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MIL-HDBK-129

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DEPARTMENT OF DEFENSE HANDBOOK

MILITARY MARKING



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FOREWORD

1. This military handbook is approved for use by all Departments and Agencies of the Department of Defense (DoD).

2. This handbook is for guidance only. This handbook cannot be cited as a requirement. If it is, the contractor does not have to comply.

3. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Chief, Logistics Support Activity Packaging, Storage, and Containerization Center, ATTN: AMXLS-TP-P, 11 Hap Arnold Boulevard, Tobyhanna, PA 18466-5097, by using the self-addressed DD Form 1426 (Standardization Document Improvement Proposal) appearing at the end of this document or by memorandum.

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1. SCOPE

1.1 Purpose. This handbook provides detailed guidance for military marking and procedures for their application, per MIL-STD-129. This handbook is for guidance only. This handbook cannot be cited as a requirement. If it is, the contractor does not have to comply.

1.2 Applicability. This handbook is applicable to all personnel involved in the marking of military supplies and equipment. As defined in ASTM D 996, 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 quart	= 0.95 liter
1 pint	= 0.47 liter	1 gallon	= 3.79 liters

Weight :

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

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)

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TABLE II. DoD English-metric equivalentsVolume (Liquids) :

<u>Gallons</u>	=	<u>Liters</u>
1		3.79
5		18.95
50		189.50
55		208.45

Weight :

<u>Ounces</u>	=	<u>Grams</u>
1		28.35
10		283.50
(1000 grams = 1 kilogram)		

Volume (Solids) :

<u>Cubic feet</u>	=	<u>Cubic meter</u>
1.0		0.030
1.2		0.036
1.3		0.039
2.0		0.060
2.5		0.075
3.0		0.090
4.1		0.123
4.7		0.141
5.3		0.160

<u>Cubic feet</u>	=	<u>Cubic meters</u>
6.0		0.18
6.5		0.195
8.4		0.25
9.0		0.27
10.0		0.30
12.0		0.36
30.0		0.90
60.0		1.80
66.5		1.995

<u>Pounds</u>	=	<u>Kilograms</u>
1.		0.45
2.2		1.0
10.		4.54
11.		4.99
50.		22.7
52.		23.61
65.		29.51
75.		34.05

<u>Pounds</u>	=	<u>Kilograms</u>
100		45.36
125		56.75
144		65.37
150		68.10
200		90.80
500		227.0
1000		454.0
1700		771.8

<u>Inches</u>	=	<u>Centimeters</u>
0.0258		0.07
0.03		0.08
0.0625		0.16
0.095 (3/32)		0.24
0.10		0.25
0.125 (1/8)		0.32
0.188 (3/16)		0.48
0.375 (3/8)		0.95

<u>Inches</u>	=	<u>Centimeters</u>
0.50		1.27
0.875 (7/8)		2.22
0.90		2.29
1.0		2.54
1.5		3.81
2.0		5.08
2.5		6.35
3.0		7.62

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TABLE II. DoD English-metric equivalents - Continued.

<u>Inches</u>	=	<u>Centimeters</u>	<u>Inches</u>	=	<u>Centimeters</u>
4.0		10.16	50		127.0
5.0		12.70	100		254.0
10.0		25.40	144		365.76

NOTE: 10 millimeters equals 1 centimeter.

<u>Feet</u>	=	<u>Meters</u>
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.

<u>Degrees Fahrenheit</u>	=	<u>Degrees Celsius</u>
0		-18
32		0
35		2
46		8
100		38
212		100

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2. APPLICABLE DOCUMENTS

2.1 General. The documents listed below are not necessarily all of the documents referenced herein, but are the ones that are needed in order to fully understand the information provided by this handbook.

2.2 Government documents.

2.2.1 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 latest issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto.

SPECIFICATIONS

FEDERAL

A-A-900 - Tag, Shipping (Paper)
 A-A-1658 - Envelope, Packing List (Self Adhesive, Plastic)
 A-A-1659 - Envelope, Packing List (Double Safety Fold)
 A-A-1660 - Envelope, Packing List (Single Safety Fold)
 TT-P-38 - Paint, Aluminum, Ready-mixed
 UU-T-81 - Tag, Shipping and Stock

MILITARY

MIL-T-4 - Tires, Pneumatic, and Inner Tube, Pneumatic Tire, Tire With Flap, Packaging and Packing of
 MIL-S-4473 - Shielding of Magnetron Tubes and Magnets for Air Shipment
 MIL-PRF-61002 - Pressure-sensitive Adhesive Labels for Bar Coding

MILITARY STANDARDS

MIL-STD-129 - Standard Practice for Military Marking
 MIL-STD-1168 - Lot Numbering of Ammunition

(Unless otherwise indicated, copies of the above specifications and standards are available from the Defense Automated Printing Service, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

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2.2.2 Other Government documents and publications . The following other Government documents and publications form a part of this document to the extent specified herein.

CODE OF FEDERAL REGULATIONS (CFR)
Title 49 CFR - Transportation

DEFENSE FEDERAL ACQUISITION REGULATION (DFAR) SUPPLEMENT

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

JOINT MILITARY

AFJMAN 24-204/TM 38-250/	- Preparing Hazardous Materials
NAVSUP PUB 505/MCO	for Military Air Shipments
P4030.19/DLAI 4145.3	

DoD REGULATIONS AND MANUALS

DoD 4000.25-1-M	- MILSTRIP
DoD 4120.18	- Metric System of Measurement
DoD 4140.27-M	- Shelf-life Item Management Manual
DoD 4500.32-R	- MILSTAMP
DoD 4500.34-R	- Personal Property Traffic Management Regulation

(The 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: DASC-V, 8725 John J. Kingman Road, Fort Belvoir, VA 22060-6221.)

2.3 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 DoDISS.

AUTOMATIC IDENTIFICATION MANUFACTURERS (AIM)

AIM BC1	- Uniform Symbology Specification Code 39 (DoD Adopted)
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(Application for AIM BC1 copies should be addressed to AIM USA, 634 Alpha Drive, Pittsburgh, PA 15238-2802.)

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AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- ASTM D 996 - Standard Terminology of Packaging and Distribution Environments (DoD Adopted)
- ASTM D 3953 - Standard Specification for Strapping, Flat Steel (and Seals) (DoD Adopted)
- ASTM D 4675 - Selection and Use of Flat Strapping Materials (DoD Adopted)
- ASTM D 5445 - Standard Practice for Pictorial Markings for Handling of Goods (DoD Adopted)
- ASTM D 5486 - Pressure-Sensitive Tape for Packaging, Box Closure, and Sealing (DoD Adopted)

(Application for ASTM copies should be addressed to ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

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 (IMDG) Code

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

(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.)

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2.4 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 D 996 and other referenced documents. Hazardous materials definitions are listed in Title 49 CFR, part 171, and in other related publications. For purposes of this handbook, the following definitions shall apply.

3.1 Abbreviations and acronyms . The abbreviations and acronyms used in this handbook and others commonly associated with marking are defined as follows:

AIM	- Automatic Identification Manufacturers
APL	- Automated Packing List
APO	- Air Post Office
ASTM	- American Society for Testing and Materials
BCID	- Bar Coded Identification Markings
BCSN	- Bar Coded Serial Number
Bq	- Becquerel
C	- Celsius
CAA	- Competent Authority Approval
C&T	- Clothing and Textiles
CARC	- Chemical Agent Resistant Coating
CASKO	- Component, Assembly, Set, Kit, or Outfit
CFR	- Code of Federal Regulations
COC	- Certificate of Conformance
COE	- Certification of Equivalency
CON CODE	- Supply Condition Code
CONTR	- Contract Data Markings
CONTR NO	- Contract Number
CONUS	- Continental United States
CPI	- Characters Per Inch
CU	- Cube
DCMAO	- Defense Contract Management Area Operations
DFAR	- Defense Federal Acquisition Regulation
DIST	- Distribution Code
DoD	- Department of Defense
DoDAAC	- Department of Defense Activity Address Code
DoDISS	- Department of Defense Index of Specifications and Standards
DOT	- Department of Transportation

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DPSC	- Defense Personnel Support Center
DTS	- Defense Transportation System
ESD	- Electrostatic Discharge
EXP	- Expiration
F	- Fahrenheit
FMS	- Foreign Military Sales
FPO	- Fleet Post Office
FSC	- Federal Supply Class
GBL	- Government Bill of Lading
GSA	- General Services Administration
HAZMAT	- Hazardous Materials
HRI	- Human-readable Interpretation
IATA	- International Air Transport Association
IAW	- In accordance with
ICAO	- International Civil Aviation Organization
IDENT	- Identification Markings
IMDG	- International Maritime Dangerous Goods
IMO	- International Maritime Organization
INSP	- Inspection
kBq	- Kilobecquerel
kPa	- Kilopascal
MAPAD	- Military Assistance Program Address Directory
mBq	- Megabecquerel
MCP	- Materiel Consolidation Point
MFD	- Manufactured
MILSTAMP	- Military Standard Transportation and Movement Procedures
MILSTRAP	- Military Standard Transportation Reporting and Accounting Procedures
MILSTRIP	- Military Standard Requisitioning and Issue Procedures
MILVAN	- Military-owned Demountable Container
MOP	- Method of Preservation
MRO	- Materiel Release Order
mSv	- Millisievert
MTMC	- Military Traffic Management Command
MWO	- Modification Work Order
NA	- North American
NATO	- North Atlantic Treaty Organization
NIIN	- National Item Identification Number
NMCS	- Not Mission Capable Supply
NOA	- Notice of Availability
n.o.s.	- Not Otherwise Specified
NRC	- Nuclear Regulatory Commission
NSN	- National/NATO Stock Number
OCONUS	- Outside Continental United States
OCR	- Optical Character Reader

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OF	-	Optional Form
OSHA	-	Occupational Safety and Health Administration
PCB	-	Polychlorinated Biphenyl
PIIN	-	Procurement Instrument Identification Number
PN or P/N	-	Part Number
P/O	-	Part Of
POD	-	Port of Debarkation
POE	-	Port of Embarkation
POP	-	Performance-oriented Packaging
PSN	-	Proper Shipping Name
QTY	-	Quantity
QUP	-	Quantity Per Unit Pack
RDD	-	Required Delivery Date
RIC	-	Routing Indicator Code
RL	-	Reel
RO	-	Roll
ROD	-	Report of Discrepancy
SEAVAN	-	Commercial- or Government-owned (or -leased) Shipping Container
SER NO	-	Serial Number
SF	-	Standard Form
SKO	-	Set, Kit, or Outfit
SLC	-	Shelf-life Code
STANAG	-	Standardization Agreement
Sv	-	Sievert
TAC	-	Type of Address Code
TAC	-	Transportation Account Code
tBq	-	Terabecquerel
TCN	-	Transportation Control Number
TP	-	Transportation Priority
UI	-	Unit of Issue
UN	-	United Nations
UP	-	Unit Price
UPC	-	Universal Product Code
USPS	-	United States Postal Service
uSv	-	Microsievert
WT	-	Weight

3.2 Assembly. An item of supply, composed of two or more related parts, that 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.

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3.4 Cognizant activity . The activity having responsibility for a contract or jurisdiction over it. At a contractor's facility, the cognizant activity is the administrative contracting officer or the procuring contracting officer. Contractor personnel do not qualify as the cognizant activity. At DoD installations, this is the head of the agency, bureau, command, or service that is responsible for storage and shipment.

3.5 Consignee (receiver) . Party to whom materiel is shipped and whose name and address appear in the "ULTIMATE CONSIGNEE OR MARK FOR" block of the shipping label.

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

3.7 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.

3.8 Contract number or purchase order number (including four-digit delivery order 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).

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

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

3.11 Electrostatic Discharge (ESD) sensitive devices . Electrical and electronic devices that are susceptible to damage from electrostatic discharge (static electricity). These devices include, but are not limited to, integrated circuits and discrete devices (e.g., resistors, transistors, and other semiconductor devices).

3.12 Exterior container . A container, bundle, or assembly that is sufficient by reason of material, design, and

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construction to protect unit packs and intermediate containers and their contents during shipment and storage. It can be a unit pack or a container with a combination of unit packs or intermediate containers. An exterior container may or may not be used as a shipping container.

3.13 Hazardous materials . A material, substance or waste, which has 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. (This includes all items listed as hazardous in Titles 29, 40, 49 CFR and other applicable modal regulations effective at the time of shipment).

3.14 Human-readable interpretation (HRI) . Exact interpretation of the encoded bar code data presented in a human-readable font.

3.15 Interior container . A container that is inside another container. It may be a unit pack or an intermediate container that is placed inside an exterior container or shipping container.

3.16 Intermediate container . A wrap, box, or bundle containing two or more unit packs of identical items.

3.17 Item description . The name and description of an item as it appears in the contract, purchase order, or requisition. The source document for this information is the DD Form 61 (Request for Nomenclature), which contains the exact name and description of an item.

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

3.19 Levels of protection . A means of specifying the preservation and packing that a given item requires to assure that it is not degraded during shipment and storage.

3.19.1 Military preservation . Preservation designed to protect an item during shipment, handling, indeterminate storage, and distribution to consignees worldwide.

3.19.2 Military levels of packing . The packing levels are level A, which provides maximum protection to meet the most severe worldwide shipment, handling, and storage conditions; and level B, which provides protection to meet moderate worldwide shipment, handling, and storage conditions.

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

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

3.22 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.

3.23 Military methods of preservation . Preservation methods and procedures defined in MIL-STD-2073-1C.

3.24 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.

3.25 National/NATO stock number (NSN) . A 13-digit number that is divided into two parts, the Federal supply class (FSC) number and the national item identification number (NIIN). The FSC is the first four digits of the NSN that establishes its relationship to other items within the same FSC. The NIIN is the last nine digits of the NSN. The first two digits of the NIIN identify the country assigning the two numbers referred to as the National Codification Bureau Codes. The remaining seven are serially assigned numbers. When shown in the contract/requisition, the NSN includes any prefixes and suffixes.

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

3.27 Packing . The assembly of items into unit packs and intermediate or exterior containers, with the necessary blocking, bracing, cushioning, weatherproofing, reinforcement, and marking.

3.28 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.

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

3.30 Performance-oriented packaging (POP) . Type of packaging

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based on the ability of packaging to perform to a specific level of integrity when subjected to performance tests.

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

3.32 Port of debarkation (POD) . An authorized point where shipments enter a country, either into the continental United States (CONUS) or into a foreign country.

3.33 Port of embarkation (POE) . An authorized point where shipments leave a country, either from CONUS or from a foreign country.

3.34 Preservation . The application of protective measures, including cleaning, drying, preservative materials, barrier materials, cushioning, and containers, when necessary. Military methods of preservation are defined in MIL-STD-2073-1C.

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

3.36 Proper shipping name (PSN) . The name of a hazardous material shown in Roman print (not italics) in part 172 of Title 49 CFR and in other hazardous materials related publications.

3.37 Protected cargo . Items that are required to be secured, identified, segregated, handled, or accounted for in such a manner as to ensure their safeguard or integrity. Protected cargo is subdivided into classified, controlled, pilferable, and sensitive items.

3.37.1 Classified items . Items that are of a classified nature and have a security classification.

3.37.2 Controlled items . Items that require additional control and security as prescribed in various regulations and statutes. Controlled items include money, negotiable instruments, narcotics, registered mail, precious metal alloys, ethyl alcohol, and drug abuse items.

3.37.3 Pilferable items . Items that are vulnerable to theft because of their ready resale potential, such as cigarettes, alcoholic beverages, cameras, electronic equipment, and clothing and textiles.

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3.37.4 Sensitive items . Items such as small arms, ammunition, and explosives which have a ready use during civil disturbances and other types of domestic unrest or may be used by criminal elements. If they are in the hands of militant or revolutionary organizations, they present a definite threat to public safety.

3.38 Quantity . The number of units of issue (lb, oz, ea) in a unit pack, an intermediate container, or a shipping container or in a bundle or a secure lift. (See 3.56.1 for definitive unit of issue and 3.56.2 for nondefinitive unit of issue.)

3.39 Quantity per unit pack (QUP) . The quantity of items in a unit pack given in the terminology of the definitive unit of issue. When a nondefinitive unit of issue is assigned to the stock item, it may be further quantified by a unit of measure and measurement quantity (see 3.56.3).

3.40 Radioactive material . Any material, or combination of materials, which spontaneously emit ionizing radiation, including materials that possess artificial, induced, and natural radioactivity. Materials in which the estimated specific activity is not greater than 70Bq gram (0.002 microcuries/gram) of material, and in which the radioactivity is essentially uniformly distributed, are not considered to be radioactive materials.

3.41 Required delivery date (RDD) . The day of the year (e.g., 087, 198, etc.) specified on the requisition when materiel is required by the requisitioner or the consignee.

3.42 Security assistance . A group of programs authorized by the Foreign Assistance Act of 1961, as amended, and the Arms Export Control Act, as amended, or other related statutes by which the United States provides defense articles, military training, and other defense-related services by grant, credit, cash sale, lease, or loan in furtherance of national policies and objectives. Foreign Military Sales (FMS) is one of the security assistance programs.

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

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

3.45 Shelf-life . The total period of time beginning with the manufactured date, cured date, assembled date, or packed date

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(subsistence only) 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.

3.45.1 Assembled date . 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.

3.45.2 Cured date . 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.

3.45.3 Expiration date . The date by which nonextendible shelf-life items (type I) should be discarded as no longer suitable for issue/use.

3.45.4 Inspection or test date . The date by which extendible shelf-life items (type II) should be subjected to inspection, tests, or restoration.

