

PACKAGING STANDARDS

for Mirrors and Framed Arts under Glass

Last Amended: August 24, 2023

This document contains minimum requirements for cartons, packaging, pallets and loading of mirrors and framed art under glass



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1.0 MASTER CARTON

Ross uses the specifications for corrugated fiberboard per Rule 222 provided by the National Motor Freight Traffic Association. An outline is provided below. For more information and detailed specifications, please refer to www.nmfta.org

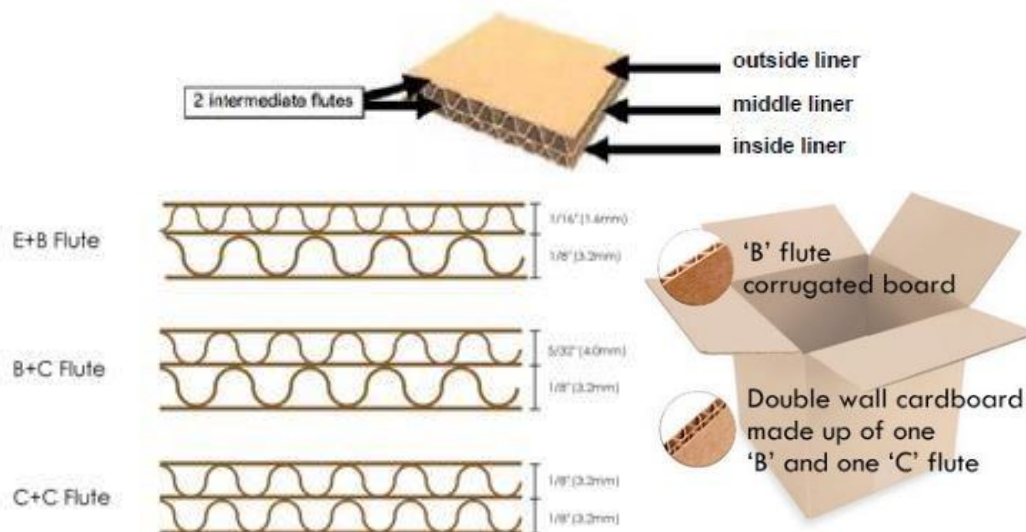
1.1 Carton Type

- Use a top-opening regular slotted carton (RSC)
 - Flaps are the same depth and the two outer flaps are one-half the carton's width so they meet at the center of the box when folded
 - Do not use poly straps to seal individual carton
- Reused cartons are not acceptable
 - Cartons made from recycled cardboard are acceptable



1.2 Corrugated Thickness

- Double or triple-wall corrugated: corrugating medium with 2 or 3 flutes and 3 or 4 liners
 - Flutes must be B/C grade
 - Burst Strength must be at least 350#
 - Edge Crust Test must be as least 51 ECT



