

# LMSSC PACKAGING STANDARD

P-50  
Revision 2  
Page 1 of 5  
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## MULTIPLE PARTS IN A CARTON OR ONE COMPONENT IN SPECIAL CONTAINER

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### 1.0 SCOPE

This standard provides for the packaging of a single large item, or the multiple packaging of small/medium sized items within a container. Typical items applicable to this standard are: electronic rack mount assemblies, testing equipment, castings/forgings, hardware, etc.

### 2.0 REFERENCES

2.1 Lockheed Packaging Standard LPS 40-001 (General Requirements Specification)

2.2 NAS Packaging Standard 3416

NAS Packaging Standard 3419

NAS Packaging Standard 3451

### 3.0 REQUIREMENTS

#### 3.1 GENERAL

3.1.1 The quantity per unit package shall be as follows:

3.1.1.1 . Small castings/forgings, hardware, etc., shall be packaged in quantities of one hundred (100) items or less, not to exceed 65 pounds gross weight per unit container (Ref Figure 1).

3.1.1.2 . Medium size castings/forgings, etc., shall be packaged in quantities of fifty (50) items or less, not to exceed 65 pounds gross weight per unit container (Figure 1).

3.1.1.3 . Large castings-forgings, components, assemblies, etc., shall be packaged one (1) each per unit container (Figure 2).

3.1.2 Any loose item(s) required per part shall be enclosed in a plastic bag (for exception see Paragraph 3.1.9) and secured within the unit package so as to prevent damage to other items.

3.1.3 Exposed silver or silver-plated parts shall be protected with tarnish-

NOTE: The treated side of the inhibitor material must be facing the items.

**CAUTION:** ITEMS HAVING ANY SURFACES INCOMPATIBLE WITH THE TARNISH INHIBITOR SHALL BE COMPLETELY WRAPPED WITH A NEUTRAL MATERIAL

3.1.4 Tarnish inhibitor may be adjacent to, but shall not be allowed to come in contact with, chemically finished surfaces such as anodize, iridite, chromate coatings and other nonferrous metals (e.g., cadmium, copper and brass).

3.1.5 Shipments of items/materials classified as hazardous, e.g., flammable, explosive, toxic, combustible, corrosive, compressed gas, magnetic, radioactive, poisons, oxidizing materials, etc., shall be properly identified, packaged and marked in compliance with applicable carrier/state/federal regulations.

3.1.6 Protect all exposed or projecting pins, contacts or similar electrical outlets with correct size protective caps (Ref Paragraph 5.1.2).

**CAUTION:** ONLY PLASTIC STATIC PROTECTIVE CAPS OR STATIC PROTECTIVE BARRIER FILM SHALL BE USED ON ELECTRICAL CONNECTORS WHERE STATIC CHARGE BUILDUP COULD RESULT IN DAMAGE TO THE

3.1.7 The operational integrity of the item(s) shall be protected against damage during shipment from the supplier to destination. Critical areas and/or surfaces of the item(s) shall be protected from abrasion by wrapping, blocking, cushioning, etc.

3.1.8 Large delicate/critical components, assemblies, parts, subject to damage from shock/vibration during transportation/handling, shall be adequately protected against such hazards by proper application of cushioning material, container design, blocking/bracing, and other suitable shock mitigating devices. (See Figure 3 and Figure 4.)

3.1.9

**CAUTION:** ELECTRONIC ASSEMBLIES CONTAINING DISCRETE MICROCIRCUITS (SEMICONDUCTORS, INTEGRATED CIRCUITS, PRINTED WIRING BOARDS, ETC.), SUSCEPTIBLE TO DAMAGE FROM ELECTROSTATIC, ELECTROMAGNETIC OR RADIOACTIVE FORCES, SHALL BE PROTECTED WITH SUITABLE MATERIALS, SHIELDING, OR THROUGH DESIGN PRECAUTIONS TO PREVENT ASSEMBLY FAILURE. STATIC-PRODUCING MATERIALS, I.E., POLYETHYLENE, POLYSTYRENE, NYLON, SHALL NOT COME IN DIRECT CONTACT WITH AN ITEM WHICH CAN BE DEGRADED BY STATIC DISCHARGE. SEE PARAGRAPH 5.1.2 FOR LIST OF ACCEPTABLE STATIC PROTECTIVE MATERIALS.

### 3.2 UNIT PACKAGING

3.2.1 Unless otherwise specified, each item shall be individually wrapped with a neutral material or placed in a plastic (see Paragraph 3.1.9 for exception) or kraft bag. Include tarnish inhibitor and provide protective caps as applicable (Ref Paragraphs 3.1.3 and 3.1.6). Place item(s) in a snug-fitting corrugated container and provide necessary blocking/bracing, cushioning, etc., to protect the item(s) (Ref Paragraph 3.1.8).