3.45.5 Manufactured date . The date the item, materiel, or commodity was produced, fabricated, processed, or formed for use.

3.45.6 Packed date . For items required to be marked, the packed date shall be the date on which the item was packaged in the unit pack, regardless of the date of packing, shipping, or additional processing.

3.46 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 (subsistence only), and terminated by the date by which an item must be used (expiration date) or subjected to inspection, test, restoration, or disposal action (see Table IV).

3.47 Shelf-life item . It is 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 (see Table IV).

3.48 Shipping container . An exterior container which meets carrier regulations and is of sufficient strength, by reason of material, design, and construction, to be shipped safely without further packing (e.g., wooden boxes or crates, fiber and metal drums, and corrugated and solid fiberboard boxes).

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

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3.50 Transportation Control Number (TCN) . The single standard shipment identification number for all DoD-sponsored movements (i.e., materiel and equipment and all vendor shipping transactions involving DoD materiel). The TCN is a 17-position alpha-numeric data element assigned to control a shipment unit through the transportation system (to include CONUS shipments, shipments entering the DTS, and commercial systems).

3.51 Unitization . Assembly of containers comprised 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.

3.52 Unit of issue (UI) . The UI is a standard or basic quantity that is 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.).

3.52.1 Definitive unit of issue . A definitive UI is a type of UI designation that indicates an exact quantity of volume, linear measurement, weight, or count (e.g., assembly, each, kit, set, foot, etc.).

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

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

3.53 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. A unit pack is also often referred to as a "package" or merely as a "pack."

3.54 Warranty markings . Markings that apply when a shipment contains items with a service life defined in a specific amount of hours, a specific end date, or a specific operating time.

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4. GENERAL INFORMATION

4.1 Identification markings on unit packs, intermediate containers, and unpacked items (see MIL-STD-129) . If a part number (PN) is specified in the contract or order, then only that PN should be shown. The PN specified in the contract may be the PN assigned by the Government procuring activity, or it may be either the PN of the actual manufacturer or the PN assigned to the item by the company awarded the contract. For shipments sent directly from a subcontractor to a DoD addressee, the PN of the company awarded the contract should be shown. The letters "PN" or "P/N" should be used to identify this information.

4.1.1 Placement of identification markings on unit packs, intermediate containers, and unpacked items . When specified, bundled items should be marked with a tag or by affixing a paper label under one of the bundled ties. The required markings should be placed so that they are not obscured by any strapping or closure tape.

4.1.2. Related and unrelated items .

a. The words "WARRANTED ITEMS INSIDE" should be placed immediately below the identification markings on multipacks that contain items covered by a warranty.

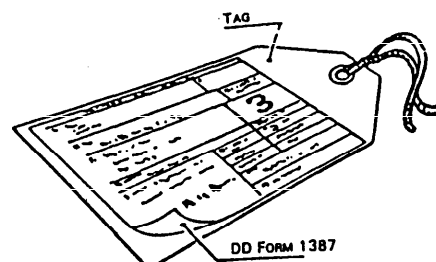
b. For Foreign Military Sales (FMS), all boxes containing multiple items (whether related or unrelated) should be marked as multipacks.

c. Caution markings should be applied as required (e.g., FRAGILE, arrows, hazardous warning labels, etc.).

4.2 Military address markings (see figure 1) . The DD Form 1387 that is used for military address markings may be prepared by automated or manual means (typewriter). Address labels prepared by automated means should be readable by humans and electronic devices. Address labels prepared manually should be readable by employees who are responsible for the movement of cargo. Transportation priority (TP) 1, 2, or 3 should be clearly identified in the TP block of the DD Form 1387. Minimum height of the TP numeral should be three-fourths of an inch. When an automatic marking system is used, the applicable TP (1, 2, or 3) should be identified by preprinting the TP numeral (printed with the same color ink as the other data on the label). The transportation account code (TAC) applicable to the overocean (POE-POD) movement segment should be entered in block 2, labeled

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"Postage Data" on the DD Form 1387 for shipping by the DTS. If hand-printed entries are not readable by the receiving activity, a report of discrepancy (ROD) should be prepared. When a DD Form 1387 interferes with or obscures other required markings on a shipping container, the label should be attached to a paper shipping tag (see figure 1). The tag should be large enough (8" long by 7 1/2" wide) to accommodate the label without folding. Separate tags should be used for identification and address markings.



MILITARY SHIPMENT LABEL DD FORM 1387, NOV 86	
1. TRANSPORTATION CONTROL NUMBER S1501A24201100XXX	2. POSTAGE DATA A230
3. FROM E12345 NONEXISTANT CO 1234 NOWHERE STREET FORT WAYNE, IN 46888 OFFICIAL BUSINESS. PENALTY FOR PRIVATE USE \$300.	4. TYPE SERVICE
5. SHIP TO POE FB4418 CHS TRANSPORTATION OFFICER CHARLESTON AIR FORCE BASE CHARLESTON, SC 29404	6. TRANSP. PRIORITY
7. POB RUS RAMSTEIN AB GERMANY	8. PROJECT 000
9. ULTIMATE CONSIGNEE OR MARK FOR S1501A 1242 0110XXX BASE SUPPLY COMMANDING OFFICER SAUDI ARABIA	10. WT THIS PC 65 12. CU THIS PC 7.9 14. DATE SHIPPED 07 MAY 82 16. PIECE NO. 0001
	11. ROD 000 13. CHARGES 15. FMS CASE 17. TOTAL PIECES 1

FORM APPROVED. OMB NO. 0704-0188

FIGURE 1. Overseas address markings for a contractor- or vendor-originated shipment using the Military Shipment Label.

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4.2.1 Data to be bar coded on the DD Form 1387. Using either the preprinted or generated form, DoD sites should bar code the following data on the DD Form 1387 in accordance with DoD 4500.32-R. The bar code should have a character density range of 6.8 to 10.0 characters per inch. The basic format should remain the same. This is in addition to the required human-readable data.

- a. TCN in block 1. Enter the 17-characters (alphanumeric) TCN for shipments entering the DTS, as applicable. The dimensions of block 1 should be seven eighths (7/8) of an inch (2.22 cm) wide by three and three quarters (3/4) inches (1.91 cm) long.
- b. Ultimate Consignee (DoDAAC) in block 9 (6 characters).
- c. Piece Number in block 16 (4 characters).

4.2.1.1 Human-readable interpretation (HRI) (see figure 1). The HRI of the bar coded DoDAAC and piece number should appear below the bar code or in-line with the bar code. When in-line, a 0.25 inch quiet zone should be allowed between the bar code and the HRI.

4.2.2 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 should 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).

NOTE: The Military Traffic Management Command utilizes the DD Form 1387 shipping label with dimensions of 5.5 inches (13.97cm) long by 4.0 inches (10.16cm) wide for Transportation Coordinator Automated Command and Control Information System unit moves. The basic format should remain the same. The labels and bar codes in figure 1 have been reduced in size for ease in publication.

4.2.2.1 Format of the DD Form 1387. The format of the DD Form 1387 and the instructions for its completion are specified below and in DoD 4500.32-R, Volume I.

- a. For shipments other than mail, the address label should be completed as follows:
 - (1) TCN: Enter the 17-characters (alphanumeric) TCN, for shipments entering the DTS, as applicable, bar coded and in-the-clear. For consolidated shipments, place a lead TCN in this block.

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- (2) Postage Data: Enter the Transportation Account Code (TAC) applicable to shipments moving by the DTS from POE to POD, otherwise leave blank.
- (3) From: Enter the DoDAAC and in-the-clear address of the shipping activity (See DoD 4000.25-1-M).
- (4) Type Service: Enter Air Express, Blue Label, Overnight Delivery, etc., as applicable. If none, leave blank.
- (5) Ship to/Port of Embarkation (POE): Enter the three digit air/water port code and the in-the-clear port address.
- (6) Transportation Priority: Enter the applicable TP.
- (7) Port of Debarkation (POD): Enter three-digit POD port designator from DoD 4500.32-R, if appropriate.
- (8) Project: Enter project code, if applicable.
- (9) Ultimate Consignee/Mark For: Enter the consignee's DoDAAC, bar coded and in-the-clear, and the complete mailing address of the consignee.
- (10) Weight (this piece): Enter actual gross weight.
- (11) Required Delivery Date (RDD): Enter the RDD (day of the year such as 087 or 198), if appropriate. If the RDD is not appropriate, enter "000."
- (12) CUBE (this piece): Enter cube.
- (13) Charges: Enter the CONUS inland freight charge on the label of the number one piece of the shipment unit (entry is mandatory for FMS shipments).
- (14) Date Shipped: Enter the four-digit date (day of the year) (e.g., 0181) 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 shipment unit.

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

- (1) TCN: Enter the 17-characters (alphanumeric) TCN for shipments entering the DTS, as applicable, 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 words "OFFICIAL BUSINESS" should be printed on the bottom line of this block.
- (4) Type Service: Enter Express Mail, Military Ordinary Mail, First Class Priority 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 the postal concentration at the DTS port or MILSTAMP Air/Water Port identifier (APO/FPO).
- (6) Transportation Priority: Enter the applicable TP.
- (7) POD: Leave blank.
- (8) Project: Enter project code, if applicable.
- (9) Ultimate Consignee/Mark for: Enter the DoDAAC of the consignee, bar coded and in-the-clear. For CONUS shipments, no other data is required to be entered. For OCONUS shipments, add the detailed address.
- (10) Weight (this piece): Enter actual gross weight.
- (11) RDD: Enter RDD, if appropriate.

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- (12) CUBE (this piece): Enter cube.
 - (13) Charges: Leave blank.
 - (14) Date Shipped: Enter the four-digit date (day of the year) (e.g., 0181) or the in-the-clear date (e.g., 29 Jun 92).
 - (15) FMS Case Number: Enter, if applicable.
 - (16) Piece number: Enter bar coded and in-the-clear.
 - (17) Total Pieces: Enter total pieces in shipment unit.
- c. For unit moves, the address label should be completed as follows:
- (1) TCN: Enter the 17-characters (alphanumeric) TCN for shipments entering the DTS, as applicable, bar coded and in-the-clear.
 - (2) Postage Data: Leave blank.
 - (3) From: Enter the DoDAAC and in-the-clear address of of the shipping activity.
 - (4) Type Service: Leave blank.
 - (5) Ship to/POE: Enter three digit air/water port code and in-the-clear port name.
 - (6) Transportation Priority: Leave blank. (There is no TP on unit moves.)
 - (7) POD: Enter three digit air/water POD code. (May be coded and/or in-the-clear.) For classified moves, leave blank.
 - (8) Project: Enter project code, if applicable.
 - (9) Ultimate Consignee/Mark for:

Enter:
Unit Identifier Code (UIC).
Vehicle bumper number, if applicable.
Vehicle serial number.

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Equipment description. (TMCR 56-69, paragraph 21-3, Labels will contain descriptive data for ease of matching labels with equipment.)

Vehicle/cargo dimensional data (length (L), width (W), height (H) will assist cargo handlers in determining whether a piece can fit in a given area.)

Classified moves: Do not enter POD. (see MILSTAMP, Volume I, appendix G, paragraph a(3)).

- (10) Weight (this piece): Enter actual weight.
- (11) RDD: Enter, if appropriate.
- (12) CUBE (this piece): Enter cube.
- (13) Charges: Leave blank.
- (14) Date Shipped: Leave blank.
- (15) FMS Case Number: Leave blank.
- (16) Piece number: Enter bar coded and in-the-clear.
- (17) Total Pieces: Enter total pieces in shipment unit.

4.3 Placement of identification, contract data, and address markings on exterior shipping containers (see figures 2 through 13).

4.3.1 Boxes and crates (see figure 2). Boxes and crates 10 cubic feet and over should have identification markings placed on the end of the container to the left of the identification-marked side. Placement of identification markings on the end of boxes and crates under 10 cubic feet is optional. An additional address label may be placed on the identification-marked end for styles which, because of their configuration, allow access by materials handling equipment only to the end of the container. Regardless of size, identification and contract data markings may be stenciled or printed directly on the container or applied by use of a stenciled or preprinted label. If no other adequate marking surface is available, cleats may be used as part of the marking surface. If the exterior surface is not suitable for direct marking application, a marking board/panel may be used.

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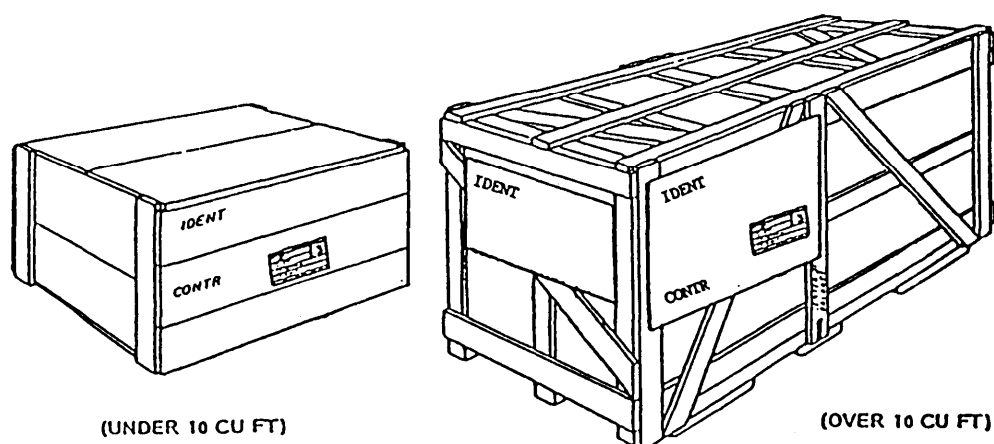


FIGURE 2. Placement of IDENT, CONTR, and address markings on boxes and crates. For bar code markings, see figures 19 and 20.

4.3.2 Bales and cloth-covered bundles (see figure 3). The identification markings on bales should be stenciled on the upper two-thirds of the side of the bale having the largest marking surface area. Contract data markings should be placed below the identification markings. Bales with a preewn end and a wire-tied ear on the opposite end should have the NSN, quantity, and UI applied on the preewn end. When both ends have wire-tied ears, no identification markings should be applied on the ends. On cloth-covered bundles, identification markings should be stenciled on the upper two-thirds of the side of the bundle as close to the left side as possible, with contract data markings placed below the identification markings. When direct stenciling is used, there is no need to coat the cloth, provided the markings do not become smeared or illegible because of any absorption into the cloth. To ensure that the marking is both permanent and readable, the cloth bundle may be given a smooth coat of sand-colored lacquer, enamel, or paint over the area to be marked before the marking is applied. When stenciling is not appropriate for bales or cloth-covered bundles, preprinted labels or tags may be used. Address labels for bales and bundles should be applied to the lower two-thirds of the identification-marked side or to the wire-tied ear with a tag.

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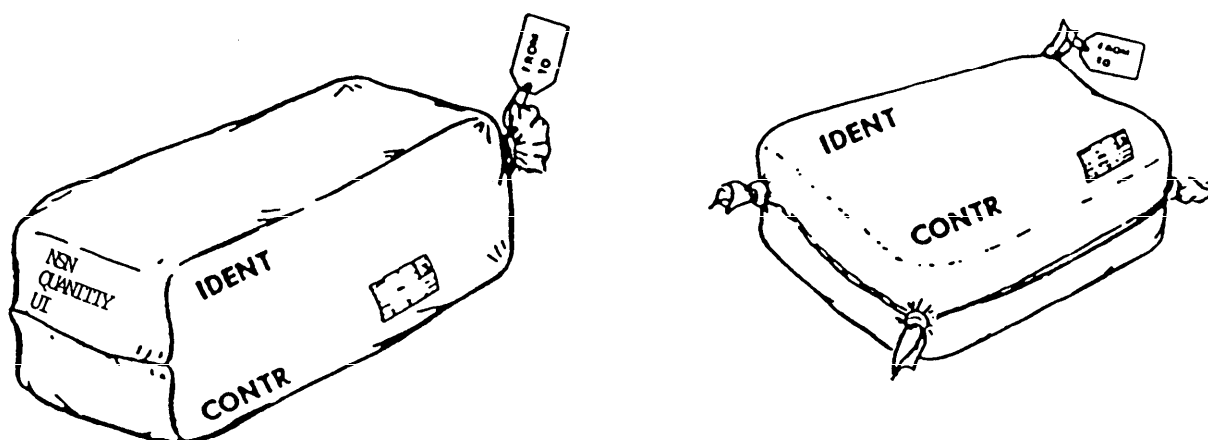


FIGURE 3. Placement of IDENT, CONTR, and address markings on bales and cloth-covered bundles. For bar code markings, see figure 23.

4.3.3 Paper shipping sacks, bags, and textile/laminated textile bags (see figure 4). Markings should be printed or stenciled on the side of the sack or bag that does not bear the certificate of compliance of the sack manufacturer. Contract data markings should be placed at least three lines below the identification markings. Commercially packed commodities should have the required markings stenciled and centered on one face of the sack or bag. When the printing area is too small, spacing of the printing may be altered proportionately and lines may be consolidated. If the stenciled markings are not legible, they should be machine printed on a tag or label. If a bag is closed by stitching, an identification tag (not 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 should be affixed to one of the ears. Address markings should be placed on a label or tag. When a label is used, it should be applied between the identification and contract data markings. If the bag is closed by stitching, a tag may be fastened to the bag by stitching when closure is made. If the top of the bag has ears, the tag should be affixed to one of the ears.

