

## MILITARY SPECIFICATION

ELECTRONICS EQUIPMENT AND PARTS,  
PACKAGING OF

This specification is approved for use by Communications-Electronics Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

## 1. SCOPE

1.1 Scope. This specification covers the packing and marking requirements for use with purchase descriptions of electronics equipment and parts containing packaging requirement codes, special packaging instructions and specifications.

## 2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified, the following specifications and standards, of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of this specification to the extent specified herein.

## SPECIFICATIONS

## FEDERAL

L-P-378	- Plastic Sheet and Strip, Thin Gauge, Polyolefin
NN-P-71	- Pallets, Material Handling, Wood, Stringer Construction, 2-Way and 4-Way (Partial)
QQ-S-781	- Strapping, Steel, and Seals
PPP-B-585	- Boxes, Wood, Wirebound
PPP-B-601	- Boxes, Wood, Cleated-Plywood
PPP-B-621	- Boxes, Wood, Nailed and Lock-Corner
PPP-B-636	- Boxes, Shipping, Fiberboard,
PPP-B-640	- Boxes, Fiberboard, Corrugated, Triple-Wall
PPP-S-760	- Strapping, Nonmetallic (And Connectors)
PPP-T-97	- Tape, Pressure-Sensitive Adhesive, Filament Reinforced

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, US Army Communications-Electronics Command, ATTN: DRSEL-MMD-P, Fort Monmouth, New Jersey 07703, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

NO DELIVERABLE DATA REQUIRED BY THIS DOCUMENT

FSC AREA - PACK

## STANDARDS

## FEDERAL

FED-STD-101 - Test Procedures for Packaging Materials

## MILITARY

MIL-STD-105 - Sampling Procedures and Table for Inspection of Attributes

MIL-STD-129 - Marking for Shipment and Storage

MIL-STD-147 - Palletized Unit Loads for 40" x 48" Pallets

(Copies of specifications and standards required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer).

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

## CODE OF FEDERAL REGULATIONS (CFR)

CFR Title 49 - Transportation

(Application for copies should be addressed to the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402).

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3951 - Standard Practice for Commercial Packaging

(Application for copies of ASTM publications should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103).

2.1.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

## 3. REQUIREMENTS

3.1 Preservation. Unless otherwise specified, preservation shall be level A or B as specified in the packaging requirement codes, special packaging instructions, or individual item specifications. In the absence of mandatory military requirements for level C preservation, it shall be in accordance with ASTM D 3951 (see 6.1b).

3.1.1 Intermediate packing. Level A, B, and C unit packs shall be packed in intermediate containers as specified in the packaging requirement codes, special packaging instructions, specifications, or ASTM D 3951 as applicable. When the quantity to be shipped to any one destination is less than the

established intermediate quantity, the total quantity shall be placed in the intermediate container specified in the contract or order. When the quantity to be shipped to any one destination is greater than the established quantity specified, but not equally divisible by this quantity, the residual shall be placed in the intermediate container specified in the contract or order.

3.2 Packing. Packing shall be level A, B, or C as specified (see 6.1b). Shipping containers for level A and B shall be capable of stacking and supporting superimposed loads during shipment and storage without damaging the container(s) or its contents when tested in accordance with Methods 5016 and 5017 of FED-STD-101.

3.2.1 Level A. A multiple quantity of items, unit or intermediate packed as specified in 3.1 and bearing the same stock number, shall be packed within a close-fitting box conforming to PPP-B-601, overseas type; PPP-B-621, class 2, style 4; or PPP-B-585, style 2 or 3, class 3. When the gross weight exceeds 200 pounds, or the container length and width is 48 x 24 inches or more and the weight exceeds 100 pounds, 3 x 4 inch skids, laid flat, shall be applied in accordance with the requirements of the container specification, or if not specified in the specification, in a manner which will adequately support the item and facilitate the use of material handling equipment. Closure and strapping shall be in accordance with the applicable container specification or appendix thereto except that metal strapping shall conform to QQ-S-781, type I, finish A. When the quantity of a stock numbered item being shipped to a single destination comprises a shipping container volume of less than one cubic foot, packing shall be as specified for level B. When the unit container is a wood box, no further packing is required.

3.2.1.1 Unitization. Palletization shall be required when: containers specified in 3.2.1 do not require skids; quantities per destination exceed either a total of 250 pounds (excluding the pallet) or a volume of 20 cubic feet; and the container size permits use of one of the pallet patterns of MIL-STD-147. A quantity of containers, packed as specified in 3.2.1 except that container strapping may be omitted, shall be placed on a pallet, load type I conforming to MIL-STD-147. The pallet shall conform to NN-P-71, type IV, group I or II woods. The load shall be "bonded" to the pallet by strapping conforming to QQ-S-781, type I, finish A, or shrink film conforming to L-P-378, type IV. Stretch wrap in accordance with MIL-STD-147 is authorized for shipments within the Continental United States and for containerized shipments.

