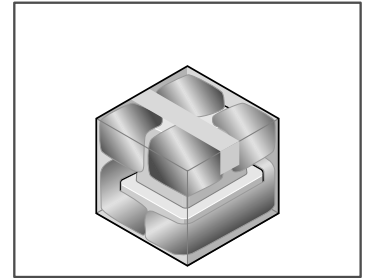
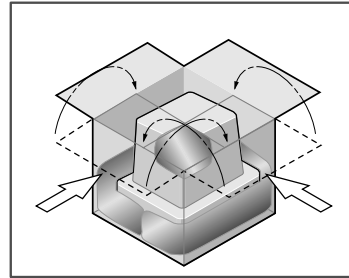
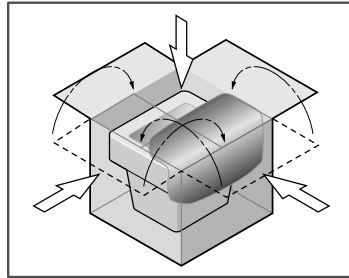
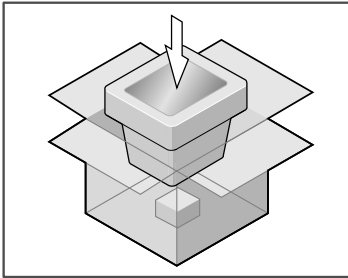


 **Sealed Air**

Instapak Quick[®]

Foam Packaging



Applications Guide

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About This Guide

The *Instapak Quick® Foam Packaging Applications Guide* is designed with illustrations and step-by-step packaging guidelines to assist the operator with the use of this product.

Information symbols used throughout this guide:



This "GOGGLES" symbol calls attention to the need to wear protective eye glasses with side shields while performing operating procedures.



This "EXCLAMATION POINT" symbol calls attention to features for which you should read the enclosed literature closely to prevent operating problems.



This "TRIANGLE" symbol calls attention to special notes that will enhance operating procedures.

WARRANTY POLICY

Sealed Air warrants that, for a period of six (6) months from shipment, Instapak Quick® foam packaging bags, when used in accordance with our instructions, will make polyurethane foam meeting our foam specifications. In addition, Sealed Air warrants that the Instapak Quick® bags will be free from material defects in manufacture for a period of six (6) months from the date of shipment. Sealed Air's liability under these warranties shall be limited, at our option, (a) to repayment, or if not paid, to credit of the purchase price; (b) to replacement; or (c) to repair. THE USER SHOULD TEST THE APPLICATION TO DETERMINE THE SUITABILITY OF INSTAPAK QUICK® FOAM PACKAGING FOR THE INTENDED USE. SEALED AIR SHALL IN NO EVENT BE LIABLE FOR GENERAL, SPECIAL, INCIDENTAL, INDIRECT, CONSEQUENTIAL, PUNITIVE OR PENAL DAMAGES. SEALED AIR MAKES NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, AS TO INSTAPAK QUICK® FOAM PACKAGING, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.

NOTICE


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Introduction

Welcome to the *Instapak Quick® Foam Packaging Applications Guide*. This guide offers generic packaging examples that serve as general guidelines for using this product and does not attempt to cover every Instapak Quick® packaging application. A simple method to help determine the appropriate Instapak Quick® product for your application is also provided.

This guide covers **Instapak Quick®**, **Instapak® Quick Tuff™** and **Instapak Quick® RT** foam packaging products.

 **Note:** All safety and application information in this guide pertains to **Instapak Quick®**, **Instapak® Quick Tuff™** and **Instapak Quick® RT** foam packaging products.

Instapak Quick® is a fast and easy to use packaging material that provides superior protection for your products. It is ideal for cushioning, blocking and bracing, and for producing small molded cushions. Each Instapak Quick® bag contains two separate liquids that, when mixed together, will react and expand to form polyurethane foam packaging.

If you have any questions about this product, please call your authorized Sealed Air Instapak Quick® distributor.

WARNING!

Before using this product, read and familiarize yourself with important safety and instructional information that is found in the following material:

- *Material Safety Data Sheets*
- *Bag Label*
- *User's Guide*
- *Applications Guide (this guide)*
- *Instructional CD (included with the purchase of a Quick™ Warmer and not included with Instapak Quick® RT products)*

Who to Call

- **"For Chemical Emergency"**
Spill, Leak, Fire, Exposure or Accident call CHEMTREC at 1-800-424-9300, 24 Hours.
- **Instapak Quick® Reorder Information:**
Call your authorized Sealed Air Instapak Quick® distributor.

How To Determine When To Use Instapak Quick® Foam Packaging

Now you need to determine if Instapak Quick® foam will support the weight of your product.

Each Instapak Quick® packaging foam has been designed to support a specific pounds per square inch (psi) static load. In other words, the foam can be used to package an item of any weight as long as there is adequate surface area on each side of the product to spread out the load. The heavier the item the more surface area you will need to cover with Quick™ foam in order to protect the product properly.

The maximum psi loading for a product can be determined by dividing the weight of the product by the surface area of the smallest side of the product (length x width). The following equation illustrates this concept:

$$\frac{\text{Total weight of the product (lbs.)}}{\text{Area in inches of the smallest side of the product (L" x W")}} = \text{Static Loading (psi)}$$

A range of .1 - .35 lbs. per square inch (psi) load is optimum, when using at least 2" of Instapak Quick® or Instapak Quick® RT.

A range of .35 - .80 lbs. per square inch (psi) load is optimum, when using at least 2" of Instapak® Quick Tuff™.

This means that if your product has a static loading within the optimal range per square inch (psi) and you completely surround the product with at least 2" of Instapak Quick® foam your product should be sufficiently protected through a typical shipping cycle.

When a product properly packaged in Quick™ is dropped, the cushions will deflect (compress) between 1.25" - 1.5" at the time of impact. This is based on a typical drop height determined by the product's weight. For example, the lighter the product the higher the drop height and the heavier the product the lower the drop height. That is why a minimum of 2" of Quick™ protection is required. When this deflection occurs, foam begins to do its job by absorbing the shock within the 2" cushion as opposed to the product absorbing that shock. If the cushion did not deflect (because it was too rigid e.g., wood) or it deflected a full 2" (bottomed out), the shock would be transmitted right through the product resulting in possible damage to the product.

How To Determine When To Use Instapak Quick® Foam Packaging (cont.)

This psi loading should be determined for the smallest side of the product being shipped. If it is within the optimal range, the remaining sides will also be within the performance capabilities of Quick™ packaging. Although the weight for an item is constant, the surface area may vary from side to side and have an impact on the performance of the cushioning material. That is why we focus on the smallest side which presents the highest loading.

Please refer to the *Instapak Quick® Packaging Parameters* on pages 12-13 of this guide to determine which Instapak Quick® foam packaging product is best suited for your application.

How To Determine When To Use Instapak Quick® Foam Packaging (cont.)

Example 1 - Packaging a Video Cassette Recorder

This video cassette recorder measures 20" x 11" x 4.5" and weighs 13 lbs.

Perform the following calculation to determine the psi (lbs. per square inch) loading for the smallest side (only one calculation is necessary).

- Weight ÷ the area (L x W) of the smallest side = loading (psi).
- 13 lbs ÷ (4.5" x 11") = .26 psi
- 13 lbs ÷ 49.5 in. sq. = .26 psi
- .26 psi is within the optimal range of .10 - .35 psi for Instapak Quick® or Instapak Quick® RT (refer to pages 12-13).

Completely surrounding the video cassette recorder with 2" of Quick™ foam should protect this product.

How To Determine When To Use Instapak Quick® Foam Packaging (cont.)