3.2.2 When a supplier has a qualified package (other than corrugated) meeting carrier regulations, the pads/blocks, etc.) providing that other provisions of this standard are met.

### 3.3 INTERMEDIATE PACKAGING – (Consolidation of unit packages, when applicable)

3.3.1 Unless otherwise specified, the number of unit packages per intermediate container (containing identical parts) shall be limited to the dimensions and gross weight provisions of the container specification (Ref Carrier Regulations).

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

### 3.4 PACKING (Shipping Container)

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

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

3.4.3 Unit or 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 (Unless otherwise specified in the contract or Purchasing Document use the following criteria)

3.5.1 Unit Package Marking – Label or mark each package to show at least the part number per contracting document, quantity, and supplier identity. Packages containing tarnish inhibitor shall be marked/labeled: \_\_\_\_\_  
markings may be specified in the item detail specification or drawing.

3.5.2 Intermediate Packaging Marking – Label or mark each container to, at least, show part number per contracting document, supplier and quantity of parts.

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

3.5.4 Special, precautionary and handling markings shall be applied as required.

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 LMSSC to return damaged

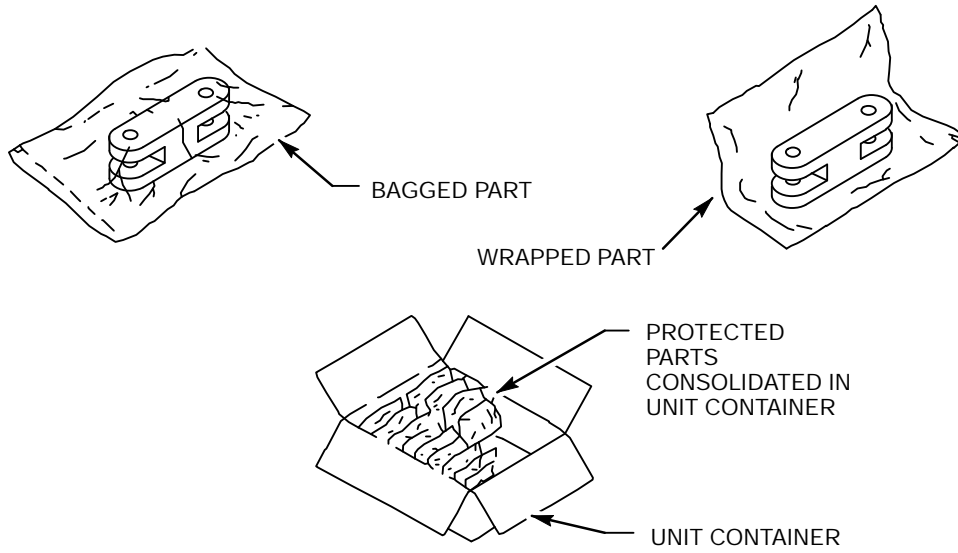
5.0 NOTES

5.1 The following information is intended as a guide or aid to suppliers in

5.1.1 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.

