

The following information is provided to customers as a guide only for palletizing of freight for shipping in cargo / freight containers.

Shipments can include palletized items, boxes that are too large, or multiple non-palletized pieces. They must be properly packed to ensure damage free transportation with normal care in handling. The proper packaging of goods for transportation requires a good understanding of the product and distribution environment and also requires knowledge of packaging materials and experience.

## Hazards

Below are the most common hazards in shipping cargo and must always be considered when preparing your shipment:

- Punctures and Abrasion
- Shipment Handling
- Compression
- Shock
- Environmental Exposures
- Vibration

## Determining If Freight Should Be Palletized

**Palletized Freight:** Palletizing freight helps multi-piece shipments remain together and provides increased protection from damage. Each pallet, including its contents, is considered one piece.

**Non-Palletized Freight:** Loose items, such as boxes or containers that have not been secured to a pallet, are considered non-palletized freight. Each loose item is considered one piece.

## Palletizing Your Shipment

Pallets are portable, rigid platforms used to consolidate shipments and allow for ease of freight movement. Pallets should be large enough to accommodate the shipment without overhang. Anything overhanging the pallet edges will be subjected to impacts that can result in punctures, abrasions, and compression damage.

The following are basic step-by-step instructions for palletizing your shipment:

### 1. Selecting Pallets:

- Choose pallets large enough to prevent overhang of shipment pieces;
- Pallets must be sturdy enough to support the load;
- Select pallets with closely spaced pallet deck boards;
- Never exceed the rated capacity of your pallet;
- Do not select pallets with broken boards or protruding nail heads; and
- Pallets with four-way forklift entry are preferred as they help to improve handling and reduce damage to the shipment.

2. **Pallet Dimensions:** The standard size pallet is 48" long by 40" wide. However, 48" x 48" pallets can be used but may incur additional charges for oversized pallets as they do not fit properly in ocean freight containers. MAXIMUM pallet height is 72".
3. **Stacking Boxes on Pallet:**
  - Align boxes in columns, corner to corner, for the greatest stacking strength;
  - Avoid interlocking or rotating layer patterns;
  - Do not align corners over the spaces between pallet deck boards;
  - Boxes should not extend past the pallet edges;
  - Do not pyramid the boxes; keep the top layer flat to prevent damage from top loads; and
  - Use a slip sheet under the load and every third layer when possible to help distribute the weight evenly and protect the bottom layer.
4. **Securing Shipment to Pallet:** Use strapping or banding to secure your shipment to the pallet, and stretch wrap to prevent pieces from getting lost or separated from the load.
5. **Labeling Shipment:** Label each pallet with telephone numbers and complete address information or any other pertaining information that you deem necessary to identify your shipment. Dangerous Goods labels are required when shipping hazardous materials. Please check Labels section (below) for most commonly used shipping labels.
6. **Fragile Cargo:** Label cargo "fragile", if applicable, on at least 2 sides of pallet. Any cargo containing panes of glass (i.e. windows, doors) or slabs of stone (i.e. granite, marble, etc.) must be crated in an A-Frame.

## Protecting Your Palletized Shipment from Damage

1. **Use Top / Bottom Load Protector:** Load protectors are layers of corrugated fiberboard or heavy paperboard that help to evenly distribute the weight of shipments that can be stacked upon one another.
2. **Use Corner / Edge Boards:** Corner boards increase vertical stacking strength, prevent damage to corner edges, and stabilize the load. They should extend to the full height and length of the load, and should be used on all corners.
3. **Use Stretch Wrapping:** Stretch wrapping is an effective way to keep all pieces of a shipment together. The plastic stretch wrap should first be applied around the pallet and continued upward around the load. Stretch wrap is designed to stabilize the load, not to secure it to the pallet. Strapping or banding should be used in conjunction with stretch wrap to secure the load to the pallet.
  - Must be tight to prevent load shifting
  - Capture the pallet when wrapping bottom layer
  - Can be twisted like rope for greater strength

- 4. Use Strapping or Banding:** Strapping prevents pieces from getting lost or separated from the load. It should be drawn tightly to the load which may require running it underneath the top deck boards of the pallet. If you do not plan to secure your shipment to pallets, follow these steps:
- A.** Ship freight in corrugated boxes, crates, or shipping containers when possible.
  - B.** Use containers strong enough to support the weight of contents, and consider double boxing.
  - C.** If you are reusing containers, remove old labels, tags, and markings. Avoid reusing boxes.
  - D.** Use at least two inches of appropriate cushioning material to protect internal items from each other and the corners, sides, top, and bottom of containers. Appropriate cushioning material may include corrugated fiberboard, multiple layers of folded newspaper, styrofoam sheets, or packing blankets, depending on the shipment contents.
  - E.** Reinforce edges to protect from bending.

## Shipment Labels

Below are the most commonly used labels to identify specific handling requirements for your shipment. Labeling is a very important part of packaging and it helps ensure the shipment arrives in the required state.

*These are NOT the same as, or used to identify Hazardous Materials.*

**WARNING:** ALL pallets containing Hazardous Materials must be declared, AND labeled, AND properly documented in accordance with DOT and IMO/IMDG codes requirements for the transportation and international shipping of Dangerous Goods (DG).