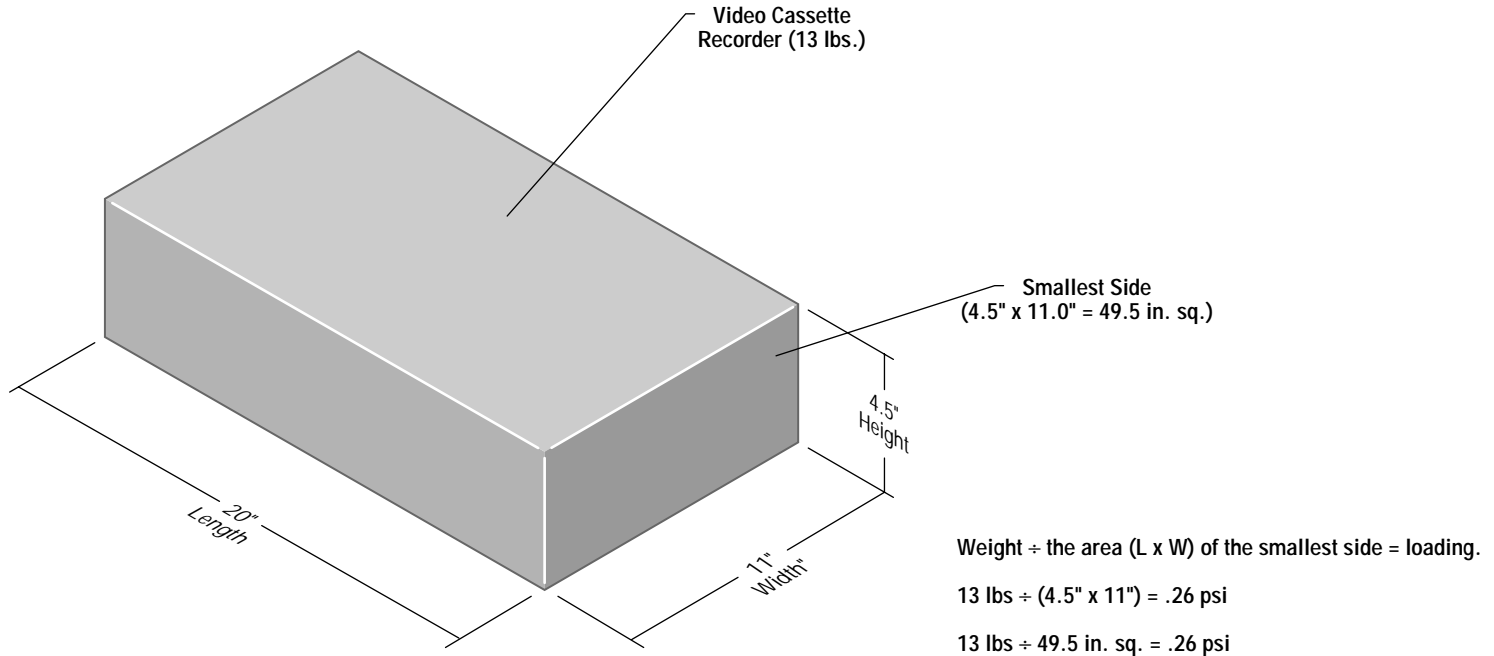


Figure 1
Packaging a Video Cassette Recorder

How To Determine When To Use Instapak® Quick® Packaging Foam (cont.)

Example 2 - Packaging a Heavy Product with Instapak® Quick Tuff™

The heavy product measures 24" x 5" x 10" and weighs 30 lbs.

Perform the following calculation to determine the psi (lbs. per square inch) loading for the smallest side (only one calculation is necessary).

- Weight ÷ the area (L x W) of the smallest side = loading (psi).
- 30 lbs ÷ (5" x 10") = .6 psi
- 30 lbs ÷ 50 in. sq. = .6 psi
- .6 psi is within the optimal range of .35 - .80 psi for Instapak® Quick Tuff™ (refer to pages 12-13).

 **Note:** If your product does not fall within Quick™ packaging specifications, contact our on-line packaging expert at 1-800-568-6636 or e-mail - packaging.expert@sealedair.com

How To Determine When To Use Instapak Quick® Packaging Foam (cont.)

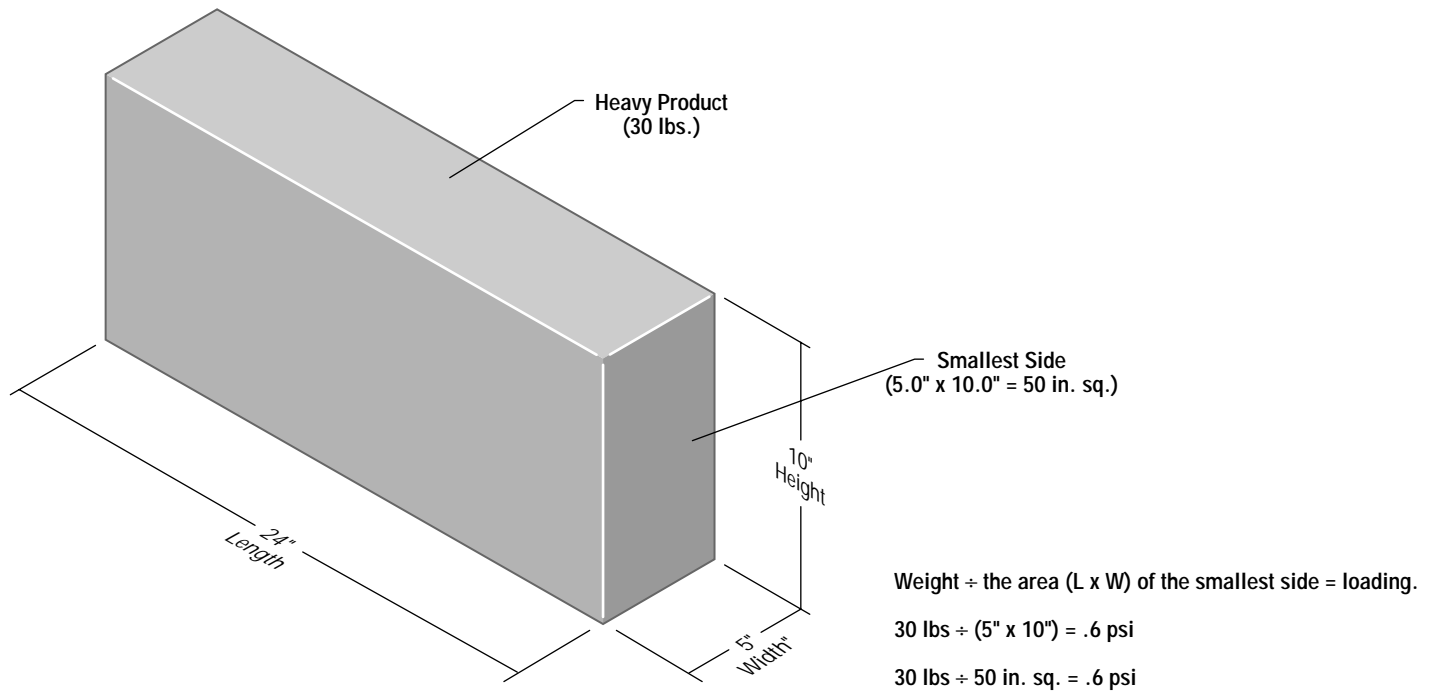


Figure 2
Packaging a Heavy Product

Instapak Quick® Packaging Parameters

Instapak Quick® foam packaging is used to protect products of various size, shape, and weight. To determine which Instapak Quick® product is best suited for your product, refer to the *Instapak Quick® Packaging Performance Chart* on the following page.

You will need to know two attributes of your product:

- Product weight.
- Area of the smallest side of the product, in inches (LxW).

The smallest side of the product represents the highest loading (psi). When static loading of the smallest side falls within the optimal range, the remaining sides will also be within Quick's™ packaging performance capabilities.

Contact our Packaging Expert to discuss, correspond, or to arrange a visit by one of our many packaging specialists:

- 1-800-568-6636 (8:30 - 5:00 ET, US and Canada only)
- e-mail - packaging.expert@sealedair.com

Rugged Products

- If your product falls within the “Rugged Products” parameter and is classified “Not Fragile,” then Instapak Quick® or Instapak Quick® RT should provide adequate protection.



Note: The shipping and transportation environment is a very unpredictable chain of events. Packaging is not an exact science, thus we caution that the *Instapak Quick® Packaging Performance Chart* be used as a guide and not a final stamp of approval or guarantee that Instapak Quick® will or will not be successful in protecting the product to be packaged.

Instapak Quick® Packaging Parameters (cont.)

