



DEFENSE CONTRACT MANAGEMENT AGENCY

DCMA

ACQUISITION INSIGHT GLOBAL ENGAGEMENT

Military Marking for Shipment and Storage
MIL-STD-129P w Change 4

Presented By:
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Scope: This session will cover the Package Marking requirements of MIL-STD-129P, W/Change 4. This standard provides the minimum requirements for uniform military marking for shipment and storage. Additional markings may be required by the contract or the cognizant activity.

Purpose: At the end of this session the student will be familiar with the requirements of MIL-STD-129P W/Change 4 titled, "Military Marking for Shipment and Storage," to include Identification Marking, Bar Codes, Military Shipment Label, Radio Frequency Identification and Special Markings.



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Agenda

- **Basic Definitions**
- **Identification Markings**
- **Military Shipment Label**
- **Radio Frequency Identification (RFID)**
- **Special Markings**
- **Documentation**
- **Hazardous Materials**
- **Ammunition and Explosives**
- **Summary**
- **Quiz**



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The above Agenda topics will be covered in this module. The Basic Definitions portion includes a description of some of the data elements that are required on package markings including bar code formats and symbology.

The Identification Markings portion will include a detailed review of the markings for unit, intermediate and exterior containers.

The sequence that the Agenda topics are presented in follows the general content of MIL-STD-129P W/Change 4.

Basic Definitions

- **Marking** is the application of numbers, letters, labels, tags, symbols or colors to provide identification & to expedite handling during shipment & storage



- Before we take a look at the details of the package markings, let's define some of the important data elements required to properly identify a package in the **Military Distribution System**



This definition of marking is from paragraph 1.2 Applicability, contained in the Scope of MIL-STD-129P W/Change 4.

Marking per MIL-STD-129P W/Change 4 can be required for both Military and Commercial Packaging.



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Basic Definitions

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

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This is a summary of the National Stock Number (NSN) definition from MIL-STD-129P W/Change 4, Page 15, paragraph 3.24.

The NSN is the Federal Government Catalog Number for an item of supply. It is used to procure, stock, issue and dispose of material throughout the Federal Government, including the Department of Defense.

Basic Definitions

- **Commercial & 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



This is the Commercial and Government Entity (CAGE) Code definition from MIL-STD-129P W/Change 4, Page 12, paragraph 3.4.

CAGE Codes are also assigned to Government activities that control design or are responsible for the development of certain specifications, drawings or standards.



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Basic Definitions

- **Part Number (PN or P/N)** 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.
- **Radio Frequency Identification (RFID)** is an automatic identification & data capture technology comprised of one or more reader/interrogators & one or more RF transponders in which data transfer is achieved by means of suitably modulated inductive or radiated electromagnetic carriers.



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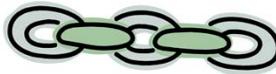
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If a part number is shown in a contract, then only that part number shall be shown. The part number specified in the contract may be the part number assigned by the government procuring activity, it may be the part number of the actual manufacturer or it may be the part number assigned to the item by the company awarded the contract (reference: MIL-STD-129P W/Change 4, page 22, paragraph 4.1.1.c.)

RFID will be used within DoD and by contractors/vendors in accordance with the Supplemental Implementation Plan. RFID will be covered later in the training session.

Basic Definitions

- **Item Unique Identification (IUID)** A system of establishing unique item identifiers within the DoD by assigning a machine-readable character string or number to a discrete item, which serves to distinguish it from other like and unlike items.
- **Unique Item Identifier (UII)** The set of data elements marked on an items that is globally unique, unambiguous and robust enough to ensure data information quality throughout life and to support multi-faceted business applications and users.
- **Concatenated UII** The string of UII data set elements linked into a single data element.



IUID is required in accordance with DoD policy, DFARS Clause 252.211-7003 and MIL-STD-130.

Per DoD policy IUID is generally applicable to:

- (1) All delivered items for which the Government's unit acquisition cost is \$5,000 or more;
- (2) Items for which the Government's unit acquisition cost is less than \$5,000, when identified by the requiring activity as serially managed, mission essential, or controlled inventory;
- (3) Items for which the Government's unit acquisition cost is less than \$5,000, when the requiring activity determines that permanent identification is required.

Basic Definitions

- **Unit of Issue (UI)** – A standard or basic quantity that is expressed as a unit & indicated in the contract
 - **Definitive Unit of Issue** – indicates exact quantity of volume, measurement, weight or count
 - EA = Each
 - PR = Pair
 - AY = Assembly
 - DZ = Dozen
 - **Nondefinitive Unit of Issue** – does not indicate an exact quantity & therefore must be accompanied by a quantitative expression
 - PG = Package (10 EA)
 - BX = Box (6 PR)
 - RO = Roll (50 FT)
 - LG = Length (20 FT)

These definitions are found on page 19 of MIL-STD-129P W/Change 4.

A listing of Unit of Issue Abbreviations can be found on page 7.

One area of confusion is when the “Unit of Issue” for an item is other than EA = each. The Quantity per Unit Pack (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.

Basic Definitions

- **Contract Number or Purchase Order Number** – The acquisition instrument identification number appearing on the acquisition document
- The standard format is as follows:
 - The **first six digits** identify the office issuing the contract (DODAAC)
 - The **seventh & 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



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The definition of Contract Number or Purchase Order Number is from MIL-STD-129P W/Change 4, page 13, paragraph 3.9.

The types of contracts identified by the ninth digit include:

C = Contract

D = Indefinite Delivery

G = Basic Ordering Agreements

M = Purchase Orders

P = Purchase Order – automated

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.

Basic Definitions

- **Preservation** is the process & procedures used to protect material against corrosion, deterioration & physical damage during shipment, handling & storage. It includes cleaning drying, preservative materials, barrier materials, cushioning & containers.
- **Military Preservation Methods** are applied to protect the item & are codified I/A/W MIL-STD-2073-1D.
- **Military Preservation Method Codes** represent the basic preservation methods (10, 20, 30, 40, 50, etc) & the specialized methods as well (AE, DW, GX, etc)



The Military Preservation Method Code is an important part of the Item Identification Markings

As required by MIL-STD-129P, Change 4, page 23, paragraph 4.1.1.g., use an “M” to indicate Military Preservation and then the two digit Military Preservation Method 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 Method Code doesn’t apply (Commercial Packaging) only the pack date will be shown.

Basic Definitions

- 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 & in the Military system
 - **Linear**
 - **Two Dimensional – 2D**



Two dimensional bar codes are often referred to a “symbols” rather than “bar codes” because their information encoding structure is not limited to a picket fence format but can be almost any shape organized into a machine readable language.

Linear Bar Codes

- **Code 39 or 3 of 9 – Originally adopted by DOD in 1982**
 - ISO/IEC 16388



- **Universal Product Code – UPC – U.S. retail industry standard since 1973**
 - ISO/IEC 15420



The Department of Defense 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.

2D Symbols

- **PDF417 – Identification Data, UII, Military Shipment Label & Ammunition markings**
 - ISO/IEC 15438

- **Data Matrix – MIL-STD-130 IUID 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.

- **Unit Container** - 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** – A container, bundle or assembly that is sufficient by reason of material, design & construction to protect unit packs and intermediate containers & their contents during shipment and storage.



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 Unit, Intermediate and Exterior Containers.

