be applied to each individual container within the multipack. Contract data is not required when items are repacked for shipment by military installations, unless otherwise required by a specific service/agency directive.

a. Contract or purchase order number and delivery order or call number, modification for change order number (when used), and lot number (when used) (see note below).

b. Name and address (including nine-digit zip code) of the contractor. When the supplies are shipped from a subcontractor, only the name and address of the prime contractor shall be used (see note below).

c. For items in the DPSC C&T Directorate, such as tent pins, coats, shoes, and flag poles, and for items in the DPSC Subsistence Directorate, the use of labels is prohibited, and the following additional markings are required (except as noted in 4.2.2.4): shipment number; lot number; name, address, and zip code of the prime contractor; name, address, and zip code of manufacturer, if other than the prime contractor; and the container number. The container number shall be consecutively numbered from each shipping point for the duration of the contract.

NOTE: When MIL-STD-1168 lot numbering is specified, the contract number and name and address markings are not required to be marked.

4.2.4 Requirement for additional markings of NSN and item description on exterior containers shipped overseas. These marking requirements will not be used during normal day-to-day packaging operations. They shall be applied only when they are specifically required by the applicable military department and are specified in the contract (see appendix A).

4.3 Address markings. Address markings shall be accomplished in accordance with appendix I and DOD 4500.32-R and shall be applied as specified in appendix I. Detailed procedures for completing DD Form 1387 (Military Shipment Label) are in appendix I and in DOD 4500.32-R. Bar code markings on DD Form 1387 shall be applied as specified in appendix I. Additional marking requirements for ammunition are included in appendix G.

4.4 Placement of exterior container identification, contract data, and address markings. Unless otherwise specified in subsequent paragraphs, exterior container identification markings for all containers (see 4.2.2) shall be applied to the upper left two-thirds of the side of the container having the greatest overall, usable marking surface area. Contract data markings (see 4.2.3) shall be placed below the identification markings. Exterior container identification and contract data markings shall be arranged as described herein and as illustrated in figure 1. The address label shall be applied on the identification marked side of the container and shall not interfere

with the required identification markings. If a container is too small to accommodate the address label on the identification marked side, the address label shall be applied on the opposite side of the container, or it shall be attached to a paper shipping tag as specified in appendix I. The required markings shall be placed so that they are not obscured by strapping, cleats, or closure tape. Unless otherwise specified in the contract or order, or when required by the carrier such as parcel post, the right end (the end that is to the right of the identification marked side of the container) and the top and bottom of each container shall always be free of any markings. Marking materials and the size of markings shall comply with 5.1 and 5.5, respectively. Markings on specific containers shall be placed in accordance with instructions provided herein. The use of labels for hazardous materials UN packaging specification markings is prohibited (see appendix E, figure 10). For information on the placement of ammunition markings, see appendix G.

4.4.1 Boxes and crates.

4.4.1.1 Boxes and crates under 10 cubic feet. Identification and contract data markings shall be applied as specified in 4.2.2 and 4.2.3, respectively. When practicable, cleats will not be included as part of the marking surface when applying exterior container markings. However, when no other adequate marking surface is available, cleats may be used as part of the marking surface. A procuring activity or installation may require the placement of exterior identification markings on an additional side or end to satisfy specific storage or handling requirements.

4.4.1.2 Boxes and crates 10 cubic feet and over (see 4.4.1.1). Additional identification markings are required on one end of the container. One end is defined as the end which is to the left of the identification side of the container. For all sizes of boxes and crates, identification and contract data markings shall be stenciled or printed directly on the container, or they shall be applied by use of a stenciled label. When applied to fiberboard, plastic, or metal containers, data may be shown on a preprinted (not hand-lettered or hand-written), reproduced, or typed label affixed, as specified (see 5.4.4.3). Marking boards/marking panels shall be used when the surface of the exterior container is not suitable for the direct application of markings. Identification and contract data may be applied to marking boards by the use of a stenciled label as long as the size of the lettering meets the requirements of 5.5. Marking boards shall be constructed of plywood (1/4-inch minimum), interior type (PS-1),

with exterior glue, grade C-D, conforming to NN-P-530. The address label shall be applied to the lower two-thirds of the identification marked side of the container or marking board. No additional address label is required to be placed on the identification marked end. However, optional placement of the address label is permitted on the identification marked end of the container for styles which, because of their configuration, allow access by materials handling equipment (MHE) only to the end of the container.

4.4.2 Bales and cloth-covered bundles. Identification and contract data markings shall be stenciled on the side of bales or bundles as close to the left side as possible, as specified (see 4.4.1.1). Markings shall be stenciled directly on the bundle with no need to coat the cloth, provided it can be applied without smearing or becoming illegible by absorption into the cloth. If necessary to assure that the marking is permanent and readable, the cloth bundle shall be given a smooth coat of sand-colored lacquer, enamel, or paint over the area to be marked before the marking is applied. The size of the stencil lettering shall be not less than three-fourths of an inch. When stenciling is not appropriate, labels or tags shall be used. The address label shall be applied to the lower two-thirds of the identification marked side or to the wire-tied ear with a tag.

4.4.3 Paper shipping sacks, bags, and textile/laminated textile bags. Identification markings shall be printed or stenciled on that side of the sack or bag that does not bear the sack manufacturer's certificate of compliance. Beginning 7 inches from the top of the sack or bag and in separate lines spaced half an inch apart, the following data shall appear in the order listed:

a. NSN.

b. CAGE code and PN, when applicable.

c. Item description.

d. Level of protection and date of pack.

e. Net weight and cube.

f. Number and weight of primary bags or sacks, as applicable.

Contract data markings shall begin 12 inches from the bottom of the sack. Commodities already packed in commercially printed sacks or bags shall have the required markings stenciled and centered on one face of the sack or bag. When the printing area is too small, the spacing of the printing may be altered proportionately and lines may be consolidated. The size of lettering on the sacks or bags shall be a minimum of three-eighths of an inch and a maximum of 1 inch equal height. If identification and contract data are not legible when stenciled on textile bag material, the information shall be printed on a tag or label. The address shall be marked as stated in appendix I. If a bag is closed by stitching, a tag (except an address label) may be fastened to the bag by stitching at the time of closure. If the top of a bag has ears, the appropriate tag shall be securely affixed to one of the ears.

4.4.4 Barrels, drums, and other cylindrical containers (including empty containers). Identification markings shall be stenciled or printed on the upper one-third of filled pails, barrels, kegs, drums, and reusable metal containers. Contract data shall be shown on the upper one-third of the same side or diametrically opposite that of the identification markings when space is not available. In addition, on 50- and 55-gallon drums or barrels from which heads are not removed, identification data (less weight and cube), contract data, and shelf-life markings, when required, shall be shown on the head. Forest-green containers shall be marked with yellow or white lettering. Labels or tags may be used when the container is too small to allow any other specified method of marking. Unless otherwise specified, pressure-sensitive labels shall be used on cylindrical containers and metal drums. No markings shall be placed in the space 6 inches above or below the center line of the body sidewall of barrels not swagged with rolling hoops. Labels or tags shall not be used for identification of metal drums or cylindrical containers of ammunition. Identification and contract data markings on empty barrels, drums, and cylindrical containers shall be applied on the top and on the upper one-third of the side by securely attaching tags or pressure-sensitive labels. Address markings shall be applied as stated in 4.3 and appendix I. When space permits, the address label will be placed on the middle one-third of the container. If space does not permit, the address label will be placed in a conspicuous location in close proximity to the identification markings. If sufficient space is not available on the surface of the container, the address label may be placed on a shipping tag (see appendix I, 20.1).

4.4.5 Miscellaneous packs and unpacked items (including rods, shafts, bars, reels, spools and coils of cable and wire, and paper- and cloth-wrapped rolls).

4.4.5.1 Identification and contract data markings. Markings for rods, shafts, bars, coils of wire, etc., shall be applied on two tags securely attached to the article/coil. On these items, one of the tags shall be bound to the item with burlap or other suitable material. Markings on reels or spools of cable and wire shall be stenciled on the side of the reel or spool. When the area does not permit stenciling, the markings may be applied by using a label. On paper- and cloth-wrapped rolls, markings shall be applied by stenciling, printing, or labeling. When stenciling cloth-wrapped rolls, if the marking is not permanently legible (e.g., smeared during handling or blurred by absorption into the wraps), the marking area shall be given a smooth coating of sand-colored lacquer, enamel, or paint prior to marking.

4.4.5.2 Address markings. Addresses for loose or unpacked items, rods, shafting, bars (not including unfabricated ferrous (steel mill) and nonferrous products), reels, spools, coils of cable and wire, and paper- and cloth-wrapped rolls shall be applied as stated in 4.3 and appendix I.

4.4.6 Unpacked major equipment (except unpacked vehicles). Identification and contract data markings shall be stenciled on a marking board which shall be applied to the most suitable location on the item. An alternate method of application is through use of a label applied directly on the equipment surface with PPP-T-60, type III, class 2, or PPP-T-70 pressure-sensitive tape. The tape shall be placed over the label and shall extend a minimum of half an inch from all edges of the label. Address markings shall be applied either on a marking board or directly on the equipment surface as previously described. For vehicle address marking requirements, see 4.4.9.

4.4.7 Palletized unit loads. The individual containers that comprise the palletized load shall be marked with applicable identification information and contract data. The palletized load shall be built on the pallet so that the markings on the individual containers do not show on two adjacent sides of the pallet load. When a suitable fiberboard container, such as a triple-wall fiberboard box, is used for unitizing a load in lieu of palletization, all required markings may be placed directly on the flat fiberboard surface. Unitized tires shall be stacked on pallets, sidewall to sidewall, to prevent the markings on the individual tires from being seen around the circumference of the

load. In addition to the placement of identification markings on individual containers comprising the palletized load, exterior container identification markings and contract data markings, as specified in 4.2.2 and 4.2.3, respectively, shall be applied to the palletized unit load as specified below. The proper placement of palletized unit load markings is illustrated in appendix H, figure 38.

a. All palletized loads shall be identified by placing the identification and contract data markings on a marking board/marking panel constructed of weather-resistant fiberboard (PPP-F-320) or 1/4-inch plywood (NN-P-530). Clear, domestic fiberboard may be used as a marking board when the palletized load is comprised of containers packed level C. Identification and contract data markings may be applied to the boards by use of a stenciled label as long as the size of the lettering is not less than three-fourths of an inch in height. In addition, identification markings may also be placed on one end of the palletized load. For palletized loads with smooth, flat surfaces, identification and contract data markings may be stenciled on the surface of the palletized load, with markings extending from one container to another. Except for DPSC C&T Directorate items, palletized loads of containers of items that have different NSNs shall be marked as multipacks in accordance with 4.2.2.1.2. Palletized loads of containers of DPSC C&T Directorate items having different NSNs shall be marked as specified in the contract or order.

b. Gross weight for palletized/containerized unit loads shall include the weight of the pallet or container base. Stencil markings on palletized loads shall be not less than three-fourths of an inch in height.

c. When stretch-wrap film is used to cover a palletized load, identification and contract data markings and the address may be obscured. To avoid degradation of the pack to obtain this information, pressure-sensitive labels containing this information may be placed directly on the outermost layer of wrap when previously applied markings cannot be identified. This will enhance both the handling and shipping of the palletized load without affecting the integrity of the load. These outside labels are in addition to the marking requirements previously identified in this standard. Labels shall be placed on either the identification marked side of

the load or on the opposite side and shall be marked by any prescribed method (see 5.4.1). Variations on this procedure are authorized based on local operations and capabilities (e.g., marking board positioned on the pallet before the last layer of wrap is applied). If this method is used, no pressure-sensitive labels should be placed on the outermost layer of wrap.

d. The address label shall be applied on either a fiberboard or plywood marking board as directed in 4.4.7a or on a tag affixed to the load itself.

e. For palletized loads of hazardous materials that are already unitized and are currently in the DOD stock-pile and have been identified as having different DOT and UN proper shipping names, DOD shipping activities shall apply only the UN proper shipping name and UN identification number on two opposite sides on the exterior of the unitized load. These markings shall be in addition to the DOT proper shipping name and identification number and shall be included as part of the exterior container identification markings that are prescribed in 4.2.2g and shall be applied as specified in 4.4.7a.

4.4.8 Wood products. Identification markings shall consist of the NSN only. If the NSN is not available, the item description as cited in the contract (e.g., door, wood, exterior, etc.) shall be used. Contract data markings shall consist of the contract or purchase order number only and shall be located below the identification data. The markings shall be applied by stenciling the area most suitable for the purpose. When wood products are shipped on a single conveyance to more than one consignee, the address shall be provided on each shipment unit (see appendix I).

4.4.8.1 Bundled wood products. When identification and contract data are applied by stenciling, the markings (see figure 1), shall be placed directly on the side of the bundle. If the area does not permit stenciling, two or more identification tags may be attached to the bundle. Stencil lettering for markings shall be not less than three-eighths of an inch nor more than 1 inch in height. Address markings, when required, shall be placed below the contract data markings and shall be applied by stencil or shall be placed on a marking board. When a marking board is used, it should be strapped to the side of the bundle. Identification and contract data markings may be stenciled directly on a marking board or applied by using a stenciled label. Address markings shall be applied to the

marking board as prescribed in appendix I. Marking boards shall be constructed of plywood (1/4-inch minimum), interior type (PS-1), with exterior glue, grade C-D, conforming to NN-P-530. Fiberboard shall not be used as a marking board for bundled wood products.

NOTE: All OCONUS shipments of bundled wood products require address markings in addition to the NSN and contract number. As prescribed in appendix I, DD Form 1387 should be used for OCONUS shipments of bundled wood products. If the bundled unit is paper wrapped, the address label may be applied directly to the paper below the stenciled NSN and contract number. If the load is not wrapped, the address label may be attached to a paper shipping tag (see appendix I, 20.1) and secured to the bundled unit. A clear/transparent laminate should be placed over the address label prior to shipment.

4.4.8.1.1 Pallets. Bundled wood pallets shall be marked by means of stenciling on a marking board constructed of weather-resistant fiberboard (PPP-F-320) or 1/4-inch plywood (NN-P-530).

4.4.8.2 Unstrapped (loose) wood products (e.g., piles, poles, etc.). Identification and contract data markings shall be applied by stenciling or tagging. If tags are used, they may be securely attached to the ends, and, if a single shipment consists of over 20 pieces (e.g., piles, poles, etc.), only 10 percent of the total pieces need to be marked. Tags shall be of weather-resistant material. Metal or plastic tags may be used when authorized by the cognizant activity. The address label shall be affixed on the side. For material that is preservative-treated with oil solutions (e.g., poles, ties, etc.), stenciling shall be accomplished with TT-P-38 aluminum-leaf paint.

4.4.8.3 Miscellaneous wood products in containers (e.g., doors, windows, moldings, and wedges). Identification and contract data markings shall be applied by stenciling or tagging one side of the box. The address shall be provided on each pack by labeling (see appendix I).

4.4.9 Unpacked vehicles. Identification, contract data, and address markings for CONUS shipments of unpacked vehicles shall be either stenciled on a marking board which shall be secured on the front of the vehicle or applied by attaching a preprinted label directly on the vehicle surface with PPP-T-60, type III, class 2, or PPP-T-70 pressure-sensitive tape. The tape shall be placed over the label and extend a minimum of 1/2-inch from

the label's edge. Address, weight, and cube markings are not required on driveaway, truckaway, railaway, or towaway shipments within CONUS. The address marking of vehicles for unit movement overseas shall be in accordance with applicable regulations of the military department involved. The identification, contract data, and address markings for outside continental United States (OCONUS) shipments of unpacked vehicles shall be stenciled on a marking board or applied by attaching a preprinted label directly on the vehicle surface with PPP-T-60, type III, class 2, or PPP-T-70 pressure-sensitive tape. The overseas address label shall be placed either on the rear of the vehicle or on the right side near the rear of the vehicle. When marking boards are used for identification, contract data, and address markings, they shall be constructed of 1/4-inch interior type plywood (PS-1) with exterior glue, grade C-D, conforming to NN-P-530, 1/2-inch lumber, or 1/8-inch hardboard (masonite or equal). When possible, the marking shall be positioned on the vehicle at a height of not more than six feet or less than four feet. When these locations are not practical, the best alternate location shall be selected. See appendix C for special markings.

4.4.10 Commercial- or Government-owned (or -leased) shipping containers (SEAVANs) and military-owned demountable containers (MILVANs). The address for SEAVANs/MILVANs shall be marked with a DD Form 1387 attached to the rear of the SEAVAN/MILVAN. Shipping containers, palletized unit loads, and unpacked items consolidated into a full SEAVAN/MILVAN load by the origin shipper for delivery as a unit to the ultimate consignee do not require individual address markings. Consolidation activities receiving shipments for consolidation into SEAVANs/MILVANs are not required to obliterate address labels applied by the origin shipper.

4.4.11 Steel products (unfabricated). Surface shipments of unfabricated steel mill products shall be address marked as specified herein and in MIL-STD-163. Address markings for unpackaged steel shall be applied by labeling.

4.4.12 Tires, loose and unitized. Tires shall be identified by affixing tags using twine or by affixing labels to the outside sidewall. When used, labels shall conform to MIL-L-61002, Type optional, Grade A, Style 3-rubber, Composition (b). All tires, regardless of chemical compound, shall be considered as type II shelf-life items, having a shelf-life of 3 years. Therefore, in addition to the markings required in 4.2.2, they shall be marked with the cure date and inspection or test date. Unitized tires shall be marked in accordance with 4.4.7.

4.4.13 Tubular products (loose). Identification and contract data markings shall be applied by labels or tags. Tags shall be made of weather-resistant material. Metal or plastic tags may be used when authorized by the cognizant procurement activity. The address label shall be affixed on the side of the load. Bar coding shall be as specified in appendix H.

4.4.14 Tubular products (bundles and lifts). Identification and contract data markings shall be applied to 10 percent of the load by attaching two tags securely to the pipe. Tags shall be made of a weather-resistant material. Metal or plastic tags may be used when authorized by the cognizant procurement activity. In addition to tags, identification and contract data markings shall be stenciled on a marking board constructed of weather-resistant fiberboard (PPP-F-320) or 1/4-inch plywood (NN-P-530). The marking board shall be placed on the side of the load by taping, using PPP-T-60 weather-resistant tape, or by using metal bands in accordance with ASTM D3953.

4.5 Subsistence markings. Unit and intermediate container identification markings shall be in accordance with applicable commodity specifications. Information and illustrations on the content and placement of exterior container identification and contract data markings and address markings for subsistence are in appendix B.

4.6 Interior and exterior container special markings. Information and illustrations on the content and placement of special markings (e.g., shelf-life, warranty, etc.) are in appendix C. The supply-type labels, listed in appendix C, shall be applied, as required.

4.7 Special markings for medical materiel shipments. Information and illustrations concerning the content and placement of special markings for medical materiel shipments are in appendix D. NATO markings for medical materiel are in STANAG 2060.

4.8 Hazardous materials marking requirements. Information and illustrations on the content and placement of special markings for interior and exterior containers of hazardous materials are in appendix E. The hazardous materials classification warnings listed at the end of appendix E shall be applied, as required.

4.9 Packing lists and DD forms. Information and illustrations on the content and placement of the various packing lists and DD Form 1348-1 (DOD Single Line Item Release/Receipt Document) and

DD Form 1348-1A (Issue Release/Receipt Document) are in appendix F. Packing list information for ammunition is in appendix G.

4.10 Ammunition markings. Information and illustrations on the content and placement of ammunition markings are contained in appendix G. Areas covered include interior and exterior container identification and special markings, bar code markings, address markings, packing lists, previous ammunition marking requirements, and marking precedence requirements.

4.11 Bar code markings. Information and illustrations on the content and placement of bar code markings on unit, intermediate, and exterior containers are contained in appendix H. Bar code marking requirements for tires and small arms weapons are also in appendix H. Ammunition bar code requirements will be as specified in appendix G. Bar code marking requirements for DD Forms 1348-1 and -1A are contained in appendix F, while bar code marking requirements for DD Form 1387 are in appendix [illegible]. Bar code labels may be accepted with a Certificate of Conformance (COC) when objective evidence can be provided. When a process such as applying a laminate or stretch/shrink wrap over the bar code label on a container is utilized, then the bar code symbol must meet the readability requirements specified in MIL-STD-1189 and the bar code label must meet the durability requirements of MIL-L-61002, when specified.

4.12 Additional marking requirements for specific commodities.

4.12.1 Petroleum products. Marking for shipment and storage of petroleum products shall be as specified in MIL-STD-290.

4.12.2 Unfabricated steel mill products. Marking for shipment and storage of unfabricated steel mill products shall be as specified herein and in MIL-STD-163.

4.12.3 Household goods. Marking for household goods shall be as specified in MIL-STD-212, DOD 4500.32-R, and DOD 4500.34-R.

4.12.4 Cargo for NATO countries. The marking of cargo for international movement by all international means of transport to NATO countries shall be as specified herein and in STANAG 2023.

4.12.5 Hazardous materials. Marking of hazardous materials, including hazardous wastes, shall be as specified in appendix E of this standard, in 49CFR, AFR 71-4/TM 38-250/NAVSUP PUB 505 (REV)/MCO P4030.19/DLAM 4145.3, and in the other hazardous

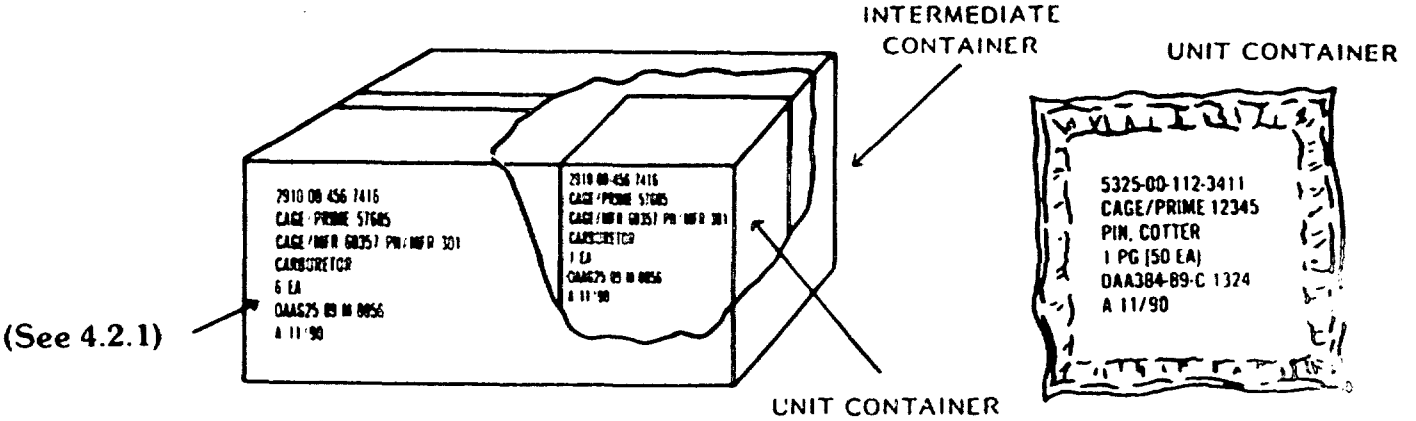
materials implementing publications listed in 2.2 of this standard, such as the ICAO Technical Instructions for the Safe Transportation of Dangerous Goods by Air, the IATA Dangerous Goods Regulations, the IMO International Maritime Dangerous Goods (IMDG) Code, the UN-Recommendations on the Transport of Dangerous Goods (Orange Book), and the ANSI Z129.1, Precautionary Labeling of Hazardous Industrial Chemicals.

4.12.6 Tires. Marking of tires shall be as specified herein and in MIL-T-4.

4.12.7 Ammunition. The marking of ammunition shall be as specified herein and in appropriate drawings or in similar item or commodity-peculiar documentation.

4.12.8 Bar code symbology. Bar code symbology shall be as specified in MIL-STD-1189, and bar code markings shall be as specified in appendix H of this standard.

4.12.9 Shelf-life items. The marking for shelf-life items shall be as specified in appendix C of this standard and in DOD 4140.27-M.



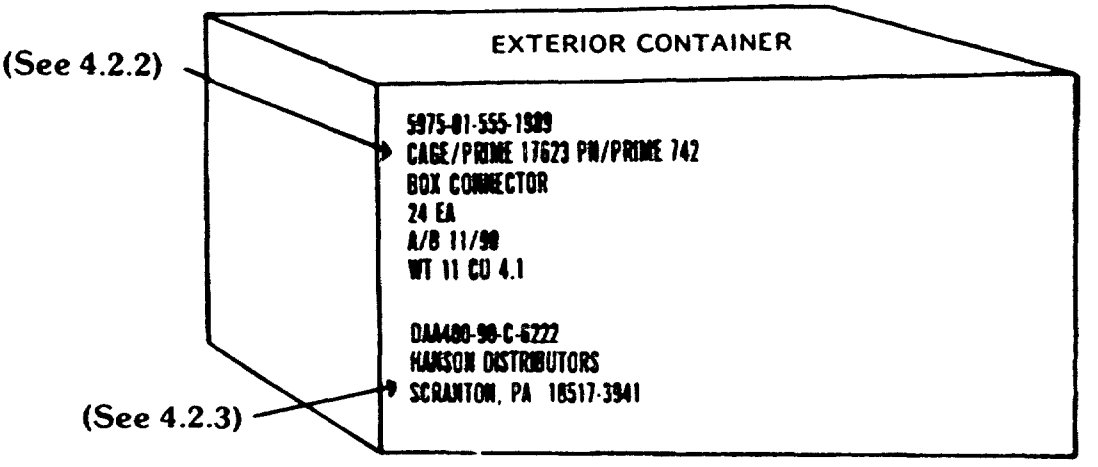


FIGURE 1. Unit, intermediate, and exterior container identification markings and contract data markings.

5. DETAILED REQUIREMENTS

5.1 Markings and marking material.

5.1.1 Advertising matter and container markings. Advertising matter and container markings which do not interfere with the clarity or positioning of required markings on a container are permitted. If advertising prevents application of the required markings, the manufacturer shall obliterate the advertisement in accordance with 5.1.2.3 or shall use a label large enough to permit the proper application of the markings. Required markings must be of a different color than the advertising matter if the markings cover part of the advertising.

5.1.2 Marking material. All marking material shall be as specified herein or shall be an alternate choice approved by the cognizant activity. Contractors may obtain the DOD unique tags and labels discussed in this standard from their local Defense Contract Management Area Office (DCMAO) or Defense Plant Representative Office (DPRO).

5.1.2.1 Waterproofing materials for protective coating labels. Spar varnish or a clear acrylic coating compound for protecting and waterproofing markings shall conform to either TT-V-121 or MIL-C-17504, respectively. Label adhesives or sealing compound shall conform to MMM-A-179 or A-A-529, respectively. Transparent tape shall conform to PPP-T-60 or PPP-T-70.

5.1.2.2 Stencil-marking material. Unless otherwise specified, stencil ink for marking shall conform to A-A-208, while lacquer, paint, and enamel for marking shall conform to TT-L-20, MIL-P-52108, and TT-E-489, respectively. Removable paint for marking unboxed/uncrated equipment, when applied directly to the item, shall conform to MIL-P-52905. MIL-C-46168 or MIL-C-53039 coating shall be used when stenciling containers which have had a top coat of chemical agent resistant coating (CARC) applied to them. When stencil ink conforms to A-A-208, a protective coating is not required. Ammunition packaging drawings that specify other finishes take precedence over the above requirements.

5.1.2.3 Obliterating lacquer, enamel, or paint. Obliterating paint in aerosol containers (NSN 8010-00-582-4743) shall conform to A-A-1801, while water-emulsion paint used for obliterating (NSN 8010-00-226-3906) shall conform to MIL-P-52108. When a lusterless enamel is used (NSN 8010-00-598-5460), it shall conform to TT-E-527 and shall be sand color 30277 of FED-STD-595. Because obliterating lacquers generally have a high volatile

organic compound (VOC) content, they are not specified in this standard. However, a quick-drying opaque lacquer, ink, enamel, or paint approximating the color of the container may be used for obliterating markings when approved by the cognizant activity.

5.1.2.4 Lithographing, embossing, roller coating, or stamping. When lithographing, embossing, or roller coating of markings is authorized, commercial enamels, lacquers, or inks in the color specified shall be used. When stamping is specified, commercial waterproof and petroleum-resistant inks, in the color specified, must offer the greatest durability on exposure to field service.

5.1.3 Labels, paper. Unless otherwise authorized by the cognizant activity, labels shall be made of sized white paper stock having a smooth finish and a minimum base weight of 20 pounds. Bar code labels shall conform to MIL-L-61002 (see appendix H).

5.1.3.1 Labels, pressure-sensitive, water-resistant. Labels shall be of a water-resistant grade of paper, film, fabric, or plastic, coated on one side with pressure-sensitive adhesive. The texture of the material shall permit flexibility. Labels shall have a finish capable of withstanding normal handling during shipment and storage. They shall be suitable for printing and writing on with ink without feathering or spreading.

5.1.3.2 Adhesive, pressure-sensitive, for labels. Adhesive shall be of a pressure-sensitive, permanent type. It shall be water-insoluble and homogeneous and shall be coated in a smooth layer on the unprinted side of the label. The adhesive shall be of a type that will adhere to metal, plastic, or fiberboard surfaces under high or low temperatures. The applied label must remain securely in position under anticipated conditions of handling, shipment, and storage.

5.1.4 Tags. Unless otherwise specified by the cognizant activity, paper tags shall conform to A-A-900. Metal shipping tags shall be corrosion resistant. Aluminum foil, adhesive-backed plates, and plastic and plastic-laminated plates, that are authorized for use by the cognizant activity, may be used when durability is required and costs will not exceed that of metal tags. A metal, cloth, plastic, or paper shipping tag, conforming to UU-T-81 and bearing the required markings, shall be used when specified herein or when it is impractical to stencil mark or apply a label on the container or unpacked item. Tags shall be attached with wire or twine. Wire shall not be smaller than 23 gauge (0.0258 inch in diameter) tag wire or some other

suitable corrosion-resistant metal fastener. When the rusting of wire could affect or damage the item to which the tag is attached, then twine shall be used for attaching tags. Markings on cloth or paper tags shall be printed or typed with waterproof ink, while markings on metal tags shall be accomplished with dies or punches. Markings on plastic tags shall be accomplished by stamping, stenciling, embossing, printing (not hand lettering), perforating, or, when specified, by other processes such as lithographing, silk-screening, photo marking, and by applying transfers or decals. Types of material used for plastic tags shall meet the requirements of L-P-387. Plastic tags shall be secured by the same method used to secure cloth, paper, or metal tags. As an alternative to twine or wire, attachment may be by cement, adhesion, sewing, clips, staples, tacks, tape, or nails.

5.1.5 Water-resistant envelopes. Water-resistant envelopes for packing lists and DD Forms 1348-1 and -1A shall conform to PPP-E-540. Tape conforming to A-A-883, PPP-T-60, PPP-T-70, or PPP-T-76 may be used to attach the envelope to the package or container.

5.1.6 Packing list protectors. Packing list protectors shall conform to A-A-1907.

5.2 Conditions of surfaces to be marked. All surfaces to be marked shall be clean, dry, and entirely free of contaminants, except as permitted in 4.4.8.2. Any marks not applicable to the shipment contemplated, except those permitted by 5.1.1, shall be removed by covering with obliterating lacquer, ink, enamel, or paint (see 5.1.2.3). When shipping containers are consolidated into container vans for shipment to an ultimate consignee, obliteration of current address markings shall not be required by consolidation activities (see 4.4.10). Unless the contract data markings interfere with other required markings, they shall not be obliterated when original unopened packs are readdressed for shipment by a DOD shipping element.

5.3 Legibility, color, and durability of markings. All markings shall be clear and legible and not less than the size specified (see 5.5). Markings shall be nonfading and durable, as required in applicable specifications. Unless otherwise specified, the color of all markings shall be black. Prior approval is required from the contracting activity if any color other than black is used for markings. When applied to surfaces on which black is not legible, the color used shall provide a definite contrast. For example, yellow or white lettering shall be applied over forest-green coloring.

5.4 Methods of marking.

5.4.1 Methods of marking interior packs, shipping containers, and loose or unpacked items. Marking shall be accomplished by using preprinted labels and by stamping, stenciling (either dot-matrix or conventional methods), machine printing, or tagging. Lithographing, silk-screening, photo marking, laser marking, embossing, bar coding, and the application of transfers or decals may also be used when specified herein or when approved by the cognizant activity. Hand lettering or hand printing on unit, intermediate, and exterior containers may be used only for the marking of serial numbers, yardage marking of textiles, piece number, total pieces, and weight and cube, provided all other requirements of this standard are met for legibility and marking material. The cure date and reinspection date for tires and tubes may also be hand lettered or hand printed. The descriptive terms associated with these markings, such as "SER NO," "WT," and "CU" may also be hand lettered or hand printed. Hand lettering or hand printing on DD Form 1387 is not authorized, except for blocks 6, 10, 12, 13, 16, and 17. Unless otherwise authorized, identification markings for ammunition shall be limited to stamping, stenciling, printing, screening, or embossing.

5.4.2 Stenciling. Stenciling may be accomplished by brushing, rolling, or spraying with materials specified (see 5.1.2.2).

5.4.3 Printing. Required markings may be printed directly on all interior and exterior containers at the time of manufacture (see 5.4.1). Self-inked, porous stencils impressed by a data processing machine or typewriter may be used.

5.4.4 Labels.

5.4.4.1 Use of labels. Unless otherwise specified in the contract or order, bar code and address labels are required on all levels of military packaging. Labels are permitted for marking identification and contract data on interior containers, and, unless otherwise specified, they are permitted on shipping containers of fiberboard, plastic, or metal. Without any special surface preparation, pressure-sensitive labels that meet the requirements of 5.1.3.1 and 5.1.3.2 may be used on containers other than wood. Pressure-sensitive labels are authorized on wood containers when the wood surface is prepared as outlined in appendix H, 20.5. When authorized by the cognizant activity, paper labels (stenciled or nonstenciled), that are overcoated with label adhesive (see 5.1.2.1), may be used on wood containers for identification, contract data, and address markings only.

Address labels must also be applied to bundles of lumber (see 4.4.8 and 4.4.8.1). Labels will not, however, be used to apply identification markings or hazardous materials proper shipping names and identification numbers to ammunition packages unless specifically authorized by the procuring activity. The use of labels for hazardous materials UN packaging specification markings is prohibited (see appendix E, figure 10). For bar code label requirements, see appendix G for ammunition and appendixes H and I for nonammunition items.

5.4.4.2 For shipping containers, interior packs, paper-wrapped rolls, and unpacked items. When labels are used, the required markings shall be machine printed, stamped, typed, or reproduced. Letters must not smear or blur under anticipated conditions of handling, shipping, and storing.

5.4.4.3 Affixing and securing of paper labels (except vehicles and related equipment). Labels other than pressure-sensitive shall be securely affixed in place with water-resistant label adhesive, as specified (see 5.1.2.1). Adhesive shall be placed on the complete underside of the label. An alternate method of affixing and protecting labels on fiberboard containers, metal containers, polyethylene, rubber products, vehicles, and related equipment is by placing PPP-T-60, type III, class 2, or PPP-T-70 pressure-sensitive tape over the entire surface of the label. When pressure-sensitive labels are used, the adhesive used during label manufacture shall be as specified (see 5.1.3.2).

