

# Packaging Guidelines

## Shipping Checklist

### Make sure you:

- Use a rigid box with flaps intact.
- Remove old labels, Hazardous Materials indicators and other previous shipment markings.
- Wrap items separately.
- Use adequate cushioning material.
- Use strong tape designed for shipping.
- Do not use string or paper over-wrap.
- Use a single address label that has clear, complete delivery and return addresses.
- Place a duplicate address label inside the box.

## Step-by-Step

These four steps cover the key considerations in packing most articles to help allow for safe transport through the distribution environment.

### 1. Use a corrugated box.

Use a new or “almost new” corrugated box. The more a box is used, the more it loses its original protective qualities and may not adequately protect your shipment. If you must reuse a box,

make sure it is rigid and in excellent condition with no punctures, tears, rips or corner damage, and that all flaps are intact. Shoe boxes, gift boxes or other paperboard boxes are not recommended. Remove old address labels and Hazardous Materials indicators such as diamond labels and markings, as well as delivery markings and barcodes from the previous shipment.

UPS recommends choosing a box strength that is suitable for its contents,

based on the Box Strength Guidelines. Never exceed the maximum gross weight limit for the box, which is printed on the Box Maker's Certificate on the bottom flap of most boxes.



After years of testing and analysis, engineers at the Package Lab have developed box strength specifications for single-package distribution. Refer to the chart below for recommendations in determining the proper size and maximum gross weight limit of a box.

How to use the Box Strength Guidelines chart (see below):

1. Weigh items to be shipped. (A double-wall corrugated container should be used for any item(s) weighing more than 80 pounds.)

Box Strength Guidelines			
A Maximum Weight of Box and Contents (lbs.)	B Size Limit of Box (inches)* L + W + H	C Bursting Test (lbs. per sq. in.)	D Edge Crush Test (ECT) (lbs. per in. width)
SINGLE-WALL CORRUGATED CONTAINERS			
30	75	200	32
40	75	200	40
50	85	250	44
65	95	275	55
80	105	350	N/A
DOUBLE-WALL CORRUGATED CONTAINERS			
60	85	200	48
80	95	275	51
100	105	350	61
120	110	400	71
140	115	500	82
150	120	600	N/A

The above box strengths are only guidelines to help assure the containment and protection of products transported through single-package distribution environments. They are not to be considered packaging specifications, and all packaged products should be tested in accordance with the International Safe Transit Association (ISTA) Test Procedure 3A to ensure the most appropriate level of product protection is achieved.

\*The size limits on the above chart refer to the maximum size of a box that can be manufactured based on the strength of the corrugated material. The size limits specified in this chart and on the Box Maker's Certificate are unrelated to length and girth measurements used by UPS for dimensional measurements.

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## Step-by-Step (continued)

2. Measure and add together the length, width and height of the box.

3. Select the appropriate row where the criteria in both columns A and B are met.

4. Use column C to identify the recommended Bursting Test strength box. Or, use column D to identify the recommended Edge Crush Test strength box. At least one of these specifications can be found on the *Box Maker's Certificate*.

To prepare packages for UPS shipment, you can use your own packaging or one of a variety of containers provided free of charge for selected UPS services. To order these supplies, please visit the "Order Supplies" Quick Link on the ups.com® home page.

### 2. Provide internal protection.

It's important to cushion the contents of your package properly.



Wrap each item separately. Surround each item with at least two inches of cushioning, and place items at least

two inches away from the walls of the box. This will prevent product-against-product damage and protect the contents from shock and vibration which can pass from the outside of the box to the contents.

Proper cushioning material, combined with a strong outer container, will

protect your shipment. Use enough cushioning material to ensure that the contents cannot move when you shake the box.

Clothing, blankets and pillows are not proper cushioning materials.

Fragile articles, such as electronics, glass, ceramics and artwork, need suitable separation from each other and from the corners, sides, top and bottom of the box. These articles may require special packaging, added cushioning or a double box for safe shipment. Please refer to ups.com for additional information.