Definitions references from MIL-STD-129P W/Change 4:

Unit Pack - Page 20, paragraph 3.48

Intermediate Container - Page 14, paragraph 3.17

Exterior Container, Page 14, paragraph 3.12

Unit/Intermediate Containers

- National Stock Number
- CAGE Code (CAGE)
- Part Number (PN or P/N)
- Item Description or Nomenclature
- Quantity & Unit of Issue
- Contract Number & Lot Number
- Military Method & Date of Unit Preservation (M41-12/07)
- Serial Number (SER NO) when assigned



The Identification Marking reference is MIL-STD-129P W/Change 4, page 22, paragraph 4.1.1.

The in the clear NSN in the Identification markings is required to 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 required to be on separate lines.

The Contract Number will include the Delivery Order or Call Number when there is one.

M41-12/07: M indicates the pack is a Military Preservation Method, 41 is the Method number, and 12/07 indicates the month and year preservation was applied. If a Military Preservation Method doesn't apply (i.e. Commercial Packaging), the Method space will be left blank.

The Serial Number is required to be shown prefixed by "SER NO" .

Unit Packs & Intermediate Container Linear (Code 39) Bar Code Requirements:

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

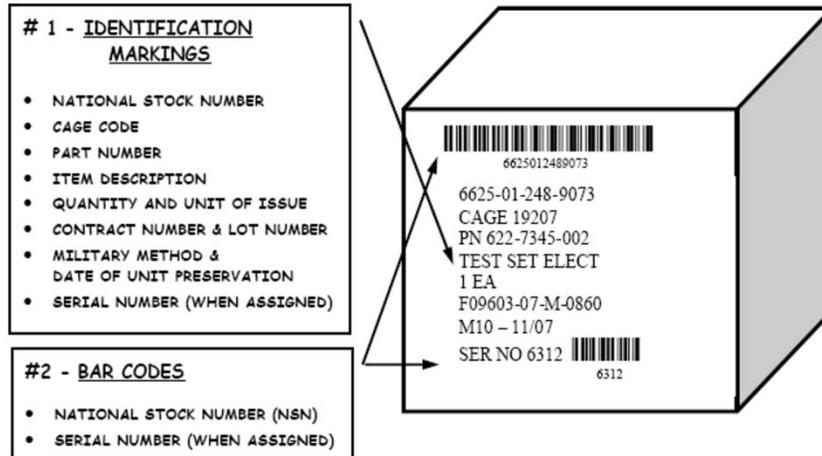


These bar code requirement references are from MIL-STD-129P W/Change 4, pages 47-54, paragraphs 4.4, 4.4.1.1, and 4.4.1.9

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.

Linear (Code 39) bar codes are acceptable for shipments of non-UII items. For UII items the 2D (PDF417) must be used to encode the concatenated UII.

Unit & Intermediate Containers with linear (Code 39) bar codes



The bar coded NSN should not have spaces, dashes, etc. The linear bar code format is Code 39 in accordance with ISO/IEC 16388.

The in the clear, human readable NSN shown in the identification markings will 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.

The Contract Number will include the Delivery Order or Call Number when there is one.

M10-11/07: M indicates that the pack is a Military Preservation Method, 10 is the Method number, and 11/07 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.

Unit Packs & Intermediate Container 2D (PDF417) Symbol Requirements:

NSN – Only the basic 13 digits encoded with Data Identifier “N”

Serial Number(s) Encoded with Data Identifier “S”

Ull(s) – The concatenated Ull(s) should be encoded using Data Identifier “25S”

The 2D symbol should be located in close proximity to the identification markings



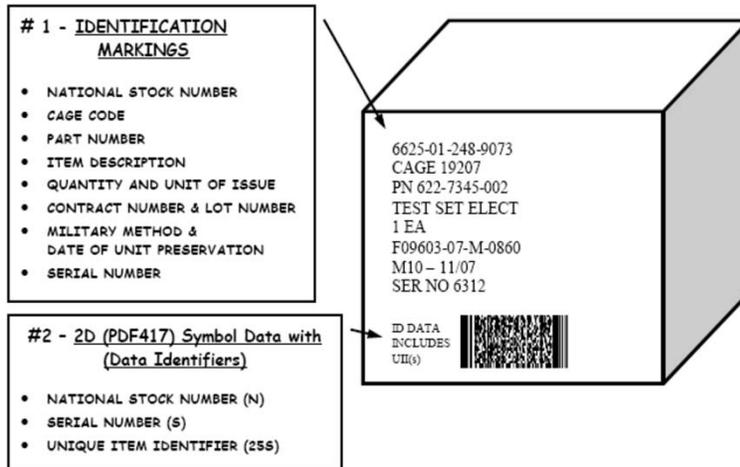
These bar code requirement references are from MIL-STD-129P W/Change 4, pages 47-54, paragraphs 4.4, 4.4.1.1, 4.4.1.9 and Table IV-D,

For shipments of Ull items the 2D (PDF417) symbol must be used to encode the concatenated Ull(s) using data Identifier 25S and the data normally included in the linear bar codes (NSN & Serial Number(s)). The 2D (PDF417) symbol should be preceded by the human readable information “ID DATA INCLUDES Ull(s)”.

Identification bar code markings are required unless specifically exempted in the contract. For Ull items symbology is a 2D PDF417 symbol in accordance with ISO/IEC 15438 and Table IV of MIL-STD-129P, Change 4.

For non Ull items the use of the 2D (PDF417) symbol in lieu of the linear (Code 39) bar codes is optional.

Unit & Intermediate Containers with 2D (PDF417) symbol



The in the clear, human readable NSN shown in the identification markings will 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.

The Contract Number will include the Delivery Order or Call Number when there is one.

M10-11/07: M indicates that the pack is a Military Preservation Method, 10 is the Method number, and 11/07 indicates the month and year preservation was applied.

The Serial Number is required to be shown prefixed by "SER NO" and must also be encoded in the 2D (PDF417) symbol.

The NSN encoded in the 2D symbol should not have spaces, dashes, etc. The 2D symbol format is PDF417 in accordance with ISO/IEC 15438. The data qualifiers used in the 2D symbol are the Format "06" – "N" for the NSN; "S" for the Serial Number; "25S" for the UII

Unit & Intermediate Containers with 2D (PDF417) symbol



[]>□06◆N6625012489073◆S6312◆25SD19207622-7345-0026312□■

[]> at the start of the data string is the ISO 15434
Syntax Compliance Indicator

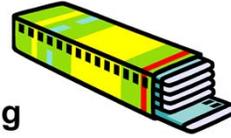
	ASCII / ISO 646	HEX	DEC
□	RS	1E	30
◆	GS	1D	29
■	EOT	04	04



The NSN encoded in the 2D symbol should not have spaces, dashes, etc. The 2D symbol format is PDF417 in accordance with ISO/IEC 15438. As specified in MIL-STD-129, the data qualifiers used in the 2D symbol are the Format “06” – “N” for the NSN; “S” for the Serial Number; “25S” for the UII

Per ISO 15434 syntax the>[]> is the compliance indicator, the □ is the record separator, the ◆ is the group separator and the ■ is the end of transmission. The special symbols, □◆■ are just a pictorial representation of the assigned unprintable characters encoded in the data string.

Placement of Identification Markings on Unit & Intermediate Packs:



- 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 a unit container, both the bag & the unit container must be marked



Identification Markings placement references are from MIL-STD-129P W/Change 4, page 34, paragraph 4.3.1, and Figure #1 on page 21.

Exterior Containers

- National Stock Number
- CAGE Code (CAGE)
- Part Number (PN or P/N)
- Quantity & Unit of Issue
- Contract Number & Lot Number
- Military Method & Date of Unit Preservation
- Gross Weight (WT)
- Serial Number(s) (SER NO) when assigned



The reference for Exterior Container Identification Markings is MIL-STD-129P W/Change 4, page 23, paragraph 4.1.2.