5.4.4.4 Protective coating of labels. If they are not inherently waterproofed, all labels for exterior containers (except vehicles and related items) shall be waterproofed by coating the entire outer surface of the label with a waterproof varnish, clear acrylic coating compound, or label adhesive (see 5.1.2.1). This waterproofing requirement also applies to metal or plastic drums pails, or cans utilized as exterior containers. Transparent tape may be used on exterior containers, vehicles, and related items (see 4.4.6 and 4.4.9). Labels applied to structural steel products also require overcoating protection.

5.4.4.5 Bar code markings. Unless specifically exempted in the contract or order or by a service/agency directive, bar code markings are required. They shall be applied either by labels or by direct printing on all containers other than wood containers. Only labels shall be used when applying bar code markings on wood containers. For bar code marking requirements, see appendix G for ammunition and appendix H for nonammunition items.

5.4.4.6 Interior pack markings. The size of a label shall not exceed the marking surface area of any side of a unit container. When clear (untinted) plastic containers are used for unit protection, labels may be inserted or affixed inside the container if the label will not affect or be affected by the method of preservation and will not obscure more than 50 percent of the surface of the container.

5.5 Size of markings.

5.5.1 Size of lettering. Lettering for all markings shall be capital letters of equal height, as specified herein, and shall be clearly legible and proportional to the available marking space of the container. Letter size on ammunition packaging shall be as specified in this standard unless otherwise specified on applicable ammunition packaging documentation. Ammunition lot marking will be in the largest practical size lettering and shall be underlined. The lettering requirements specified in appendix A are for contingency operations and do not apply to normal day-to-day operations. They will not be used unless specifically ordered by a military department for movement of materials to overseas units which are the responsibility of that department.

5.5.2 Identification, contract data, and special markings. Unless otherwise specified herein, stenciled lettering for identification, contract data, and special markings shall be not less than one-fourth of an inch nor more than 1 inch in height. Lettering on ammunition packages may be larger than 1 inch in height when so specified on ammunition packaging documents.

5.5.3 Tags and labels. Address, identification, and contract data markings on plastic, cloth, or paper tags or labels shall be not less than 0.095 inch (approximately three thirty-seconds of an inch). On metal tags, markings shall be not less than three-sixteenths of an inch. The size of lettering on DD 1500 series forms, materiel condition tags and labels, shall be as specified by the respective departments and agencies.

APPENDIX A

ADDITIONAL NSN AND ITEM DESCRIPTION MARKINGS ON EXTERIOR CONTAINERS SHIPPED OVERSEAS

(see 4.2.4)

10. SCOPE

10.1 Purpose. Additional NSN and item description markings shall be applied to exterior containers only when specifically required by a military department for movement to overseas units which are the responsibility of that department. These marking requirements are in addition to, and separate from, the marking requirements identified previously in this standard. The sizes of letters and numerals specified in this appendix do not take precedence over previously applied marking requirements but apply only to the additional marking requirements specified herein.

20. MARKINGS

20.1 Location of markings. In addition to the location of identification markings specified in this appendix, the NSN and item description shall be added, as required, to provide markings on three surface areas of a container, except as indicated below for bundles, barrels, kegs, etc. Boxes, crates, and pallet loads shall be marked on both sides and on one end. Horizontal, metal reusable cylindrical containers shall be marked on both sides and on one end. Irregularly shaped containers (e.g., bales, bags, etc.) shall be marked on two sides or on comparable conspicuous locations. Bundles, barrels, kegs, drums, and upright metal cylindrical reusable containers shall be marked on two areas on the side (180 degrees from one another).

NOTE: Exterior container identification markings (see 4.2.2), address markings (see appendix I), and supply class markings (see appendix J), when required, shall have priority on available marking space. In those instances where space prohibits the stenciling of the NSN and item description on the specified surfaces, they shall be added to the top or the unmarked end of the exterior container. Surfaces of all types of containers already marked with the identification data need not be remarked. However, the NSN and item description shall be applied to the additional surfaces.

20.2 Application of markings. Application of markings and required marking materials shall be as specified in 5.1.

20.3 Overcoating (weatherproofing) markings. Identification markings stenciled on level A wood containers shall be overcoated with spar varnish or clear acrylic coating compound, as specified (see 5.1.2.1).

30. EXCEPTIONS TO THE REQUIREMENT FOR ADDITIONAL APPLICATION OF THE NSN AND ITEM DESCRIPTION

30.1 Exceptions to the requirement are:

a. Postal containers.

b. Loose, unpacked, or other self-identifying items where item identification is placed on labels and tags.

c. Security or sensitive items requiring concealment of identification.

d. Contents of palletized unit loads, multipacks, or consolidation containers.

e. Containers of frozen, chilled, or limited unrefrigerated medical shipments.

f. Perishable subsistence, including shipments of fresh fruits and vegetables.

g. Ammunition.

h. As determined by the cognizant military service.

40. SIZE OF LETTERS AND NUMERALS

40.1 Identification markings (see 4.2.2). Identification markings shall be 1 inch high whenever space permits. When space does not permit 1-inch stenciling, the size of the markings shall be in accordance with table III. Available marking surfaces having a height of more than 12 inches and a length of more than 18 inches shall be marked with 1-inch stenciling.

TABLE III. Sizes of letters and numerals

Available marking surface	Stencil size
Height less than 5 in; length 6 in minimum	1/4 in
Height 5-9 in; length 15 in minimum	1/2 in
Height 9-12 in; length 16 in minimum	3/4 in NSN 1/2 in other markings

NOTE: The size of the stencil used is dependent on the height and the length of the container surface. If there is a conflict between two stencil sizes, the smaller size shall be used (e.g., if the dimensions are 12 (L) by 7 (H) inches, then the stencil size shall be one-fourth of an inch rather than half an inch).

40.2 Additional markings. The additional markings specified in 20 herein shall be proportionate to the available space, with a minimum height of 1 inch and a maximum height of 1 3/4 inches. However, when space does not permit the use of 1-inch letters and numerals, the largest size possible shall be used.

40.3 Stencil markings. When specific size stencil markings of 1 inch or more are prescribed herein for selected commodities, those requirements shall apply.

50. CONTAINER SURFACES

50.1 Preparation of container surfaces. Surfaces on the following types of containers shall be coated with obliterating (sand-colored) lacquer or paint (see 5.1.2.3) prior to stenciling the identification markings. These types of containers are wood containers that are weathered or discolored to the extent that color contrast is ineffective, fiberboard and wood containers with old markings that are illegible or not required, and wood containers whose available marking surface area does not permit the use of letters or numerals larger than one-half inch for identification markings.

APPENDIX B

SUBSISTENCE MARKINGS

(see 4.5)

10. SCOPE

10.1 Purpose. Unit, intermediate, and exterior container identification markings, contract data markings, address markings, and the Armed Forces symbol for subsistence markings shall be applied and positioned as explained herein. This appendix is mandatory to the standard and forms an integral part of the standard and its requirements. Figure 2 is shown at the end of this appendix. Bar code markings shall be applied to all containers in accordance with the instructions in appendix H.

20. UNIT AND INTERMEDIATE CONTAINER IDENTIFICATION MARKINGS

20.1 Applicable specifications. The identification markings on unit and intermediate containers of subsistence shall be in accordance with applicable commodity specifications.

30. EXTERIOR CONTAINER IDENTIFICATION AND CONTRACT DATA MARKINGS (OTHER THAN SACKS)

30.1 Semiperishable subsistence (see figure 2). The following identification and contract data markings shall be stenciled or printed on containers, except when otherwise specified in the contract or purchase order (see 4.4.3 for marking of sacks):

a. NSN and type pack (TPK) code (e.g., 8940-00-148-7142 TPK-2). TPK codes are used to designate the type of packing to be used. TPK-1 refers to commercial packing, while TPK-2 refers to weather-resistant containers which provide greater strength, stability, and reinforcement. TPK-2 shipping containers shall be marked with a TPK code applied adjacent to the NSN marking, with a minimum of three spaces maintained between the NSN and TPK. The NSN and TPK-2 are not required when the item is for resale, unless specifically required by the purchase order.

b. Item description and brand name, when applicable.

c. Quantity, size, and unit, when applicable (e.g., 24-2LB JARS). When the item is for resale only, the month and year of the earliest package date are required.

d. Gross weight and cube. Gross weight and cube shall be used on shipments to supply points and ports if the shipments are not palletized/containerized, but they may be omitted on shipments to domestic consuming installations.

e. Contract or purchase order number and lot number, when specified or required. The contractor shall code or mark each lot of supplies on each shipping container by embossing, stamping, printing, or stenciling.

f. Name and address of contractor.

g. Date packed (e.g., PKD 4/89).

h. Inspection or test date (e.g., ITD 4/90 or INSP/TEST DT 4/90).

i. Expiration date, when applicable.

30.2 Perishable subsistence (see figure 2). The following identification and contract data markings shall be stenciled or printed on containers, except when otherwise specified in the contract or purchase order. The standard markings for perishable subsistence shall not apply to the purchase of fresh fruits and vegetables. Markings on shipping containers for fresh fruits and vegetables shall be as specified in the contract or purchase order.

a. NSN. NSN shall be shown on perishable (specification) meats, poultry, seafood, dairy products, fruits, and vegetables which have NSNs assigned.

b. Item description and grade or brand. For items purchased by brand name, grade may be omitted; however, the brand name shall be shown.

c. Total net weight and count, as applicable, and date packed (month, day, and year). On items where the specification designates types, classes, styles, etc., according to the number of days subsequent to the date of slaughter or processing, or both, the day shall be the date of manufacture.

d. Gross weight and cube. Gross weight and cube shall be used on shipments to supply points and ports if the shipments are not palletized/containerized, but they

may be omitted on shipments to domestic consuming installations.

e. Contract or purchase order number and lot number, when specified or required. The contractor shall code or mark each lot of supplies on each shipping container by embossing, stamping, printing, or stenciling.

f. Name and address of contractor.

30.2.1 Precautionary marking. For items required to be frozen or refrigerated, the markings "KEEP FROZEN - (0° F. OR BELOW)" or "KEEP REFRIGERATED" (temperature range, as applicable) shall be applied to the top of each shipping container in 1-inch high letters.

30.3 Placement of semiperishable and perishable subsistence markings. Markings shall be applied on one end panel (see figure 2). If the required markings exceed the area on the end panel, the remaining lines shall be placed on the upper two-thirds of the right side panel. Lines may be consolidated when required because of a lack of marking area. When shipments of semiperishable and perishable subsistence are for domestic consumption, assembly into rations (semiperishable only), or for resale or export, and the subsistence was purchased in commercial containers, the identification and contract data shown in the commercial printing may be retained and the additional required markings added. If advertising matter on the container prevents application of the required markings, the manufacturer shall obliterate the advertisement in accordance with 5.1.2.3 or use a large enough label on which to apply the markings.

30.4 Semiperishable and perishable subsistence palletized unit loads. The following identification and contract data markings shall be stenciled or printed on the palletized unit load:

a. NSN.

b. Item description.

c. Quantity, size, unit, and type pack code (e.g., 42 CASES OF 24-2LB CANS TPK-2).

d. Gross weight and cube, including weight and dimensions of the pallet or container base.

e. Date packed.

f. Inspection or test date.

g. Expiration date, when applicable.

h. Contract or purchase order number and lot number.

i. Name and address of contractor.

NOTE: When the markings on one or more individual shipping containers are exposed on two adjacent sides of the unit load, a minimum 3- by 5-inch white label shall be applied on the same two adjacent sides of the load. The label shall be marked (letter size not less than half an inch) with the information contained in 30.4c and d above.

40. ADDRESS MARKINGS

40.1 Address. For shipments of subsistence, the domestic address shall be as specified by the cognizant activity. It shall be composed as shown in appendix I and shall be applied to the lower two-thirds of the container end. The overseas address for shipments of subsistence shall be applied to the lower two-thirds of the container end and shall be as follows:

a. Shipments of semiperishable subsistence from contractors' plants or depots shall be in accordance with appendix I.

b. All semiperishable subsistence to Air Force consignees in Turkey. Each crate, piece, case, or other individual container, including those on palletized loads, shall be marked in accordance with appendix I.

c. All perishable subsistence to Air Force consignees in Turkey. Each crate, piece, case, or other individual container, including those on palletized loads, shall be address marked with not less than the minimum address markings shown in 40.1e herein.

d. Fresh fruits, vegetables, and carcass meats shipped loose to consignees other than those shown in 40.1c above. No address marking is required, unless otherwise cited in the contract or order.

e. For all perishable subsistence shipments:

1st line:	TCN.
2d line: (if specified)	Project, when specified.
3d line: (2d line, if no project)	POD (coded and in-the-clear).
4th line: (3d line, if no project)	Overseas consignee (in-the-clear).

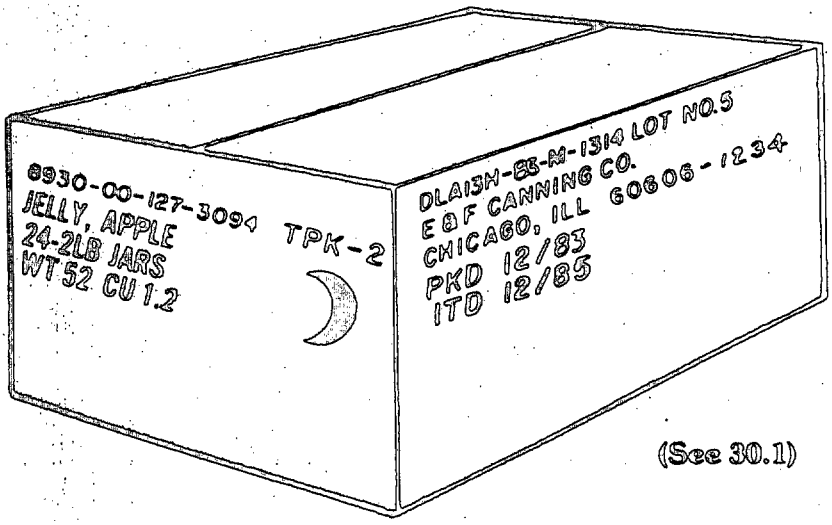
f. Except for the address marking stipulated in 40.1c and 40.1d herein, application of the address marking to shipping containers within a TCN shipment unit is relaxed as follows: When more than 25 loose containers, boxes, crates, etc., for each TCN line are shipped, a minimum of of 10 percent of the shipping containers of perishable subsistence items shall be address marked, as specified in 40.1e above.

50. ARMED FORCES SYMBOL FOR SUBSISTENCE

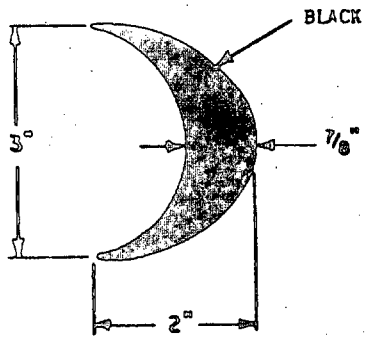
50.1 Applicability (see figure 2). All shipping containers packed with semiperishable and perishable subsistence, except containers packed with fresh fruits and vegetables, shall bear a solid black crescent symbol conforming to the design and dimension shown. The symbol shall be located to the right of the identification markings on all shipping containers and shall not interfere with the bar code markings. Shipping containers are not required to bear the subsistence label when it is shown that the item is for resale.

60. MARKING REQUIREMENTS

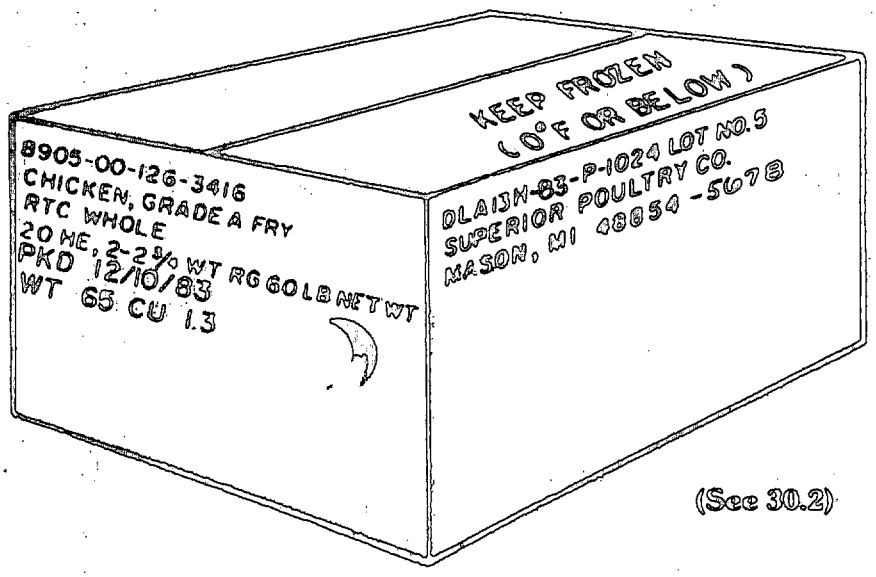
60.1 Marking requirements shall be as specified herein and in 5.1 through 5.5.



(See 30.1)



(See 50.1)



(See 30.2)

FIGURE 2. Identification markings, contract data markings, and crescent symbol for semiperishable and perishable subsistence.

APPENDIX C

INTERIOR AND EXTERIOR CONTAINER SPECIAL MARKINGS

(see 4.6)

10. SCOPE

10.1 Purpose. Special markings for interior and exterior containers shall be applied and positioned as identified herein. When sufficient space is not available immediately below the identification markings, special markings shall be placed in a conspicuous location on the identification marked side of the container. Supply-type optional form (OF) labels listed in table VI shall be applied, as required. This appendix is mandatory to the standard and forms an integral part of the standard and its requirements. Figures 3 through 8 are shown at the end of this appendix. International labels are authorized, when appropriate.

20. SPECIAL MARKINGS

20.1 Shelf-life markings (see figure 3). Shelf-life items are managed and controlled in accordance with DOD 4140.27-M. There are two types of shelf-life items. A type I shelf-life item is an individual item of supply that is determined through evaluation of technical test data and/or actual experience to be an item with a definite nonextendible period of shelf-life. Type I items are assigned alpha shelf-life codes (SLCs) (including "X"). A type II shelf-life item is an individual item of supply having an assigned shelf-life time period that may be extended after completion of inspection, test, or restorative action. Type II items are assigned numeric SLCs and "X." Time periods and SLCs are in appendix A of DOD 4140.27-M and table IV of this appendix. Supply condition codes which may apply to shelf-life items are in appendix B of DOD 4140.27-M and table V of this appendix. Items assigned an SLC of zero (non-deteriorative) do not require shelf-life markings. When MIL-STD-1168 lot numbering is used, date manufactured, date cured, or date assembled is not required. When shelf-life markings are specified in contracts, purchase orders, purchase descriptions, other procurement documents, specifications, and materiel standards, they shall be shown below the item identification data on unit, intermediate, and exterior packs or unpacked items. Shelf-life markings shall include the following:

a. For type I shelf-life items: date manufactured, date cured, date assembled, date packed (apply one date, as appropriate), and expiration date (see notes). For

medical items, only the date manufactured or expiration date, as appropriate, shall be shown.

b. For type II shelf-life items: date manufactured, date cured, date assembled, date packed (apply one as appropriate), and inspection or test date (see notes).

EXAMPLE 1 (TYPE I)	EXAMPLE 2 (TYPE II)	EXAMPLE 3 (TYPE II)
MFD DATE 10/89	ASSEMBLED DATE 10/89	CURED DATE 4Q89
EXP DATE 10/91	INSP/TEST DATE 10/90	INSP/TEST DATE 4Q90

NOTES: 1. TYPE I and TYPE II - The words "type I" or "type II" shall not be applied to the container as part of shelf-life markings. For other than cure dated shelf-life items (see examples 1 and 2), the date manufactured, date assembled, date packed, expiration date, and inspection or test date shall be expressed by the numeric month followed by the last two digits of the calendar year (e.g., 10/89), with the day of the month being the last day. For cure dated items, the date cured, date assembled, expiration date, and inspection or test date (see example 3) shall be expressed by the calendar quarter and the last two digits of the calendar year (e.g., 4Q89), with the day of the quarter being the last day. When two or more unit packs of identical items are marked with different dates of manufacture, cure, assembly, or pack, the earliest date shall be shown on the shipping container.

2. DATE MANUFACTURED - Date manufactured is the date the item, materiel, or commodity was produced, fabricated, processed, or formed for use. For drugs, chemicals, and biologicals, date of manufacture for products submitted to the Federal Drug Administration for certification prior to release is the date of official certification notice. For products manufactured under the Agricultural Research Service (ARS) license, the date of manufacture conforms to the definition established by the ARS. For medical items having an expiration date, the date of manufacture shall not be shown.

3. DATE CURED - The date cured is the date the item or materiel was altered industrially, as to vulcanize (rubber) or to treat (synthetic elastomers) with heat or chemicals to make them infusible.

4. DATE ASSEMBLED - The date assembled is the date items or parts are assembled into components, assemblies, sets, kits, or outfits (CASKOs); or the date various CASKOs are assembled into a unit.

5. DATE PACKED - For items required to be marked, the date packed will be the date on which the product was packaged in the unit container, regardless of dates of packing, shipping, or additional processing.

6. EXPIRATION DATE - The expiration date is the date by which nonextendible items (type I) should be discarded as no longer suitable for issue or use. For drugs and biologicals, the expiration period shall be as stated in the procurement document. The expiration date shall be expressed by the numeric month followed by the last two digits of the calendar year (e.g., 10/92) and shall be preceded by "EXP DATE" (see example 1 in 20.1b herein).

7. INSPECTION OR TEST DATE - The inspection or test date is the date by which extendible items (type II) should be subjected to inspection, test, or restoration. The inspection or test date shall be left blank for drugs and biologicals.

20.1.1 For CASKOs that contain shelf-life items with the same or different expiration dates or inspection or test dates, the following shall be applied:

a. The CASKO shall be marked with an SLC reflecting the shortest shelf-life period of any of the shelf-life items contained in the CASKO and the earliest applicable expiration, inspection, or test date for any of the items.

b. A packing list or other type of control shall be maintained which will list shelf-life items, their shelf-life periods or codes, and their expiration, inspection, or test dates.

20.1.2 Certain rubber products have an expected shelf-storage life greater than 60 months but are not included in the shelf-life program. These items have an SLC of zero and are marked with a cure date and use-by-date. Although they are not included in the shelf-life program, these rubber items should not be issued, stored, returned for credit, or used if the use-by-date

has passed. Cure date and use-by-date markings are applicable only to elastomeric items of supply and are assigned to assist users in determining the age of the materiel. The use-by-date is typically expressed in terms of the month and year with the day of the month being the last day. Use-by-dates shall not be applicable to CASKOs.

20.1.3 When type II shelf-life materiel is inspected or tested and then extended to a new inspection or test date, a DD Form 2477 (Extended Shelf-Life) shall be attached in a conspicuous place on the affected materiel whenever storage activity resources permit. The form must be placed on both bin and bulk materiel, packages, or containers prior to shipment. Once the type II materiel is received, it becomes the receiver's (i.e., retail and user) responsibility to promulgate the extension information to unit and intermediate packages or containers if they are not so marked. Information on the extended shelf-life form is contained in chapter 4-2(d)(5) of DOD 4140.27-M, with the actual form depicted in appendix E of DOD 4140.27-M. There are three different sized forms, called notices, which are referred to as the largest (DD Form 2477-1), intermediate (DD Form 2477-2), and smallest (DD Form 2477-3). The completed forms will be applied as follows:

a. For materiel in bulk storage, the largest extended shelf-life notice will be placed in front of the storage location.

b. On shipments of unit load quantities which contain the same product (e.g., pallets or shrink-, spin-, or stretch-wrap pallets), the extended shelf-life notice will be securely attached to two sides of each unit load. When shrink-, spin-, or stretch-wrap is used, the notice shall be inserted under the wrap. The largest notice is recommend d for these type shipments.

c. On shipments of unit load quantities which contain more than one product and on quantities which are less than a unit load, the largest or intermediate DOD extended shelf-life notice shall be attached to each individual shipping container.

d. For type II materiel in bin storage, the smallest or intermediate notice shall be displayed at the bin location except for critical application items. When

extended shelf-life items are shipped from the bin, an extension notice shall be placed on the materiel.

e. For materiel on which the notices cannot be used (e.g., drums, cylinders, canisters, etc.), revised inspection or test information shall be stenciled on the materiel, or other appropriate means shall be used.

20.2 Outside dimensions. Outside dimensions shall be shown below the identification markings on all shipping containers, bundles, or secured lifts having any single dimension of 72 inches or more. Outside dimensions shall be shown in the order of length, width, and height and shall appear in addition to the cube. Dimensions shall be shown in inches to the nearest inch and shall be located below the identification data (e.g., L-120, W-53, H-66).

20.3 Restrictive markings. Classified materiel and interior containers shall be appropriately marked, tagged, or labeled to reflect quantity, identity, security classification, condition, technical order compliance status, and reinspection date, as applicable. Elements of data that are classified and any markings that identify the shipment as classified will not be placed on the exterior shipping container (see 4.2.2.4).

20.4 Valuable and security items. When items such as certain drugs, narcotics, precious metals, currency, jewelry, cameras, and similar type valuables are shipped, the marking shall be as specified by the cognizant activity concerned or as required by regulation or statute. When no marking requirements are specified, marking shall be as prescribed in 4.2.1, 4.2.2, and 4.2.2.4, except for the nomenclature/item description, which shall be omitted. Alcohol or alcoholic beverages shall be documented and marked in accordance with U.S. Treasury Department regulations.

20.5 Technical data markings. Technical data markings, when required, shall be shown in accordance with the instructions, specifications, and drawings supplied by the cognizant activity.

20.6 Structural markings. When prescribed by the cognizant activity, structural markings, such as the following, shall appear on shipping containers:

a. INSPECTION DOOR.

b. REMOVE TOP FIRST.

c. TO OPEN TOP: REMOVE SCREWS.

d. REUSABLE CONTAINER.

Markings shall be located on or near the structure described. Containers designated as reusable containers shall include sufficient structural markings to provide instructions for opening and unpacking without causing damage to the container, packing materials, and contents. Containers packed with major assemblies, components, and test equipment for use in connection therewith shall be marked with the words "FRONT OR OPEN SIDE," as appropriate, in order to permit unpacking without waste of time.

20.7 Project code markings (see figure 3). When specified in contracts and when instructed by the appropriate cognizant activity that project code labels are required on exterior containers, the project code shown in the requisition or in the procurement document (e.g., ARI, ABC, etc.), in addition to appearing in the address, shall also be shown on a white label having a black bordered disc superimposed thereon. In the event that more than one project is required, all project codes can be applied on one label. Label sizes shall be 3 by 3 inches or 9 by 9 inches, and the disc shall measure 2 or 6 inches in diameter, respectively, with proportionate black lettering. When a tag is prescribed for project code marking, a label or separate tag is not required. The project code may be printed or stenciled on containers which are too small to accommodate the smallest project code labels. When markings are applied by tags, the project code shall be stenciled or printed on the identification tag adjacent to the identification data. Application of the markings shall be as follows:

a. Rectangular containers, consolidation containers, and palletized loads - two discs, one on each side.

b. Cylindrical containers - two discs equally spaced on the circumference.

c. Irregularly shaped containers and loose or unpacked items - stenciled or printed on the identification marked side of a tag.

d. Vehicles or other major unpacked items such as Industrial Plant Equipment - one disc on the marking board. As an

alternative, a disc may be applied directly on a vehicle by using PPP-T-60, type III, class 2, or PPP-T-70 pressure-sensitive tape. The tape shall be placed over the label and extend a minimum of half an inch from all edges of the label.

e. Postal - one disc adjacent to the address marking.

f. MILVANs/SEAVANs - shall not be marked; however, the containers or items comprising the van load shall be marked as specified herein.

20.8 Transportation protective services (see figure 3). Shipments moving by military controlled aircraft that are identified as classified/protected cargo items requiring protective services should be referred to DOD 4500.32-R for completion instructions for DD Form 1387-2 (Special Handling Data/Certification). Non-hazardous materials moving by military controlled aircraft, such as those items subject to damage by heat, damage by freezing, and life or death shipments, also require a DD Form 1387-2.

20.9 Marking of Agency for International Development (AID) shipments (Office of Public Safety and Disaster Relief) (see figure 3). When specified by the requisitioning or procuring activity, AID shipments (including subsistence commodities) to recipient foreign governments and international organizations, whether shipped from CONUS, overseas stocks, or offshore procurement sources, shall be identified with the handclasp emblem applied on each side of a container. Bulk shipments of items such as coal, grain, oil, and loose, unpacked items such as ingots, bars, pipes, sheets, plates, and girders shall not be marked with the handclasp emblem. The handclasp emblem shall also be applied on two areas of bundled items and on each side of the hood or cap of vehicles. The emblem shall be applied as a label or paper tag, or printed directly on the container. The label size shall be 2 3/8 by 3 1/8 inches, 5 by 6 9/10 inches, 8 1/2 by 11 3/16 inches, or 11 by 14 1/2 inches. The largest possible emblem consistent with available marking space shall be used. The tag size shall be 6 1/4 by 3 1/8 inches.

20.10 Special handling. Markings such as TOP, UP, THIS SIDE UP, GLASS, KEEP DRY, PERISHABLE, KEEP FROZEN, or other special handling instructions shall appear on shipping containers, as applicable. However, such markings shall not interfere with or obscure other markings on shipping containers.

20.11 Arrows (see figure 4). When the safety of the contents of unit and intermediate packs and exterior containers requires that the containers be stacked with the top surface up, two sides of a rectangular container and two equidistant points on the circumference of a cylindrical container shall be marked with the word "UP" with an arrow toward the top of the container. The length of the arrow shall be not less than 1 inch, with the stem not less than half an inch in width and its size proportionate to the available space. Arrows shall be employed only to indicate or supplement the words "UP" or "TOP." These markings shall not be used indiscriminately and shall be affixed only when it is essential. The word "UP" may be marked above the arrow head, below the stem, or on the stem. ANSI markings may also be used.

20.12 Method II marking (see figure 4). Method II packs shall bear a Method II precautionary marking on the identification marked side. On unit and intermediate packs, the method II marking may be applied by either stamping or by using the applicable optional form label (see table VI). The method II marking may be printed on the barrier at the time the bag is fabricated, provided the specific order scheme is observed. On exterior containers, use either the optional form labels or print or stencil the Method II marking on the container. When Method II marking is printed or stenciled on the container, use marking ink that conforms to MIL-I-43639 and meets the nonfading requirements of this standard (ink to be bleed-resistant and resistant to ultraviolet ray degradation). If this type marking ink is not available, ink conforming to A-A-208 may be substituted. When space is not available, the words "METHOD II PACKAGE--DO NOT OPEN UNTIL READY FOR USE" shall be machine printed, stamped, or stenciled adjacent to the identification markings, with size of the lettering as specified in 5.5. Method II labels may be omitted from ammunition packages when the cognizant design activity determines them to be inappropriate for specific application.

20.13 Fragile/delicate items (see figure 4). Unit packs and intermediate/exterior containers containing delicate or fragile articles shall be marked by labeling, stenciling, or stamping. When space permits, the fragile/delicate symbol shall be placed on the identification marked side and either end of a rectangular container and on two equally spaced areas on the circumference of cylindrical containers. Containers that are imprinted with a precautionary marking such as "GLASS--DO NOT DROP OR THROW" or "GLASS--HANDLE WITH CARE" shall not require fragile labels. The size of fragile/delicate markings shall be 2 1/2-inch or 4-inch square. If white stock is used, it shall conform to 5.1.3 and shall be nonfading and durable. OFs 70A and 71A may be used to

identify fragile items (see table VI). Labels for exterior containers shall be secured and waterproofed, as specified (see 5.4.4.3 and 5.4.4.4). However, when vinyl or plastic-coated labels are used, further protective coating is not required. For vendor shipments only, when the prescribed fragile/delicate label is not available at the time of shipment, a vendor fragile/ delicate label may be used, provided it denotes either the word "FRAGILE" or the word "DELICATE" or both, and the size of the label is commensurate with the size of the container. ANSI markings may also be used.

20.14 Warranty markings (see figure 4). When a contract or order specifies that an item is being procured with a warranty agreement, warranty markings shall be applied to unit, intermediate, and shipping containers. Applicable warranty markings are also required on containers of serviceable/unserviceable materiel shipped from field units. Unserviceable returns which remain under contract warranty shall also be identified and classified as Supply Condition Code (SCC) "W" (Unserviceable (Warranted Reparable)). The warranty markings shall indicate the time period or condition of the warranty (e.g., days/months, hours of operation, etc.). They shall be applied by labeling, tagging, or printing, and they shall be prefaced by the words "WARRANTED ITEM." The words "WARRANTED ITEM" and all subsequent warranted item information shall be in upper case letters of the same style font. Warranty markings shall be located adjacent to or above the contract data markings. This paragraph does not apply to clothing and textile items unless otherwise specified in the contract or order. For medical items, unless a contract specifically states that unit, intermediate, and exterior shipping containers are to be marked with a warranty legend, warranty markings are not required. OF 274 (Equipment Warranty) may be used to mark warranted items. Examples of warranty markings are:

WARRANTED ITEM WARRANTY EXPIRES AFTER 1000 HOURS OF OPERATION	WARRANTED ITEM WARRANTY EXPIRES 1 JANUARY 1999	WARRANTED ITEM WARRANTY GOOD FOR 180 DAYS FROM DATE ITEM IS PUT INTO USE

NOTE: Most Government contracts have a warranty clause that addresses the Governmental rights to return shipments of items whenever sampling inspection indicates the overall contract quality levels have not been met (e.g., too many shirts with broken or missing buttons, open seams, spots and stains, etc.). However, a WARRANTED ITEM stands alone in each shipment and will be returned if it does not perform as warranted, regardless of the quality of the

remainder of the shipment (e.g., a battery warranted not to need recharge for a minimum of 6 months or a year).

20.15 Magnetized materials suitable for shipment via aircraft. Boxes, packages, and items containing magnetized material, determined to be suitable for shipment by military aircraft in conformance with MIL-S-4473 shall be marked in accordance with AFR 71-4/TM 38-250/NAVSUP PUB 505 (REV)/MCO P4030.19/DLAM 4145.3. Magnetized materials suitable for shipment by commercial air shall be marked in conformance with ICAO and IATA regulations.

20.16 Magnetized materials not suitable for shipment via military aircraft (see figure 4). Boxes, packages, and items containing magnetized material, determined to be not suitable for shipment by military aircraft in conformance with MIL-S-4473, shall be conspicuously marked on two opposite sides with a red caution label having white lettering. Labels shall be 5 by 4 inches. On large containers, additional labels may be applied, as required. When the marking area is limited, the size of the label may be reduced to a size commensurate with the available space on the container. Labels shall be red, matching color chip 21105 of FED-STD-595, with white letters.

20.17 Magnetic tape with data (see figure 4). Magnetic tape with data shall be labeled on interior and exterior containers.

20.18 Engineering or technical order changes or modifications (see figure 5). Unit packs and intermediate and exterior containers which contain materiel furnished for an MWO shall be marked on the identification marked side with the MWO number preceded by "MWO." When the procuring activity has specified a particular modification by the technical order number and date of issue, such markings including the change or modification shall be included on the shipping container, as specified by the cognizant activity. The marking shall be located in the lower right-hand corner of the identification marked side.

