MILITARY PACKAGING REFERENCE GUIDE

TO

SPECIFICATIONS - MATERIALS

PROCESSES - PROCEDURES

AND METHODS

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Best Available Copy
FOREWORD

This booklet is intended as a handy reference guide for use by the students of the Joint Military Packaging Training Center. It contains reference listings of publications pertaining to the cleaning processes, drying procedures, preservative materials, methods of preservative application, methods and submethods of preservation, and the most common materials and formulas used for packaging and packing of military supplies and equipment. The specifications and standards include the latest revision symbols and the number of the current amendment or change, as applicable. Any revision, amendment, or change occurring after 31 Oct 1967 is not included, but will be included in the next change or revision to the booklet. This booklet should not be construed as a complete and comprehensive list of packaging publications.

Any comments concerning the booklet should be addressed to: Director, Joint Military Packaging Training Center, ATTN: AMXPT-SD, Aberdeen Proving Ground, Maryland 21005.
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IMPORTANT NOTICE

Due to reorganization within the Department of the Army, the codes for Army activities have been changed. The following table is provided as a cross-reference between new Army command symbols and former Army Technical Service symbols:

<table>
<thead>
<tr>
<th>FORMER ARMY TECHNICAL SERVICES</th>
<th>NEW ARMY COMMANDS AND ACTIVITIES</th>
</tr>
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<tr>
<td>CODE</td>
<td>CODE</td>
</tr>
<tr>
<td>CM Chemical Corps</td>
<td>MU Munitions Command</td>
</tr>
<tr>
<td>CE Corps of Engineers</td>
<td>Surgeon General</td>
</tr>
<tr>
<td>MD Army Medical Corps</td>
<td>* See below</td>
</tr>
<tr>
<td>OR Ordnance Corps</td>
<td>GL US Army Natick Laboratories</td>
</tr>
<tr>
<td>QM Quartermaster Corps</td>
<td>EL Electronics Command</td>
</tr>
<tr>
<td>SC Signal Corps</td>
<td>MO Mobility Command</td>
</tr>
<tr>
<td>TC Transportation Corps</td>
<td>WC Weapons Command</td>
</tr>
<tr>
<td></td>
<td>MR Materials Research Agency</td>
</tr>
<tr>
<td></td>
<td>MI Missile Command</td>
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</table>
The former Technical Service Code is being replaced by the code of one of the new commands reflecting interest in the document. To determine the new command code to be substituted, the FSC number appearing in the document must be checked against a table found in the Department of Defense Index of Specifications and Standards.

Following are the codes for the Navy.

**NAVY**

**FORMER NAVY CODES**

<table>
<thead>
<tr>
<th>Code</th>
<th>Bureau Name</th>
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<tbody>
<tr>
<td>WP</td>
<td>Bureau of Naval Weapons</td>
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<tr>
<td>MC</td>
<td>Marine Corps</td>
</tr>
<tr>
<td>MS</td>
<td>Bureau of Medicine and Surgery</td>
</tr>
<tr>
<td>PL</td>
<td>Bureau of Naval Personnel</td>
</tr>
<tr>
<td>SN</td>
<td>Bureau of Ships</td>
</tr>
<tr>
<td>SA</td>
<td>Bureau of Supplies and Accounts</td>
</tr>
<tr>
<td>YD</td>
<td>Bureau of Yards and Docks</td>
</tr>
<tr>
<td>CG</td>
<td>US Coast Guard Headquarters</td>
</tr>
<tr>
<td>NP</td>
<td>Publications and Printing Service</td>
</tr>
<tr>
<td>TD</td>
<td>Training Devices Center</td>
</tr>
</tbody>
</table>

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NAVY

NEW NAVY CODES

NAVMATCOM  Naval Material Command
NAVAIRSYS COM  Naval Air Systems Command
NAVSHSSYSCOM  Naval Ships Systems Command
NAVSUPSYSCOM  Naval Supply Systems Command
NAVAELCSYS.COM  Naval Electronics Systems Command
NAVORDSYS COM  Naval Ordnance Systems Command
NAVFACENGCOM  Naval Facilities Engineering Command

MC  Marine Corps
MS  Bureau of Medicine and Surgery
PL  Bureau of Personnel
CG  US Coast Guard headquarters
NP  Publications and Printing
TD  Training Devices Center
Following are the Codes for the US Air Force:

<table>
<thead>
<tr>
<th>Code</th>
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<tr>
<td>01</td>
<td>AFSPPE</td>
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<tr>
<td>03</td>
<td>APM3RB</td>
</tr>
<tr>
<td>10</td>
<td>AFSC, SCSVN</td>
</tr>
<tr>
<td>11</td>
<td>AFSC, SEP</td>
</tr>
<tr>
<td>12</td>
<td>AFSC, RPPS</td>
</tr>
<tr>
<td>13</td>
<td>AFSC, ESTS</td>
</tr>
<tr>
<td>14</td>
<td>AFSC, SSSD</td>
</tr>
<tr>
<td>15</td>
<td>AFSC, WILR</td>
</tr>
<tr>
<td>16</td>
<td>AFLC, MCMSP</td>
</tr>
<tr>
<td>17</td>
<td>AFSC, ELMES</td>
</tr>
</tbody>
</table>

- **AFSPPE**: Hq. USAF, USAF Departmental Standardization Office
- **APM3RB**: Materiel Division, Directorate of Plans and Hospitalization, Office of the Surgeon General
- **AFSC, SCSVN**: Systems Criteria Division, Directorate of Systems Policy, DCS/Systems
- **AFSC, SEP**: Research and Technology Division, Aeronautical Systems Division, Systems Engineering Group
- **AFSC, RPPS**: Air Force Rocket Propulsion Laboratory
- **AFSC, ESTS**: Electronic Systems Division
- **AFSC, SSSD**: Space Systems Division
- **AFSC, WILR**: Air Force Weapons Laboratory
- **AFLC, MCMSP**: Maintenance Systems Division
- **AFSC, ELMES**: Rome Air Development Center
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<th>Number</th>
<th>Agency/Division</th>
<th>Description</th>
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<td>ASC, BSOM</td>
<td>Ballistic Systems Division</td>
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<tr>
<td>23</td>
<td>AFLC, MCDEQ</td>
<td>Management Engineering Office, Quality Control Branch</td>
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<tr>
<td>25</td>
<td>AFLC, MCSP</td>
<td>Air Force Provisioning Policy and Procedures Office</td>
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<td>26</td>
<td>AFLC, MCSI</td>
<td>Cataloging and Standardization Division</td>
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<tr>
<td>28</td>
<td>AFLC, MCH</td>
<td>Staff Chaplain</td>
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<td>43</td>
<td>AFLC, MCTE</td>
<td>Packaging and Materials Handling Division</td>
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<tr>
<td>69</td>
<td>AFLC, SCTE</td>
<td>Air Force Packaging Evaluation Agency</td>
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<td>76</td>
<td>OJAMA, OONSS</td>
<td>Ogden Air Materiel Area</td>
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<td>71</td>
<td>OCAMA, OCNSSB</td>
<td>Oklahoma City Air Materiel Area</td>
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<td>79</td>
<td>SAAMA, SAWRCS</td>
<td>San Antonio Air Materiel Area</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
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<tr>
<td>SMAMA, SMNSS</td>
<td>Sacramento Air Materiel Area</td>
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<tr>
<td>SAAMA, SANSS</td>
<td>San Antonio Air Materiel Area</td>
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<tr>
<td>WRAMA, WRASS</td>
<td>Warner Robins Air Materiel Area</td>
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</tr>
<tr>
<td>AFLC, SCEBA</td>
<td>Interchangeability and Control Division</td>
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</tr>
<tr>
<td>USAFSS, APLC</td>
<td>USAF Security Service, 636 Communications Security Depot Group</td>
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**DEFENSE SUPPLY AGENCY**

