



## DoD MANUAL 4140.27, VOLUME 2

# DoD SHELF-LIFE MANAGEMENT PROGRAM: MATERIEL QUALITY CONTROL STORAGE STANDARDS

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**Purpose:** This manual is composed of two volumes, each containing its own purpose. In accordance with the authority in DoD Directive 5134.12, policy in DoD Instruction 4140.01, and procedures in Volume 5 of DoD Manual (DoDM) 4140.01:

- The manual implements policy, assigns responsibilities, and provides procedures for the shelf -life program to identify and manage items having deteriorative characteristics and to mitigate the risk of shelf-life expiration.
- This volume provides guidance and prescribes procedures for the development, preparation, dissemination, maintenance, and application of Materiel Quality Control Storage Standards (MQCSS) for shelf-life materiel.

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## **SECTION 1: GENERAL ISSUANCE INFORMATION**

### **1.1. APPLICABILITY.** This volume:

a. Applies to:

(1) OSD, the Military Departments, (including the Coast Guard at all times, including when it is a Service in the Department of Homeland Security by agreement with that Department), the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the DoD (referred to collectively in this volume as the “DoD Components”).

(2) Federal government agency organizations participating with the DoD Components, (referred to collectively in this volume as “Participating Agencies”), but only when and to the extent they adopt the terms of this volume, e.g. the General Services Administration, Federal Aviation Administration, and National Aeronautics and Space Administration.

(3) DoD Components and Participating Agencies responsible for life-cycle management of supplies to include acquisition, wholesale, retail, and consumer or end user.

b. Does not apply to Class I Perishable Subsistence, Class III Bulk Petroleum, Class V Ammunition, Nuclear Ordnance, Class VIII-B Blood and Fluids, or local stock numbers (LSNs).

## SECTION 2: RESPONSIBILITIES

**2.1. ASSISTANT SECRETARY OF DEFENSE FOR LOGISTICS AND MATERIEL READINESS.** Under the authority, direction, and control of the Under Secretary of Defense for Acquisition, Technology, and Logistics, the Assistant Secretary of Defense for Logistics and Materiel Readiness develops policy and provides guidance for the management of MQCSS for shelf-life items and ensures implementation of policy in a uniform manner throughout the DoD.

**2.2. DIRECTOR, DEFENSE LOGISTICS AGENCY (DLA).** In addition to the responsibilities in Paragraph 2.3, the Director, DLA:

- a. Administers DoD MQCSS shelf-life management procedures in accordance with Volume 5 of DoDM 4140.01.
- b. Maintains the DoD Shelf-life website (<https://www.shelflife.dla.mil>), including the Shelf-life Extension System (SLES).

**2.3. DOD COMPONENT AND PARTICIPATING AGENCY HEADS.** The DoD Component and Participating Agency heads:

- a. Develop, update, and maintain storage standard information for Type II (extendible) shelf-life items for which their respective DoD Component or Participating Agency has integrated materiel management (IMM) responsibility in SLES.
- b. Develop, update, and maintain shelf-life storage standard technical information as part of the materiel developer logistics support and quality assurance portions of the technical data package and provide shelf-life storage standards, as needed, to the responsible inventory control point (ICP).
- c. Provide previously developed storage standard information to gaining ICP upon logistics reassignment of IMM responsibility.
- d. Implement DoD MQCSS shelf-life management policies and procedures in a uniform manner; and monitor and evaluate their effectiveness.
- e. Utilize the SLES for extending Type II shelf-life items.
- f. Maintain a liaison with the other Military Services and Participating Agencies to resolve issues related to the MQCSS program.
- g. Budget and program adequate resources to accomplish the requirements in this volume.

## SECTION 3: SHELF-LIFE EXTENSION PROCEDURES

**3.1. DOD SLES.** The web-based SLES, accessed via <https://www.shelflife.dla.mil>, is the central DoD data repository for MQCSS information and the quality status list (QSL) of DoD-approved laboratory test results.

**a. MQCSS System.** The MQCSS system is the authority for shelf-life extension when only visual inspection of the materiel is required. MQCSS visual inspection criteria may also be specified for materiel in conjunction with laboratory testing, machine testing, or restoration. The MQCSS will contain the data elements listed in Table 1. Data elements for MQCSS are defined in the Glossary.

(1) The managing ICP will input shelf-life storage standards into the MQCSS system. The data elements marked with an asterisk in Table 1 are mandatory fields. Supplemental ICP-unique MQCSS documents may be added to the system but will not substitute for any data elements. When MQCSS data elements are unpopulated without justification, or contain inaccurate or unclear information, the applicable ICP shelf-life focal point listed on the DoD Shelf-Life website is responsible for remedial action.

