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Military Marking for Shipment and Storage

Presented By:

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MIL-STD 129P

With Change # 3

Dated 29 October 2004

2
7/21/2006

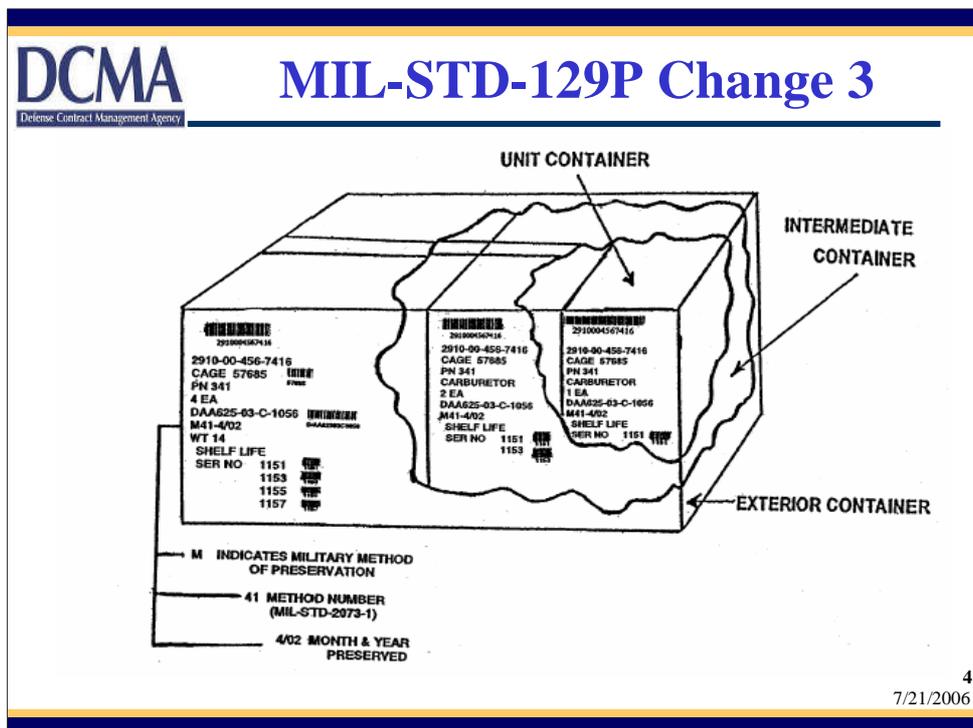
MIL-STD-129 Revision P is dated 15 Dec 2002 and the change notice # 3 is dated 29 Oct 2004 .

The purpose of MIL-STD-129 is to provide the minimum requirements for uniform military marking for shipment and storage. It is one of the most often referenced standards in DoD contracts.

- **Added acronyms, definitions and references to support RFID requirements**
- **Added requirements for the placement of RFID tags to unit packs, shipping containers and palletized loads when applicable**
- **Defined passive RFID tag performance requirements**
- **Advanced Shipment Notice via electronic data interchange to link RFID tags to content level detail information**

Radio Frequency Identification (RFID) is the reason for change 3 to MIL-STD-129P.

RFID requirements have been added throughout the standard to implement the DoD RFID Passive tag policy.



Page 20, paragraph 4.1, Identification markings.

Figure #1 from MIL-STD-129P Change #3 displays the general identification marking requirements for unit, intermediate and exterior containers – including the applicable bar coded data.

At first glance, this seems like an awful lot of marking but this marking format is necessary to ensure items arrive when and where they are needed and can be properly identified when they arrive. The DOD logistics pipeline is a huge enterprise and any deviations from the standard format increases the risk of material being misrouted or misplaced. Markings assist our depot personnel sort shipments and pull stock to fill requisitions.

Additional markings that are described in the standard are address marking requirements, special marking, exterior container documentation, hazardous materials marking and marking of ammunition and explosives.

- **Marking is the application of numbers, letters, labels, tags, symbols or colors to provide identification and to expedite handling during shipment and storage**
- **Before we take a look at the details of the package markings, let's take a look at some of the important elements of data that come together on a package**

- **The National Stock Number or NSN, in its most basic form, consists of 13 digits, divided into two parts:**
 - **Federal Supply Class (FSC)**– The first four digits of the NSN identify the type of item (e.g. 2610 – tires & tubes, 8115 – boxes, cartons and crates)
 - **National Item Identification Number (NIIN)** – The last nine digits of the NSN are the NIIN, the first two digits identify the country assigning the NSN (“00” & “01” – US) the remaining seven digits are uniquely assigned

6625-01-248-9073

- **Commercial and Government Entity (CAGE) Code is a five digit alpha-numeric code applicable to all activities that have produced or are producing items used by the Federal Government. The first and fifth positions are numeric.**
- **The Defense Logistics Information Service (DLIS), Battle Creek, MI is the authorized source of CAGE Codes**

Page 12, paragraph 3.4. CAGE codes are also assigned to Government activities which control design or are responsible for development of certain specifications, drawings or standards.

- **A Part Number is an identification assigned by the original design activity for the purpose of uniquely identifying a specific item. A part number is usually the same as, or based on, the controlling drawing number.**

Page 21, paragraph 4.1.1.c If a part number is shown in a contract, then only that part number shall be shown. The part number specified in the contract may be the part number assigned by the government procuring activity, it may be the part number of the actual manufacturer or it may be the part number assigned to the item by the company awarded the contract.

- o **Unit of Issue (UI) – A standard or basic quantity that is expressed as a unit and indicated in the contract**
 - **Definitive Unit of Issue – indicates exact quantity of volume, measurement, weight or count**
 - EA = Each
 - AY = Assembly
 - PR = Pair
 - DZ = Dozen
 - **Nondefinitive Unit of Issue – does not indicate an exact quantity and therefore must be accompanied by a quantitative expression**
 - PG = Package (10 EA)
 - RO = Roll (50 FT)
 - BX = Box (6 PR)

Page 19 has the above definitions.

Page 7 has a list of Unit of Issue abbreviations.

One area of confusion is when the “Unit of Issue” for an item is other than EA = each. The Quantity per QUP can be “001” but with a unit of issue such as PR = pair, DZ = dozen, HD = hundred the quantity of items in the unit pack is certainly not one.

There are also non definitive unit of issue codes such a PG = package, BX = box, RO = roll which require a numeric description to further define the actual quantity per package, box or roll.