4.3.4 Barrels, drums, and other cylindrical containers (including empty containers) (see figure 5). Identification and contract data markings should be stenciled or preprinted on the upper one-third of filled barrels, pails, kegs, drums, and reusable metal containers. However, when space is not available, contract markings should be shown diametrically opposite the identification markings. In addition to the required markings on

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50- and 55-gallon drums or barrels with non-removable heads, identification data (less weight), contract data, and shelf-life markings, when required, should also be shown on the head. Forest-green containers should be marked with yellow or white lettering. Although the preferred methods of application are stenciling and preprinting, labels or tags may be used when a container is too small for either method. However, unless otherwise approved by the cognizant activity, labels or tags should not be used for identification and contract data markings on metal containers, unless the containers are too small to accommodate the stenciled or preprinted markings. Also, if labels are used for these markings, only pressure-sensitive labels should be used on cylindrical containers and metal drums. Markings should be avoided in the space 6 inches above or below the center line of the body sidewall for barrels not swaged with rolling hoops. On empty barrels, drums, and cylindrical containers, identification and contract data markings should be applied on the top and on the upper one-third of the side by attaching labels or tags. The preferred location for the address label is on the middle one-third of the identification marked side of the container. However, if space is not available in this location, the address label should be placed in a conspicuous location in close proximity to the identification markings. If space is not available on the surface of the container for the address label, the label should be placed on a shipping tag.

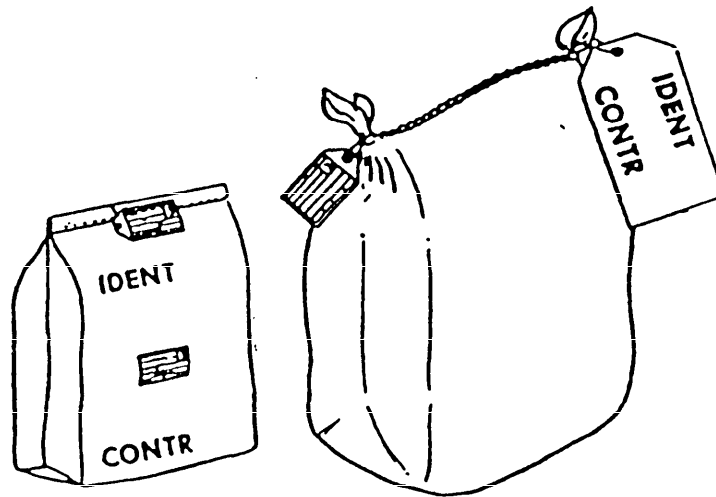


FIGURE 4. Placement of IDENT, CONTR, and address markings on sacks and bags. For bar markings, see figure 23.

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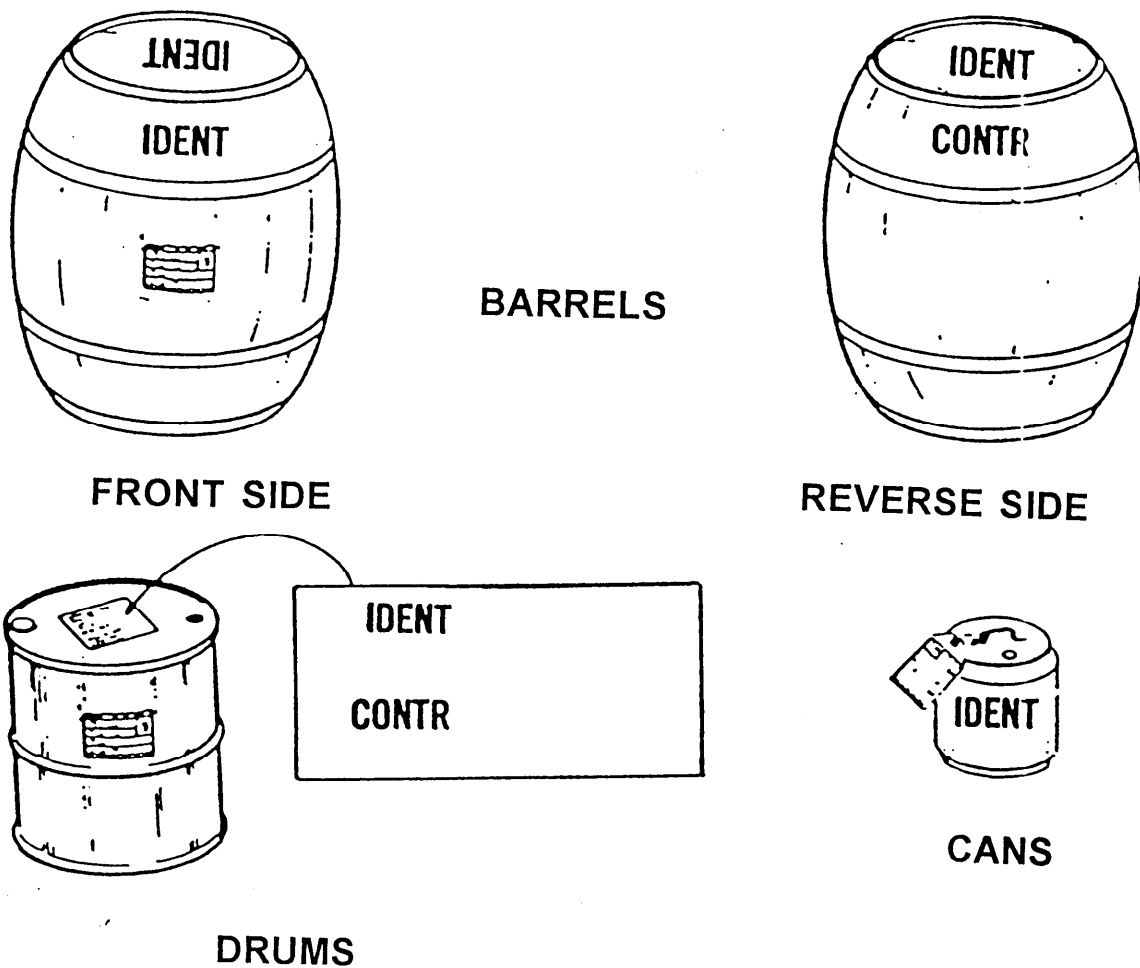


FIGURE 5. Placement of IDENT, CONTR, and address markings on barrels, drums, and other cylindrical containers. For bar code markings, see figure 24.

4.3.5 Miscellaneous articles and unpacked items such as spools, reels, rods, coils of wire and cable, and paper- and cloth-wrapped rolls (see figure 6). Identification and contract data markings should be applied on two tags securely attached to items such as rods and bars. One of the tags should be bound to the item with burlap or other suitable covering, with each end of the cover securely fastened. The other tag should be securely attached to the item with a wire or twine (see 5.1.1). On reels or spools of cable and wire, identification and contract data markings should be stenciled on the side of the reel or spool. When this area does not permit stenciling, markings may be applied by using a label. On coils of wire, identification and contract data markings should be applied on two tags securely

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attached to the coil. On paper- and cloth-wrapped rolls, identification and contract data markings should be applied by stenciling, printing, or labeling. Prior to stenciling cloth-wrapped rolls, the marking area should be given a smooth coating of sand-colored lacquer, enamel, or paint. One end of wrapped rolls should contain NSN, quantity, and UI markings. Address markings should be applied to these types of miscellaneous articles and unpacked items by using labels or tags as shown.

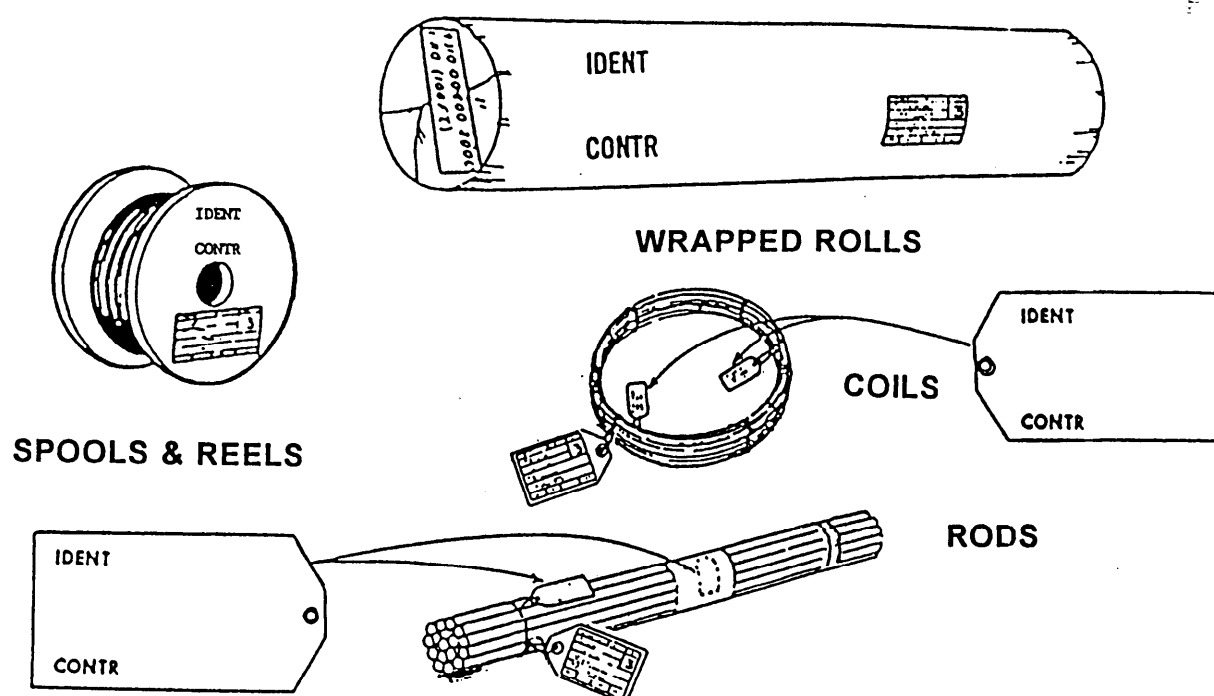


FIGURE 6. Placement of IDENT, CONTR, and address markings on miscellaneous articles and unpacked items.
For bar code markings, see figures 23 and 25.

4.3.6 Unpacked major equipment (except unpacked vehicles) (see figure 7). Identification, contract data, and address markings should be either stenciled on a marking board/panel applied to the most suitable location on the item, or they should be printed on a label attached directly on the equipment's surface with ASTM D 5486, type III, class 2 tape. The tape should be placed over the label and should extend half an inch or more from its edges. For unpacked vehicle marking requirements, see 4.3.9.

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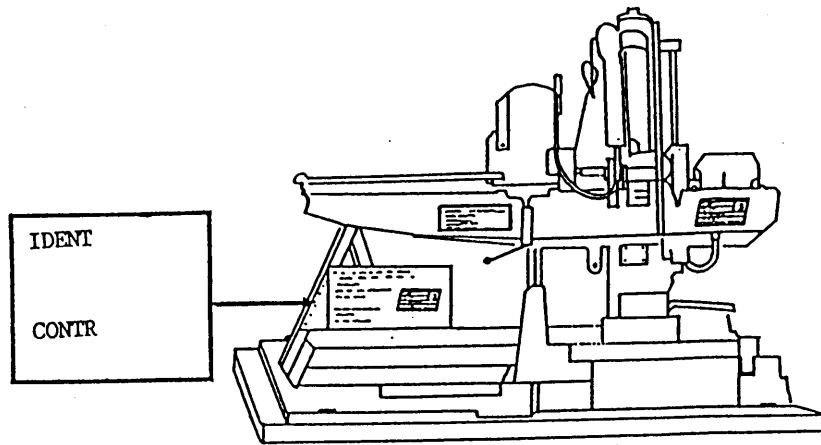


FIGURE 7. Placement of IDENT, CONTR, and address markings on unpacked major equipment.

4.3.7 Palletized unit load (see figure 8). When a palletized unit load is formed, the individual containers comprising the unit load should already be marked with the appropriate identification and contract data information. Unless otherwise specified, unit loads of box-packed items should have one or more boxes turned to present a blank surface for marking. The palletized unit load should have the exterior container identification, contract data, and address markings applied as specified herein and as shown in figure 8. For palletized unit loads 10 cubic feet and over, additional identification markings should be placed on the end of the load to the left of the identification-marked side. When a fiberboard container such as a triple-wall fiberboard box is used for unitizing a load in lieu of palletization, all required markings, including the address markings, may be placed directly on the flat fiberboard surface. Unitized tires should be stacked on pallets, sidewall to sidewall, to prevent the markings on the individual tires from being seen around the circumference of the load. The gross weight for palletized/containerized unit loads should include the weight of the pallet or container base. Because palletized loads are often stacked two or three high when shipped or stored, the markings should be large enough to be read from a distance. The size of the lettering should be proportionate to the overall size of the unitized load but should be not less than three-fourths of an inch in height.

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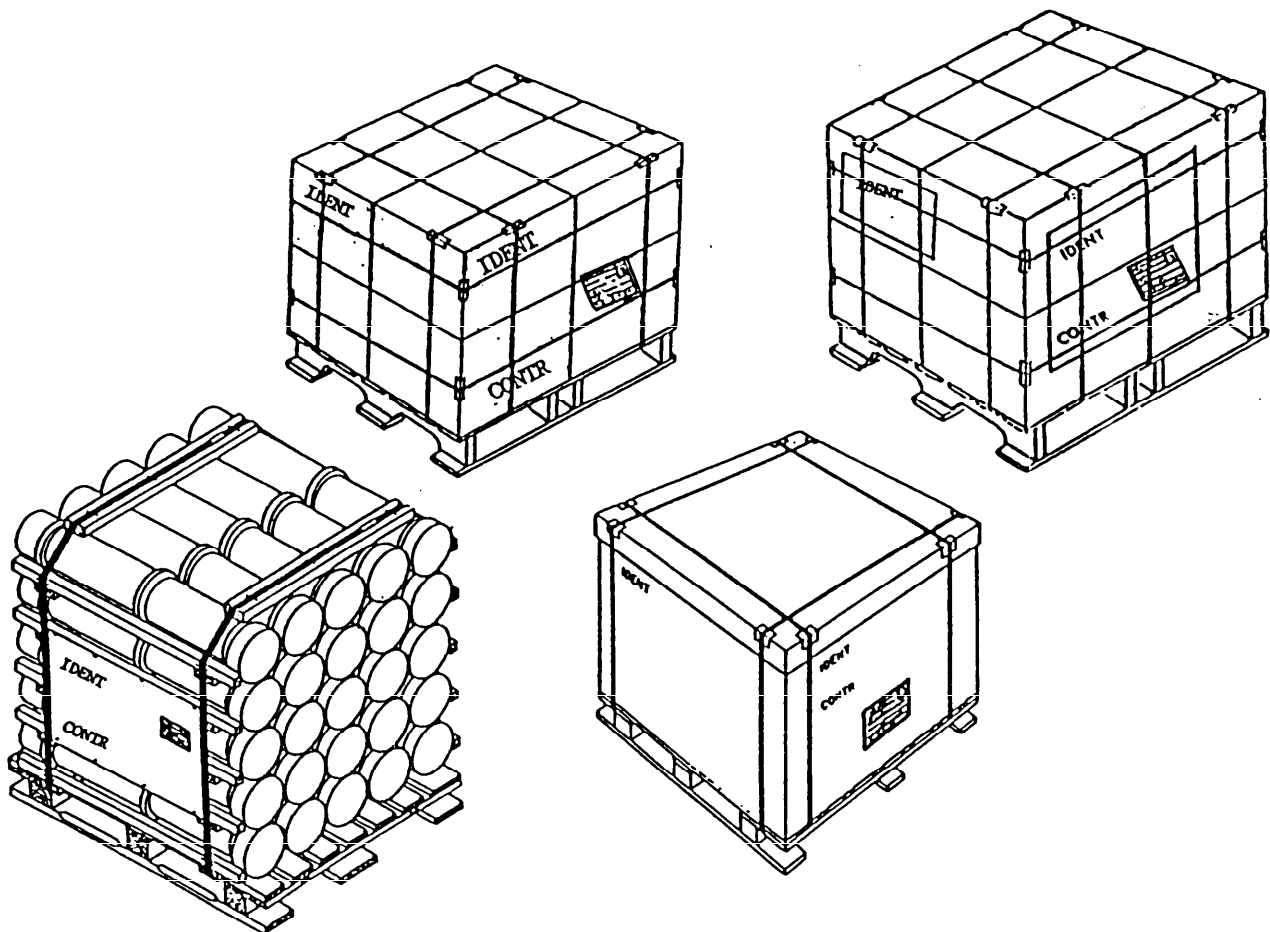


FIGURE 8. Placement of IDENT, CONTR, and address markings on palletized unit loads. For bar code markings, see figure 25.

- a. Exterior container identification and contract data markings should be placed on a marking board/panel by using a label or by direct stenciling. Palletized loads with smooth, flat surfaces may have identification markings stenciled directly on two surfaces, with markings extending from one container to another. Contract data markings should be applied to one surface.
- b. Except for DPSC C&T items, palletized loads of containers of items having different NSNs should be marked as

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multipacks. Palletized loads of DPSC C&T items having different NSNs should be marked as specified in the contract or order.

- c. When a palletized load is covered with stretch-wrap film, pressure-sensitive labels containing the identification, contract data, and address markings may be placed on the outermost layer of wrap on either side of the load in addition to other marking requirements. Variations are authorized based on local operations and capabilities (e.g., a marking board/panel positioned on the pallet before the last layer of wrap is applied).

4.3.8 Wood products. Identification markings should 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.) should be used. Contract data markings should consist of the contract or purchase order number only and should be located below the identification data. Identification and contract data markings should be applied by stenciling the most suitable area. Address markings should be applied by stenciling, labeling, or tagging. When wood products are shipped on a single conveyance to more than one consignee, address markings should be provided on each shipment unit.

