Mirror, Frame and Wall Art Packaging and Display Guidelines

Revision	Originated By	Approved By	Effective Date / Season
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1. Scope

This document covers standard guidelines of mirror and frame/wall art packaging. It will outline various packaging techniques, recommendations and packaging materials successfully used with mirror and frame/wall art items.

2. Application

These packaging guidelines should be used while developing protective packaging for mirrors and frames/wall art. The weight, size and any intricacies of the item must be taken into consideration and the packaging adjusted accordingly. Please contact CPWM Packaging for assistance as needed.

3. Specific Group Item Packaging Recommendations

3.1 Rectangular Mirrors

3.1.1 Internal Movement

Boxes should be correctly sized with no excess voids. Be sure mirror is secure within the package and are properly braced with corrugated build up or foam blocks to prevent horizontal and/or vertical movement. Approximately 2" (5 cm) of cushioning should be placed on the sides of the mirror and approximately 1" (2.54 cm) on top and back of the surface. EPS fitted corner caps as well as blocks are often used. See Figure 1 for an example of the placement of EPS blocks.

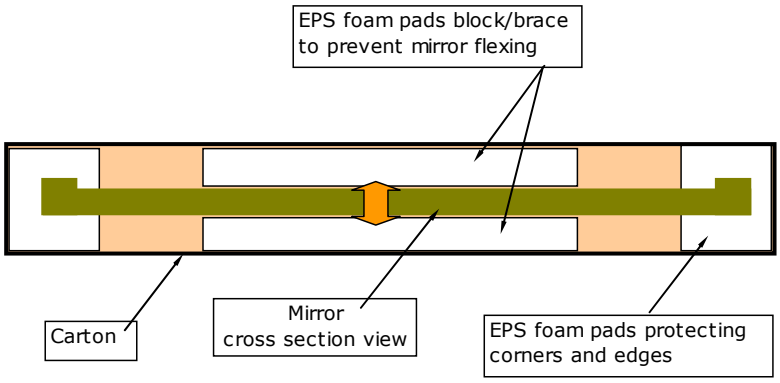


Figure 1: Cross sectional view of a packed mirror carton

3.1.2 Surface Protection

All mirrors should be wrapped in a poly bag, bubble wrap or foam sheeting. Bags should be printed with the appropriate suffocation warning labels. Additionally, a piece of corrugated build up or EPS should be form fitted and placed over the bagged mirror surface and the same material placed behind the mirror to cushion the surface between the packaging. This prevents the mirror surface from flexing during shipment. The cushioning should be approximately 1" thick on the top and bottom of the surface and flush against the carton. See Figure 1.

3.1.3 Corner Protection

Each rectangular mirror should have corrugated corner channel pads on all four corners. These corner pads will stay on during in store display. To keep the corner pads in good condition for display, additional corrugated build up or foam corner blocks should be used within the master case.

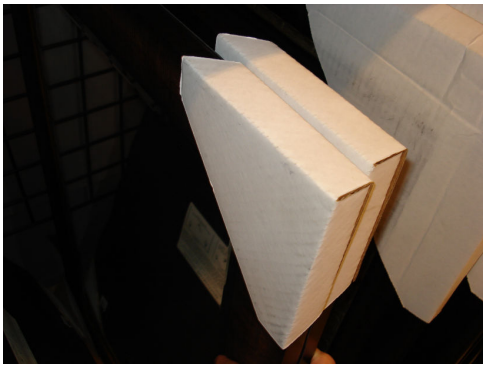


Figure 2: Examples of in-store display corner protection.

3.2 Circular Mirrors

3.2.1 Internal Movement

Boxes should be correctly sized with no excess voids Be sure mirror is secure within the package and are properly braced with corrugated build up or foam blocks to prevent horizontal and/or vertical movement. The void from the circular side of the mirror should be filled to the edge of the carton. See Figure 3.

3.2.2 Surface Protection

All mirrors should be wrapped in a poly bag, bubble wrap or foam sheeting. Bags should be printed with the appropriate suffocation warning labels. Additionally, a piece of corrugated build up or EPS should be form fitted and placed over the bagged mirror surface and the same material placed behind the mirror to cushion the surface between the packaging. This prevents the mirror surface from flexing during shipment. These pads and build-up protection should be flush with each other and against the carton. See Figure 3.

