
ONE PART CUSHIONED IN PLASTIC BOX

1.0 SCOPE

This standard provides a method for the individual packaging of an item, or a set when specified, in a rigid cushioned plastic container, and protection of such item from damage by field forces, e.g., electrostatic, electromagnetic, magnetic.

2.0 REFERENCES

- 2.1 Lockheed Packaging Standard LPS 40-001
- 2.2 Lockheed Packaging Standard P-201, "Thermal Control Labels"
- 2.3 Lockheed Process Specification LAC 3250, "Protection of Electrostatic Sensitive Parts and Assemblies"

3.0 REQUIREMENTS

3.1 GENERAL

- 3.1.1 The quantity per unit package shall be one (1) each or one (1) set, as applicable.
- 3.1.2 Any loose item(s) required per part shall be enclosed in a separate plastic bag or vial and placed within the container.
- 3.1.3 Exposed silver or silver-plated parts shall be protected with tarnish-inhibitor material. Minimum surface area of the tarnish inhibitor shall be twice the area of the silver surface of the item.
NOTE: The treated side of the inhibitor material must be facing the item.
CAUTION: ITEMS HAVING ANY SURFACES INCOMPATIBLE WITH THE TARNISH INHIBITOR SHALL BE COMPLETELY WRAPPED WITH A NEUTRAL MATERIAL PRIOR TO APPLICATION.
- 3.1.4 Assemblies, parts and components identified in the procurement document, specification, or drawing as being susceptible to damage by field forces, shall be packaged in accordance with Paragraphs 3.2.2, 3.2.4, or 3.2.4, as applicable.
- 3.1.5 Protect all exposed or projecting pins, contacts or similar areas with proper size and style of plastic, fiber or metal caps, which can be removed/replaced as required.

CAUTION: USE ONLY STATIC PROTECTIVE CAPS OR COVERS ON STATIC-SENSITIVE ASSEMBLIES.

3.2 UNIT PACKAGING

- 3.2.1 Unless otherwise specified, nonstatic-sensitive item(s) shall be wrapped with a neutral material or placed in a plastic bag. Include tarnish inhibitor and provide protective caps as applicable. If a bag is used, allow sufficient material to permit at least one additional resealing.
- 3.2.2 Static-Sensitive Item(s) – Use only static protective plastic material (QPL MIL-B-81705) to wrap or bag each item.
- 3.2.3 Electromagnetic Sensitive Item(s) – Wrap each item in a neutral material and enclose in a bag fabricated from MIL-B-81705, Type I material, close by heat seal, allowing sufficient material for two additional heat seals.
- 3.2.4 Magnetic-Sensitive Item(s) – Wrap each item in ferrous/ferritic composition of sufficient thickness to provide the degree of protection required. Since damaging influence of magnetic fields vary with the degree of susceptibility, shielding effectiveness should be verified prior to shipment.
- 3.2.5 Items with critical surfaces or leads, pins or other delicate projections which must not be bent or distorted, shall be protected with suitable inserts, stiffeners, sleeves, etc., or cushioned in a manner to prevent damage.

3.2.6 Place the item between two sections of flexible polyurethane foam cushioning, of sufficient thickness and density, and place within a proper size plastic box with hinged lid. See Figure 1 and Figure 2 for cushioning application.