20.19 Serial number (see figure 5). An item that is assigned a serial number shall have the number applied to the unit pack and intermediate and exterior containers preceded by the abbreviation "SER NO." The marking shall be shown directly below the identification marking and above the contract data marking except when packed in accordance with 20.22.1 below. When unit packs bearing consecutive serial numbers are packed in intermediate or exterior containers, only the first and last number of the series shall be shown. If serial numbers are not in sequence, each number shall be listed. When an intermediate or exterior

container has more than five sequences of serial numbers, a serial number list will be prepared and placed on the inside of the container under the top inside flap and will also be included in the packing list. The identification marked side of the container shall be marked with the words "SERIAL NUMBER LIST INSIDE." Serial numbers assigned by the manufacturer solely for the purpose of indicating the quantity produced shall not be shown. Refer to appendix H for requirements regarding the bar coding of serial numbers.

20.20 Lot, control, or batch numbers (see figure 5). Lot, control, or batch numbers on unit packs and intermediate and exterior containers shall be preceded by the proper designation (e.g., LOT NO 5) and shall be shown adjacent to the contract number. Ammunition lot numbers shall be in the largest practical lettering and shall be underlined in accordance with STANAG marking requirements. Contract numbers shall not be shown when ammunition lot numbers or MIL-STD-1168 lot numbers are applied. See appendix G for other ammunition marking requirements.

20.21 Export permit number (see figure 5). For export shipments of narcotics to countries under the International Logistics Program, the export permit number shall be shown on the outside of the shipping container. The export permit number shall be located adjacent to the address markings and preceded by the words "EXPORT PERMIT NO XX." This marking must not interfere with any other markings.

20.22 Set or assembly markings (see figure 6). When a set or assembly is placed in two or more containers, all containers of component parts shall be shipped together. Each shipping container shall bear, in addition to its own number within the set, the total number of containers which make up the set and the number of the set within each shipment. Set or assembly markings shall be placed on the surfaces containing the identification markings and shall be located in the lower right-hand corner. A 2-inch black disc shall be placed above these numbers on each container. For surfaces on which black is not legible, such as forest-green containers, a yellow or white disc shall be applied.

20.22.1 Set or assembly (component parts of disassembled items with serial numbers) (see figure 6). Component parts of disassembled items shall have the serial number of the item on each shipping container comprising the applicable set. The serial number of the machine shall be shown immediately below the fractional number which identifies the individual container and the total number of containers comprising the set. These

markings shall be located on the lower right hand corner of the marked side of the container.

20.22.2 Set or assembly (component parts of disassembled items without serial numbers) (see figure 6). When an item which does not have a serial number is disassembled for shipment, a date (month, day, and year) followed by a capital letter to identify a set or assembly shall be shown on the shipping containers in lieu of a serial number. Each set shall bear a different letter. These markings shall be located above any required markings on the container. Double letters may be used when appropriate.

20.22.3 Single stock-numbered and part-numbered sets (see figure 6). When the contents of a single stock-numbered or part-numbered item are packed in two or more shipping containers or stored together as a set, in addition to the marking of 20.22 above, the stock number or part number shown on each shipping container shall be that of the complete set and shall be prefixed with "Part of" (shown as "P/O"). The component shall be shown directly under the set nomenclature.

20.23 Legend "USE NO HOOKS" (see figure 6). When specified herein, the legend "USE NO HOOKS" in letters not less than 1 1/2 inches in height shall be stenciled on both sides of shipping containers in which the contents are susceptible to damage by the use of hooks. In addition, a hook symbol with a superimposed "X" sufficiently heavy to convey the intended prohibitory use of the hooks shall be placed directly above the legend.

20.24 Expedited handling - not mission capable supply (NMCS) and 999 (see figure 6). Requisitions and contracts identified as NMCS shipments shall have an NMCS code shown in the required delivery date block of the address label. The applicable code is 999 or the letter "N," which may be followed by the required delivery date expressed in the number of days from the date of requisition. In addition to appearing on the address label, NMCS condition 999 shipments shall be marked with two 999 labels on each container. For NMCS conditions other than 999, containers shall be marked with two NMCS labels. One label shall be placed adjacent to the address markings and one shall be placed on the opposite side of the container.

20.25 Supply class identification marking labels. The use of supply class identification color marking labels is optional, and they shall be used only when specified by a military department and specified in the contract. These marking requirements are contained in appendix J.

20.26 Equipment which includes battery (other than self-propelled equipment or ammunition). When equipment includes a wet cell battery, the type of battery shall be plainly marked in large letters directly under the item nomenclature as follows: Battery, Storage (Volts), (Dry Charged, Wet Charged, or Moist Uncharged). (Applicable data will be entered by the contractor.)

20.27 Center of balance and sling or lifting points. When the weight of an item is not evenly distributed and the length of the item exceeds 5 feet, a 1-inch wide by 3-inch long vertical line, locating the center of balance, shall be extended up from the bottom edge of both sides of all items. This line shall be identified by stenciling or printing in 1-inch letters the words "CENTER OF BALANCE" immediately above or alongside the line. On unboxed equipment, the location of designated sling or lift points shall be marked in white. On vehicles which are painted white, yellow, or other light colors, the markings shall be black and the words "LIFT HERE," with an arrow pointing to the lifting eyes, shall be placed immediately above or alongside the lifting eyes. Paint that is easily removed shall be used for marking unboxed equipment and vehicles (see 5.1.2.2). If stencil ink is used, it shall conform to A-A-208. CARC paint or ink will be used when appropriate. When space does not permit, the size of the arrow and lettering may be reduced accordingly. Center of balance markings are not required on items such as MILVANs/ SEAVANs which are not handled by forklifts. Demountable crates will be conspicuously marked with the words "REMOVE LAG BOLTS BEFORE OPENING."

20.28 Axle weight markings. When specified, all shipments of wheeled items (e.g., vehicles, trailers, aerospace ground equipment, dollies, vans, etc.) weighing 2,000 pounds or more and scheduled for transportation by military aircraft shall be marked with individual axle weights. The axle weight shall be marked above each axle by stenciling or printing in 1-inch letters the words "AXLE WT" followed by the weight in pounds. When space does not permit, the size of the lettering may be reduced accordingly. For marking directly on the equipment, the paint shall be soluble in paint thinner or mineral spirits. When stencil ink is used, it shall comply with A-A-208. CARC paint or ink will be used when appropriate (see 5.1.2.2).

20.29 Load bearing areas and lift points. When shipping containers and their contents are subject to damage by bending and twisting from uneven container stresses or strains, load bearing areas and lift points shall be marked on the exterior

of the container. The words "LOAD BEARING AREA" shall be marked on the opposite panels of the container directly over the load bearing areas, and the words "FORKLIFT AREA" shall be placed directly over the forklift truck entry points of the skid and rubbing strip construction.

20.30 Sensitive electronic devices (see figures 7 and 8). Unit, intermediate, and exterior packs containing sensitive electronic devices (or various other electronic items, either alone or as part of assemblies) susceptible to damage from environmental field forces (e.g., electrostatic, electromagnetic, magnetic, or radioactive) shall be marked as specified below.

20.30.1 Unit packs (see figure 7). Unit packs shall be marked with the sensitive electronic devices caution label. A 2- by 5/8-inch label (OF 88) shall be placed on the identification marked side of the unit pack. If the marking space on the identification marked side of the unit pack is insufficient, the label may be placed on the other side. Should the label be temporarily unavailable, unit packs may be marked (see 5.4.1) with the sensitive electronic device symbol (see figure 7) and the statement "DO NOT OPEN EXCEPT AT APPROVED FIELD FORCE PROTECTIVE WORK STATION." Minimum size of the symbol shall be one-third of an inch measured vertically. This symbol shall be printed in black or in the same color as the identification marking, if other than black. A sealed barrier bag shall not be used as a shipping container.

20.30.2 Intermediate and exterior containers (see figure 8). Intermediate and exterior containers shall be marked with a sensitive electronic devices caution label. A 2- by 2-inch label (OF 87) shall be placed on one side of each intermediate container. Two 4- by 4-inch labels (OF 87A) shall be placed on each exterior container, one on the identification marked side (or surface) and one on the opposite side of each shipping container exceeding one-half cubic foot. Smaller shipping containers shall be marked in the same manner except that the 2- by 2-inch label may be used in lieu of the larger one.

20.31 Materiel condition markings. Materiel condition tags or labels shall be used whenever materiel may become mixed during storage or shipment within or between installations or where physical evidence is necessary for materiel control to prevent duplicate inspections, or both. Implementation of this requirement by the respective departments and agencies will afford specific guidance concerning use and application. The following

forms are authorized for use to indicate the condition(s) of materiel and identification of the individual article or the contents of the package, bundle, or container of any type to which they are securely attached. Federal condition codes are defined in appendix B of DOD 4000.25-2-M and in various departmental implementing documents. These forms are not for indiscriminate use on serviceable materiel that presents no problem in storage and transfer.

NOTE: Organizations using computer automation to produce materiel condition tags and labels may have DD Forms 1574 through 1577-3 (see 20.31.1 thru 20.31.5) centrally or locally procured or manufactured suitable for handling by a computer printer, as long as tags and labels conform to the color and design of the government produced item.

20.31.1 DD Form 1574 (Serviceable Tag - Materiel) and DD Form 1574-1 (Serviceable Label - Materiel). Except as otherwise specified previously in 20.31, materiel that is serviceable (e.g., issuable without qualification, issuable with qualification, or priority issue) shall be conspicuously marked with a serviceable materiel condition tag or label. The tag/label shall have yellow margins and letters. While it is preferable to have the letter be the same color as the border, there may be cases when the printing is not legible, especially in poorly lighted warehouses. In these cases, black lettering may be used. To assist in identification, a 1- by 5-inch yellow stripe may also be printed on the back of each tag.

20.31.2 DD Form 1577-2 (Unserviceable (Reparable) Tag - Materiel) and DD Form 1577-3 (Unserviceable (Reparable) Label - Materiel). Materiel that is unserviceable (e.g., limited restoration, reclamation, reparable, or incomplete) shall be conspicuously marked with an unserviceable (reparable) materiel condition tag or label. The tag/label shall have green margins and letters. To assist in identification, a 1- by 5-inch green stripe may also be printed on the back of each tag.

20.31.3 DD Form 1577 (Unserviceable (Condemned) Tag - Materiel) and DD Form 1577-1 (Unserviceable (Condemned) Label - Materiel). Materiel that is unserviceable (e.g., condemned or scrap) shall be conspicuously marked with an unserviceable (condemned) materiel condition tag or label. The tag/label shall have red margins and letters. To assist in identification, a 1- by 5-inch red stripe may also be printed on the back of each tag.

20.31.4 DD Form 1575 (Suspended Tag - Materiel) and DD Form 1575-1 (Suspended Label - Materiel). Materiel that is suspended (e.g., stocks awaiting classification, returns awaiting classification, ammunition suitable for emergency combat use only, reclaimed items awaiting condition determination, quality deficiency exhibits, or stocks held pending negotiation or litigation) shall be conspicuously marked with a suspended materiel condition tag or label. The tag/label shall have brown margins and letters. To assist in identification, a 1- by 5-inch brown stripe may also be printed on the back of each tag.

20.31.5 DD Form 1576 (Test/Modification Tag - Materiel) and DD Form 1576-1 (Test/Modification Label - Materiel). Serviceable materiel which requires technical data markings, testing, alteration, modification, conversion, disassembly, etc., prior to issue, shall be conspicuously marked with a test modification materiel condition tag or label. The tag/label shall have blue margins and letters. To assist in identification, a 1- by 5-inch blue stripe may also be printed on the back of each tag.

20.32 Hardness critical item (HCI). Unit, intermediate, and exterior containers housing items identified on the parts list as "HCI" shall be marked with the symbol "HCI" by either stamping or stenciling. The HCI symbol shall be placed on the identification marked side and on either end of a rectangular container and on two equally spaced areas on the circumference of cylindrical containers. The HCI lettering shall be black in color, and the size of the lettering shall conform to the requirements of 5.5.

20.33 Consolidation containers. Consolidation containers (see 3.8) shipped to a single destination but containing packages for multiple consignees (multiple DOD activity address codes (DODAACs) shall have the marking "MULTIPLE DODAACS" stenciled or stamped on the outside of the consolidation container immediately below the identification markings. The size of the marking shall be commensurate with the size of the consolidation container.

30. MARKING REQUIREMENTS

30.1 The special marking requirements for unit, intermediate, and exterior containers shall be as specified in this appendix and in 5.1 through 5.5.

TABLE IV. Shelf-life codes

NOTE: Tables IV and V are for information purposes only and shall not be quoted as official SLC requirements. The official tables are contained in DOD 4140.27-M.

Shelf-Life Period	Type I	Type II	Required Number of Months Shelf-Life Remaining Upon Receipt by the Government
Nondeteriorative	0	0	N/A
1 Month	A	N/A	1
2 Months	B	N/A	2
3 Months	C	1	3
4 Months	D	N/A	3
5 Months	E	N/A	4
6 Months	F	2	5
9 Months	G	3	8
12 Months	H	4	10
15 Months	J	N/A	13
18 Months	K	5	15
21 Months	L	N/A	18
24 Months	M	6	21
27 Months	N	N/A	23
30 Months	P	N/A	26
36 Months	Q	7	31
48 Months	R	8	41
60 Months	S	9	51*
Medical items, parachutes, and IRPOD items with a shelf-life period of greater than 60 months.	X	X	Variable based on the shelf-life months*

*No more than 12 months expended for elastomeric items of supply.

TABLE V. Application of supply condition codes to shelf-life items

CODE	TITLE	DEFINITION
A	SERVICEABLE (ISSUABLE WITHOUT QUALIFICATION)	Shelf-life remaining is more than 6 months.
B	SERVICEABLE (ISSUABLE WITH QUALIFICATION)	Shelf-life remaining is from 3 to 6 months.
C	SERVICEABLE (CUSTOMER CONCURRENCE REQUIRED PRIOR TO ISSUE)	Shelf-life remaining is less than 3 months.
E	UNSERVICEABLE (LIMITED RESTORATION)	Materiel which involves only limited expense or effort to restore to serviceable condition and which is accomplished in the SA where the stock is located.
G	UNSERVICEABLE (INCOMPLETE)	Materiel requiring additional parts of components to complete the end item prior to issue.
H	UNSERVICEABLE (CONDEMNED)	Type I shelf-life materiel that has passed the expiration date and Type II shelf-life materiel that has passed its inspection or test date and cannot be extended.
J	SUSPENDED (IN STOCK)	Type II shelf-life materiel that has reached the inspection or test date and is awaiting inspection, test, or restoration.

TABLE V. Application of supply condition codes to shelf-life items - Continued.

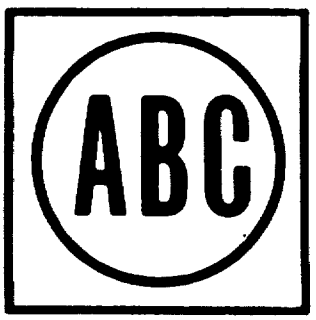
CODE	TITLE	DEFINITION
K	SUSPENDED (RETURNS)	Materiel returned from customers or users and awaiting condition classification.
L	SUSPENDED (LITIGATION)	Materiel held pending litigation or negotiation with contractors or common carriers.
R	SUSPENDED (RECLAIMED ITEMS, AWAITING CONDITION DETERMINATION)	Assets turned in by reclamation activities which do not have the capability (e.g., skills, manpower, or test equipment) to determine the materiel condition. The actual condition will be determined prior to induction into maintenance activities for repair/modification.

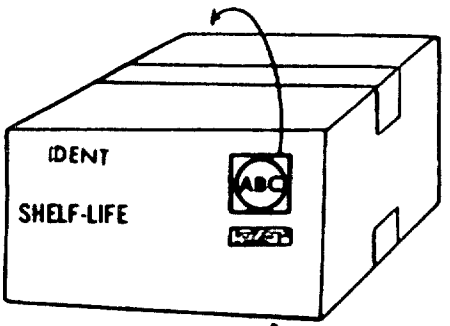
TABLE VI. Supply-type labels

NOTE: These forms are available from the cognizant Defense Contract Management Area Office (DCMAO) or Defense Plant Representative Office (DPRO).

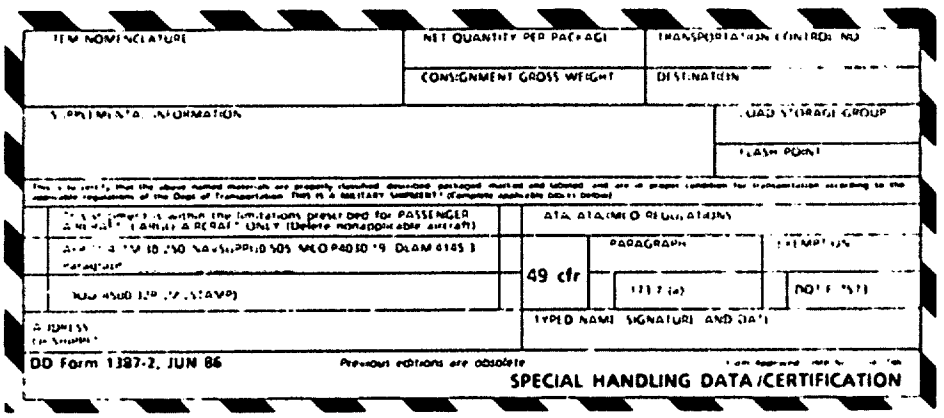
Optional Form	Title	Size (in inches)	NSN
70A	Fragile (gummed)	2 1/2 by 2 1/2	7540-00-559-2335
71A	Fragile (gummed)	4 by 4	7540-00-559-2337
73	Method II Package	2 1/2 by 1	7540-00-139-4738
74	Method II Package	6 by 2 1/2	7540-00-139-4752
78	Caution-Magnetic Equipment (50 ft)	5 by 4	7540-00-139-4773
80	999	2 by 2	7540-00-139-4831
81	999	4 by 4	7540-00-139-4832
83	NMCS	3 by 1 1/2	7540-00-139-4834
84	NMCS	3 by 5	7540-00-139-4835
85	Fragile-Magnetic Tape	4 3/4 by 4	7540-00-133-4312
87	Caution-Sensitive Electronic Devices	2 by 2	7540-01-109-8815
87A	Caution-Sensitive Electronic Devices	4 by 4	7540-01-110-4906
88	Caution-Sensitive Electronic Devices	2 by 5/8	7540-01-317-7371
274	Equipment Warranty	3 by 2	7540-01-044-7185

(See 20.7)



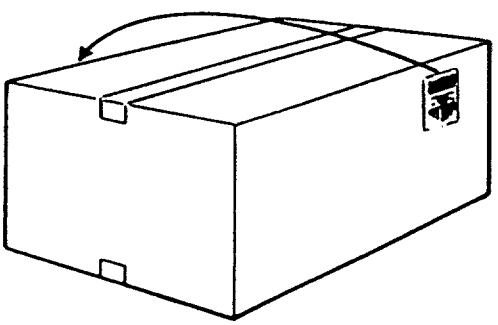


(See 20.1)



(See 20.8)

(See 20.9)



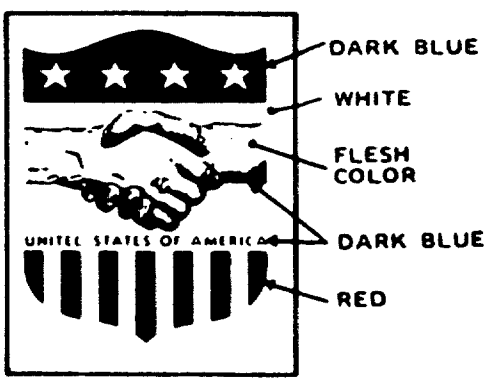
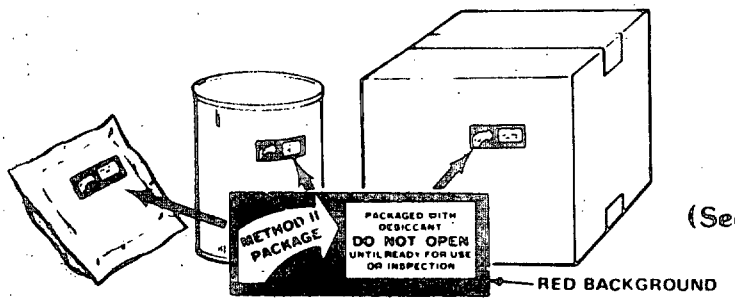
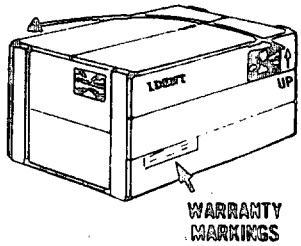


FIGURE 3. Examples of special markings. (Apply only applicable markings or labels.)



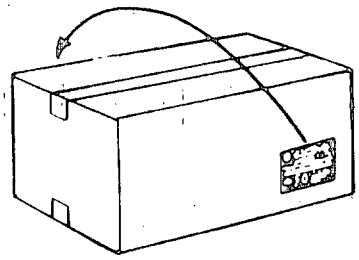
(See 20.12)

(See 20.13)



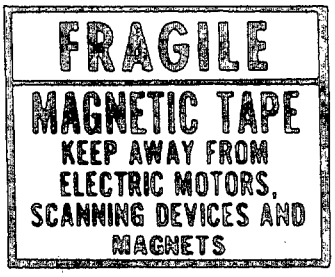
(See 20.11)

(See 20.14)



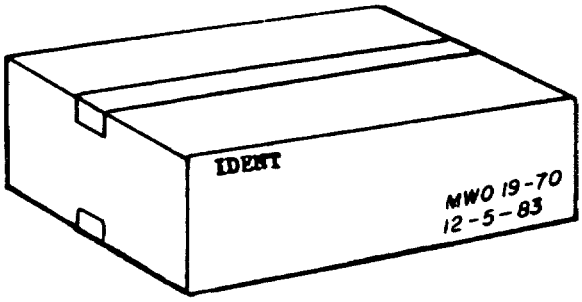
(See 20.16)

(See 20.17)



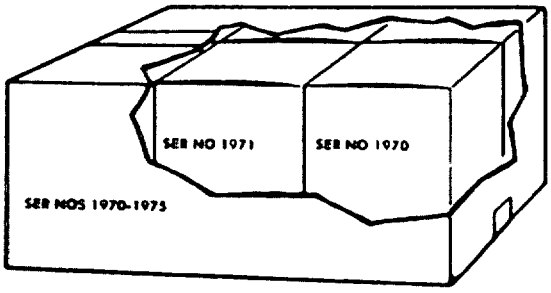
Red Letters on White Background

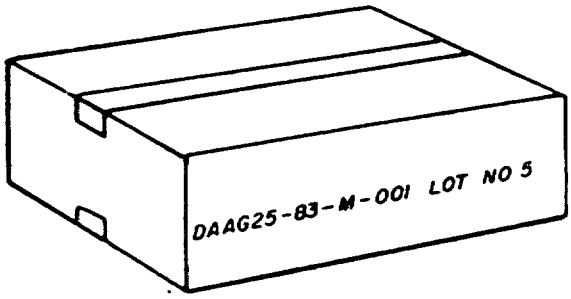
FIGURE 4. Examples of special markings. (Apply only applicable markings or labels.)



(See 20.18)

(See 20.19)





(See 20.20)

(See 20.21)

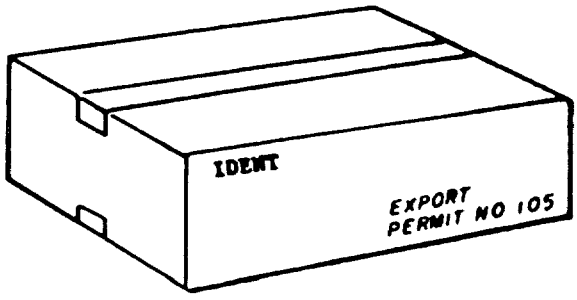


FIGURE 5. Examples of special markings. (Apply only applicable markings or labels.)

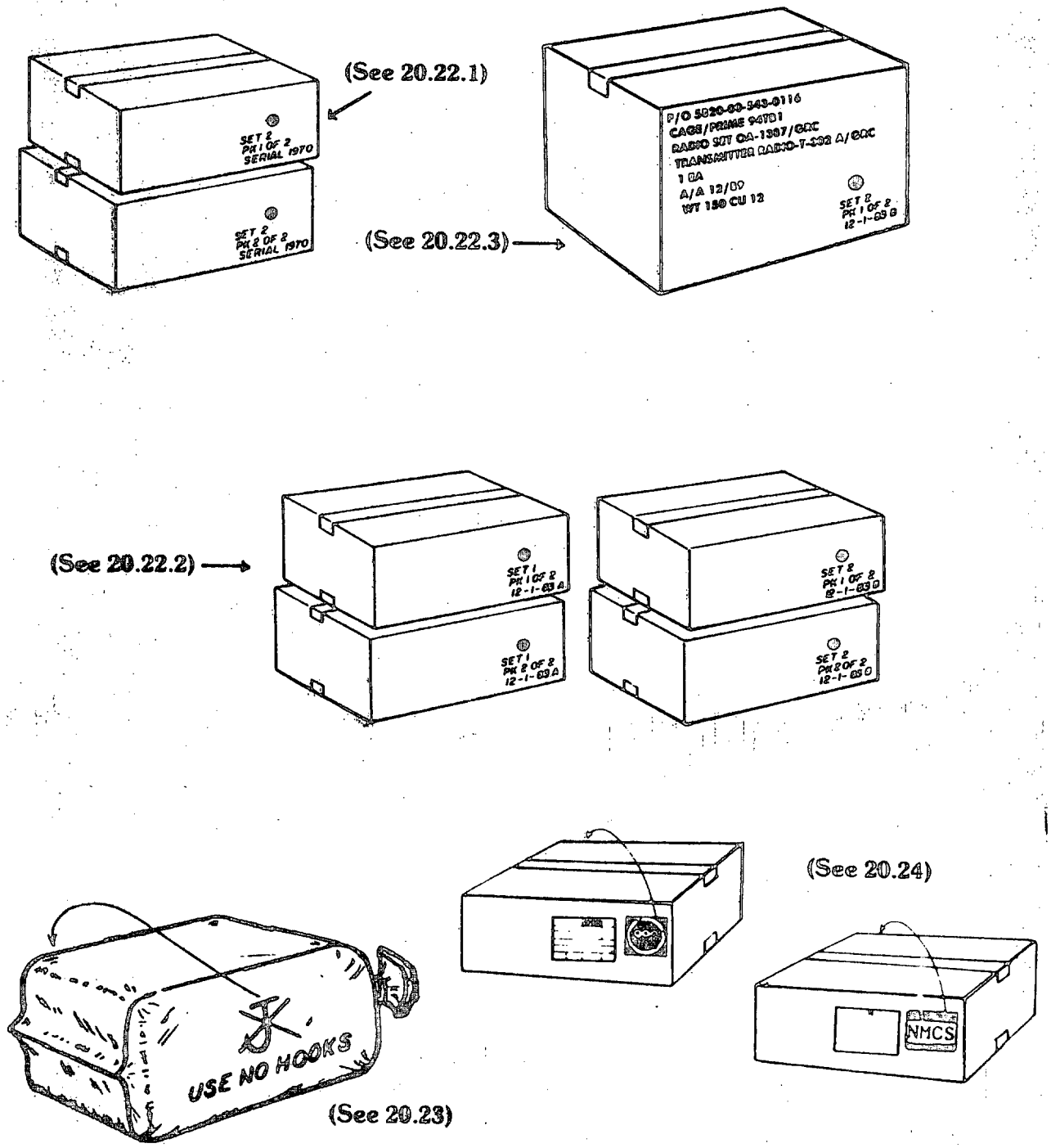


FIGURE 6. Examples of special markings. (Apply only applicable markings or labels.)

(See 20.30.1)

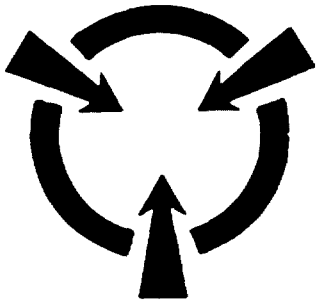
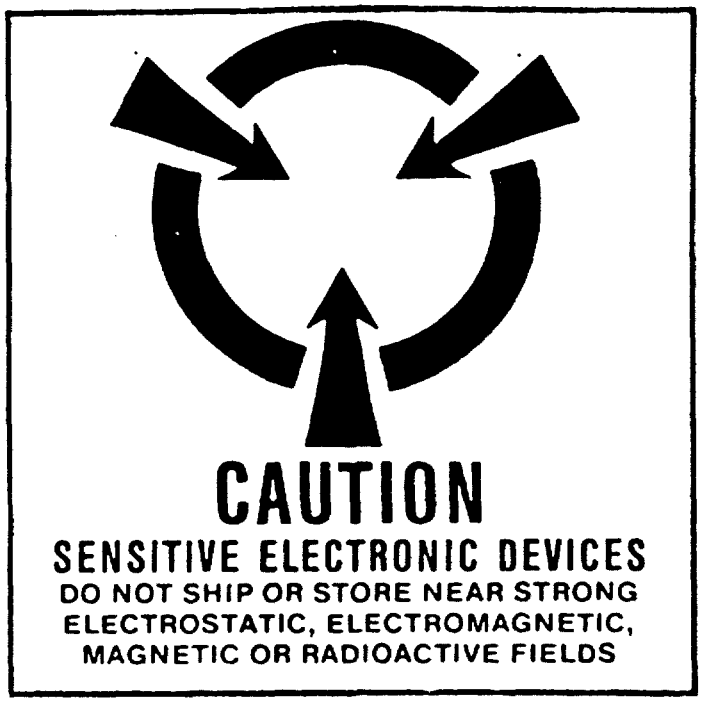


FIGURE 7. Sensitive electronic devices symbol and unit pack caution label.



(See 20.30.2)

NSN	SIZE	OPTIONAL FORM
7540-01-109-8815	2 by 2 inch	87
7540-01-110-4906	4 by 4 inch	87A
7540-01-317-7371	2 by 5/8 inch	88

FIGURE 8. Sensitive electronic devices caution label for intermediate and exterior containers.

APPENDIX D

MEDICAL MATERIEL SHIPMENTS

(see 4.7)

10. SCOPE

10.1 Purpose. Special markings for medical materiel shipments shall be applied and positioned as specified herein. Shelf-life marking requirements shall be applied as specified in appendix C and in DOD 4140.27-M. For contractor shipments, instructions for marking shelf-life items may be obtained from the procuring activity. Medical materiel determined to be hazardous for transportation shall be marked as specified in appendix E and applicable domestic and international transportation regulations. When medical materiel is scheduled to be shipped via military air transportation, a completed DD Form 1387-2 (see 20.5 herein) is required and shall be applied to the address side of the container. This appendix is mandatory to the standard and forms an integral part of the standard and its requirements. Figure 9 is shown at the end of this appendix.

20. CONTAINER MARKING REQUIREMENTS

20.1 DD Form 1502 (Frozen Medical Materiel Shipment - Perishable - Keep Frozen) (see figure 9). Shipping containers packed with perishable medical freezer items (constant temperature must be maintained below 32° F) shall have a completed "PERISHABLE-KEEP FROZEN" label applied to the address side of each container. Applicable icing and time data are to be inserted on the label at time of shipment. In addition, "ARROW" and "FRAGILE" markings shall be applied to containers of frozen medical items.

20.2 DD Form 1502-1 (Chilled Medical Materiel Shipment - Perishable - Keep Chilled) (see figure 9). Shipping containers packed with perishable medical refrigerated items (constant temperatures must be maintained between 35° F and 46° F) shall have a completed "PERISHABLE KEEP CHILLED" label applied to the address side of each container. The applicable icing and time data are to be inserted on the label at time of shipment. In addition, "ARROW" and "FRAGILE" markings shall be applied to containers of chilled medical items.

20.3 DD Form 1502-2 (Perishable) (see figure 9). Containers packed with perishable medical items out of refrigeration (when receipt of shipment by consignee is assured within a specified

number of days) shall have a completed "PERISHABLE" label applied to the address side. The data applicable to time of removal from refrigeration shall be inserted on the label at time of shipment. In addition, "ARROW" and "FRAGILE" markings shall be applied to containers of perishable medical items.

20.4 Placement of the medical materiel labels. When there is not enough space to permit proper application of DD Forms 1502, 1502-1, or 1502-2 on the identification marked side of the exterior (shipping) container, the applicable label shall be applied to the opposite side. When the container is of such a size that the label cannot be applied to either side of the container, the label may be applied in any fashion, provided it does not interfere with any required marking.

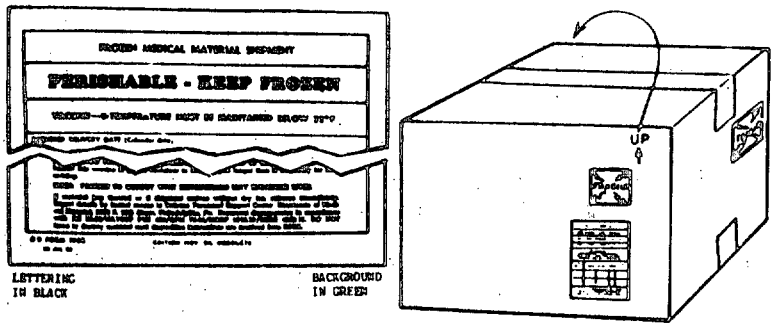
20.5 DD Form 1387-2 (see figure 9). All shipments scheduled for transportation by military controlled aircraft (including military contract airlift) containing hazardous materials, biologicals, classified/protected materiel, and any other materiel requiring special handling shall bear a DD Form 1387-2 label. Detailed instructions for the required copies and preparation of these labels shall be as specified in the joint military publication AFR 71-4/TM 38-250/NAVSUP PUB 505 (REV)/MCO P4030.19/DLAM 4145.3 for hazardous materials and in DOD 4500.32-R for classified/protected materiel. The form shall be located on the same side as the address marking and shall be applied, as specified (see 5.4.4.3 and 5.4.4.4).

20.6 Transportation Protective Services. Medical materiel shipments may require transportation protective services. For additional information, see appendix C, 20.8.

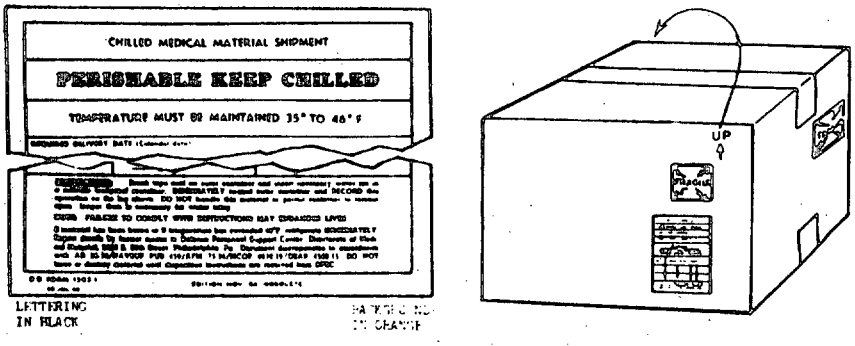
30. MARKING REQUIREMENTS

30.1 Marking requirements shall be as specified in this appendix and in 5.1 through 5.5. NATO markings are provided in STANAG 2060.

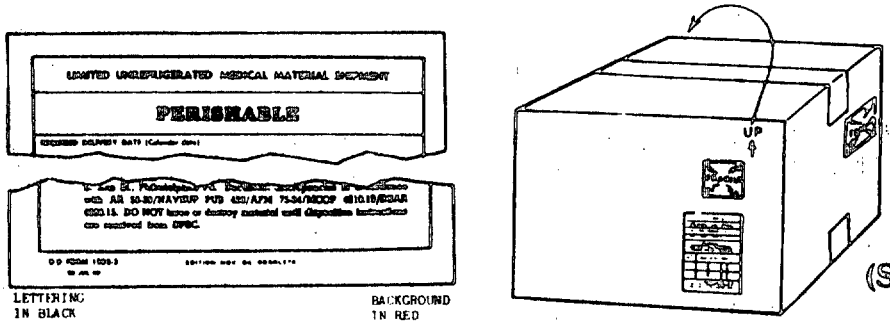
30.2 In addition to the requirements of 4.2.1, WT and CU data are required for intermediate packs. WT and CU data are not required on unit packs of medical materiel unless the unit pack is also the exterior container.