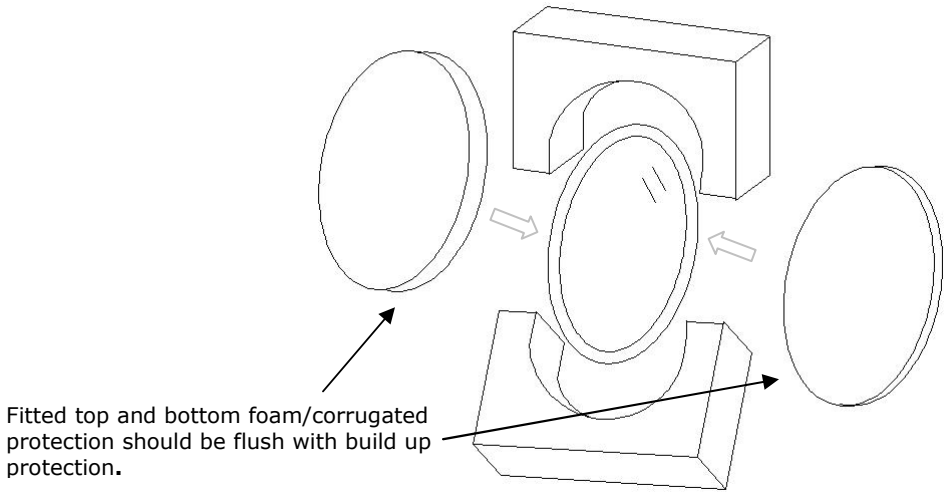


Figure 3: Example of foam block/corrugated build up protection and fitted pads on top and bottom required for circular mirrors

3.3 Frames/Wall art with glass

3.3.1 Internal Movement

Boxes should be correctly sized with no excess voids. Be sure frame is secure within the package and are properly braced with corrugated build up or foam blocks to prevent horizontal and/or vertical movement. Corrugated corner pads should be placed on each corner with the intent to stay on during in-store display (Figure 2). To keep these pads in good condition for display, additional corrugated build up or foam corner blocks should be used. See Figure 1.

3.3.2 Surface Protection

All frame should be wrapped in a poly bag, bubble wrap or foam sheeting. Bags should be printed with the appropriate suffocation warning labels. Additionally, a piece of corrugated or EPS should be form fitted and placed over the bagged mirror surface and the same material placed behind the mirror to cushion the surface between the packaging. This prevents the mirror surface from flexing during shipment. The cushioning should be approximately 1" thick on the top and bottom of the surface and flush against the carton. See Figure 1.

3.3.3 Corner Protection

Each frame should have corrugated corner channel pads on all four corners. These corner pads will stay on during in store display.

Figure 4: Examples of in-store display corner protection.

3.3.4 Shipping Multiple Units

When shipping multiple frames with any dimension over 12", all voids must be filled with dunnage (i.e. bubble wrap, foam sheeting, Ranpak, etc.) to protect the frames from impact and breaking on each other. See Figure 5. Dunnage must be placed specifically in between the frames and the glass surfaces should face inwards. Large frames in close proximity such as being in the same carton can break on each other due to flexing or impact during transit.

Figure 5: A sufficient amount of packaging material must be placed in between frames to prevent glass surfaces from contact upon impact during transit.

Both frames should be secured in the corner with a custom corner cap to secure frames within the box.

Figure 6: An example of a custom corner cap.

4. Wall Hanging Mechanism Specification

4.1 Mechanism Type

Use "O" or "D" rings. Any other type of hanging mechanism must be approved by the appropriate CPWM buyer. Sawtooth hangers or Alligator Brackets (Figure 6 cannot be used for larger pieces (an item with any dimension larger than 12 inches). Please contact CPWM buyer for approval to use this type of hanging mechanism.

Figure 7: Sawtooth hanger or Alligator Bracket

Figure 8: Example of D-Ring.

4.2 Distance required for multiple hanging mechanisms

For larger pieces that require more than one wall hanging mechanism, mechanisms should be placed 16.5" apart to match the stud length in the US.