- o **Contract Number or Purchase Order Number – The acquisition instrument identification number appearing on the acquisition document**
- o **The standard format is as follows:**
 - The **first six digits** identify the office issuing the contract (DODAAC)
 - The **seventh and eighth** digits are the last two digits of the fiscal year
 - The **ninth digit** indicates the type of contract
 - The **tenth through thirteenth** digits are a serial number

SP0450-04-M-2187

Page 13, paragraph 3.9

NOTE: An additional four digits are added for delivery orders under indefinite delivery contracts, orders under basic ordering agreements, and calls under blanket purchase agreements.

- **Varying degrees of environmental protection are defined MIL-STD-2073-1.**
- **The appropriate Military Preservation Method is applied to protect the item, based upon the items susceptibility to damage or deterioration during shipment, handling, indeterminate storage and distribution.**
- **The preservation method codes represent the basic preservation methods (10, 20, 31, 52, etc) and the specialized methods as well (AE, DW, GX, etc)**

Page 22, paragraph 4.1.1.g.

Use an “M” to indicate military preservation and then the two digit code from MIL-STD-2073-1, table J.I (basic preservation method) or table J.I.a. (specialized preservation method) as applicable.

If a military preservation doesn't apply (commercial packaging) only the pack date will be shown.

- **Now that we have a handle on the data elements that comprise the general package markings, let's take a look at the machine readable language that has become an indispensable link in the logistics pipeline – Bar Codes**
- **Today there are two general families of bar codes in use – both commercially and in the Military system**
 - **Linear**
 - **Two Dimensional – 2D**

- o **Code 39 or 3 of 9 – Originally adopted by DOD in 1982**

- **ISO/IEC16388**



- o **Universal Product Code – UPC – U.S. retail industry standard since 1973**



The DOD adopted the code 39 or 3 of 9 format in the early 1980's as the standard for marking packages. Originally the 3 of 9 bar code format was defined in MIL-STD-1189 which was replaced by AIM BC-1 and now the ISO/IEC 16388 is used. The format was selected over the UPC code since code 39 is able to encode alphabetical as well as numeric data.

The linear bar code has a limited capacity of about 35 characters maximum amount of data that can be stored in one symbol.

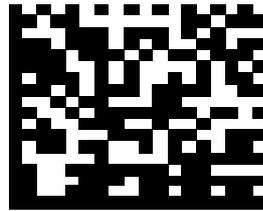
- o **PDF417 – Military Shipment Label & Ammunition markings**

- ISO/IEC 15438



- o **Data Matrix – MIL-STD-130 UID markings**

- ISO/IEC 16022



The primary difference in the 2D and the linear bar codes is in the amount of data that one bar code symbol can store. A 2D bar code can store over 1,000 characters per label. The 2D bar codes are being seen more and more every day. The UPS shipping label has a 2D bar code that is used for automatic sorting of the parcels. The format that UPS uses is called Maxicode and it has a very recognizable series of circles in the center as a “target” for the scanner. Many states include a PDF417 bar code on drivers licenses.

- o **We have looked at the basic marking elements and have also reviewed some of the bar code marking formats, the next step is to take a detailed look at the marking requirements for the following package configurations:**
 - **Unit/Intermediate Containers**
 - **Unit pack** – First tie wrap or container applied to a single item or a quantity thereof, or a group of items of a single stock number
 - **Intermediate Container** – A wrap, box or bundle containing two or more unit packs of identical items
 - **Exterior Containers**
 - **Exterior Container** – A container, bundle or assembly that is sufficient by reason of material, design and construction to protect unit packs and intermediate containers and their contents during shipment and storage

Definitions from MIL-STD-129P – Page 19 paragraph 3.48 - Unit Pack,
Page 14, paragraph 3.17 – Intermediate container, Page 14, paragraph 3.12 –
Exterior container.

- **Bar-coded NSN with HRI**
- **National Stock Number (NSN)**
- **CAGE Code**
- **Part Number (PN)**
- **Item Description or Nomenclature**
- **Quantity and Unit of Issue**
- **Contract Number and Lot Number**
- **Military Method & Date of Unit Preservation (M41-12/03)**
- **Serial Number (when assigned) Bar coded and in the clear**

Page 21, paragraph 4.1.1, Identification markings on unit packs & intermediate containers.

HRI is Human Readable Interpretation. The bar coded NSN should not have spaces, dashes, etc.

NSN should include spaces, dashes, prefixes and suffixes as shown in contract.

Notice the CAGE code of the company awarded the contract and the part number are now on separate lines.

Contract number should include the delivery order or call number if there is one.

M41-12/03: M indicated the pack is a Military Preservation method, 41 is the method number, and 12/03 indicates the month and year preservation was applied.

The serial number is required to be shown prefixed by "SER NO" and must also be bar coded

o Unit Packs and Intermediate Containers

- **NSN – Only the basic 13 digits - not dashes, spaces, prefixes or suffixes**
- **Serial Number(s) when assigned**
- **Standard linear bar code density range should be from 3.0 to 9.4 characters per inch (CPI)**
- **When the unit pack is used as the exterior container, only the exterior container bar codes shall be applied**

Pages 46-51, paragraphs 4.4, 4.4.1.1, 4.4.1.3, 4.4.1.9 and 4.4.2

Identification bar code markings are required unless specifically exempted in the contract. The symbology is a linear bar code, code 39 or 3 of 9 in accordance with ISO/IEC 16388.

Placement of markings

- Located to allow for easy reading
- Insure markings will not be destroyed if container is opened for inspection
- Mark on outer wrap, bag, or container of the unit pack
- If a bag is used in another unit container, both the bag and the unit container must be marked.

Page 33, paragraph 4.3.1, and Figure #1 on page 20 of MIL-STD-129P Change 3.

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Unit/Intermediate Containers

1 - IDENTIFICATION MARKINGS

NATIONAL STOCK NUMBER
 CAGE CODE
 PART NUMBER
 ITEM DESCRIPTION
 QUANTITY AND UNIT OF ISSUE
 CONTRACT NUMBER & LOT NUMBER
 MILITARY METHOD &
 DATE OF UNIT PRESERVATION
 SERIAL NUMBER (WHEN ASSIGNED)

#2 - BAR CODES

NATIONAL STOCK NUMBER (NSN)
 SERIAL NUMBER (WHEN ASSIGNED)

6625012489073

6625-01-248-9073
 CAGE 19207
 PN 622-7345-002
 TEST SET ELECT
 1 EA
 F09603-04-M-0860
 M10 - 3/04
 SER NO 6312

19
7/21/2006

Page 21, paragraph 4.1.1, Identification markings on unit packs & intermediate containers.

HRI is Human Readable Interpretation. The bar coded NSN should not have spaces, dashes, etc.

NSN should include spaces, dashes, prefixes and suffixes as shown in contract.

Notice the CAGE code of the company awarded the contract and the part number are now on separate lines.

Contract number should include the delivery order or call number if there is one.