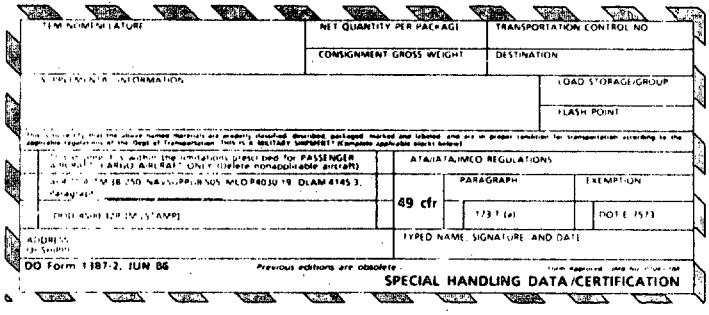
(See 20.1)



(See 20.2)



(See 20.3)



(See 20.5)

FIGURE 9. Medical materiel shipment labels.

APPENDIX E

HAZARDOUS MATERIALS MARKING AND LABELING REQUIREMENTS

(see 4.8)

10. SCOPE

10.1 Purpose. Marking and labeling requirements for shipments of hazardous materials, including hazardous wastes, shall be applied and positioned as stated herein. The hazardous materials classification warnings listed in table VII will be applied, as required. Hazardous materials warning labels are no longer available from GSA and must be locally procured. In some cases, these warnings satisfy DOT marking requirements for domestic (CONUS) shipments only and should not be used as substitutes for UN hazardous materials labels for international (OCONUS) shipments. A thorough review of all modal regulations is required to make this determination. Modal regulations must also be reviewed when using UN hazardous materials labels for solely domestic shipments not destined for import or export. This appendix is mandatory to the standard and forms an integral part of the standard and its requirements. Figures 10 through 13 are shown at the end of this appendix.

20. GENERAL MARKING AND LABELING REQUIREMENTS

20.1 Hazardous material marking and labeling regulations. Explosives and other hazardous materials shall be marked and labeled in accordance with 49CFR, parts 100-199; ICAO Technical Instructions for the Safe Transportation of Dangerous Goods by Air; IATA Dangerous Goods Regulations; IMO's IMDG Code; and this standard to satisfy all mode requirements enroute from source to destination. Proper shipping name(s), applicable hazardous item identification number(s), required hazardous materials warning label(s), and the appropriate hazardous materials UN packaging specification markings shall be placed on the exterior container, as required. Unless otherwise specified in the contract or order, if the hazardous materials warning labels for the DOT and UN proper shipping names are different, then both warning labels shall be placed on the same side of the container as the identification markings so they do not obscure other markings. If labeling requirements are the same, then only one warning label shall be applied. Government-owned dangerous goods, destined for international surface shipment that were packaged prior to 1 January 1988, shall be marked in accordance with 49CFR. Shipping papers shall be annotated "Government-owned dangerous goods packaged prior to 1 January 1988" and shall contain both 49CFR and UN proper shipping names and identification numbers. Shipping

containers for international air shipment and those containers packaged after 1 January 1988 shall be marked and documented in accordance with the appropriate modal regulations.

20.1.1 Proper shipping name. DOT and UN proper shipping names and identification numbers, where assigned, shall be placed on the outside of each shipping container (see 4.2.2g). Proper shipping names for n.o.s. items must be followed by a technical name in parentheses for domestic and international shipments. If DOT and UN proper shipping names and identification numbers are the same, only one proper shipping name and one identification number, if assigned, will be shown. If the proper shipping names are different, both DOT and UN proper shipping names and their identification numbers will be shown. DOT proper shipping names and NA or UN identification numbers required for domestic shipments are in 49CFR, paragraph 172.101, and AFR 71-4/TM38-250/NAVSUP PUB 505 (REV)/MCO P4030.19/DLAM 4145.3, chapter 4. UN proper shipping names and identification numbers required for international shipments are in 49CFR, paragraph 172.102, and in various international documents. The applicable international modal document should be used to determine the UN proper shipping name and identification number for the material being shipped. When a multipack contains hazardous materials, proper shipping names and identification numbers, where assigned, shall be marked on each container comprising the multipack. In addition, these proper shipping names and their identification numbers shall be listed on the outside of the multipack on the identification marked side of the container. Applicable hazardous materials warning labels for each class of material contained therein shall also be applied to the outside of the multipack.

20.1.2 Air and water shipments. Marking and labeling requirements for shipments of hazardous materials by commercial air are specified in 49CFR, parts 171-173 and 175, and in the ICAO technical instructions. Most DOT labels are compatible with IATA and ICAO requirements, but applicable regulations should also be consulted. When military airlift or contract carrier shipments are directed, the requirements of AFR 71-4/TM 38-250/NAVSUP PUB 505 (REV)/MCO P4030.19/DLAM 4145.3 shall apply. Marking and labeling requirements for shipment of hazardous materials by commercial vessels are specified in 49CFR, parts 171-173 and 176, and in the IMO IMDG Code. The IMO IMDG Code is used for overseas shipments by commercial vessels.

20.1.3 Precautionary marking and labeling by other statutes or regulations. Markings required for any purpose by regulations or statutes such as 29CFR or 40CFR and regulations issued under their authority shall not obscure nor shall they be obscured by

other markings. Also, hazardous materials offered for shipment via the United States Postal Service (USPS) shall be marked and labeled in accordance with the USPS Publication No. 52.

20.1.4 Identifying containers and packagings. Containers or configurations (packagings) shall be identified as complying with applicable DOT regulations, Federal or military specifications, and UN recommendations by one or more of the following options. When a container or packaging meets a DOT specification and has also passed the applicable UN-recommended performance tests, the container (packaging) shall be marked with both the DOT container specification and the UN packaging specification markings. In addition, when a container manufactured to a Government drawing, packaging drawing, or specification has successfully passed all of the applicable UN-recommended performance tests, then both the UN packaging specification markings (see figure 10) and the applicable drawing or specification markings shall be applied.

20.1.4.1 DOT specifications. When the container complies with a DOT specification, the container must be marked as required by the applicable specification (see 49CFR, part 178). This is normally the responsibility of the container manufacturer.

20.1.4.2 UN-recommended packaging specification markings. When the container complies with the UN requirements, such as successfully passing all applicable performance tests, it shall be marked in accordance with the applicable modal regulations. Figure 10 shows an example of UN packaging specification markings for a successfully tested combination package using a fiberboard box. UN POP specification markings shall be placed on the exterior container as specified in 40.3 herein. However, these UN POP certification markings shall not be placed on the bottom of the exterior container. Examples of other UN markings for various containers are in the UN recommendations (Orange Book), ICAO technical instructions, and IMO IMDG Code.

20.1.4.2.1 Certification symbol. The symbol of the party responsible for ensuring that UN recommendations have been met must be registered with the U.S. Department of Transportation, Office of Hazardous Materials Transportation. The appropriate symbol shall be as stated in the contract, order, purchase agreement, specification, Special Packaging Instruction (SPI), or other written direction by the packaging design agency or by higher headquarters. The symbol "DOD" has been assigned to the U.S. Department of Defense and is so registered.

20.1.4.2.2 Contractor's responsibilities. Unless otherwise stated in the contract or order for direct vendor shipments,

contractors must certify the packagings themselves as meeting the UN performance requirements (see UN Orange Book), or they must have the packagings certified by a DOT-approved testing facility. The contractor is also responsible for determining the use of the registered symbol of the contractor, packaging manufacturer, or DOT-approved testing facility as part of UN packaging specification markings. When the responsible party does not have a DOT-registered symbol, the name and address of the responsible party must be clearly marked.

20.1.4.2.3 UN symbol and size of lettering. The symbol "un" (lower case) shall be encircled. For embossed metal packagings, the capital letters UN may be applied as the symbol. Normally, the UN logo and the other codes shall be in letters that are half an inch or larger in size. However, for very small packages, the size of the lettering shall be commensurate with the size of the package. Methods of marking shall be in accordance with 5.4 and shall not interfere with or cause confusion with those markings which identify the contents or their hazardous nature.

20.1.4.3 Containers manufactured to a Government drawing, packaging drawing, or specification. When a container is manufactured to a Government-approved drawing or specification, it shall be identified as such. For example, this requirement is satisfied when a container has a MIL-STD-130 or equivalent nameplate or when it has the fiberboard box maker's certificate and statement of conformance to a Federal specification. This is normally the responsibility of the container manufacturer. When the complete package (inner packing pieces, inner containers, and shipping container) is covered by a detailed procedure in a specification or packaging drawing (shipping container drawing), the applicable specification or drawing shall be marked on the container in an inconspicuous location. This location shall not cause confusion with those markings identifying the contents or their hazardous nature (e.g., on the bottom of the box). This additional marking need not be applied to containers with nameplates when the container is peculiar to the contents (e.g., an MK 46 Torpedo in an MK 535 container) or to packages when the entire packaged configuration is described by the NSN which is also part of the identification markings. These type containers may be used to ship hazardous materials both domestically and to any United Nations country when the packaging has successfully passed all of the applicable UN-recommended performance tests and is so marked.

20.1.4.4 DOT exemptions. When a DOT exemption governs, the DOT exemption number (e.g., DOT E-7605) shall be placed near the proper shipping name and any other required cautionary markings.

DOT exemptions will apply only to domestic shipments after 1 January 1991. They will not apply to international shipments.

20.1.4.5 Certificate of Equivalency. When a Certificate of Equivalency has been issued pursuant to AFLCR 800-29/AFSCR 800-29/AMC-R 700-103/NAVSUPINST 4030.50/MCO 4030.39/DLAR 4145.37, the container certification number (e.g., CCN AF-81-04) shall be applied near the proper shipping name and other required cautionary markings. When specified by a joint regulation, this marking may be omitted. Certificates of Equivalency are not valid for international transportation (OCONUS). However, the competent authority (DOT), may provide an exemption to the international test requirements. Requests for such competent authority exemptions must be documented in accordance with 49CFR, part 107, subpart B, and must be submitted to DOT through the Military Traffic Management Command (MTMC).

20.1.4.6 Overpack/multipack containers. When the authorized packaging configuration has successfully passed UN-recommended performance tests and the packaging is marked with applicable UN packaging specification markings, and when military requirements specify overpacking of the packaging configuration in an outer container (placing a fiberboard box in a wood box), then testing and subsequent marking of the outer container is unnecessary. In addition to the marking requirements specified in 20.1.1 herein, conformance with UN recommendations will be shown by marking the outer container with the following: "INNER PACKAGES COMPLY WITH PRESCRIBED SPECIFICATIONS." Multipack containers comprised of performance-tested packagings shall also be marked with this information to certify conformance with UN recommendations.

20.2 DD Form 1387-2. All shipments of hazardous materials, biologicals, classified/protected materiel, and any other materiel requiring special handling that are transported by military controlled aircraft or contract air carrier that operate in accordance with DOT exemptions 7573 or 9232 shall be labeled with a DD Form 1387-2. See appendix D, 20.5, and figure 9 for information concerning the completion of this form.

20.3 Flash point markings (see figure 11). Unit and intermediate packs and exterior shipping containers packed with flammable or combustible liquids with a flash point below 200 degrees Fahrenheit or 93 degrees Celsius shall be marked with the flash point of the material. The flash point will be preceded by the words "FLASH POINT," with the letters "F" for Fahrenheit and "C" for Celsius being used. Flash point markings may be shown in degrees F, degrees C, or in both degrees F and C. When space

permits, flash point markings shall be applied on the identification marked side immediately below the identification markings by labeling, stamping, stenciling, or machine printing. If sufficient space is not available in this location, then flash point markings shall be applied in a highly visible location on the identification marked side of the container. Size of the lettering shall be not less than half an inch or proportionate to the available marking space on the container. The flash point shall be determined by using the testing methods prescribed in 49CFR. In addition to flash point markings, shipping containers shall be marked on the top with the words: "THIS SIDE UP," when required, and with arrows as specified in appendix C, 20.11.

20.4 Hazard warning labels. Unit containers of hazardous chemicals (including aerosol products) shall have applicable hazard warning labels affixed to them in accordance with the applicable laws, statutes, regulations, and ordinances. These include, but are not limited to, Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard, 29CFR, paragraph 1910.1200, latest revision; Federal Insecticide, Fungicide, and Rodenticide Act; Federal Food, Drug, and Cosmetics Act; Consumer Product Safety Act or Federal Hazardous Substance Act; Federal Alcohol Administration Act; and similar state and local legislation. For any product covered by 29CFR, paragraph 1910.1200, the following information shall be displayed on or affixed to the unit containers of the product: (1) identity of the hazardous chemical(s) (i.e., the primary identification method for cross-referencing to the Material Safety Data Sheet (MSDS) (e.g., manufacturer's part number, reference number, or item name, as applicable)); (2) appropriate physical and health warnings, to include target organ information (e.g., ANSI Z129.1, latest revision); and (3) name and address of the chemical manufacturer, importer, or other responsible party. This information shall be provided by the contractor or supplier, who is also responsible for preparing the MSDS. Responsibility for providing this information will not be delegated to a subcontractor or supplier. Marking shall be accomplished as specified in 5.4.1.

20.4.1 Specific hazards: asbestos (see figure 11). All containers of asbestos and products containing asbestos which may be expected to produce dust in excess of OSHA exposure limits during handling, storage, disposal, processing, or transportation shall be marked with a warning label, which shall be affixed to all raw materials, mixtures, scrap, waste, debris, and other products containing asbestos, tremolite, anthophyllite, or actinolite fibers or to their containers. Labels shall comply with the requirements of OSHA's 29CFR, paragraph 1910.1200(f), and shall

include the following information: "DANGER: CONTAINS ASBESTOS FIBERS; AVOID CREATING DUST. CANCER AND LUNG DISEASE HAZARD."

20.4.2 Specific hazards: polychlorinated biphenyls (PCBs) (see figure 11). As required by the Environmental Protection Agency (see 40CFR), unit and intermediate packs, including containers that serve as shipping containers of waste PCB, shall have a PCB label affixed.

20.4.3 Kits containing hazardous materials. Kits which contain a hazardous component, such as paint, solvent, etc., shall be marked and labeled in accordance with the requirements of this appendix. When more than one component is classified as a hazardous material, the container shall be marked and labeled in accordance with 20.1.1 of this appendix. UN packaging specification markings are only necessary when the quantity of the hazardous materials in the individual kit or shipping configuration of two or more kits exceeds the quantity designated as exempted in the applicable modal regulation(s).

30. RADIOACTIVE MATERIAL MARKING AND LABELING REQUIREMENTS

30.1 Definitions. See section 3.

30.2 Radioactive material labels.

30.2.1 Nuclear Regulatory Commission (NRC) interior/storage container label (see figure 12). All containers of radioactive materials in storage and unit and intermediate containers packed for shipment which require labeling shall be labeled in accordance with 10CFR and as specified herein. NRC labels shall be applied to the identification marked side of the unit or intermediate container and shall bear the radiation caution symbol and words "CAUTION: RADIOACTIVE MATERIAL" or "DANGER: RADIOACTIVE MATERIAL," as appropriate. They shall also include relevant information such as radiation levels, kinds of material, estimate of activity, estimated activity date, and mass enrichment. As specified in 49CFR, part 173, limited quantities of radioactive materials and devices and low specific activity radioactive materials may be exempt from this requirement. Label size shall be a minimum of 2 by 2 inches but may be larger to accommodate larger packages. When a container that contains radioactive material and also has the NRC label affixed to it is used as the outermost container during shipment and is packaged and labeled in accordance with DOT regulations (49CFR), then the NRC label shall be removed prior to shipment to preclude any confusion

for personnel transporting or receiving the container. Once received, the proper NRC label must again be affixed to the container. Exceptions to the use of the NRC interior/storage container label are in 30.5 of this appendix. The NRC interior/storage container label shown in figure 12 is for guidance only. Information on the label is required by 10CFR and as restated herein. Interior/storage labels may be locally produced or procured, but they must contain all the information required for each radioactive material.

30.2.2 DOT label (see figure 13). All containers of radioactive materials prepared for shipment which require labeling shall be labeled in accordance with the applicable sections of 49CFR, the applicable international document (e.g., ICAO, IMO, etc.), and as specified herein. Required DOT hazardous materials warning labels shall be applied on two opposite sides of the shipping container for domestic shipments. For international shipments, UN warning labels shall be applied as specified in the applicable international document. The DOT label must be diamond-shaped (square-on-point) at least 4 inches on each side, with each side having a black solid line border a quarter of an inch from the edge. The RADIOACTIVE WHITE-I label must be white with the printing and symbol black, except for the "I" which must be red. Both the RADIOACTIVE YELLOW-II and the RADIOACTIVE YELLOW-III labels must be yellow in the top half and white in the lower half. The printing and symbol must be black, except for the "II" and "III" which must be red. The applied radioactive label must have the following information entered in the blank spaces on the label in accordance with instructions contained in the applicable section of 49CFR:

a. Contents - the name of the radionuclides.

b. Number of curies - expressed in appropriate curie units.

c. Transport index - dimensionless number (rounded up to the first decimal place) which designates a degree of control to be exercised by the carrier during transportation. It applies to radioactive materials only.

30.3 Radioactive materials requiring an NRC label. Any commodity or item containing radioactive material in excess of amounts shown in 10CFR, part 20, shall be marked or labeled as shown herein and as required by 10CFR. Radionuclides other than those listed in 10CFR or mixtures of beta emitters of unknown composition shall also be marked or labeled as shown herein.

30.4 Transportation. Shipping containers of radioactive material shall be labeled per 49CFR for domestic shipments, per applicable international documents (e.g., ICAO, IMO, etc.) for international shipments, or as specified in AFR 71-4/TM 38-250/ NAVSUP PUB 505 (REV)/MCO P4030.19/DLAM 4145.3 (see figure 13). Labels shall be applied to two opposite sides of the shipping container as specified in 49CFR and the applicable international document. When shipping in accordance with DOT regulations, the NRC interior/storage container label shall only be obliterated from the outermost shipping container prior to shipment.

30.5 Exceptions to the use of radioactive material labels. When determining appropriate radioactive material labels to be applied to containers in storage and shipment, the following exception data is essential and must be considered. The NRC interior/storage container label is not required for materials processed in accordance with the general license provision of 10CFR, parts 31 and 40; when exempted by provisions of 10CFR; when alternate markings are authorized by the NRC in a specific license; or when materials are otherwise exempted by Federal regulations. DOT radioactive material labels (RADIO-ACTIVE WHITE-I, RADIOACTIVE YELLOW-II, or RADIOACTIVE YELLOW-III) are not required when packages are exempt from DOT labeling under 49CFR, paragraphs 173.421, 173.422, 173.424, or 173.425 (per these regulations, radiation markings may still be required); when specific exemptions are granted by DOT (e.g., DOT E-9649, applicable to the shipment of specific depleted uranium munitions); and as specified in AFR 71-4/TM 38-250/NAVSUP PUB 505(REV)/MCO P4030.19/DLAM 4145.3, or for manufacturing or processing equipment such as nuclear reactors, their components, piping, and tanks. Special additional radiation marking requirements contained in 49CFR, paragraph 172.310, for packages of radioactive material that are not exempt from marking requirements must also be applied.

40. MARKING REQUIREMENTS

40.1 Marking requirements shall be as specified in this appendix and in 5.1 through 5.5.

40.2 CAGE codes as described in 4.2.1 and 4.2.2 shall be applied to all hazardous shipments.

40.3 Unless otherwise specified, the UN POP specification markings for hazardous materials prescribed in 4.2.2h shall be placed on the opposite side of the exterior shipping container from the side containing the identification markings.

TABLE VII. Hazardous materials classification warnings*

United Nations Class	Title (DOT Classifications)	United Nations Class	Title (DOT Classifications)
1	Explosive A	7	Radioactive I (material)
1	Explosive B	7	Radioactive II (material)
1	Explosive C	7	Radioactive III (material)
2	Nonflammable Gas	8	Corrosive (material)
2	Flammable Gas	-	Empty
3	Flammable Liquid	4	Spontaneously Combustible (material)
4	Flammable Solid	4	Dangerous When Wet (Water Reactive Material)
5	Oxidizer	-	SF 420A** Etiologic Agents Biomedical Material for Domestic Shipments
5	Organic Peroxide	-	Cargo Aircraft Only
2 or 6	Poison Gas (Poison A)		
6	Poison (Poison B)		
6	Irritant (Irritating mater al)		
6	Irritant (w/skull) (Import and Export)		

*NOTE: These types of hazardous warning labels are no longer available from GSA and must be locally procured.

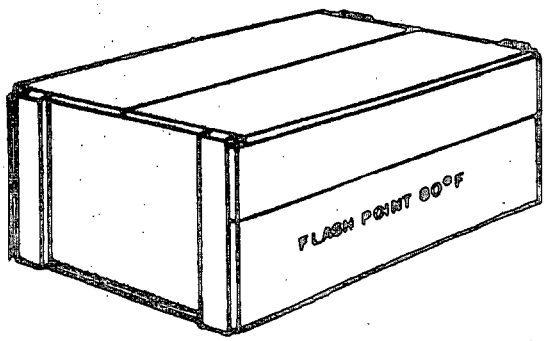
**NOTE: SF 420A has not been canceled and is still available from GSA. For import and export shipments, use Class 6 (Poison B) label.

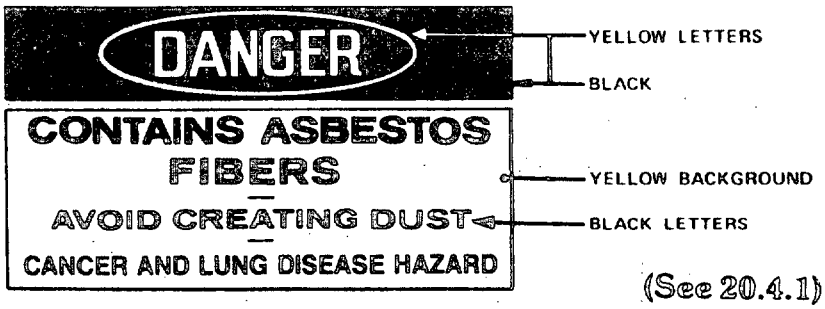
(un) 4G/X6/S/83
USA/***

where

u n	is the symbol used to CERTIFY that packaging complies with UN recommendations for the item and packaging
4G	is the UN recognized symbol for a fiberboard box which has been successfully tested to UN recommended drop, stack, and water absorptive performance criteria.
X	is a letter designating the packing group for which the fiberboard box configuration has been successfully tested. X is used for Packing Group I. Y is used for Packing Group II. Z is used for Packing Group III. Items of a lesser packing group may be packaged in a box, marked, and tested to a higher packing group provided the tested weight is not exceeded.
6	is the maximum authorized gross weight, expressed in kilograms, for which the packaging has been tested.
S	indicates packaging inner contents are either solids or other inner containers (e.g., cans or bottles).
83	is the last two digits of the year during which the box was manufactured.
USA	is State (country) authorizing allocation of the mark.
***	is the symbol of the party responsible for ensuring that UN recommendations have been met. The symbol must be registered with the U.S. DOT, Office of Hazardous Materials Transportation. The appropriate symbol shall be the contractor's authorized symbol or as stated in the contract, order, purchase agreement, specification, SPI, or other written direction by the packaging design agency or higher headquarters.

FIGURE 10. Example of UN packaging specification markings (for a fiberboard box). (See 20.1.4 for more information.)





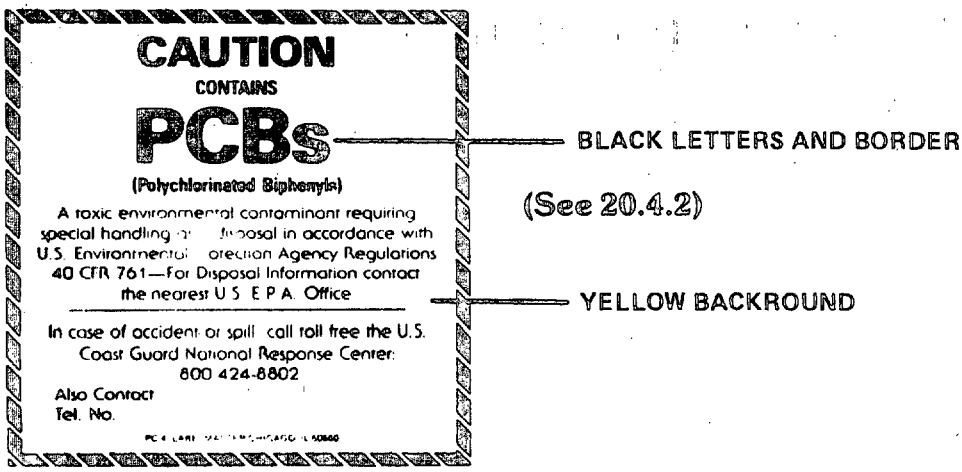
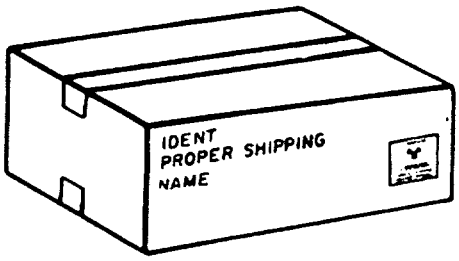


FIGURE 11. Hazardous material markings.



(See 30.2.1)

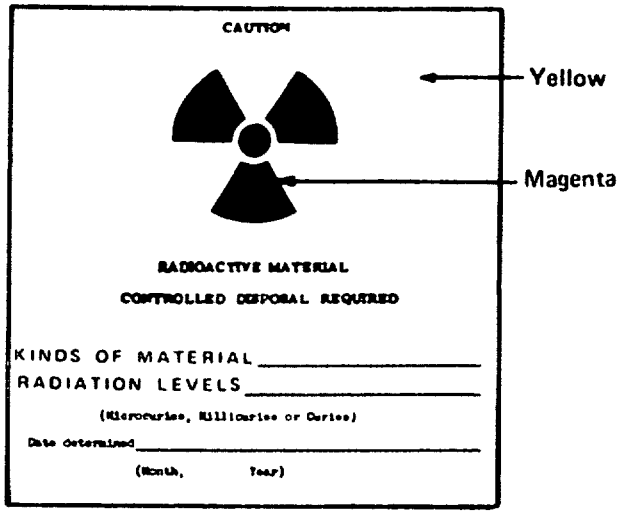


FIGURE 12. NRC interior/storage container label.

(See 30.2.2)

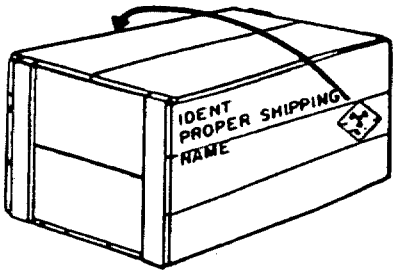


FIGURE 13. DOT radioactive material labels.

APPENDIX F

PACKING LISTS AND DD FORMS

(see 4.9)

10. SCOPE

10.1 Purpose. Manual/automated packing lists and DD Forms 1348-1 and 1348-1A shall be applied and positioned on containers as specified herein. This appendix is mandatory to the standard and forms an integral part of the standard and its requirements. Figures 14 through 17 are at the end of this appendix.

20. PACKING LIST

20.1 Applicability. Each set, kit, or assembly having unlike items but identified by a single stock number, single part number, or other approved military designator such as "Gun Mount, MK42 Mod 9" shall have a packing list that identifies each item. The packing list shall be securely attached to the end or side of the container (see figure 14). Packing lists attached to the outside of containers are often destroyed or damaged during shipment. It is, therefore, recommended that an additional packing list be placed inside each container. In addition, each set, kit, or assembly comprising a palletized unit load or consolidation container shall have a packing list attached to the exterior surface of each container identifying each item. Miscellaneous parts, accessories, or attaching hardware shall be identified by national/NATO stock number, part number, or item nomenclature and shall be listed on the appropriate packing list. The contents of packages containing installation or assembly hardware such as brackets, cabling, connectors, nuts, bolts, washers, etc., shall be listed in detail on the packing list. Phrases such as "one bag/box miscellaneous hardware" shall not be used. See 20.6 for exceptions to the use of an exterior packing list. Packing list marking requirements for sets, kits, or assemblies which contain shelf-life items are in appendix C and DOD 4140.27-M.

20.2 Single stock-numbered and part-numbered assembled sets. Sets consisting of two or more exterior shipping containers that have unlike stock-numbered or part-numbered items, packed in more than one shipping container, require a packing list for each container. The packing list shall be attached to the exterior of each container. A master packing list shall be prepared for the set, with one copy attached to container No. 1 and one copy placed inside container No. 1.

20.3 DD Form 250 (Materiel Inspection and Receiving Report). A DD Form 250 should be used as a packing list for contractor shipments and shall be applied to exterior containers, when applicable, in accordance with 30.2 through 30.7 herein. Packing list copies shall be in addition to copies required for standard distribution in the DOD Supplement to the Federal Acquisition Regulation (DOD-FAR Supplement) and shall be marked "Packing List." On multiple container shipments, contractors shall, when either specified in the contract or requested by the procuring activity, place a packing list inside each container in addition to attaching a packing list to the outside of each container. If this requirement is not specified in the contract or requested by the procuring activity, then a packing list shall be applied in accordance with 30.2 through 30.7. For multiple container shipments of DPSC C&T Directorate items, a packing list is required only in the last container to be loaded (see 4.2.2.4).

20.4 DD Form 1155 (Order for Supplies or Services/Request for Quotation). A DD Form 1155 shall be attached to the commercial packing list used by vendors and shall be applied to exterior containers, as applicable. When specified, as in Fast Pay Contracts, the case number and requisition number shall be included.

20.5 DD Form 1750 (Packing List). A DD Form 1750 shall be used for shipments generated by DOD activities. As an alternate to using the DD Form 1750, activities with facilities to program for computer output of packing lists from basic issue item or supply system responsibility item cards furnished by commodity managers may use these listings as a packing list for single stock-numbered or single part-numbered sets, kits, or assemblies. The contents of the listing shall be organized so that they can be readily understood and shall not include information that has no bearing on the items or to the receiving activity. When an automated packing list (APL) is used, it shall contain the minimum data listed in DOD 4000.25-1-M, appendix A27.

20.6 Exceptions to the use of exterior packing lists. Exterior packing lists are required on all contractor and DOD shipments with the following exceptions:

a. Like items or single-item packs (see figure 14). No packing list is required for individual containers having like items or single-item packs when the contents are listed on a label attached to the boxes, lithographed

or printed on the boxes, or when a manufacturer's parts list is provided.

b. Controlled, sensitive, classified, and pilferable items. Packing lists shall be placed inside the No. 1 container rather than on the outside. For classified shipments, markings which indicate the classified nature of the materiel, its security classification, and the name of the manufacturer, if it will identify the classified nature of the shipment, shall not appear on the exterior of each container.

c. Ammunition. When a packing list is required for ammunition, the list shall be placed inside the container. A packing list is not required on a unit load of an ammunition end item which is shipped unpackaged but with attaching hardware separately packaged (e.g., bomb fins). The contents of the hardware package shall be individually identified. For further information, see appendix G.

20.7 Application of packing lists. Exterior packing lists shall be sealed in water-resistant envelopes conforming to PPP-E-540, class 1. Envelopes shall be secured to the exterior of the palletized load or container in the most protected location with 1-inch tape conforming to A-A-883, PPP-T-60, PPP-T-70, or PPP-T-76, or they shall be secured in style 4 waterproof envelopes with pressure-sensitive adhesive backing applied to containers other than wood. Style 4 envelopes are not authorized on wood containers. Tacks or staples shall be used on wood containers. For registered parcel post, packing lists shall be attached in accordance with 30.5 herein. For overseas shipments, except parcel post, or unless otherwise specified, the waterproof envelope (containing the packing list) shall be further protected with a packing list protector (see 5.1.6) securely attached to the palletized/unitized load or container. When tacks or staples are used, they shall not be driven into the envelope in such a manner as to fasten or bind the packing list nor shall they be of such lengths that they penetrate the container. For ammunition packing lists, see appendix G, 60.

20.8 Alternate application of packing lists (see figure 15). An alternate method of applying packing lists to fiberboard cartons or metal or plastic containers is by placing a glassine sheet of paper over the folded packing list and then applying

PPP-T-60 or PPP-T-70 tape over the top. Tape shall extend half an inch from all edges of the packing list. Glassine paper shall have the words "PACKING LIST ENCLOSED" printed on the face.

30. DD FORM 1348-1, DD FORM 1348-1A, AND APLS

30.1 For ammunition requirements, see appendix G, 70.

30.2 Shipment units of single-line items. One legible copy of DD Form 1348-1 or DD Form 1348-1A shall be attached to the materiel in shipping container No. 1. In addition, at least one legible copy shall be enclosed in a PPP-E-540, class 4, water-resistant envelope and attached to the outside of the shipping container. When the storage container is used as the shipping container, the copy normally placed inside the container shall be enclosed with the copy attached to container No. 1. If an APL is produced in lieu of a DD Form 1750, the APL shall be attached to the outside of the shipping container in a water-resistant envelope and packing list protector (see 5.1.5 and 5.1.6). On wood containers, tacks or staples shall be used to secure the envelope protector. Additional copies of DD Form 1348-1 or DD Form 1348-1A may be provided at the shipper's discretion or when requested by the consignee.

30.3 Shipment units of multiple-line items. One legible copy of DD Form 1348-1 or DD Form 1348-1A shall be placed in a PPP-E-540, class 4, water-resistant envelope (see 5.1.5) in such a manner that the NSN will be visible. The envelope shall be attached to the package applicable to each requisition by means of 1-inch tape conforming to A-A-883, PPP-T-60, PPP-T-70, or PPP-T-76. At least one legible copy applicable to each requisition shall be placed in a PPP-E-540, class 4, water-resistant envelope and attached to each multipack container. When a polyethylene bag is employed to group single items for packing, the same bag shall contain a DD Form 1348-1 or DD Form 1348-1A folded in such a manner as to provide the identification and requisition information. If an APL is produced in lieu of a DD Form 1750, the APL shall be attached to the outside of the shipping container in a water-resistant envelope and packing list protector (see 5.1.5 and 5.1.6). On wood containers, tacks or staples shall be used to secure the envelope protector. When requested by the consignee or at the shipper's discretion, additional copies of the DD Form 1348-1 or DD Form 1348-1A may be provided.

30.4 DD Forms 1348-1 and 1348-1A for Foreign Military Sales (FMS) shipments. In addition to the requirements of 30.2 and

30.3 of this appendix, the following requirements apply:

a. One copy of DD Form 1348-1 or DD Form 1348-1A will be furnished to the country's designated recipient for shipment status.

b. A second set of DD Form 1348-1 or DD Form 13481-A shall be distributed as specified in DOD 4000.25-1-M.

30.5 Alternate method of attaching papers which accompany shipments to fiberboard boxes. DD Form 1348-1, DD Form 1348-1A, and APLs may be attached to fiberboard boxes in the following manner. Prior to sealing the box, place the papers under the flaps of the box so that the open end/flap of the envelope extends down the end of the box under the closure tape. Place the words "PAPERS HERE" in letters half an inch high on the tape directly over the envelope containing the papers. This is not authorized for FMS shipments, except for those by registered mail.