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<td>Headquarters, Defense Supply Agency</td>
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<tr>
<td>CS</td>
<td>Defense Construction Supply Center</td>
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<tr>
<td>CT</td>
<td>Defense Clothing and Textile Supply Center</td>
</tr>
<tr>
<td>DM</td>
<td>Defense Medical Supply Center</td>
</tr>
<tr>
<td>GS</td>
<td>Defense General Supply Center</td>
</tr>
<tr>
<td>IS</td>
<td>Defense Industrial Supply Center</td>
</tr>
<tr>
<td>PS</td>
<td>Defense Fuel Supply Center</td>
</tr>
<tr>
<td>SS</td>
<td>Defense Subsistence Supply Center</td>
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<tr>
<td>IP</td>
<td>Defense Industrial Plant Equipment Center</td>
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**OTHBR**

<table>
<thead>
<tr>
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<tr>
<td>DS</td>
<td>Defense Atomic Support Agency</td>
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CLEANING PROCESSES AND MATERIALS

C-1 ANY APPLICABLE PROCESS

C-2 PETROLEUM SOLVENT CLEANING
P-D-680(2), Dry Cleaning Solvent
or
TT-T-291C, Thinner, Paint, Volatile Mineral Spirits (Petroleum-Spirits)

C-3 PETROLEUM SOLVENT CLEANING (C-2),
FOLLOWED BY FINGERPRINT REMOVER (C-9)
P-D-680(2), Dry Cleaning Solvent
TT-T-291C, Thinner, Paint, Volatile Mineral Spirits (Petroleum-Spirits)
and
MIL-C-15074B(1), Corrosion Preventive, Fingerprint Remover

C-7 VAPOR DEGREASING
O-T-275b, Tetrachloroethylene (Perchloroethylene), Technical Grade
or
O-T-634a, Trichloroethylene
C-6 PERSPIRATION AND FINGERPRINT REMOVAL
MIL-C-15074B(1) Corrosion Preventive, Fingerprint Remover
and
P-D-680(2) Dry Cleaning Solvent, or
TT-T-29lc, grade 1, Thinner; Paint, Volatile Mineral Spirits (Petroleum Spirits)

C-9 ALKALINE CLEANING
MIL-C-5543A, Cleaning; Compound, Washing Machine (for Aircraft Metal Parts); or
P-C-436b, Cleaning Compound, Alkaline Boiling Vat, (soak) hydrosteam

C-11 ELECTROCLEANING
P-C-535(1), Cleaning Compound, Plater's Electrocleaning for Steel

C-12 EMULSION CLEANING
P-C-444, Cleaning Compound, Solvent, Grease & Emulsifying

C-14 STEAM CLEANING
P-C-437, Supp 5, Cleaning Compound, High-Pressure Steam Cleaning

C-15 ABRASIVE BLAST
Materials as specified

C-16 ABRASIVE BLAST (HONING PROCESS)
Materials as specified
C-17
SOFT GRIT BLAST
MIL-G-5634A, Grain Abrasive, Soft (for Carbon Removal)

C-18
VAPOR-DEGREASING FOLLOWED BY FINGERPRINT REMOVAL
(See Processes C-7 and C-8 for Materials)

II
DRYING PROCEDURES
MIL-P-116

D-1
PREPARED COMPRESSED AIR

D-2
OVEN

D-3
INFRA-RED LAMPS

D-4
WIPING

D-5
DRAINING

III
PRESERVATIVE MATERIALS
MIL-P-116

P-1
THIN FILM PRESERVATIVE (HARD-DRYING, COLD APPLICATION)
MIL-C-16173C, grade 1, Corrosion Preventive Compound, Solvent Cutback, Cold-Application
P-2  THIN FILM PRESERVATIVE (SOFT FILM, COLD-APPLICATION)  
MIL-C-16173C, grade 2

P-3  THIN FILM PRESERVATIVE, WATER DISPLACING (SOFT FILM, COLD-APPLICATION)  
MIL-C-16173C, grade 3

P-6  LIGHT PRESERVATIVE COMPOUND (HOT DIP, SOFT FILM)  
MIL-C-11796B, class 3

P-7  MEDIUM PRESERVATIVE OIL (COLD APPLICATION)  
MIL-L-3150A(1), Lubricating Oil, Preservative, Medium

P-9  VERY LIGHT PRESERVATIVE OIL (COLD APPLICATION)  
VV-L-800, Lubrication Oil, General Purpose, Preservative, Water Displacing, Low Temperature

P-10 ENGINE PRESERVATIVE OIL  
MIL-L-21260, Lubricating Oil, Internal-Combustion Engine, Preservative;  
or  
MIL-C-6529C(2), Corrosion Preventive, Aircraft Engine  
MIL-C-8188C, Corrosion Preventive Oil, Gas Turbine Engine, Aircraft Synthetic Base
P-11  PRESERVATIVE GREASE (APPLICATION AS REQUIRED)
MIL-G-771A, Grease, Aircraft, General Purpose
or
MIL-G-10924B, Grease, Automotive and Artillery,
or
MIL-G-23627A, Grease, Aircraft and Instrument, Gear and Actuator Screw

P-14  CORROSION PREVENTIVE (FOOD HANDLING MACHINERY AND EQUIPMENT, NONTOXIC)
MIL-C-10382B, Corrosion Preventive, Petroleum, Spraying Application; for Food Handling Machinery and Equipment.

P-15  HYDRAULIC PRESERVATIVE OIL
NOTE: Specifications for hydraulic preservative oils have not been listed because of variations in system requirements. Hydraulic preservatives used shall be subject to approval by the procurement agency.

P-17  INSTRUMENT BEARING PRESERVATIVE OIL
MIL-L-6085A(2), Lubricating Oil, Instrument, Aircraft, Low Volatility.

P-18  VOLATILE CORROSION INHIBITOR
MIL-P-3420B(1), Packaging Material, Volatile Corrosion Inhibitor, Treated, Opaque. (See note under Methods of Preservative Application.)
P-19 THIN FILM PRESERVATIVE (TRANSPARENT, NONTACKY)
MIL-C-16173C, grade 4, Corrosion Preventive Compound, Solvent Cutback, Cold-Application.