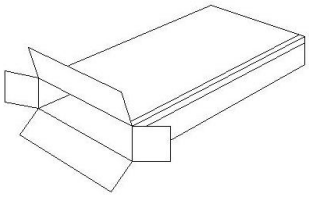
5. Price Ticketing

A price ticket should be located on the back of each retail unit. Master cartons or 1 and inner cartons of 1 unit should also have 1 price ticket. On master cartons, place the price ticket to the upper right of the carton information. On inner cartons, place to the left of the inner carton markings. Contact packaging@cpwm.com for further questions.

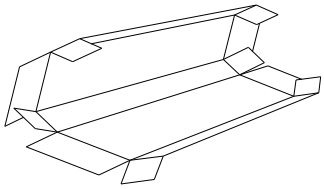
6. Shipping Cartons

5.1 Carton Styles

It is recommended to use Full Overlap Slotted Containers (FOL) or Five Panel Folder (FPF). These carton styles exhibit good stacking qualities, structural stability and contribute to tape strength.



Full Overlap Carton (FOL)



Five Panel Folder (FPF)

DO NOT use an RSC type carton. For frames and mirrors, the small surface of the carton panel will buckle at the tape seam, causing the tape to fail, thus not providing enough structural stability for the carton. Excess pressure would be then placed on the item itself, most likely causing damage. See Figure 6.

Figure 9: Example of the weak point of an RSC seam

5.2 Conveyable carton size and weight requirements

Dimensions and Weight	Minimum	Maximum
Largest Dimension	6" (15.24 cm)	34" (86.4 cm)
Second Largest Dimension	6" (15.24 cm)	28" (71 cm)
Third Largest Dimension	3" (7.62 cm)	28" (71 cm)
Gross Weight	2 lbs. (.91 kg)	50 lbs. (22.68 kg)

Contact us if your carton's gross weight exceeds this limit or if your carton size exceeds the maximum dimensions.

5.3 Wall thickness and Mullen burst strength

Products	Corrugated Board Type	Minimum Mullen Burst	Minimum Edge Crush	Minimum Caliper
Soft Lines /Hardline (inner cartons)	Single-wall (B/C Flute)	150 lb/in^2 (1034 kPa)	32 lb/in (5.6 kN/m)	0.255 in. (6.48 mm)
Hard Lines (master carton) gross weight < 40 lbs	Double-wall (B/C Flute)	150 lb/in^2 (1034 kPa)	32 lb/in (5.6 kN/m)	0.260 in. (6.60 mm)
Hard Lines (master carton) gross weight > 40 lbs	Double-wall (B/C Flute)	200 lb/in^2 (1379 kPa)	40 lb/in 7.0 kN/m	0.260 in. (6.60 mm)
Conveyable and Retail Quantity Inner Cartons	Single-wall (B,C, & E-Flute)	150 lb/in^2 (1034 kPa)	32 lb/in (5.6 kN/m)	B: .115 in. (2.92 mm) C: .148 in. (3.76 mm) E: .070 in. (1.78 mm)

6. Transit Testing

CPWM buyers will determine if a product requires transit testing. If transit testing is waived, it is highly encouraged to perform and in-house drop test to determine effectiveness of the protective packaging.

6.1 Free Fall Drop Test – (required for in-house drop testing)

This portion of the test consists of a series of ten free-fall drops from a height that varies with the carton gross weight as outlined in the following table:

Carton/Package Gross Weight		Drop Height	
English (lbs)	Metric (Kg)	English (inch)	Metric (cm)
1 – 20	1 – 9	30	76
21 – 40	9.5 – 18.2	24	61
41 – 100	18.63 – 45.5	18	45.7
101 – 150	46 – 68.2	12	30.5

6.2 Test surface

When performing the in-house free fall drop test, select an even, smooth, and rigid surface such as a concrete floor. No uneven, carpeted, wooden or dirt floor surfaces are allowed.

6.3 Drop Testing Technique

When performing the drop, especially on critical corners and edges, the orientation of the carton must be such that the entire weight of the carton is concentrated onto one point → the critical corner or edge being tested. Refer to Figure 7 for the diagram illustrating this procedure.