**Table 1. MQCSS Data Elements**

DATA ELEMENT	EXAMPLE INPUT	CODE DEFINITION SOURCE
National Stock Number (NSN)	1234-00-123-4567	DoD 4100.39-M, Volume (Vol) 4
Approved Item Name	Widget	H6 Federal Item Name Directive
Unit Price	\$49.95	DoD 4100.39-M, Vol 10 Table 97
Unit of Issue	EA	DoD 4100.39-M, Vol 10 Table 53
Source of Supply (SOS) Code	SMS	DoD 4100.39-M, Vol 10 Table 103
Acquisition Advice Code	H	DoD 4100.39-M, Vol 10 Table 58
Inspection Type Code *	V & L	DoDM 4140.27, Vol 2
Visual Defect Characteristics Code(s)*	A1, B2, C4, F5, etc.	SLES
Shelf-life code (SLC)	9	DoDM 4140.27, Vol 1
Shelf-life Months	60	DoDM 4140.27, Vol 1
Shelf-life Item Type	II	DoDM 4140.27, Vol 1
Extension Months*	30, 20, 10	DoDM 4140.27, Vol 2
Number of Extensions*	3	DoDM 4140.27, Vol 2
Maximum Age (in months)	120	DoDM 4140.27, Vol 2
Technical Publications	Supply Bulletin 700-XX, Federal Standard-793	DoDM 4140.27, Vol 2
Item Type Storage Code	A	DoD 4100.39-M, Vol 10 Table 182
Sampling Plan	ANSI/ASQ Z1.4	ANSI/ASQ Z1.4 or MIL-STD-1916
AQL	6.5	ANSI/ASQ Z1.4
DATA ELEMENT	EXAMPLE INPUT	CODE DEFINITION SOURCE
Inspection or Verification Level Code	G2 or verification level (VL)-II	ANSI/ASQ Z1.4 or MIL-STD-1916
Hazardous Materials Indicator Code	Y	DoD 4100.39-M, Vol 10 Table 179

(2) If American National Standards Institute/American Society for Quality (ANSI/ASQ) Z1.4 is cited, acceptable quality limit (AQL) and an inspection level code will be specified. If Military Standard (MIL-STD)-1916 is cited, a verification level code will be specified and AQL will be blank.

**b. QSL.** The QSL and MQCSS together are the authority for shelf-life extension when laboratory or machine testing is required. The QSL is the DoD recognized central repository of test results for Type II shelf-life items that have been tested by DoD-approved laboratories. The QSL does not contain test results for all NSN and lot or batch combinations contained in the DoD inventory.

(1) Storage activities at all levels (i.e., wholesale, retail, consumer, and end user) will:

(a) Use QSL test results to extend or dispose of their materiel.

(b) Use QSL test results with supply condition code (SCC) A as the authority to extend Type II shelf-life if the materiel meets the requirements in Paragraph 3.2, provided the materiel has been stored and packaged as specified by the IMM.

(c) Use QSL test results with SCC H as authority for disposal of materiel.

**Table 2. QSL Data Elements**

DATA ELEMENT	EXAMPLE INPUT	NOTES
National Stock Number	XXXX-XX-XXX-XXXX	N/A
Approved Item Name	Widget	N/A
Contract Number	SPM4AR-09-D-0002	N/A
Source of Supply	SMS	N/A
Lot/Batch Number	A123	N/A
Federal or Military Specification	MIL-PRF-9999	Includes DoD-adopted Non-Government Standards
Date Manufactured	MM YYYY	N/A
Date Tested	MM YYYY	N/A
Next Inspect/Test Date	MM YYYY	N/A
DATA ELEMENT	EXAMPLE INPUT	NOTES
Test Results	PASS	PASS or FAIL
Issue To	All	Issue to all DoD Components and Participating Agencies. For restricted use, specify applicable DoD Component(s) or Participating Agency
Issue To	Disposal	Condemned – do not issue and send to disposal
Laboratory Code	POE	Laboratory performing the testing

(2) Table 2 lists the QSL data elements used within the SLES. QSL test results will be associated to Type II shelf-life items by matching NSN, lot or batch number, contract number,

and date manufactured (when available). Type II shelf-life items that do not have matching identification data in the QSL have either:

- (a) Not had samples submitted for testing.
- (b) Results are pending from testing.
- (c) No requirements for laboratory testing.
- (d) Requirements for 100 percent testing or restoration.

**c. Feedback.** When data elements in the DoD SLES are unpopulated without justification, or contain inaccurate or un-interpretable information, deficiencies may be reported using the automated SLES “feedback” feature.

(1) The ICP shelf-life focal point or the DoD Component or Participating Agency shelf-life board representative will provide response to the SLES feedback within 5 business days of receipt. If the feedback cannot be answered within this timeframe, a response to the generator with an updated status is required.