3.2.2 Level B. A multiple quantity of items, unit or intermediate packed as specified in 3.1 and bearing the same stock number, shall be packed within a close-fitting box conforming to PPP-B-640, class 2, style E or PPP-B-636, type CF, class weather-resistant. The gross weight of boxes conforming to PPP-B-640 shall not exceed 250 pounds. Closure shall be in accordance with the appendix of the applicable box specification. Reinforcing shall be by pressure-sensitive filament tape banding or nonmetallic strapping conforming to PPP-T-97 and PPP-S-760, respectively; selection of the material and application shall be in accordance with the appendix of the applicable box specification. When the gross weight exceeds 200 pounds, or the container length

and width is 48 x 24 inches or more and the weight exceeds 100 pounds, containers will be pallet-mounted on pallets conforming to NN-P-71, group I or II woods. The load shall be "bonded" to the pallet by strapping conforming to QQ-S-781, type I, finish A or shrink film conforming to L-P-378, type IV. When a single unit is shipped to a single destination, no packing is required; the unit container shall serve as the shipping container. Reinforcing shall be as specified above. When the unit container is a wood box, no further packing is required.

3.2.2.1 Unitization. When the palletization requirements specified in 3.2.1.1 are met, a quantity of items, unit or intermediate packed as specified in 3.1 and bearing the same stock number, shall be palletized as specified in 3.2.1.1.

3.2.3 Level C. Unless otherwise specified, packing shall be in accordance with ASTM D 3951.

### 3.3 Marking.

3.3.1 Military. In addition to any special marking required by the contract or order, marking for level A and B shall be in accordance with the requirements of MIL-STD-129 and, when applicable, as specified in 3.3.1.1.

3.3.1.1 Special marking requirements. When required by the contract or order, containers shall be marked as specified.

3.3.1.1.1 Sensitive electronic devices. Unit, intermediate, and exterior packs containing sensitive electronic devices susceptible to damage from environmental field forces shall be marked in accordance with MIL-STD-129.

3.3.2 Level C. In addition to any special marking required by the contract or order, interior packs or exterior shipping containers shall be marked in accordance with ASTM D 3951. When military requirements are specified, marking shall be as specified in MIL-STD-129.

3.4 Hazardous materials. In addition to the requirements of this specification, hazardous materials will be packaged, marked, and labeled according to the hazardous materials regulations of the Department of Transportation, Title 49 Code of Federal Regulations, Parts 100-199.

3.5 Workmanship. The quality of workmanship for level A and B shall be such as to permit acceptance of the completed packing requirements in accordance with the inspection provisions specified in section 4.

## 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Packing inspection. Inspection of packing and the marking for shipment and storage shall consist of the examinations specified in table I, "Packing inspection provisions." Lot formation shall consist of all packs made of the same materials during an identifiable period and submitted at one time for acceptance. Sampling procedures shall be in accordance with MIL-STD-105, using a single sampling plan and acceptable quality level of 4.0 percent defective.

TABLE I. Packing inspection provisions.

NO.	CHARACTERISTIC	METHOD OF INSPECTION
101	Intermediate container not as specified	Visual
102	Improper closure of intermediate container	Visual
103	Shipping containers not in accordance with specification	Visual
104	Excessive cube	Visual
105	Improper blocking and bracing	Visual
106	Closure not in accordance with specification	Visual
107	Weight and size exceed container limitations	Weight and Measure
108	Strapping not in accordance with specification, incorrectly applied, omitted	Visual
109	Marking omitted, incorrect, or illegible	Visual

## 5. PACKAGING

5.1 Packaging. Not applicable to this specification.

## 6. NOTES

6.1 Ordering data. Acquisition documents should specify the following:

a. Title, number, and date of this specification and any amendment thereto.

b. Level A, B, or C preservation and packing (see section 3).

6.2 Environmental. Environmental pollution prevention measures are contained in the packaging material specifications referenced herein. Refer to material specification or preparing activity for recommended disposability methods.

6.3 Changes from previous issue. Asterisks are not used in this revision to identify changes with respect to the previous issue, due to the extensiveness of the changes.

Custodian:  
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Preparing activity:  
Army - CR

Review activity:  
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(Project PACK-A306)

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**NOTE:** This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

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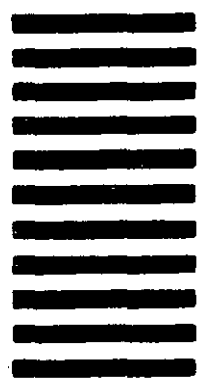
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