M10-3/04: M indicated the pack is a Military Preservation method, 10 is the method number, and 3/04 indicates the month and year preservation was applied.

The serial number is required to be shown prefixed by "SER NO" and must also be bar coded

- **National Stock Number (NSN)**
- **CAGE Code**
- **Part Number (PN)**
- **Quantity and Unit of Issue**
- **Contract Number and Lot Number**
- **Military Method & Date of Unit Preservation**
- **Gross Weight**
- **Serial Number(s), when assigned**
- **Bar-coded NSN, Contract Number, CAGE Code and Serial Number(s)**

Page 22, paragraph 4.1.2, Identification marking on exterior containers.

Gross weight should be expressed in pounds, rounded up to the nearest pound. Capital letters **“WT”** should precede the gross weight.

Serial Numbers should be preceded by **“SER NO”**. If more than five bar codes are required, two serial number lists shall be provided. The first list shall be placed inside the container and shall contain an identification bar code for each serialized item. The second list shall be included with the packing list and bar coding is optional. The words **“SERIAL NUMBER LIST INSIDE”** shall be marked on the identification marked side of the container.

The bar-code label with the NSN CAGE code and contract number should be placed adjacent to or below the other exterior identification markings.

Required Clothing & Textile Marking include shipment number & container number.

o **Exterior Containers**

- **NSN – Only the basic 13 digits**
- **Contract Number- Including the order number if applicable - not dashes**
- **CAGE Code**
- **Serial Numbers - when assigned**
 - **If more than five bar codes are required, two serial number lists shall be provided**
 - **One inside the container with the serial number bar codes**
 - **One with the packing list – bar codes optional**

Pages 46-54, paragraphs 4.4, 4.4.1.2, 4.4.1.3, 4.4.1.10, 4.4.3.1 and 4.4.3.3.

Identification bar code markings are required unless specifically exempted in the contract. The symbology is a linear bar code, code 39 or 3 of 9 in accordance with ISO/IEC 16388.

The standard bar code density range should be from 3.0 to 9.4 characters per inch (CPI).

When bar code labels are used on exterior shipping containers, a waterproof, untinted/transparent, plastic, protective laminate such as ASTM D 5486, type I, class 2 tape – or equivalent protection – shall be applied to or shall be inherent to the label.

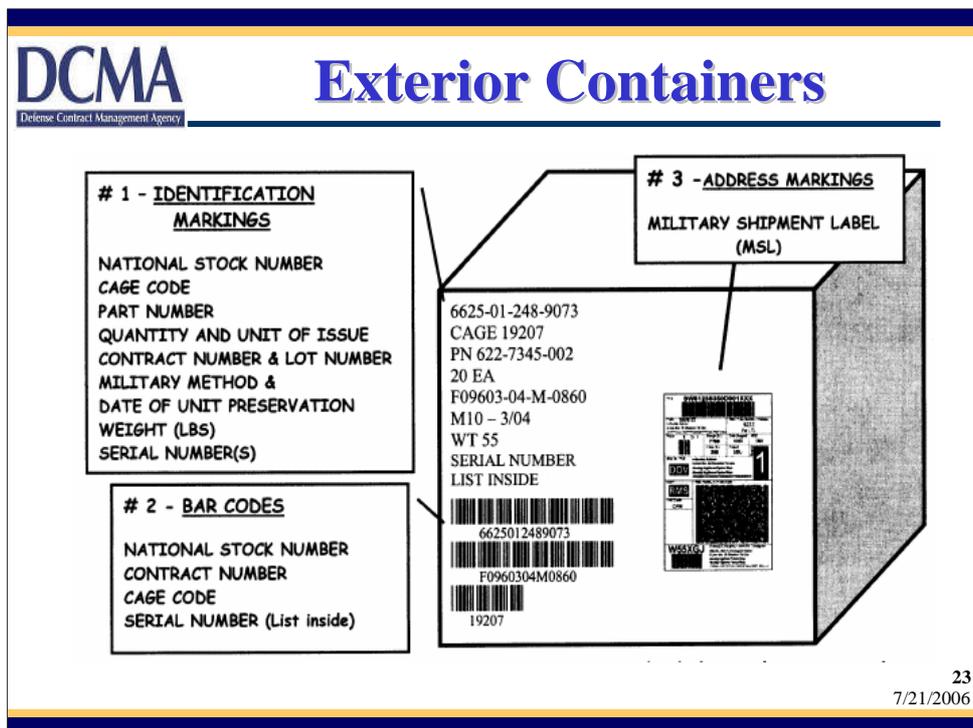
Placement of markings

- **Apply to the upper left two-thirds of the largest side of the container**
- **Capital letters of equal height largest size practical for the package and not less than 3/32 of an inch high**
- **Containers over 10 cubic ft. shall be marked and bar coded on two adjacent sides**
- **All additional markings should be placed on the identification side**

Page 34, paragraph 4.3.2, page 36 paragraph 4.3.2.1 and page 67, paragraph 5.1.9

The bar-code label with the NSN, CAGE CODE, contract number and serial numbers should be placed adjacent to or below the other exterior identification markings.

Exterior Containers



Page 22, paragraph 4.1.2, Identification marking on exterior containers.

Gross weight should be expressed in pounds, rounded up to the nearest pound. Capital letters **“WT”** should precede the gross weight.

Serial Numbers should be preceded by **“SER NO”**. If more than five bar codes are required, two serial number lists shall be provided. The first list shall be placed inside the container and shall contain an identification bar code for each serialized item. The second list shall be included with the packing list and bar coding is optional. The words **“SERIAL NUMBER LIST INSIDE”** shall be marked on the identification marked side of the container.

The bar-code label with the NSN CAGE code and contract number should be placed adjacent to or below the other exterior identification markings.

Required Clothing & Textile Marking include shipment number & container number.

- **Markings must be clear, legible, durable, and non-fading**
- **Machine printing preferred, but hand-printing permitted, except for ammo**
- **Pressure-sensitive labels may be used for all containers. Wood containers must be prepared to ensure adhesion**
- **Lettering shall be capital letters, equal height, proportionate to available space**
- **Exterior labels must be waterproofed**

Page 67, paragraphs 5.1.7, 5.1.9 and 5.1.2.2 on page 66.

- **No longer DD Form 1387**
- **Required for all shipments unless otherwise specified in the contract**
- **Format is in accordance with ANSI MH 10.8.1**
- **Linear bar code is code 39**
 - **ISO/IEC 16388**
- **2-D bar code is PDF417**
 - **ISO/IEC 15438**

The Defense Transportation Regulation, DOD 4500.9-R, contains detailed address requirements for various movements in the Defense Transportation System.