(2) When feedback is submitted, the generator will receive a confirmation tracking number. If a response or updated status is not received within 5 business days, the generator may contact the Director, DoD Shelf-Life Program, at SLES.DOD@dla.mil for resolution.

**d. SLC Challenge.** The SLC challenge feature in the SLES is used to request a re-evaluation of the SLC associated with an NSN. Challenge submissions should include a recommended alternative shelf-life period with justification.

(1) When a SLC challenge is submitted, the managing ICP will provide a response to the challenge within 5 business days of receipt. If the SLC challenge cannot be answered within this timeframe, a response to the generator with an updated status is required.

(2) The engineering support activity (ESA) will provide assistance as needed in response to SLC challenges.

(3) When the SLC challenge results in a change to the SLC, the managing ICP will update MQCSS records, if necessary, and Federal Logistics Information System records.

(4) If a response or updated status is not received within 5 business days, the generator may contact the Director, DoD Shelf-Life Program, at SLES.DOD@dla.mil for resolution.

**3.2. SHELF-LIFE EXTENSION PROCESS.** All DoD storage activities and end users of shelf-life materiel will:

a. Use the complete set of data contained in DoD MQCSS when determining how to properly extend the shelf-life of Type II items.

b. Maintain ready-for-issue status of materiel by starting the shelf-life extension process before materiel migrates out of SCC A.

(1) For Type II shelf-life items not planned to be placed into service before the inspect/test date, the shelf-life extension process should begin:

- (a) Six months before the inspect/test date for items requiring visual inspections only.
- (b) Nine months before the inspect/test date for items requiring laboratory testing.

(2) When awaiting inspection or test results, suspended and unserviceable stock will be SCC classified in accordance with Defense Logistics Manual (DLM) 4000.25-2.

c. Extend the shelf-life materiel that requires visual inspection only after successful completion of all visual inspection criteria. Compute the next inspect/test date by adding the applicable extension months to the most recent inspect/test date.

**3.3. VISUAL INSPECTIONS.** All DoD storage activities and end users of shelf-life materiel will accomplish visual inspections:

a. For Type II items using the criteria in the MQCSS visual defect characteristics codes listed in SLES. In addition to the MQCSS visual defect characteristics codes, refer to and perform all applicable inspection criteria referenced in the service technical publications sited in the SLES. Wholesale storage activities will only use MQCSS visual defect characteristics codes when performing visual inspection.

b. Before laboratory testing, machine testing or restorative action. Materiel must pass visual inspection in accordance with Paragraph 3.3.a before sending samples for testing or restoration. Accomplish restoration actions on a 100 percent basis except for:

- (1) Wholesale storage activities, which are not required to perform restorative actions.
- (2) Items that fail visual inspection.

c. On a 100 percent basis unless:

- (1) The large number of items on hand makes it cost prohibitive.
- (2) The inspection will result in damage to the item.

d. On a 100 percent basis for items that have missing or damaged packaging. Only extend the shelf-life for materiel that passes visual inspection using the criteria contained in DoD SLES. Failure of one or more criteria results in a failed inspection unless otherwise indicated in the applicable sampling plan in SLES.



**3.4. LABORATORY OR MACHINE TESTING.** When not provided by the ESA, the ICP will develop the criteria for, and ensure availability of, DoD-approved laboratories to perform shelf-life extension testing.

a. When Type II shelf-life items require laboratory or machine testing, all storage activities will:

(1) Initially assess whether prior testing has already been accomplished as described in Paragraph 3.1.b.

(2) Submit a DD Form 1225, "Storage Quality Control Report," to the materiel owner(s) requesting disposition in accordance with DLAI 4145.4/AR 740-3/AFJMAN 23-125(IP)/NAVSUPINST 4400.100/MCO 4450.15 when QSL test results can't be applied to the materiel.

b. Materiel owners will:

(1) Respond to requests for shelf-life extension testing when received from storage activities by providing sampling and test laboratory ship-to instructions to storage activities using DD Form 1225.

(2) Determine whether it would be cost-effective to submit a sample for testing by factoring in:

(a) The quantity and cost of inventory on-hand, item application criticality, DoD-approved laboratory availability, testing costs, transportation costs, disposal costs to include hazardous waste when applicable, and availability of resupply.

(b) Consideration of higher-level on-hand inventories of the same NSN and lot or batch number, particularly for hazardous materiel, to the greatest extent possible, e.g. visibility in enterprise inventory data systems.

c. The testing or maintenance activity will provide the next inspect/test date for items that have undergone or passed restoration, laboratory or machine testing.

d. Specific DoD-approved laboratory contact information is available in the SLES or by contacting the appropriate DoD Component or Participating Agency shelf-life board representative listed on the DoD shelf-life web site. Unless otherwise instructed, the storage activity will complete a DD Form 1222, "Request for and Results of Tests" and attach to the samples for shipment. DoD-approved laboratories will provide test results to requestors using DD Form 1222 and also ensure that test results are entered into the QSL.