30.6 Alternate method of attaching papers to small parcel shipments. When the small parcel shrink-film system is used for multiple items, attach one copy of the DD Form 1348-1 or DD Form 1348-1A to the materiel. For single items, two copies of DD Form 1348-1 or DD Form 1348-1A shall be placed under the shrink film in such a manner as to be read. This method is not authorized for FMS shipments.

30.7 Method of attaching papers accompanying shipments of unboxed vehicles and wheeled/tracked items. A minimum of two copies of DD Form 1348-1, DD Form 1348-1A, or DD Form 250 shall be provided and shall be securely attached in or on the vehicle or item as follows:

a. Interior. Place one copy of shipping document and one copy of preservation/depreservation guide inside a sealed bag conforming to MIL-B-117, type I, class B, style 2 or 3, or inside a water-resistant envelope conforming to PPP-E-540. Attach the bag or envelope to a conspicuous central-most location inside the vehicle or item.

b. Exterior. Place the remaining copy of the shipping document and preservation/depreservation guide, unit packed as specified above, on the vehicle or item adjacent to the shipping address. Securely attach the

bag or envelope in the manner prescribed for packing lists application (see 20.7 herein).

30.8 Bar coded data requirements (see figures 16 and 17). The following bar code data (with human-readable interpretation (HRI)) requirements apply to those DOD sites that have already implemented Logistics Application of Automated Marking and Reading Symbols applications utilizing DD Forms 1348-1 and 1348-1A.

a. Bar coded data (with HRI) requirements for issue to services/agencies.

1. The document number shall be bar coded in box 24.

2. The NSN shall be bar coded in box 25.

3. The Routing Identifier Code (RIC), Unit of Issue (UI), Quantity (QTY), Supply Condition Code (CON CODE), Distribution Code (DIST), and Unit Price (UP) shall be bar coded in box 26. The 20 data characters shall be continuous with no dashes or spaces.

b. Bar coded data (with HRI) requirements for issue to FMS/ Grant Aid customers.

1. The document number shall be bar coded in box 24.

2. The NSN shall be bar coded in box 25.

3. The Unit of Issue (UI), Quantity (QTY), Supply Condition Code (CON CODE), Unit Price (UP), and first and last three positions of supplementary address shall be bar coded in box 26. The 19 data characters shall be continuous with no dashes or spaces.

30.9 Bar code symbology. Bar code symbology shall be in accordance with MIL-STD-1189, with the following exceptions:

a. Minimum height of the bar code shall be 0.25 inch, regardless of the density (characters per inch).

b. Maximum length of the bar code shall be 4.0 inches for boxes 24 and 25. Each field shall be a fixed length of

15 characters. When there is an absence of any character(s) within these 2 fields (less than 15), encoded spaces shall be used as fillers following the given data.

c. The maximum length of the bar code in box 26 shall be 4.5 inches. Encoded spaces shall be used as fillers for any unknown, or unencoded, data characters.

30.10 Computer-generated forms. The standard preprinted DD Form 1348-1 is 8 inches (203.2mm) wide (side line to side line) and 5 inches (127.0mm) high (top line to bottom line). Those sites having the means to generate the form as well as the data may generate a form whose size may vary in width from 8 inches to 9 inches (203.2mm to 228.6mm) and in height from 4 inches to 5.5 inches (101.6mm to 139.7mm). The tolerance for these dimensions is plus or minus 0.125 inch (3.18mm). The basic format will remain the same and the in-the-clear/human readable data must be easily read. Margins of 0.25 inch (6.35mm) and outside lines are necessary except for the bottom line which may be eliminated. The "form approved" information and the DD Form number will remain. Block 27 will contain all additional data and in-the-clear text that may be required and is not shown elsewhere on the form. The clear text may be in conjunction with bar coded information for those activities possessing bar code capability. The paper may be any color that provides a minimum bar code print contrast signal as specified in MIL-STD-1189.

40. MARKING MATERIALS

40.1 Required marking materials shall be as specified in this appendix and in 5.1.

50. METHODS OF MARKING

50.1 The methods of marking shall be as specified in this appendix and in 5.4.

(See 20.6a)

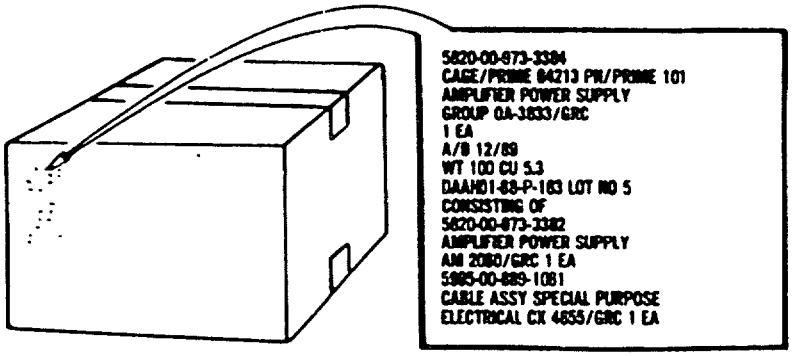
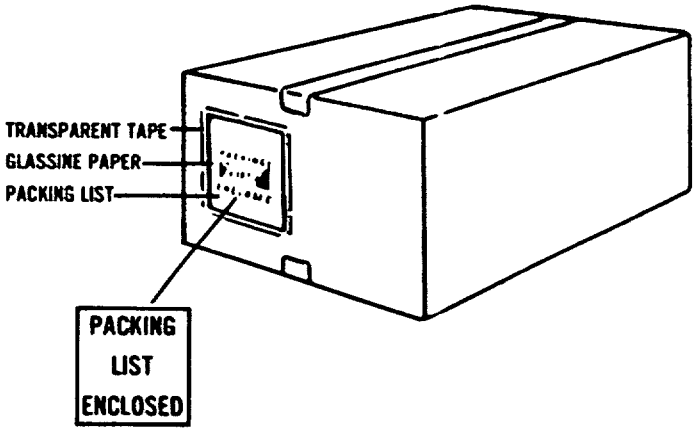


FIGURE 14. Single stock numbered item consisting of other stock numbered items in a single container.



(See 20.8)

FIGURE 15. Packing list application.

DD FORM 1348-1A, JUN 86 ISSUE RELEASE/RECEIPT DOCUMENT

1 TOTAL PRICE — DOLLARS — CTS

2 SHIP FROM RED RIVER ARMY DEPOT TEXARKANA TX 75507

3 SHIP TO W33MNA

4 MARK FOR W33MNA

UNIT PRICE — DOLLARS — CTS

A5ABR4M EA 00001 W80H2BA82 Q7E AKZAA 0031200 312.00

5 DOC DATE 88027 | 6 NMFC 019160 | 7 FRT RATE LTL R/V | 8 TYPE SHIP 581 ZR | U

W33MNA73626067 TCN

10 QTY REC | 11 UP 01 | 12 UNIT WEIGHT 50.00 | 13 UNIT CUBE 3.331 | 14 [illegible] 008910 | 0

16 FREIGHT CLASSIFICATION NOMENCLATURE: AUTO PARTS NOI I/S

2530006930617

17 ITEM NOMENCLATURE: STEERING G

18 TY CONT | 19 NO CONT | 20 TOTAL WEIGHT | 21 TOTAL CUBE

8R4EA00001A 0031200

22 RECEIVED BY | 23 DATE RECEIVED

28 ISSUED BY AND DATE | 29 SHIPPED BY AND DATE

DT REC 88027 STD: 88029 SUSD: 88029
PA: P93 PL: A01 COML PKG D6. REQ
SELECT CODE A ARMY STOCK
EXP

EXT WT: 50.00 EXT CU: 3.331

WHSE LOC EXP STOCK FUND ANMCS SPW

71122140A

8AVR81 001
LINE 001 OF 001 CK DIGIT T

NOTE: FOR BOX 26, SEE FIGURE 17

TP 2

SEQ NO: 00067
3 OF 5 SC M TCN: W33MNA 7362 G067 XXX

FORM APPROVED OMB NO 0704-0188

FIGURE 16. Sample of bar coded Issue Release/Receipt Document.

FOR ORMO SHIPMENTS
(LEAVE BLOCK 26 BLANK)

DATA FOR ORMO SHIPMENTS

BR4EA00005ADC9999999

- UNIT PRICE (74-80)
- DISTRIBUTION CODE (55=56)
- CONDITION CODE (71)
- QUANTITY (25-29)
- UNIT OF ISSUE (23-24)
- RI CODE (4-6)

DATA FOR GENERAL USE AND WHEN REQUESTED

EA00004A9999999XXXX

- SUPPLEMENTARY ADDRESS (FIRST AND LAST THREE POSITIONS)
- UNIT PRICE (74-80)
- SUPPLY CONDITION CODE (71)
- QUANTITY (25-29)
- UNIT OF ISSUE (23-24)

DATA FOR FMS SHIPMENTS

FIGURE 17. Formats for bar coded data in box 26 of DD Form 1348-1A.

APPENDIX G

AMMUNITION MARKINGS

(see 4.10)

10. SCOPE

10.1 Purpose. Marking and labeling requirements for the shipment and storage of ammunition shall be identified, applied, and placed on containers as specified herein. Specific areas described include bar code markings, unit, intermediate, and exterior container identification markings, address markings, special markings, packing lists, previous ammunition marking requirements, and marking precedence requirements. This appendix is mandatory to the standard and forms an integral part of the standard and its requirements. Figures 18 through 27 are shown at the end of this appendix.

20. INTERIOR AND EXTERIOR CONTAINER IDENTIFICATION MARKINGS

20.1 Unit and intermediate container identification markings (see figure 18). The following identification markings shall appear on unit and intermediate packs and unpacked items. The words "national stock number," "item description," and "quantity" shall not be made a part of the markings.

a. NSN/NATO stock number. When no NSN/NATO stock number is available, a management control number or PN/MFR shall be used.

b. DODIC. The DODIC shall be placed on the same line as the NSN/NATO stock number.

c. QTY (UI . The UI is not marked except when the UI is other than each (e.g., lb, ft, etc.). The QTY always precedes the item description.

d. Item description.

e. Lot number and serial number (when assigned). When specified, the lot number and serial number shall be shown. The abbreviations "LOT" and "SER" shall precede the lot number and serial number, respectively.

20.2 Exterior container identification markings (see figure 18). In addition to the identification markings required by

20.1 herein, exterior container identification markings shall include the following:

a. Gross weight.

b. Proper shipping name(s) (see 20.2.1 herein).

c. Identification number(s) (when assigned).

d. Any special precautionary markings and labelings required by 49CFR and applicable international documents (e.g., ICAO, IATA, IMO, etc.) for the commodity described by the proper shipping name(s).

e. DODIC and lot number shall be placed on both ends of the exterior container, unless otherwise specified.

f. Lot number located on the side of the container shall be underlined (see figure 18). Only one lot number will be packed per exterior container, except for surveillance samples, test samples, or material destined for demilitarization.

20.2.1 Proper shipping name.

a. Same DOT and UN proper shipping name. When DOT and UN proper shipping names and identification numbers are the same, then only one proper shipping name and one identification number shall be shown, with no DOT or UN designator preceding the information.

b. Different DOT and UN proper shipping name. When DOT and UN proper shipping names are different, they both shall be shown preceded by the applicable DOT or UN designator. Figure 18 shows both DOT and UN proper shipping names and identification numbers applied to the top of a package.

c. The proper shipping name(s) is required even though the proper shipping name may be identical to the item description/nomenclature.

d. The UN proper shipping name and UN identification number, when shown, shall be placed immediately below the DOT proper shipping name and NA or UN identification number. If this is not possible because of the container's configuration or a lack of marking space, then the DOT

and UN proper shipping name and their identification numbers shall be placed in a conspicuous location on the outside of the container as close as possible to the identification markings.

20.2.2 Marking boards/labels. Unless authorized by the responsible command, marking boards/labels shall not be used.

20.2.3 Empty ammunition containers. Unless otherwise directed by the shipping authority, empty ammunition containers shall have identification markings obliterated prior to shipment or have "EMPTY" labels used in accordance with AFR 71-4/TM 38-250/NAVSUP PUB 505 (REV)/MCO P4030.19/DLAM 4145.3.

20.2.4 UN-recommended performance oriented packaging (POP) specification markings. The UN-recommended POP specification markings specified by the cognizant design activity shall be placed on the side of the container opposite the side containing the identification markings. They shall conform to the UN marking requirements in appendix E, figure 10, or to the applicable packing and marking drawings. They shall also bear the symbol as specified by the cognizant activity that designed and certified the package.

20.2.5 DD Form 1387-2. The DD Form 1387-2 shall be used as prescribed in appendix E, 20.2.

20.2.6 Commercial air shipments. Each container of ammunition for shipment by commercial air must be marked "NEW" followed by the net quantity of explosive. This information shall be placed under the gross weight marking on the container.

20.3 Palletized unit load (see figure 19). Ammunition unit load identification markings shall include the following:

a. NSN.

b. DODIC.

c. Lot Number.

d. Quantity.

(1) By lot (if more than one lot).

(2) Total quantity (if one lot).

e. Item description.

f. Gross weight.

g. Proper shipping name(s) (see 20.3.1 herein).

h. Identification number(s) (see 20.3.1 herein).

20.3.1 Proper shipping name(s) and identification number(s).

a. Proper shipping name(s) and identification number(s) shall be applied to the palletized unit load, not to individual containers comprising the unit load.

b. DOT and UN proper shipping name(s) and identification number(s) shall appear in two locations on the unit load.

20.3.2 Application of identification markings.

a. Unit loads of box-packed ammunition.

(1) Unit loads of box-packed ammunition require the addition of only the identification marking that is not visible on the boxes. This Additional marking is normally limited to quantity and partial nomenclature such as 30 cartridges or 100 grenades, gross weight of the unit load, and any applicable mixed lot identification.

(2) Unit loads of box-packed ammunition shall have one or more boxes turned to present a blank surface for marking, unless otherwise specified.

(3) Boxes which must have all nose ends pointed in the same direction such as some rockets and white phosphorus (WP) rounds shall not be turned.

(4) Markings shall be applied as described in 5.1 and 5.4. Letter size need not exceed one-eighth of an inch except for stenciled markings which must be at least half an inch.

(5) When the unit load is configured in such a way that box tops are turned inward on the load, the top layer shall be turned top out to permit the proper shipping name(s) and identification number(s) to

be visible. When it is not practical to turn the entire top layer, two diagonal corner boxes on the top layer shall be turned to expose the proper shipping name(s) and identification number(s).

(6) UN-recommended POP specification markings shall also be exposed on at least one place on the unit load.

(7) Marker boards shall not be used.

b. Unit loads of unpackaged ammunition.

(1) Unit loads of otherwise unpackaged ammunition such as separate loading projectiles require the addition of only those identification markings which are not visible on the projectiles. These additional markings are normally limited to quantity, nomenclature, gross weight, and mixed lot identification (including quantity per lot).

(2) Markings may be applied directly to the pallet by stenciling, embossing, stamping, or machine printing. Tags may be used when the markings cannot be applied directly to the pallet load.

(3) The location and content of identification markings shall be specified on ammunition packaging and marking drawings for separate loading projectiles.

(4) Marker boards shall not be used.

c. Unit loads of cylindrical containers.

(1) Unit loads of cylindrical containers such as propelling charges may be marked with either labels or tags.

(2) The total weight and quantity shall be marked.

(3) Markings shall be applied diagonally opposite near ends of the upper layer (see figure 19).

(4) Containers shall be positioned so the proper shipping name(s) and identification number(s) are visible on at least one of the containers on each side of the load.

(5) Marker boards shall not be used.

d. Unit loads containing empty, filler, or light containers.

(1) Each unit load containing empty, filler, or light containers shall have a marker board or tag applied to one end and one side of the load.

(2) The marker board or tag shall be marked in one-eighth inch or larger letters (half an inch minimum for stenciling) to identify the quantity of empty containers or the quantity and contents of light containers (see 50.2 herein).

e. Unit loads comprised of multiple lots.

(1) Unit loads of ammunition comprised of more than one lot shall be marked with appropriate lot numbers. In addition, the lot number and quantity of each lot in unit loads of mixed lots shall be listed on a plain white label or tag, as applicable, and shall be placed adjacent to other identification markings.

(2) The maximum size of the label or tag shall be 4 by 6 inches, and the lettering shall be not less than a quarter of an inch in height.

f. Full carloads or full truckloads.

(1) Full carload or full truckload shipments, by or on behalf of DOD, do not normally require hazard labels. Unitized loads shipped on break bulk cargo vessels or OCONUS shipments require one hazard label on each unit load.

(2) See 50.4 herein for special requirements for shipments consigned to foreign countries.

20.3.3 Ammunition manufactured after 1 January 1988 and in the DOD inventory. Palletized unit loads shipped internationally by surface means will have the UN-recommended POP specification markings, when required, applied to plywood panels. The panels will be located on opposite sides of the pallet load.

20.3.4 International Air Shipments. International air shipments of palletized unit loads will have the UN-recommended POP

specification markings, when required, applied to plywood panels. The panels will be located on opposite sides of the pallet load.

30. BAR CODE MARKINGS

30.1 Applicability. Bar code markings shall be applied as specified herein by means of a label. They may be applied by direct printing on the packaging material upon authorization by the cognizant activity.

30.1.1 Labels. Labels shall meet the following requirements unless otherwise specified by the cognizant activity:

a. Bar code labels shall be machine readable after being subject to 1 year of 50 percent or higher humidity and temperatures ranging from minus 40 to plus 150 degrees Fahrenheit.

b. Preprinted labels shall have a clear, transparent laminate coating. Non-preprinted labels shall have the laminate applied after the bar code is printed.

c. Labels shall be made of a vinyl, polyester, or equal material.

d. Labels shall be three-quarters of an inch in width.

NOTE: Items a, b, and c correspond to the requirements for a Grade A, Style 2, Composition (b) label, as specified in MIL-L-61002.

30.1.1.1 Wood containers. Pressure-sensitive labels shall be affixed to wood containers by stapling both ends of the label. Any commercial type staple may be used. Staples must not be located within the bar code or within the quiet zone of the label (0.25 inch on either side of the bar code). For Navy use only, labels attached to wood containers by filament reinforced tape may be used.

30.1.2 Bar code. The bar code shall be printed in accordance with MIL-STD-1189 except for the following restrictions:

a. The density of the bar code shall be 9.4 characters per inch, unless otherwise specified.

b. The height of the bar code shall be 0.25 inch or greater. The height of the bars may extend to the edge of the label.

c. The distance between the bar code and the HRI will be between 0.003 and 0.10 inch. The preferred distance is 0.03.

d. The height of the HRI shall be between 0.09 and 0.15 inch. The preferred height is 0.09.

30.2 Bar coding exterior containers. Bar coding shall be applied to exterior containers as specified in 30.2.2, 30.2.3, and 30.2.4 of this appendix.

30.2.1 Data elements. The information to be bar coded is as follows:

a. The National Item Identification Number (NIIN) shall be the only data element encoded in a message unless otherwise specified (see 30.4). The NIIN will be encoded without the dashes (see figure 18).

b. Lot number and quantity shall be encoded in the same message. On a new production, the lot number, including dashes, shall be encoded, as specified in MIL-STD-1168. On ammunition that was produced prior to the date of this standard, the lot number shall be bar coded exactly as it appears on applicable reporting records or as it appears on the exterior container. A space (encoded) shall be provided between the lot number and quantity (see figure 18). If the lot number cannot be determined or read, encode "UNKNOWN" as the lot number. When no lot number is assigned, encode "NONE."

c. Maintenance due date (MDD) or shelf-life expiration date (when specified) is a 4-digit data element representing the month (01 thru 12) and last two digits of the year. MDD or shelf-life shall be encoded between the lot number and quantity. A space (encoded) shall be placed between the lot number and MDD and between the MDD and quantity (see figure 20).

d. Serial number (when specified) shall be encoded in lieu of the lot number and shall be preceded by an encoded slash. For Navy use only, an encoded slash is not

required before the serial number when there is no lot number. When the lot number and serial number are specified, they shall be coded and a slash (encoded) shall be placed between the lot number and serial number (see figure 21).

30.2.2 Rectangular containers (see figure 18). Bar code labels shall be placed in the lower right quadrant and may be positioned as shown. If sufficient space is not available, the two labels shall be placed in the most convenient space on the front (marked side) of the container.

30.2.3 Cylindrical containers (see figure 22). Labels shall be applied just to the left of the identification markings and shall always be placed along the container length.

30.2.4 Special containers (see figure 23). Unless otherwise specified, a special container is a container having skids or a cube greater than 10 cubic feet. Unless otherwise specified, required labels shall be applied just above the identification markings, and a duplicate set of labels shall be placed on the adjacent side or end of the container. When identification markings are absent on a side, the labels shall be placed near another marking such as a center of balance marking or some distinguishing characteristic on the container. If the end of the container is equipped with a servicing facility such as a humidity indicator, the labels shall be placed at that end. For special containers that are stacked and lined against each other in magazine storage, such as missile containers and oversized containers of ammunition, bar code labels will be applied on each end of the containers (forward and aft) above the identification markings, if present. If these markings are not present, the bar code labels shall be placed on the most conspicuous, smooth area. For special bar code requirements, see 30.4 herein.

30.2.5 More than one serial number (see figure 18). When there is more than one serialized item per container, a label encoding each different serial number and associated quantity and lot number must be applied. The additional labels will be applied directly after the preceding lot/serial label using one of the placement methods shown in figure 18.

30.2.6 Stacking labels. When stacking labels horizontally or vertically (see figure 18), do not overlap the labels The spacing between labels shall be not more than 0.375 inch.

30.2.7 In-line messages/labels. A space of at least 0.5 inch shall be provided between bar coded messages on the same label. No spacing is required between labels as long as they do not overlap.

30.3 Bar coding unit load (see figure 24). The data elements to be encoded are identified in 30.2.1 herein. Unless otherwise specified, labels will be applied on the far right vertical straps on the short dimension of the unit load. Labels will be applied to both sides of the unit load starting 18 inches above the pallet deck. If the top of the load is less than 18 inches, apply labels from the top of the vertical strap. When there are no vertical straps along the short dimension, the labels shall then be applied to vertical straps along the long dimension.

30.3.1 More than one lot. Multiple lot labels shall be placed in sequence (see figure 25). If there is not sufficient space on the tiedown strap, labels shall be placed on a locally fabricated, moisture-proof display board, preferably aluminum, and shall be attached to the unit load (see figure 26).

30.4 Bar coding shipments to Naval activities (see figure 27). For Navy-, Marine Corps-, and Coast Guard-owned ammunition consigned to a CONUS or OCONUS Naval activity or to a Navy ship, the NIIN label (see 30.2.1a herein) shall be replaced by a label that contains the NIIN, the ownership code, and the condition code. Each entry shall be separated by a space (encoded). This label shall be placed on the outermost package being shipped or, if unitized, on the unit load. If there is a NIIN label already present, the new label shall be placed over the existing NIIN label. This requirement does not apply to Army, Air Force, or Marine Corps ammunition consigned through a port for further transfer to a non-Navy activity. The ownership code shall be Coast Guard (7), Marine Corps (4), and Navy (5).

40. ADDRESS MARKINGS

40.1 Shipment address (see appendix I). Piece number, total pieces, weight, and cube are not required as part of the address markings on surface (not air) shipments of ammunition.

40.2 Palletized loads of ammunition. Unless otherwise specified in the unitization drawing, space for overseas address markings for ammunition shall be provided by positioning the box(es) to present a smooth, unmarked surface suitable for the application of address markings. Markings may be applied

directly to the pallet by stenciling, stamping, machine printing using 1/4-inch minimum lettering, or by labeling (waterproofed and stapled) with 1/8-inch minimum lettering. A unit load which does not present a suitable surface such as a pallet load of projectiles shall be addressed by the use of DD Form 1387.

40.3 Full carload and full truckload shipments. Full carload and full truckload shipments within CONUS do not require address markings. All other shipments, including shipments to freight forwarders and to air or ocean terminals, require 100 percent address markings.

50. INTERIOR AND EXTERIOR CONTAINER SPECIAL MARKINGS

50.1 Special orientation marking. Ammunition packages which require a special orientation under certain conditions shall be marked in a manner which will alert the shipper/storer to the applicable restrictions. An example would be marking "nose end" on packaged rockets or WP-filled munitions.

50.2 Light box/light load markings. Identification markings for light boxes/containers (less than full box) and empty boxes/containers shall be as follows:

a. A light box/container less than 3 cubic feet in size shall be identified by painting it orange, except for the bottom, similar to color chip 32246 of FED-STD-595, and by marking the words "LIGHT BOX," in a contrasting color on the top and on the identification marked side, if there is sufficient space. If there is not sufficient space, the "LIGHT BOX" markings will be placed on the adjacent end panel. When the bottom surface of a light box is visible within a unit load, the bottom must also be painted orange and marked with the words "LIGHT BOX."

b. A light box/container, 3 cubic feet or larger, or any size container being prepared for shipment to a retail activity, shall be identified by marking the words "LIGHT BOX" in orange, similar to color chip 32246 of FED-STD-595, on the top, sides, and ends of the box in the largest practical letters. When the bottom surface of a light box is visible within a unit load, the bottom must also be marked in orange with the words "LIGHT BOX."

c. Empty boxes in unit loads of ammunition shall be identified by painting the entire box orange, except the

bottom, similar to color chip 32246 of FED-STD-595, and marking the word "EMPTY" in a contrasting color on the top, both ends, and at least one side of the box. When the bottom is visible in the unit load, the bottom must also be painted orange and marked with the word "EMPTY."

d. It is permissible to neatly mask existing markings when painting containers in order to avoid remarking.

e. Unit loads containing empty or light boxes shall be placarded with a 4- by 6-inch weather-resistant placard containing the words "LIGHT LOAD." The placard shall be of a contrasting color (see 20.3.2d of this appendix).

f. Less than full unit loads of unpackaged ammunition, such as separate loading projectiles, shall be identified by placing an orange tag, similar to color chip 32246 of FED-STD-595, on two diagonal corners of the load, with the tag marked as "LIGHT LOAD." Such loads must be constructed so that the longitudinal center of gravity is the same as for a full load.

g. Light box identification of ammunition known to be scheduled for demilitarization may be linked to the application of orange tags or placards marked "LIGHT BOX" or "LIGHT LOAD." All other markings required by 20.1, 20.2, and 50.1 of this appendix are required.

50.3 Temperatures. When temperature control is required for storage or when firing temperature limits apply, the temperature limits shall be enclosed in a square(s) with the words, "STORAGE TEMPERATURE LIMITS" or "FIRING TEMPERATURE LIMITS," or both, when applicable. The temperature shall be indicated by a figure followed by either the letter C (Celsius) or F (Fahrenheit), as appropriate.

50.4 Foreign country requirements. All OCONUS shipments (except those in intermodal containers) require that at least one DOT hazard label and one UN hazard label, if different from the DOT label, be affixed to each unit load of palletized cargo or to each exterior package of loose cargo in accordance with 49CFR and the applicable international modal document requirements. If DOT and UN hazard labels are the same, then only one needs to be applied. Marking and labeling requirements imposed by foreign governments shall be observed as prescribed by the service directing the shipment. Foreign country labeling

requirements for military explosives are the same as OCONUS shipments except for shipments to the United Kingdom where the applicable labels (or labeled tags) must be applied to all four exterior sides of the unit load. Labels shall not be applied directly to the ammunition end item.

50.5 Materiel condition tags. When the requirements of 30.4 of this appendix are met, materiel condition tags (see appendix C, 20.31) need be applied only to suspended materiel. Individual services retain the prerogative of applying materiel condition tags to any stock in their custody.

60. PACKING LISTS

60.1 Applicability. When a packing list is required for a shipment of ammunition, the packing list shall be placed inside the shipping container. A packing list is not required on a unit load of an ammunition end item such as bomb fins, which are shipped otherwise unpackaged but with associated hardware packaged separately and included on the unit load. The content of such hardware packages shall be individually identified.

70. DD FORM 1348-1 and DD FORM 1348-1A

70.1 Applicability. Two copies of the DD Form 1348-1 or the DD Form 1348-1A shall be enclosed in a PPP-E-540, class 4, water-resistant envelope and attached in a protected location on the shipping container or unit load. When a shipment involves multiple containers/unit loads, the water-resistant envelope shall be placed on the container/unit load nearest the door, when loading. This will facilitate identification when offloading. Unless otherwise specified, overseas shipments shall be further protected by placing the envelope in a packing list protector conforming to A-[illegible]-1907 (see 5.1.6). The words "MATERIAL RELEASE/ RECEIPT DOCUMENTS" shall be marked on the outside of the packing list protector. For additional information, see appendix F, 30.

80. PREVIOUS AMMUNITION MARKING REQUIREMENTS

80.1 Ammunition packing and marking drawings. When remarking is required for maintenance or renovation purposes, the marking of new production and existing stocks shall be in accordance with applicable ammunition packing and marking drawings. These drawings shall incorporate the marking requirements of this standard. Remarking of current stocks merely to comply with this standard is not required. If a marking drawing does not exist

for an item, then this standard shall be used. Bar coding shall be applied to exterior containers when unit loads are broken down. Otherwise, bar codes shall be applied to unit loads only.

90. PRECEDENCE

90.1 Order of precedence. In the event of a conflict between the requirements of this standard and the requirements of product specifications, item technical publications, or drawings, the order of precedence shall be:

a. The requirements of the drawings.

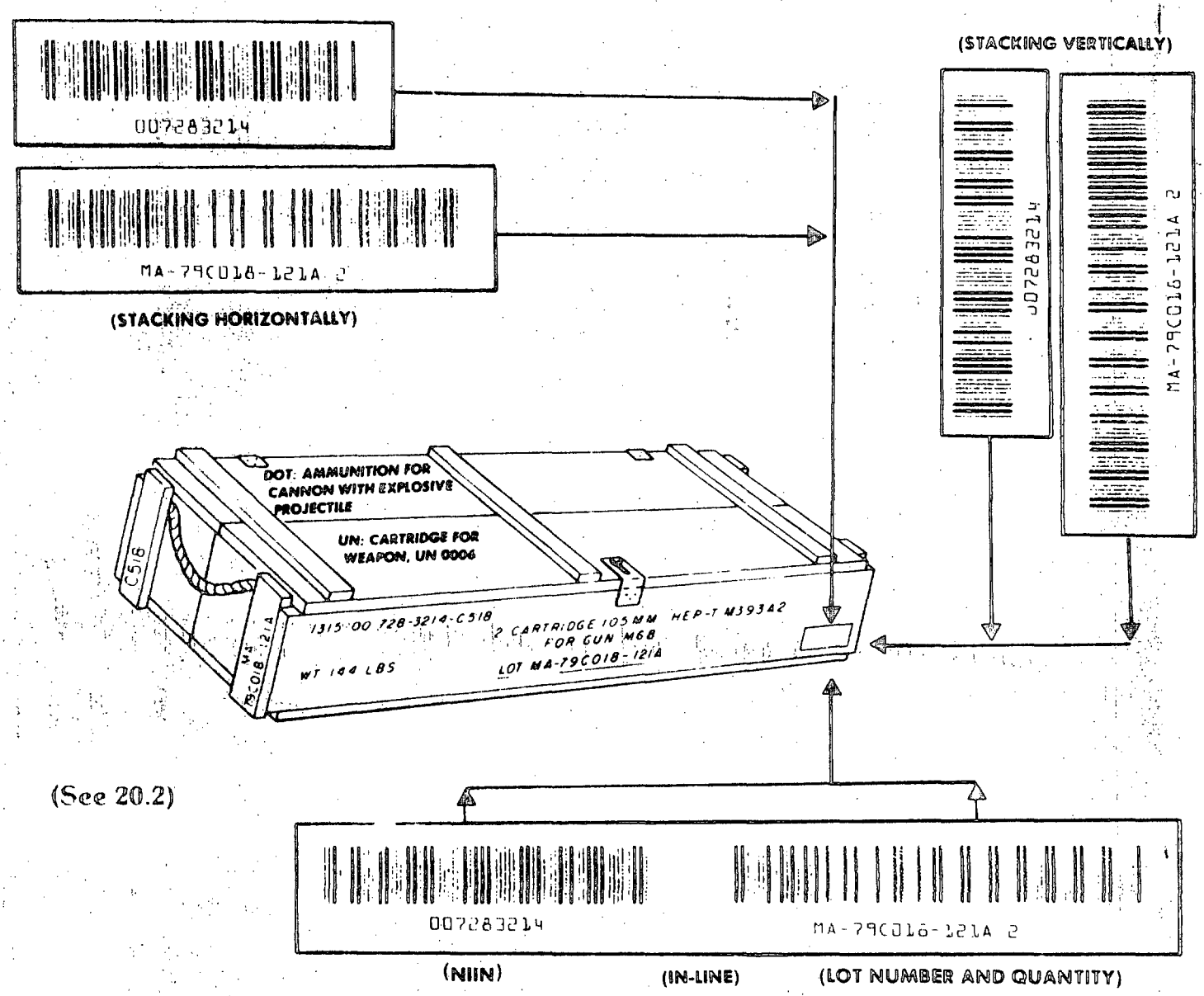
b. The requirements of item technical publications.

c. The requirements of product specifications.

d. The requirements of this standard.