1.3 Care and Handling Markings

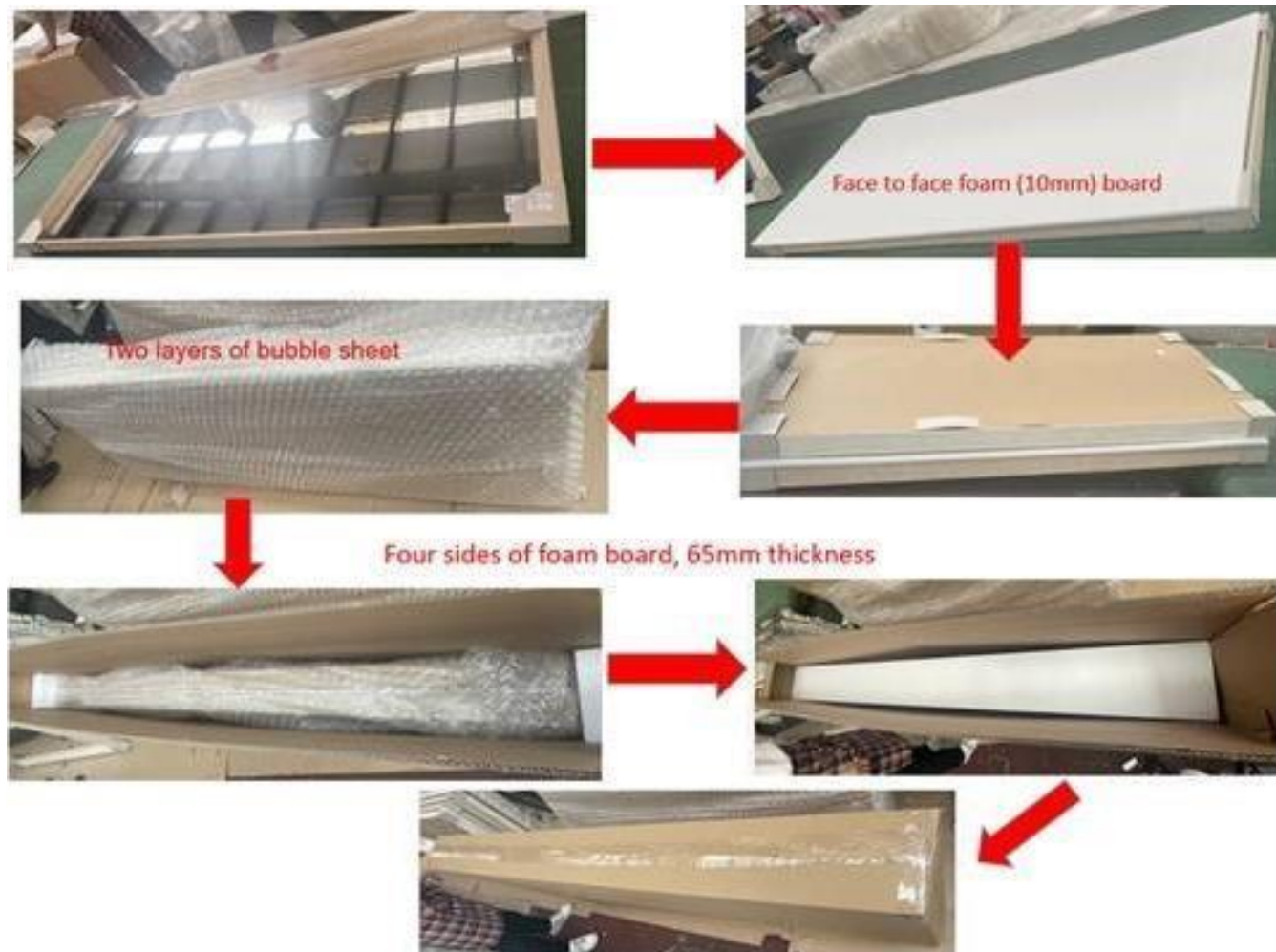
- Cartons must have the following on at least 2 sides:
 - Universal fragile symbol
 - The word “**FRAGILE**”
 - The word “**MIRROR**” or “**GLASS**”
 - “This End Up” or bi-directional arrows
 - The phrase “**DO NOT LAY FLAT**”
 - *All markings must be bold and visible*
- Carton marking guidelines apply to both shipping cartons and inner cartons



2.0 PACKAGING REQUIREMENTS

2.1 Packaging Materials and Packing

- Merchandise must be packed face-to-face with 10mm (0.40 inch) foam board in between units
- Together, units must be bubble wrapped with two layer of bubble sheets (use 5/16-inch bubble)
- 65mm (2.5 inches) foam board are required along all four edges of the carton



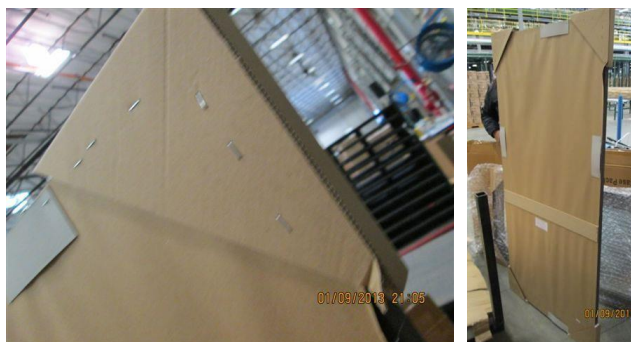
- The merchandise should fit firmly inside the carton to minimize shifting
- Protective coverings must not come loose in transit or damage the product when removed