P-20 LUBRICATING OIL, CONTACT (VCI TREATED)
MIL-L-46002, Lubricating Oil, Contact and Volatile Corrosion Inhibited, and
MIL-I-23310, Inhibitors, Corrosion, Volatile, Oil Type

IV
METHODS OF PRESERVATIVE APPLICATION
MIL-P-116

1. DIPPING
2. FLOW COATING
3. SLUSHING
4. BRUSHING
5. FILLING OR FLUSHING
6. FOGGING
7. SPRAYING
METHODS AND SUBMETHODS OF PRESERVATION
MIL-T-116

METHOD I
PRESERVATIVE COATING (WITH GREASE-PROOF WRAP AS REQUIRED)

METHOD IA
WATER-VAPORPROOF ENCLOSURES (WITH PRESERVATIVE AS REQUIRED)

Submethod IA-5 - Rigid Metal Container, Sealed

Submethod IA-6 - Rigid Container (items immersed in preservative, oil type, sealed)

Submethod IA-8 - Water-Vaporproof Bag, Sealed

Submethod IA-13 - Rigid Container, Other Than All-Metal, Sealed

Submethod IA-14 - Container, Bag, Container

Submethod IA-15 - Container, Bag

Submethod IA-16 - Floating Barrier
METHOD IB

STRIPPABLE COMPOUND COATING (HOT DIP)

Submethod IB-1 - Direct application of Strippable Compound

Submethod IB-2 - Aluminum Foil Wrap, Strippable Compound

METHOD IC

WATERPROOF BARRIER (WITH PRESERVATIVE AS REQUIRED)

Submethod IC-1 - Greaseproof, Waterproof Bag, Sealed

Submethod IC-2 - Container, Overwrapped with Waterproof Barrier Material, Sealed

Submethod IC-3 - Waterproof Bag, Sealed

Submethod IC-4 - Waterproof Fiber Can with Metal Ends, Sealed

Submethod IC-7 - Blister Package, Multiple Compartment, Individually Sealed

Submethod IC-8 - Skin Package, Vacuum Formed
METHOD II WATER-VAPORPROOF BARRIER WITH DESICCANT (WITH CONTACT PRESERVATIVE WHEN REQUIRED)

Submethod IIa - Floating Bag
Submethod IIb - Container, Barrier, Container
Submethod IIc - Cushioned Item Bag
Submethod IId - Rigid Metal Container, Sealed
Submethod IIe - Container, Barrier
Submethod IIf - Rigid Container, Other Than All-Metal, Sealed

METHOD III PACKAGED FOR MECHANICAL AND PHYSICAL PROTECTION ONLY

VI PACKAGING AND PACKING MATERIALS

ADHESIVES
M29-A-130a Adhesive, Contact

M29-A-179 Adhesive, Paper Label, Water-Resistant, Water Emulsion Type
ADHESIVES (CONTINUED)

M2-A-250a Adhesive, Water-Resistant (For sealing fiberboard boxes)
Amd. 1

M2-A-260a(1) Adhesive, Water-Resistant (For sealing waterproof paper)

MIL-A-388A(1) Adhesive and Sealing Compound, Cellulose Nitrate Base

MIL-A-3941A Adhesive, Paper Label, Water-Resistant

MIL-A-5092B(1) Adhesive, Rubber Base, General Purpose

BAGS AND SACKS

UU-B-38b Bag, Paper (Hardware)
Int. Amd. 1
(GSA-FSS)

UU-B-0040b Bags, Paper, Shipping
(CSA-FSS)

UU-S-48b Sacks, Shipping, Paper

PPP-b 15a Bags and Envelopes, Cellophane for Packaging

PP'-B-20b Bags, Cotton, Mailing
BAGS AND SACKS (CONTINUED)

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>FPP-B-35b</td>
<td>Bags, Textile. Shipping, Burlap, Cotton and Waterproof Laminated</td>
</tr>
<tr>
<td>PPP-S-30(2)</td>
<td>Sack, Shipping, Paper (Cushioned)</td>
</tr>
<tr>
<td>MIL-B-117D</td>
<td>Bags, Interior, Packaging</td>
</tr>
<tr>
<td>MIL-B-137A(2)</td>
<td>Bags and Sacks, for Packaging and Int. Amd.3(GL) Packing of Subsistence Items</td>
</tr>
<tr>
<td>MIL-B-22205B</td>
<td>Bags, Transparent, Flexible, Heat-Sealable, for Packaging Applications</td>
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BARRELS, DRUMS, PAILS AND KEGS

<table>
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<th>Description</th>
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<tbody>
<tr>
<td>NN-K-231e</td>
<td>Keg, Wood, Slack</td>
</tr>
<tr>
<td>PPP-B-41</td>
<td>Barrels, Wood, Slack</td>
</tr>
<tr>
<td>PPP-D-700b</td>
<td>Drums, Metal, 55-Gallon (For Acids Int. Amd.2(GL) and Corrosion Liquids)</td>
</tr>
<tr>
<td>PPP-D-705c</td>
<td>Drum: Metal Shipping, Steel (Over 12 Int. Amd.2(GL) and under 55-gallon)</td>
</tr>
<tr>
<td>PPP-D-711d</td>
<td>Drums, Metal, Shipping, Steel, Light-Int. Amd.2(GL) weight 55-gallon</td>
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<tr>
<td>PPP-D-723e</td>
<td>Drums, Fiber</td>
</tr>
<tr>
<td>Int. Amd. 1 (GSA-FSS)</td>
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</tbody>
</table>
MARRELS, DRUMS, PAILS AND KEGS (CONTINUED)

PPP-D-729b(2) Drums, Metal, 55-gallon (for Shipment of Noncorrosive Material)

PPP-F-704b Pails, Shipping, Steel 1-12 Gal.

MIL-D-112A Drums, Plywood

MIL-D-6054C Drums, Metal, Shipping and Storage w/Supp 1A
Int. Amd. 1 (GL)

MIL-D-6055b(1) Drums: Metal, Reusable, Shipping and Storage (Cap from 88 to 510 cu. in.)

MIL-D-26993A(4) Drums, Fiber, for Domestic Shipment of Desiccant

BARRIER MATERIALS

L-P-378b Plastic Sheet and Strip (Polyolefin)

L-P-512a Plastic Sheet (Sheeting), Polyethylene

PPP-B-1055 Barrier Material, Waterproofed, Flexible

MIL-B-121C Barrier Material, Greaseproofed, Waterproofed, Flexible

MIL-B-131E Barrier Material, Water-Vaporproof, Flexible

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BARRIER MATERIALS (CONTINUED)

MIL-A-143D(1) Aluminum Foil

MIL-L-10547D Liners, Case and Sheet, Overwrap; Water-Vaporproof, or Waterproof Flexible

MIL-B-13239C Barrier Material, Waterproofed, Flexible, All Temperature

MIL-F-22191B Films, Transparent, Flexible, Heat Sealable for Packaging Applications

BOXES, FIBERBOARD

PPP-B-566c Boxes, Folding, Paperboard

PPP-B-636c(2) Box, Fiberboard
Int. Amd. 3(GL)

PPP-B-640d Boxes, Fiberboard, Corrugated, Triple-Wall
BOXES, FIBERBOARD (CONTINUED)

PPP-B-655 Box, Fiberboard, Six or Eight Sides

PPP-B-655(2) Boxes, Paperboard, Metal Stayed (Including Stay Material)

PPP-B-676C Boxes, Set-Up

MIL-B-38721 Boxes, Consolidation, Fiberboard USAF

MIL-B-40642(2) Box, Fiberboard, Corrugated, Triple-Wall, 1,000 lb. Capacity

MIL-B-43014A Boxes, Water-Resistant, Paperboard, Folding, Set-Up and Metal Stayed

MIL-B-43291 Boxes, Fiberboard, Corrugated, Doublewall, Weather-Resistant

BOXES - WOOD AND METAL

PPP-B-576c Box, Wood, Cleated Veneer, Paper-Overlaid

PPP-B-585b Boxes, Wood, Wirebound

PPP-B-591a Boxes, Fiberboard, Wood-Cleated

PPP-B-601c Boxes, Wood, Cleated Plywood

PPP-B-621b Boxes, Wood, Nailed and Lock-Corner
BOXES - WOOD AND METAL (CONTINUED)

MIL-B-11886H  Box, Metal, Shipping, Reusable, Transporter, Steel Maximum Load 9,000 lbs.