The 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”.

Required Clothing and Textile Markings include Shipment Number and Container Number.

Exterior Container Linear (Code 39) Bar Codes

- **NSN** – Only the basic 13 digits
- **Contract Number**- Including the Delivery Order Number if applicable (no dashes)
- **CAGE Code**
- **Serial Numbers** - when assigned
- **Contract Line item Number (CLIN)** – encoded using six characters zero filled to the left
- **Contractor Shipment Number** – Seven or eight characters



The references for Exterior Container Bar Codes are MIL-STD-129P W/Change 4, pages 47-57, paragraphs 4.4, 4.4.1.2, 4.4.1.4 4.4.1.10, 4.4.3.1 and 4.4.3.3.

Identification bar code markings are required on Unit, Intermediate and Exterior Containers 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. For items assigned UUIs, the 2D (PDF417) symbology must be used in lieu of the linear bar codes.

For Serial Numbers, if more than five bar codes are required, two serial number lists shall be provided:

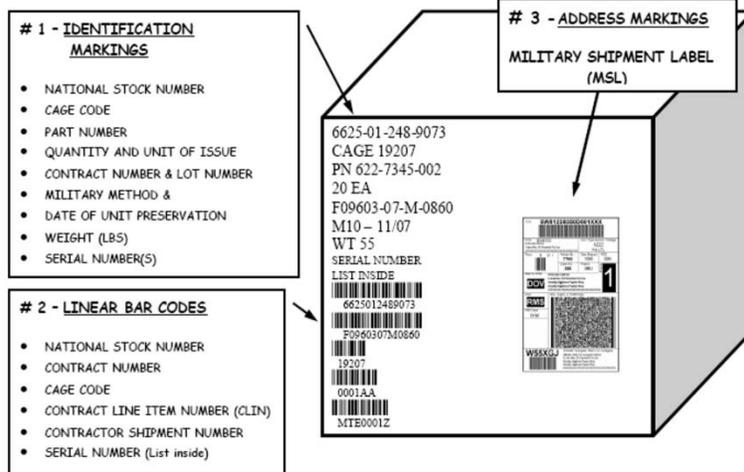
One inside the container with the serial number bar codes

One with the packing list – bar codes optional

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.

Exterior Container with linear (Code 39) bar codes



The Gross Weight will be expressed in pounds, rounded up to the nearest pound. Capital letters “WT” will 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, Contract Number, Serial Number(s), CLIN and Contractor Shipment Number will be placed adjacent to or below the other Exterior Container Identification Markings.

Required Clothing & Textile Markings include Shipment Number and Container Number.

Exterior Container 2D (PDF417) Symbol data

Requirements:

NSN – Only the basic 13 digits - “N”

Contract Number- w/ Delivery Order Number – “8K”

CAGE Code – “17V”

Serial Number(s) - when assigned – “S”

Contract Line item Number (CLIN) – “4K”

Contractor Shipment Number – “5K”

UII – “25S”



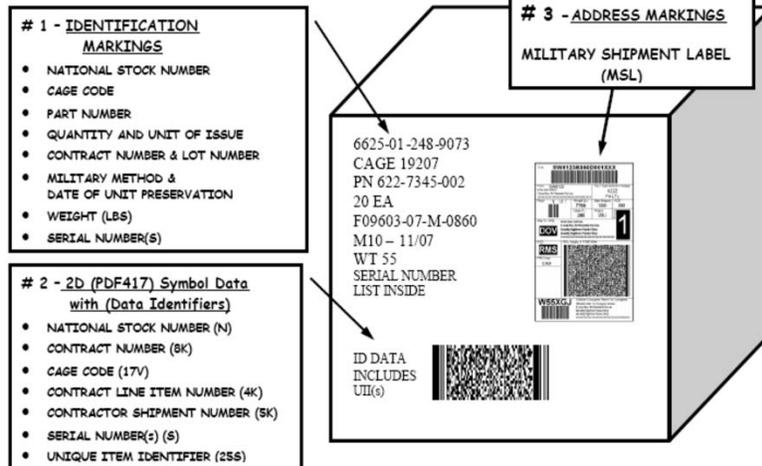
These bar code requirement references are from MIL-STD-129P W/Change 4, pages 47-54, paragraphs 4.4, 4.4.1.1, 4.4.1.9 and Table IV-D.

For shipments of UII items the 2D (PDF417) symbol must be used to encode the concatenated UII(s) using data Identifier 25S and the data normally included in the linear bar codes (NSN, Contract Number, CAGE Code, Serial Number(s), CLIN and Contractor Shipment Number). The 2D (PDF417) symbol should be preceded by the human readable information “ID DATA INCLUDES UII(s)”.

Identification bar code markings are required unless specifically exempted in the contract. For UII items symbology is a 2D PDF417 symbol in accordance with ISO/IEC 15438 and Table IV of MIL-STD-129P, Change 4.

For non UII items the use of the 2D (PDF417) symbol in lieu of the linear (Code 39) bar codes is optional.

Exterior Container with 2D (PDF417) Symbol



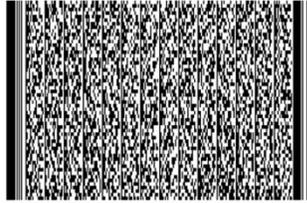
The Gross Weight will be expressed in pounds, rounded up to the nearest pound. Capital letters “WT” will precede the Gross Weight.

Serial Numbers should be preceded by “SER NO”. When more than five serial numbers are included in the pack, two serial number lists shall be provided, one inside the container and one included with the packing list.

The 2D (PDF417) symbol with the NSN, CAGE Code, Contract Number, Serial Number(s), CLIN and Contractor Shipment Number will be placed in close proximity to the other Exterior Container Identification Markings. The NSN encoded in the 2D symbol should not have spaces, dashes, etc. The 2D symbol format is PDF417 in accordance with ISO/IEC 15438. The data qualifiers used in the 2D symbol are the Format “06” – “N” for the NSN; “8K” for the Contract Number; “17V” for the CAGE Code; “4K” for the Contract Line Item Number (CLIN); “5K” for the Contractor Shipment Number; “S” for the Serial Number; “25S” for the concatenated UUI.

Required Clothing & Textile Markings include Shipment Number and Container Number.

Exterior Container 2D (PDF417) Symbol



[>]06◆N6625012489073◆8KF0960307M0860◆17V19207◆4K0001AA◆5KMMM0001◆S6312◆S6313◆
 S6314◆S6315◆S6316◆S6317◆S6318◆S6319◆S6320◆S6321◆S6322◆S6323◆S6324◆S6325◆
 S6326◆S6327◆S6328◆S6329◆S6330◆S6331◆25SD19207622-7345-0026312◆25SD19207622-
 7345-0026313◆25SD19207622-7345-0026314◆25SD19207622-7345-0026315◆25SD19207622-
 7345-0026316◆25SD19207622-7345-0026317◆25SD19207622-7345-0026318◆25SD19207622-
 7345-0026319◆25SD19207622-7345-0026320◆25SD19207622-7345-0026321◆25SD19207622-
 7345-0026322◆25SD19207622-7345-0026323◆25SD19207622-7345-0026324◆25SD19207622-
 7345-0026325◆25SD19207622-7345-0026326◆25SD19207622-7345-0026327◆25SD19207622-
 7345-0026328◆25SD19207622-7345-0026329◆25SD19207622-7345-0026330◆25SD19207622-
 7345-0026331◆



The 2D (PDF417) symbol with the NSN, CAGE Code, Contract Number, Serial Number(s), CLIN and Contractor Shipment Number will be placed in close proximity to the other Exterior Container Identification Markings. The NSN encoded in the 2D symbol should not have spaces, dashes, etc. The 2D symbol format is PDF417 in accordance with ISO/IEC 15438. The data qualifiers used in the 2D symbol are the Format “06” – “N” for the NSN; “8K” for the Contract Number; “17V” for the CAGE Code; “4K” for the Contract Line Item Number (CLIN); “5K” for the Contractor Shipment Number; “S” for the Serial Number; “25S” for the concatenated UII.