**3.5. SAMPLING.** All DoD storage activities and end users of shelf-life materiel will:

a. Accomplish sampling in accordance with the sampling plan, acceptable quality limit, and inspection level when specified in the DoD SLES MQCSS data, or in accordance with testing laboratory instructions.

- b. Make every effort to obtain a random sample from the entire on-hand inventory within the specific lot or batch and contract number.
- c. Package to contract specified packaging requirements, classify to the applicable supply condition code, and return to storage any sample items that are still in a serviceable condition after inspection.
- d. Request disposition instructions for unserviceable sample items.
- e. Mark or label the unit-of-issue containers with a statement indicating the amount of the sample when smaller-size samples are extracted from larger-size unit-of-issue containers, e.g., 1-gallon sample extracted for shelf-life testing.

**3.6. APPLYING SHELF-LIFE EXTENSIONS.** All DoD storage activities and end users of shelf-life materiel will:

- a. Apply extensions based on the MQCSS Inspection Type Code when a successful inspection or test is accomplished, as long as the maximum age of the materiel is not exceeded.
- b. Process Type II items that do not successfully pass inspection, test, or restorative action for disposition in accordance with DoD 4160.21-M.
- c. Apply Type II shelf-life extensions to materiel requiring:
  - (1) Visual inspection in accordance with Paragraph 3.3. Extension will only be applied to local on-hand inventory with the same NSN and lot or batch number.
  - (2) Laboratory or machine testing for materiel that has:
    - (a) Passed visual inspection in accordance with Paragraph 3.3.a and undergone sample submission and has passing test results; or
    - (b) The same identification as the passing test results in the QSL (NSN, lot or batch number, contract number, and date manufactured, when available) and been properly stored in accordance with MQCSS before, during, and after the shelf-life extension process.
  - (3) Restoration for materiel that has passed visual inspection and restoration has been accomplished on a 100 percent basis.

**3.7. SHELF-LIFE EXTENSION NOTICE, DD FORM 2477-SERIES.** For Type II items that have successfully passed visual inspection, testing, restoration, or any combination of these measures, DoD storage activities and end users of shelf-life materiel will:

- a. Affix a DD Form 2477-series, “Shelf-Life Extension Notice,” to all exterior, intermediate, and unit pack containers during storage and upon issue or shipment.
- b. Display the DD Form 2477 in a conspicuous place at each applicable storage location.

c. Produce the DD Form 2477-series. This form is available in three sizes - DD Form 2477-1: Large “Shelf-Life Extension Notice (8” x 11.5”),” DD Form 2477-2: Medium “Shelf-Life Extension Notice (3” x 5”),” and DD Form 2477-3: Small “Shelf-Life Extension Notice (1” x 3”)”. The DD Form 2477-series shelf-life extension notices may be locally produced and modified in size only when necessary due to the size of the container.

d. Complete all entries on the shelf-life extension notice. When authorized multiple extensions are accomplished, additional shelf-life extension notices must not obscure any original markings, labels, or prior extension notices on the container. For items requiring:

(1) Only visual inspection, compute the next inspect/test date by adding the applicable extension months, as specified in SLES, to the most recent inspect/test date.

(2) Testing, the next inspect/test date will be provided by the test laboratory.

(3) Restoration, the next inspect/test date will be provided by the maintenance activity.

e. Place a sufficient number of preprinted notices inside a packing envelope and attach to the number one shipping container at time of issue or shipment when resources are not available to apply shelf-life extension notices to unit-of-issue and intermediate packages. Plainly mark the packing envelope to indicate that shelf-life extension notices are enclosed.

f. Place the largest shelf-life extension notice in front of the storage location as needed for extended materiel in bulk storage. For extended materiel in bin storage, display the smallest or intermediate shelf-life extension notice at the location as needed.

g. Securely attach the largest shelf-life extension notice to two sides of each unitized load, in addition to individual container labels for shipments of unitized loads which contain the same extended materiel (e.g., pallets of banded or stretch-wrapped containers). When shrink, spin, or stretch wrap is used, insert the notice under these.

h. Attach the largest or intermediate shelf-life extension notice to each individual shipping container for:

(1) Shipments of unitized loads that contain different line items.

(2) Shipments of less-than-unit-load quantities.

i. Ensure shelf-life extension notices do not obscure hazardous material information, when applicable, as required in accordance with Subpart 1910.1200 of Title 29, Code of Federal Regulations or Part 172 of Title 49, Code of Federal Regulations.

j. Inspect the materiel and ensure shelf-life extension notices have been previously applied to all containers, or provided by the shipper as described in Paragraph 3.6.e when extended materiel is received. Identify shipments with missing notices on the Supply Discrepancy Report (SDR) in accordance with the provisions outlined in Volume 2 of DLM 4000.25 using discrepancy code P306 for shelf-life markings omitted, incorrect, or not legible. Research the QSL for updated extension information before materiel disposal.