MIL-B-21827A(1) Box, Consolidation

MIL-3-25305A  Boxes, Metal or Non-Metal Shipping

MIL-E-26195A  Boxes, Wood-Cleated, Skidded, Load-Bearing Base

MIL-B-26241A  Boxes, Demountable, Assembled with Fasteners Other Than Nails and Screws

MIL-STD-813  Box, Wood, Demountable, Reusable and Metal
(USAF)

BOLTS (SEE PACKAGING HARDWARE)

BULK PACKAGING MATERIALS

NN-P-530b  Plywood, Flat Panel
NN-P-00330C(ME)

PPF-F-00310  Fiberboard, Corrugated, Wax and/or
(GSA-FSS)  Resin Impregnated

PPF-F-320c(2)  Fiberboard; Corrugated and Solid,
Int. Amd. 3  Sheet Stock (Container Grade), and
(GSA-FSS)  Cut Shapes

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BULK PACKAGING MATERIALS (CONTINUED)

PPP-V-205a(1) Veneer, Paper-Overlaid, Container-Grade

MIL-P-14591B(1) Plastic Film: Non-Rigid, Transparent

CANS

PPP-C-55A Cans, Fiberboard and Paperboard (with Paper and Metal Ends)

PPP-C-96a(l) Cans, Metal, 28-Gage and Lighter

MIL-C-3955A Cans, Fiber, Spirally Wound

MIL-C-4470B Cans, Hermetic Sealing, Rectangular

MIL-C-10464B Cans, Hermetic Sealing, Metal, Light Gage, Tear-Strip Type

MIL-C-26094B Cans, Hermetic Sealing, Aluminum, Two-Piece

CLEANING MATERIALS

O-T-236b Tetrachloroethylene (Perchloroethylene)

O-T-634a Trichloroethylene

P-C-436b Cleaning Compounds, Alkali, Boiling Vat, (Soak) Hydr-steam

P-C-437 Cleaning Compound, High-Pressure Steam Cleaning
CLEANING MATERIALS (CONTINUED)

P-C-444a Cleaning Compound, Solvent, Grease Emulsifying

P-C-535(1) Cleaning Compound, Plater's Electro-cleaning for Steel

P-D-680(2) Dry Cleaning Solvent

TT-T-291c Thinner, Paint, Volatile Mineral Spirits (Petroleum Spirits)

MIL-C-5543A(1) Cleaning Compound, Washing-Machine (Aircraft Metal Parts)

MIL-4-5634B Grain Abrasive, Soft (For Carbon Removal)

MIL-C-15074C Corrosion Preventive, Fingerprint Remover

MIL-D-16791E(2) Detergents, General Purpose Liquid, Nonionic

MIL-C-52412 Cleaning Compound, High-Pressure Cleaner, Steam

COATING COMPOUNDS

MIL-P-149A Plastic Coating, Compound, Strip-pable (Hot-Dipping)
COATING COMPOUNDS (CONTINUED)

MIL-T-152B(2) Treatment, Moisture and Fungus Resistant of Communications, Electronics, and Associated Electrical Equipment

MIL-V-173B(2) Varnish Moisture-Fungus Resistant (For the Treatment of Communications Electronic and Associated Electrical Equipment)

MIL-C-3254A(3) Coating System, Bridging Strippable, Sprayable

MIL-C-6799C(1) Coating, Sprayable, Strippable, Protective

MIL-P-11520C(2) Preservative Coating, Rubber for Rubber Surfaces

MIL-V-13611C Varnish, Waterproofing, Electrical Ignition

MIL-C-16555C(1) Coating Compound, Strippable, Sprayable

MIL-C-23760A(1) Coating, Sprayable, Strippable, Protective for Preservation and Packing of Weapons Systems and Components, Application of
COATING COMPOUNDS (CONTINUED)

MIL-P-45021A Plastic Coating Compound, Strippable Cold Dipping (120°F.)

CONTAINERS (MISCELLANEOUS)

PPP-C-186 Containers, Packaging and Packing for Drugs, Chemicals, and Pharmaceuticals

PPP-T-495a(1) Tubes, Mailing and Filing

MIL-C-4116A Containers, Shipping Reusable, Wood, Aircraft Engines

MIL-C-53848(1) Containers, Shipping, Aircraft Engines, Metal

MIL-C-9282A Container, Shipping, Metal, Reusable 5 Cu. Ft. - 50 Cu. Ft. Volume

MIL-C-9959(1) Container, Flexible, Reusable, Water-Vaporproof

MIL-C-22443 Containers, Modular, Metal, General Specifications For

MIL-C-25010 Containers, Air and Surface Shipment of Aircraft Components (2,000 Pounds Maximum Load)

MIL-C-38226 Containers, Polyurethane, Rigid or Elastic for Packaging Small Engines
CRATES

PPP-C-650 Crates, Wood, Open and Covered

MIL-C-104A(1) Crates, Wood, Lumber and Plywood Sheathed, Nailed and Bolted

MIL-C-3774A Crates, Wood; Open 12,000- and 16,000- Pound Capacity

MIL-C-9437C Crate, Wood, Open, Fuel Tank, External, Assembled

MIL-C-9897(1) Crate, Slotted Angle, Steel or Aluminum, for Lightweight Airframe Components and Bulky Items (For Maximum Loads of 3,000 lbs.)

MIL-C-11133B Crates, Wood Slotted Style, Wire-bound, Domestic

MIL-C-22806A Crates, Sheathed, Wood, Wirebound

MIL-C-25371 Crate, Wood, Open, Domestic (For Lightweight Bulky Airframe Items)

CUSHIONING

C-F-202C Felt Sheet (Hair) and Felt Roll (Hair)

PPP-P-154a Paper, Shredded Waxed
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<td>PPP-C-00795 (GSA-FSS)</td>
<td>Cushioning Material, Cellular, Plastic Film (For Packaging Applications)</td>
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<td>PPP-C-843a(3)</td>
<td>Cushioning Material, Cellulosic</td>
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<td>PPP-C-850</td>
<td>Cushioning Material, Polystyrene, Expanded, Resilient (For Packaging Uses)</td>
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<td>PPP-9-911c</td>
<td>Excelsior, Wood, Fabricated Pads and Bulk Form</td>
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<td>MIL-B-3106</td>
<td>Board, Composition, Water-Resistant, Soils (for Filler or Cushioning Pads)</td>
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<td>MIL-R-613UB</td>
<td>Rubber, Cellular, Chemically Blown</td>
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<td>MIL-C-7769A</td>
<td>Int. Amd. 3(69) Bound Fiber, For Packaging</td>
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<td>MIL-H-9884B</td>
<td>Honeycomb Material, Cushioning, Paper</td>
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CUSHIONING (CONTINUED)

MIL-P-13607(MU) Padding Materials, Resilient
(For Packaging of Ammunition)