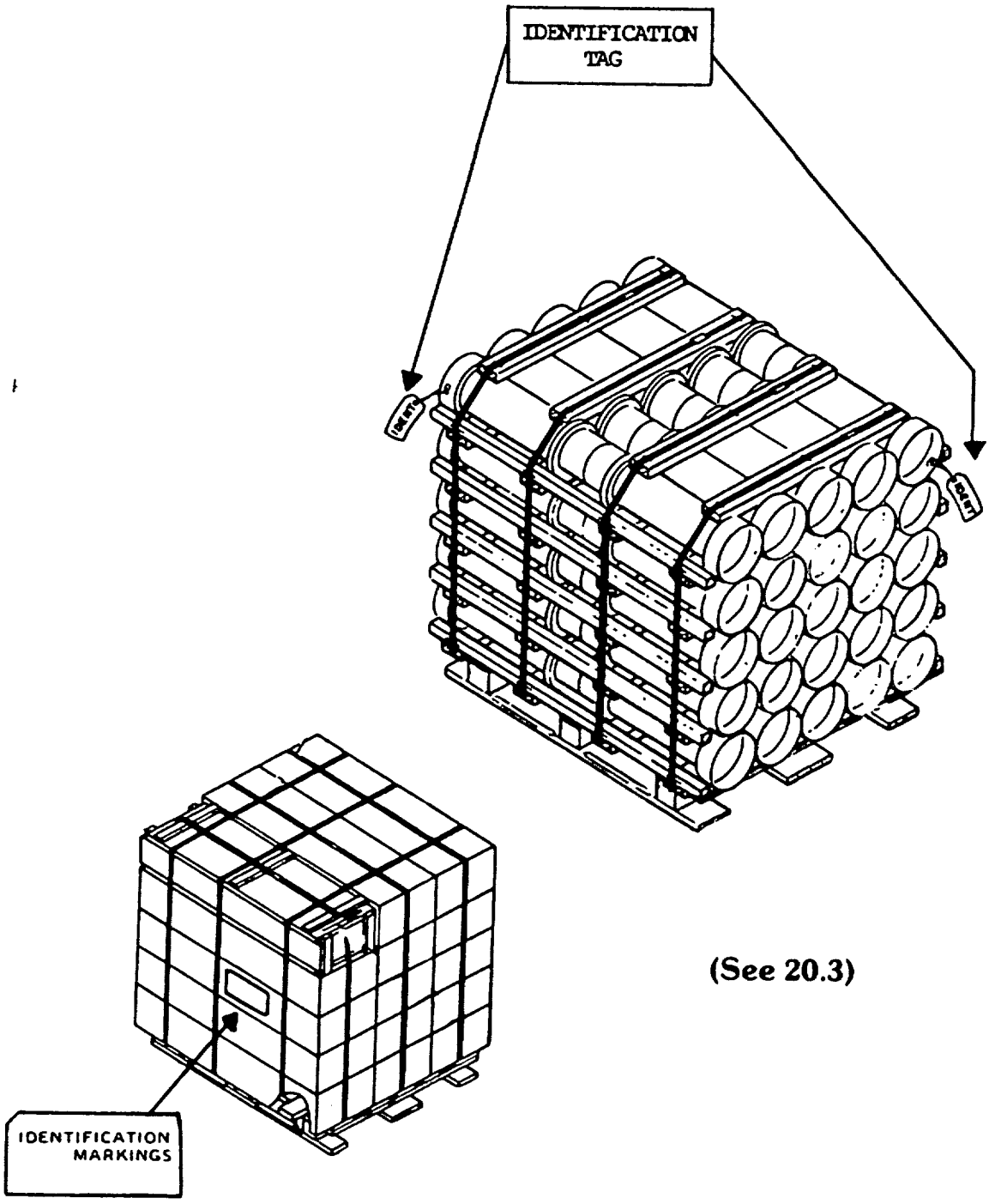
100. MARKING REQUIREMENTS

100.1 Marking requirements shall be as specified in this appendix and in 5.1 through 5.5.



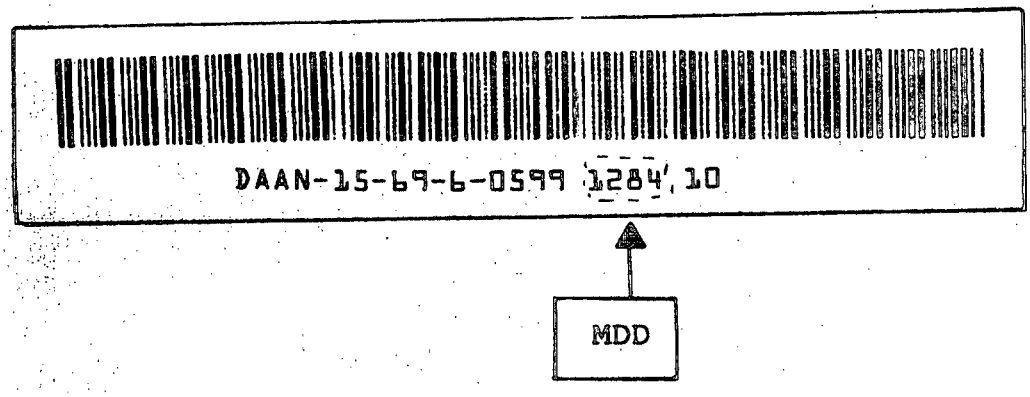
(See 20.2)

FIGURE 18. Identification markings and placement of bar code labels for exterior ammunition containers.



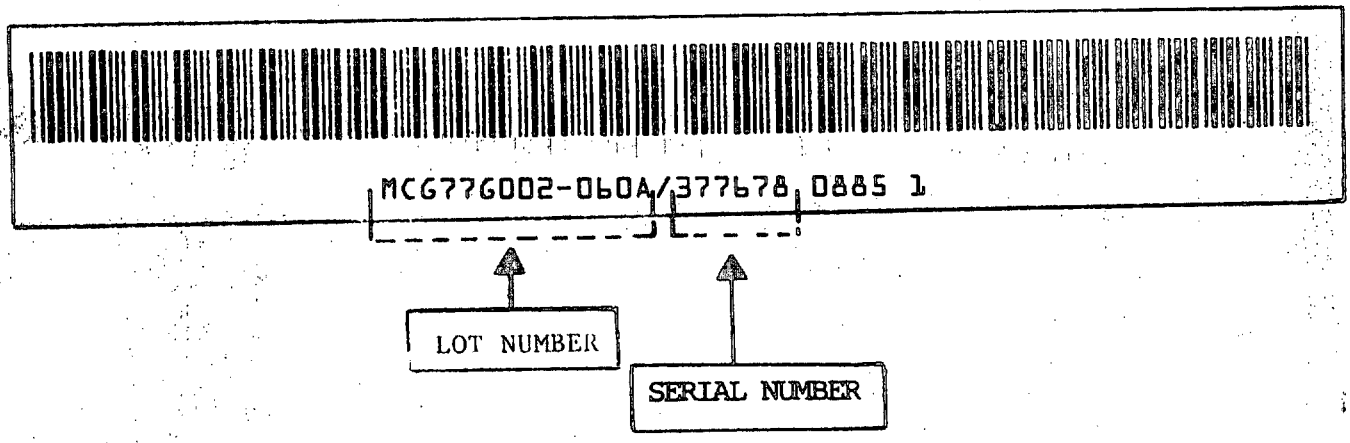
(See 20.3)

FIGURE 19. Identification markings for pallet load of ammunition.



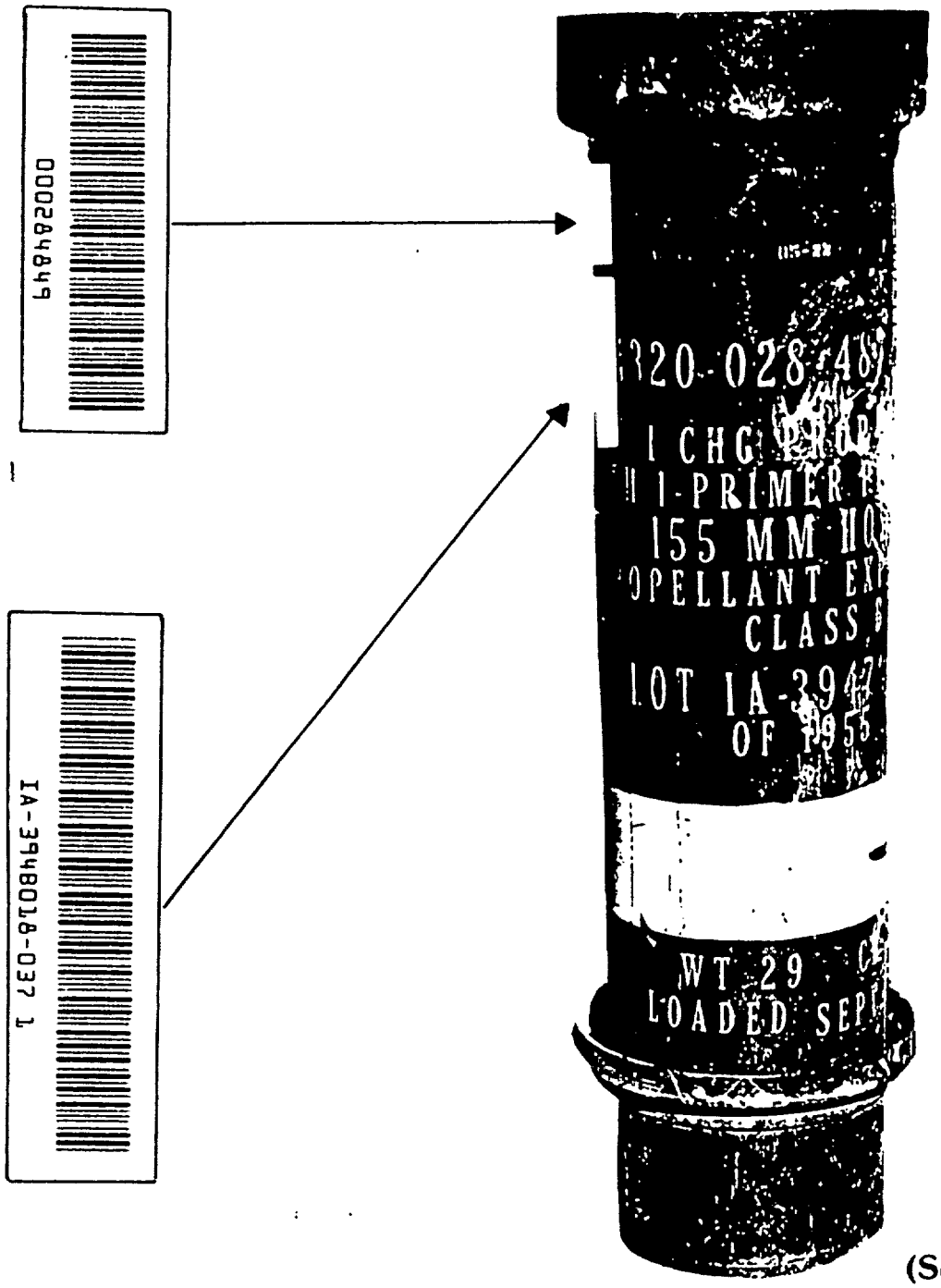
(See 30.2.1c)

FIGURE 20. Bar coding the maintenance due date.



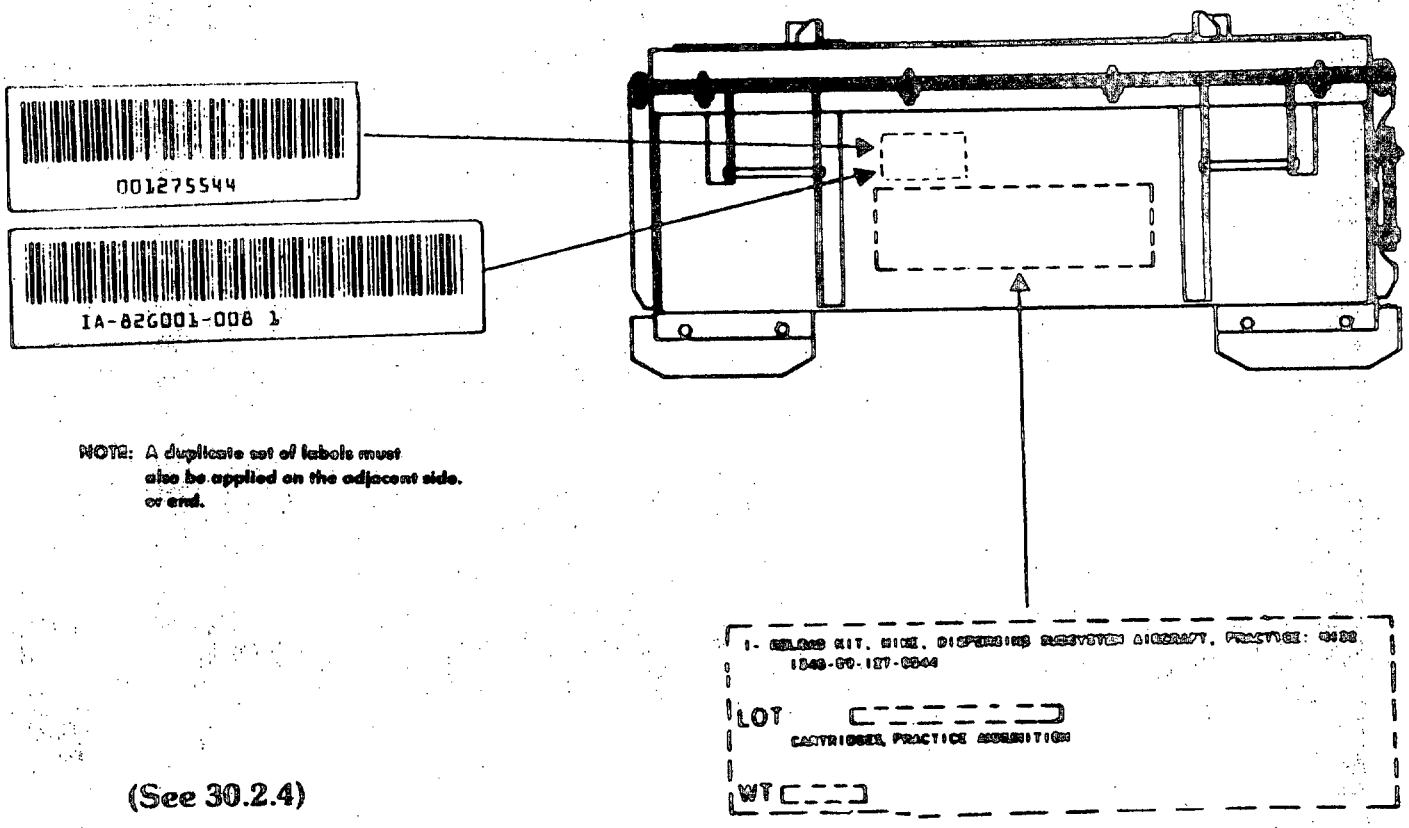
(See 30.2.1.d)

FIGURE 21. Bar coding lot number and serial number on the same line.



(See 30.2.3)

FIGURE 22. Placement of bar code labels on cylindrical containers.



(See 30.2.4)

FIGURE 23. Placement of bar codes on special containers.

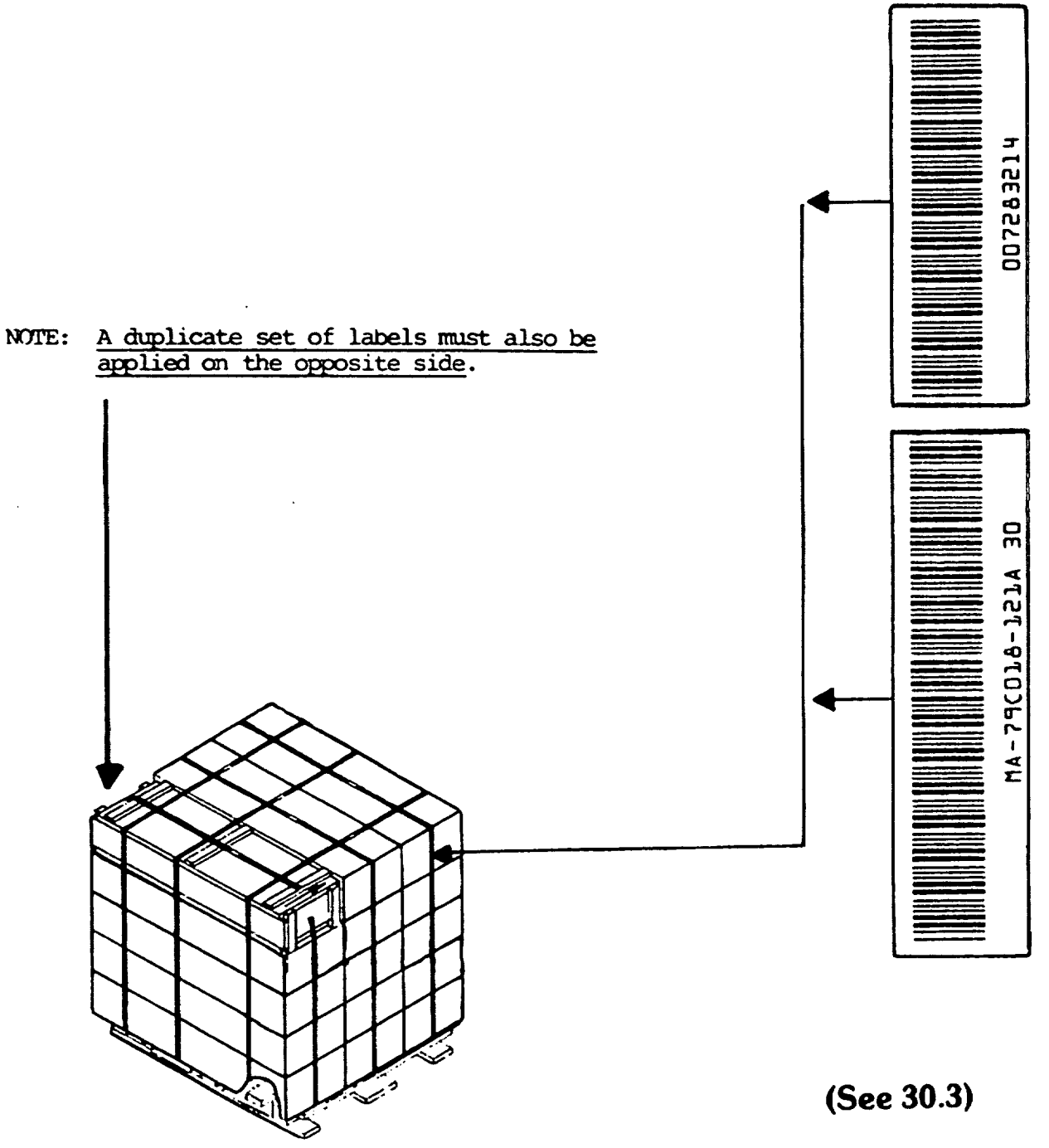
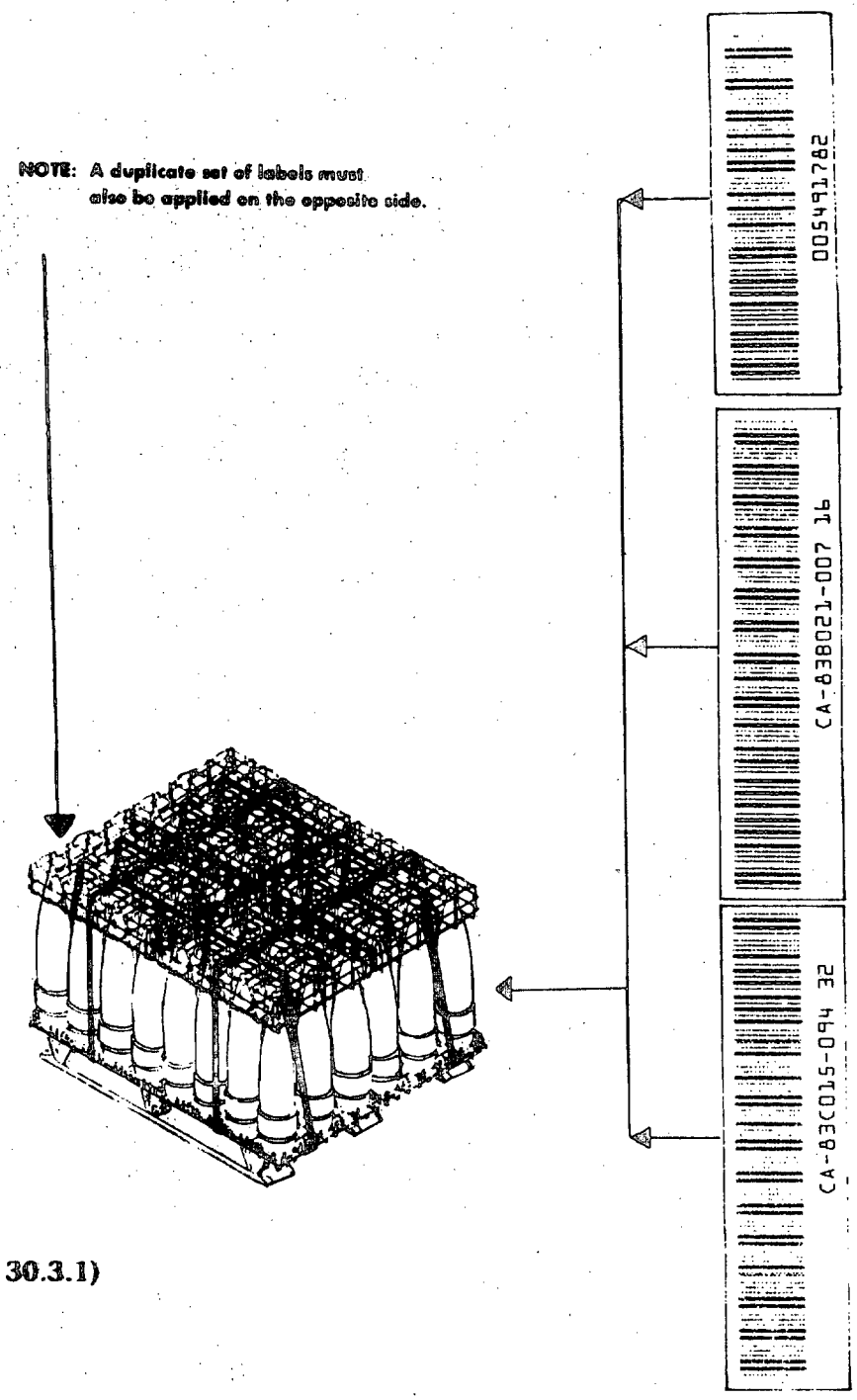
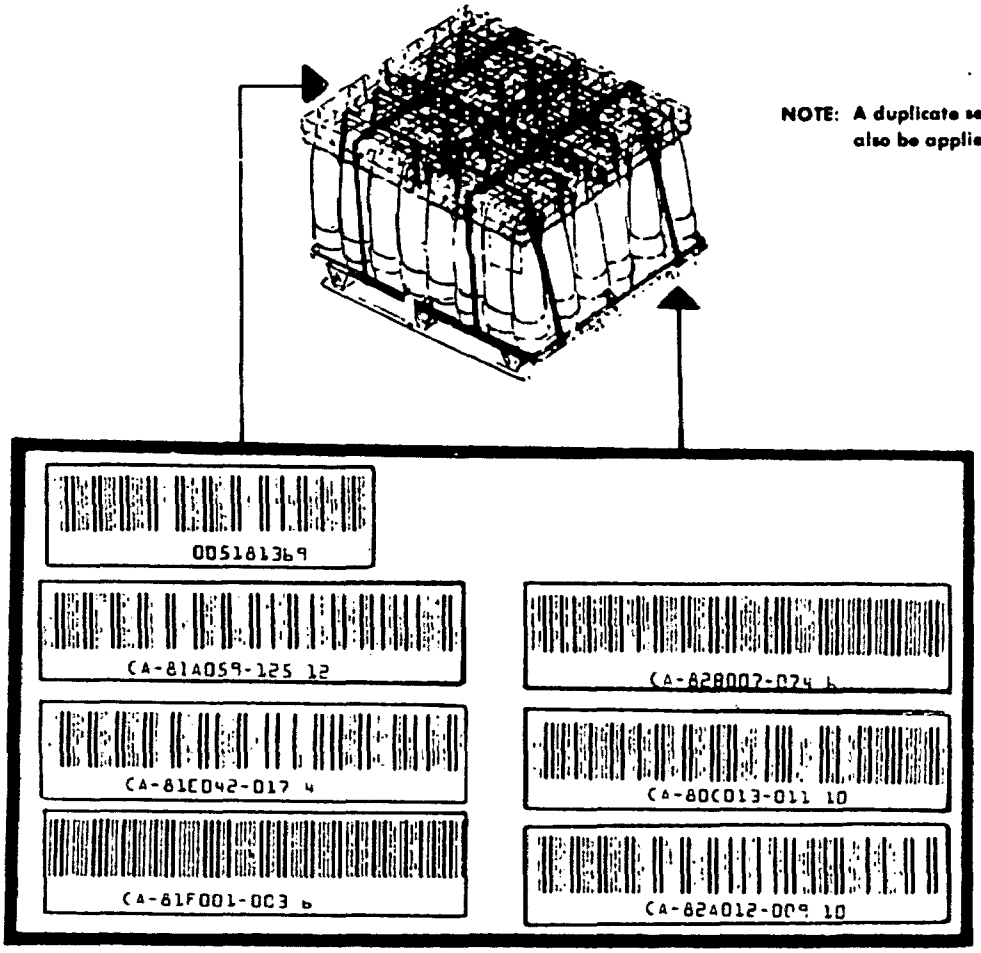


FIGURE 24. Placement of bar code labels on palletized unit loads.



(See 30.3.1)

FIGURE 25. Placement of multiple lots on pallet strapping.



(See 30.3.1)

FIGURE 26. Example for placement of multiple lots on marking boards.

(See 30.4)

FIGURE 27. NIIN bar code label for Navy shipments.

APPENDIX H

BAR CODE MARKINGS ON CONTAINERS

(see 4.11)

10. SCOPE

10.1 Purpose. Unless otherwise specified in the contract or order, bar code markings are required. The bar code and HRI applied shall be the standard DOD symbology as described in MIL-STD-1189. Bar code markings will be applied and placed on containers, as specified herein. Figures 28 through 38 are shown at the end of this appendix. Bar code marking requirements for ammunition are contained in appendix G. Bar code marking requirements for DD Form 1387 are contained in appendix I.

20. APPLICATION OF MARKINGS

20.1 Bar coded stock number (see figure 28). The bar coded (NSN/NATO) stock number will consist of the basic 13 data characters. Prefixes and suffixes to the stock number as well as spaces and dashes will not be bar coded. In addition, the PN/MFR will not be bar coded.

20.2 Other bar code requirements (see figure 28). Bar coded contract or order numbers will consist of 13 data characters. The four character delivery order or call number and contract line item number, when used, will also be bar coded when directed by the procuring activity. A requirement for a bar coded contractor's CAGE code exists for some DOD applications. Therefore, the contractor's CAGE code will also have to be bar coded as a third data element when specified by the procuring activity. When so specified, the bar coded CAGE will be the lowest bar code in a stacked configuration or the last bar code in an in-line configuration. The CAGE consists of five data characters. Other data fields such as contract line item number (CLIN) or serial numbers shall be bar coded, when specified.

NOTE: For DLA contracts, each exterior shipping container shall be bar coded with the NSN, contract number (including the call number), CLIN, and CAGE code of the prime contractor. The CLINs will consist of six characters, including zero fillers (left-justified) (see figure 28). See 30.2.3 in this appendix for configuration and format requirements. Exterior shipping containers for clothing and textiles are exempt from the CLIN bar coding requirements.

20.3 Human-readable interpretation (see figure 29). HRI will be an exact interpretation of the bar code data and will not contain spaces or dashes. The HRI will be located preferably below the bar code markings or optionally above the bar code markings.

20.4 Marking methods. On other than wood containers, bar code markings will be applied either by labels or by direct printing on the container. Bar code labels generated on thermal printers may be used on unit and intermediate containers and on exterior containers, when specified. Thermal label stock will be durable, buff-colored stock, or equivalent. When a clear/transparent laminate or equivalent or stretch/shrink wrap is placed over the bar code labels, the bar code symbol must meet the readability requirements of MIL-STD-1189, and the bar code label must meet the durability requirements of MIL-L-61002, when specified.

20.5 Labeling wood containers. On wood containers (intermediate or exterior shipping), bar code markings will be applied only by means of labels. The labeling area shall be given a smooth coat of spar varnish or a clear acrylic, polyurethane, or epoxy coating. A clear/transparent laminate or equivalent shall be placed over the bar code labels (see 20.4 above). In addition to the adhesive, it may also be necessary to use staples. Any commercial-type staple may be used as long as it is not placed within the bar code or the quiet zone (see 20.7 herein).

20.6 Unit pack as exterior container. When the unit pack and exterior shipping container are one and the same, only the exterior shipping container bar code markings need to be applied.

20.7 Labels for exterior shipping containers. Unless otherwise specified by the cognizant activity, the labels used for bar coding shipping containers shall meet the following minimum requirements:

a. Labels used on all wood containers or materiel that will be stored in outdoor condition for long periods of time, shall conform to requirements of MIL-L-61002 for a Grade A, Style 2, Composition (b) label.

b. Labels on all other containers shall meet the following requirements. Preprinted labels shall have a clear, transparent laminate coating, while non-preprinted labels shall have the laminate (or equivalent) applied after the bar code is printed (see 20.4 above). The final label with laminate (or equivalent) coating shall

conform to the requirements of MIL-L-61002 for a Grade A or B label, as specified. Labels may be Composition (a) or (b) labels. The style will be as specified.

When bar code labels are used on exterior shipping containers, a waterproof, clear/transparent, plastic, protective laminate such as PPP-T-60, type III, class 2 tape, or equivalent protection, shall be applied to or inherent to the label. Bar code quality shall remain in conformance with MIL-STD-1189 after the protective coating has been applied.

20.8 Labels on unit and intermediate containers. Unless otherwise specified, as a minimum, labels on unit and intermediate containers shall meet the requirements of MIL-L-61002 for a Grade C label.

20.9 Bar code character density. The standard bar code density range is from 3.0 to 9.4 characters per inch (CPI). When a direct-marking process is used to bar code exterior shipping containers, a bar code character density range of 1.7 to 3.0 CPI may also be used. Higher bar code densities in the range of 9.4 to 15.5 CPI may be used, when specified, for unique applications.

20.10 Bar code configurations (see figure 29). There are two bar code configurations: vertical (ladder) and horizontal (picket fence). All bar codes will be in a horizontal configuration unless otherwise specified in the contract or order.

20.11 Basic bar code formats (see figure 29). There are two basic formats, stacked and in-line. When only two or three data messages are being bar coded, one of these two basic formats can usually be utilized. In general, a stacked format is preferred. When three or more messages are bar coded in an in-line format, the minimum spacing between messages is increased so that false reads will not occur when using a non-contact scanner.

20.12 Complex bar code formats (see figure 30). There may be cases that require the use of formats more complex than the two basic formats, such as the bar coding of several data messages. A combination format is one that contains two or more columns of the stacked format or two or more rows of the in-line format. A staggered format is similar to a combination format but each stack of bar codes is staggered, or offset, from the adjacent stack of bar codes. It should be noted that the staggered format satisfies the requirement for the minimum distance of 2.25 inches (57.15mm) when there are three or more in-line bar codes.

20.13 Format requirements (see figures 29 and 30). The following format requirements are listed in order of preference based on ease of readability without false read when using either contact or non-contact scanners. The marking technology shall also be considered when determining which format to use.

a. Two bar coded messages:

1. Stacked.

2. In-line.

b. Three or four bar coded messages:

1. Single stack.

2. Staggered (2 staggered stacks of 2).

3. Combination (2 stacks of in-line bar codes).

c. Five to 10 bar coded messages:

1. Single stack.

2. Staggered (2 to 4 stacks of staggered bar codes).

3. Combination (2 stacks of in-line bar codes).

d. Eleven or more bar codes:

1. Single stack (if space permits).

2. Staggered (several possible arrangements).

3. Combination (if 3 or more stacks are required, the minimum spacing between stacks is increased from .5 to 2.25 inches (12.7mm to 57.15mm)).

30. PLACEMENT OF MARKINGS

30.1 Unit packs and intermediate containers (see figure 31). The NSN/NATO stock number will be bar coded and applied so that the bar code is in the configuration shown in figure 31.

30.1.1 Alternate placement (see figure 31). When space does not permit placement of all required markings, including bar code markings, on one surface of the package, bar code labels/markings

will be placed on an adjacent or opposite side of the package. As an alternative, the procuring activity may request that the package size be increased to accommodate the bar code markings.

30.1.2 Use of transparent containers (see figure 31). Bar code markings placed inside a transparent container must be machine readable from the outside of the container. Similarly, bar code markings on containers which are shrink/stretch wrapped into a load must be machine readable from the outside of the load in at least one location.

30.1.3 Repeat NSN. In addition to the HRI section of the bar code markings, the NSN/NATO stock number, including spaces or dashes and prefixes or suffixes, when applicable, shall be marked in-the-clear as the first line of identification markings (see figure 31 in this appendix and 4.2.1a of the basic document).

30.1.4 Bar coded serial numbers (see figure 31). When bar coded serial numbers are required, the bar codes shall be located directly below the identification markings preceded by the abbreviation "SER NO." When more than five serial-numbered items are in an intermediate container, the rules for an exterior container shall apply as specified in 30.2.4 herein.

30.2 Exterior shipping containers under 10 cubic feet (see figure 34). For exterior containers, the NSN/NATO stock number and contract number will be bar coded and will be applied on the identification marked side of the container. Bar code symbols will be located in an area adjacent to the identification markings and will be in a horizontal (picket fence) configuration. Bar code configurations and message formats are shown in figures 29 and 30. Bar code formats for tags and exterior containers are shown in figures 32 and 33.

30.2.1 Bar code location (see figure 34). The bar code will be applied at minimum distances of 2.0 inches (50.8mm) from the top and bottom edges, 1.0 inch (25.4mm) from the side edges, and a minimum distance (quiet zone) of 0.25 inch (6.35mm) from the nearest identification marking will be maintained. When the bar codes are located below the identification or contract data markings, a minimum separation of 0.125 inch (3.18mm) will be maintained between the markings and top of the symbol. Unless otherwise specified, bar codes may be applied in one of the following formats, listed in order of preference:

a. Stacked format with the NSN/NATO stock number immediately above the contract number (see figure 32). The CAGE code

of the prime contractor (not the design activity), when specified, will be directly below the contract number. When a stacked format is used, bar codes shall be left-justified (left-hand (start) characters vertically aligned).

b. A combination or staggered format is recommended when 3 or more data fields are to be bar coded (see figures 32 and 33).

c. Applied in line with the NSN/NATO stock number preceding the contract number and with a minimum space of 0.5 inch (12.7mm) separating the two bar codes (see figure 32). The CAGE or other data, when specified, will follow the contract number. A minimum separation of 2.25 inches (57.15mm) shall be used when 3 or more bar codes are in line.

30.2.2 Marking obstructions (see figure 34). When cleats, strapping, packing configuration, or other required markings interfere with placement of bar code markings, bar code markings will be placed as near as practicable to the prescribed data.

30.2.3 DLA marking requirements (see figure 33). The four bar codes required by DLA in the note to 20.3 of this appendix shall be in the same location as specified in 30.2. A single stack format is preferred, with the data fields stacked from top to bottom in the following order: NSN, contract number, CLIN, and CAGE code of the prime contractor. The only approved alternate format is a combination format arranged so that the NSN is above the contract number in the first stack and the CLIN is above the CAGE in the second stack.

30.2.4 Bar coded serial numbers (see figure 31). When a requirement exists for bar coded serial numbers, the bar codes shall be located directly below the identification markings and shall be preceded by the abbreviation "SER NO." The bar codes may be arranged in a stacked, in-line, or combination format. If more than five bar codes are required on intermediate or exterior containers, two serial number lists will be provided in accordance with appendix C, 20.19. The first list, which is to be placed inside the container, shall contain a bar code for each serialized item. The bar code format to be used is optional. A staggered format is recommended when more than 20 serial numbers are bar coded. Barcoding of the second serial number list which is to be included with the packing list is optional.

The identification side of the container shall be marked with the words "SERIAL NUMBER LIST INSIDE."

30.3 Exterior shipping containers 10 cubic feet and over (see figure 35). In addition to the marking requirements specified in 30.2 of this appendix, the following bar code marking requirements also apply to exterior shipping containers 10 cubic feet and over. Bar code markings are required on one end and one side of the container and will be applied as shown. The positioning of the bar code markings will be as specified in figure 35. When a marking board is used for unsheathed crates, bar code markings shall be applied immediately to the right of or beneath the contractor markings and shall be in line with them.

30.4 Bar coded tags (see figure 33). It is preferred that tags be marked by using direct marking techniques or by applying pressure-sensitive labels. If space is available on the identification tag, the bar code label/marking may be applied to the right of the identification markings or beneath the contract data markings. If space is not available, then the bar code markings may be applied on the reverse side of the tag.

30.4.1 Bales, cloth-covered bundles, paper shipping sacks, bags, and textile/laminated textile bags, rods, shafts, and pipes (see figure 36). Identification tags for these items will be secured as shown and will be coded as described in 30.4 above.

30.4.2 Coils of wire (see figure 36). Bar code markings will be applied to either side of both identification tags (see 30.4).