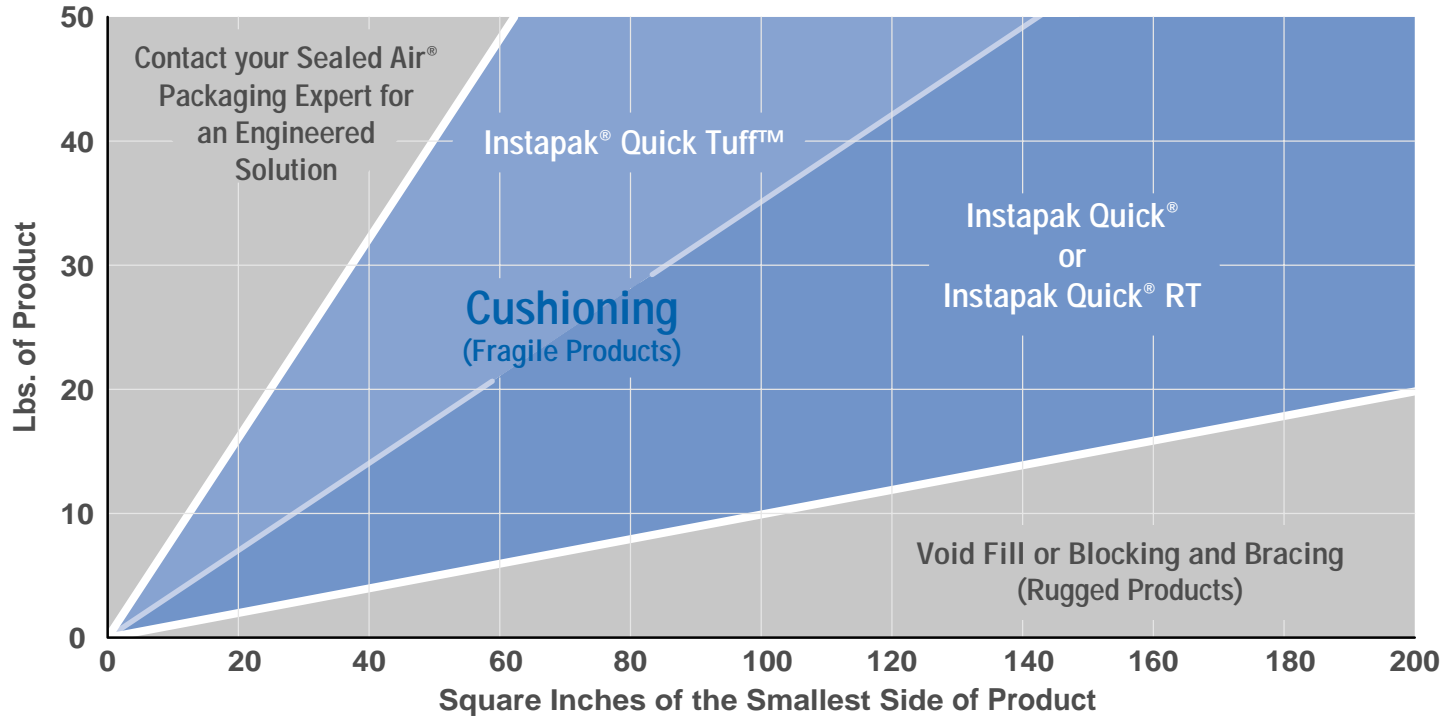


Figure 3
Instapak Quick® Packaging Performance Chart

Information on Corrugated Shipping Boxes

A major component of any successful protective package is the shipping box. Today, most shipping boxes are made of corrugated fiberboard. In order to increase the likelihood that any package will protect its contents through shipping and handling, it is necessary that you use a shipping box that will maintain the integrity and performance of the interior packaging from the point of shipment to the ultimate delivery.

Corrugated fiberboard is primarily classified on the basis of two laboratory test procedures:

- *Burst Test*
- *Edge Crush Test (ECT)*

Each of these laboratory tests evaluates a different property of the corrugated structure. Burst measures how the board resists bursting pressures applied by an instrument in the lab. The level of burst force in this equipment is expressed in pounds. So, common corrugated fiberboard constructions are rated at 175, 200, 250 pounds for example. At best, this number is an indirect indication of how much weight a box made from any specific grade will support or contain.

The other value, Edge Crush, measures the ability of the corrugated structure to support a load applied parallel to the fluted direction. Typical values for common corrugated grades are 28 pounds, 32 pounds or some other value. Unlike burst, these values do relate to stacking strength of the boxes made from these materials.

When selecting a box for a protective package, one must consider the burst or edge crush values for the corrugated fiberboard, the style of box to be used and the type of closure for the box. By referring to the Box Makers certificate on the bottom of the box, you can see what the burst or ECT is for that material. Most boxes for products up to 60 or 70 pounds will be of 200 pound test or 32 ECT board.

If a product to be packaged weighs more than 60 pounds or so, then the designer might want to consider a higher grade of corrugated and/or going to a double wall corrugated structure (two sets of flutes in the same fiberboard structure).

In any case, a well made and properly designed shipping box closed with strong tape (or some other adequate closure method) is an important criteria in a package that will protect its contents throughout shipping and handling.

Further information can be obtained from the Fiber Box Association.

Bag Volumetric Table

The following line drawings (pages 15-18) are intended to illustrate the approximate size of the cushion when Quick™ bags are expanded. Cushion sizes may vary depending on product size, environmental conditions, and packaging technique.

The left portion of the table shows the dimensions of a bag when it is expanded to form a 2" high flat cushion. The right portion of the table shows the effect of placing a typical product (represented as a gray box) in the rising foam within a corrugated box. This drawing shows how the dimensions are affected by the placement of a product and will help select the correct size corrugated box when using top and bottom cushions.

▲ **Note:** Expanded cushion dimensions are smaller than the unexpanded bag dimensions.

▲ **Note:** Due to their shape and size some products may require more than two Instapak Quick® foam bags for adequate protection. This is a common occurrence when using the foam-in-bag packaging process - see *Packaging Examples* pages 22-27 and 32-35.

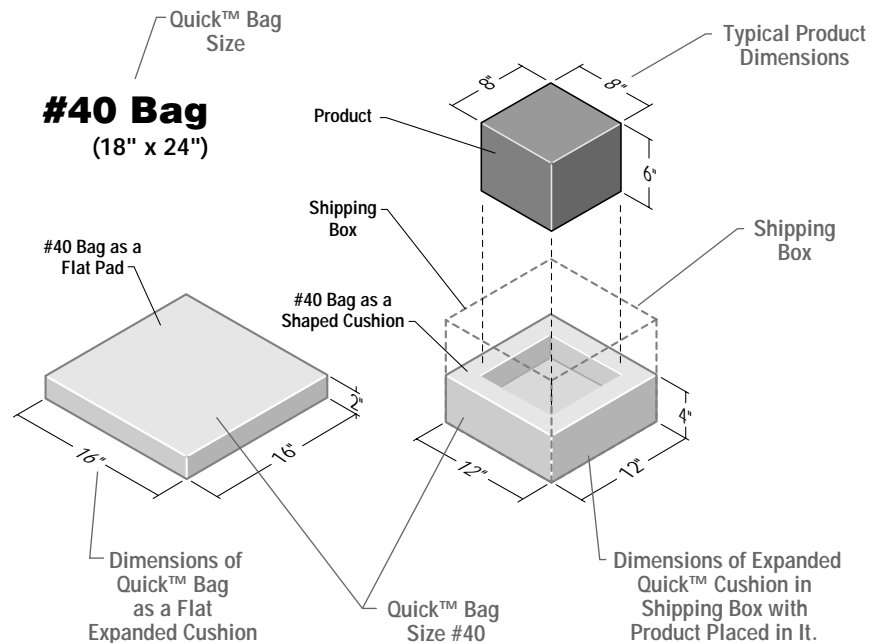
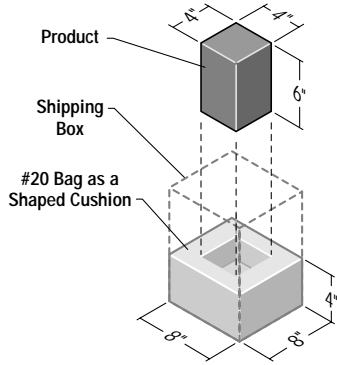
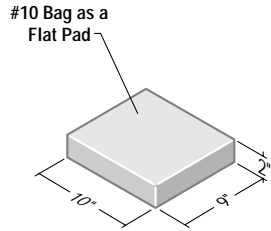