MIL-C-17435B Cushioning Material, Fibrous Glass

MIL-P-19644A Plastic Foam, Molded Polystyrene
MIL-P-0019644B (Expanded Bead Type)

MIL-C-23734 Cushioning Material, Fibrous Glass, Treated, Free Flow, Tubular

MIL-C-26296 Cushioning Material, Packaging, Synthetic Fibers

MIL-P-26514A Polyurethane Foam, Rigid and Elastic, for Packaging

MIL-C-26861A Cushioning Material, Resilient Type, General

MIL-C-26862A Fiberboard, Solid, Dunnage, Multipurpose Cushioning and Blocking Applications

MIL-C-40010 Cushioning Material, Polyvinyl Chloride Plasticized, Cellular
CUSHIONING (CONTINUED)

MIL-C-46842 Cushioning Material, Unicellular Polyethylene Foam (For Packaging Purposes)

MIL-C-81013(1) Cushioning Materials, Transparent, Flexible, Cellular, Plastic Film, For Packaging Applications

DESICCANTS

MIL-D-3464D Desiccants, Activated, Bagged, Packaging Use and Static Dehumidification

MIL-D-3716A(2) Desiccants, Activated, for Dynamic Dehumidification

DRUMS (SEE BARRELS, DRUMS, PAILS, AND KEGS)

EQUIPMENT

MIL-S-4461D Sealing Machines, Heat, Bench and Portable (Temperature, Pressure and Time Controlled)

MIL-D-26847B Degreaser, Vapor Type, Stationary, Spray Attachment, Steam or Electrically Heated

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### Equipment (Continued)

| MIL-S-22783 | Sealing Machines, Electrical Impulse, (Jaw Type) |
| MIL-S-43361 | Stretching and Sealing Machine, Steel Strapping Hand |

### Gasket Material

| MIL-G-6841C | Gasket Material, Tape and Sheet, Adhesive, Rubber and Cork Composition |
| MIL-G-12803A(2) | Gasket Materials, Nonmetallic |
| MIL-G-13210 | Gaskets, Rubber |
| MIL-G-20241C | Gasket Material, Wool Felt, Impregnated, Adhesive, Pressure-Sensitive |

### Hydraulic Fluids

| WV-B-680 | Brake Fluid, Automotive |
| MIL-H-5608B | Hydraulic Fluid, Petroleum Base, Aircraft, Missile and Ordnance |
| MIL-H-6083C | Hydraulic Fluid, Petroleum Base, For Preservation and Testing |
| MIL-H-7083A | Hydraulic Fluid, Non-Flammable, Aircraft, Hydrolube |
HYDRAULIC FLUIDS (CONTINUED)

MIL-H-8446B(1) Hydraulic Fluid; Non-Petroleum Base, Aircraft

MIL-H-13910B Hydraulic Fluid, Non-Petroleum Base, Automotive Brake, All Weather

MIL-H-13919A Hydraulic Fluid, Petroleum Base, Fire Control

INDICATORS

MIL-I-26860A Indicator, Humidity, Plug, Color Change

NS - 20003C Indicator, Humidity, Card, Three-Spot Impregnated Areas (Cobaltous Chloride)

KEGS (SEE BARRELS, DRUMS, PAILS, AND KEGS)

LUBRICANTS

MIL-L-2105B Lubricating Oil, Gear, Multi-Purpose

MIL-L-3503(1) Lubricating Oil, Preservative, Light

MIL-G-6711 Graphite, Lubricating
### MARKING MATERIALS

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<tr>
<td>TT-E-485e</td>
<td>Enamel, Semi-Gloss, Rust Inhibiting</td>
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<tr>
<td>TT-E-489d</td>
<td>Enamel, Alkyd, Gloss (For Exterior and Interior Surfaces)</td>
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<td>TT-E-515(2)</td>
<td>Enamel, Alkyd, Lusterless, Quick Drying</td>
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<td>TT-I-558c</td>
<td>Ink, Marking Stencil, Opaque, for Nonporous Surfaces (Metal, Glass, etc.)</td>
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<tr>
<td>TT-I-559b(2)</td>
<td>Ink, Marking Stencil, Opaque for Porous Surfaces (Wood Boxes, Fiber Cartons, etc.)</td>
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<tr>
<td>TT-L-20</td>
<td>Lacquer, Camouflage</td>
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<tr>
<td>TT-P-25c</td>
<td>Primer, Paint, Exterior (Undercoat for Wood, Ready Mixed, White and Tints)</td>
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<tr>
<td>TT-V-12le</td>
<td>Varnish, Spar, Water-Resisting</td>
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<td>PPP-P-700a(1)</td>
<td>Protector, Packing List</td>
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<tr>
<td>MIL-D-8635B(1)</td>
<td>Decals, For Use On Interior Surfaces</td>
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<tr>
<td>MIL-P-13983C(1)</td>
<td>Paint, Temporary, Lusterless, Gasoline Removable</td>
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MARKING MATERIALS (CONTINUED)

MIL-C-175G4B(2) Coating Compound, Acrylic, Clear

MIL-P-52108 Paint, Water Emulsion Type for Stenciling and Obliterating

MISCELLANEOUS PACKAGING MATERIALS

MIL-E-6060B Envelopes, Packaging, Water-Vaporproof, Flexible

MIL-W-10434B(2) Windows, Protective Envelope (For Installation in Water-Vaporproof Barriers)

NAILS (SEE PACKAGING HARDWARE)

PACKAGING HARDWARE

FF-B-561b Bolts, Lag

FF-B-571a(1) Bolts, Nuts, Studs and Tap Rivets (and Material for Same)

FF-B-575b Bolts, Hexagon and Square

FF-B-584c(2) Bolts, Finned Neck; Key Head; Machine, Ribbed Neck; Square Neck; Tee Head

FF-N-103c Nails, (Small) and Tacks; Cut
PACKAGING HARDWARE (CONTINUED)

FP-N-105a(1) Nails, Wire, Brads and Staples
QQ-S-781e(4) Steel Strapping Flat
QQ-S-790b(1) Steel Strapping, Round (Base and Zinc Coated)
PPP-S-760a(2) Strapping, Nonmetallic, (and Connectors)

PALLETS

MIL-P-3938B(2) Pallets, Materials Handling, Hardwood, Stringer Construction 4-Way (Partial)
MIL-S-9968 Skids, Aluminum, Demountable, Reusable, for Maximum Loads not Exceeding 50,000 Pounds
MIL-P-15011F Pallets, Materials Handling, Hardwood Post Construction, 4-Way
MIL-P-26342 (USAF) Pallet, Box, Fiberboard, Expendable, for Air Shipment
MIL-P-26966C (USAF) Pallet, Material Handling, Lightweight, Air Cargo
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<td>VV-L-800</td>
<td>Lubricating Oil, General Purpose, Preservative (Water Displacing, Low Temperature)</td>
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<td>MIL-L-3150A(1)</td>
<td>Lubricating Oil, Preservative, Medium</td>
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<td>MIL-L-3503</td>
<td>Lubricating Oil, Preservative, Light</td>
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<td>MIL-L-6085A(2)</td>
<td>Lubricating Oil, Instrument, Aircraft, Low Volatility</td>
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<td>MIL-C-6529C(2)</td>
<td>Corrosion Preventive Aircraft Engine</td>
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<td>MIL-L-5575(4)</td>
<td>Grease, Aircraft, General Purpose</td>
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<td>MIL-C-10382B</td>
<td>Corrosion Preventive Petrolatum, Spraying Application, for Food Handling Machinery and Equipment</td>
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<td>MIL-G-10924B</td>
<td>Grease, Automotive and Artillery</td>
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<td>MIL-C-11796B</td>
<td>Corrosion Preventive-Compound, Petrolatum, Hot Application</td>
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<tr>
<td>MIL-C-16173D(1)</td>
<td>Corrosion Preventive Compound, Solvent Cutback, Cold Application</td>
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RESERVATIVES (SEE ALSO SECTION III "P-TYPE PRESERVATIVES" (CONTINUED))