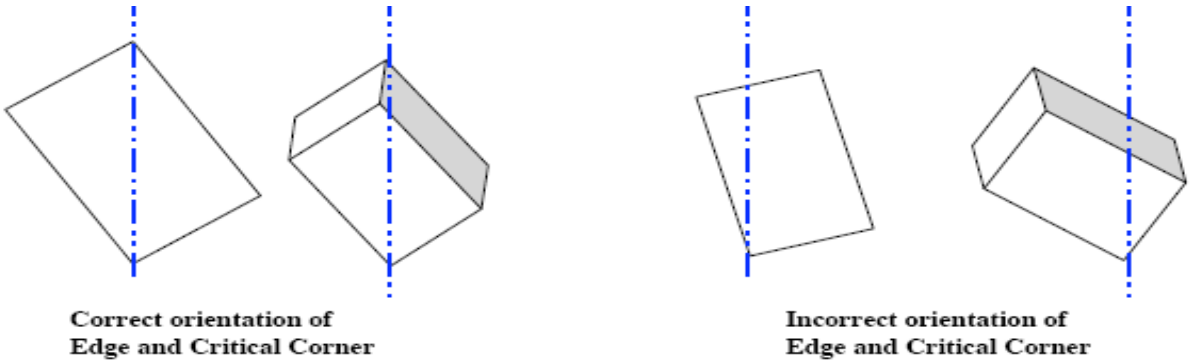


Figure 10: Drop Testing Technique

Drop Sequence

Orientations of the impacts are as follows and must be performed in the following order, as illustrated in Figure 8:

1. Most fragile corner (manufacturer's corner)
2. Shortest edge radiating from that corner
3. Medium edge radiating from that corner
4. Longest edge radiating from that corner
5. Flat on one of the smallest faces
6. Flat on the opposite small face
7. Flat on one of the medium faces
8. Flat on the opposite medium face
9. Flat on one of the largest faces
10. Flat on the opposite largest face

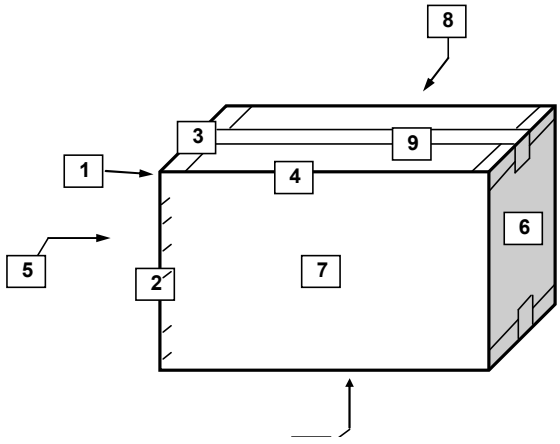


Figure 11: Drop Sequence

6.4 Drop Heights/Testing Protocols

The table below indicates depending on the weight of the shipping carton, the height at which it should be dropped for in-house tests and BV tests.

Carton/Package Gross Weight		Drop Height	
English (lbs)	**Metric (Kg)**	**English (inch)**	**Metric (cm)**
1 – 20	1 – 9	30	76
21 – 40	9.5 – 18.2	24	61
41 – 100	18.63 – 45.5	18	45.7
101 – 150	46 – 68.2	12	30.5

- Carefully inspect for damage after the in-house drop test is completed.

- If your item requires transit testing, after successful in-house testing, send a fresh (untested, to avoid inherent stress from previous drops), production sample in production packaging to the BV test lab. Samples should be overpacked and labeled "OVERPACKED FOR TESTING". Failing to send a fresh sample to BV may result in loss of time and additional cost due to a potential test failure. The ISTA test performed will be dependent on your carton physical characteristics as follows:

IF YOUR PACKAGE IS	AND	SELECT	CPWM Protocol
6 sided carton (like a cube)	Less than 150 lbs (68 Kg)	**ISTA** -1C	CP-9029-US
6 sided carton (like a cube)	More than 150 lbs (68 Kg)	**ISTA** -1D	CP-9029-US
Flat carton (e.g. mirror)	Less than 150 lbs (68 Kg)	**ISTA** - 2D	CP-9057-US
Elongated carton (e.g. side Rail)	Less than 150 lbs (68 Kg)	**ISTA** - 2E	CP-9058-US
Furniture attached on a custom pallet		Palletize	CP-9052-US

Any questions regarding these guidelines should be sent to Packaging@cpwm.com