### 3.8. SCC MIGRATION.

**a. Type I, Non-extendible Shelf-life Items.** Except for some kits and specially designated medical pharmaceutical items, Type I shelf-life items have an assigned finite shelf-life and are not authorized for extension. Type I, non-extendible shelf-life items will downgrade from SCC A to B to C to H in accordance with DLM 4000.25-2 and Volume 2 of DLM 4000.25. Repairable shelf-life materiel may be downgraded to SCC F per materiel owner's instructions. When materiel is downgraded to SCC H condition, the materiel owner will initiate disposal action and process materiel for disposal in accordance with DoD 4160.21-M. An exception is some medical pharmaceuticals in Federal Supply Class 6505, which is covered by the DoD Food and Drug Administration Shelf-Life Extension Program.

**b. Type II, Extendible Shelf-life Items.** If Type II shelf-life items cannot be inspected or tested while still in SCC A, DoD storage activities will:

(1) Downgrade this materiel to SCC B, C, and then J until the laboratory test results or disposition instructions are received, in accordance with DLM 4000.25-2 and Volume 2 of DLM 4000.25.

(2) Place the materiel in the appropriate SCC when the laboratory test results or disposition instructions are received.

(3) Downgrade the materiel from SCC B to C to H when Type II shelf-life items reach their maximum age. Repairable shelf-life materiel may be downgraded to SCC F per materiel owner's instructions.

#### **c. SCC Downgrades.**

(1) In accordance with DLM 4000.25-2 and Volume 2 of DLM 4000.25, DoD storage activities will:

(a) Use the timeframes for SCC J and K suspended materiel.

(b) Maintain inventory record of shelf-life materiel by NSN, SCC, and owner.

(2) For shelf-life materiel in SCC L, after litigation is resolved and it is determined the contractor is at fault, the ICP will obtain replacement materiel from the contractor for any expired materiel or any materiel with less than 6 months shelf-life remaining.

(3) DoD storage activities will continue to:

(a) Apply storage standards to SCC J, K, and L downgraded shelf-life materiel.

(b) Segregate and placard shelf-life materiel.

(c) Perform other normal practices associated with shelf-life condition code migration.

(4) End users of shelf-life materiel will follow procedures in Paragraph 3.7 except for SCC requirements. SCC migration is not required for end users but is encouraged for successful management of shelf-life materiel.

**3.9. SHELF-LIFE EXTENSIONS FOR FOREIGN MILITARY SALES (FMS).** Criteria and procedures for extensions of items or materiel in the custody of the FMS customer are identical to domestic assets. Security assistance organizations with responsibility over FMS cases may access the DoD SLES for applicable shelf-life extension data and test results.

## SECTION 4: STORAGE STANDARDS

### 4.1. STORAGE OF SHELF-LIFE ITEMS. DoD storage activities and end users will:

- a. Store all shelf-life items in proper storage environments in accordance with the item type storage code during the entire shelf-life period and during all extension periods.
- b. Not compromise or open the integrity of the unit pack, as this triggers service life.

### 4.2. TECHNICAL INFORMATION.

- a. The ESA will develop initial shelf-life storage standard technical information and, when applicable, criteria for performing shelf-life extension testing and availability of DoD-approved laboratories as part of the logistics support and quality assurance portions of the technical data package. Shelf-life storage standards include data elements as identified in Table 1. Upon receipt of the information provided by the ESA, the ICP will update the data records in the DoD SLES as well as any ICP-unique storage standard documents as described in Section 3.
- b. The ESA will provide validation of storage standards technical information at the request of the primary inventory control activity or the ICP.
- c. The ICP will establish and maintain MQCSS data records in the DoD SLES, as described in Paragraph 3.1, for all Type II shelf-life items of which they have IMM responsibility. SLES data records may also be developed and maintained for Type I shelf-life items that have particular storage or surveillance requirements that directly affect the shelf-life of the materiel.
- d. The ICP will request engineering support from ESAs when a SLC change or an update to the extension information to the MQCSS data records is required for shelf-life NSNs that are critical application items or critical safety items.

### 4.3. SHELF-LIFE TRAINING. DoD Components and Participating Agencies will:

- a. Assign personnel who are determined to be qualified by the local chain of command or by the ICP as documented in the corresponding MQCSS data record(s) to perform visual shelf-life inspections.
- b. Train personnel to properly perform visual inspections for Type II shelf-life extensions. It is recommended that inspection personnel complete DoD shelf-life training as described in Volume 1 of DoDM 4140.27.