4.3.8.1 Bundled wood products (see figure 9). When identification and contract data markings are applied by stenciling, they should 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. Markings may also be stenciled directly on a marking board/panel or may be applied by using a stenciled label. Address markings, when required, should be placed below the contract data markings and should be applied by stenciling or by placing them on a marking board/panel. When a marking board/panel is used, it should be securely fastened to the bundle. Fiberboard should not be used as a marking board/panel for bundled wood products. However, fiberboard, wood, or wood-based panel may be used as marking boards/panels for bundled wood pallets. In addition to the NSN and contract number, OCONUS shipments of bundled wood products require address markings. For wrapped bundles of wood products, the address label may be applied directly below the stenciled NSN and contract number. For unwrapped bundles, the address label may be attached to a paper shipping tag secured to the bundled unit. Prior to shipment, a transparent, waterproof laminate should be placed over the address label.

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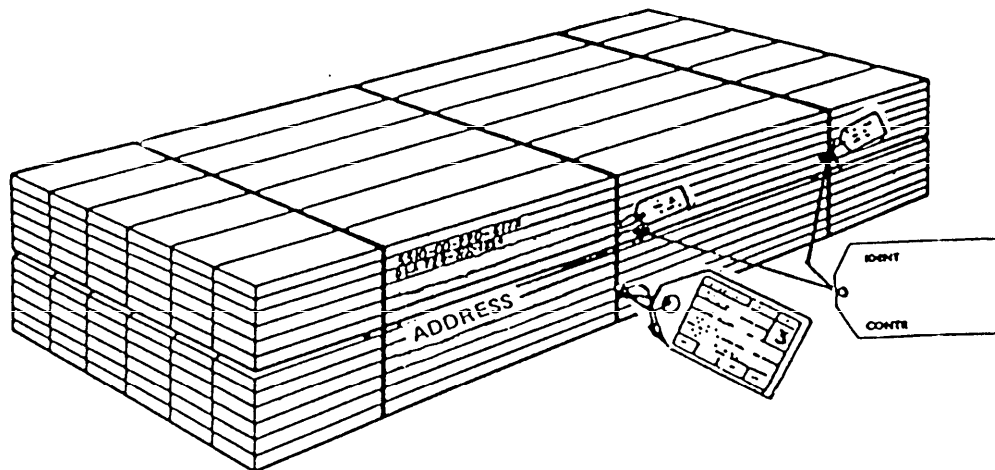


FIGURE 9. Placement of IDENT, CONTR, and address markings on bundled wood products.

4.3.8.2 Unstrapped (loose) wood products (e.g., piles, poles, etc.) (see figure 10). Identification and contract data markings should be applied by either stenciling or tagging. If tags are used, they should be securely attached to the unstrapped (loose) pieces. Metal or plastic tags may be used when authorized by the procuring activity. At least 10 percent of the total pieces in a single shipment should be marked. Address markings should be affixed on the side of the load by stenciling or labeling. For materiel such as poles and ties that is preservative-treated with oil solutions, stenciling should be accomplished with TT-P-38 aluminum-leaf paint.

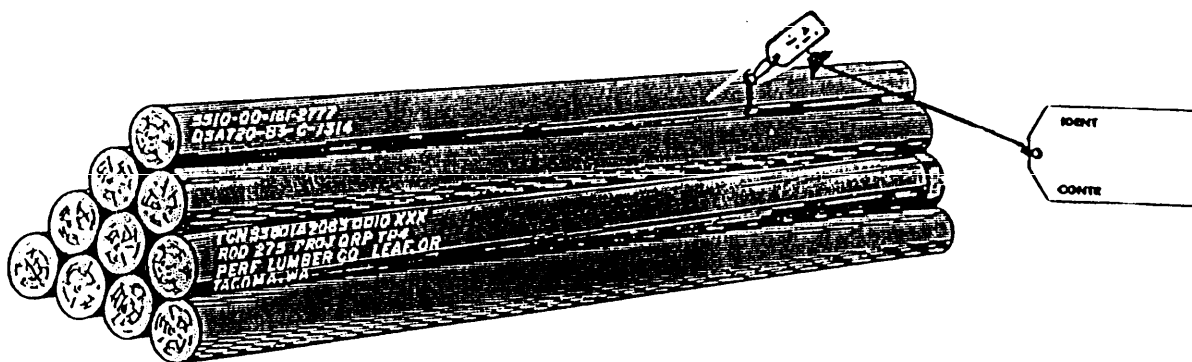


FIGURE 10. Placement of IDENT, CONTR, and address markings on unstrapped (loose) wood products.

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4.3.8.3 Miscellaneous wood products in containers (e.g., doors, windows, and moldings) (see figure 11). Identification and contract data markings should be applied by stenciling or labeling. Address markings should be applied to the identification-marked side of the container.

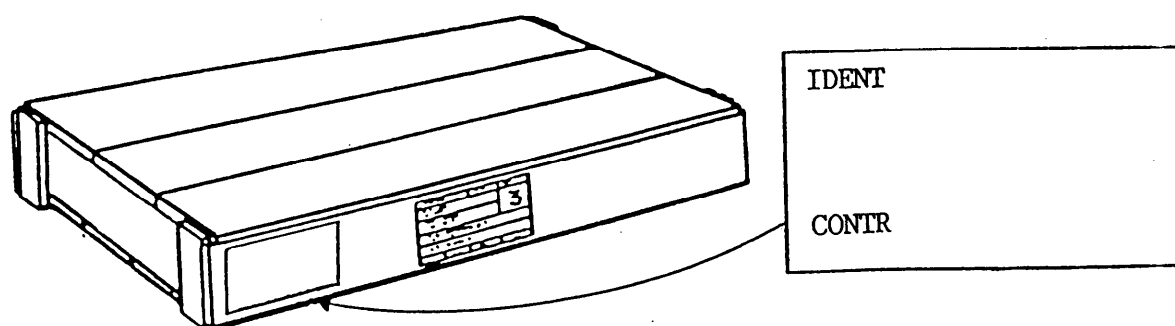


FIGURE 11. Placement of IDENT, CONTR, and address markings on miscellaneous wood products in containers.

4.3.9 Unpacked vehicles (see figure 12). Identification and contract data markings are not required on unpacked vehicles that are shipped within CONUS. Address, weight, and cube markings are not required on driveway, truckaway, railway, or towaway shipments within CONUS. The address marking of vehicles for unit movement overseas should be in accordance with the applicable regulations of the military department involved. Address markings for CONUS shipments and identification, contract data, and address markings for OCONUS shipments should be stenciled on a marking board/panel or applied by attaching a preprinted label on the vehicle's surface with ASTM D 5486, type III, class 2 tape. When the address label is attached directly to the surface of the vehicle, the label should be placed either on the rear of the vehicle or on the right side near the rear of the vehicle. When marking boards/panels are used, they should be secured on the front of the vehicle. When possible, the markings should be positioned on the vehicle at a height of not more than 6 feet or less than 4 feet. When the use of these locations is not practicable, the best alternate location should be selected.

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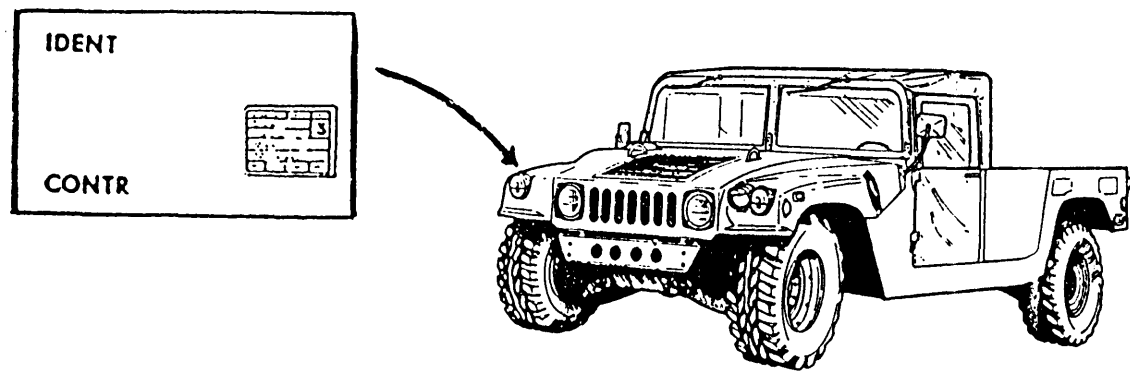


FIGURE 12. Placement of IDENT, CONTR, and address markings on a marking board for an unpacked vehicle.

4.3.10 Commercial- or Government-owned (or -leased) shipping containers (SEAVANs) and military-owned demountable containers (MILVANs) (see figure 13). Exterior container identification and contract data markings should not be placed on the outside of a SEAVAN/MILVAN. A completed DD Form 1387 address label should be attached to the seal on the SEAVAN/MILVAN or should be attached at the rear of each SEAVAN/MILVAN. Shipping containers, palletized unit loads, and unpacked items that are consolidated into a full SEAVAN/MILVAN load by the shipper of origin for delivery as a unit to the ultimate consignee do not require individual address markings. In addition, Consolidation activities who receive shipments for consolidation into SEAVANs or MILVANs are not required to obliterate address labels applied by the shipper of origin.

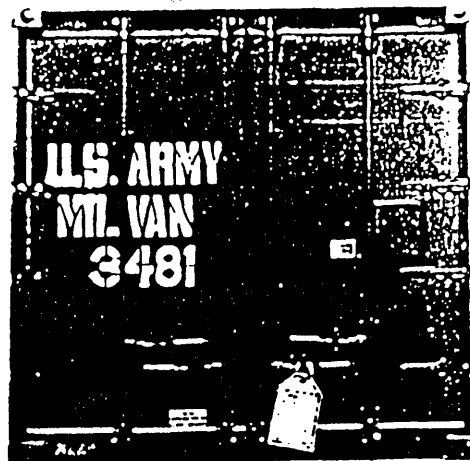


FIGURE 13. Placement of address markings (DD Form 1387 attached to a paper shipping tag) on a SEAVAN or MILVAN.

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4.3.11 Tires (loose) . Identification and contract data markings on tires should be placed on tags affixed to the tires with twine or by labels affixed to the outside sidewall or on the tire tread. Labels such as those conforming to MIL-PRF-61002, Type Optional, Grade A, Style 3-Rubber, Composition (b) (laminated) should be used. In addition to the required identification markings, tires should be marked with the cure date and inspection or test date. Tires requiring DOT markings molded into the sidewall do not require the cure date to be marked since the last three digits of the DOT markings indicate the week and year of the manufacture of the tire (cure date). Only the inspection/test date is required. Bar code markings that are required for exterior containers (see 4.4.1.2) should be applied to all tires, except for those DoD sites that have the capability of preprinting or generating a bar coded DD Form 1387. The DD Form 1387 should be affixed to a paper shipping tag (A-A-900 or UU-T-81), or it should be affixed directly to the tire. Additional guidance on the marking of tires is contained in MIL-T-4.

4.3.12 Tubular products (loose) . Identification and contract data markings should be applied by labels or weather-resistant tags. Plastic or metal tags may be used when authorized by the procuring activity. The address label should be affixed on the side of the load.

4.3.13 Tubular products (bundles and lifts) . Two weather-resistant tags containing the identification and contract data markings should be applied to 10 percent of the load. Plastic or metal tags may be used when authorized by the procuring activity. Markings may also be stenciled or labeled on a marking board/panel, which should be attached to the load by ASTM D 5486, type III, class 2 tape or metal bands as specified in ASTM D 3953 (used with ASTM D 4675). The address label should be affixed on the side of the load or on the marking board/panel.

4.4 Bar code markings . Information and illustrations on the content and placement of bar code markings on containers of nonammunition commodities are in 4.4.1 through 4.4.3.16.2. Bar coding for the 1348-1A (Issue Release/Receipt Document) is in 5.4. Bar coding for the DD Form 1387 is in 4.2.1. When objective evidence can be provided, bar code labels may be accepted with a Certificate of Conformance (COC). However, the COC does not supersede the need to scan the bar code label after any process that may affect the readability of the bar code, such as the application of tape. Bar code markings should not be obscured by application of strapping or tape.

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4.4.1 Application of bar code markings on all containers, palletized loads, and loose or unpacked items. The bar code and HRI that are applied should be the standard DoD symbology as described in AIM BC1. The HRI should be an exact interpretation of the bar code data and should not contain any spaces or dashes. The preferred location for the HRI is below the bar code markings, while the optional location is above the bar code markings.

4.4.1.1 Bar coding of unit packs and intermediate containers (see figures 14, 17, and 18). The NSN/NATO stock number should be bar coded on all unit packs and intermediate containers. The bar coded NSN/NATO stock number should consist of the basic 13 data characters. Prefixes and suffixes to the stock number, as well as spaces and dashes, should not be bar coded. In addition, the part number assigned to the item should not be bar coded. For information on the placement of bar code markings on unit packs and intermediate containers, see 4.4.2.

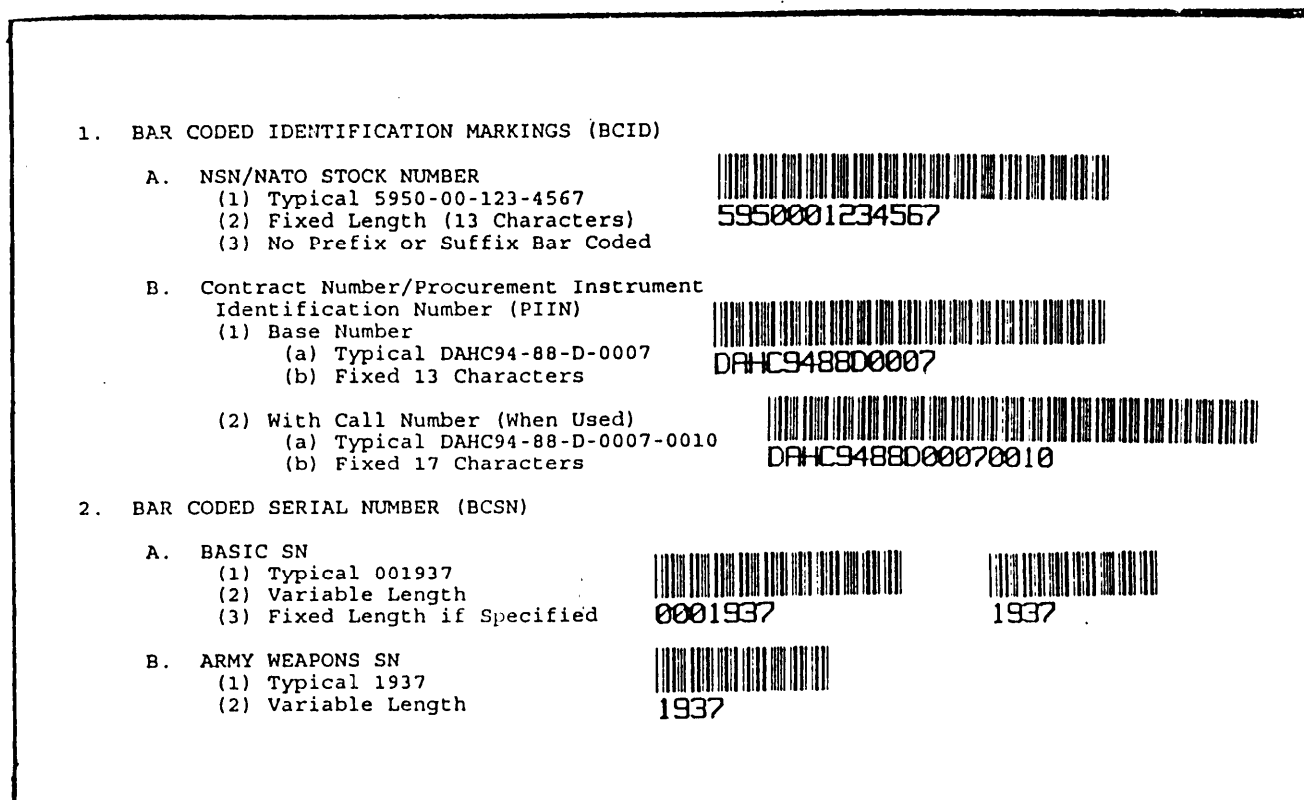


FIGURE 14. Examples of typical bar coded fields.

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4.4.1.2 Bar coding of exterior containers (see figures 14 and 21). For all contracts, each exterior shipping container should be bar coded with the following information: (1) NSN/NATO stock number and (2) contract or order number (including the call number). The NSN should be bar coded as specified in 4.4.1.1. The bar coded contract or order number (including call number) should consist of 13-17 data characters. For bar code configurations, see 4.4.1.4, and for format information, see 4.4.1.6.

4.4.1.3 Bar code character density. Standard bar code density range should be 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 be used. Higher bar code densities in the range of 9.4 to 15.5 CPI may be used, when specified, for unique applications.