Figure 4
Understanding the Bag Volumetric Table

Bag Volumetric Table - Instapak Quick® and Instapak Quick® RT

#10 Bag
(15" x 18")



#20 Bag
(18" x 18")

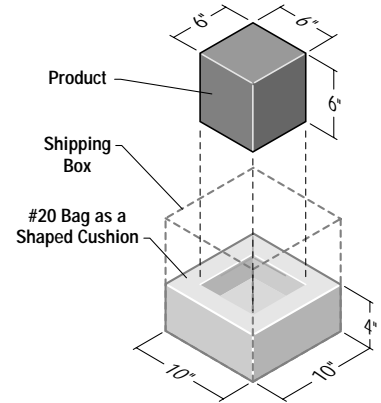
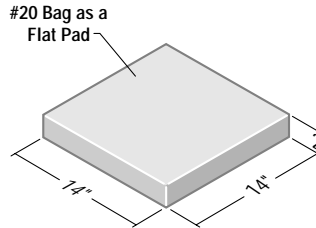


Figure 5
Instapak Quick® and Instapak Quick® RT Bag Volumetric Table - Part 1

Bag Volumetric Table - Instapak Quick® and Instapak Quick® RT (cont.)

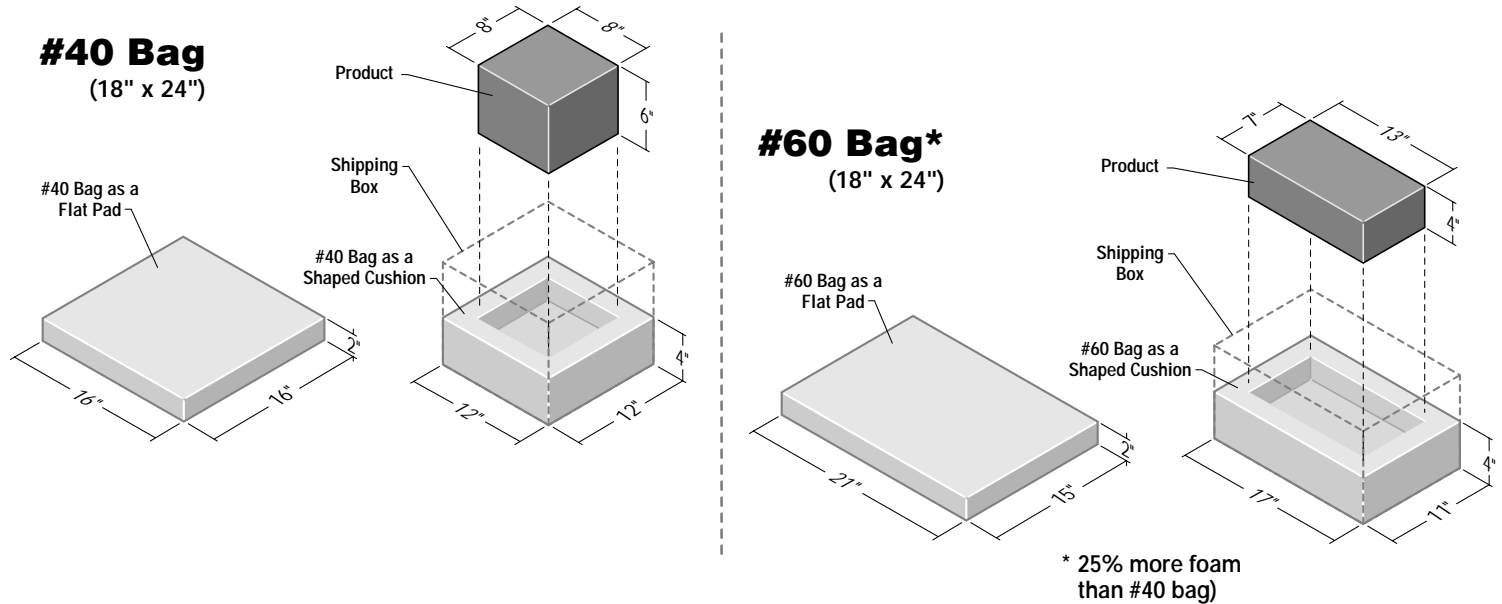


Figure 6
Instapak Quick® and Instapak Quick® RT Bag Volumetric Table - Part 2

Bag Volumetric Table - Instapak Quick® and Instapak Quick® RT (cont.)

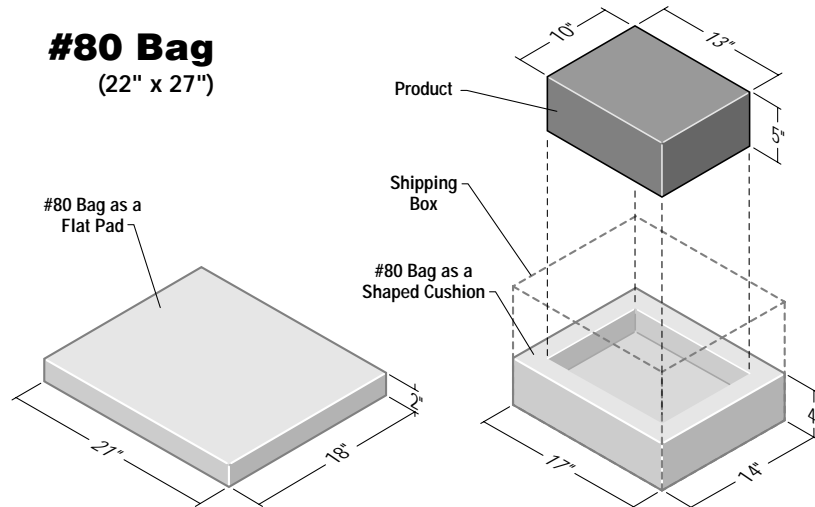
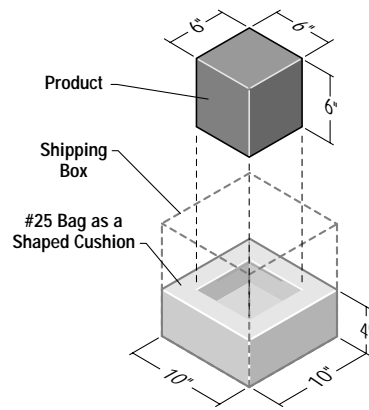
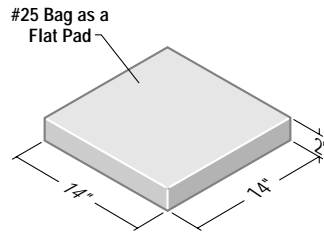


Figure 7
Instapak Quick® and Instapak Quick® RT Bag Volumetric Table - Part 3

Bag Volumetric Table - Instapak® Quick Tuff™

#25 Bag (18" x 18")



#45 Bag (18" x 24")

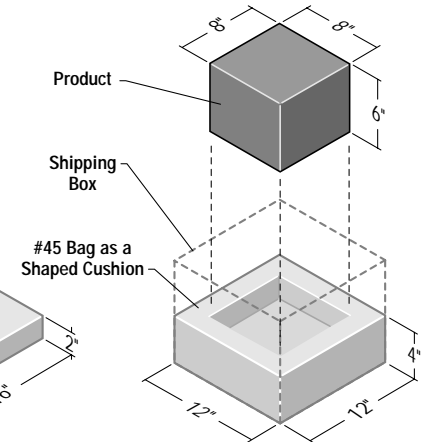
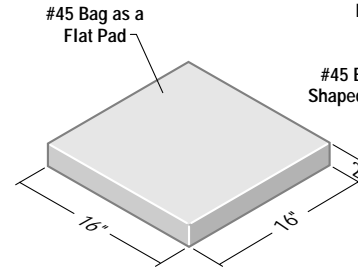



Figure 8
Instapak® Quick Tuff™ Bag Volumetric Table


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Packaging Examples Using Instapak Quick® Foam Packaging

The PSI loading for the following applications were calculated using the smallest side of each product. These calculations determined that Instapak Quick® was an appropriate packaging material for these products.