## GLOSSARY

### G.1. ACRONYMS.

AQL	acceptable quality limit
ANSI/ASQ	American National Standards Institute/American Society for Quality
AR	Army Regulation
DLA	Defense Logistics Agency
DLAD	DLA Directive
DLAR	DLA Regulation
DLAI	DLA Instruction
DLM	Defense Logistics Manual
DoDM	DoD Manual
ESA	engineering support activity
FMS	Foreign Military Sales
ICP	inventory control point
IMM	integrated materiel management
LSN	local stock number
MCO	Marine Corps Order
MIL-STD	Military Standard
MM	month
MQCSS	Materiel Quality Control Storage Standards
NAVSUPINST	Naval Supply Systems Command Instruction
NSN	national stock number
QSL	quality status list
QTR	quarter
SCC	supply condition code
SLC	shelf-life code
SLES	Shelf-Life Extension System
SOS	source of supply
VL	verification level
Vol	Volume
YY	year

**G.2. DEFINITIONS.** These terms and their definitions are for the purpose of this issuance.

**advice code.** Defined in DLM 4000.25-1.

**AQL.** The quality level that is the worst tolerable process average when a continuing series of lots is submitted for acceptance sampling.

**characteristic.** A physical, chemical, visual, functional, or any other identifiable property of an item.

**date assembled.** The date with the month and year (MM/YY) for items or parts are assembled into components, assemblies, sets, kits, or outfits, or the date various components, assemblies, sets, kits, or outfits are assembled into a larger unit.

**date cured.** The date with the quarter and year (QTR/YY) or month and year (MM/YY) for the item or materiel was altered industrially. The process is sometimes referred to as vulcanizing or crosslinking, as to vulcanize (rubber) or to treat (synthetic elastomers) with heat or chemicals to make them infusible. The cure date may be indicated by the calendar quarter followed by the calendar year (e.g., 4Q05 = fourth quarter, 2005), or calendar month and year.

**date manufactured.** The date (MM/YY) an item, materiel, or commodity was fabricated, processed, produced, or formed for use. For drugs, chemicals, and biological materials, the date of manufacture for products submitted to the Food and Drug Administration for certification before release is the date of the official certification notice. The date of manufacture will not be shown for medical items having expiration dates.

**date packed.** The date (MM/YY) used for subsistence only on which the product was packed in the primary unit container regardless of dates of secondary packing, shipping, or additional processing.

**defect.** A departure of a quality characteristic from its intended level or state that occurs with a severity sufficient to cause an associated product or service not to satisfy intended normal, or foreseeable, usage requirements.

Critical defects result in hazardous or unsafe conditions for individuals using, maintaining, or depending upon the product; or prevent performance of the tactical function of a major end item.

Major defects result in failure or reduce the usability of an item for its intended purpose. Minor defects have minimal effect on the effective use of an item.

**deterioration.** A change in an item's characteristics caused by an environment that adversely affects its ability to function as intended.

**DoD-approved shelf-life testing laboratory.** A laboratory that has been certified by an entity acting under the purview of the DoD Shelf-Life Program as authorized to perform shelf-life testing of DoD materiel. DoD-approved laboratories will undergo recertification on a regular recurring basis to maintain current DoD-approved status.



**end-user.** Defined in DoDM 4140.01.

**engineering support.** Defined in AR 715-13/DLAR 3200.1/NAVSUPINST 4120.30/AFR 400-40/MCO 4000.18C.

**ESA.** Defined in AR 715-13/DLAR 3200.1/NAVSUPINST 4120.30/AFR 400-40/MCO 4000.18C.

**expiration date.** Defined in Volume 1 of DoDM 4140.27.

**extension months.** A multi-position numeric field used within the DoD SLES to identify the shelf-life extension time period(s), in months, of a Type II shelf-life item. When the extension months are multiple and variable, extension month values will be established to accommodate all subsequent inspections allowable (see number of extensions). The initial shelf-life period added to the cumulative total of all extension month values must not exceed the maximum age, if defined.

**hazardous item.** Defined in Volume 5 of DoDM 4140.01.

**hazardous materials indicator code.** Defined in DoD 4100.39-M.

**ICP.** Defined in Join Publication 1-02.

**inspect/test date.** Defined in Volume 1 of DoDM 4140.27.

**inspection level code.** A two-position standardized code used within the SLES and selected from ASQ Z1.4. It determines the relationship between the lot or batch size and the sample size.

The inspection level to be used for any peculiar requirements will be prescribed by the responsible authority.

Three inspection levels, G1, G2, and G3, (corresponding to I, II, and III from ANSI/ASQ Z1.4) are given for general use. Four additional special levels, S1, S2, S3, and S4, are also available and may be used where relatively small sample sizes are necessary and large sampling risks can or must be tolerated in accordance with AR 715-13/DLAR 3200.1/NAVSUPINST 4120.30/AFR 400-40/MCO 4000.18C.