- o **Linear bar coded data elements**

- **Transportation Control Number (TCN)**
- **Piece Number**
- **Ultimate Consignee DODAAC**

- o **Data identifiers are not included**

Paragraph 4.2.2.b. page 25.

- o **MSL Linear bar code format**

- Code 3 of 9 or 39 - ISO/IEC 16388
- Data limited to about 30 characters



123ABC\$

This is the same format of linear bar code that has been used by the DOD for package markings for over twenty years.

o 2-D bar coded data elements

- **Shipment Data**
 - Information included in the clear on the MSL

- **TCMD**
 - Applicable to shipments that move through the DTS

- **Line Item Supply Data**
 - Requisition , NSN, RIC, Unit of Issue, Quantity, Condition Code and Unit Price

- **Data Identifiers must be included**

Paragraph 4.2.2.c., page 25 and as detailed in Table IV, pages 111 – 139. Actual data that is available to be included in the 2-D bar code will vary depending upon the circumstances of the shipment. For example a shipment from a contractor to a storage depot of a single line item (NSN) will only have the shipment data; from, to, pieces, weight, cube and the item information; Document Number, NSN, RIC, Unit of Issue, Quantity, Unit of Issue, RIC, Condition Code and Unit Price.

- o **MSL 2-D bar code format**

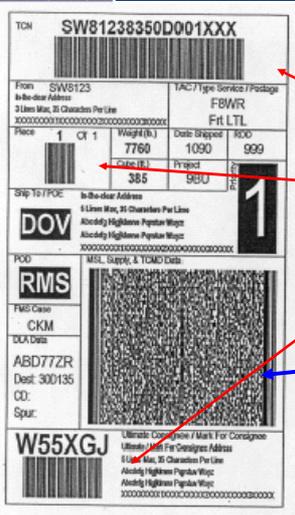
- PDF417 - ISO/IEC 15438
- Can contain up to 1,000 characters within the symbol



The PDF417 symbol specifics are listed in Table IV, with detailed printing instructions on page 111.

As stated, the 2-D symbol opens up the opportunity to convey a fairly large amount of data. It has seen limited use in real world applications but it has been used to capture information on Driver's Licenses.

It is also one of the technologies employed on the Common Access Card (CAC).



Requires Bar Coding

- Code 39 (Linear)
 - TCN
 - Piece Number
 - Ultimate Consignee DODAAC
- PDF417 (2D)
 - Shipment
 - Line Item
 - TCMD Data

Page 24, paragraph 4.2. Address markings

A MSL is required for the all shipments unless otherwise specified in the contract.

The code 39 linear bar code format is the same as that used in the identification bar coded data (i.e. NSN, Contract Number, CAGE).

- **CATT Asset-Trak**
- **Distribution Planning and Management System (DPMS) DLA Contractors**
 - <http://www.ddc.dla.mil/DPMS/>
- **Various commercial sources**
 - **EasySoft**
 - <http://www.easysoftcorp.com/>
 - **Mil Pac**
 - <http://www.milpac.com/index.html>
- **Many of the Military Packaging Contractors provide bar code labels including the MSL**

The DLA Packaging Web site is supposed to list sources as they become available. The DLA Packaging web site is listed at the close of this presentation.

- **Some definitions specific to RFID implementation**
 - **463L Pallet System** – Aircraft pallets, nets, tie down and coupling devices designed to interface with aircraft cargo restraint systems. (Intended to differentiate between a standard palletized load and the 463L)
 - **Case** – It is either an exterior container within a palletized unit load or it is an individual shipping container
 - **Content Level Detail** – Data elements that describe the asset or item being shipped and the associated shipment configuration
 - **Electronic Product Code – EPC** – An identification scheme for universally identifying physical objects via radio frequency
 - **RFID** – Automatic identification and data capture technology in which data transfer is achieved by means of radio waves
 - **UID** – Set of data for tangible assets that is globally unique and unambiguous

These are a synopsis of the actual definitions that are to be included in section 3 of MIL-STD-129 to support the RFID requirements.

- **RFID will be used in accordance with the Supplier Implementation Plan at: <http://www.dodrfid.org>**
- **Passive RFID tags will comply with EPCglobal Class 0 and Class 1 specifications**
- **Initially, for shipments to DD Susquehanna & DD San Joaquin, tags will be applied to case shipments and palletized unit loads.**
- **Eventually the requirements will expand to unit packs for UID marked items and shipments to all DoD locations**
- **Bulk commodities shall not be tagged**

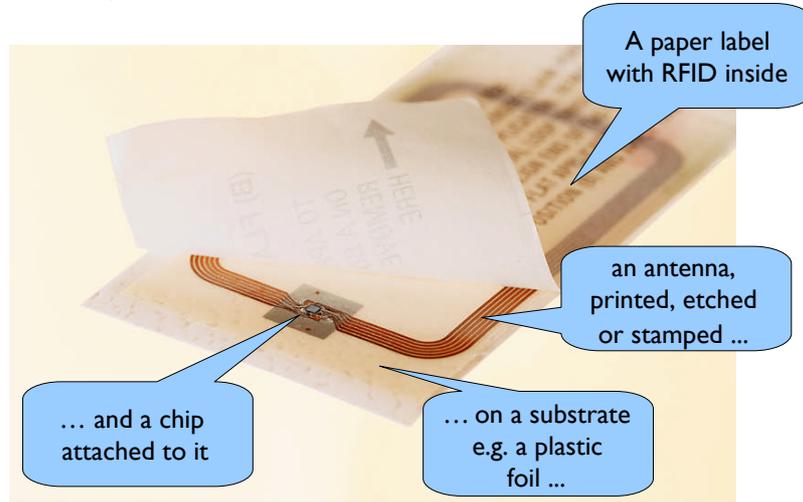
Page 63, paragraph 4.9 - The DoD Supplier Implementation Plan calls for a phased in approach to incorporation of RFID technology into the DoD pipeline. The first phase requires shipments to DD Susquehanna and DD San Joaquin for Class I subclass – Packaged Operational Rations; Class II – Clothing, Individual Equipment and Tools; Class VI – Personal Demand Items and Class IX – Weapon System Repair Parts and Components to have passive RFID tags applied to shipping cases and pallet loads. The second phase expands the destinations involved to all of the defense depots and the service maintenance depots and includes the remaining classes except class X. Phase three includes unit packs of UID marked items and shipments to any DoD location.