30.5 Barrels, drums, and other cylindrical containers (see figure 37). Bar code markings will be applied on the upper one-third of containers greater than 5 gallons adjacent to the identification markings as shown. For containers 5 gallons or less, the bar code markings will be applied immediately to the right of or below the identification markings and will be a minimum of 1.0 inch (25.4mm) from the bottom and top edges of the container. Stacked formats will be left-justified.

30.5.1 Cylindrical containers (see figure 37). On cylindrical containers less than 5 inches (127.0mm) in diameter, bar code labels or markings will be applied so the bar code symbol is vertical or in a "ladder" configuration. When the bar code is placed in this ladder configuration, the bars must be placed 0.25 inch to 0.5 inch (6.35mm to 12.70mm) from the left edge of the identification markings. Bar code markings will not be placed on the tear strip or container seam.

30.5.2 Markings on tops of containers (see figure 37). When identification markings and contract data markings are applied to the tops of containers such as empty barrels, drums, and other cylindrical containers, bar code markings will be applied beneath the required markings. This is in addition to the requirement in 30.5 herein.

NOTE: Reusable containers. All incorrect bar code markings applied for previous shipments or storage shall be obliterated prior to application of current bar code markings. Bar codes applicable to systems other than the standard depot system will be obliterated or rendered unreadable.

30.6 Reels or spools of cable, wire, and rope (see figure 38). Bar code markings will be applied adjacent to or beneath contract data markings. On wood reels or spools, the surface will be prepared and labels will be applied in accordance with 20.5 herein.

30.7 Paper and cloth-wrapped rolls (see figure 38). Bar code markings will be applied to the right of the identification markings, as shown, or beneath the contract data markings.

30.8 Unpacked major equipment (skidded or unskidded). Bar code markings will be applied immediately to the right of or beneath the contract data markings. If a marking board is used, bar codes will be applied as specified in 30.3 herein.

30.9 Unitized/palletized loads (see figure 38). Bar code markings will be applied to the outside of the load immediately to the right of or beneath the identification markings on the fiberboard or plywood marking panels or on the identification marked side of the load, as appropriate (see 4.4.7). If individual containers comprising the load are bar coded and scannable, no additional bar code markings are required.

30.10 Multipacks. Multipacks will be bar coded as follows:

a. Item identification markings. Item identification markings will not be bar coded on the exterior shipping container of multipack shipments. However, unit packs and intermediate containers require bar code markings as described in 30.1 herein.

b. Contract number. Contract number will be bar coded on the exterior shipping container of the multipack if the number applies to all unit and intermediate containers

inside the multipack. If mixed contract numbers are contained in the multipack, then the exterior container will not be bar coded.

30.11 Sets, kits, and outfits (SKO). Bar code markings will be applied to all SKO, whether obtained through procurement or assembled in-house. When a multiple container SKO is comprised of other SKO, all containers shall be marked with bar codes identifying only the final (end item) SKO. When obtained through procurement, the NSN and contract number of the complete SKO will be bar coded. When SKO are assembled in-house, only the NSN will be bar coded. All containers of a multiple container shipment will be marked as specified in appendix C, 20.22.

30.12 Materiel destined for resale. Unit packs and intermediate containers of materiel destined for resale that normally have a Universal Product Code (UPC) symbol need not be remarked with a 3-of-9 symbol. Exterior containers not destined for resale will be bar coded whether or not a UPC case code exists.

30.13 Controlled, sensitive, classified, and pilferable items. These types of items which require the omission of specific item description markings from the outside shipping containers (see 4.2.2.4) will contain the applicable bar code markings. If the NSN is included as part of the identification markings, then the HRI will be shown. However, if the NSN is omitted, then the HRI will also be omitted. For medical materiel, the NSN bar code markings, including the HRI, shall be omitted. For shipments of DPSC C&T items, the HRI shall remain.

30.14 Bundled wood products. Bar code markings on a marking board will be applied as specified in 30.3 herein.

30.15 Tires. Bar code markings that are required for exterior containers shall be applied to all tires on the smooth surface of the outside sidewall, except for DOD sites having the capability of preprinting or generating a bar coded DD Form 1387. Labels shall comply with MIL-L-61002, Type optional, Grade A, Style 3-rubber, Composition (b) (laminated). When DD Form 1387 is used, it shall be affixed to a paper shipping tag (A-A-900 or UU-T-81) or shall be affixed directly to the sidewall of the tire by those DOD sites having the means to do so.

30.16 (Army Only) Small arms weapons containers (see figure 28). In addition to the standard bar code requirements for unit, intermediate, and exterior containers, all small arms containers

shall also contain the bar coded serial numbers of the packaged weapons. The bar coded serial numbers will include an identifier that designates the model. The identifier will be specified in the procurement document.

30.16.1 Bar code label requirements. The bar code label requirements shall be as follows:

a. Bar code labels used on all wood containers shall comply with MIL-L-61002, Type optional, Grade A, Style 2, Composition (b) labels. Labels shall contain a transparent laminate and shall be affixed by stapling. Staples shall not be located within the bar code or the quiet zones. A pressure-sensitive label may be affixed to a piece of card stock slightly larger than the label and the card stock stapled to the container with heavy duty staples.

b. Bar code labels on all exterior containers other than wood containers shall comply with MIL-L-61002, Type optional, Grade A, Composition (b), and the appropriate style. Labels shall have a transparent laminate applied.

c. Bar code labels on all unit and intermediate containers other than wood containers shall meet the minimum requirements of MIL-L-61002 for a Grade B, Composition (b) label. The style shall be as specified.

30.16.2 Bar code message description (see figure 28). The bar code for small arms weapons consists of the serial number of the weapon preceded by a field identifier (FID). The FID on weapons consists of an S preceded by one, two, or three numerics. The S indicates that the data which follows the S is a serial number. The numerics preceding the S identifier are assigned by the item manager and designate the model of the weapon. For example, the bar coded data 11S12345678 represents the bar code of an M16A1 rifle with serial number 12345678. The HRI shall indicate only the serial number without the FID.

40. CONDITIONS OF MARKING SURFACES

40.1 The conditions of the surface to be marked shall be as specified in this appendix and in 5.2.

40.2 As a minimum, all surfaces shall be free of dust, dirt, grime, and oil before applying bar code labels.

1. BAR CODED IDENTIFICATION MARKINGS (BCID)

A. NSN/NATO Number
(1) Typical 5950-00-123-4567
(2) Fixed Length (13 characters)
(3) No suffix or prefix bar coded

5950001234567

B. Contract Number/Procurement Instrument Identification Number (PIIN)
(1) Basic Number
(a) Typical DAHC94-88-D-0007
(b) (Fixed 13 characters)

DAHC94880007

(2) With Call Number (when specified)
(a) Typical DAHC94-88-D-0007-0010
(b) (Fixed 17 characters)

DAHC9488D00070010

C. Contract Line Item Number (CLIN)
(1) Typical 1001AB
(2) (Fixed 6 characters)

1001AB

D. Contractor and Government Entity (CAGE)
(1) Typical 33825
(2) (Fixed 5 characters)

33825

2. BAR CODED SERIAL NUMBERS (BCSN)
A. Basic SNs
(1) Typical 0001937
(2) Variable length
(3) Fixed length if specified

1937 OR 0001937

B. Army Weapons S
(1) Typical 11S1937
(2) Variable length
(3) Includes specified field identifier in the bar code
(4) HRI indicates only the serial number

1937

(SEE 20.2)

FIGURE 28. Examples of typical bar coded fields.

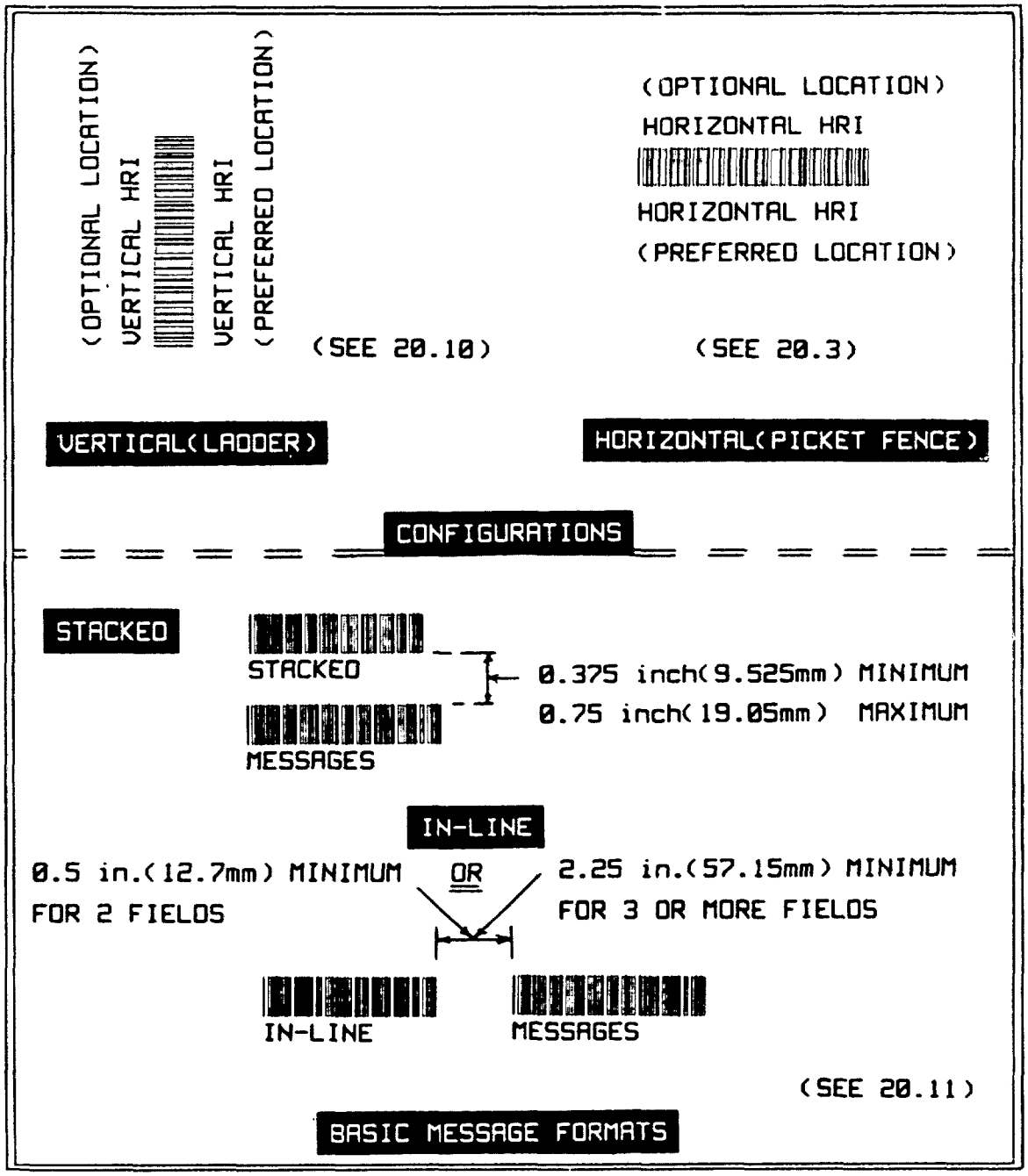
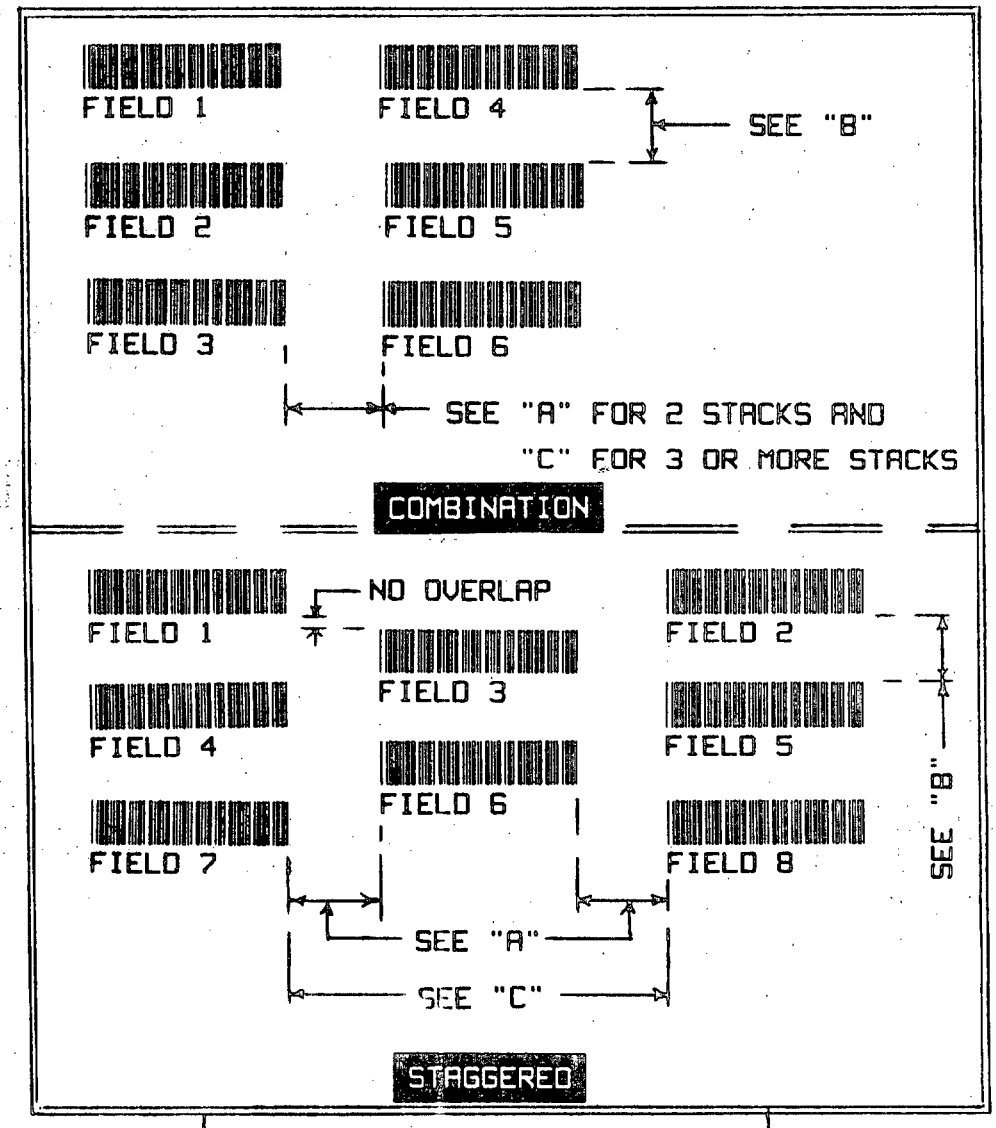


FIGURE 29. Bar code configuration and message formats.



A. 0.5 in.(12.7mm) MINIMUM
B. 0.375 in.(9.525mm) MINIMUM
0.750 in.(19.05mm) MAXIMUM
C. 2.25 in.(57.15mm) MINIMUM

(SEE 20.12)

FIGURE 30. Complex message formats.

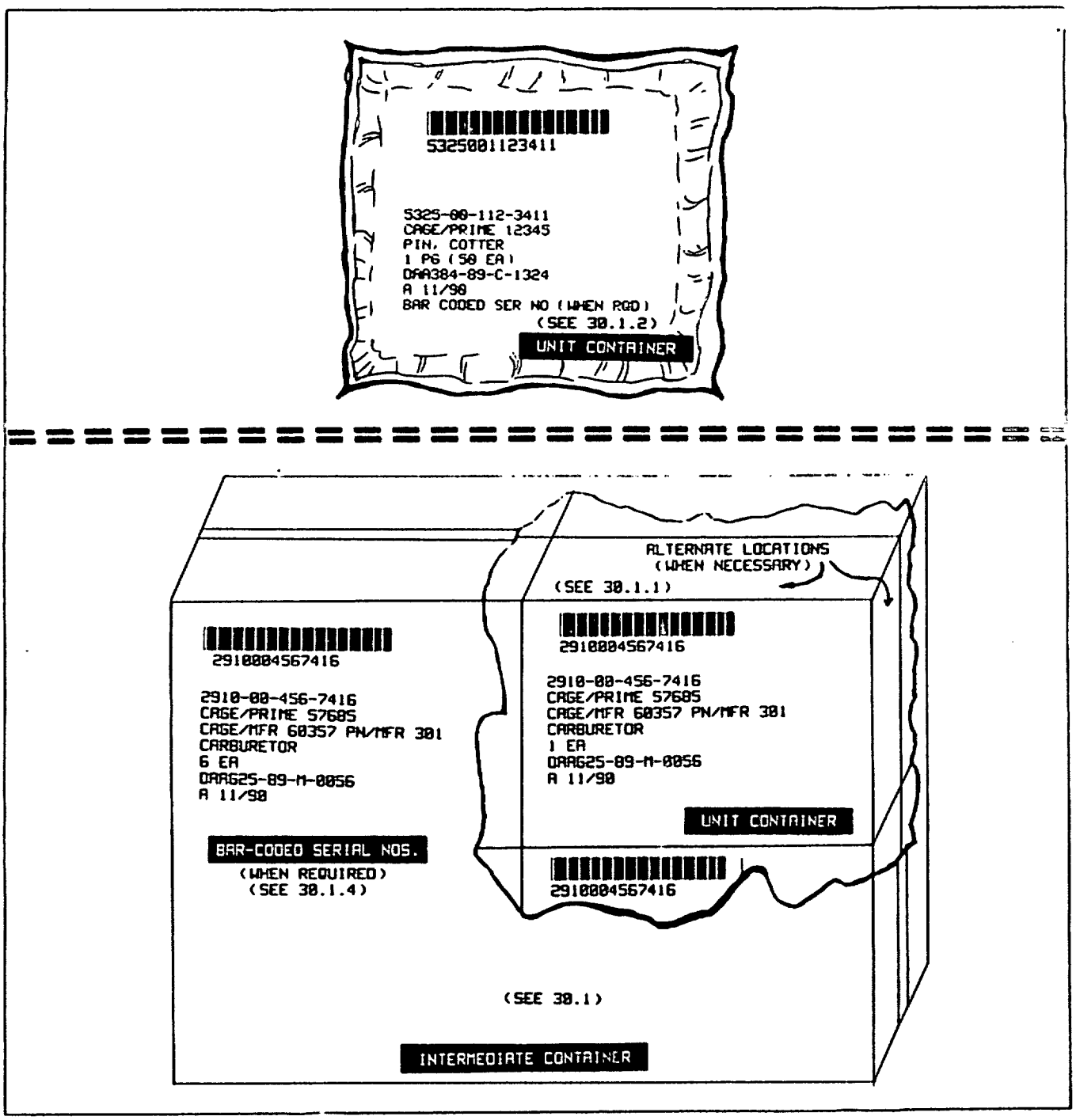


FIGURE 31. Unit and intermediate container bar code markings.

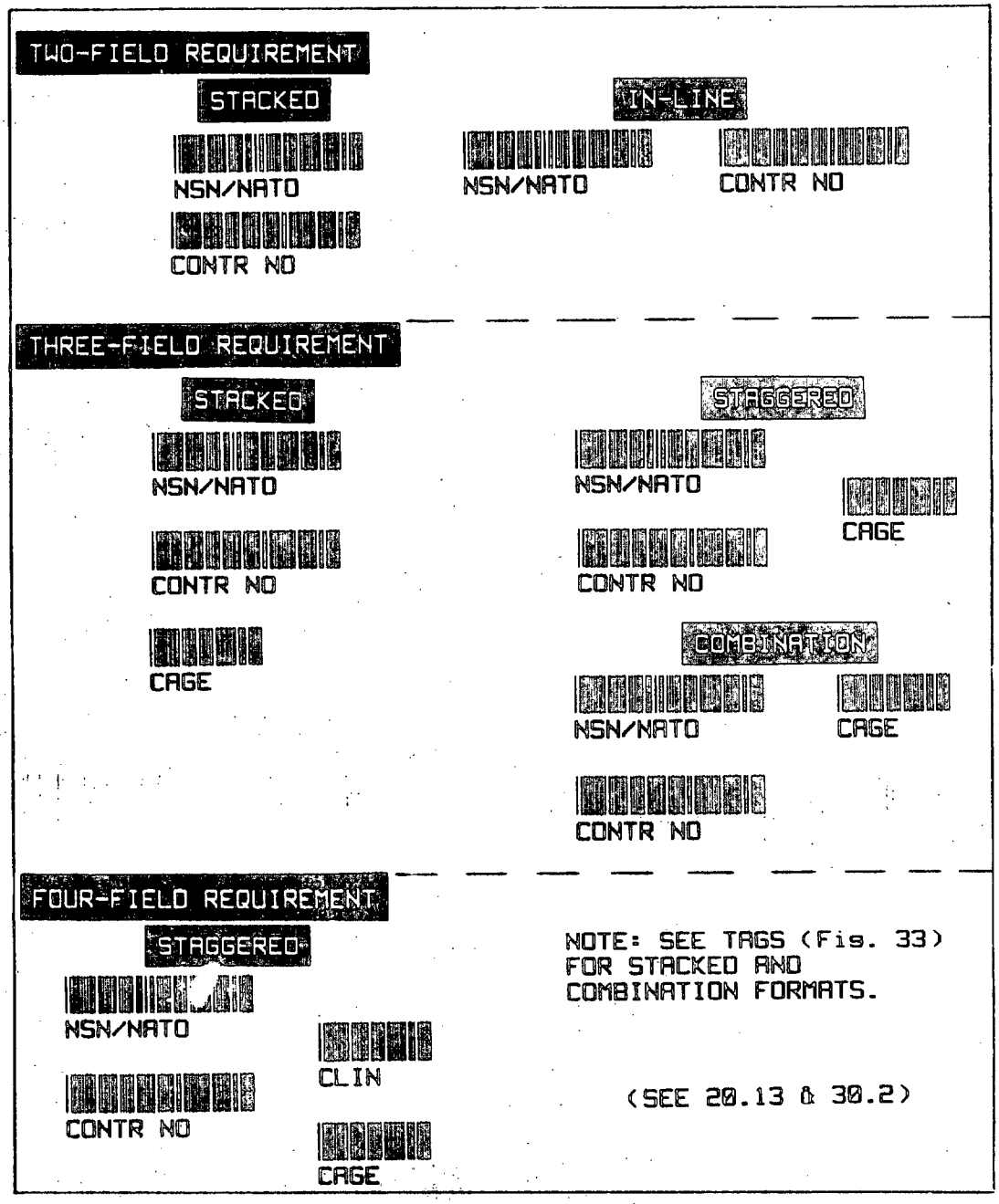


FIGURE 32. Typical bar code formats for tags and exterior containers.

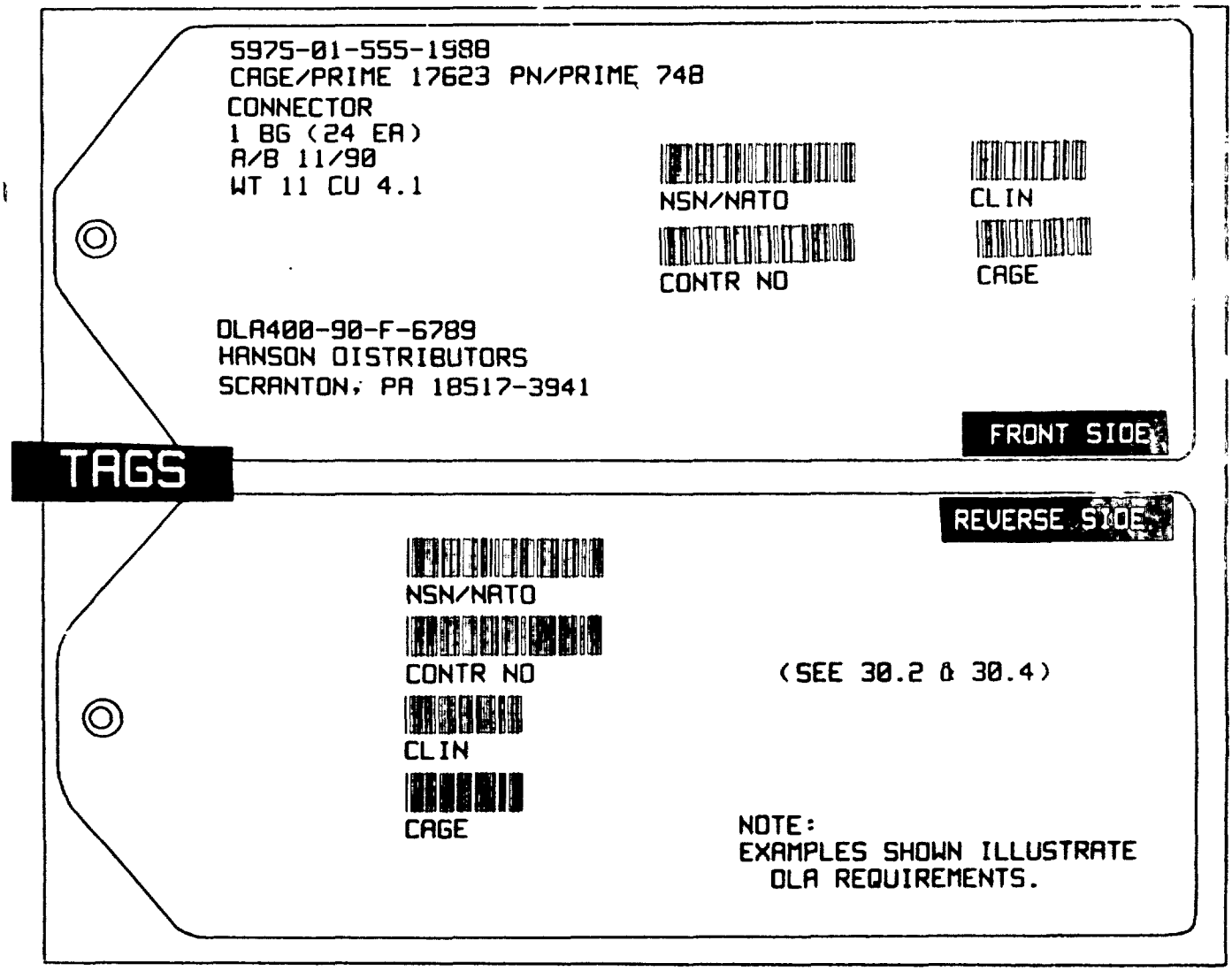


FIGURE 33. Tags with sample DLA bar codes.

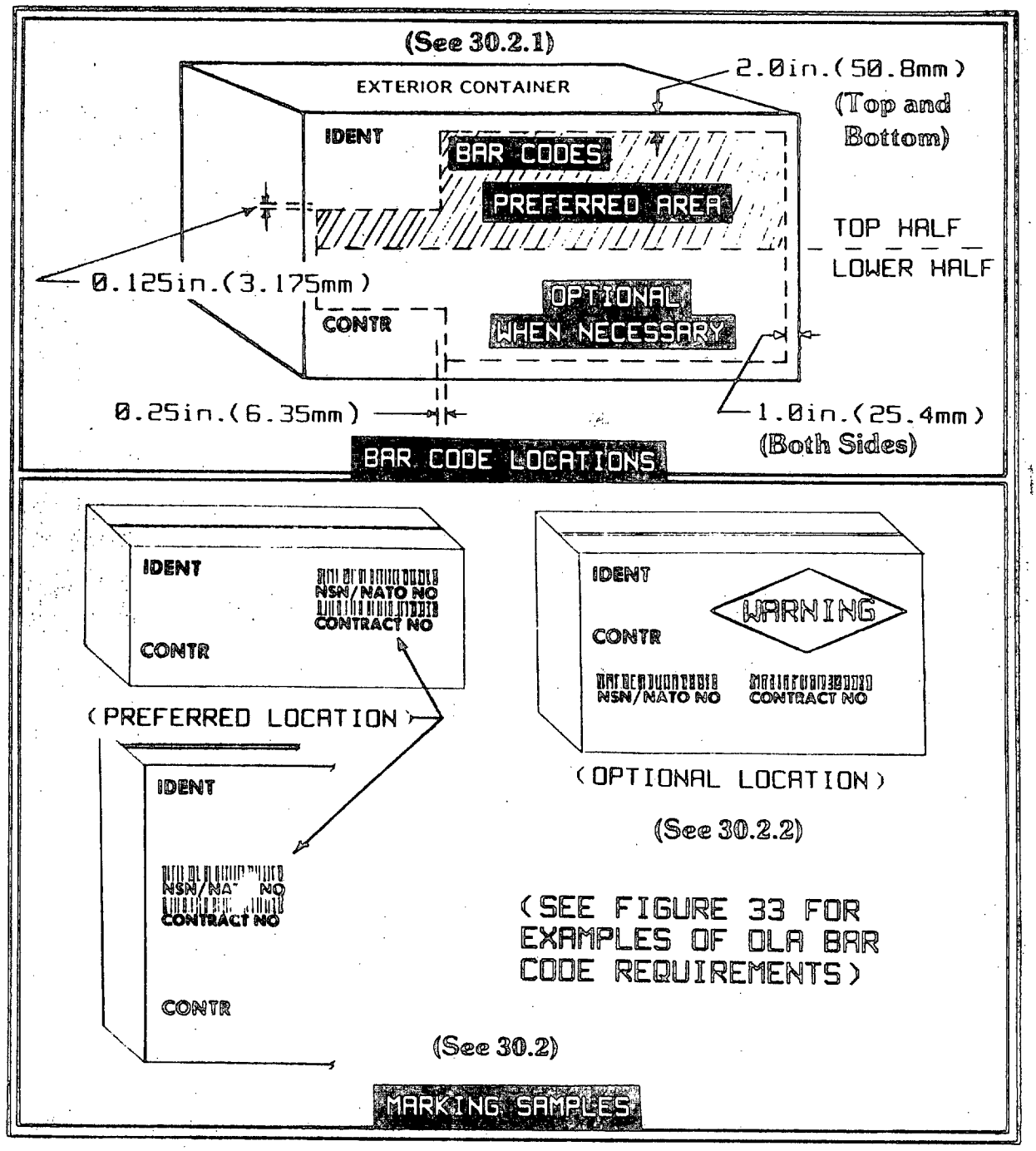


FIGURE 34. Exterior container bar code markings for containers under 10 cubic feet.

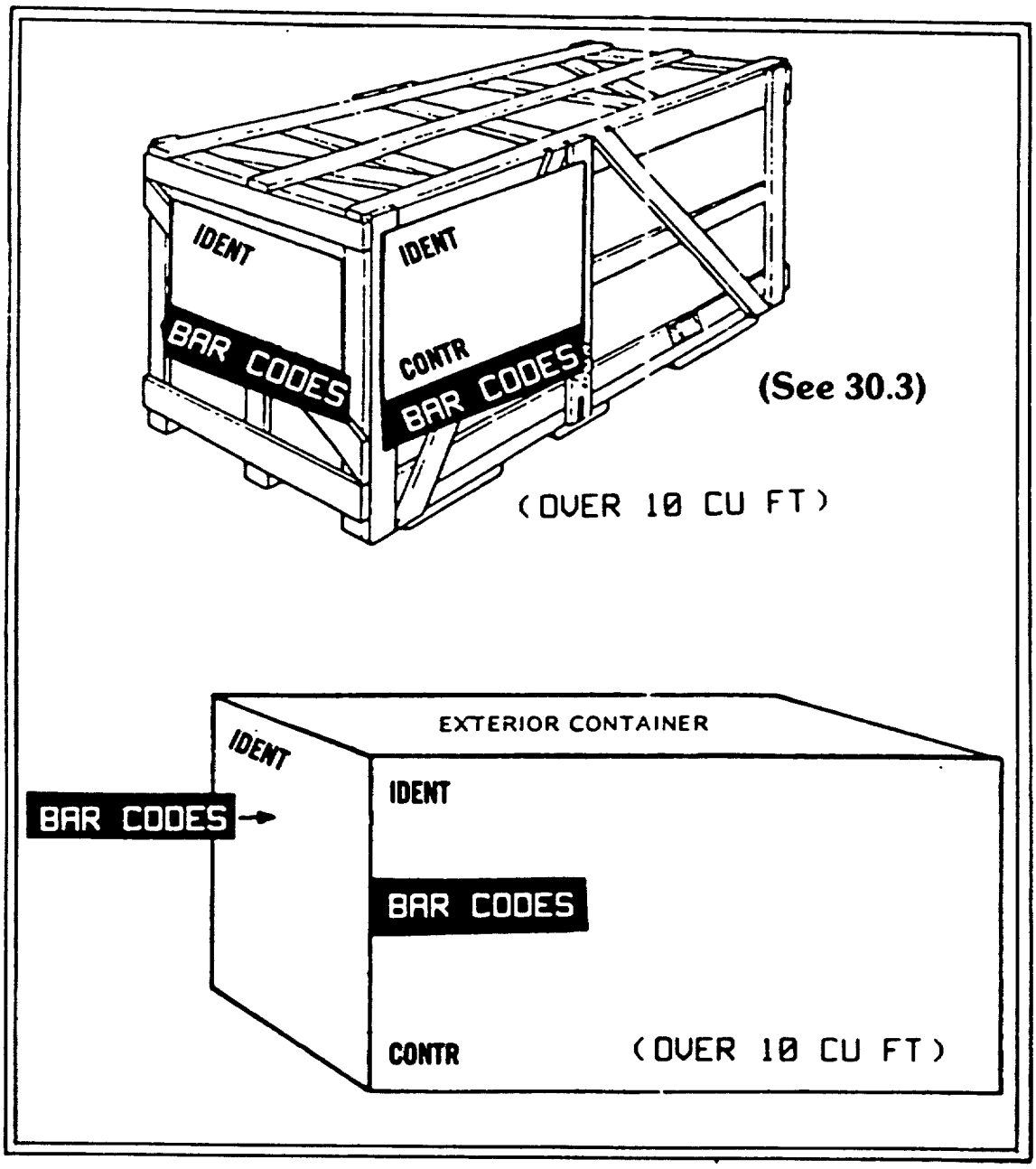


FIGURE 35. Exterior container bar code markings for containers 10 cubic feet and over.