In the designation of inspection levels S1 through S4, care must be exercised to avoid AQL inconsistent with these inspection levels. See the definition for VL if the sampling plan in MIL-STD-1916 is to be used.

**inspection type code.** A one-position standardized code used within the DoD SLES to specify one or more of the following inspection types that are necessary for extending the shelf-life of an item:

**code V.** Visual inspection

**code L.** Laboratory testing at a DoD-approved shelf-life laboratory

**code M.** Machine testing

**code R.** Restorative action

**IMM.** Defined in Joint Publication 1-02.

**item type storage code.** Defined in DoD 4100.39-M.

**laboratory code.** A three-position, standardized code used within the DoD SLES to specify the identity of a DoD-approved laboratory designated to perform shelf-life extension testing for a particular commodity.

**laboratory testing.** A scientific procedure applied in a controlled manner by academically trained personnel in a facility using proper laboratory instruments to determine a physical or chemical change by which a substance may be detected or properties ascertained. The physical measurement to determine conformance of an item to specified tolerances.

**lot, batch, or identification control number.** Defined in MIL-STD-129R.

**machine testing.** A performed test utilizing specified and certified Defense Chemical Test Equipment to evaluate assets during storage and usage for the purpose of assessing serviceability and maintainability during the cyclic shelf-life management process.

**materiel developer.** The organization responsible for research and development and production validation of an item.

**maximum age.** A multi-position numeric field used within DoD SLES to identify the maximum number of shelf-life months of a Type II item, and computed by adding the original shelf-life period to the cumulative sum of all authorized extension months. Materiel must meet extension criteria before reaching maximum age. For example, if an item has a 12 month shelf-life with one extension of 12 months, the maximum age is 24 months.

**MQCSS.** Instructions for the inspection, testing, and restoration of items in storage, which encompass requirements including type of storage environment, preservation, packaging, exercising, and inspection or testing criteria with time-phasing to determine the serviceability status of materiel in storage and the degree of degradation that has occurred.

**next inspect/test date.** The date by which Type II (extendible) shelf-life items may be subjected to an authorized subsequent shelf-life inspection, testing, or restoration. Next inspect/test dates will be computed by adding the extension months to the inspect/test date.

**nomenclature.** A noun and any necessary modifying adjectives required to describe and identify an item of supply.

**nonconformity.** A departure of a quality characteristic from its intended level or state that occurs with severity sufficient to cause an associated product or service not to meet a specification requirement. (See also defect)

**number of extensions.** A numeric field used within the DoD SLES to depict the total number of possible shelf-life extensions (with their corresponding extension months) permitted, in addition to the original shelf-life period, and which is determined by factors including rate and degree of item degradation and associated criteria, item criticality, packaging, and storage environment.

**preservation.** Defined in Volume 5 of DoDM 4140.01.

**quality.** The composite of material attributes including performance features and characteristics of a product or service to satisfy a given need.

**QSL.** A DoD recognized listing of accumulated test results in which the laboratory testing of Type II shelf-life item samples has been accomplished by DoD-approved laboratories, and can be used as an authority for extending existing inventories with the same identification as long as MQCSS requirements have been adhered to.

**restoration.** Actions performed on an item to restore it to near original or an acceptable and improved condition.

**retail.** Defined in DoDM 4140.01.

**sample.** One or more items randomly drawn from the entire lot or batch, the total number of which is considered the sample size.

**sampling plan.** A lot sampling plan is a statement of the sample size or sizes to be used and the associated acceptance and rejection numbers. A sampling plan could include one or more of:

ANSI/ASQ Z1.4 and corresponding AQL and Inspection Level.

MIL-STD-1916 and corresponding Verification Level (VL).

Fixed Single Sample Size regardless of lot size, and the corresponding accept and reject criteria.

Other, i.e., any other statistically sound sampling plan scheme with corresponding parameters. Contact a DoD-approved laboratory for additional guidance.

**service life.** Defined in Volume 1 of DoDM 4140.27.

**shelf-life.** Defined in Volume 1 of DoDM 4140.27.

**shelf-life code.** Defined in Volume 1 of DoDM 4140.27.

**shelf-life months.** The total period of time in months that an item may remain in storage and be able to fulfill its intended purpose, beginning with the date manufactured, date cured, date assembled, or date packed (subsistence only), and ending with the expiration date for Type I (non-extendible) items or the current inspect/test date for Type II (extendible) items.

**shelf-life item.** Defined in Volume 1 of DoDM 4140.27.

**SLES.** An automated Web-based system applicable to Type II (extendible) shelf-life materiel that contains the MQCSS information and QSL laboratory test results, to be used for extending shelf-life materiel.