- **Performance requirements**
 - Portal – read distance - 3.3 yards at 10 miles per hour
 - Conveyor – read distance - 1.1 yard at 600 feet per minute
- **RFID tag formats for data constructs are located in the DoD Suppliers, Information Guide**
- **Frequency range for passive RFID tags is 860 – 960 MHz**
- **Munitions and explosives shall not be tagged until certification requirements are met**

Page 63, paragraph 4.9.1.1 Passive RFID tag/interrogator readability requirements

Page 65, paragraph 4.9.3 – Munitions and explosives shall not be tagged until certification requirements are met for electromagnetic effects on the environment (E3), Hazards of Electromagnetic Radiation to Ordnance (HERO), Hazards of Electromagnetic Radiation to Fuel (HERF), and Hazards of Electromagnetic Radiation to Personnel (HERP).

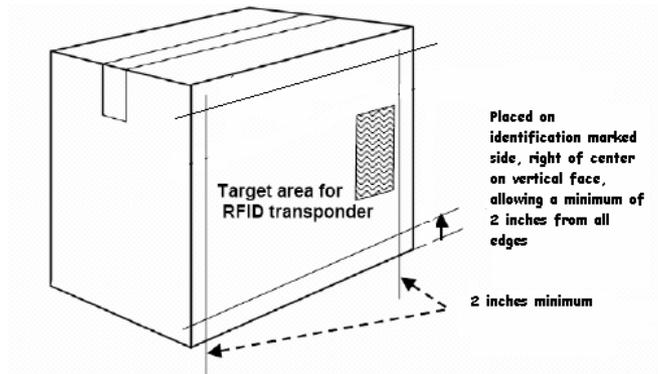
RFID Enabled Label



The MSL can be RFID-enabled or the RFID tags can be applied separately.

RFID Tag Placement

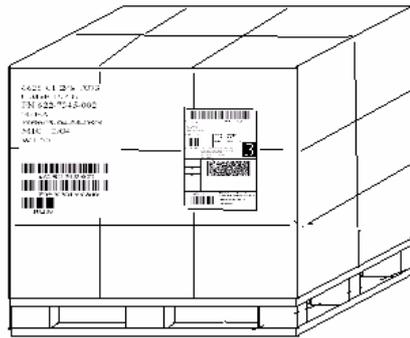
- **Passive RFID tags may be integrated into the MSL**
- **Placement of RFID enabled address labels or separate RFID tags**



Page 34, Paragraph 4.3.2.b - Address labels should be affixed at a suitable location where there is minimum risk of damage. Address markings shall be placed on the identification-marked side of exterior shipping containers. If the container is too small to accommodate the address markings on the identification-marked side the address label shall be placed on the opposite side.

Pallet Load Markings

- **Identification markings may be applied directly to smooth containers or to marking boards securely attached to two adjacent sides**



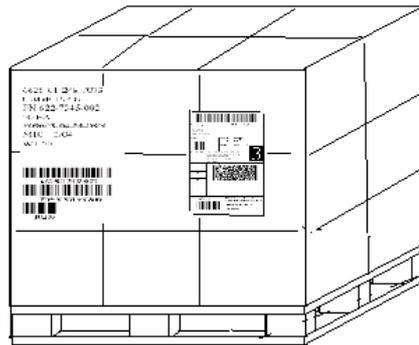
Unit loads of boxed items should have one or more boxes turned to present a blank surface for marking. Markings should extend from one container to another.

If over ten cubic feet, additional identification markings shall be placed on adjacent end

Size of the lettering shall not be less than 3/4 of an inch in height

Page 40, paragraph 4.3.2.7 describes the requirements for marking of palletized loads. Exterior container identification markings shall be placed on a marking board or panel, by using a label or by direct stenciling. Pallet loads with smooth flat surfaces may have identification markings stenciled directly on two surfaces, with markings extending from one container to another. The size of lettering shall be proportionate to the overall size of the unitized load but shall not be less than $\frac{3}{4}$ of an inch in height.

- **RFID tags should be affixed at a suitable location where there is minimum risk of damage, easy access to the bar code symbols and the highest potential for successful RFID tag interrogation**



The RFID-enabled label for a palletized unit load should not be attached to an exterior container if the cargo within the exterior container will not be removed for receipt processing and storage

The RFID label should not be placed in a manner that overlaps any other existing RF transponder. There should be at least a 4 inch separation.

Page 41, paragraph 4.3.2.7.d. describes the placement of the address label on palletized loads.

- **Advanced Shipment Notice (ASNs) transactions in the form of EDI, web-based or user defined format via Wide Area Workflow (WAWF).**
- **Information that describes the contents and configuration of a shipment including:**
 - **Contract information**
 - Contract Number
 - Shipment Number
 - Prime Contractor
 - Shipment Date
 - **Product description**
 - Line Item Number
 - National Stock Number
 - Item Description
 - Quantity
 - **RFID Tag Data**
 - RFID Tag Number
 - Line Item Number
 - Quantity

Page 65, paragraph 4.9.4 – Electronic data interchange (EDI) transactions are used to link the passive RFID tag to the content level detail information associated with each of the container types. Consignors are requested to transmit these EDI transactions to consignees in advance of the shipment.

- o Shelf-life
- o Project Code
- o Fragile/ Delicate
- o Method 50
- o Expedited Handling
- o Electrostatic Discharge Sensitive (ESD)



Special markings are found in 5.2 beginning on page 68. They are examples of the special marking requirements that may be specified in a contract.

Shelf-life

- **Shown below identification data on unit, intermediate and exterior containers**

TYPE I (non-extendable):

MFD DATE 10/01
EXP DATE 10/06

TYPE II (extendable):

ASSEMBLED DATE 10/01
INSP/TEST DATE 10/04

RUBBER or ELASTOMER (TYPE II):

CURED DATE 4Q01
INSP/TEST DATE 4Q05

Page 68, paragraph 5.2.1.

Type I items have a non-extendable period of life and are usually disposed upon expiration.

Type II items have an extendable period of life, which may be extended after the item is tested or inspected.

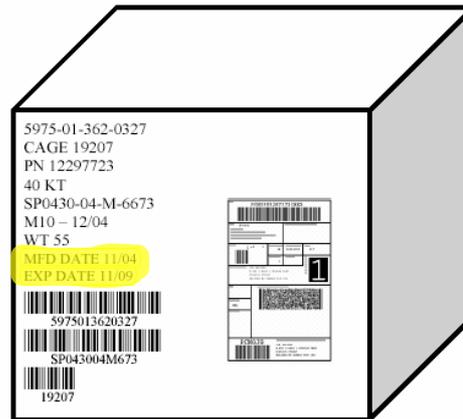
Items containing rubber or synthetic elastomers should reflect the cured date by the quarter year.

Shelf-life

Unit Pack



Exterior Container



Shown is an example of Type I shelf life markings on the unit pack and shipping container.