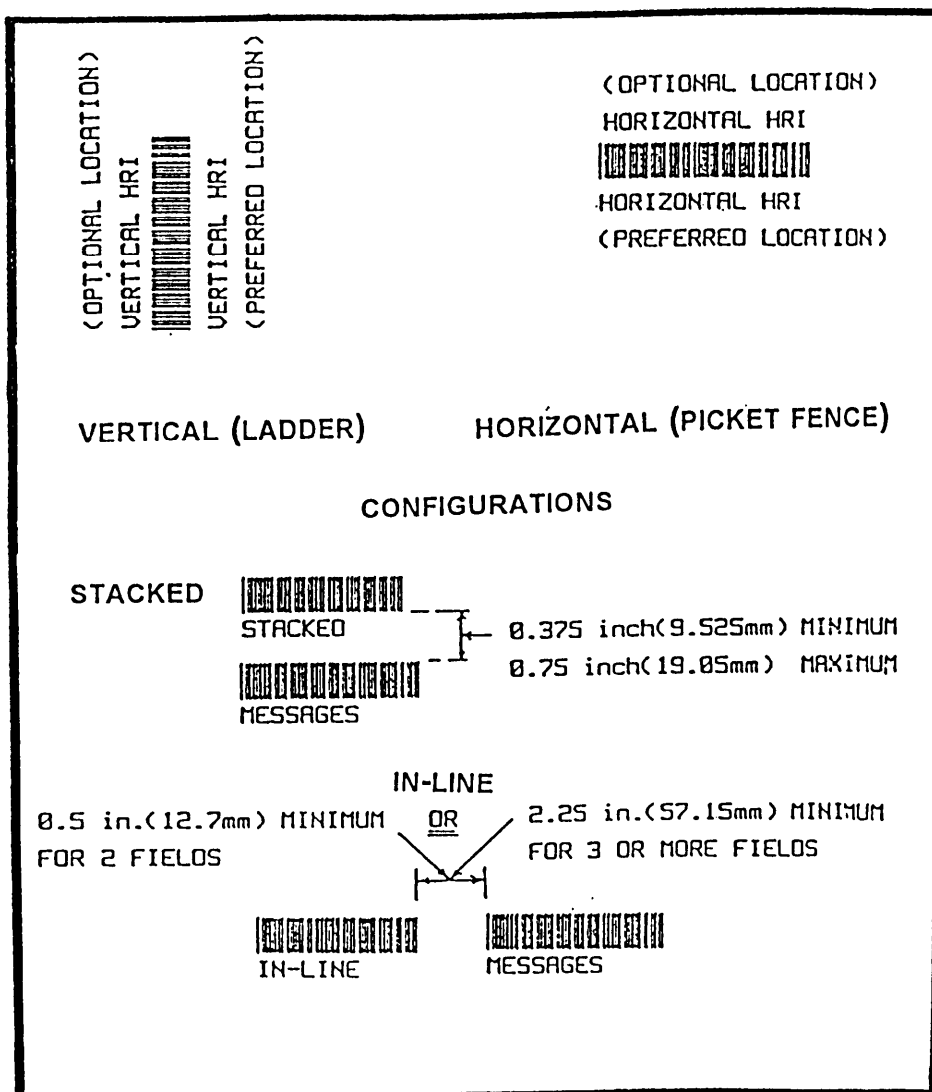
4.4.1.4 Bar code configurations and basic message formats (see figure 15). The two bar code configurations are vertical (ladder) and horizontal (picket fence). Unless otherwise specified in the contract or order, all bar codes should be in a horizontal configuration. The two basic message formats are stacked and in-line. When two or three data messages are bar coded, one of the two basic formats can usually be utilized. However, a stacked format is preferred. When three or more data messages are bar coded in an in-line format, the spacing between messages should be increased so that false reads will not occur when using a non-contact scanner.

4.4.1.5 Complex bar code formats (see figure 16). There may be cases requiring the use of formats more complex than the two basic formats, such as bar coding several data messages. A combination format contains two or more columns of stacked format or two or more rows of 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. The staggered format satisfies the requirement for a distance of at least 2.25 inches (57.15mm) when there are three or more in-line bar codes.

4.4.1.6 Bar code format information (see figures 15 and 16). The following format information is listed in the order of preference based on ease of readability without false read when using either contact or non-contact scanners.

- a. Two bar coded messages:
 1. Stacked.
 2. In-line.

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FIGURE 15. Bar code configurations and basic message formats.

b. Three or four bar coded messages:

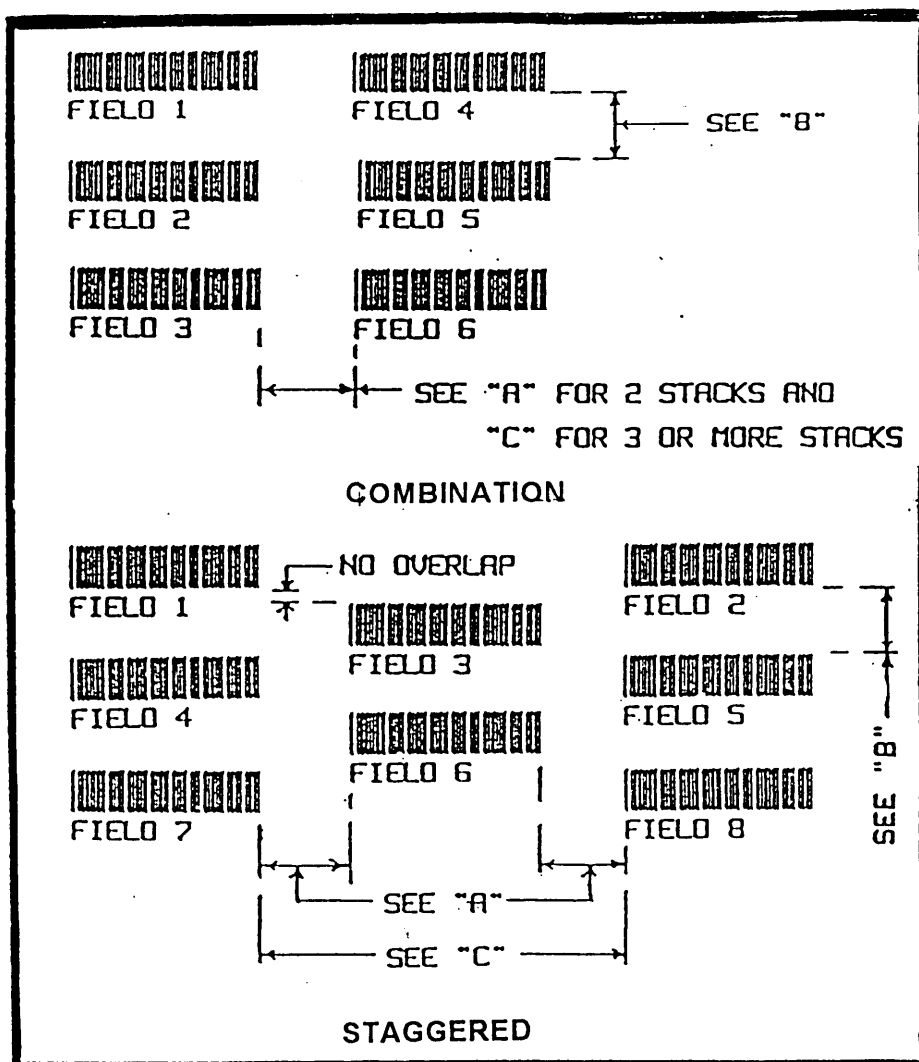
1. Single stack.
2. Combination (e.g., 2 stacks of in-line bar codes).
3. Staggered (e.g., 2 staggered stacks of 2).

c. Five to 10 bar coded messages:

1. Single stack.
2. Staggered (e.g., 2 to 4 stacks of staggered bar codes).

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3. Combination (e.g., 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 spacing between stacks is increased from .5 to 2.25 inches (12.7mm to 57.15mm)).



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

FIGURE 16. Complex bar code message formats.

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4.4.1.7 Methods of applying bar codes . On containers other than wood, bar code markings should be applied by labeling or by direct printing on the container. When specified in the procurement document, bar code labels generated on thermal printers may be used on unit packs and intermediate and exterior containers. Thermal label stock should be durable, buff-colored stock, or its equivalent. When an untinted/transparent laminate or equivalent or a stretch/shrink wrap is placed over the bar code labels, the bar code symbol should meet the readability requirements of AIM BC1. When MIL-PRF-61002 is specified in the procurement contract, the bar code label should meet the durability requirements of MIL-PRF-61002 for the applicable grade.

4.4.1.8 Labeling wood containers . On wood containers, bar code markings should be applied only by labels. The labeling area should be given a smooth coat of spar varnish or a transparent acrylic, polyurethane, or epoxy coating. A clear/transparent laminate or equivalent should be placed over the bar code label. In addition to a laminate or adhesive, it may also be necessary to affix the label by stapling. Any commercial-type staple may be used as long as it is not placed within the bar code or quiet zone. The label could be affixed to a piece of card stock that is slightly larger than the label. The card stock would then be stapled to the container with heavy duty staples.

4.4.1.9 Labels on unit packs and intermediate containers . When MIL-STD-129 marking requirements are specified in the procurement contract, labels on unit packs and intermediate containers should be constructed of a computer-imprintable paper with a 1-mil acrylic permanent adhesive, or equivalent. Printer ribbons of optical character reader (OCR)-grade quality, or equivalent, should be used to mark the labels. When MIL-PRF-61002 requirements are specified in the procurement contract, bar code labels should meet the requirements for a Grade C label. When the unit pack and exterior shipping container are one and the same, only exterior container bar code markings should be applied.

4.4.1.10 Labels on exterior shipping containers . When bar code labels are printed, the printer ribbons should be of OCR-grade quality, or equivalent, and should produce clear, smear-resistant markings. When bar code labels are used on exterior shipping containers, a waterproof, untinted/transparent, plastic, protective laminate such as ASTM D 5486, type III, class 2 tape, or equivalent protection, should be applied to or should be inherent to the label. ASTM D 5486, type III, class 2 tape

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applied over a MIL-PRF-61002, Grade C label will upgrade that label to a MIL-PRF-61002, Grade B label. The bar code quality should remain in conformance with AIM BC1 after the protective coating has been applied. When MIL-PRF-61002 requirements are specified by the procuring activity, the labels used for bar coding shipping containers should meet the following criteria:

- a. Labels used on all wood containers should conform to MIL-PRF-61002, Grade A, Style 1, Composition (b) for non-porous container surfaces or Grade A, Style 2, Composition (b), for porous surfaces.
- b. Labels on all other containers should meet the following requirements. Preprinted labels should have an untinted, transparent laminate coating, while non-preprinted labels should have the laminate, or equivalent, applied after the bar code is printed (see 4.4.1.7). Labels should be constructed of a computer-imprintable paper, with a 1-mil acrylic permanent adhesive, or equivalent. Labels should conform to MIL-PRF-61002, Grade A, Style 1, Composition (b) for metal and plastic containers or Grade B, Style 2, Composition (a) for domestic or weather-resistant fiberboard containers.

4.4.2 Placement of bar code markings on unit packs and intermediate containers (see figures 17 and 18, respectively). The NSN/NATO stock number should be bar coded and applied so that the bar code is in the configuration shown. When space does not permit placement of all the required markings, including bar code markings, on one surface of the container, the bar code labels or markings should be either placed on the opposite side of the container or on the adjacent end, or they should be placed on a tag attached to the container.

4.4.2.1 Use of transparent containers (see figure 17). Bar code markings that are placed inside a transparent container should be machine readable from the outside of the container. Similarly, bar code markings on containers which are shrink/stretch wrapped into a load should be machine readable from the outside of the load in at least one location and should meet the readability requirements of AIM BC1.

4.4.2.2 Bar coded serial numbers on unit packs and intermediate containers (see figures 17 and 18). When a requirement for bar coded serial numbers is specified in the procurement contract or order, the bar codes should be located directly below the identification markings preceded by the

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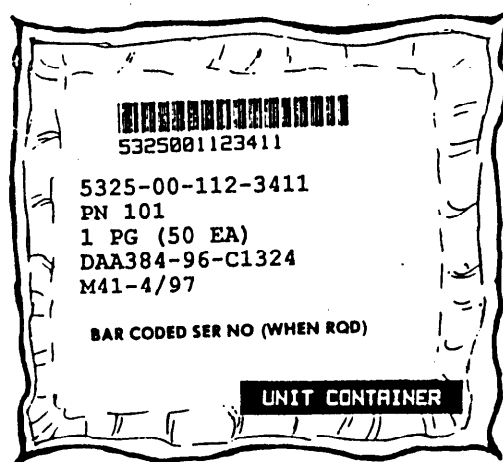


FIGURE 17. Bar code markings on unit packs.

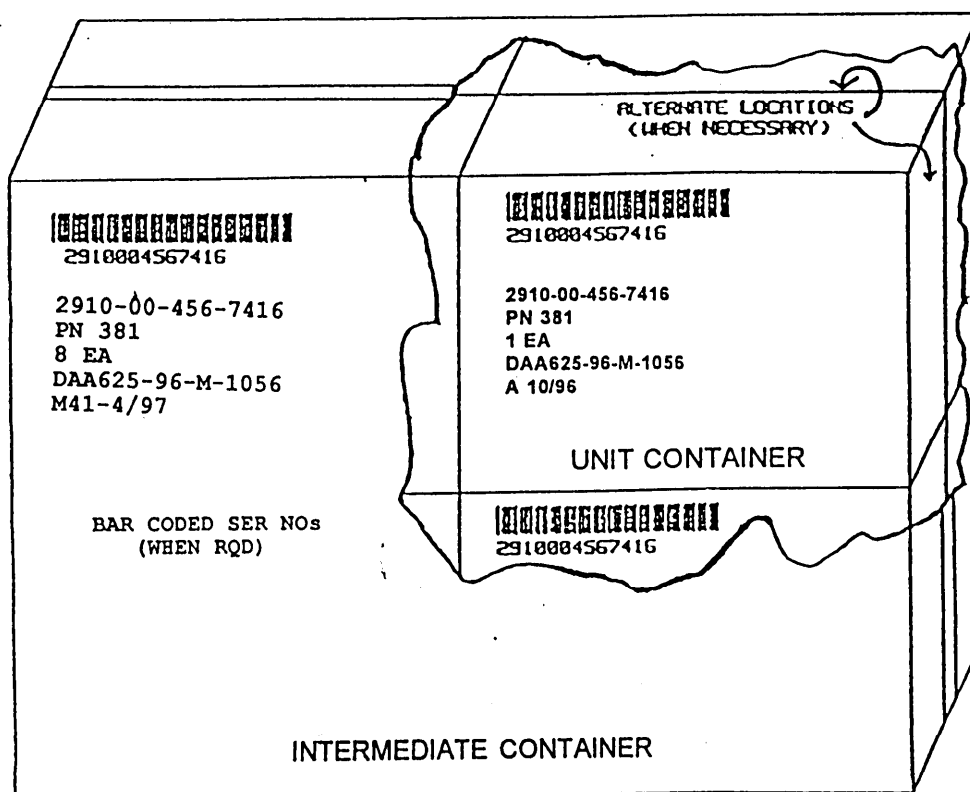


FIGURE 18. Bar code markings on unit and intermediate containers.

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specified in 4.4.3.2.

4.4.3 Placement of bar code markings on exterior shipping containers .

4.4.3.1 Boxes and crates under 10 cubic feet and those 10 cubic feet and over (see figures 19 and 20) . Regardless of size, the NSN/NATO stock number and contract or order number (if appropriate) should be bar coded and applied to the identification-marked side of all boxes and crates used as exterior shipping containers. Bar code symbols should be located adjacent to the identification markings (either to the right of or below) and should be in a horizontal (picket fence) configuration. For boxes and crates 10 cubic feet and over, bar code markings are also placed on one end of the container. When a marking board/panel is used for unsheathed crates, bar code markings should be applied immediately to the right of or below the contractor markings and should be in line with them.

4.4.3.1.1 Location of the bar code (see figures 19 and 20) . The bar code should be applied at least 2.0 inches (50.8mm) from the top and bottom edges and 1.0 inch (25.4mm) from the side edges. A quiet zone of at least 0.25 inch (6.35mm) from the nearest identification marking should be maintained. When bar codes are located below identification or contract data markings, a separation of at least 0.125 inches (3.18mm) should be maintained between the markings and the top of the symbol. When cleats, strapping, or other required markings interfere with the placement of bar code markings, the bar code markings should be placed as near as practicable to the prescribed data.

4.4.3.2 Bar coded serial numbers on exterior shipping containers (see figure 20) . When a requirement for bar coded serial numbers is specified in the contract or order, the bar codes should be located directly below the identification markings and should be preceded by the "SER NO" abbreviation. The letters "SER NO" are not bar coded. The bar codes should 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 should be provided as specified in MIL-STD-129. The first list, which is to be placed inside the container, should 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. Bar coding of the second serial number list, which should be included with the packing list, is optional. The words "SERIAL NUMBER LIST INSIDE" should be marked on the identification-marked side of the container.