Per ISO 15434 syntax the [>] is the compliance indicator, the □ is the record separator, the ◆ is the group separator and the ■ is the end of transmission. The special symbols, □◆■ are just a pictorial representation of the assigned unprintable characters encoded in the data string.

Placement of Identification Markings on Exterior Containers

- 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 & not less than 3/32 of an inch high
- Containers over 10 cubic ft. shall be marked & bar coded on two adjacent sides
- All additional markings should be placed on the identification side



The references for the placement of Identification markings are in MIL-STD-129P W/Change 4, page 35, paragraph 4.3.2, page 37, paragraph 4.3.2.1 and page 73, paragraph 5.1.9.

The Linear (Code 39) bar-code label with the NSN, Contract Number, CAGE Code, CLIN, Contractor Shipment Number and Serial Numbers should be placed adjacent to or below the other exterior identification markings.

When used, the 2D (PDF417) symbol should be placed in close proximity to the identification marking.

Methods of Marking Packs



- **Markings must be clear, legible, durable, & 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**



Methods of Marking references are MIL-STD-129P W/Change 4, pages 72 & 73, paragraphs 5.1.2.2, 5.1.7 and 5.1.9.

Military Shipment Label

- **No longer DD Form 1387**
- **Required for all shipments unless otherwise specified in the contract**
- **Format is in accordance with MHIA 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.

- **Linear bar coded data elements**
 - **Transportation Control Number (TCN)**
 - **Piece Number**
 - **Ultimate Consignee DODAAC**
- **Data identifiers are not included**



The Military Shipping Label bar code requirement reference is MIL-STD-129P W/Change 4, paragraph 4.2.2.b. page 26.

- **MSL Linear bar code format**
 - Code 3 of 9 or 39 - ISO/IEC 16388
 - Data limited to about 30 characters



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

- **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**



The 2D bar code data elements references are MIL-STD-129P W/Change 4, paragraph 4.2.2.c., page 26 and as detailed in Table IV, pages 125 – 139.

The 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.

- **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 121.

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).

DCMA
DEFENSE CONTRACT MANAGEMENT AGENCY

Military Shipment Label

TCN SW81238350D001XXX

From SW8123
In-charge Address
3 Line Max, 25 Characters Per Line
XXXXXXXXXXXXXXXXXXXXXXXXXXXX

FAO Type Service / Package
F8WR
Ftl LTL

Piece 1 of 1
Weight (lb) 7760
Date Shipped 1090
RUC 999

Ship to POC
DOV
In-charge Address
4 Line Max, 25 Characters Per Line
XXXXXXXXXXXXXXXXXXXXXXXXXXXX

RMS
FMS Case
CKM
DCA Data
ABD77ZR
Dest: 30D135
CD:
Spur:

W55XGJ
Ultimate Consignee / Mark For Consignee
4 Line Max, 25 Characters Per Line
XXXXXXXXXXXXXXXXXXXXXXXXXXXX

Requires Bar Coding
Code 39 (Linear)

TCN

Piece Number

Ultimate Consignee DODAAC

PDF417 (2D)

Shipment
Line Item
TCMD Data

ACQUISITION INSIGHT GLOBAL ENGAGEMENT

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The requirements for Address Markings begin in MIL-STD-129P W/change 4, on page 25, paragraph 4.2, and this illustration can be found on Page 28, figure 2a.

A Military Shipping Label (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).

DCMA Military Shipment Label 2D Data
DEFENSE CONTRACT MANAGEMENT AGENCY

WSRH0Z6332BE02XXX

249784

1 of 1

20070611

SW3227

DEFENSE CONTRACT MANAGEMENT AGENCY

ACQUISITION INSIGHT GLOBAL ENGAGEMENT

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[>]□06◆JKSUMW58H0Z6332BE02XXX◆3D7162◆2LDEF DIST
 DEPOT RED RIVER+RECEIVING BLDG 499+10TH
 STREET AND K AVENUE+TEXARKANA TX 75507-
 5000◆3LMID-WEST SPRING MFG+1404 JOLIET ROAD
 UNIT C+ROMEOVILLE IL 60446-4066◆5LDEF DIST
 DEPOT RED RIVER+RECEIVING BLDG 499+10TH
 STREET AND K AVENUE+TEXARKANA TX 75507-
 5000◆2Q10◆13Q1/1□07◆121◆27SW3227◆282◆29X487
 N4□06◆12SW58H0Z6332BE02◆N5350008874693◆7Q10
 0EA◆VB17◆2RA◆12Q000USD□■

The PDF417 symbol data for a generic cargo domestic shipment. There are both format 06 and format 07 data qualifiers encoded in the string of information.

Per ISO 15434 syntax the []> is the compliance indicator, the □ is the record separator, the ◆ is the group separator and the ■ is the end of transmission. The special symbols, □◆■ are just a pictorial representation of the assigned unprintable characters encoded in the data string.

MSL Software Sources Include:

- **CATT Asset-Trak**
 - <http://asset-trak.com/atmain.htm>
- **DSS / Vendor Shipment Module – formerly known as DPMS for DLA Contractors**
 - <https://vsm.distribution.dla.mil/net/>
- **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 lists sources as they become available. The DLA Packaging web site is listed at the close of this presentation.

The Mil-Pac site does currently have a free software download for MSL creation.



DEFENSE CONTRACT MANAGEMENT AGENCY

Radio Frequency Identification

Some definitions specific to RFID implementation

- **463L Pallet System** – Aircraft pallets, nets, tie down & coupling devices designed to interface with aircraft cargo restraint systems. (Intended to differentiate between a standard palletized load & 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 & the associated shipment configuration
- **Electronic Product Code – EPC** – An identification scheme for universally identifying physical objects via radio frequency
- **RFID** – Automatic identification & data capture technology in which data transfer is achieved by means of radio waves



ACQUISITION INSIGHT  GLOBAL ENGAGEMENT

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These are a synopsis of the actual definitions that are in section 3 of MIL-STD-129 W/change 4 to support the RFID requirements.

- **RFID will be used in accordance with the Supplier Implementation Plan at:**
<http://www.acq.osd.mil/log/rfid/index.htm>
- **Tags will be applied to case shipments & palletized unit loads.**
- **Shipments to CONUS Defense Distribution Depots & Military Aerial Ports – Charleston, Norfolk and Travis**
- **Bulk commodities shall not be tagged**



Radio Frequency Identification requirements are in MIL-STD-129P W/change 4, page 68, 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 required 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 expanded the destinations involved to all of the CONUS Defense Distribution Depots and Aerial Ports at Charleston, SC, Norfolk, VA and Fairfield, CA (Travis AFB). The second phase also expanded the Classes of Supply to include Class IIIP--Packaged petroleum, lubricants, oils, preservatives, chemicals, and additives, Class IV--Construction and barrier materials and Subclass of Class VIII – Medical materials (excluding pharmaceuticals, biologicals, and reagents).