Page 68, paragraph 5.2.1.

Type I items have a non-extendable period of life and are usually disposed upon expiration.

Type II items have an extendable period of life, which may be extended after the item is tested or inspected.

Items containing rubber or synthetic elastomers should reflect the cured date by the quarter year.

Project Code



Page 69, paragraph 5.2.2.

When a project code is specified in a contract it shall be included in the address markings and also shown on a white label with a contrasting disc.

Label sizes shall be 3 x 3 with a 2 inch diameter disc or 9 x 9 with a six inch diameter disc.

Markings are applied to the exterior container on the identification marked side and on the opposite side.

Special Handling



Page 71, paragraph 5.2.6,

All containers will have the appropriate markings applied – unit, intermediate and exterior

Markings shall be placed on the identification marked side and one end of rectangular containers and two equally spaced areas on the circumference of a cylindrical container.

There is an Optional Form OF 70A (2 ½ x 2 ½ inches) or OF 71A (4 x 4 inches) that are available and can be provided to contractors as a sample.

Method 50



Page 74, paragraph 5.2.10.

While the Marking is required, the use of this specific label is not, some variations are permitted. See MIL-STD 129P, page 74-75.

An optional form OF 73 is available and can be provided to contractors as a sample.

Expedited Handling



NMCS

NSN 7540-00-139-4835
5084-102

OPTIONAL FORM 84 (REV. 2-84)
PREVIOUS EDITION NOT USABLE

Page 78, paragraph 5.2.16.

In order to give priority shipments visibility in the distribution pipeline, expedited handling labels are included on exterior containers.

If the contract shows a required delivery date (RDD) of “999” then two of the 999 labels should be used. One label is placed next to the address markings and one is applied to the opposite side of the container.

Optional Forms OF 80 (2 x 2 inches) or OF 81 (4 x 4) are available.

If the contract shows a required delivery date (RDD) that starts with the letter “N” which may be followed by the RDD expressed in the number of days from the date of requisition, then two of the NMCS labels should be used. Like the 999 labels, the NMCS labels should be applied as follows - one next to the address markings and one on the opposite side of the container.

Optional Forms OF 83 (3 x 1 ½ inches) or OF 84 (3 x 5 inches) are available.

Electrostatic Discharge (ESD) Sensitive



Unit Pack



**Intermediate and
Exterior Pack**

Page 79, paragraph 5.2.20.

Attention: Note the difference in the ESD symbol on the unit pack vs. the intermediate and exterior container. They are a reverse image of each other. The one on the intermediate and exterior container is the correct version of the ESD sensitive device symbol. The reverse image was created as result of some publishing limitations in MIL-STD-129 revision M, dated June 1993. It took almost ten years to finally correct the image with the publication of MIL-STD-129, revision P.

Optional Form OF 88 is available to provide to contractors as a sample of the unit pack markings.

Optional Forms OF 87 (2 x 2 inches) and OF 87A (4 x 4 inches) are available to provide to contractors as a sample of the intermediate and exterior pack markings.

- **Material Condition Markings Tags/Labels**
 - DD Form 1574 Serviceable **Yellow**
 - DD Form 1577-2 Unserviceable – Reparable **Green**
 - DD Form 1577 Unserviceable – Condemned **Red**
 - DD Form 1575 Suspended **Brown**
 - DD Form 1576 Test Modification **Blue**

SUSPENDED LABEL - MATERIAL

FAM, PART NO., AND ITEM DESCRIPTION FROM		INSPECTION DATE		INSPECTOR'S NAME
GENERAL NUMBER, LOT NUMBER		INSPECTION ACTIVITY		REASON FOR AUTHORITY
CONTRACT OR PURCHASE ORDER NO.	QUANTITY	INSPECTOR'S NAME OR STAMP AND DATE		
REMARKS				

WARNING: Unauthorized removal of this label may result in the item being considered as untraceable. (See FAR 48.205-13.2)

FORM NO. 1575-2 (REV. 12-2005)

Page 80, paragraph 5.2.21.

The use of these labels is prescribed in TM 38-400/NAVSUP PUB 572/AFJMAN 23-210/MCO 4450.14/DLAM 4145.12. They shall be used whenever material may become mixed during storage or shipment within or between installations or where physical evidence is necessary for materiel control or to prevent duplicate inspections.

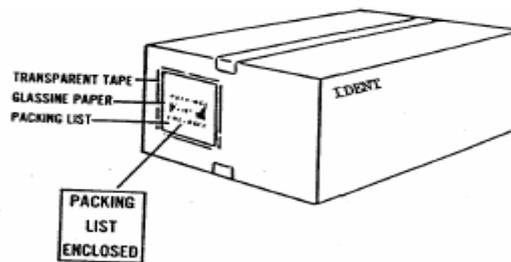
Tags and labels shall conform to the color, design and material of the government produced item.

These forms are not for indiscriminate use on serviceable items that present no problem in storage. The contract will specify when they are required.

One tag or label shall be applied to the item and one shall be applied to the identification marked side of the shipping container.

o Packing Lists

- Sets, kits or assemblies composed of unlike items but identified by a single stock number or part number shall have a packing list identifying each item securely attached to the end or side of the container



Page 82, paragraph 5.3

One copy of the packing list shall be enclosed in a water-resistant envelope attached to container number 1. When specified in the contract, contractors shall place a copy of the packing list inside each container on multiple container shipments, in addition to attaching a packing list to the outside of each container.

The DD 250 copies used as a packing list are in addition to those required for standard distribution as specified in DFARS Appendix F.

- o **Other Documentation that may be required**
 - **DD 250 - Material Inspection and Receiving Report**
 - **DD Form 1155 – Order for Supplies and Services**
 - **DD Form 1384 – Transportation Control and Movement Document**
 - **DD Form 1149 – Requisition and Invoice Shipping Document**
 - **DD Form 1348-1 – Issue Release/Receipt Document**

Page 82-83, paragraphs 5.3.1.2, 5.3.1.3, 5.3.1.5, 5.3.1.6 and 5.3.2

The DD 250 copies are required for standard distribution as specified in DFARS Appendix F.

The DD 1155 is used when a DD 250 is not required or when inspection and acceptance is at destination.

The DD 1384 TCMD is generated to support shipments that move through the Defense Transportation System.

The DD 1149 form is often used to document a transfer of government property.

The DD 1348-1 is generated by military shipping activities, however some contractors will also generate the forms if they are participating in certain item repair programs such as the Navy's Commercial Asset Visibility (CAVS) system.