The products in this section were also subjected to the International Safe Transit Association (ISTA) *Procedure 1A Test for Shock and Vibration Testing*. These products all passed this industry standard test.

 **Note:** The packaging examples on pages 22-25 could both be packaged in either the full overlap end loading or regular slotted box styles depicted.

 **Note:** In the following examples product positioners may be used to aid the packaging process. A product positioner may be a piece of wood, polystyrene, polyethylene, polyurethane, or other suitable material. **Product positioners are not supplied with this product.** A positioner is used to lift, center, position, or hold your product so that at least 2" of space for cushioning material around your product. Certain applications may require larger product positioners.

 **CAUTION:** Safety glasses with side shields should be worn while using Instapak Quick® foam packaging.

Packaging Examples Using Instapak Quick® Foam Packaging: Glass Framed Print

1. Determine the overall dimensions of your print (L x W x H). Choose a shipping box that is at least 4" larger in each dimension (L x W x H).
2. Erect the box and do not tape the flaps.
3. Place the centering product positioner (polyethylene foam block or wood) in the middle of the bottom of the box.
4. Lower your artwork into the box and place it into the product positioner.
5. Place another product positioner on top of the artwork at the open end of the box.
6. Start a #20 bag and place the expanding bag around one of the top corners of the artwork. Close and hold the flaps to form the corner cushion.
7. Start another #20 bag and place the bag around the other corner of the artwork. Close and hold the flaps to form the second corner cushion.
8. Remove the centering product positioner and tape these flaps closed.
9. Rotate the box and open the flaps.
 **Note:** Be careful when rotating the box that the artwork does not slip out of the untaped end of the box.
10. Repeat steps 6 and 7.
11. Remove the centering product positioner. Start another #20 bag and place it down between the corrugated box and the front (glass) side of the artwork.
12. Verify that the print is locked in place. Close and seal the box.

Packaging Examples Using Instapak Quick® Foam Packaging: Glass Framed Print (cont.)

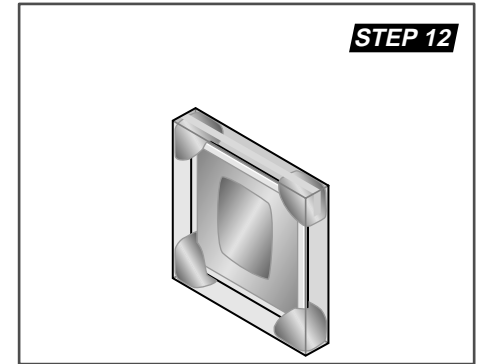
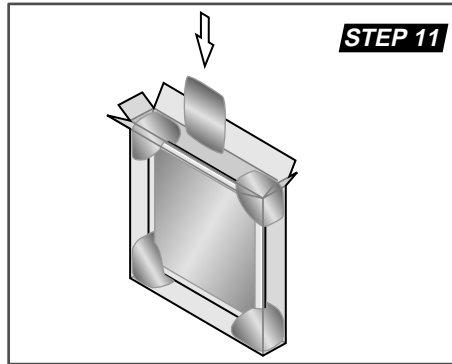
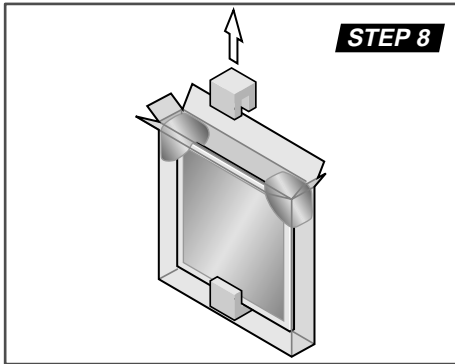
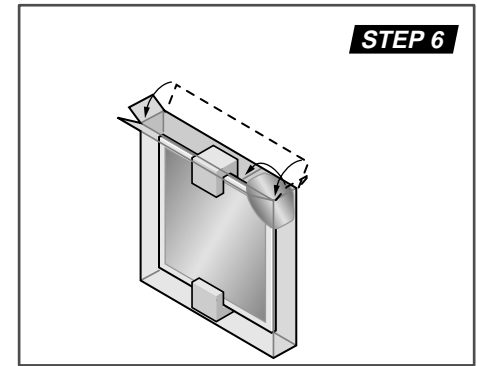
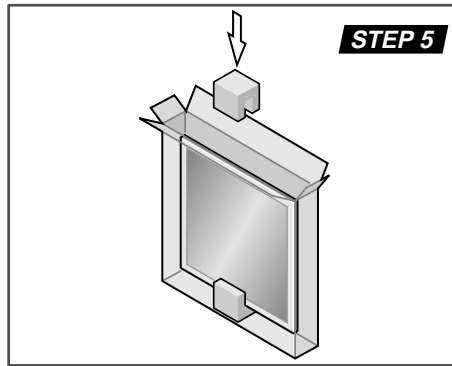
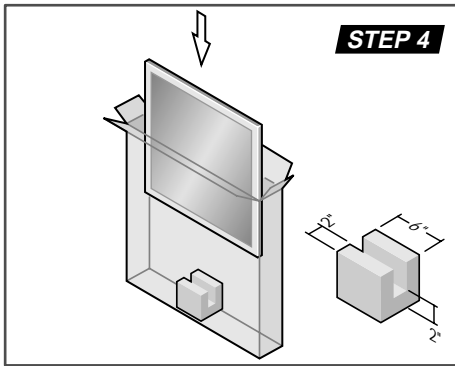



Figure 9
Packaging a Glass Framed Print

Packaging Examples Using Instapak Quick® Foam Packaging: Framed Artwork (Painting) on Canvas

1. Wrap the painting in a large piece of corrugated and secure it around the frame.
 **Note:** This is necessary so the cushions do not touch the canvas and cause the canvas to stretch.
2. Determine the overall dimensions of your painting (L x W x H). Choose a shipping box that is at least 4" larger in each dimension (L x W x H).
3. Locate or make two 2" (or larger if required) blocks to be used as product positioners. Then place them in one corner farthest from you.
4. Start a #20 bag.
5. Place the bag in the center of the bottom of the box.
6. Place the painting into the center of the box on top of the rising bag of foam (be sure that the back of the painting is placed against the foam cushion. Continue to hold the painting so that the bag rises to meet the frame and forms a 2" high cushion. Hold the painting until the bag supports the frame. This takes about 8 seconds.
7. Be sure the painting is centered in the box.
8. Activate a #20 bag and place it in the corner closest to you and opposite the two 2" foam blocks.
9. Close and hold the two flaps closest to you over the expanding bag. This will help the cushion form around the corner of the painting.
10. After the bag stops expanding, open the flaps and rotate the box so the two foam blocks are in front of you.
11. Pull the blocks out and activate a #20 bag and place it in this corner. Close and hold the two flaps over the expanding bag.
12. Activate a #20 bag and place it in the next corner. Close and hold the two flaps over the expanding bag.
13. Activate a #20 bag and place it in the final corner. Close and hold the two flaps over the expanding bag.
14. Verify that the painting is locked in place. Close and seal the box.

Packaging Examples Using Instapak Quick® Foam Packaging: Framed Artwork (Painting) on Canvas (cont.)