2.2 Corner Protectors

- Corner protectors affixed to the mirror/art are required; foam and corrugated cardboard corner protectors are acceptable



- Non-corrugated cardboard and paperboard corner protectors are not acceptable
- Corner protectors should be affixed to the back of the mirror
- Corner protectors should not damage product when removed by the customer



2.3 Hanging Apparatus

- All hanging apparatus, such as saw-tooth brackets, wire cables, hooks, etc., must be covered to prevent surface abrasions while in transit and in stores

Examples of hanging apparatus:



3.0 CARTON PERFORMANCE TESTING

3.1 General Information

- Vendors must perform the Drop Test.
- Proof of carton testing must be provided to Ross upon Merchant request.

3.2 Conditioning

- The packaged products must be stored for 24 hours in the testing environment before testing. The tests should be conducted as soon as possible after the 24 hour conditioning period has been met.

3.3 Drop Test

- Perform 10 variations of drop tests at the height indicated in Table 1 below, based on carton weight.

Table 1

<i>Shipping Weight, lbs (kg)</i>	<i>Drop Height, inches (cm)</i>
0 - 61 (0 - 28)	18 (45.7)
61 - 100 (28 - 45)	12 (30.5)
100 - 150 (45 - 68)	8 (20)

1. Hold carton level to the ground, over a flat surface, oriented upright (arrows pointing up)
2. Drop carton in free-fall dead drop from the height specified in Table 1
3. Repeat free fall drops in Drop Sequence in Table 2, continuing with Sequence 2

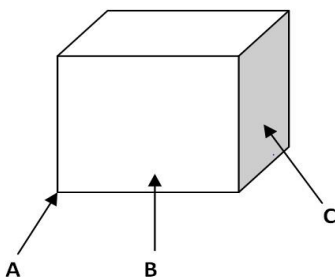


Table 2

<i>Sequence</i>	<i>Orientation</i>	<i>Specific face or edge</i>
1	Base	Bottom Face
2	Corner	Corner A
3	Edge	Shortest edge radiating from Corner A
4	Edge	Next shortest edge radiating from Corner A
5	Edge	Longest edge radiating from Corner A
6	Edge	Remaining bottom edge
7	Face	Face B
8	Face	Opposite side to Face B
9	Face	Face C
10	Face	Opposite side to Face C

3.4 Documentation

- Testing documentation must be presented to Ross merchants upon request

Date:	
Vendor:	
Styles:	

PACKAGE INFORMATION:

1. Container Dimensions:
2. Gross weight of packaged product:
3. Corrugated strength (i.e., 250 psi; 51 ECT):
4. Provide description of all packaging including Styrofoam, bubble wrap, etc.:

TESTING PERFORMED:

1. Was the test carton conditioned for 24 hours YES NO
2. Drop Test
 - a. Procedure A B
 - b. Free-Fall drop height:
 - c. # of Sequences:
3. Describe results of test below:

Provide photos of the test carton before and after testing.

4.0 TICKETING REQUIREMENTS

4.1 General Ticketing Requirements

- Ticket must be secured to the top right corner of the merchandise. Ticket should not be on the corner protector.
- Questions regarding pre-ticketing should be directed to preticket@ros.com