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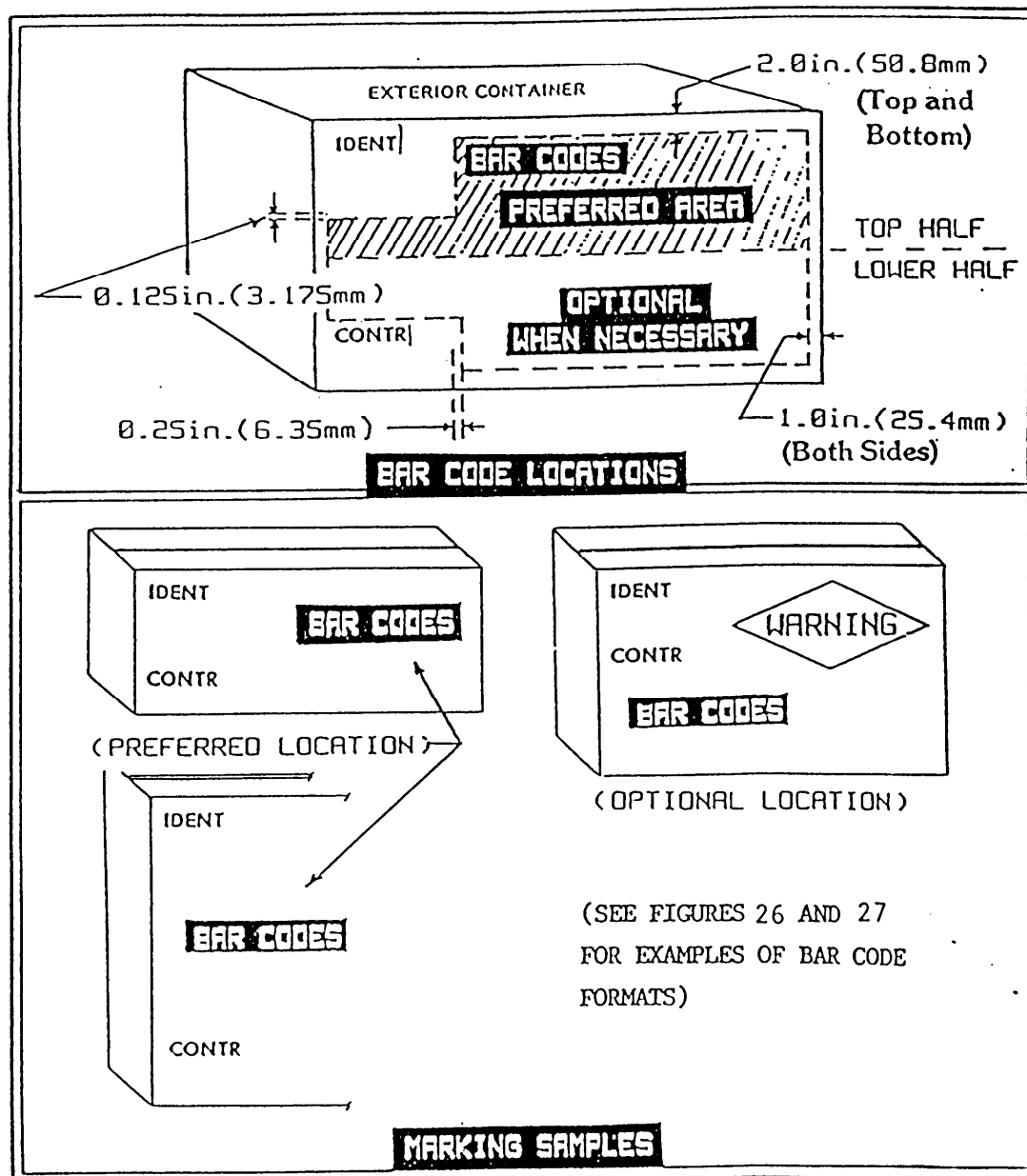


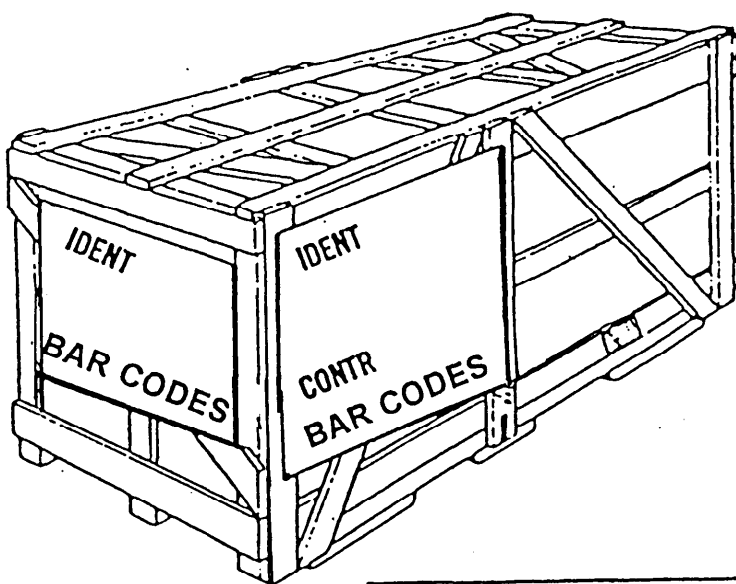
FIGURE 19. Exterior container bar code markings on boxes and crates under 10 cubic feet.

4.4.3.3 Formats for bar coded data on exterior shipping containers and tags (see figures 21 and 22). Unless otherwise

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specified, bar codes required on all exterior shipping containers should be applied in one of the following formats, listed in order of preference and illustrated in figures 21 and 22.

- a. A two-field stacked format with data fields stacked from top to bottom in the following order: NSN and contract number. When a stacked format is used, bar codes should be left-justified (left-hand (start) characters vertically aligned). For examples of the two-field stacked format, see figure 21.



EXTERIOR
CONTAINERS OVER 10 CU FT

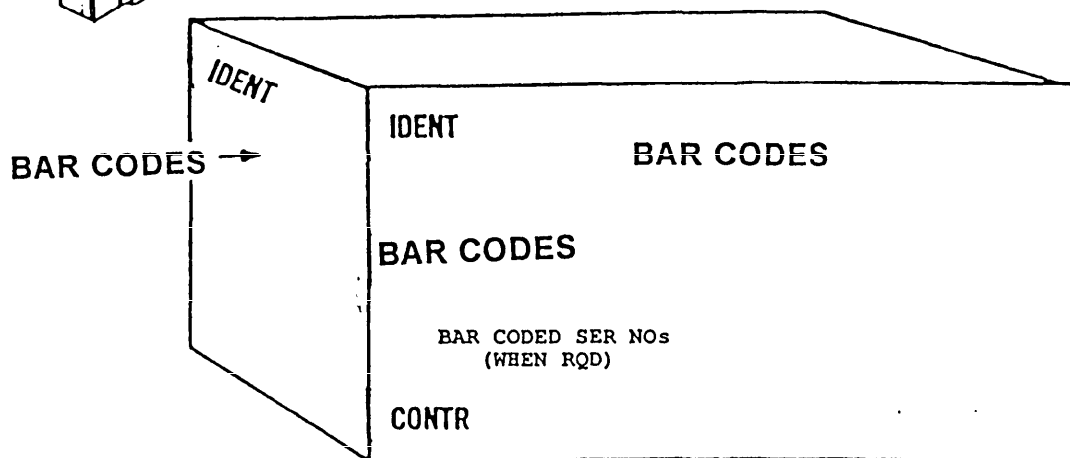


FIGURE 20. Exterior container bar code markings on boxes and crates 10 cubic feet and over.

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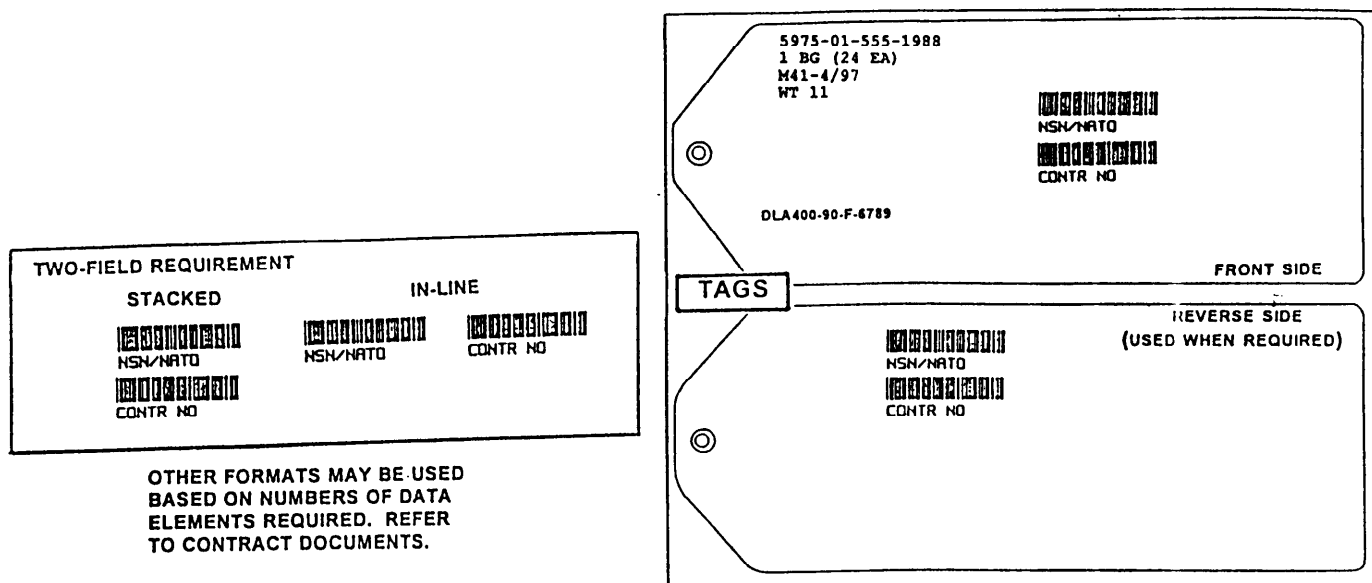


FIGURE 21. Typical bar code formats for use on exterior container surfaces and on tags.

- b. A horizontal (in-line) format arranged so that the NSN is to the left of the contract number on the same line (see figure 21).

4.4.3.4 Formats for bar coded tags to be used with exterior shipping containers (see figures 21 and 22). Any bar code format discussed herein may be applied to a tag attached to a shipping container. Tags should be marked by either direct marking 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 below the contract data markings. If space is not available, the bar code label/marking may be applied on the reverse side of the tag.

4.4.3.5 Bales, cloth-covered bundles, paper shipping sacks, bags and textile/laminated textile bags, rods, shafts, and pipes (see figure 23). Bar code markings should be placed either on the container surface or on the identification tags. When tags are used for these items, the tags should be secured as shown and should be bar coded as described in 4.4.3.4.

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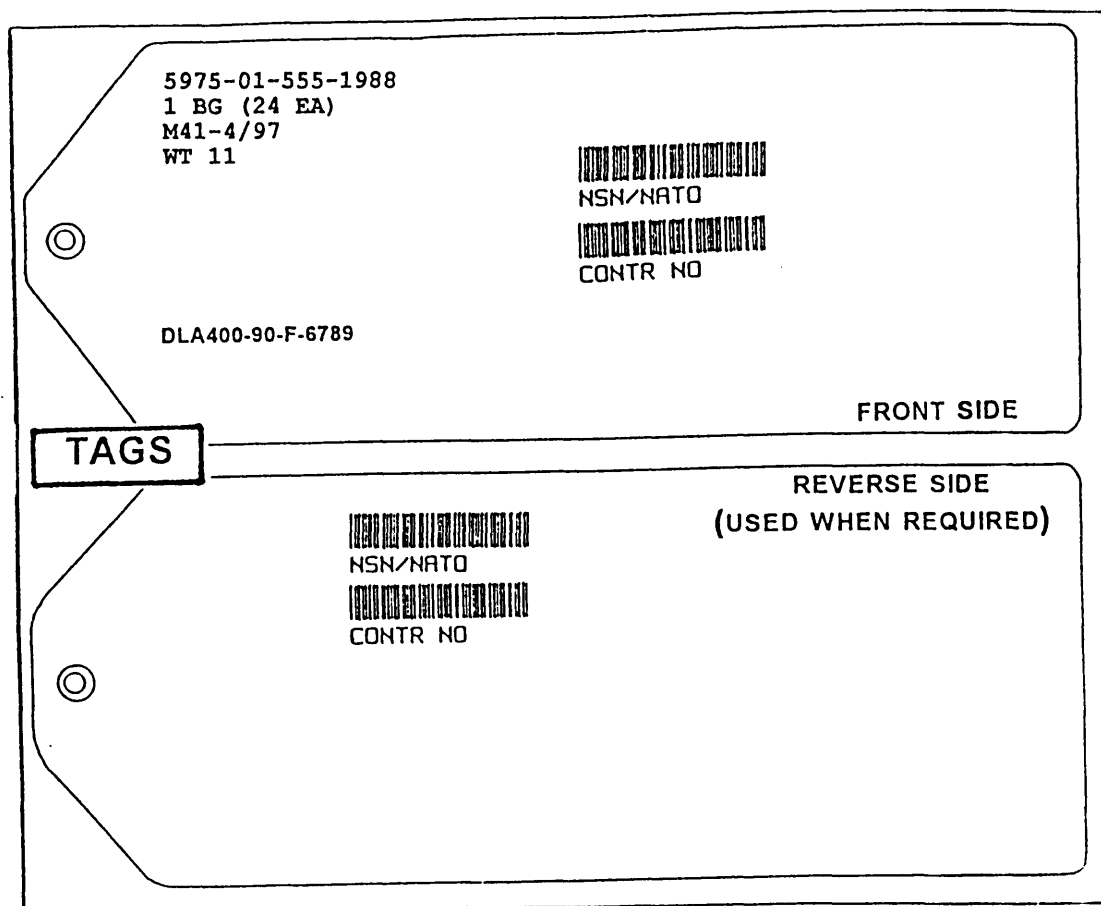


FIGURE 22. Examples of bar coded tags that may be attached to exterior shipping containers.

4.4.3.5.1 Coils of wire (see figure 23). Bar code markings should be applied to either side of both identification tags.

4.4.3.6 Barrels, drums, and other cylindrical containers (see figure 24). Bar code markings should be applied adjacent to the identification markings on the upper one-third of containers that are greater than 5 gallons. Bar code markings should be applied immediately to the right of or below identification markings on containers 5 gallons or less and should be at least 1.0 inches (25.4mm) from the bottom and top edges of the container. Stacked formats should be left-justified. On cylindrical containers less than 5 inches (127.0mm) in diameter, bar code labels or markings should be applied so that the bar code symbol is vertical or in

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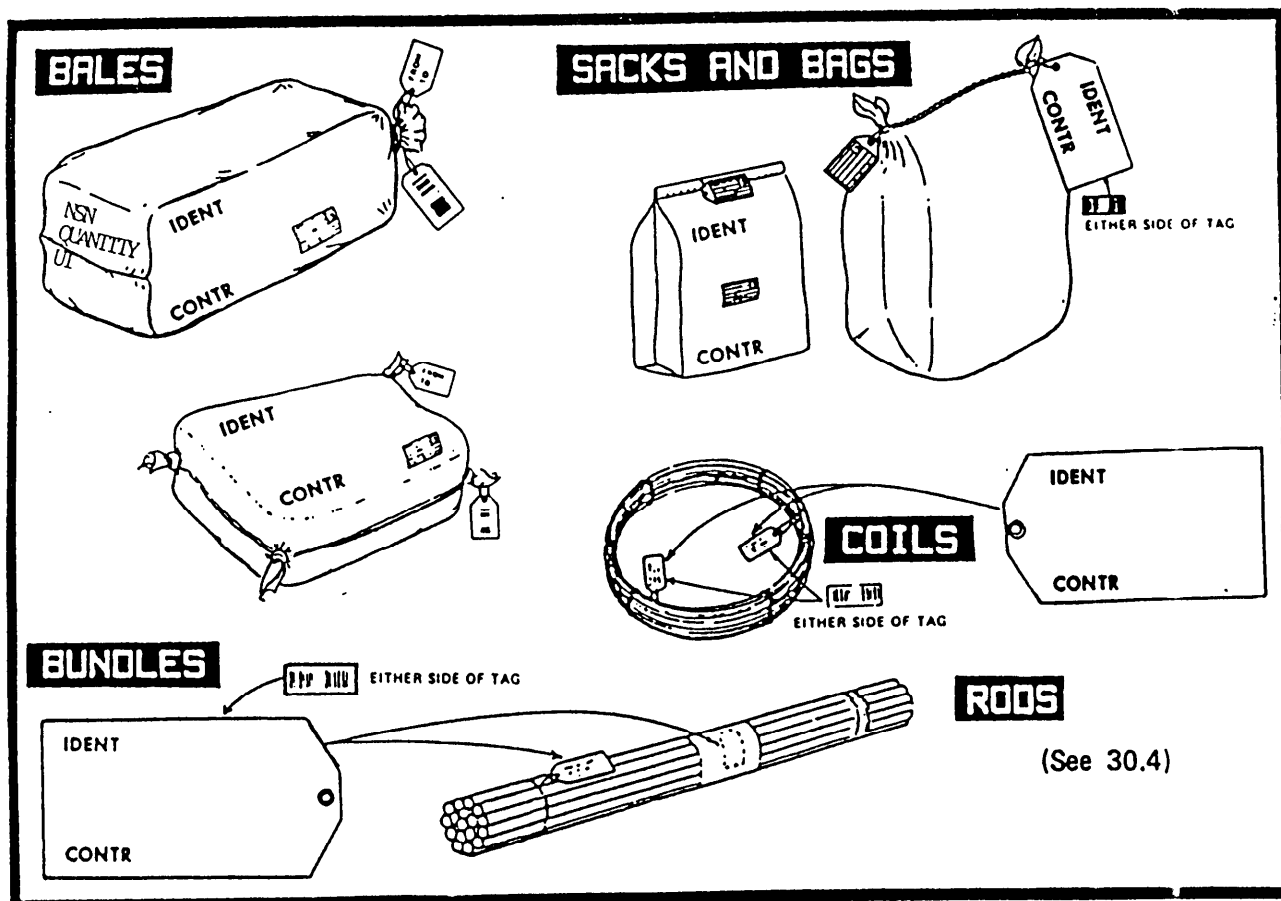


FIGURE 23. Bar coding tagged material.

a "ladder" configuration. When the bar code is placed in this configuration, the bars are placed 0.25 inch to 0.5 inch (6.35mm to 12.70mm) from the left edge of the identification markings. Bar code markings should not be placed on the tear strip or container seam.