“Bulk commodities” means the following commodities, when shipped in rail tank cars, tanker trucks, trailers, other bulk wheeled conveyances, or pipelines: sand, gravel, bulk liquids (water, chemicals, or petroleum products), ready-mix concrete or similar construction materials, coal or combustibles such as firewood, and agricultural products such as seeds, grains, or animal feed.

- **RFID tag formats for data constructs are located in the DoD Suppliers' Passive RFID Information Guide**
- **Passive RFID tags will comply with EPCglobal Class 1 Generation 2 specifications**
- **Frequency range for passive RFID tags is 860 – 960 MHz**
- **Munitions & explosives shall not be tagged until certification requirements are met**



Acceptable Tag Data Identity Types are as listed in the EPC Tag Data Standard and include an option for non-EPCglobal subscribers to use the DoD-64 or DoD-96 Identity Types detailed in the “DoD Suppliers’ Passive RFID Information Guide”

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). (Reference MIL-STD-129P W/change 4, page 70, paragraph 4.9.3)

DCMA **Radio Frequency Identification**
DEFENSE CONTRACT MANAGEMENT AGENCY

A paper label with RFID inside

an antenna, printed, etched or stamped ...

... and a chip attached to it

... on a substrate e.g. a plastic foil ...

ACQUISITION INSIGHT GLOBAL ENGAGEMENT

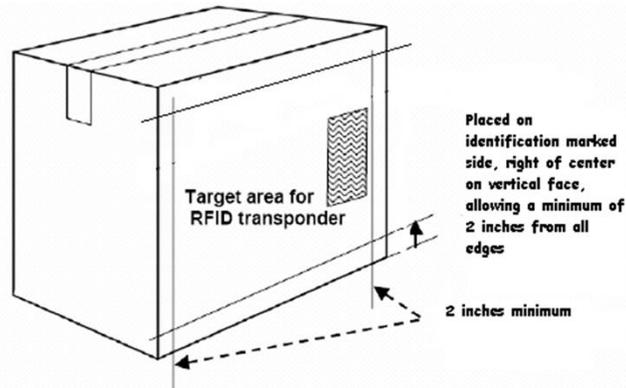


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The diagram shows a white paper label with a small chip and a copper antenna attached to its back. The label is placed on a yellow surface. Callout boxes point to the chip, the antenna, and the substrate. The label has some text on it, including 'HERE REMOVE ON P/B TO THE' and '(B) P/B'.

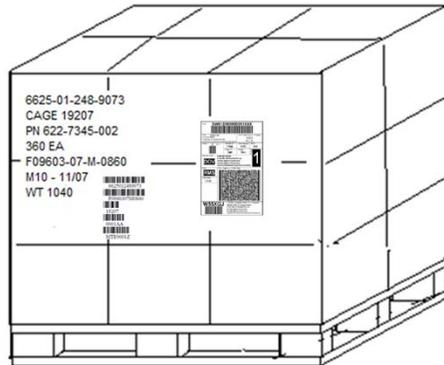
The MSL can be RFID-enabled or the RFID tags can be applied separately.

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



As indicated in MIL-STD-129P W/Change 4, page 35, 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.

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



Unit loads of boxes 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 lettering shall be not less than $\frac{3}{8}$ of an inch height



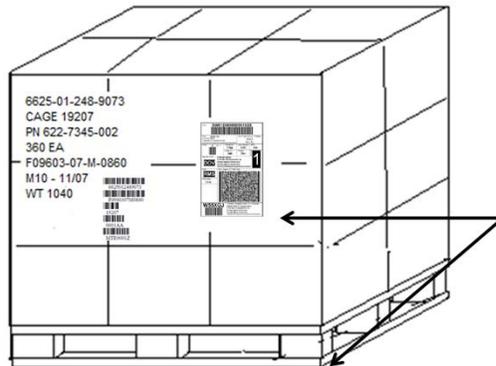
MIL-STD-129P W/Change 4, page 41, paragraph 4.3.2.7, describes the requirements for marking of palletized loads.

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.

- Address labels may be attached to the marking board or to the stretch wrap if used to bond the load



Label shall be placed right of center on a vertical face allowing a minimum of 2 inches from all edges

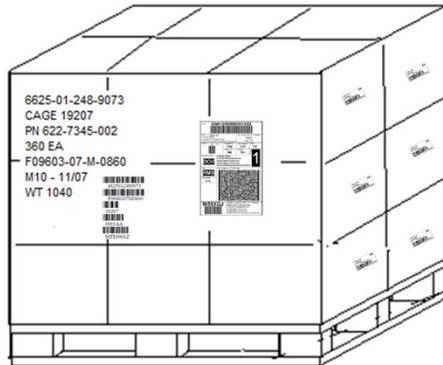
Bottom of label should be between 32 to 48 inches from the bottom of the pallet but no closer than 2 inches to the top of the load



MIL-STD-129P W/Change 4, page 42, paragraph 4.3.2.7.d. describes the placement of the address label on palletized loads.

Radio Frequency Identification

- 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



MIL-STD-129P W/change 4, page 69, paragraph 4.9.2.1. describes the placement of the address label on palletized loads.

4.9.2.2 Unit, intermediate and exterior containers within a palletized unit load. These containers will not usually be marked with an address label and therefore require only that the passive RFIDtag be affixed at a suitable location where there is a minimum risk of damage and the highest potential for successful passive RFID tag interrogation (see 4.9.2.1b).

- **Advance Shipment Notice (ASN) 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:**

<u>Contract Information</u>	<u>Product description</u>	<u>RFID Tag</u>
Contract Number	Line Item Number	RFID Tag Number
Shipment Number	Item Description	Line Item Number
Prime Contractor	NSN	Quantity
Shipment Date	Quantity	



As indicated in MIL-STD-129P W/Change 4, page 70, 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.

Special Markings

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



Special marking requirements begin in paragraph 5.2 on page 73 of MIL-STD-129P W/Change 4. Every contract or solicitation must include all special marking requirements applicable to the contract.

Shelf-life

- Items that have a limited timeframe that they can be kept in storage & still be suitable for issue
- Typical Shelf Life managed items include food, medicine, batteries, paints, adhesives, hoses, belts, o-rings
- Shown below identification data on unit, intermediate & 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



The reference for Shelf-Life Markings is MIL-STD-129P W/Change 4, page 73, paragraph 5.2.1.

Items that are assigned a shelf-life code of zero (non-deteriorative) do not require shelf-life markings.

Typical shelf-life items include food, medicines, batteries, paints, sealants, adhesives, film, tires, chemicals, packaged petroleum products, hoses/belts, mission-critical o-rings, and Nuclear/Biological/Chemical equipment and clothing.

Shelf-Life: The total period of time beginning with the date of manufacture, date of cure (for elastomeric and rubber products only), date of assembly, or date of pack (subsistence only), and terminated by the date by which an item must be used (expiration date – Type I) or subjected to inspection, test, restoration, or disposal action (Inspect/Test Date – Type II). Not to be confused with Service Life which is the time an item is expected to last while in use.

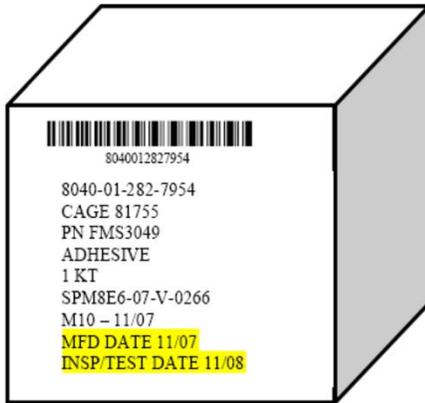
Type I items have a non-extendable period of life and are usually disposed upon expiration.

