
NONCOILABLE MATERIAL, LINES, TUBING, ROD, ETC., IN A TRI-TUBE CONTAINER

1.0 SCOPE

This standard provides for the packaging of a single item or multiple packaging of noncoilable parts or material in fiberboard tri-tube container.

2.0 REFERENCES

- 2.1 Lockheed Packaging Standard LPS 40-001 (General Requirements Specification)
- 2.2 Tri-tube Drawing PHE 22-1037

3.0 REQUIREMENTS

3.1 GENERAL

- 3.1.1 The quantity per container shall be in accordance with the requirements of this document. The quantity per container is designated by the LPS suffix letter following the packaging callout, e.g., P-2/A. Refer to Table 3 for special quantity requirements.
- 3.1.2 Item(s) packed within the same container shall be protected against damage from abrasion, scratches, or other types of damage by wrapping, interleaving, sleeving, protective coatings, blocking, etc., as necessary to avoid damage during handling, storage and shipment.
- 3.1.3 Item(s) may be nested or secured to a strongback to conserve cube or to facilitate removal from the container.
- 3.1.4 Item(s) cleaned or having special treated surfaces requiring specific protective packaging/markings, e.g., thermal control surfaces, Clean Room packaging, etc., shall retain the required protective packaging.
- 3.1.5 Protect all unmated connectors with proper size cap or covers to protect pins or sockets from damage.
- 3.1.6 Any loose item(s) required per part shall be enclosed in a plastic bag and placed within the container.
- 3.1.7 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 items.

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

CAUTION: ITEMS HAVING ANY SURFACE INCOMPATIBLE WITH THE TARNISH INHIBITOR SHALL BE COMPLETELY WRAPPED WITH A NEUTRAL MATERIAL PRIOR TO APPLICATION.

- 3.1.8 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).

3.2 UNIT CONTAINER

- 3.2.1 Protect item(s) in accordance with 3.1.1 through 3.1.7.
- 3.2.2 Determine the proper size tri-tube container and fabricate container/end caps in accordance with Table 1 and II to fit the maximum length and diameter of the item(s).

NOTE: Suppliers without carton maker equipment can order prescored fiberboard sheets in flat (unassembled) form and then cut to required length(s).

- 3.2.3 Insert item(s) into the appropriate size tri-tube container (Figure 4).

NOTE: Do not exceed the maximum gross weight allowed by type of fiberboard (Table 1).

- 3.2.4 Fill void with suitable blocking or dunnage to prevent movement and staple tri-tube ends and along the length of the flap closure (Figure 4).

3.3 INTERMEDIATE PACKAGING

Not applicable

3.4 PACKING

3.4.1 The tri-tube container (Table 1), packaged and closed in accordance with the requirements of this standard, may be used as a shipping container.

3.4.2 Tri-tube containers may be bundled together for shipment to reduce handling.

3.4.3 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 container to show at least the part number per contracting document, quantity, supplier identity. Package containing tarnish inhibitor shall be marked/labeled: “Protected with Tarnish Inhibitor – Do not Open Until Ready for Use or Inspection.” Additional markings may be specified in the item detail specification or drawing.

3.5.2 Intermediate Packaging Marking – Not applicable.

3.5.3 Shipping Container Marking – Same as Paragraph 3.5.1, add – destination marking if used as an exterior container.

3.5.4 Apply special handling and precautionary markings 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 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.

5.1.1 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>
Paperboard Cushioning	A-A-1051
Cushioning, Cellulosic	A-A-1898, Grade 1, Class C, Style 1, Size L, Kraft Backed
Cushioning, Flexible Plastic	PPP-C-795, Class 2
Fiberboard, Corrugated	ASTM D4727, Type CF, Class Domestic, SW, Grade 200
Paper, Neutral	MIL-P-17667, Type 2, Class 1
Protective Caps	NAS-90376 or NAS831, NAS 813, NAS 820
Sheet, Plastic	A-A-3174, Type 1, Class 1, Grade B
Silver Tarnish Inhibitor	Commercially Available (Must be approved by LMSSC PMP)