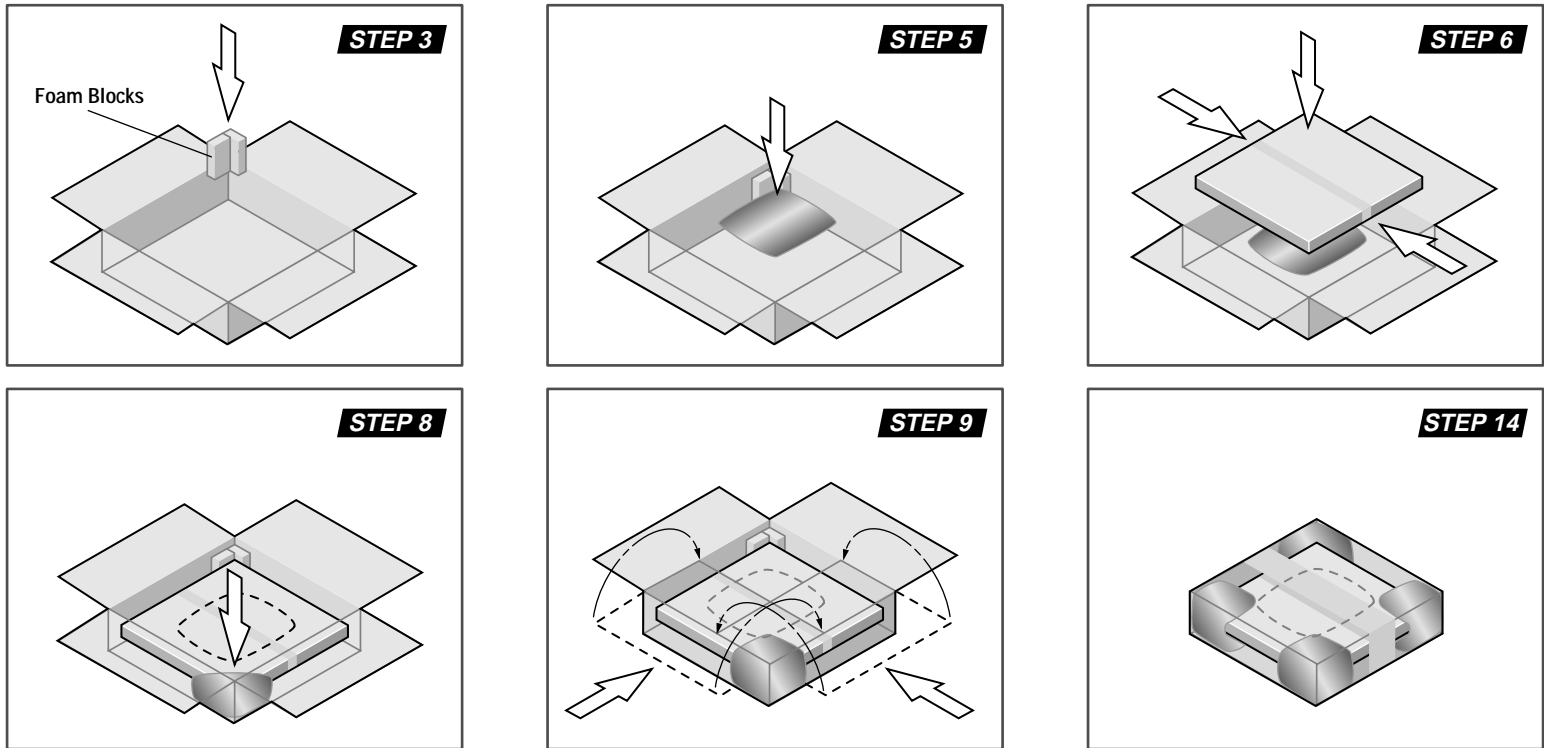



Figure 10
Packaging Framed Artwork (Painting) on Canvas

Packaging Examples Using Instapak Quick® Foam Packaging: Clock

 **Note:** If you gently shake the clock and hear a rattling noise, an additional step will need to be taken to ensure moving parts are secured before shipping.

1. Place a piece of flexible foam between the chimes and hammers before packaging the clock. This will stop any internal movement and will protect them from shock and vibration during shipping.
2. If the clock has a front door and/or a back panel, place an elastic band around the clock to keep the doors and panels closed.
3. Determine the overall dimensions of your clock (L x W x H). Choose a shipping box that is at least 4" larger in each dimension (L x W x H).
4. Activate a #60 bag.
5. Place the bag in the center of the bottom of the box.
6. Place the clock in the center of the box on top of the rising bag of foam. Continue to hold the clock so that the bag rises to meet the clock and forms a 2" high cushion. Hold the product until the bag supports the clock. This takes about 8 seconds.
7. Be sure the clock is centered in the box.
8. Activate a #60 bag and place it over the bottom half of the clock. Close and hold the flap at this end of the box as the foam rises. This will help the cushion form around the clock. Hold the other end of the clock at the same time to make sure the rising foam does not push the clock out of the center of the box.
9. Activate another #60 bag and place it over the opposite half of the clock. Close and hold the two major flaps as the foam rises. This will help the cushion form around the clock.
10. Verify that the clock is locked in place. Close and seal the box.

Packaging Examples Using Instapak Quick® Foam Packaging: Clock (cont.)

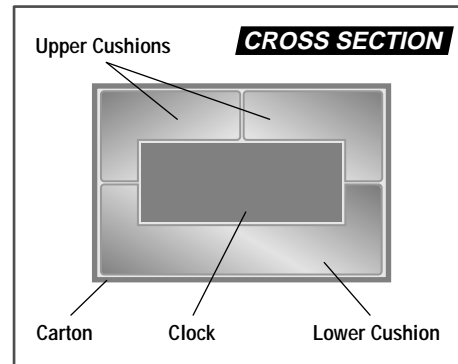
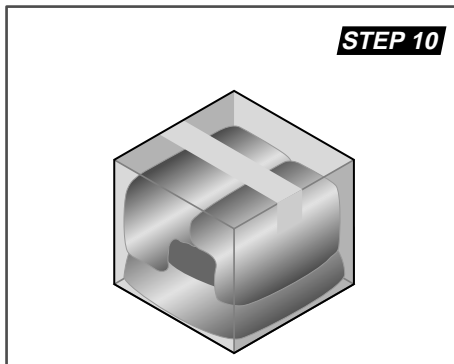
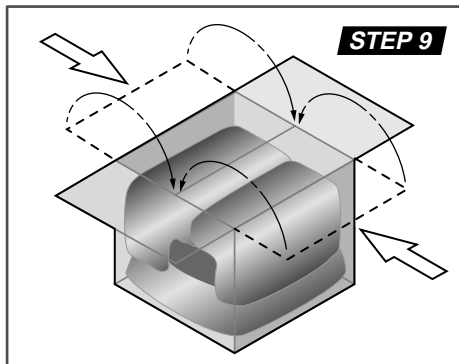
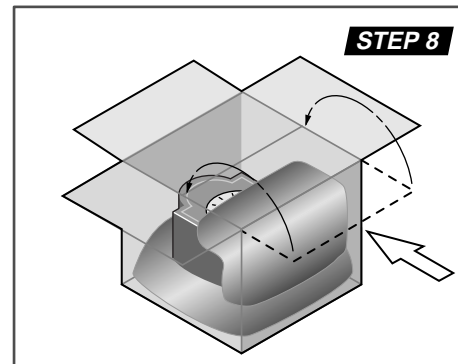
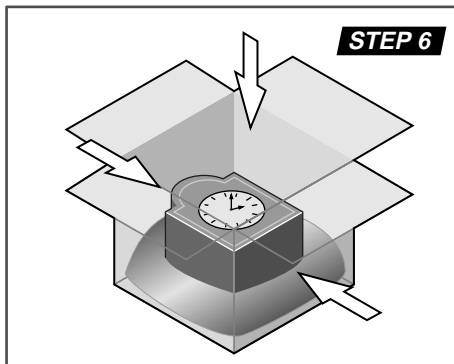
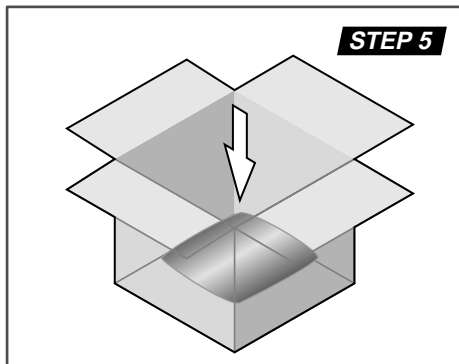


Figure 11
Packaging a Clock

Packaging Examples Using Instapak Quick® Foam Packaging: Porcelain Vase

1. Determine the overall dimensions of your vase (L x W x H). Choose a shipping box that is at least 4" larger in each dimension (L x W x H).
2. Activate a #40 bag.
3. Place the bag in the center of the bottom of the box.
4. Place the vase in the center of the box on top of the rising bag of foam. Continue to hold the vase so that the bag rises up to form a 2" high protective cushion. Hold the product until the bag supports the vase. This takes about 8 seconds.
5. Be sure the vase is centered in the box.
6. Activate a #40 bag and place it on top of the vase.
7. Close and hold the two major flaps as the foam rises. This will help the cushion form around the vase.
8. Verify that the vase is locked in place. Close and seal the box.