DCMA Direct Vendor Delivery (DVD)

Defense Contract Management Agency

- **DVD shipment documentation requires additional bar codes**
 - **Document (Requisition) number and suffix if applicable**
 - **13 digit NSN plus additional codes if applicable**
 - **Inventory Control Point Routing Identifier Code (RIC), Unit of Issue, Quantity, Condition Code, Distribution Code and Unit Price**
- **Bar codes placed on the DD 250 or commercial packing list**
- **Applicable to shipments “to a location other than a DLA Distribution Depot”**

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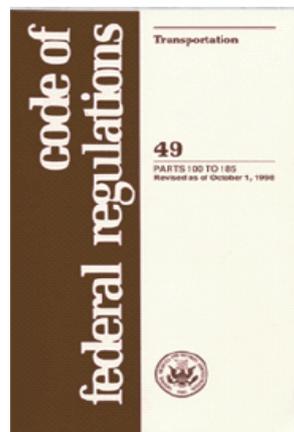
Page 60, paragraph 4.5.

DVD shipments are made to “other than a DLA depot location for storage”. They can typically be described as a shipment from the contractor (vendor) directly to the user. Shipments that move through the Consolidation and Containerization Points (CCPs) at New Cumberland PA or Lathrop CA are not shipments for stock at those locations and are considered to be DVD.

- **Exceptions to the use of exterior container documentation**
 - **No exterior container documentation is required for containers of like items or single item packs when the contents are listed on a label attached to the boxes**
 - **Copies of the DD 250 are still required per Appendix F of the DFARS**
 - **For controlled, sensitive, classified and pilferable items (except FMS shipments), the shipping documentation shall be placed inside all containers**

Hazardous Materials shall be marked in accordance with MIL-STD-129 and the applicable regulatory documents depending upon the mode of transportation

**Title 49 CFR
IATA Dangerous Goods
IMDG
AFMAN 24-204(I)**



Page 86, paragraph 5.5.

Depending upon the mode of transportation, HAZMAT shall be marked and labeled in accordance with Title 49 CFR, ICAO/IATA Dangerous Goods Regulations, IMO International Maritime Dangerous Goods (IMDG) Code and AFMAN 24-204(I) Military Air.

CFR 49 Subchapter C – Hazardous Materials Regulations –
Part 172 – Subpart D – Marking & Subpart E - Labeling

Applicable to all modes of transportation but primarily used in support of shipments by highway or rail.

International Air Transport Association (IATA) Dangerous Goods Regulations –
– Section 7 Marking and Labeling –

Applicable to commercial air shipment

International Maritime Organization (IMO) – International Maritime Dangerous Goods Code (IMDG) –

Applicable to shipment by vessel

AFMAN 24-204(I) – Preparing Hazardous materials for Military Air Shipment
Attachment 14

CFR 49 Hazardous Materials basic marking and labeling requirements

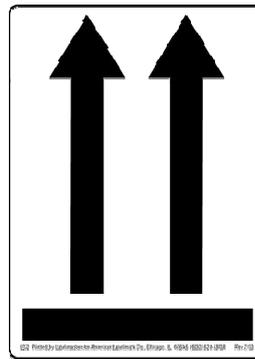
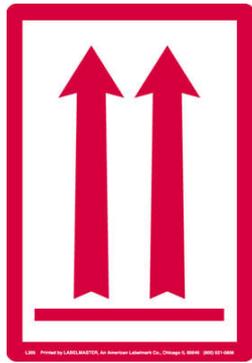
- Proper Shipping Name
- UN Number
- Hazard Class Labels



Page 86, paragraph 5.5.

CFR 49 Subchapter C – Hazardous Materials Regulations –
Part 172 – Subpart D – Marking & Subpart E - Labeling

Package Orientation Marking



For liquid hazardous materials in combination packages, orientation marking/labeling is required.

The IATA requires Package Orientation “labels” in the above format in either red or black.

CFR 49 172.312 requires Package Orientation “marking” in the above format

DD 1387-2 Special Handling Form

Cargo Aircraft Only Label

ITEM NOMENCLATURE	NET QUANTITY PER PACKAGE	TRANSPORTATION CONTROL NO.
	CONSIGNEE GROSS WEIGHT	DESTINATION
SUPPLEMENTAL INFORMATION		LOAD STORAGE GROUP
		FLASH POINT
<small>This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Dept. of Transportation - Title 49 CFR (49 CFR 175.101-175.103) (except hazardous materials).</small>		
<small>This shipment is subject to restrictions prohibited for PASSENGER AIRCRAFT (CARGO AIRCRAFT ONLY). (Do not repackage/relabel.)</small>		AT&T/MCMC REGULATIONS
<small>AFR 71.4, FM 38.250, NAVSUPPUB 505, ACO 14030.10, CLAM 4145.3, Paragraph</small>	49 cfr	EXEMPTION
DOD 4500.32R (MILSTAMP)	173.7(m)	DOT E 7573
ADDRESS OF SHIPPER	TYPER NAME, SIGNATURE AND DATE	
DD FORM 1387-2, JUN 86	SPECIAL HANDLING DATA/CERTIFICATION	



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Page 71, paragraph 5.2.3.

The DD 1387-2 is no longer used for HAZMAT. It is still used for classified, temperature-controlled shipments via military air.

- **Identification markings on unit packs, intermediate containers and unpacked items**
 - **National Stock Number – NSN**
 - **DoD Identification Code DoDIC/NALC**
 - **Quantity and Unit of Issue (UI other than each)**
 - **Item Description**
 - **Lot number and serial number (when assigned)**

- **The NSN and DoDIC are on the same line of information**

- **The quantity always precedes the item description on the same line**

Page 94, paragraph 5.6

The lot number shall be preceded by LOT and serial number shall be preceded by SER.

Words such as “NSN/NATO Stock Number”, “Item Description” and “Quantity” shall not be included as part of the identification markings. Markings shall be located on one long side of the box with NSN/NATO Stock Number occupying the first line. If an inner pack consists of a box or boxes within a barrier bag, both the boxes and the bag shall be marked unless the bag is transparent.

- **Identification markings on exterior containers includes all of the information required on inner containers plus:**
 - **Weight**
 - **Proper shipping name and UN Identification Number**
 - **Special markings**
 - **Precautionary markings**
 - **HAZMAT Labels**
 - **DoDIC/NALC and Lot Number (end of container)**
 - **Lot Number (side of container)**
 - **UN Performance Specification Markings**

Page 95, paragraph 5.6.2 and Figures 45 and 46 on page 96.

The letters WT shall precede the numerical gross weight in pounds.