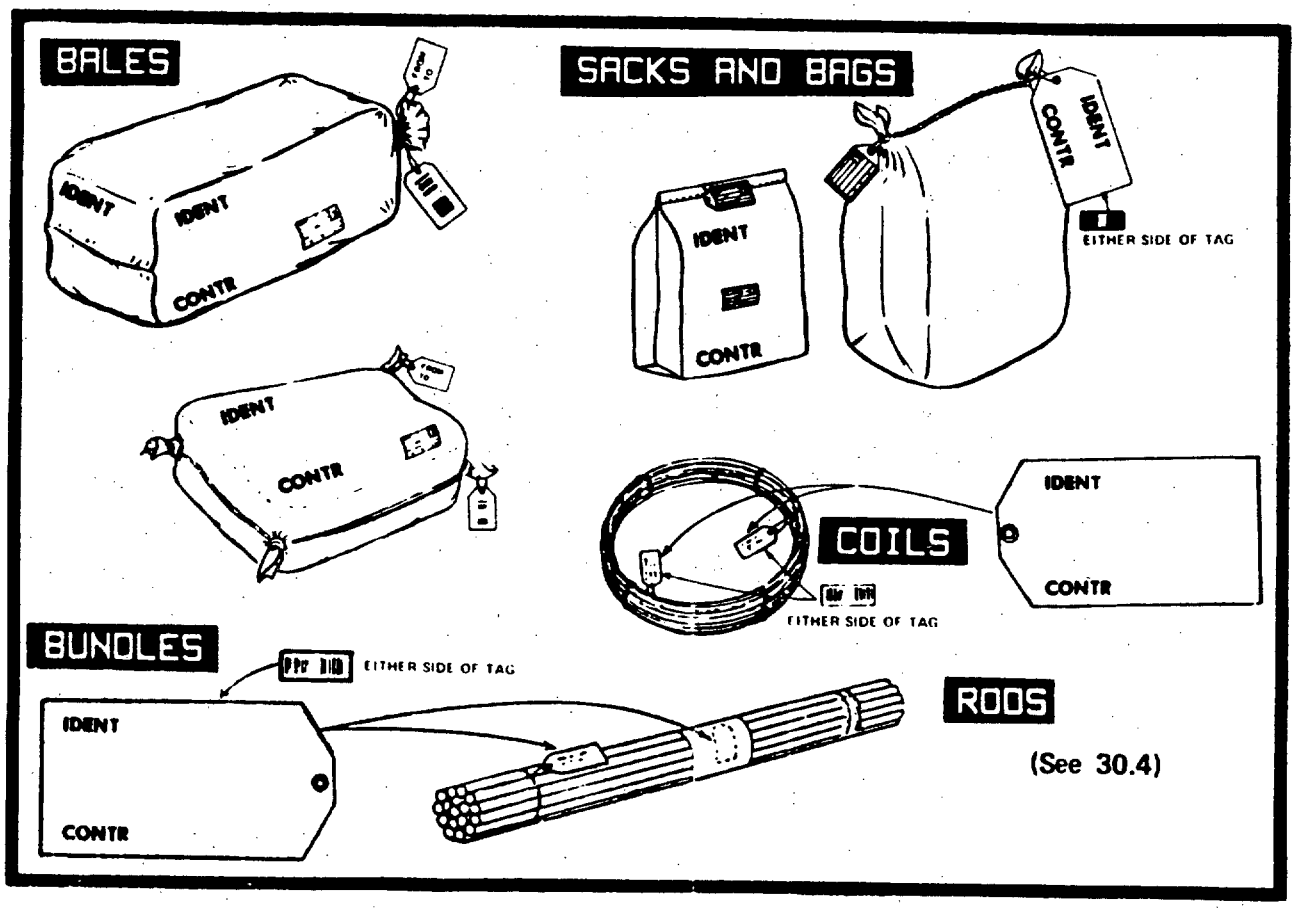


FIGURE 36. Bar coding tagged materiel.

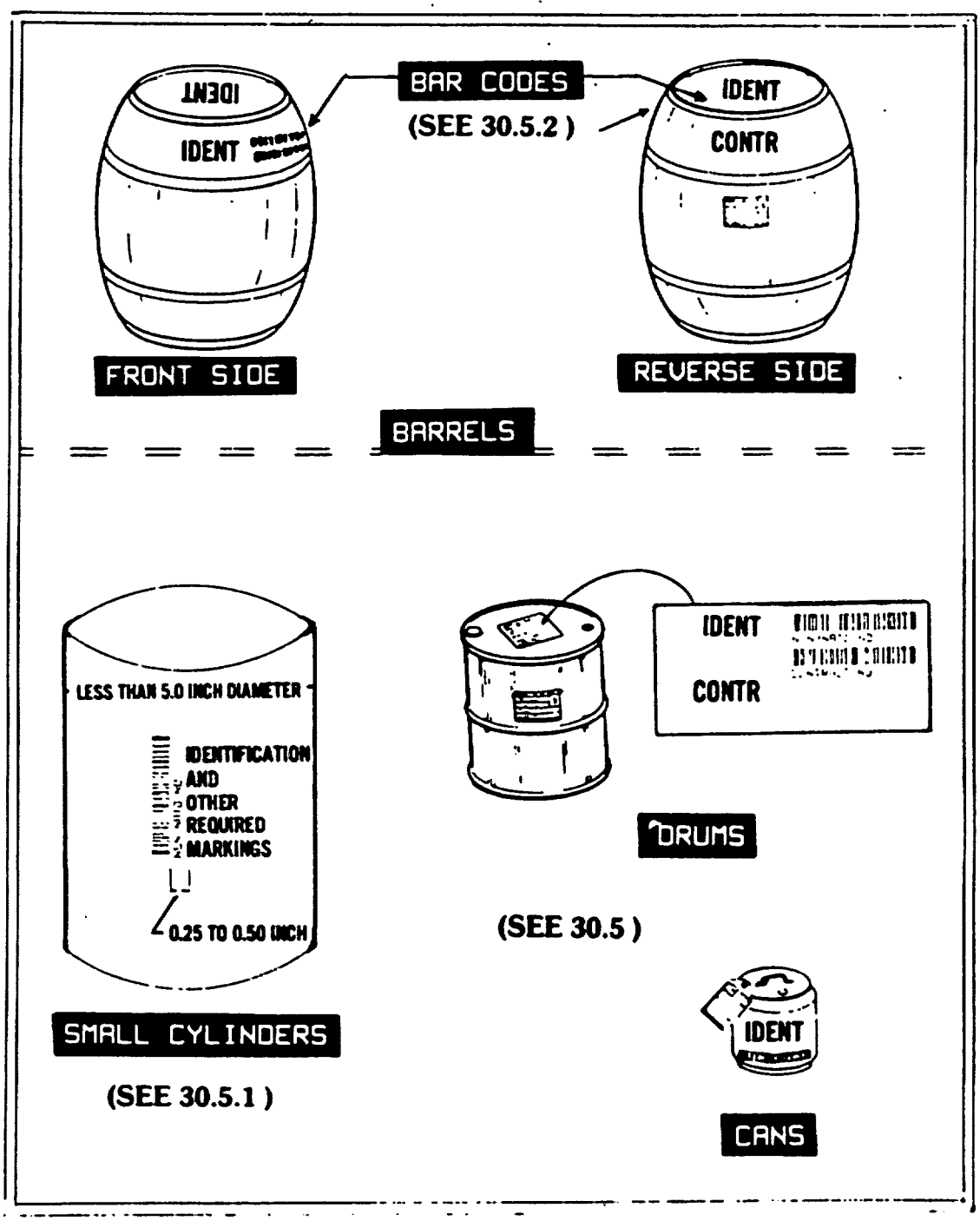


FIGURE 37. Bar code markings on cylindrical containers.

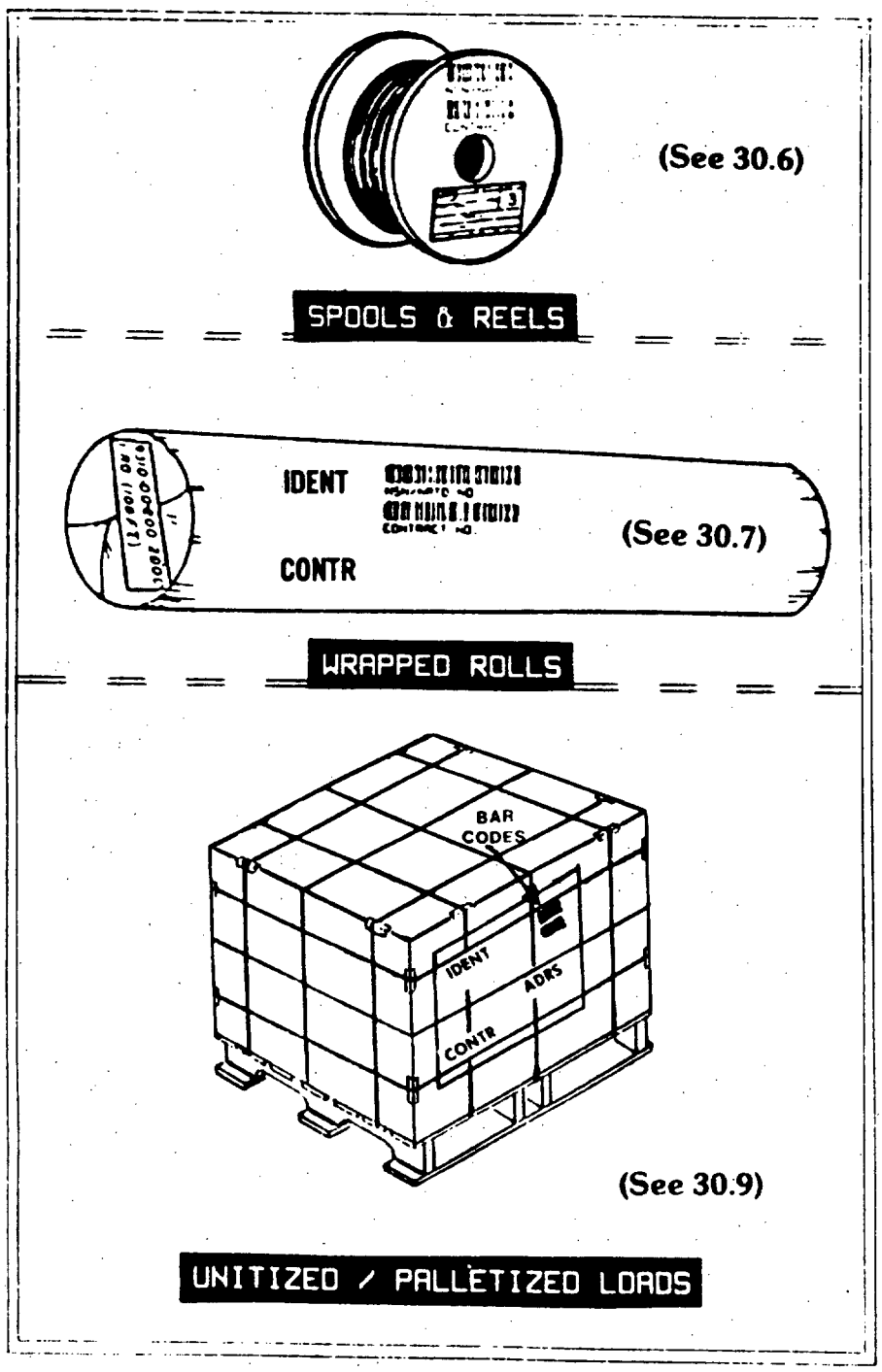


FIGURE 38. Bar code markings on miscellaneous materiel.

APPENDIX I

ADDRESS MARKINGS

(see 4.3)

10. SCOPE.

10.1 Purpose. All address markings will be accomplished as specified herein. Detailed procedures for completing DD Form 1387 (Military Shipment Label) are stated below and in DOD 4500.32-R. Table VIII lists the DD, optional, and standard forms contained in this standard, along with their implementing directives and their proponents. Figures 39 and 40 are shown at the end of this appendix.

20. MILITARY AND CONTRACTOR ADDRESS MARKINGS.

20.1 DD Form 1387 (see figure 39). DD Form 1387 shall be used for address marking on all shipment units of DOD cargo, including ammunition, originated by DOD shipping activities. The form will be completed using automated or manual means. Transportation priorities (TPs) 1, 2, and 3 shall be identified by a machine-printed, stenciled, stamped, hand-lettered, or stick-on numeral placed in the TP block of the address label. Minimum height of the TP numeral shall be three-fourths of an inch. When an automatic marking system is used, TPs 1, 2, and 3 shall be identified by the TP numerals preprinted (printed with the same color ink as other data on the label). Bar coded entries of TCN, Consignee DOD activity address code (DODAAC), and piece number are mandatory on the DD Form 1387. Labels prepared by automated means must be readable by humans and electronic devices. Manually prepared labels must be readable by employees responsible for the movement of cargo. Hand lettering on the DD Form 1387 is not authorized, except for blocks 6, 10, 12, 13, 16 (which also requires barcoding), and 17. If hand-lettered entries in these blocks are not readable by the receiving activity, a report of discrepancy should be prepared. When the use of DD Form 1387 interferes with or obscures other required markings on shipping containers, the label shall be attached to a paper shipping tag (NSN 8135-01-256-1109) conforming to A-A-900. The tag (8 inches long and 7 1/2 inches wide) is large enough to accommodate the label without folding. Separate tags shall be used for identification and address markings. Address marking requirements for vendor or contractor shipments are contained in 20.2 of this appendix.

20.1.1 Format of DD Form 1387 (see figure 39). The format of the DD Form 1387 and instructions for its completion are as specified below and in DOD 4500.32-R, volume I.

a. For shipments other than mail, the address label shall be completed as follows:

(1) TCN: Enter the 17-character (alphanumeric) TCN, bar coded and in-the-clear.

(2) Postage Data: Leave blank.

(3) From: Enter DODAAC and in-the-clear address of the shipping activity. (See DOD 4000.25-6-M, DOD Activity Address Directory (DODAAD).)

(4) Type Service: Enter Air Express, Blue Label, Overnight Delivery, etc., as applicable. If none, leave blank.

(5) Ship-to/POE: Enter three digit air/water port code and in-the-clear port address.

(6) Transportation Priority: Enter applicable TP.

(7) POD: Enter three digit POD port designator from MILSTAMP, if appropriate.

(8) Project: Enter project code, if applicable.

(9) Ultimate Consignee/Mark For: Enter consignee DODAAC, bar coded and in-the-clear, and the complete address of the consignee.

(10) Weight (this piece): Enter actual weight.

(11) RDD: Enter required delivery date, if appropriate.

(12) CUBE (this piece): Enter cube.

(13) Charges: Enter CONUS inland freight charges on label of number one piece of shipment unit (entry mandatory for FMS shipments).

(14) Date Shipped: Enter the four-position ordinal date (e.g., 0180) or the in-the-clear date (e.g., 29 Jun 90).

(15) FMS Case Number: Enter as appropriate.

(16) Piece Number: Enter bar coded and in-the-clear.

(17) Total pieces: Enter total pieces in the shipment unit.

b. For mail shipments, the label shall be completed as follows:

(1) TCN: Enter the 17-character (alphanumeric) TCN, bar coded and in-the-clear.

(2) Postage Data: Use one of the following:

(a) For metered mail, leave blank and attach the stick-on metered postage values to or near this block.

(b) For permit imprint mail, enter the appropriate service/agency mail authorization.

Example: First Class Mail
Postage and Fees Paid
Defense Logistics Agency
Permit No. G-53

(3) From: Enter the in-the-clear address of the shipping activity, including the zip code. The phrase "OFFICIAL BUSINESS, PENALTY FOR PRIVATE USE $300" must be printed on the bottom line of this block.

(4) Type Service: Enter First Class Priority Mail, Express Mail, Military Ordinary Mail, etc., as applicable.

(5) Ship to/POE: For CONUS mail, enter the complete address of the consignee, including the nine-digit zip code. For mail to overseas locations, enter postal concentration at DTS port or MILSTAMP Air/Water Port identifier (APO/FPO).

(6) Transportation Priority: Enter appropriate TP.

(7) POD: Leave blank.

(8) Project: Enter project code, if applicable.

(9) Ultimate Consignee/Mark for: Enter DODAAC of consignee, bar coded and in-the-clear. For CONUS, no other data; for overseas shipments, add detailed address.

(10) Weight (this piece): Enter actual weight.

(11) RDD: Enter required delivery date, if appropriate.

(12) CUBE (this piece): Enter cube.

(13) Charges: Leave blank.

(14) Date Shipped: Enter four-digit ordinal date (e.g., 0180) or the in-the-clear date (e.g., 29 Jun 90).

(15) FMS Case Number: Enter, if applicable.

(16) Piece number: Enter bar coded and in-the-clear.

(17) Total Pieces: Enter number of pieces in the shipment unit.

20.2 Contractor or vendor address markings. A contractor or vendor making a shipment may apply the address markings by stenciling, silk-screening, alternate labels (other than DD Form 1387), or tags, provided the procurement costs are not increased and the markings conform to the requirements of this standard. It is preferred that contractors and vendors use the latest edition of the DD Form 1387 when shipping cargo to a CONUS (domestic) location. Contractors and vendors are not, as yet, required to bar code the DD Form 1387 for deliveries to CONUS locations. However, when vendor-originated shipments are destined for OCONUS locations (transshipment) by the DTS, they shall comply with the address marking instructions in DOD 4500.32-R, volume I, which require the use of a bar coded DD Form 1387. The address label shall be marked as specified in 20.1 of this appendix. The domestic shipment address for contractor- or

vendor-originated shipments shall contain the following minimum information in the order listed. Additional data required by the contract shall be applied below piece number and total pieces.

a. Control Number or Reference Number: For example, Contract No., Purchase Order No., Commercial Bill of Lading No., etc.

b. From: Name and address of the consignor (DODAAC code and in-the-clear address, if applicable) (see note below).

c. To: Name and address of the consignee (DODAAC code and in-the-clear address, if applicable) (see note below).

d. Project Code and required delivery date (RDD), when required.

e. Weight and Cube.

f. Piece Number and Total Pieces.

g. Additional data, when required.

NOTE: Only b and c above apply to shipments in support of Government contractors which move solely between contractors' plants, do not enter the Defense Transportation System, and are accomplished by commercial bill of lading.

20.3 Affixing the address label to the shipping container (see figure 39). When the shipping container or the material (e.g., pipe, steel, wood, etc.) does not lend itself to direct application of the address label, the label will be attached to a paper shipping tag (A-A-900 or UU-T-81) or a fiberboard or plywood marking board (PPP-F-320/NN-P-530). Placement of the tag will be as specified in 4.4 through 4.4.14 of this standard.

20.4 DOD shipments sent through the U.S. Postal Service. Shipments originated by DOD activities and sent through the U.S. Postal Service must have the phrase "OFFICIAL BUSINESS, PENALTY FOR PRIVATE USE $300" printed on the bottom line of the "FROM" block of the DD Form 1387. The phrase may be overprinted, applied by rubber stamp, or typewritten, with no exceptions. This phrase is required by the Domestic Mail Manual. The penalty indicia method of applying postage is not authorized. All DOD activities must employ the direct accountability methods

(permit imprint or meter) when using the U.S. Postal Service. The appropriate postage mail authorization will be applied in the "Postage Data" block.

20.5 Direct mail pouch shipment (see figure 39). If a U.S. Postal Service mail pouch is used as the outer container for mailing of more than one package as a direct pouch shipment to the addressee, each package in the pouch shall have a DD Form 1387 attached.

20.6 Full carloads and full truckloads. Full carloads and full truckloads moving from a single consignor to a single consignee require at least one completed address label attached to the container or palletized load located closest to the door. Additional address labels may be placed on the other containers or palletized unit loads in the shipment. A domestic address label (DD Form 1387 or approved substitute) shall also be placed on all shipping containers, palletized unit loads, and unpacked items for less than carload and less than truckload lots.

20.7 Enhanced DLA Distribution System (EDDS) shipments. For vendor-originated shipments destined for delivery to a materiel consolidation point (MCP), the shipment shall be addressed to the designated MCP, with the ultimate receiving depot listed as the "MARK FOR" address.

30. BAR CODED DD FORM 1387.

30.1 DD Form 1387 data to be barcoded (see figure 40). Using either the preprinted or generated form, those DOD sites having the capability will bar code the following data in accordance with DOD 4500.32-R in addition to the human-readable data that is required:

a. TCN in bl ck 1 (17 characters).

b. Ultimate Consignee (DODAAC) in block 9 (6 characters).

c. Piece Number in block 16 (4 characters).

30.2 Size of the DD Form 1387. For those sites having the capability to generate the DD Form 1387 as well as the data, the form may be reduced in size but will not be any smaller than 4.0 inches in height by 5.0 inches in width (101.6 by 127.0mm) or 5.0 inches in height by 4.0 inches in width (127.0 by 101.6mm). The basic format will remain the same. See figure 39 for the basic

address label format and figure 40 for samples of a reduced-in-size label containing bar coded data. Both the labels and bar codes in figure 40 have been further reduced in size for ease in publication.

30.3 Bar code symbology. The bar code symbology shall be in accordance with MIL-STD-1189 except that the minimum height shall be 0.25 inch (6.35mm), regardless of the density (characters per inch).

30.4 Human-readable interpretation. The HRI of the bar coded DODAAC and piece number shall appear either below the bar code or in-line with the bar code (see figure 40). When in-line, a 0.25 inch quiet zone is required between the bar code and the HRI.

30.5 Bar coding of data on address labels for contractor or vendor shipments entering the Defense Transportation System. Contractors and vendors shall bar code data on DD Form 1387 address labels as required in 20.1 of this appendix and DOD 4500.32-R, volume 1, for all shipments entering the DTS. Bar code labels affixed to the DD Form 1387 are authorized as an alternative to directly bar coding the DD Form 1387.

40. DD FORMS, OPTIONAL FORMS (OF), AND STANDARD FORMS (SF).

40.1 List of forms. As the implementing marking directive for DOD, MIL-STD-129 identifies and discusses 24 DD forms, 14 OFs, and 1 SF that are used in conjunction with the marking of military materiel for shipment and storage. Table VIII, which contains a list of these forms, also identifies the implementing directive for each form and the ultimate proponent, known as the executive agency, for each. Users of this standard who have any questions concerning the format, content, or usage of any of the forms listed in table VIII should contact the executive agency that is responsible for the form.

TABLE VIII. DD, optional, and standard forms

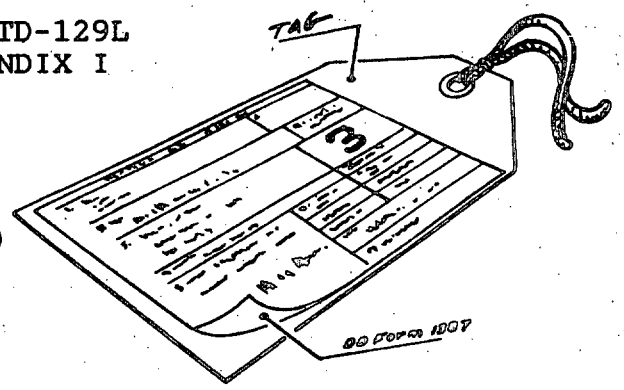
Form Number	Prescribing Directive	Executive Agency
DD 250	DFARS, Appendix I	ASD (P&L)
DD 1155	DFARS	ASD (P&L)
DD 1348-1	DOD 4000.25-1-M	OSD (DLSSO) (DLSSD-BM)
DD 1348-1A	DOD 4000.25-1-M	OSD (DLSSO) (DLSSD-BM)
DD 1387	DOD 4500.32-R	OSD (DLSSO) (DLSSD-AV)
DD 1387-2	DOD 4500.32-R	OSD (DLSSO) (DLSSD-AV)
DD 1502	DLAR 4145.21/TB MED	DLA-OWP
DD 1502-1	284/NAVSUP INST	DLA-OWP
DD 1502-2	4610.31/AFR 167-9	DLA-OWP
DD 1574	DOD 4145.19-R-1	AMCPSCC (SDSTO-TP-S)
DD 1574-1	DOD 4145.19-R-1	AMCPSCC (SDSTO-TP-S)
DD 1575	DOD 4145.19-R-1	AMCPSCC (SDSTO-TP-S)
DD 1575-1	DOD 4145.19-R-1	AMCPSCC (SDSTO-TP-S)
DD 1576	DOD 4145.19-R-1	AMCPSCC (SDSTO-TP-S)
DD 1576-1	DOD 4145.19-R-1	AMCPSCC (SDSTO-TP-S)
DD 1577	DOD 4145.19-R-1	AMCPSCC (SDSTO-TP-S)
DD 1577-1	DOD 4145.19-R-1	AMCPSCC (SDSTO-TP-S)
DD 1577-2	DOD 4145.19-R-1	AMCPSCC (SDSTO-TP-S)
DD 1577-3	DOD 4145.19-R-1	AMCPSCC (SDSTO-TP-S)
DD 1750	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
DD 2477	DOD 4140.27-M	DLA-OSC
DD 2477-1	DOD 4140.27-M	DLA-OSC
DD 2477-2	DOD 4140.27-M	DLA-OSC
DD 2477-3	DOD 4140.27-M	DLA-OSC

TABLE VIII. DD, optional, and standard forms - Continued.

Form Number	Prescribing Directive	Executive Agency
OF 70A	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
OF 71A	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
OF 73	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
OF 74	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
OF 78	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
OF 80	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
OF 81	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
OF 83	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
OF 84	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
OF 85	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
OF 87	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
OF 87A	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
OF 88	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
OF 274	MIL-STD-129	AMCPSCC (SDSTO-TE-S)
SF 420A	AFR 71-4/TM 38-250/ NAVSUP PUB 505/MCO P4030.19/DLAM 4145.3	AFLC/DSTTP

NOTE: See paragraph 40.1 of this appendix for additional information concerning the forms listed in this table.

(See 20.2)

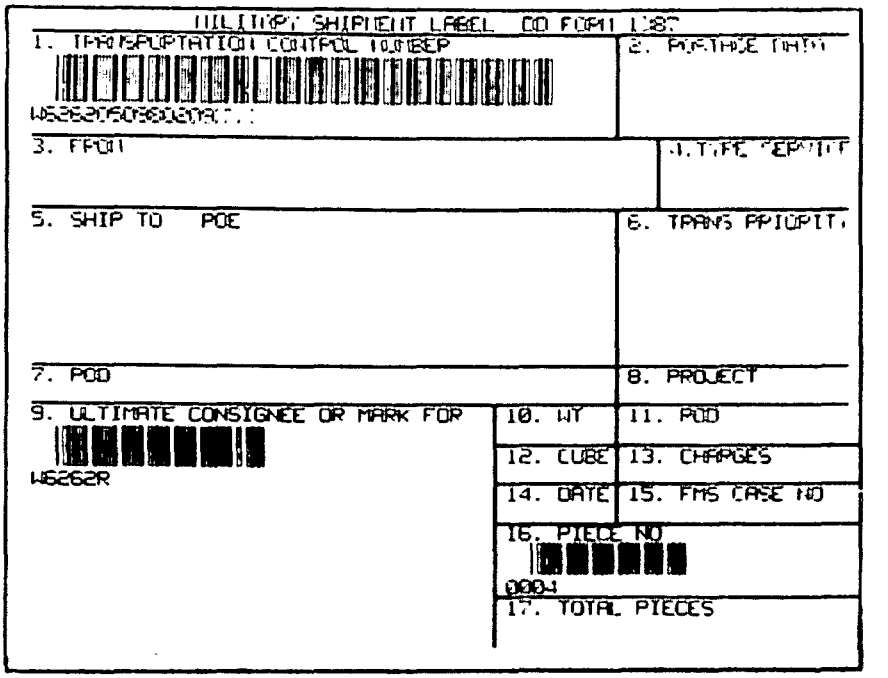


(See 20.1)

MILITARY SHIPMENT LABEL		Form Approved. OMB No. 0704-0188
1. TRANSPORTATION CONTROL NUMBER		2. POSTAGE DATA
3. FROM		4. TYPE SERVICE
5. SHIP TO / POE		6. TRANS PRIORITY
7. POD		8. PROJECT
9. ULTIMATE CONSIGNEE OR MARK FOR	10. WT. (This piece)	11. RDD
	12. CUBE (This piece)	13. CHARGES
	14. DATE SHIPPED	15. FMS CASE NUMBER
	16. PIECE NUMBER	
	17. TOTAL PIECES	

DD Form 1387, NOV 86 *Previous editions are obsolete* GPO : 1987 O - 171-241

FIGURE 39. Military shipment label.



(See 30)

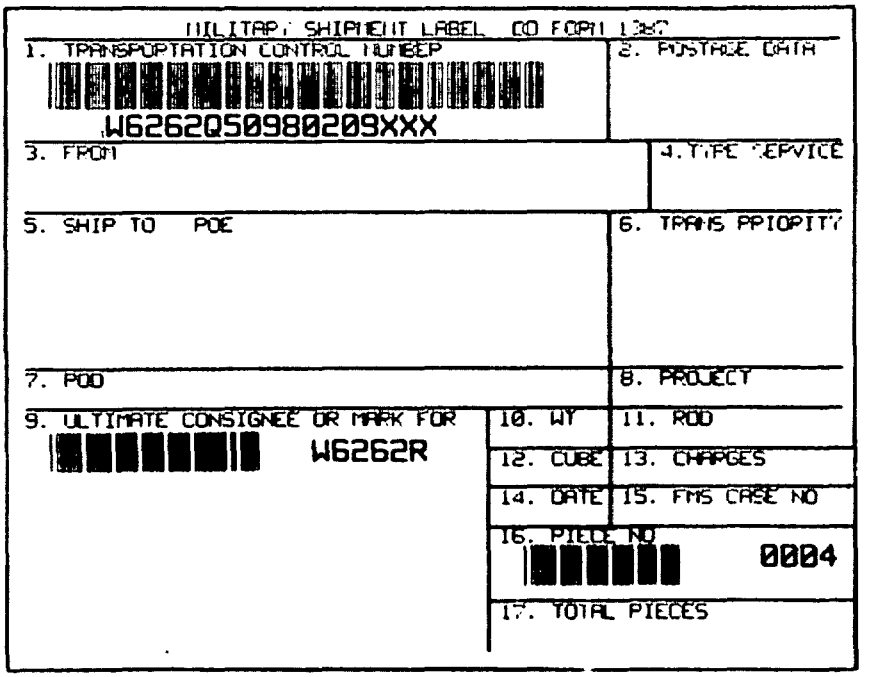


FIGURE 40. Samples of bar coded Military Shipment Labels.

APPENDIX J

SUPPLY CLASS MARKING REQUIREMENTS

(see appendix C, 20.25)

10. SCOPE

10.1 Purpose. The application of color marking, as specified herein, shall be on an optional basis, and shall be used only when specified by a military department for movement of supplies to overseas units which are the responsibility of the department. Figure 41 is shown at the end of this appendix.

20. SUPPLY CLASS LABELS

20.1 Application requirements (see figure 41). When specified by a military department, all DOD elements involved in the shipment of supplies shall color code shipping containers to supply class identity using the appropriate color marking labels. The supply class shall be printed with black ink on paper which most nearly approximates the color chip specified in 40.1 of this appendix. Supply class labels required for procurement purposes shall be furnished by the procuring activity. Labels shall be applied to containers/equipment with water-resistant label adhesive, as specified in 5.4.4.3, and coated in accordance with 5.4.4.4 of this standard. When the label is affixed to a tag, the tag shall conform to the requirements of A-A-900 or UU-T-81. In addition to the supply class label, the subclass, when applicable, shall be stenciled in 1-inch black letters or applied by a label directly below each supply class label as illustrated in figure 41. When tags are used, the subclass will be stenciled or labeled to the right of the supply class label on the tag.

20.2 Color marking. In addition to color marking labels, containers of medical supplies shall be color marked on two diagonally opposite corners, with a solid equilateral triangle on the top, sides, and ends of each container. Each triangle shall be of the same size, but the size may vary from 3 to 8 inches in height and shall be proportionate to the size of the container. The color shall be maroon conforming to the color specified in 40.1 of this appendix. Each triangle will face the appropriate corner with the base toward the center of the top, side, or end. CONEX transporters filled with medical supplies shall have 12-inch corner colors applied to all 4 top corners.

20.3 Size. Color marking labels shall be either 3 by 3 inches or 9 by 9 inches. The larger size shall be used whenever the size of the marking surface permits.

20.4 Exceptions to the use of color marking labels. The color marking labels specified in this appendix are not required for major unpacked items such as vehicles, artillery, boats, subsistence items, petroleum products, explosives, and other dangerous articles subject to the provisions of AFR 71-4/TM 38-250/NAVSUP PUB 505 (REV)/MCO P4030.19/DLAM 4145.3.

30. SUPPLY CLASS AND SUBCLASS IDENTIFICATION

30.1 Methods of identification. To determine the appropriate color marking label to be applied and the appropriate subclass to apply under the class label, the supply class and subclass shall be identified by any one of the following methods:

a. Knowledge of the class and subclass being shipped. For information purposes, the classes of supply are as follows:

Class I	-	Subsistence.
Class II	-	Secondary items of individual clothing, equipment, etc.
Class III	-	Petroleum, oils, and lubricants.
Class IV	-	Construction materials.
Class V	-	Ammunition. (The color marking requirements in this appendix do not apply to ammunition. See appendix G for ammunition marking requirements.)
Class VI	-	Personal demand items (nonmilitary sales).
Class VII	-	Major end items.
Class VIII	-	Medical materiel and repair parts.
Class IX	-	Repair parts (less medical).
Class X	-	Nonmilitary support items.

b. Card column 67 of the Item Data Record of the Army Master Data File identifies the class of supply and card column 68 identifies the supply subclass.

c. Printed in-the-clear on the bottom of block 27 of DD Form 1348-1A.

d. As specified in the contract or purchase order.

40. SUPPLY CLASS COLORS

40.1 List of colors. Background colors which most nearly conform to the following color numbers of FED-STD-595 shall be used. This list is for information purposes only. Consult FED-STD-595 for official color numbers. Applicable supply classes for each color are listed in figure 41.

Color	FED-STD-595
Blue	15180
Brown	10091
Green	14115
Maroon	10049
Orange	12246
Purple	17100
Red	11136
White	17875
Yellow	13538

50. LOCATION OF COLOR MARKING LABELS

50.1 Rectangular shipping containers (see figure 41). Four color marking labels shall be applied, one on each side, on one end, and on top, except as noted in 50.6 of this appendix.

50.2 Cylindrical containers (barrels and drums) (see figure 41). One color marking label shall be applied on the top, and three color marking symbol labels shall be equally spaced around the circumference.

50.3 Irregularly shaped containers (e.g., bags, bales, etc.) (see figure 41). Two color marking labels shall be applied, one on each side of a tag. The tag shall be affixed in accordance with 5.1.4.

50.4 Loose, unpacked items. Loose, unpacked items shall be marked with color marking labels except as noted in 20.4 herein. The color marking labels shall be applied, one on each side of a tag. The tag shall be affixed in accordance with 5.1.4. of this standard.

50.5 Postal containers. One color marking label shall be applied to the address marking side.

50.6 Palletized loads, consolidation containers. When the contents are of a single class, one color marking label shall be applied to each side, on one end, and on top of each palletized load and consolidation container. When the contents are mixed supply classes, the palletized load or consolidation container shall not be marked. However, each of the interior containers shall be marked with a color marking label to indicate the supply class (see figure 41) within that container. MILVANs or SEAVANs shall not be marked; however, the contents shall be color marked, as specified in this appendix.

SUPPLY CLASS LABELS

		BACKGROUND
CLASS I	I	BROWN
CLASS II	II	RED
CLASS III	III	ORANGE
CLASS IV	IV	YELLOW
CLASS VI	VI	BLUE
CLASS VII	VII	PURPLE
CLASS VIII	VIII	MAROON
CLASS IX	IX	GREEN
CLASS X	X	WHITE

(See 20. and 50.)

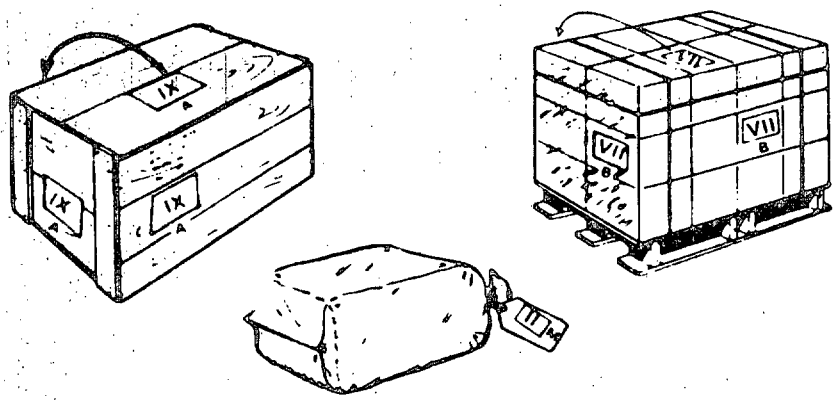


FIGURE 41. Supply class color labels.

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