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

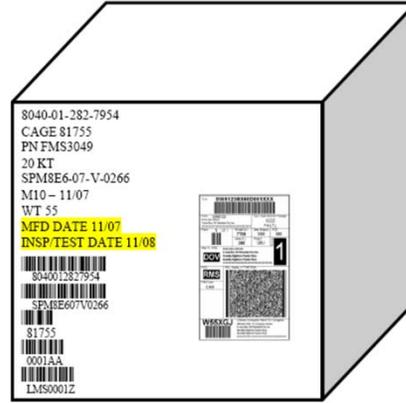
Items containing rubber or synthetic elastomers should reflect the cured date by the quarter year.

Shelf-life

Unit Pack



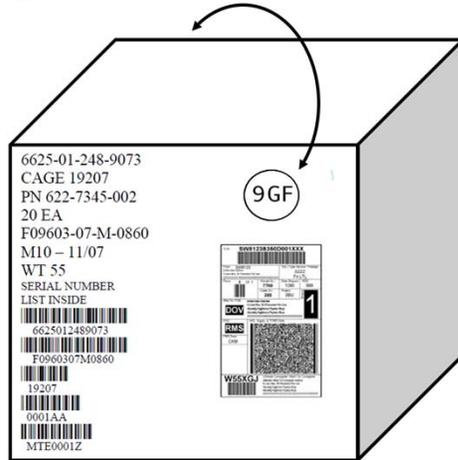
Exterior Container



Shown is an example of Type II Shelf-Life Markings on the unit pack and shipping container.

Reference: MIL-STD-129P W/Change 4, page 73, paragraph 5.2.1.

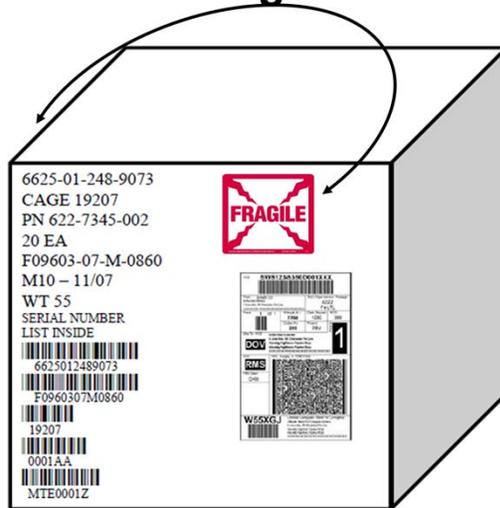
Project Code



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.

Reference: MIL-STD-129P W/Change 4, page 75, paragraph 5.2.2 and Figure 28, page 78.

Special Handling



The appropriate markings shall be applied to the unit, intermediate and exterior containers. 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. Containers can be stamped "FRAGILE" or "DELICATE" or the Optional Form OF 70A (2 ½ x 2 ½ inches) or OF 71A (4 x 4 inches) can be used or provided to the contractor as a sample.

Reference: MIL-STD-129P W/Change 4, page 77, paragraph 5.2.6 and Figure 29, page 78.

DCMA Special Markings
DEFENSE CONTRACT MANAGEMENT AGENCY

Method 50

METHOD
50
FORMERLY METHOD II
PACKAGE

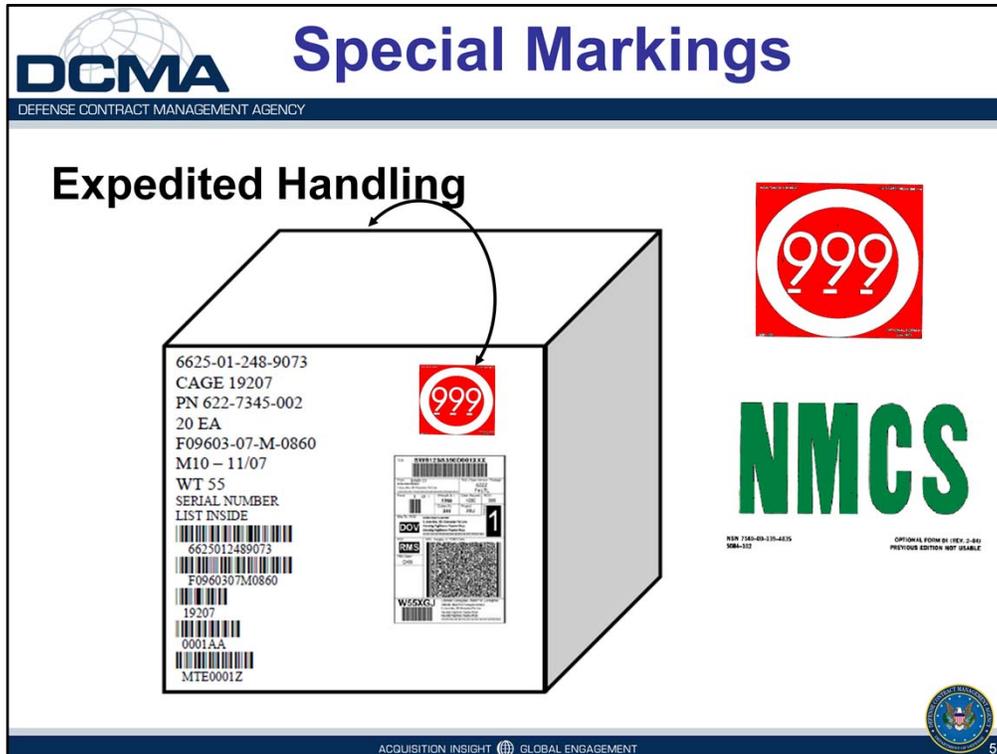
PACKAGED WITH
DESICCANT
DO NOT OPEN
UNTIL READY FOR USE
OR INSPECTION

6625-01-248-9073
CAGE 19207
PN 622-7345-002
20 EA
F09603-07-M-0860
M10 - 11/07
WT 55
SERIAL NUMBER
LIST INSIDE
6625012489073
F0960307M0860
19207
0001AA
MTE0001Z

ACQUISITION INSIGHT GLOBAL ENGAGEMENT

When Method 50 marking is required, the use of this specific label is not, some variations are permitted. A preprinted Optional Form OF 73 is available and can be provided to the contractor as a sample.

Reference: MIL-STD-129P W/Change 4, page 80 and 81, paragraph 5.2.10 and Figure 31, page 81.



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 Not Mission Capable Supply (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.

Reference: MIL-STD-129P W/Change 4, page 84, paragraph 5.2.16 and Figure 35.

Electrostatic Discharge (ESD) Sensitive

Unit Packs



Intermediate &

Exterior Containers



All unit, intermediate and exterior containers are required to be marked with the ESD sensitive devices attention labels as indicated above.

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.

References: MIL-STD-129P W/Change 4, pages 86 and 87, paragraphs 5.2.20.1 & 2 and Figure 37.

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



PART NO. AND ITEM DESCRIPTION		SUSPENDED LABEL - MATERIEL	
DATE OF INSPECTION		DATE OF INSPECTION	
INSPECTOR'S NAME		INSPECTOR'S NAME	
REASON FOR SUSPENSION		REASON FOR SUSPENSION	
CONTRACT OR PURCHASE ORDER		CONTRACT OR PURCHASE ORDER	
QUANTITY		QUANTITY	
INSPECTOR'S SIGNATURE AND DATE		INSPECTOR'S SIGNATURE AND DATE	
REMARKS			



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.