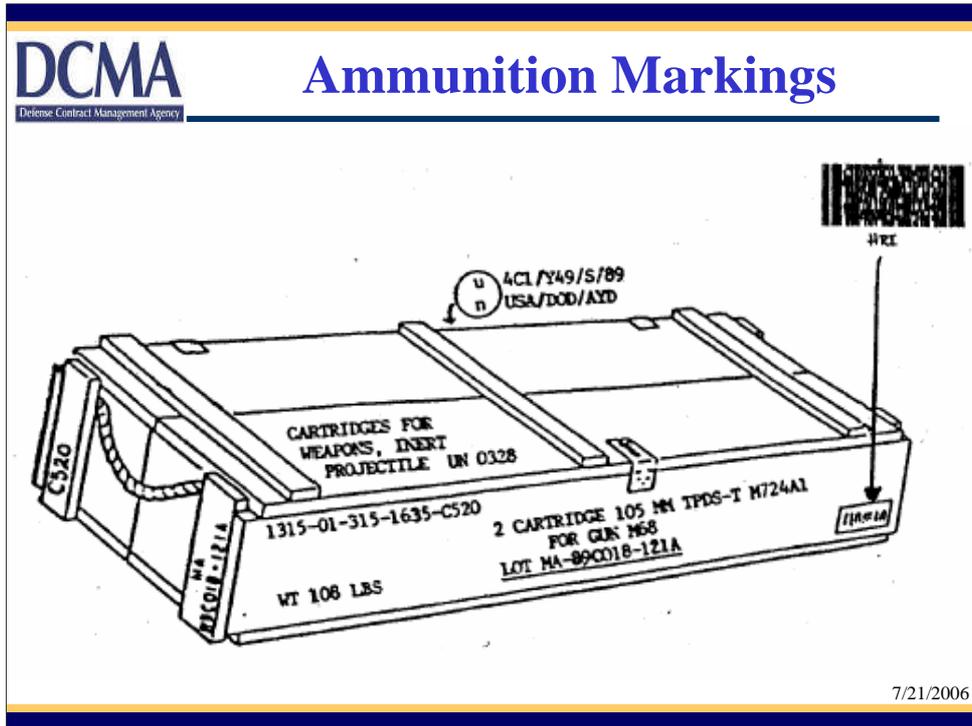
The proper shipping name (PSN) and the UN or NA identification number shall be marked on the package in a clear area away from other box markings.

Both ends of rectangular containers shall be marked with the DoDIC/NALC and the appropriate lot number.

The lot number shall not be preceded by the word LOT or underlined. The DoDIC/NALC shall be marked on the inside rim of the cover of cylindrical containers.

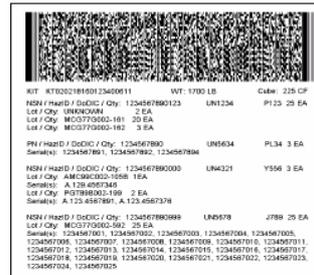
The lower most marking on the package side containing the item nomenclature shall be the ammunition lot number. The lot number shall be preceded by the word LOT and shall be underlined with a solid line approximately 1/8 inch thick. If a serial number is required for the item(s) it shall be preceded by the word SER and shall be marked above the lot number.

The appropriate UN symbol shall be marked on the opposite side of the container from the identification marked side for both rectangular and cylindrical containers.



Page 96, Figure 45. Includes the requirement for a PDF417 two dimensional (2D) bar code. For ammunition items the two dimensional bar code has replaced the linear bar codes that were previously required.

- o Identification bar code symbol marking requirements
 - Two Dimensional Bar code PDF417
 - No requirement for linear bar codes
 - Labels shall meet the requirements for grade A, style 2, composition b per MIL-PRF-61002
 - Labels shall be no greater than 4 x 4 inches square



Page 102, paragraph 5.6.5 In addition to all other markings, every exterior container shall have identification bar code labels or markings applied by means of a label or by direct printing on the packaging material, upon authorization from the cognizant activity. For ammunition items the two dimensional bar code has replaced the linear bar codes that were previously required.

The MIL-PRF-61002 label requirement – grade A is multiple durability, style 2 is plastic (with or without laminate) including materials such as polyester, mylar, vinyl, etc.

- o **Identification bar code symbol data structure**
 - **Package and Unit Load generic information**
 - Label Traceability Code
 - Weight and Unit of Measure
 - Cube with Unit of Measure
 - **Data elements encoded for each NSN**
 - NSN
 - DoDIC/NALC
 - Quantity/Unit of Issue
 - Lot Number(s)
 - Serial Number
 - UN Code – UN Identification Number

Page 103, paragraph 5.6.5.2.

The bar code symbol shall be formatted and printed per table IV. The data structure requirements are noted in table IV-E.

Label Traceability Code – A unique traceability code will be generated during the printing process and encoded for each 2D label. The purpose of the traceability code is to preclude multiple scans of the same symbol during inventory and to identify type of package/load.

The format for the traceability code is: UMYMMDDhhmmssssRRNX where UM = unit of measure, YY = year,

MM = month, DD = date, hh = hour, mm = minute, ssss = second and hundredths of a second, RR = two digit random number, NX = label N of X labels.

NSN - If the NSN is not encoded, the part number must be encoded.

- o **Identification bar code human readable information**
 - **All encoded data elements shall be printed as human readable**
 - **Human readable information is not a substitute for identification markings**
 - **It shall be a literal interpretation of the data encoded in the 2D**
 - **The label traceability code will be translated as follows:**
 - The unit of measure is translated and printed
 - The 20 character code will be printed
 - The last two characters will be printed to show the label set relationship – 1 of 2, 2 of 2.

Page 105, paragraph 5.6.5.3.

The human readable information (HRI) serves to ensure the correct 2D – PDF417 symbol is attached to the matching package/unit load.

The HRI will not include the data identifiers or element separators. The HRI for each data element must be preceded by a representative data title from table IV except for the label traceability code. The unit of measure suffix may be translated for clarity.

The HRI must be printed outside the quiet zone of the 2D symbol. The text shall be no smaller than 10 lines per inch – approximately 7 point font.

If a 2D symbol contain more information than can be printed on one label, additional labels may be affixed next to each other. Each label in the set shall have a unique serial number. The information for a NSN data set may span across labels but the continued data set must contain the same common elements. Extra large 2D symbols will not be used in lieu of multiple labels.

- **DOD Specifications and Standards**
 - <http://assist1.daps.dla.mil/quicksearch/>

- **DOD Hardcopy Forms and Labels**
 - <http://forms.daps.dla.mil/>

- **DLA Packaging Web Site**
 - <http://www.dsccl.dla.mil/Offices/packaging/>

- **DCMA Packaging Web Site**
 - <http://home.dcmde.dcma.mil/Indianapolis/Pack.htm>

These are helpful web site locations to verify that you have the latest information and are working to the current revision of MIL-STD-129.