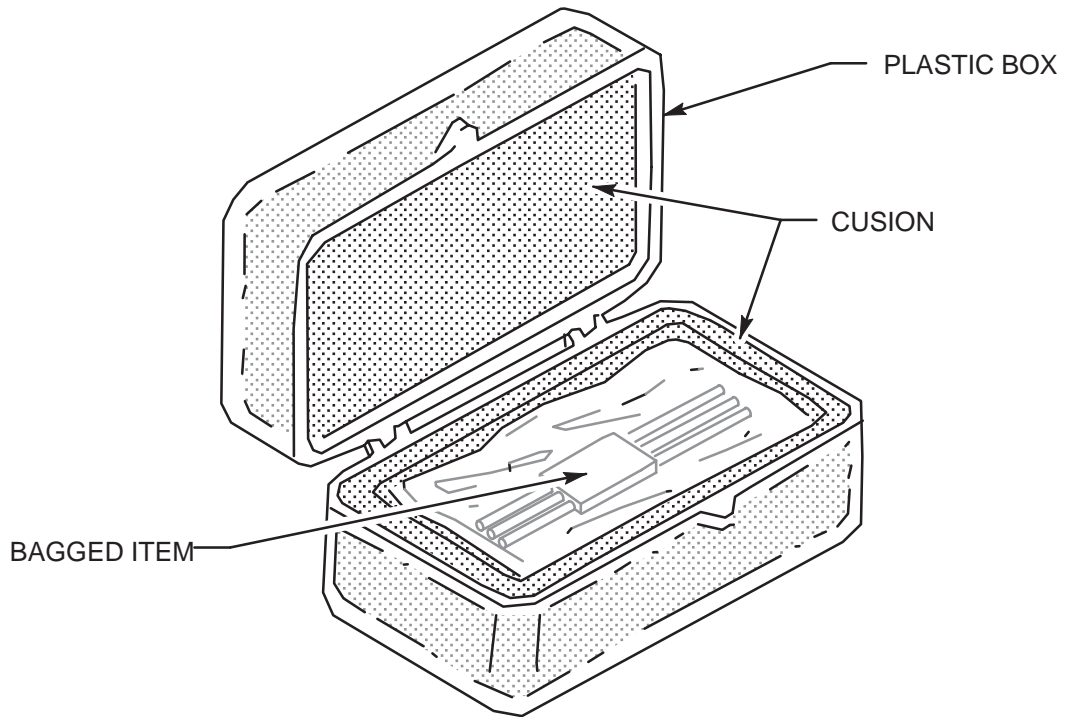


Figure 1. Plastic Box/Cushioning

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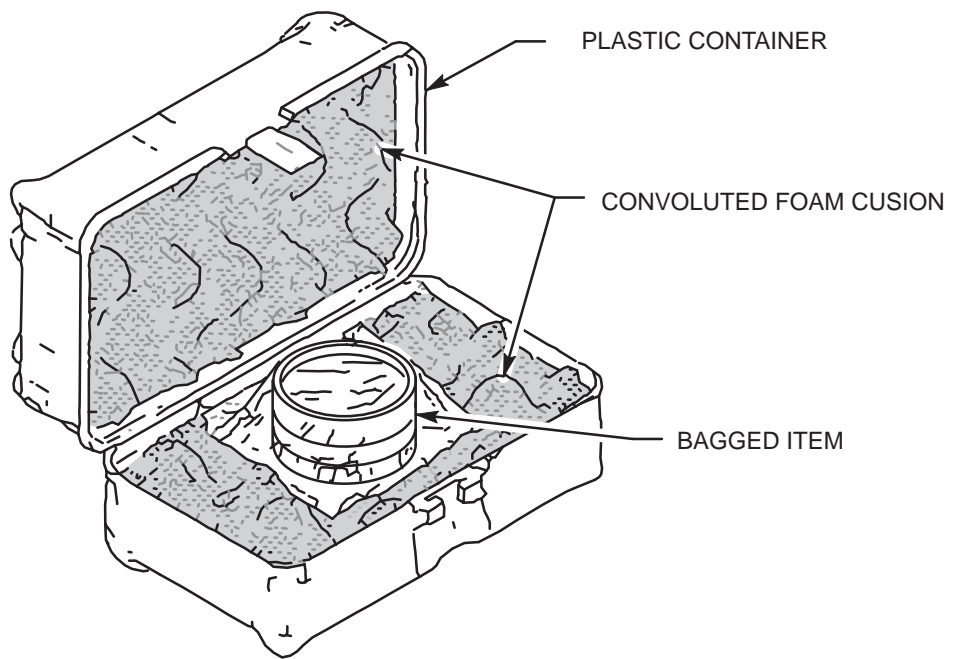


Figure 2. KUDL – PAK Container/Cushioning

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3.2.7 The inner surfaces of the container shall be filled with cushioning so that no voids exist, and the item is restricted from movement.

3.2.8 Close and secure lid with tape.

3.3 **INTERMEDIATE PACKAGING** – (Consolidation of Unit Packages)

3.3.1 Pack unit packages containing identical items uniformly into paperboard/fiberboard containers. Gross weight/dimensions of each container shall not exceed its design specification.