MIL-C-18487 Compound Gun Slushing
MIL-L-21260 Lubricating Oil, Internal-Combustion Engine, Preservative
MIL-G-23827A Grease, Aircraft and Instrument Gear and Actuator Screw
MIL-P-46046A Preservative Fluid, Automotive Brake System and Components

STRAPPING (SEE PACKAGING HARDWARE)

TAPES

L-T-90c(1) Int. Amd. 2 Tape, Pressure-Sensitive, Adhesive, (Cellophane and Cellulose Acetate)
(GSA-FSS)
L-T-99a Tape, Pressure-Sensitive, Adhesive, Identification (Acetate Fibers)
UU-T-101e Tape, Gummed, Mending and Reinforcing (Paper & Cloth)
UU-T-106c Tape, Pressure-Sensitive Adhesive, Masking, Paper
PPP-T-42a Tape, Pressure-Sensitive Adhesive (General Packaging Application)
PPP-T-45b Amd. 1 Tape, Gummed, Paper, Reinforced, and Plain for Sealing and Securing
PPP-T-60b(2) Tape, Pressure-Sensitive Adhesive, Waterproof, for Packaging
TAPES (CONTINUED)

PPP-T-76b Tape, Pressure-Sensitive Adhesive, Paper, Water Resistant (for Carton Sealing)

PPP-T-97c(2) Tape, Pressure-Sensitive Adhesive, Filament Reinforced

MIL-T-22085A(1) Tape, Pressure-Sensitive Adhesive, (AS) Notice 1 Preservation and Sealing

MIL-T-43036A(2) Tape, Pressure-Sensitive Adhesive, Plastic Film, Filament Reinforced (for Sealing Fiber Containers and Cans)

MIL-T-43115(M) Tape, Pressure-Sensitive Adhesive, for Preservation and Sealing

VOLATILE CORROSION INHIBITORS

MIL-i-8574C Inhibitors, Corrosion, Volatile, Utilization of

MIL-F-22019B Film, Transparent, Flexible, Sealable, Volatile Corrosion Inhibitor Treated

MIL-F-22020B Bags, Transparent, Flexible, Sealable, Volatile Corrosion Inhibitor Treated
## VOLATILE CORROSION INHIBITORS

| MIL-I-22110A(1) | Inhibitors, Corrosion, Volatile Crystalline |
| MIL-I-23310     | Inhibitors, Corrosion, Volatile, Oil Type   |
| MIL-E-40028     | Bega, Barrier, With VCI Treated Liners      |
| MIL-I-46002(i)  | Lubricating Oil, Contact and Volatile Corrosion Inhibited |

### WRAPPING MATERIALS (OTHER THAN BARRIER MATERIALS):

| MIL-P-34c       | Paper, Wrapping, Wet-Waxed                  |
| UU-P-268e(2)    | Paper, Kraft Wrapping                       |
| UU-P-553b       | Paper, Wrapping, Tissue                     |
| MIL-P-130C(1)   | Paper, Wrapping, Laminated and Creped       |
| MIL-P-13988     | Paper, Lycs, Tissue, Antitarnish, Wrapping  |
| MIL-P-17567B    | Paper, Wrapping, Chemically Neutral (Non-Corrosive) |
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MISCELLANEOUS PUBLICATIONS

MIL-P-116E(3) Preservation, Methods Of int. Am. & (LL)

MIL-S-207B(1) Sulphuric Acid Electrcalyte: Packaging, Packing, and Marling for Shipment and Storage of

MIL-P-208C Packaging and Packing for Shipmen: and Storage of Batteries, Storage, Automotive and Navy Portable

MIL-R-3149c Baling of Clothing and Equipment

MIL-P-4861B Packaging, Preformed, Rubber, Packing, Packaging Of

MIL-P-9024D (USAF) Packaging, Materials Handling and Transportability, System and System Segments, General Specification for

MIL-M-9950(1) Missile Components; Liquid Oxygen, Nitrogen, Gaseous Oxygen, Instrument Air, Helium and Fuel Handling Systems, Cleaning and Packaging for Delivery


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MISCELLANEOUS PUBLICATIONS (CONTINUED)

MIL-C-46779A (AT) Carrier, Guided Missile Equipment, Full-Tracked XM47412; Processing for Storage and Shipment of

FED-STD-75a Glossary of Packaging Terms

FED-STD-101a (Ch. Not. 5) Preservation, Packaging and Packing Materials; Test Procedures

FED-STD-102b Preservation, Packaging and Packing Levels

FED-STD-595 (Ch. Not. 2) Colors

FED-STD-791a(2) Lubricants, Liquid Fuels, and Related Products; Methods of Testing

MIL-STD-105b (Ch. Not. 2) Sampling Procedures and Tables for Inspection by Attributes

MIL-STD-129E (Ch. Not. 7) Marking for Shipment and Storage

MIL-STD-147A Palletized Unit Loads (40" x 48", 4-Way Partial and 4-Way Pallets)

MIL-STD-295C(1) Packaging, Packing and Marking of Petroleum and Related Products
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<td>MIL-HDBK-696</td>
<td>Plastic Coating Compounds, Stripable, Hot and Cold Dip</td>
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<td>Loading Insert Containers and Cargo Transporters</td>
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<tr>
<td>DOD 4500.32-E</td>
<td>Military Standard Transportation and Movement Procedures (MILSTAMP)</td>
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<td>DSAM 4145.2</td>
<td>Preservation, Packaging and Packing of Military Supplies and Equipment.</td>
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<tr>
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MISCELLANEOUS PUBLICATIONS (CONTINUED)

IM 55-601 Troop Movements Guide

IM 743-200/ Storage and Materials Handling
Change 1-16

NAVSANDA Pub 284/

APM 67-3

NAWMC 1101/

OSAM 4145.1/
(Change 15)

SB 38-100 Preservation, Packaging, and
Packing Materials, Supplies and
Equipment Used by the Army

DSAR 4145.7 Packaging, Packing and Marking
of DSA Items of Supply

AR 55-35 G1 Utilization of Cargo Trailers in
Roll-On/Roll-Off Service

AR 700-15 Preservation, Packaging and Packing
Change 1

AR 700-58 Report of Packaging and Handling

NAVSUP PUB 378/ Deficiencies

AFR 71-4

MCU P4030.29

DSAR 4145.8

AR 725-50 Requisitioning, Receipt and Issue
Change 1-16 System (MILSTRIP)

AR 740-20 Preparation for Shipment
MISCELLANEOUS PUBLICATIONS (CONTINUED)