Packaging Examples Using Instapak Quick® Foam Packaging: Porcelain Vase (cont.)

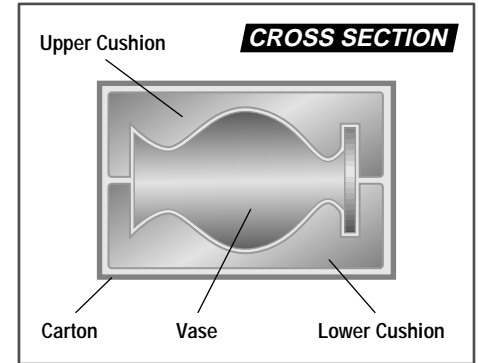
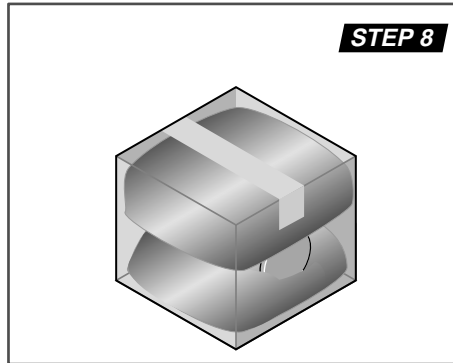
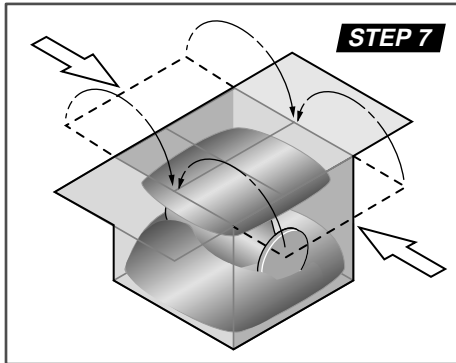
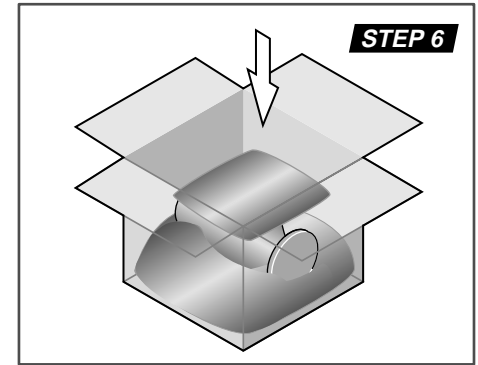
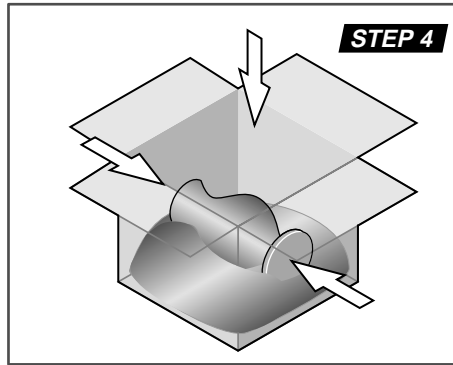
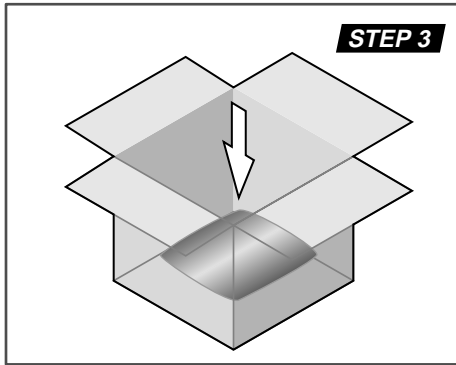


Figure 12
Packaging a Vase

Packaging Examples Using Instapak Quick® Foam Packaging: Crystal Pitcher

1. Determine the overall dimensions of your pitcher (L x W x H). Choose a shipping box that is at least 4" larger in each dimension (L x W x H).
2. Activate a #40 bag.
3. Place the bag in the center of the bottom of the box.
4. Place the pitcher in the center of the box on top of the rising bag of foam. Continue to hold the pitcher so that the bag rises up to form a 2" high protective cushion. Hold the product until the bag supports the pitcher. This takes about 8 seconds.
5. Be sure the pitcher is centered in the box.
6. Activate a #40 bag and place it on top of the pitcher.
7. Close and hold the two major flaps as the foam rises. This will help the cushion form around the pitcher.
8. Verify that the pitcher is locked in place. Close and seal the box.

Packaging Examples Using Instapak Quick® Foam Packaging: Crystal Pitcher (cont.)

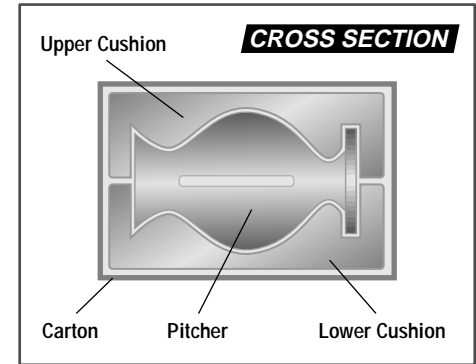
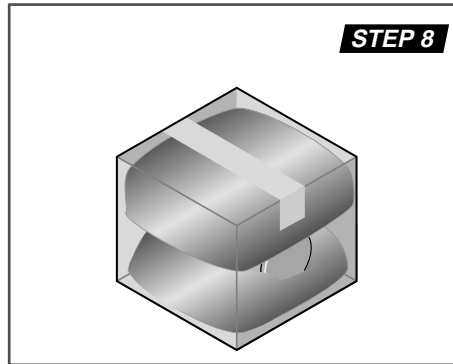
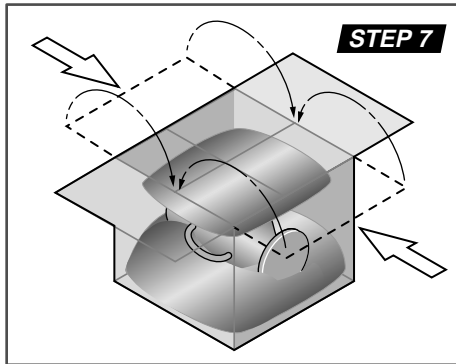
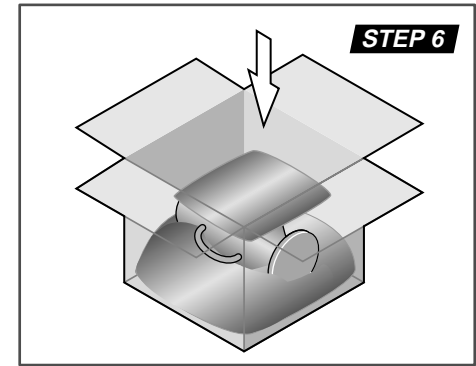
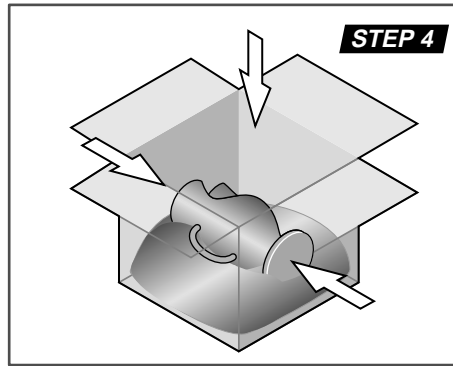
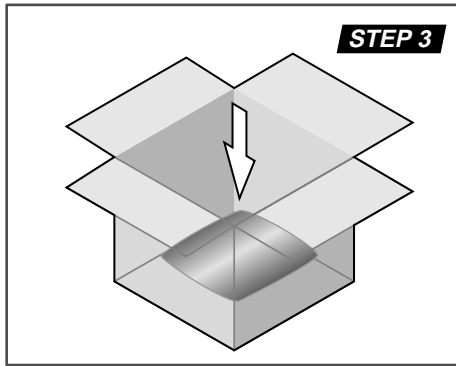


Figure 13
Packaging a Crystal Pitcher

Packaging Examples Using Instapak Quick® Foam Packaging: Computer Monitor

1. Determine the overall dimensions of your monitor (L x W x H). Choose a shipping box that is at least 4" larger in each dimension (L x W x H).
2. Erect the box upside down so the bottom of the box is facing up. Do not tape the flaps.
3. Place a 2" product positioner in the center of the bottom of the box.
4. By using the bag volumetric table (pages 15-17) it is determined that it will take more than two (2) cushions to package the monitor.
5. This product will take two (2) #80 bags on the bottom and four (4) #60 bags on top as corner cushions.
6. Place the monitor on the product positioner with the screen side facing up.
7. Activate a #80 bag.
8. Hold the bag in the box so half the bag goes down the side of the monitor and half the bag covers the top side of the monitor facing you.
9. Once the cushion can support itself, close and hold the flaps on this side of the box to help it form around the monitor. Hold the other end of the monitor at the same time to make sure the rising foam does not push the monitor out of the center of the box.
10. Activate another #80 bag and place it in the box on the opposite side of the first bag. Once the cushion can support itself close and hold the flaps on this side of the box. This will help the cushion form around the monitor.
11. Close and tape the four (4) flaps on this side of the box.