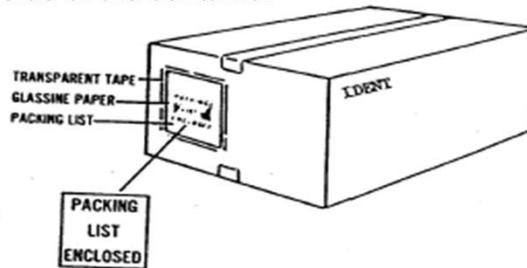
These forms are not for indiscriminate use on serviceable items that present no problem in storage. The contract will specify when they are required.

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

Reference: MIL-STD-129P W/Change 4, pages 87 and 88, paragraph 5.2.21.

• 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



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.

Reference: MIL-STD-129P W/Change 4, page 88, paragraph 5.3

- **Other Documentation that may be required**

- **WAWF Receiving Report**
 - DD 250 - Material Inspection & Receiving Report
- **DD Form 1155 – Order for Supplies & Services**
- **DD Form 1384 – Transportation Control & Movement Document**
- **DD Form 1149 – Requisition & Invoice Shipping Document**
- **DD Form 1348-1 – Issue Release/Receipt Document**



The WAWF Receiving Report or the DD 250 copies are required for standard distribution as specified in DFARS Appendix F. Per the DFARS 252.246-7000 paragraph (b) –

(b) Contractor submission of the material inspection and receiving information required by Appendix F of the Defense FAR Supplement by using the Wide Area WorkFlow (WAWF) electronic form (see paragraph (b) of the clause at 252.232-7003) fulfills the requirement for a material inspection and receiving report (DD Form 250). Two copies of the receiving report (paper copies of either the DD Form 250 or the WAWF report) shall be distributed with the shipment, in accordance with Appendix F, Part 4, F-401, Table 1, of the Defense FAR Supplement.

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.

References: MIL-STD-129P W/Change 4, pages 90-92, paragraphs 5.3.1.2, 5.3.1.3, 5.3.1.5, 5.3.1.6 and 5.3.2



DEFENSE CONTRACT MANAGEMENT AGENCY

Documentation

- **Direct Vendor Delivery (DVD) shipment documentation requires additional bar codes**
 - Document (Requisition) number & 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 & 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”**



ACQUISITION INSIGHT  GLOBAL ENGAGEMENT

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.

Reference: MIL-STD-129P W/Change 4, page 66, paragraph 4.5.

MATERIAL INSPECTION AND RECEIVING REPORT						FORM 250 (REV. 8-88)	
<small>Public Reporting Burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, reviewing and collecting the data, and reviewing and editing the collection of information. Send comments regarding this burden estimate or any aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Office, Paperwork Project (0704-0188), Washington, DC 20503.</small>							
1. INDUSTRY RECEIPT IDENTIFICATION		2. ORDER NO.	3. SUBJECT MATTER	4. FABRICATION	5. INSPECTION POINT		
SPW000-02-C-0007							
6. PRIME CONTRACTOR		7. SUBCONTRACTOR		8. CONTRACT NUMBER			
DCMA0007 2003 AUG 8		TEN		5			
9. ORDER CONTRACTOR		10. ORDER NUMBER BY		11. ORDER DATE			
G. H. A. GOOD CONTRACTOR 17912 LUCKY LANE FARGO ND 58105		DCMA TWIN CITIES 818 MINNAPOLIS FEDERAL BUILDING ROOM 1150 FEDERAL OFFICE EIGHT BUILDING NW 55111		0006 1 200414			
12. SHIPMENT TO		13. SHIPMENT FROM		14. ORDER NUMBER			
SEE BLOCK 9		DFAS - COLUMBIA CENTER WEST SETTLEMENT OPERATIONS P. O. BOX 18201 COLUMBUS OH 43218-1201		0006		H00330	
15. SHIPMENT TO		16. SHIPMENT FROM		17. ORDER NUMBER			
FIBRO 81 SUPPLIES DOCK LUM. INVTOR 277-5205 517 S. ST. RM 124 NEELESVILLE MN 55624-1130		FIBRO 81 SUPPLIES P.O. BOX 100 NEELESVILLE MN 55624-1130		ITCN #020100294900 P.O. BOX 100 NEELESVILLE MN 55624-1130			
18. ITEM NO.	19. STOCK NUMBER	20. QUANTITY	21. UNIT	22. UNIT PRICE	23. EXT. PRICE		
0001	AA 5500-01 475-9932 BLOCK	7	EA	140.00	980.00		
							
24. CONTRACT QUALITY ASSURANCE							
25. CONTRACTOR'S SIGNATURE		26. CONTRACTOR'S TITLE		27. CONTRACTOR'S ADDRESS		28. CONTRACTOR'S TELEPHONE	

DD FORM 250, AUG 1990

PREVIOUS EDITION IS OBSOLETE



MIL-STD-129P, page 66, paragraph 4.5. Direct Vendor Delivery (DVD) example of DD Form 250 Receiving Report with the bar coded data shown in Block 16. The bar coded information may also be placed on a continuation sheet DD 250C or on a commercial packing list.

- **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 WAWF Receiving Report (or DD Form 250 if used) 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**



Reference: MIL-STD-129P, page 92, paragraph 5.3.3

Hazardous Materials shall be marked in accordance with MIL-STD-129P W/Change 4, paragraph 5.5 & the applicable regulatory documents depending upon the mode of transportation

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



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
Applicable to shipments by military aircraft**

CFR 49 Hazardous Materials basic marking & labeling requirements

- Proper Shipping Name
- UN Number
- Hazard Class Labels



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

Reference: MIL-STD-129P W/Change 4, page 94, paragraph 5.5.

UN Package Performance Specification Marking indicates the package conforms to the UN requirements



UN - Meets 49 CFR
1A1 - Closed head steel drum
X - Tested to PGI
1.8 Specific gravity
300 - Test pressure in Kilopascals (kPa)
97 - Year of Mfg.
USA - Mfg. in USA to 49 CFR specs.
VL6 - Mfg. registered symbol



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.

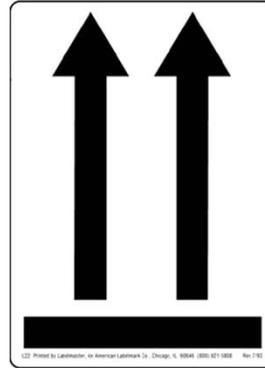
CFR 49 Subchapter C – Hazardous Materials Regulations –
Part 172 – Subpart D – Marking & Subpart E - Labeling
Applicable to all modes of transportation but primarily used in support of shipments by highway or rail.

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
Applicable to shipments by military aircraft

Package Orientation Marking

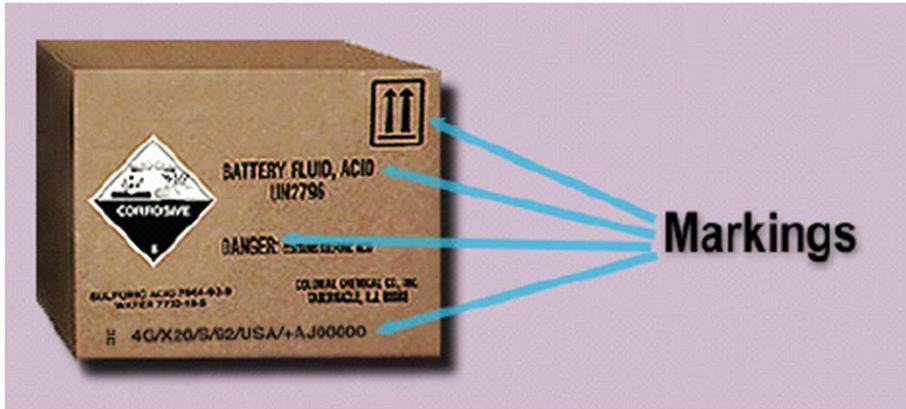


For liquid hazardous materials in combination packages, orientation marking/labeling is required.