4.4.3.6.1 Markings on the tops of barrels, drums, and other cylindrical containers (see figure 24). When identification and contract data markings are applied to the tops of empty or filled shipping containers such as barrels and drums, required bar code markings should be applied beneath the identification and contract data markings. This is in addition to the bar code markings in 4.4.3.6. When marking reusable containers, all bar code markings that were applied for previous shipments or for storage should be obliterated prior to application of current bar code markings.

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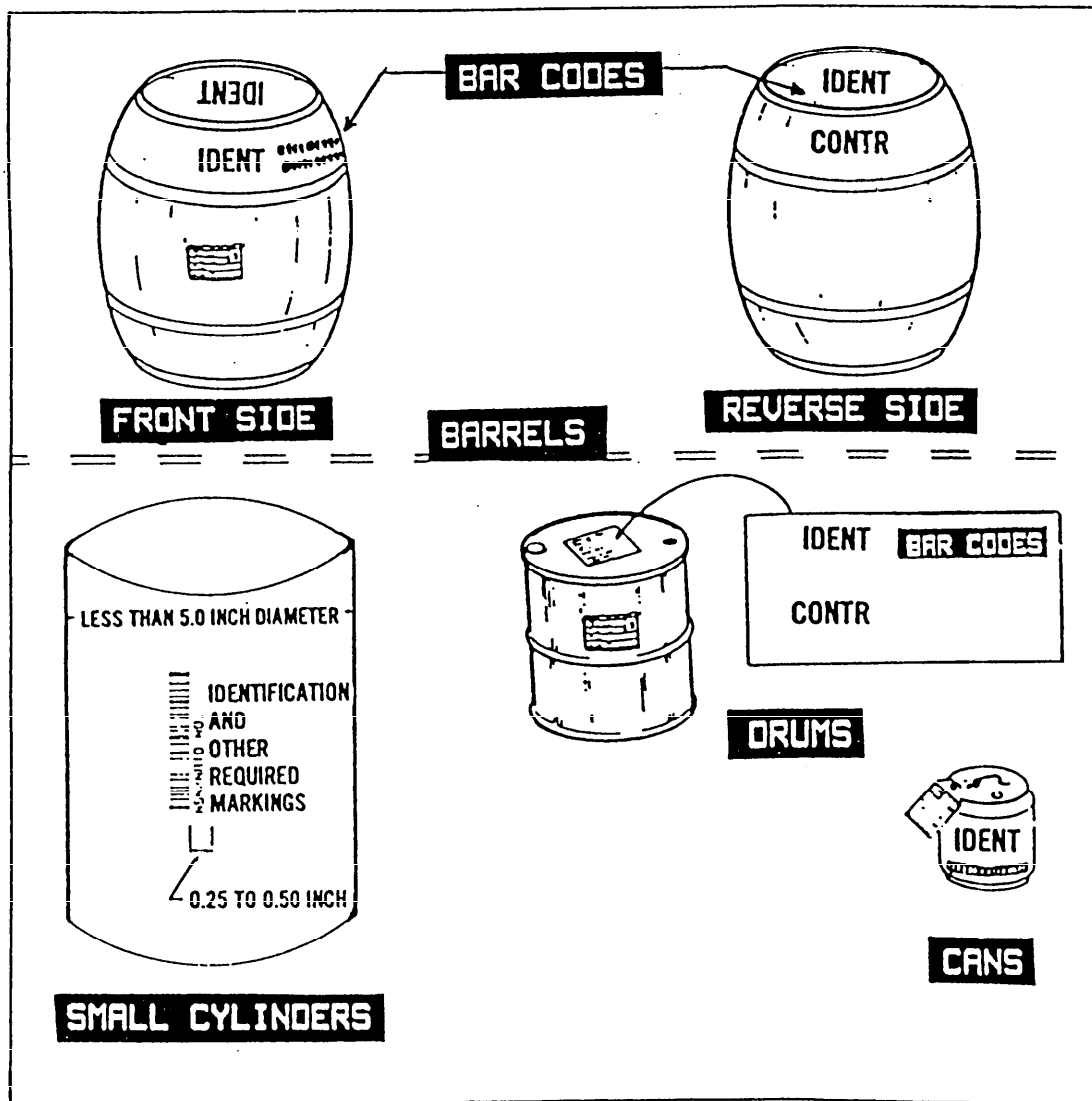


FIGURE 24. Bar code markings on cylindrical containers.

4.4.3.7 Reels or spools of cable, wire, and rope (see figure 25). Bar code markings should be applied adjacent to or beneath the contract data markings. On wood reels or spools, the surface should be prepared and the labels should be applied in accordance with 4.4.1.7.

4.4.3.8 Paper- and cloth-wrapped rolls (see figure 25). Bar code markings should be applied to the right of the identification markings or immediately beneath the contract data markings.

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4.4.3.9 Palletized unit loads (see figure 25). The bar code markings should be applied to the outside of the load immediately to the right of or below the identification markings on a marking board/panel or on the identification-marked side of the load, as appropriate (see 4.3.7). If individual containers that comprise the load are bar coded and scannable, no additional bar code markings are required.

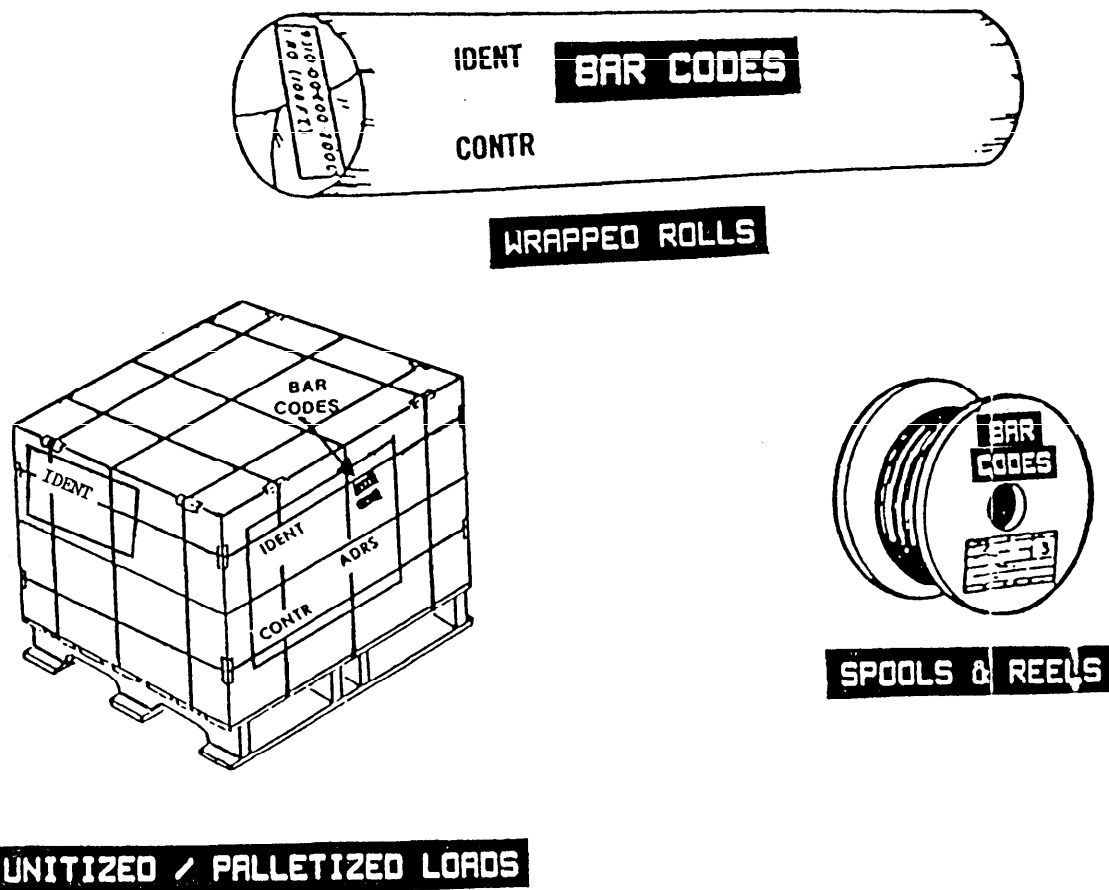


FIGURE 25. Bar code markings on miscellaneous material.

4.4.3.10 Unpacked major equipment (skidded or unskidded). Bar code markings should be applied immediately to the right of or beneath the contract data markings. If a marking board/panel is used, bar codes should be applied as specified in 4.4.3.1.

4.4.3.11 Multipacks. Multipacks should be bar coded as follows:

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- a. NSN/NATO stock number. None. However, unit packs and intermediate containers that comprise the multipack should have bar code markings applied as described in 4.4.2.
- b. Contract number. The contract number should be bar coded on the exterior of the multipack if the number applies to all unit packs and intermediate containers inside the multipack. If mixed contract numbers are contained in the multipack, then the exterior container should not be bar coded.

4.4.3.12 Sets, kits, and outfits (SKO) . Bar code markings should be applied to all SKOs, whether the SKOs were obtained through procurement or were assembled at a DoD activity. When a multiple container SKO is comprised of other SKOs, all containers should be marked with bar codes that identify only the final (end item) SKO. When the SKO is obtained through procurement, the NSN and contract number of the complete SKO should be bar coded. When an SKO is assembled at a DoD activity, only the NSN should be bar coded. All containers of a multiple container shipment should be marked as specified in MIL-STD-129.

4.4.3.13 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.

4.4.3.14 Protected cargo (controlled, sensitive, classified, and pilferable items) . Protected cargo such as controlled, sensitive, classified, and pilferable items should contain the applicable bar code markings. If the NSN is included as part of the identification markings, the HRI should be shown. However, if the NSN is omitted, the HRI should also be omitted. For shipments of DPSC C&T items, the HRI should remain.

4.4.3.15 Bundled wood products . Bar code markings for bundled wood products should be applied on a marking board or panel as specified in 4.4.3.1.

4.4.3.16 (Army Only) Small arms weapons containers (see figure 14) . In addition to the standard bar code requirements for unit packs and intermediate and exterior containers, all small arms containers should also contain the bar coded serial numbers of the packaged weapons.

4.4.3.16.1 Bar code labeling . The MIL-PRF-61002 requirements for small arms weapons containers are as follows:

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- a. Bar code labels used on all wood containers should comply with the requirements specified in 4.4.1.8 and 4.4.1.10a.
- b. Bar code labels on all exterior containers other than wood should comply with the requirements specified in 4.4.1.7 and 4.4.1.10b.
- c. Bar code labels on all unit and intermediate containers other than wood containers should meet the criteria of MIL-PRF-61002 for a Grade B, Composition (b) label. The style should be specified in the procurement document.

4.4.3.16.2 Bar code message description (see figure 14) . The bar code for small arms weapons consists of the serial number(s) of the weapon(s).

4.5 Foreign Military Sales (FMS) marking .

4.5.1 Contractor- or vendor-originated shipment packing lists (DD Form 250) . When the DD Form 250 is used as a packing list, prepare the form as specified in the Defense Federal Acquisition Regulation (DFAR) DoD Supplement, Appendix F, Part 3, F301, Preparation Instructions. Distribution of the DD Form 250 should be made in accordance with the DFAR DoD Supplement, Appendix F, Part 4, and any other specific information contained in the procurement contract.

4.5.2 Shipments originated by DoD activities . Distribution of the Form 1348-1A for FMS shipments is authorized by chapters 5 and 6 of DoD 4000.25-1-M.

4.6 Marking for specific commodities .

4.6.1 Household goods . Household goods should be marked for shipment and storage as described in DoD 4500.32-R and DoD 4500.34-R.

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5. DETAILED INFORMATION

5.1 Markings and marking materials .

5.1.1 Tags. Shipping tags such as those conforming to A-A-900 or UU-T-81 are recommended for use when it is impractical to stencil mark or apply a label on the container or unpacked item.

5.1.2 Envelopes. Water-resistant envelopes such as those conforming to A-A-1658, A-A-1659, or A-A-1660 are recommended for containing packing lists and other documents.

5.2 Special markings . The special markings discussed in this handbook are examples of the types of special marking and labeling that can be specified in a procurement document.

5.2.1 Shelf-life markings . Shelf-life items are managed and controlled in accordance with DoD 4140.27-M. Shelf-life markings are specified in contracts, purchase orders, purchase descriptions, specifications, material standards, and other procurement documents. There are two types of shelf-life items. Type I shelf-life items have a definite nonextendible period of shelf-life. They are assigned alpha shelf-life codes (SLCs) (excluding "X"). Type II shelf-life items have 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 in Table IV at the end of this section. Supply condition codes which may apply to shelf-life items are in Appendix B of DoD 4140.27-M and in Table V herein. Items that are assigned an SL of zero (non-deteriorative) do not require shelf-life markings. When MIL-STD-1168 lot numbering is used, the date manufactured, date cured, or date assembled is not required. For definitions of the assembled date, cured date, expiration date, inspect or test date, manufactured date, and packed date, see 3.46.1 through 3.46.6, respectively. Shelf-life markings should include the following information:

- a. For Type I shelf-life items: manufactured (MFD) date, cured date, assembled date, packed date (subsistence only)(apply one date, as appropriate), and expiration (EXP) date (see note). For items that contain rubber or synthetic elastomers, the expiration date should be calculated from the cured date of the rubber/elastomer. Marking should reflect the cured date and the expiration date.
- b. For Type II shelf-life items: manufactured date, cured date, assembled date, packed date (subsistence only) (apply

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one date, as appropriate), and inspect (INSP) or test date (see note). For items that contain rubber or synthetic elastomers, the inspect or test date should be calculated from the cured date of the rubber/elastomer. Marking should reflect the cured date and the inspect or test date.

EXAMPLE 1 (TYPE I)
MFD DATE 10/91
EXP DATE 10/93

EXAMPLE 2 (TYPE II)
ASSEMBLED DATE 10/92
INSP/TEST DATE 10/93

EXAMPLE 3 (TYPE II)
CURED DATE 4Q92
INSP/TEST DATE 4Q93

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

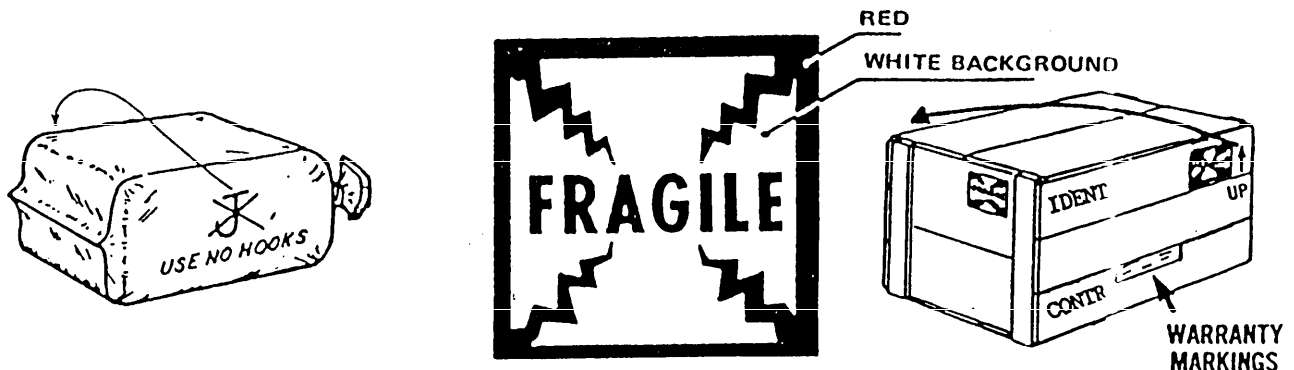


FIGURE 26. Examples of special markings (FRAGILE, UP, arrows, USE NO HOOKS, and warranty markings).

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5.2.2 Special handling, marking, and labeling (see figure 26) . Any special handling, marking, and labeling should be displayed on exterior containers.

5.2.2.1 FRAGILE/DELICATE markings (see figure 26) . Containers of fragile/delicate items should be marked with a fragile label (OFs 70A or 71A) or by stenciling or stamping the word "FRAGILE" or "DELICATE" on the container. When space permits, "FRAGILE" or "DELICATE" markings should be placed on the identification-marked side and one end of a rectangular container and on two equally spaced areas on the circumference of a cylindrical container.

5.2.2.2 Legend "USE NO HOOKS" (see figure 26) . The legend "USE NO HOOKS" in letters not less than 1 1/2 inches in height should 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 should be placed directly above the legend.

5.2.2.3 Arrows (see figure 26) . When containers are required to be stacked or the top surface should remain up, two sides of a rectangular container and two equidistant points on the circumference of a cylindrical container should be marked or labeled "UP," with an arrow pointing toward the top of the container.

5.2.2.4 Pictorial symbols for marking (see figure 27) . Containers should be marked with pictorial symbols to indicate special handling and storage needs, such as "TEMPERATURE LIMITS, DO NOT STACK, DO NOT DROP, DO NOT ROLL, CLAMP HERE, FRAGILE HANDLE WITH CARE, KEEP AWAY FROM HEAT and KEEP AWAY FROM COLD." They may appear on a label or be printed directly on the package. Affirmative symbols need not be framed by border lines, but all negative symbols, that is, "DO NOT ..." should have borders with a slash mark across. Additional pictorial marking symbols and their application are illustrated in ASTM D 5445.