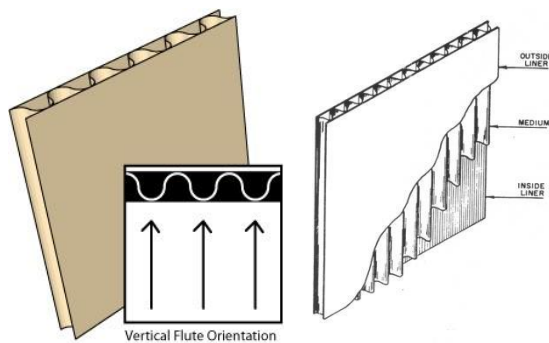
5.0 LOADING REQUIREMENTS

5.1 Container/Trailer Loading

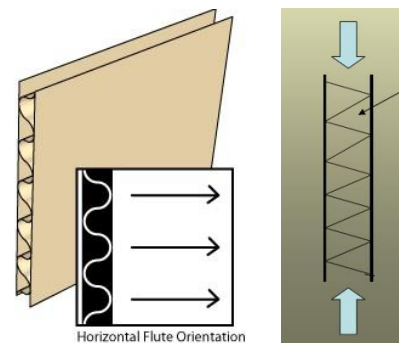
- Cartons must be loaded according to the directional arrows
 - Directional arrows must correspond to the direction of the flutes
 - Flutes must be vertical to be effective

The inherent structural strength of any corrugated board is created by the fluting

CORRECT



× INCORRECT

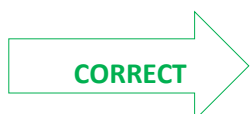


- Horizontal flutes are not as effective (or as strong) as vertical flutes, and more like to give under pressure



5.2 Pallet Shipping (for domestic POs)

- Choose a pallet size that best fits the product. Half-pallets, quarter-pallets and custom pallets are acceptable for use, with the stipulation that the pallet can be handled using a standard pallet jack and fork lift.
- Secure merchandise firmly to the pallet
- Make sure pallets are labeled correctly, fragile markings are clearly visible and directional arrows are followed



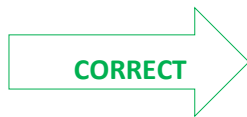
- Use v-boards along the edges of palletized cartons to secure mirrors/arts firmly and increase weight tolerance (see the "correct" photo above as an example of v-boards in use)
- **On assorted mirrors that will ship intact to the stores (store-ready pallets),**
 - All mirrors must be pre-ticketed
 - To ensure stability of pallets and for pallets to remain upright until arrival to stores:
 - Use a full size pallet (smaller size pallet can easily tilt over due to the height and weight)
 - Stack cartons together (facing the same direction) perpendicular to the pallet's slats/deckboards. This will prevent cartons from slipping between the slats.
 - Form condensed shrink wrap lines and secure under one corner of the pallet to run across the top of the cartons, then secure under the opposite corner of the pallet (catty corner)



- Apply a generous amount of shrink wrap tightly around all the cartons and secure back down to the base of the pallet
- Apply strap/band parallel with the pallet's slats (perpendicular will lift the slats) and keep tension consistent. Recommend adding v-boards across the top of the cartons to prevent straps cutting into the cartons.
- *Please consult with the buyer on other pallet configurations*

5.3 Floor Loading (for import POs)

- All cartons must be stacked neatly and secured within the container
- Cartons must not be able to tilt or shift in transit
- Do not stack rows higher than carton strength can withstand based on weight of merchandise and carton burst strength/ECT
- Empty cartons or dunnage may be used to fill and brace load



GLOSSARY OF TERMS

Burst Strength

The force required to rupture corrugated board; relates indirectly to a carton's ability to withstand external or internal forces (*according to industry standards*)

Corrugated Board

A corrugating medium between two flat facings of linerboard

Corrugating Medium/Flute

The waves/ridges between the flat linerboards. The Ross standard required flute size B/C on a double-wall corrugated.

Double-Wall Corrugated Board

Three flat linerboards alternating with two corrugating mediums

ECT (Edge Crush Test)

The amount of force needed to cause compressive failure of an on-edge specimen of corrugated board; a primary factor in predicting the compression strength of a completed carton (*according to industry standards*)

Flaps

Extension of the panels that form the four side walls of a carton. When folded, flaps must be sealed securely with tape, adhesive or wire stitches.

RSC (Regular Slotted Carton)

A box style manufactured from a single sheet of corrugated board. Flaps extending from the side and end panels form the top and bottom of the box. The two outer flaps are one-half of the container's width so that they meet at the center of the box when folded. Flute direction is normally vertical.

Top-opening Regular Slotted Carton

A RSC designed to be filled from the top and remain upright. The flute direction is normally vertical, providing maximum stacking strength.