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

CFR 49 Hazardous Materials basic marking & labeling requirements



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

Reference: MIL-STD-129P W/Change 4, page 94, paragraph 5.5.

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



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.

Reference: MIL-STD-129P, page 102, paragraph 5.6

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



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

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

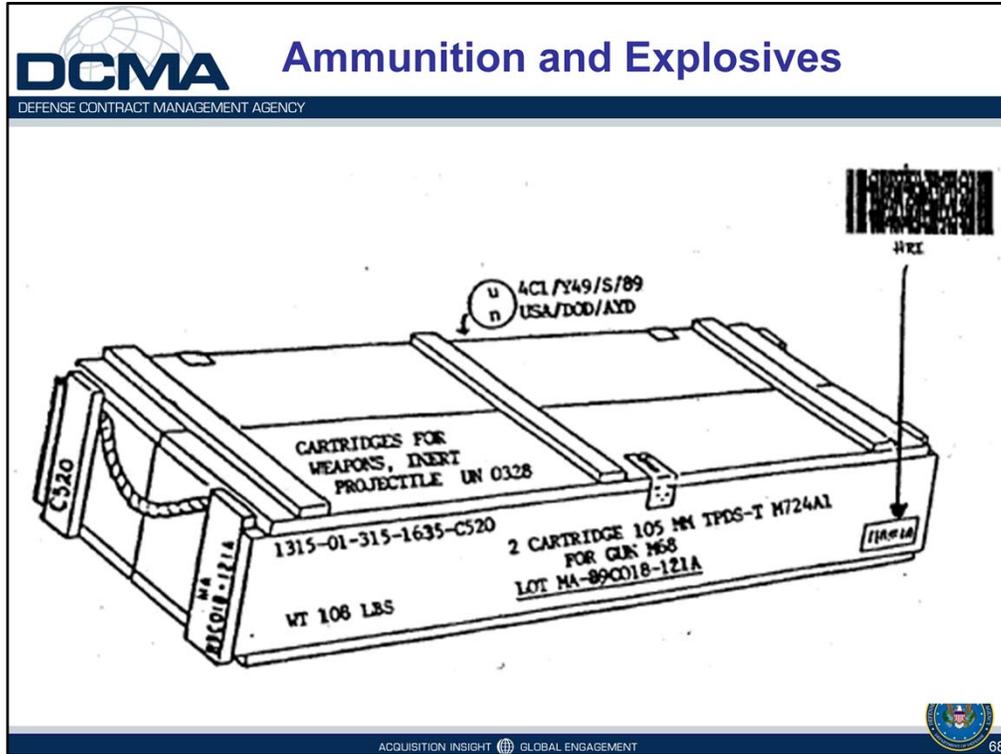
Both ends of rectangular containers shall be marked with the DoDIC/NALC and the appropriate lot number.

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. Serial Numbers 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.

Reference: MIL-STD-129P W/Change 4, page 103, paragraph 5.6.2 and Figures 45 and 46 on page 104.



MIL-STD-129P, page 104, 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.

Ammunition Bar Codes

- 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



In addition to all other markings, every exterior container shall have identification bar code labels or markings applied by means of a label. For ammunition items the two dimensional bar code has replaced the linear bar codes that were previously required. Reference: MIL-STD-129P W/Change 4, page 110, paragraph 5.6.5

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. Reference: MIL-STD-129P W/Change 4, page 110, paragraph 5.6.5.1

- **Identification bar code symbol data structure**
 - **Package & 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



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.

As an alternate to the “SSSS” above - SS = a second (00 to 59) and SS = label number generated during that second (00 to 99). “SSSS” could equal 0000 to 5999. No more than 100 labels may be generated per second.

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

Reference: MIL-STD-129P W/Change 4, page 111, paragraph 5.6.5.2.

- **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.



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.

Reference: MIL-STD-129P W/change 4, page 113, paragraph 5.6.5.3.



DEFENSE CONTRACT MANAGEMENT AGENCY

Web Sites

- **DOD Specifications & Standards**
 - <https://assist.daps.dla.mil/quicksearch/>
- **DOD Hardcopy Forms and Labels**
 - <http://navalforms.daps.dla.mil/web/public/home>
- **DLA Packaging Web Site**
 - <http://www.landandmaritime.dla.mil/offices/packaging/>
- **DCMA Portal Packaging Management Community**
 - <https://home.dcma.mil/>



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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.

- **MIL-STD-129, “Military Marking for Shipment and Storage” provides detailed descriptions of the minimum Military Package markings including Identification Markings, Military Shipment Label, Radio Frequency Identification (RFID), Special Markings, Documentation, Hazardous Materials, Ammunition & Explosives**
- **MIL-STD-129 marking can apply to Military & Commercial Packaging**



Basic definitions covered were primarily from MIL-STD-129P W/Change 4 and included NSN, CAGE Code, Part Number, Unit of Issue (definitive and nondefinitive) and Contract Number. The format and sequence of identification markings for unit/intermediate and exterior containers was described in detail. The Military Shipment Label (MSL) data format requirements were reviewed including linear and 2D bar codes. The use of 2D (PDF417) symbols is required for shipments of UII items.

Passive RFID tags are applicable when the DFARS Clause 252.211-7006 is in the contract and the shipment is one of the specified Classes of Supply to a CONUS Defense Distribution Depot or Aerial Terminal at Norfolk, Charleston or Travis.

Various examples of Special Markings were reviewed including Shelf Life, Project Codes, Expedited Shipments and ESD.

Shipment documentation requirements include Receiving Reports, Kit Content Lists and Packing Lists.

Hazardous Materials markings are in accordance with the regulation applicable to the mode of shipment. Ammunition and Explosives have their own specific Identification marking for unit/intermediate and exterior containers. The bar code requirements have transitioned from linear bar code (3 of 9) to 2D symbol (PDF417).

1. Basic Identification Marking for unit packs must include:

- a. Gross Weight
- b. Cube
- c. Military Shipment Label
- d. Quantity & Unit of Issue
- e. Project Code Labels



d. Quantity and Unit of Issue

2. Exterior Container Bar Code requirements include all of the following except:

- a. CAGE Code
- b. Part Number
- c. Contractor Shipment Number
- d. NSN
- e. Contract Number



b. Part Number

3. The Military Shipment Label may be described in general terms as:

- a. Special Handling Label**
- b. Shipment Content Label**
- c. Hazard Warning Label**
- d. Identification Bar Code Label**
- e. Address Label**



e. Address Label

- 4. Passive Radio Frequency Identification (RFID) tags are to be applied to:**
- a. Shipping Cases**
 - b. Pallet Loads**
 - c. Shipping Cases within a Pallet Load**
 - d. All of the above**
 - e. None of the above**



d. All of the above

5. Shelf Life Markings indicate:

- a. How long the item has been left on the shelf
- b. The expected service life of an item
- c. The expected storage life of an item
- d. How much Shelf space the item will need
- e. What storage conditions are required



c. The expected storage life of an item