AMCR 350-4 Utilization and Operation of Joint Military Packaging Training Center

AMCR 746-2 Marking and Packing of Supplies and Equipment, Packaging of Army Material

AMCR 746-5 Marking and Packing of Supplies and Equipment, Use of Standard Plywood Consolidation Containers in Conex Shipments to Southeast Asia

AMCF 706-121 Packaging and Pack Engineering Handbook

AFP 71-6 Preservation, Packaging, Packing, and Marking Policy

BUSANVA 4030.17 Preservation, Packaging, Packing and Marking, Navy Policy For

MCW 4030.14C Marine Corps Policy and Basic Operating Procedures for Preservation, Packaging, Packing, and Marking of Materials

T.O. 00-25-203 Standards and Guidelines for the Design and Operation of Clean Rooms and Clean Work Stations

70.42C-1-11 Cleaning and Inspection Procedures for Rocket Propellant Systems (Liquid and Gaseous)
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<td>National Motor Freight Classification A-C</td>
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<td>MF ICC-13</td>
<td>Motor Carriers' Explosives and Dangerous Articles Tariff No. 12</td>
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<td>ASTM-D-775-61</td>
<td>Methods of Drop Test for Shipping Containers</td>
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<td>ASTM-D-860-63T</td>
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ASTM-D-895-67T Method of Test for Water vapor Permeability of Packages

AAR Rules Regulating the Safe Loading of Freight in Closed Cars, Pamphlet No. 14

AAR General Rules for Loading Commodities in Closed Cars, Circular No. 42-C

AAR Rules Governing the Loading of Commodities on Open Top Cars, Section 1-6
SPECIAL SUBJECT PUBLICATIONS

SHIPMENT AND STORAGE OF HOUSEHOLD GOODS

PPP-B-580a Boxes, Wood, Household Goods

MIL-P-22064 Preparation of Household Goods and Personal Effects for Local Transfer

MIL-STD-212C(1) Preparation of Household Goods for Shipment and Storage and Related Services

AR 55-356 Uncrated Household Goods Traffic

NAV SUP PUB 455

TR 75-15

MCU P4050.34A

DSAR 4500.1

DSAR 4500.2/ House Trailer

AR 55-46/

AFR 75-35/

MCU P4600.12/

DOD 4145.16-R Department of Defense Commercial Warehousing and Related Services for Household Goods of Military and Civilian Personnel

NAV 75-455

NAVSAH Pub/297/

AFR 67-61A/

NAV MC 1133/

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### Equipment Preservation for Shipment and Storage

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<tr>
<td>0-A-548a</td>
<td>Antifreeze, Ethylene Glycol, Inhibited</td>
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<tr>
<td>0-L-760b(2)</td>
<td>Ethyl Alcohol, Denatured Alcohol and Proprietary Solvent</td>
</tr>
<tr>
<td>0-I-690A</td>
<td>Inhibitor, Corrosion, Liquid Cooling Systems</td>
</tr>
<tr>
<td>0-S-576c</td>
<td>Sodium Bicarbonate, Technical</td>
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<tr>
<td>0-L-760b(2)</td>
<td>Ethyl Alcohol, Denatured Alcohol and Proprietary Solvent</td>
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<tr>
<td>0-S-576c</td>
<td>Sodium Bicarbonate, Technical</td>
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<tr>
<td>IT-F-664b</td>
<td>Primer Coating, Synthetic, Rust-Inhibiting, Lacquer-Resisting</td>
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<tr>
<td>VV-F-800</td>
<td>Fuel Oil, Diesel</td>
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<td>JJJ-C-86(1)</td>
<td>Castor Oil, Technical</td>
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<tr>
<td>MIL-P-40</td>
<td>Paper, Lens Tissue</td>
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<td>MIL-G-762b</td>
<td>Graders, Road, Packaging Of</td>
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<tr>
<td>MIL-L-13351B(1)</td>
<td>Tractor, Full Tracked, Low Speed; Tractor, Wheeled, Agriculture; and Tractor, Wheeled, Industrial, and their Attachments, Packaging Of</td>
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<tr>
<td>MIL-L-10062b(1)</td>
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EQUIPMENT PRESERVATION FOR SHIPMENT AND STORAGE
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MIL-C-35802(2) Cranes and Crane-Shovels, Truck, Int. Amd. 3(MD) Crawler, and Wheel Mounted, Full Revolving and Their Attachments, Packaging Of

MIL-C-3600A(1) Compressors, Air and Gas (Except Oxygen), Packaging Of

MIL-C-10597C(1) Cleaning Compound With Conditioner and Inhibitor for Engine Cooling Systems

MIL-C-11755A Compound, Antifreeze, Arctic Type

MIL-O-12841A On Van Equipment (CVE) for Military Vehicles, Packaging Of

MIL-P-14232C Parts, Equipment and Tools for Ordnance Materiel, Packaging Of

MIL-T-45052(MD) Tank, Combat, Full-Tracked, 90mm. Gun, M48A2: Preparation for Storage and Shipment Of

MIL-T-45309B Tank, Combat, Full-Tracked, 105mm. Gun, M60 and M60E1; Processing for Storage and Shipment Of
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(continued)

| MIL-STD-162C | Materials Handling Equipment  
| Ch. Not. 1 | Preparation for Shipment, Storage,  
| | Cyclic Maintenance, Routine Testing  
| | and Process |

| MIL-STD-171B | Finishing of Metal and Wood Surfaces  
| MR | Change 1 |

| MIL-STD-281A | Automobiles, Trucks, Truck-Tractor,  
| Ch. Notice 1 | Trailers and Trailer Dollies;  
| | Preservation and Packaging Of |

| MIL-STD-642F | Identification Marking of Administrative, Combat and Tactical Transport Vehicles |

| T8-9-299/1 | Processing of Unboxed, Self-  
| Ch 1-3 | Propelled and Towed Class II  
| | Ordnance General Supplies and  
| | Related Material for Shipment and  
| | Storage |

| TB 740-93-2 | Preservation of US/MEC Mechanical  
| | Equipment for Shipment and Storage |

| T.O. 2J-1-18 | Corrosion Control of Gas Turbine  
| Change 10 | Engines |
EQUIPMENT PRESERVATION FOR SHIPMENT AND STORAGE
(CONTINUED)

T.O. 35G1-3-11 Handbook, Operation and Service
Instructions. Type MA-2 Multi-
Purpose Unit

T.O. 35E9-10-1 Air-Conditioner, Type MA-7

T.O. 36G1-2-2-11 Generating and Charging Plant,
Type Al-A

T.O. 36A10-3-5-1 Aircraft Towing Tractor, Type
MB-2

T.O. 3hA12-8-12-1 Crash Fire and Rescue Truck,
Type 0-11B

PREPARATION OF FREIGHT FOR AIR SHIEMENT

MIL-S-4473C Shielding of Magnetron Tubes and
Magnets and Components Containing
Magnetron Tubes or Magnets for Air
Shipment

MIL-A-8421B Air Transportability Requirements,
(USAF) General Specification for

MIL-M-19590C Marking of Commodities and
Containers to Indicate Radio-
active Materials
PREPARATION OF FREIGHT FOR AIR SHIPMENT (CONTINUED)

MIL-P-22562 Fallet, Materials Handling (MC)