### Materials used for cushioning and protection:

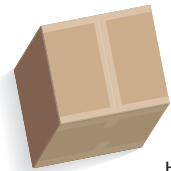
<b>Air-encapsulated plastic (bubble pack)</b>	<ul style="list-style-type: none"> <li>- Protect and cushion lightweight items.</li> <li>- Use multiple wraps/layers, especially around corners and edges.</li> </ul>
<b>Inflatable packaging (air bags)</b>	<ul style="list-style-type: none"> <li>- Use as void-fill material for lightweight items.</li> <li>- Can be preformed to provide proper cushioning performance for specific products.</li> <li>- Extreme hot or cold temperatures may affect the ability of air bags to provide adequate product protection.</li> <li>- Not recommended for items with sharp corners or edges.</li> </ul>
<b>Expanded polystyrene "peanuts"</b>	<ul style="list-style-type: none"> <li>- Use as void-fill material for lightweight items.</li> <li>- Overfill box with peanuts, then gently close flaps and seal.</li> <li>- Recommend minimum of three inches of cushioning be used around contents.</li> <li>- Recommend using flat pieces of corrugated board between contents and peanuts.</li> <li>- Not recommended for use with flat, narrow or dense products that may migrate to the edge or bottom of carton during transit.</li> </ul>
<b>Engineered foam enclosures</b>	<ul style="list-style-type: none"> <li>- Should be preformed for specific products for proper cushioning performance.</li> <li>- Materials may include expanded polystyrene, polyethylene, polypropylene or copolymers.</li> </ul>
<b>Foam-in-place</b>	<ul style="list-style-type: none"> <li>- Sprayed into box or mixed in packets to form a protective, molded cushion around the product.</li> <li>- Good cushioning when evenly distributed around contents.</li> <li>- Select appropriate density of foam to meet packaging needs.</li> </ul>
<b>Corrugated board</b>	<ul style="list-style-type: none"> <li>- Can be laminated together to form blocks or pads.</li> <li>- Can be die-cut, slit or scored to form trays, partitions or liners.</li> <li>- Not recommended for fragile items.</li> </ul>
<b>Crumpled kraft paper</b>	<ul style="list-style-type: none"> <li>- Newspaper is not appropriate.</li> <li>- Use as void-fill material for light- to medium-weight, non-fragile items.</li> <li>- Tightly crumple paper around product.</li> <li>- Use at least four inches of paper around and between contents.</li> </ul>
<b>Paper cushioning</b>	<ul style="list-style-type: none"> <li>- Multi-layered paper fed through a crumpling machine to create padding.</li> <li>- Ideal for wrapping medium- to large-sized, non-fragile items and those that may require moisture absorption.</li> <li>- Excellent for void-fill.</li> </ul>

# Packaging Guidelines

## Step-by-Step (continued)

### 3. Close it securely.

Proper closure is just as important as adequate cushioning.



To close a box securely, apply three strips of tape to both the top and bottom of the box, so the middle and two edge seams are sealed. Use a strong tape such as the types described below:


- Pressure-sensitive plastic or nylon-reinforced tape
  - At least two inches or more in width is recommended.
  - Generally, the easiest, most convenient tape to use, it will adhere without water and can stick to a variety of surfaces and shapes.
- Water-activated reinforced tape
  - Use 60-pound grade tape at least three inches wide.
  - Reinforced fibers in the tape provide additional strength, making it less susceptible to splitting or tearing.
  - Caution: Adhesion to the container may be affected by elements such as high humidity, wetness of tape or dust.

Do not use masking, cellophane, duct or water-activated paper tapes. Also, do not use string or paper over-wrap.

### 4. Use proper labeling.

For timely and accurate delivery, keep these points in mind when labeling your package:

- Always include the receiver's complete address and ZIP Code™. For international shipments, include a contact name, telephone number and postal code.



- Make every effort to obtain a street address. If you do use a P.O. Box address, the recipient's telephone number *must*

be included on the label. A package addressed to a P.O. Box may experience delays and will not be covered by any UPS Service Guarantee. An Address Correction charge also will apply. Army Post Office (A.P.O.) and Fleet Post Office (F.P.O.) addresses are not accepted by UPS.

- Include the suite, apartment or unit number, if applicable. Failure to do so may subject the shipper to an Address Correction charge.

- Always include your complete return address with full street address and ZIP Code. For international shipments, include a contact name, telephone number and postal code.

- Place the shipping label on the top of the box. To avoid confusion, place only one address label on the box. If using a packing slip, place it on

the same surface of the box as the address label.

- Do not place the label on a seam, edge, closure or on top of sealing tape.
- Remove or cross out old labels or markings.
- Place a duplicate label or other form of address information inside the package.
- If using a mailing tube, place the label horizontally, with the sides of the label pointing toward the ends of the tube, so the barcode can be scanned. If labeling an irregularly shaped item, make sure the label is placed on a flat surface to allow for scanning.



- The smart labels produced by UPS WorldShip®, UPS Internet Shipping, UPS CampusShip®, UPS OnLine® Shipping Tool and a UPS Ready® solution include barcodes and routing codes that help ensure accurate routing and prompt delivery of your shipments. In addition, the use of smart labels allows for fast access to tracking and delivery information.
- UPS does not provide special handling for packages with "Fragile," package orientation (e.g., "Up" arrows or "This End Up" markings) or any other similar markings.