Table 1									
TRI-TUBE FABRICATION DETAIL* (REF. FIGURE 1)*									
G Max Dia of Item	PHE 22-1037	A	B	C	D	E	Fiberboard		Gross Weight (lb)
							Grade	Flute	
2	-1	3-3/8	3-3/4	3-15/16	2	13-1/16	200	C	65
2 1/2	-3	4-1/4	4-5/8	4-15/16	2	15-11/16	200	C	65
3	-5	5-1/16	5-7/16	3-5/8	2	18-1/8	200	C	65
3 1/2	-7	5-15/16	6-5/16	6-1/2	2	20-3/4	200	C	65
4	-9	6-3/4	7-1/8	7-5/16	2	23-3/16	200	C	65
4 1/2	-11	7-5/8	8	8-3/16	2	25-13/16	200	C	65
5	-13	8-7/16	8-13/16	9	2	28-1/4	275	B	90
5 1/2	-15	9-1/4	9-5/8	9-13/16	2	30-11/16	275	B	90
6	-17	10-1/8	10-1/2	10-11/16	2	33-5/16	275	B	90
6 1/2	-19	11	11-3/8	11-9/16	2	35-15/16	275	B	90

* Dimensions are in inches.

Table 2					
END CAP FABRICATION* (REF. FIGURE 3)					
Qty	G Max Dia Of Item	PHE 22-1037	F	Fiberboard	
				Grade	Flute
2	2	-21	3-7/16	200	C
2	2-1/2	-23	4-5/16	200	C
2	3	-25	5-1/8	200	C
2	3-1/2	-27	6	200	C
2	4	-29	6-13/16	200	C
2	4-1/2	-31	7-11/16	200	C
2	5	-33	8-1/2	275	B
2	5-1/2	-35	9-5/16	275	B
2	6	-37	10-3/16	275	B
2	6-1/2	-39	11-1/16	275	B

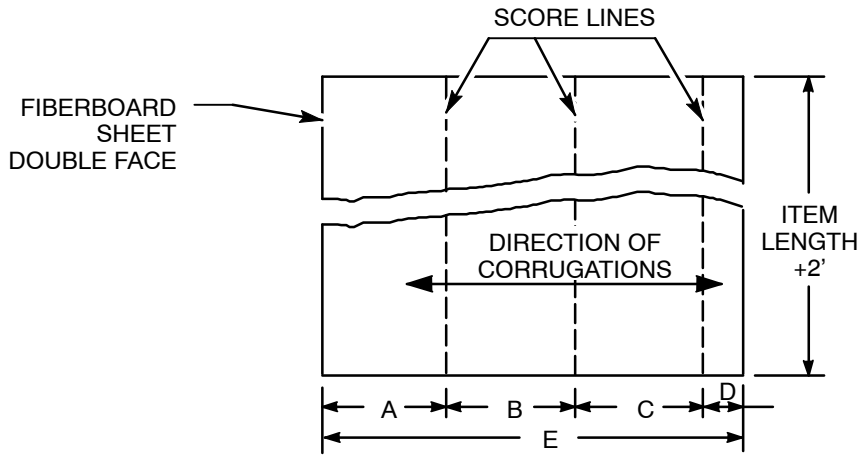


Figure 1. Fiberboard Sheet (Ref Table 1)

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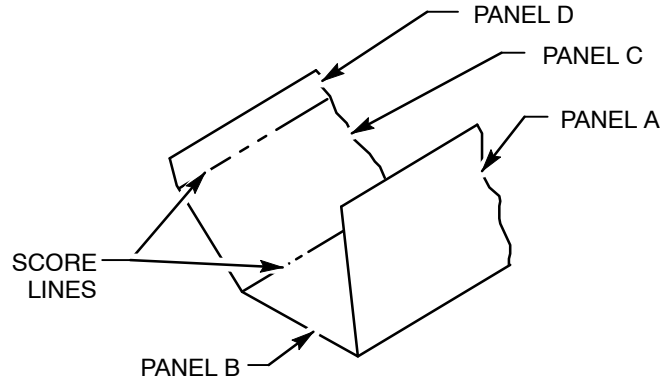