**SOS code.** Defined in Volume 10, Table 103 of DoD 4100.39-M.

**storage activity.** Defined in Volume 5 of DoD 4140.01

**technical data package.** A technical description of an item adequate for supporting an acquisition strategy, production, engineering and logistics support. The description defines the required design configuration and procedures required to ensure adequacy of item performance. It consists of all applicable technical data such as drawings and associated lists, patterns, specifications, standards, performance standards, quality assurance requirements, software and packaging details.

**technical publications.** A multi-position field used within the DoD SLES which specifies applicable publications which outline additional procedures not identified in the MQCSS coding structure (e.g., Military or Federal Specification, Technical Order, Technical Instruction, Technical Manual, Maintenance Instruction, Supply Instruction, SB).

**type I shelf-life item.** Defined in Volume 1 of DoDM 4140.27.

**type II shelf-life item.** Defined in Volume 1 of DoDM 4140.27.

**unit pack.** Defined in MIL-STD-129R.

**visual defect characteristics code.** A code used within the DoD SLES to identify item and package characteristics that require visual inspection for the purposes of determining the serviceability of materiel and extending the shelf-life period. Visual defect characteristics code definitions are listed on the DoD Shelf-Life website and in SLES.

**visual inspection.** A specific type of inspection that primarily includes evaluation using sensory assessment, e.g., sight. It consists of non-destructive investigation in most cases and is conducted without the use of special laboratory equipment. It may also include measuring, examining, or gauging one or more characteristics of an item and its packaging and comparing results with specified requirements in order to establish whether conformity is achieved for each characteristic.

**VL.** Prescribes the level of significance or utility of a characteristic to the user. The amount of effort to assure conformance can be allocated on the basis of importance to the user. Major characteristics will require more verification effort than minor characteristics. VL-VII requires the highest level of effort, and the effort decreases as the VL decreases to the lowest level, VL-I in accordance with MIL-STD-1916.

**wholesale.** Defined in Volume 5 of DoD 4140.01.

## REFERENCES

- Air Force Instruction 41-106, "Medical Readiness Program Management," July 1, 2011
- American National Standards Institute/American Society for Quality Z1.4, "Sampling Procedures and Tables for Inspection by Attributes," current edition
- AR 715-13/DLAR 3200.1/NAVSUPINST 4120.30/AFR 400-40/MCO 4000.18C, "Engineering Support for Items Supplied by Defense Logistics Agency and General Services Administration," current edition
- Code of Federal Regulations, Title 29, Subpart 1910.1200
- Code of Federal Regulations, Title 49, Part 172
- Defense Logistics Agency Instruction 4145.4/AR 740-3/AFJMAN 23-125(IP)/NAVSUPINST 4400.100A/MCO 4450.15A, "Stock Readiness," November 9, 2012
- Defense Logistics Agency Directive 4155.37/AR 702-18/NAVSUPINST 4410.56A/AFJMAN 23-232/MCO 4450.13A, "Materiel Quality Control Storage Standards for Shelf-Life Materiel," April 21, 2006
- Defense Logistics Manual 4000.25, Volume 2, "Defense Logistics Management System: Supply Standards and Procedures," June 25, 2013
- Defense Logistics Manual 4000.25-2, "Military Standard Transaction Reporting and Accounting Procedures (MILSTRAP)," June 13, 2012
- DoD Directive 5134.12, "Assistant Secretary of Defense for Logistics and Materiel Readiness (ASD(L&MR)), May 25, 2000, as amended
- DoD Instruction 4140.01, "DoD Supply Chain Materiel Management Policy," December 14, 2011
- DoD Manual 4100.39-M, Volume 4, "Federal Logistics Information System (FLIS) Procedures Manual: Item Identification," May 2010
- DoD Manual 4100.39-M, Volume 10, "Federal Logistics Information System (FLIS) Procedures Manual: Multiple Application References/Instructions/Tables and Grids," October 2010
- DoD Manual 4140.01, Volume 5, "DoD Supply Chain Materiel Management Procedures: Delivery of Materiel," February 10, 2014
- DoD Manual 4140.27, Volume 1, "DoD Shelf-Life Management Program: Program Administration", July 6, 2016
- DoD Manual 4160.21, "Defense Materiel Disposition Manual," October 22, 2015
- Federal Standard FED STD 793, "Depot Storage Standards," May 22, 2006
- Joint Publication 1-02, "Department of Defense Dictionary of Military and Associated Terms," current edition
- Military Standard MIL-STD-129R, "Department of Defense Standard Practice: Military Marking for Shipment and Storage," February 18, 2014
- Military Standard MIL-STD-1916, "DoD Preferred Methods for Acceptance of Product," April 1, 1996