3.3.2 Fill all voids with suitable dunnage, blocking or bracing to prevent damage during handling/shipment.

3.4 **PACKING**

3.4.1 Pack any number of intermediate containers uniformly into each shipping container.

3.4.2 Shipping containers, as packed, shall protect each item and package during ordinary handling and shipping and shall meet the minimum requirements of the common carriers for acceptance for safe transportation at the lowest rate to the point of delivery.

3.4.3 Intermediate containers which meet the requirements of Paragraph 3.4.2 may be used as shipping containers.

3.4.4 Enclose or attach a copy of packing slip to the shipping container.

3.5 **MARKING**

3.5.1 **Unit Package Marking** – Label or mark each package to show at least the part number per contracting document and supplier identity. Apply Thermal Control Labels (P-201), when applicable. Packages containing a tarnish inhibitor shall be marked/labeled: “Protected with Tarnish Inhibitor – Do Not Open Until Ready for Use or Inspection.” Apply additional markings as specified in the item detail specification/drawing.

3.5.1.1 **Electrostatic CAUTION Label** – Apply WARNING label (Figure 31) to each unit package containing a static-sensitive device.



Figure 3. Electrostatic CAUTION Label

NOTE: Depicted label/symbol is widely available and standard in the industry. However, the wording, size and background color other than shown may be substituted to meet delivery schedules.

3.5.1.2 Apply warning label(s) (electromagnetic, magnetic) to each unit package when applicable.

3.5.2 **Intermediate Packaging Marking** – Label or mark each intermediate package per Paragraphs 3.5.1 through 3.5.1.2 ; include the quantity within each intermediate package.

3.5.3 Shipping Container Marking – Label or mark each container to show part number per contracting document, the LMSC contracting document number, supplier, destination and quantity of parts.

3.5.3.1 Delicate handling markings and electrostatic WARNING label(s) shall be applied as required.

3.5.3.2 Apply magnetic WARNING labels, as applicable, when required by the Department of Transportation Regulations.

4.0 QUALITY ASSURANCE

4.1 Packaging shall be accomplished in such a manner as to prevent physical damage to, or degradation of, the packaged items during delivery to the using activity. It shall be the prerogative of LMSC to return damaged items, at supplier’s expense, when such damage is attributable to improper or inadequate protection.

5.0 NOTES

5.1 The following information is intended as a guide or aid to suppliers in meeting the requirements of this specification.

5.2 DEFINITION – Unprotected Silver Surfaces. All metallic silver surfaces (having stringent reflectivity or conductivity requirements, close-tolerance finishes and/or dimensions, without supplementary tarnish-resistant treatment,) the deterioration of which may result in premature failure or malfunction of the item or equipment having such surfaces.

5.3 Material Specifications

<u>Commodity</u>	<u>Military Specification/Source</u>
Static Protective Film	QPL MIL-B-81705
Barrier, Electrostatic Free	QPL MIL-B-81705, Type I
Barrier, Electrostatic Free	QPL MIL-B-81705, Type II
Box, Corrugated	PPP-B-636
Box, Plastic	Bradley Industries, Chicago, IL
Container, “KUDL-PAK”	Colvin Packaging Products, Anaheim, CA
Cushioning, Antistatic Cellular	PPP-C-1842, Biggam Enterprises, San Jose, CA
Cushioning, Static Protective Foam	Colvin Packaging Products, Anaheim, CA
Cushioning, Flexible Cellular	PPP-C-795
Cushioning, Polyurethane, Flexible	MIL-P-26514, Type I
Label, Static WARNING	Richmond Corp., Redlands, Ca
Paper, Wrapping Neutral	MIL-P-17667
Plastic, Sheet/Strip	L-P-378, Type I, Class 1
Tarnish Inhibitor	Commercial Product – “Silver-Saver” Daubert Chemical Co., Oakbrook, IL

6.0 SPECIAL PRECAUTIONARY MEASURES

Electrostatic-sensitive devices/assemblies are susceptible to damage by electrostatic discharge (ESD). Users should observe the following precautions when handling these types of devices or assemblies.

6.1 DO NOT handle/transport unless the items are in antistatic or conductive packages/trays, etc.

6.2 Remove items from static protective packaging only at a certified grounded workstation. All equipment, tools, materials and personnel shall be static protective.