(Continued on page 34)

Packaging Examples Using Instapak Quick® Foam Packaging: Computer Monitor (cont.)

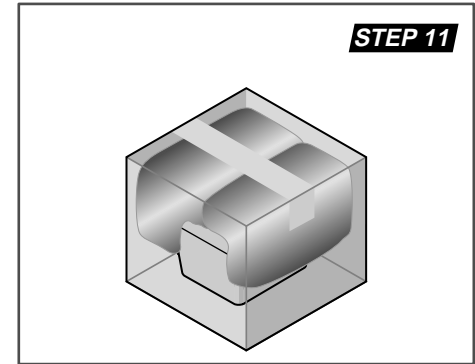
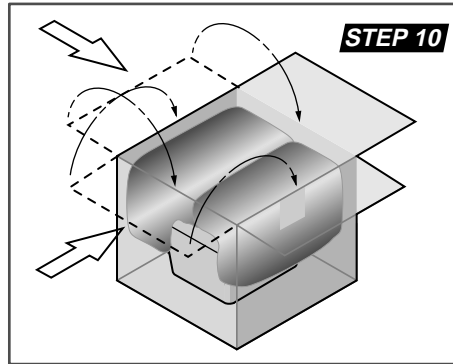
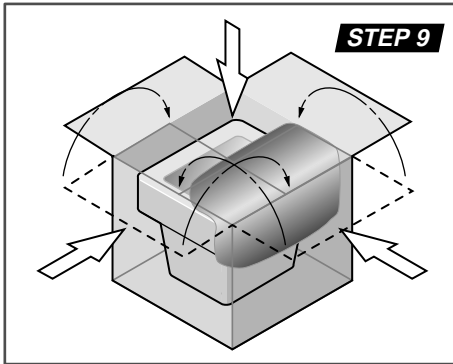
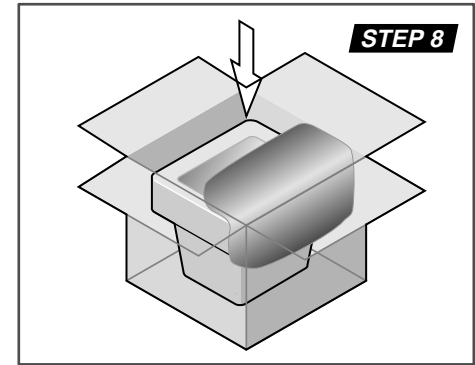
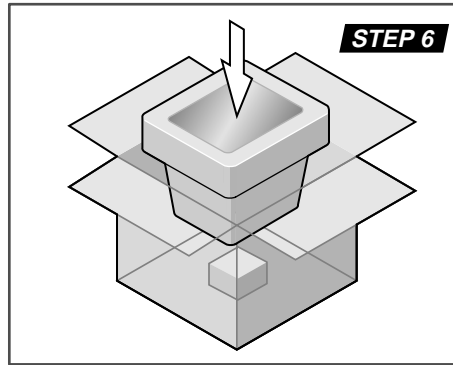
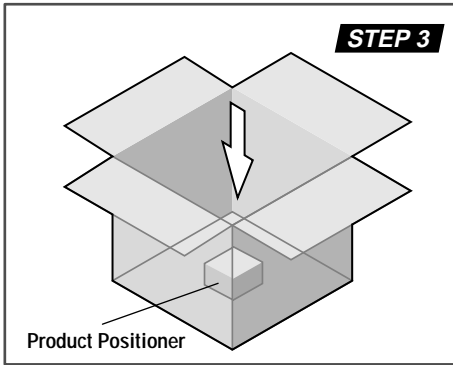



Figure 14
Packaging a Computer Monitor - 1

Packaging Examples Using Instapak Quick® Foam Packaging: Computer Monitor (cont.)

12. Carefully roll the box over so the other side of the box can be opened.

 **Note:** The flaps on this side are not taped closed, so be careful the monitor does not fall out while doing this.

13. Open the flaps on this side and remove the product positioner.

14. Activate a #60 bag and place it about half way down in one of the corners.

15. Once the cushion can support itself, close and hold the flaps on this side of the box to help it form around the monitor. Hold the opposing corner of the monitor at the same time to make sure the rising foam does not push the monitor out of the center of the box.

16. Activate another #60 bag and place it in the opposite corner of the first bag. Close and hold the flaps on this side of the box to help it form around the monitor.

17. Activate another #60 bag and place it in the third corner so the bag can form. Again hold the monitor so it won't shift.

18. Repeat step 17 for the fourth corner.

19. Tape the flaps closed on this side and the box is ready to ship.

Packaging Examples Using Instapak Quick® Foam Packaging: Computer Monitor (cont.)

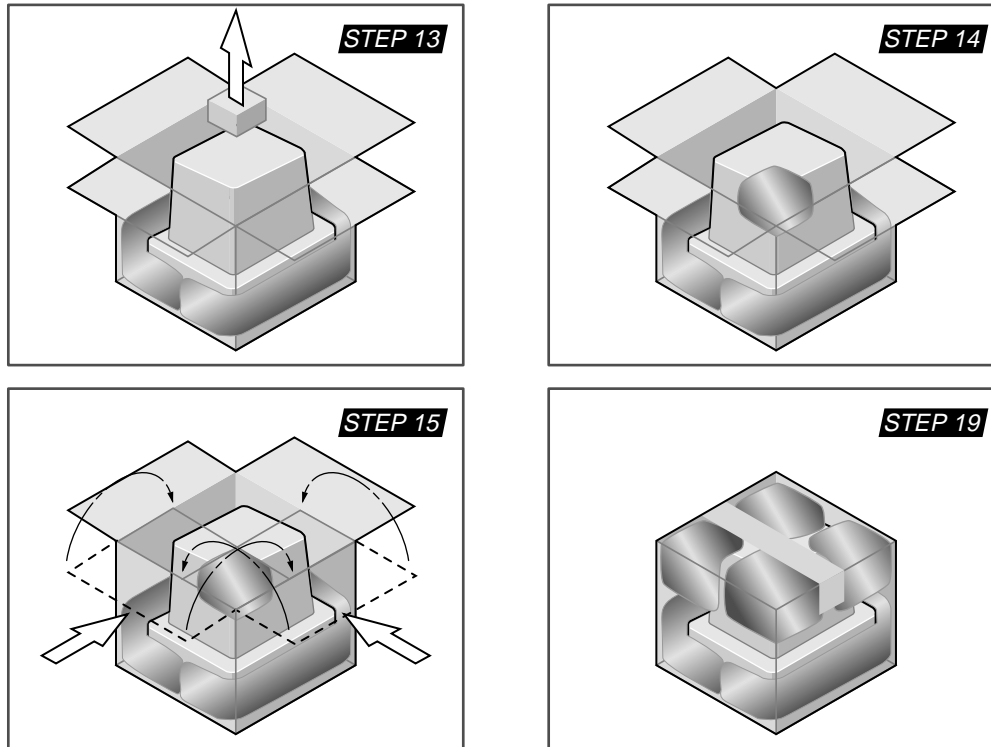


Figure 15
Packaging a Computer Monitor - 2