MIL-A-25175A Air Transport, Nontactical, Packing for

MIL-P-43184(GL) Platform Components, Air Delivery, (Amend 2) Modular (Dual Rail System) Type II

AR 705-3 DOD Engineering for Transportability Program

NAVMATINST 4600.5A

AFR 80-18/

MCO 4610.14/

DSAM 4145.3/ Packaging and Handling of Dangerous Change 3/ Materials for Transportation by

AFM 71-4/ Military Aircraft

TM 38-250/

NAVWEPS 15-03-500/

MCO P4030.19/

JSAM 4145.7 Preparation of Freight for Air

TM 38-236 Shipment

NAVAIR 15-01-3

AFP 71-8

MLO P4030.30
PREPARATION OF FREIGHT FOR AIR SHIPMENT (CONTINUED)

TM 10-500/
Change 1/
T.O. 26A3-1/
301/

TN 10-500-91-1/ Air Drop of Supplies and Equipment;
T.O. 13C7-8-31 Rigging Engineer Tool Outfit,
Pioneer, Portable, Electrical
Tools With Accompanying Load on
6,000 Pound Cargo Platform (Honey
Comb)

T.O. 00-85-8 Interior Blocking, Bracing, and
Cushioning

T.O. 00-85-9 Preparation of Freight for Air
Shipment

T.O. 1C-124B-9 Cargo Loading C-124
T.O. 1C-130A-9 Cargo Loading C-130
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T.O. 1C-141-9 Cargo Loading C-141
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T.O. 13C4-1-1 General Principles of Packaging
and Rigging Air Delivery Con-
tainers
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Amd. 30

APLCH 76-1A LOGAIR Traffic Manual

PREPARATION FOR SHIPMENT OR STORAGE OF FIXED- AND ROTARY-WING AIRCRAFT

G-C-303b Chromium Trioxide, Technical (Chromic Acid)

TT-N-95a Paptha, Aliphatic

TT-P-666B Primer Coating, Zinc Yellow, for Aluminum and Magnesium Surfaces

MIL-C-4339C Corrosion Preventive, Soluble Oil, for Water Injection Systems

MIL-B-5612A Brush, Cleaning, Aircraft

MIL-L-6081C(2) Lubricating, Oil Jet Engine

MIL-C-8188C Corrosion Preventive Oil, Gas Turbine Engine, Aircraft, Synthetic Base
PRESERVATION FOR SHIPMENT OR STORAGE OF FIXED-
AND ROTARY-WING AIRCRAFT (CONTINUED).

MIL-C-18187A Coating, Protective, Application
to Fabric Surfaces of Aircraft

MIL-W-18723C Wax, Aircraft, Waterproof, Solvent
Type

MIL-C-25769E Cleaning Compound, Aircraft, Surface,
Alkaline Waterbase
NVL-C-0025769F (84)

TM 1-L19-S Preparation for Shipment of L-19
Change 1 Aircraft

TM 1-UH1-S Preparation for Shipment of UH-1A
and UH-1B

TM 1-L20-S Preparation for Shipment of L-20
Aircraft

TM 55-1520-210- Operators' Manual: Army Model
10 - Ch 1 UH-1D Helicopter

TM 55-1520-210- Organizational Maintenance Manual:
20 Army Model UH-1D Helicopter

TM AVN 23-65 Aircraft Components Requiring
Maintenance and Historical Data

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FORMULAS

Formula for Determining Barrier Size.

1. Measure length of the item or container.
2. Measure width of the item or container.
3. Measure depth of the item or container.

   a. Length of barrier equals 2 times width, plus 2 times depth, plus 5 inches (or 3 inches).

   b. Width of barrier equals length, plus width, plus 3 inches (or 5 inches).

Note: Multiply totals of a. and b. together; divide by 144 to arrive at number of square feet displacement within the barrier.

Formula for Determining Volume of Round Rigid Metal Container (Sleeve)  \( V = \pi r^2 h \)

Measure diameter of container (Example: 12 inches). Measure inside height of container (Example: 20 inches).
FORMULAS (CONTINUED)

A. After diameter has been determined
   (Example: 12 inches), multiply 1/2
   the diameter times the other half.
   (Example: 6 inches times 6 inches
   equals 36 square inches).

b. Multiply answer (Example: 36 inches)
   times 3.1416 (Example: 36 inches
   times 3.1416 equals 113.0976 square
   inches or 114 square inches).

c. Multiply answer of b. (Example: 114
   square inches times height of container
   (Example: 20 inches) thus 20 inches
   times 114 square inches equals 2280
   cubic inches).

d. To convert cubic inches into cubic
   feet, divide 1728 into answer (Example:
   2280 cubic inches) thus 2280 divided
   by 1728 equals 1.3 cubic feet).

Desiccant Formula I: To find units of desiccants
for use within barrier which is other than a
sealed rigid metal barrier: $U = CA + XD$

General:
The proper amount of desiccant in a package
is very important and should never be guessed.
Current directives call for desiccant in units
instead of ounces or pounds.
Desiccant Formula I (Continued)

U = Number of units of desiccant to be used.

C = 0.011 when area of barrier is given in square inches.

C = 1.6 when area of barrier is given in square feet.

A = Area of barrier in square inches or square feet.

X = A numerical factor, varying with the type of dunnage used:

X = 8 for Hair, felt, cellulosic material, wood, and other materials not shown below.

X = 6 for Bound fiber (animal hair, synthetic fiber or vegetable fiber bound with rubber).

X = 2 for Glass fiber.

X = 0.5(½) for Synthetic foams and rubber.

D = Pounds of dunnage other than metal within barrier.
Desiccant Formula I (Continued)

a. Multiply the factor of .011 or 1.6 times the number of square inches or square feet, respectively.

b. To determine amount of desiccant required for each pound of cushioning or blocking (dunnage) used by Type, see X. Multiply number of pounds times applicable factor. (Example: 4 pounds wood) thus 6 times 8 equals 32 units).

c. Add unit totals of a. and b. together. This answer will equal the total number units of desiccant required within the package.

Desiccant Formula II: To find units of desiccant for use within a sealed rigid metal container:

\[ U = KV + XD \]

\[ U = \text{Number of units of desiccant to be used.} \]

\[ K = 0.0007 \text{ when volume is given in cubic inches} \]

\[ K = 1.2 \text{ when volume is given in cubic feet.} \]

\[ V = \text{Volume within container in cubic inches or cubic feet.} \]
Desiccant Formula II: (Continued)

X = A numerical factor, varying with the type of dunnage used. (See Formula I.)

D = Pounds of dunnage other than metal within barrier.

a. Multiply number of cubic feet of container (Example: 1.3) times the factor of 1.2 (0.0007 if answer is cubic inches). Thus 1.3 x 1.2 = 1.56 units or 2280 x 0.0007 = 1.59 units. This answer is the number of units required for the container itself.

b. To determine amount of desiccant required for each pound of cushioning or blocking (dunnage) used by type, see X, Formula I. Multiply number of pounds times applicable factor (Example: 4 pounds wood, thus 4 x 8 = 32 units).

c. Add unit total of a. and b. together (Example: 1.56 plus 32 = 33.56 or 34 units). This answer will equal the total number of units of desiccant required within the packages.
Official Business

Director
Joint Military Packaging Training Center
ATTN: AMXPT-JP
Aberdeen Proving Ground, Md. 21005
I propose:

Signature

Org.