Figure 2. Typical Scored Fiberboard Section (Ref Table 2)

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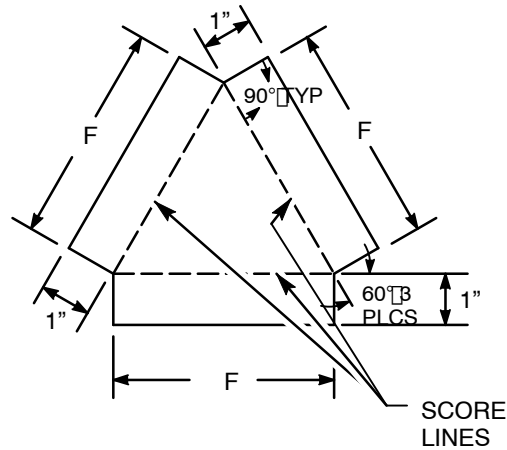


Figure 3. End Cap Pattern (Ref Table 2)

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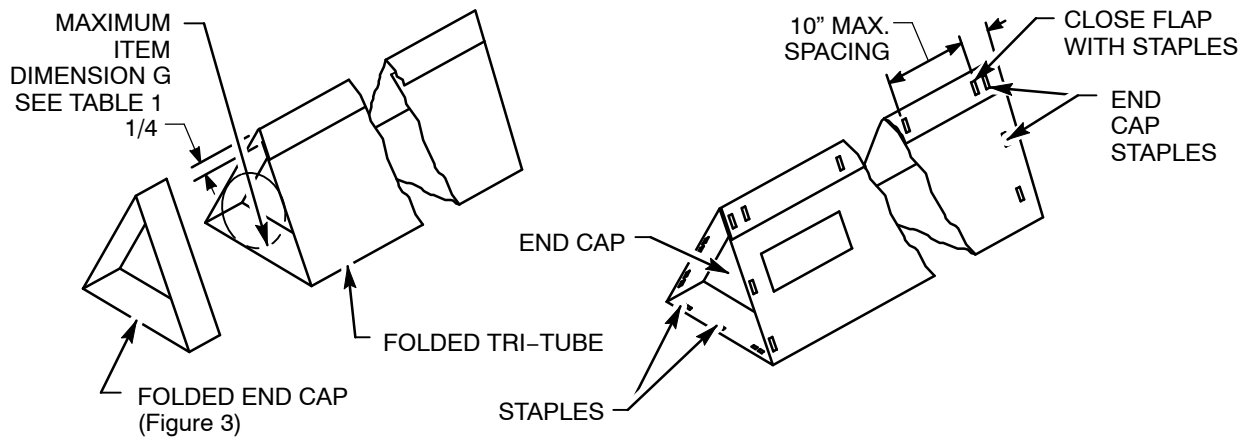


Figure 4. Tri-Tube Container Assembly (Ref PHE 22-1037)

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Table 3 PACKAGE QUANTITY REQUIREMENTS	
LPS Suffix	Requirements
A	Package Quantity shall be 1 each.
B	Package Quantity shall be at supplier discretion, commensurate with container specifications.
C	Package Quantity shall be in accordance with the item drawing, specification, or procurement document.

CARTON MAKER FABRICATION/ASSEMBLY DETAIL	
Procedure	
1.	Cut fiberboard blank to required length (Figure 1).
2.	Adjust full scale on Box-O-Matic Carton Maker at Dimension for Panel A, less 1/16. Place one side of blank against fence and score full length to form Panel A.
3.	Adjust full scale at dimension for Panel C plus 1-15/16. Turn blank 180° and score blank full length to form Panel B.
4.	Adjust full scale at 1-15/16. With blank in same position as in Step 3., score blank full length to form Panel C and Panel D (joint).
5.	Set up scored sheet to form tri-tube (Figure 2) and staple joint (Panel D) to Panel A (Figure 4).
6.	Fabricate 2 end caps per Table 2 and Figure 3. Insert one cap each end of tube. Secure with 1/2 inch staples (Figure 4).