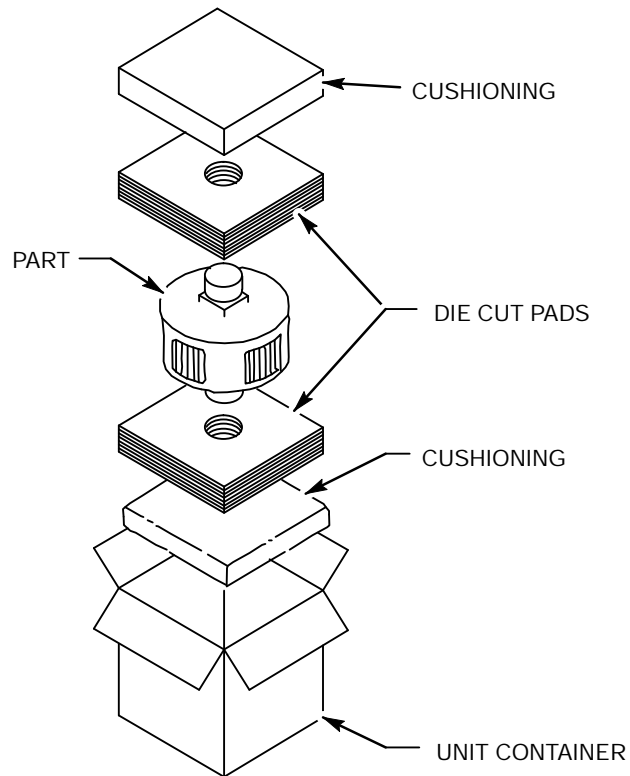
5.1.2 REFERENCES

<u>Commodity</u>	<u>Military/Commercial Specifications</u>
Box, Fiberboard	ASTM D5118, Type CF, Class Domestic, SW (optional) Style RSC, Grade 44 ECT or 200 Mullen (optional)
Cellulosic Material	A-A-1898, Grade 1, Class C, Style 1, Size L. (optional) Kraft Backed
Corner Pad Cushions (Foam Cutout)	MIL-PRF-26514, Type 1, Class 2, Grade B
Cushioning, Bound Fiber	PPP-C-1120
Cushioning, Polyurethane, Flexible	MIL-PRF-26514, Type 1, Class 2, Grade B
Specification for Strapping	ASTM D3950, Type 2
Film, Plastic	A-A-3174, Type 1, Class 1, Grade B
Foil, Aluminum	MIL-A-148 (for conductive use)
Paper, Wrapping (Neutral)	MIL-P-17667, Type 2, Class 1
Protective Caps	AS 90376 or NAS 831; NAS 813, 820
-Mount Container Cushion	Commercially Available
Seal	
Silver Tarnish Inhibitor	Commercially Available (Must be approved by LMSSC PMP)
Fiber Box, Closing	ASTM D1974



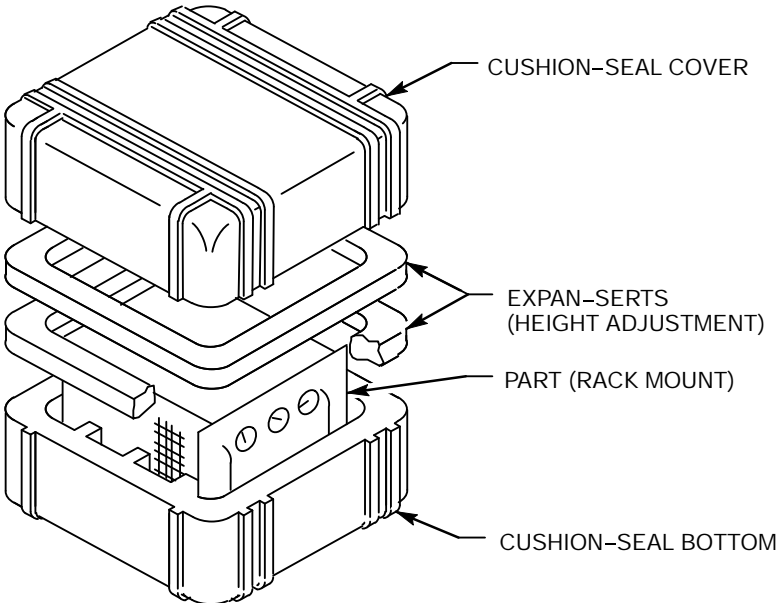
**Figure 1. Multiple Item(s) Wrapped/Bagged**

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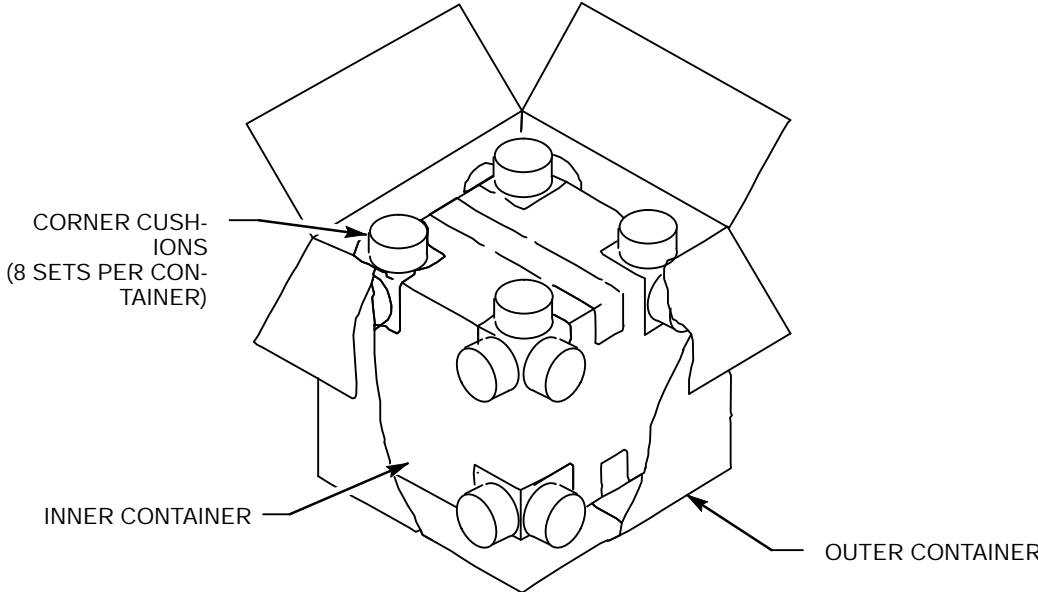
**Figure 2. Large Item Blocked/Cushioned**

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**Figure 3. Electronic Rack Mount Package – Cushion-Seal Container**

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**Figure 4. Shock Sensitive Protection – Corner Cushions**

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