5.2.3 Warranty markings (see figure 26) . Applicable warranty markings should be placed on containers of serviceable/unserviceable materiel shipped from field units. Warranty markings should indicate the time period or condition of the warranty (e.g., days/months, hours of operation, etc.). Warranty markings should be applied by labeling, tagging, or printing and should be prefaced by the words "WARRANTED ITEM." All warranty information, including "WARRANTED ITEM," should be in upper case letters of the same style font. The markings should be located

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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

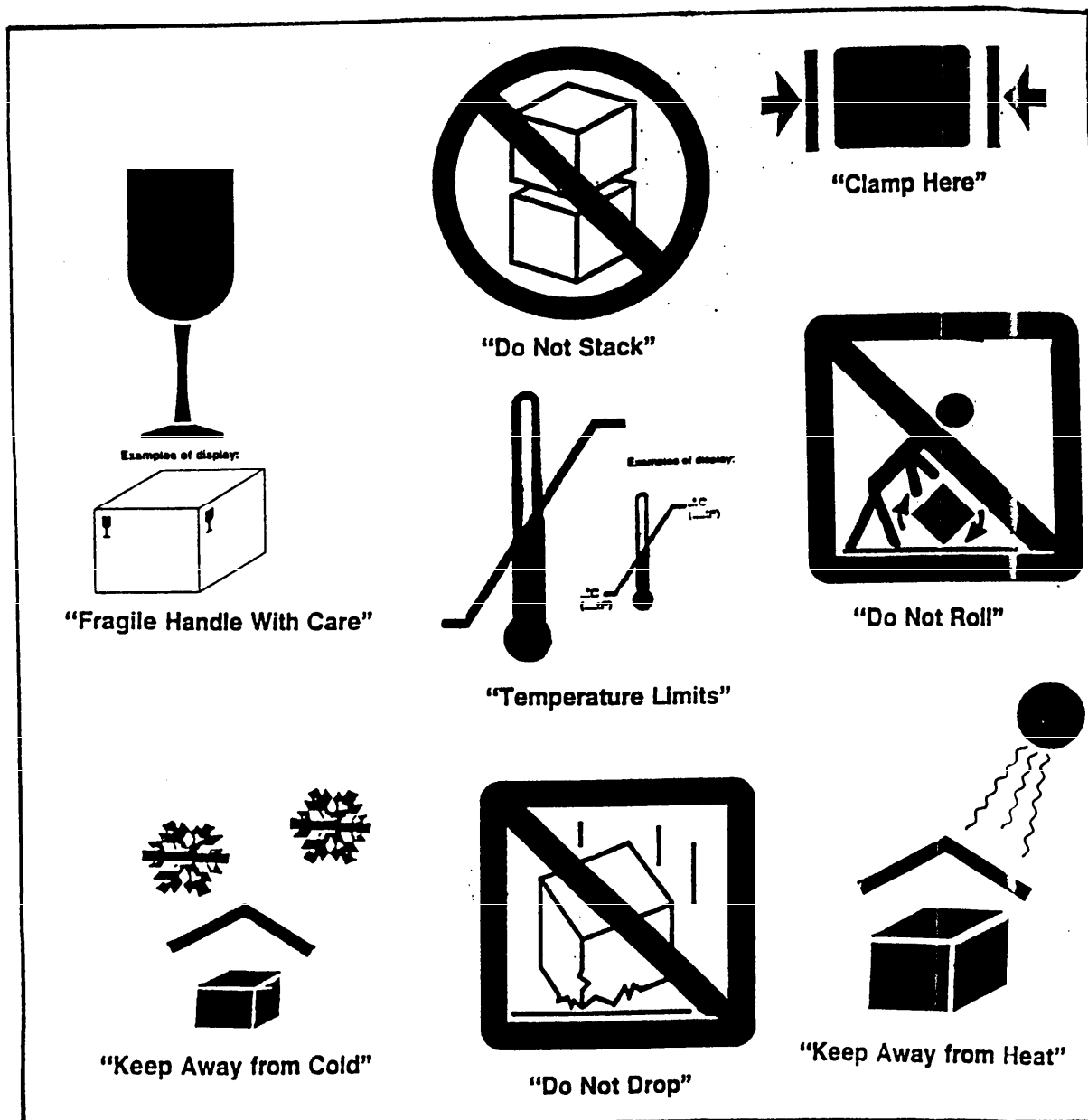


FIGURE 27. Examples of pictorial symbols.

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5.2.4 Center of balance and lifting and tiedown points . On vehicles that are painted white, yellow, or another light color, the sling or lift points markings should be black, and the words "LIFT HERE," with an arrow pointing to the lifting eyes, should be placed above or alongside the lifting eyes. When space does not permit, the size of the arrow and lettering may be reduced accordingly. CARC paint or ink should be used, when appropriate. The center of balance markings are not required on items such as MILVANS/SEAVANS which are not handled by forklifts. Demountable crates should be conspicuously marked with the words "REMOVE LAG BOLTS BEFORE OPENING."

5.2.5 Load bearing areas and lift points . When exterior shipping containers and their contents are subject to damage caused by bending and twisting from uneven container stresses or strains, load bearing areas and lift points should be marked on the exterior of the container. The words "LOAD BEARING AREA" should be marked on the opposite panels of the container directly over the load bearing area. The words "FORKLIFT AREA" should be placed directly over the forklift entry points of the skid and rubbing strip construction.

5.2.6 Axle weight markings . When axle weight markings are required, they should be marked above each axle by stenciling or printing in 1-inch letters the words "AXLE WT" followed by the weight in pounds. The size of the lettering may be reduced, when necessary. When marking directly on the equipment, paint should be soluble in paint thinner or mineral spirits. CARC paint or ink should be used when appropriate.

5.2.7 Magnetized materials not suitable for shipment via military aircraft . Containers of magnetized materials determined to be not suitable for shipment by military aircraft, in conformance with MIL-S-4473, should be marked on two opposite sides with the required caution information. The marking should have white lettering on a black background. Direct stenciling of the marking on a container is also authorized. Additional labels or markings may be applied, as required. When available marking space on the container surface is limited, the size of the label or marking may be reduced. Marking requirements for magnetized materials suitable for shipment via military aircraft are contained in MIL-STD-129.

5.3 Packing list (see figure 28) . When specified in the procurement contract or when requested by the procuring activity, contractors should place a packing list inside each container on

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activity, a packing list should be applied as specified in MIL-STD-129. A separate "kits contents list" should be prepared and placed inside each "kit container." The kits contents list may be placed on a DD Form 250 or on a locally prepared list. This list will not be included as part of the exterior shipping container packing list. The use of packing list protectors such as those conforming to A-A-1907 are recommended.

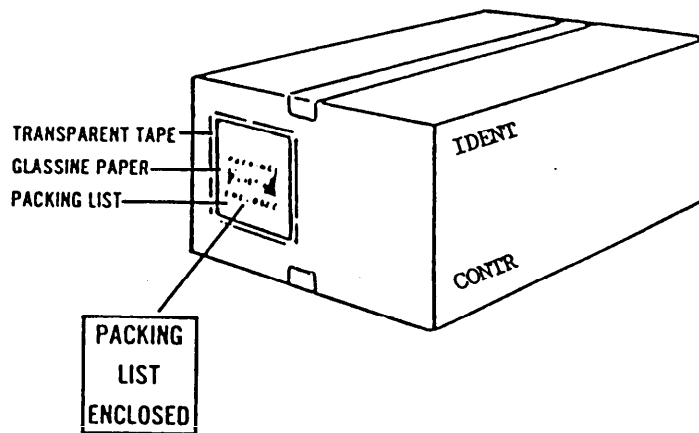


FIGURE 28. Packing list application.

5.4 Bar coded data information (see figure 29). The following bar code data, with human-readable interpretation (HRI), apply to those DoD sites that have already implemented Logistics Application of Automated Marking and Reading Symbols applications utilizing the DD Form 1348-1A.

- a. Bar coded data, with HRI requirements, for issue to services/agencies.
 - (1) Document number should be bar coded in box 24.
 - (2) NSN should be bar coded in box 25.
 - (3) Routing Identifier Code (RIC), Unit of Issue (UI), Quantity (QTY), Supply Condition Code (CON CODE), Distribution Code (DIST), and Unit Price (UP) should be bar coded in box 26. The 20 data characters should be continuous with no dashes or spaces.
- b. Bar coded data, with HRI requirements, for issue to FMS/Grant Aid customers.

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- (1) Document number should be bar coded in box 24.
- (2) NSN should be bar coded in box 25.
- (3) Unit of Issue (UI), Quantity (QTY), Supply Condition Code (CON CODE), Unit Price (UP), and first position and last 3 positions of supplementary address should be bar coded in box 26. The 19 data characters should be continuous with no dashes or spaces.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100										1 TOTAL PRICE DOLLARS CTS 312.00										2 SHIP FROM RED RIVER ARMY DEPOT TEXARKANA TX 75501 W33MNA										3 SHIP TO W33MNA																																																																															
A5ABR4M EA										00001										W80H2BA82										07E										AKZAA										0031200										312.00										W33MNA																																							
24 DOCUMENT NUMBER W33MNA73626067										25 NSN 2530006930617										26 UNIT OF ISSUE BR4EF00001A										27 QUANTITY 0031200										28 DT REC: 88027 STD: 88029 SUSD: 88029 PA: P93 PL: A01 COML PKG D6. REQ SELECT CODE A ARMY STOCK EXP										29 WHSE LOC EXP 71122140A										30 STOCK FUND										31 ANMCS										32 SPW										33 EXT WT: 50.00 EXT CU: 3.331										34 88VP81 001 LINE 001 OF 001 CK DIGIT: T									
29 RECEIVED BY										23 DATE RECEIVED										28 ISSUED BY AND DATE										29 SHIPPED BY AND DATE										16 FREIGHT CLASSIFICATION NOMENCLATURE AUTO PARTS NOT I/S										17 ITEM NOMENCLATURE STEERING G										18 TY CONT 19 NO CONT 20 TOTAL WEIGHT 21 TOTAL CUBE										10 QTY REC 11 UP 12 UNIT WEIGHT 13 UNIT CUBE 14 CUB										5 DOC DATE 6 NMFC 7 FRT RATE 8 TYPE LTR U										88027 019160 LTL R/V 581 ZR U																			

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

27

TP 2

FORM APPROVED OMB NO 0704-0188

FIGURE 29. Sample of bar coded Issue Release/Receipt Document.

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5.4.1 Bar code symbology . The bar code symbology should be in accordance with AIM BCl, with the following exceptions:

- a. The height of the bar code should be at least 0.25 inch, regardless of the density (characters per inch).
- b. The length of the bar code should not be greater than 4.0 inches for boxes 24 and 25. Each field should 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 should be used as fillers following the given data.
- c. The length of the bar code in box 26 should not be greater than 4.5 inches. Encoded spaces should be used as fillers for any unknown, or unencoded, data characters.

5.5 Hazardous materials (HAZMAT) .

5.5.1 HAZMAT marking and labeling . HAZMAT should be marked and labeled depending upon the mode of transportation in accordance with Title 49 CFR, ICAO Technical Instructions for the Safe Transportation of Dangerous Goods by Air, IATA Dangerous Goods Regulations, the IMO IMDG Code for water shipments, and AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19/DLAM 4145.3 for military air shipments, as applicable.

5.5.2 Proper shipping name and identification number . PSNs and identification numbers are listed in Title 49 CFR, 172.101, latest revision, and in AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19/DLAM 4145.3, chapter 4. NA numbers are not authorized for international shipments. The applicable international modal document should be used to determine the UN PSN and identification number for international shipments.

5.5.3 Marking and labeling of air and water shipments . When known, the tested kilopascals (kPa) may be marked below the "Air Eligible" wording. A kPa is the international unit of measure for internal pressure. The formula for converting to kilopascals is "psi X 6.89 = kPa." The words "AIR ELIGIBLE" are not required for single containers of HAZMAT because the kPa is already a part of the UN certification code.

5.5.4 Overpack/multipack containers . When the authorized packaging configuration has successfully passed the UN-recommended performance tests and the packaging is marked with the applicable UN packaging certification markings, and when military requirements specify overpacking of the packaging configuration in an outer container (placing a fiberboard box in a wood box), then the testing and subsequent marking of the outer

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container is unnecessary. In addition to the required markings, conformance with UN recommendations should be shown by marking the outer container with the words: "INNER PACKAGES COMPLY WITH PRESCRIBED SPECIFICATIONS." This marking, however, is not sufficient for combination packages consisting of overpacked inner packagings which contain liquids and are transported by aircraft. For all air shipments containing HAZMAT liquids, the outer container should be marked with the words "AIR ELIGIBLE" to indicate that either the inner receptacles or the outer container meet the internal pressure requirements for air eligibility. Multipack containers comprised of performance-tested packagings should also be marked with this information to certify conformance with UN recommendations. When two or more packages of compatible HAZMAT are placed within the same outside container or overpack, the outside container or overpack should be labeled as required for each class of HAZMAT contained therein.

5.5.5 Documentation for HAZMAT . The shipper is responsible for the completion of a prescribed declaration form for each and every military air shipment containing dangerous goods. See the Joint Service Regulation AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19/DLAM 4145.3 for instructions on how to properly complete the form.

5.5.6 Flash point marking . The flash point should be preceded by the words "FLASH POINT" and should be followed by the letter "F" or "C," as appropriate. The flash point marking may be shown in degrees F, C, or both and should be applied in a conspicuous location on the identification-marked side of the container. If space is not available on the identification-marked side, the required HAZMAT markings, labeling, and the flash point marking may be placed on the opposite side. The size of the lettering should be proportionate to the available marking space. The flash point should be determined by using the testing methods prescribed in Title 49 CFR.

5.5.7 Kits containing HAZMAT . When one or more components in a kit are classified as a HAZMAT, the container should be marked and labeled as specified in 5.5.2. The UN packaging specification markings are not required when the individual kits meet the requirements of Title 49 CFR, 173.4, and the applicable modal requirements.

5.5.8 Radioactive material marking and labeling . The applicable radioactive HAZMAT classification warning labels should be applied on the two opposite sides of the shipping container for domestic and international shipments. The applied

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radioactive label should have the following information entered in the blank spaces on the label in accordance with Title 49 CFR:

- a. Contents. The name of the radionuclides.
- b. Number of becquerels, expressed in appropriate becquerel units.
- c. Transport index. A 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 requiring radioactive II or III labels only.

5.5.8.1 Transportation of radioactive materials . Shipping containers of radioactive material should be marked and labeled as specified in Title 49 CFR for domestic shipments, applicable international documents such as the ICAO or IMO for international shipments, or the AFJMAN 24-204/TM 38-250/NAVSUP PUB 505/MCO P4030.19/DLAM 4145.3 for military air shipments.

5.5.8.2 Nuclear Regulatory Commission (NRC) interior/storage container label . The NRC labels should be applied to the identification-marked side of the unit pack or intermediate container and should bear the radiation caution symbol and the words "CAUTION: RADIOACTIVE MATERIAL" or the words "DANGER: RADIOACTIVE MATERIAL," as appropriate. They should also include relevant information such as radiation levels, kinds of material, estimate of activity, estimated activity date, and mass enrichment. The label size should be at least 2 by 2 inches but may be larger to accommodate larger packages.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful)

6.1 Intended use . This handbook is intended for use when guidance is required for the application of military markings. The markings shown herein may be applied either by vendors or by Government activities.

6.2 Subject term (key word) listing .

Address
Bags
Boxes
Crates
Drums

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Exterior container
Federal Supply Class
Identification
Intermediate container
Labels
National Stock Number
Marking
MILVAN
Sacks
SEAVAN
Shipping
Tags

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TABLE III. Supply-type Labels

<u>Optional Form</u>	<u>Title</u>	<u>Size (in inches)</u>	<u>NSN</u>
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 50 Package	2 1/2 by 1	7540-00-139-4738
74	Method 50 Package	6 by 2 1/2	7540-00-139-4752
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
87	Attention- Electrostatic Sensitive Devices	2 by 2	7540-01-109-8815
87A	Attention- Electrostatic Sensitive Devices	4 by 4	7540-01-110-4906
88	Attention-Static Sensitive Devices	2 by 5/8	7540-01-317-7371

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TABLE IV. Shelf-life codes

NOTE: Tables IV and V are for information only and should 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
72 Months	I		61
84 Months	T		71
96 Months	U		82
108 Months	V		92
120 Months	W		102
144 Months	Y		122
240 Months	Z		204
Medical items, Parachutes and Chemical Protective Clothing with a shelf-life period greater than 60 months.		X	85% of number of months or quarters

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

<u>CODE</u>	<u>TITLE</u>	<u>DEFINITION</u>
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 involving limited expense or effort to restore to a serviceable condition and which is accomplished in the Storage Activity (SA) where the stock is located.
F	Unserviceable	Economically reparable materiel which requires repair, overhaul, or reconditioning, including reparable items which are radioactively contaminated.
G	UNSERVICEABLE (INCOMPLETE)	Materiel requiring additional parts or 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.

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

<u>CODE</u>	<u>TITLE</u>	<u>DEFINITION</u>
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 should be determined prior to induction into maintenance activities for repair/modification.

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CONCLUDING MATERIAL

Custodians:

Army - SM
Navy - SA
Air Force - 69
DLA - DH

Preparing activity:

Army - SM

(Project PACK-1055)

Review activities:

Army - AL, AM, AR, AT, AV, CR3, EA, GL3, CR4, MI, MR, MT, TM2
Navy - AS, CG, EC, MC, MS, OS, SH, TD, YD1
Air Force - 11, 13, 16, 70, 71, 80, 82, 84, 99
DLA - CS, CT, DM, GS, IS, PS, SS

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