



# LTL PACKAGING GUIDE





# **YOUR FREIGHT IS IMPORTANT. KEEP IT SAFE.**

At ABF Freight®, we're proud of our low claims rate. We take a lot of pride in treating customers' goods as our own during transport. But even so, less-than-truckload (LTL) shipments are subject to potential hazards such as shock, vibration, compression, temperature and humidity. The severity of these factors will depend on road conditions, interactions with other freight, equipment and weather during transit, but their effects can be lessened with proper packaging materials.

# QUICK TIPS

## PACKAGING

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- Protect freight in the LTL environment
  - ▢ Meet or exceed the minimum packaging requirements outlined in the National Motor Freight Classification (NMFC)
  - ▢ Use proper packaging materials

## PREPARATION

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- Correctly secure freight to pallets
  - ▢ Stack boxes for optimum strength and stability
  - ▢ Use tie sheets and corner boards to avoid shifting and column collapse
  - ▢ Chock and strap freight to prevent movement
  - ▢ Apply stretch film to keep items contained
- Crate items when necessary
  - ▢ Block, brace and cushion all material inside the crate
  - ▢ Use diagonal boards or panels to increase crate strength
- Label all handling pieces in the shipment

## DOCUMENTATION

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- Include an accurate Bill of Lading to avoid billing errors
  - ▢ Number of pallets or pieces being shipped
  - ▢ Shipment description and dimensions for each unit
  - ▢ NMFC number
  - ▢ Weight of each handling unit

## PICKUP

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- To request pickup you'll need to know:
  - ▢ Origin and destination locations
  - ▢ Requested time and date for pickup
  - ▢ Contact information
  - ▢ Shipment details
  - ▢ Special handling requests

# THE LTL ENVIRONMENT

As freight is handled and transported over the road, it will be exposed to various elements.



## SHOCK

Occurs during situations such as driving over speedbumps and potholes, braking or handling with a forklift.



## VIBRATION

Present at most times during road transportation.



## COMPRESSION

Can be caused from stacking, straps, load shifting, and driving behaviors such as turning corners and braking.



## EXPOSURE

Normal conditions include temperature and humidity changes, dirt, odor and condensation.



Minimum packaging requirements are specified within a given NMFC item number to ensure freight can withstand the normal LTL environment. Keep shipments safe by meeting or exceeding those requirements.



## 12 LBS

Is the average cubic density of freight in the LTL environment.



## 1,200 LBS

Is the average weight of an ABF Freight shipment.

# INTERNAL PROTECTION

To protect freight from transportation hazards, it's often necessary to use internal packaging materials to help guard against environmental changes and help prevent shifting.



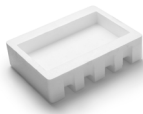
## Sheet foam

Flexible foam that can be easily wrapped around freight to keep it protected.



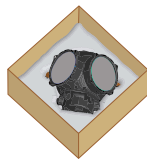
## Plank foam

Thick square or rectangular pieces that help cushion and stabilize items within a box.



## Molded foam

Customized foam pieces designed specifically for a certain item.



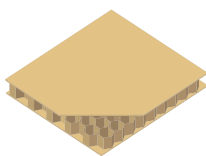
## Foam-in Place

Foam protection that is applied after the item is inside the box to create a custom fit.



## Bubble wrap

Lightweight and flexible packing material that helps with shock absorption.



## Honeycomb fiberboard

Strong but lightweight paper-based structure ideal for placing between stacked items.



## Layered corrugated fiberboard

Occurs during situations such as driving over speedbumps and potholes, braking or handling with a forklift.



## Molded pulp

Paper-based packing material designed to fit a certain item.

# EXTERNAL PROTECTION

Most shipments require the use of external packaging materials to promote safe handling practices.



## Corrugated fiberboard boxes

The most common container for shipping products from manufacturing to the retailer or end user.



## Rollerboard fiberboard

Fiberboard material that easily wraps around cylindrical items.



## Tie sheets

Thin cardboard or paper sheets that increase the stability of stacked items.



## Corner Boards

Material that fits over the edges of columns to increase stability and protect edges from damage.



## Stretch film

Clear plastic sheeting that is primarily used to secure individual items together and reduce contact with dust.



## Pallets

Flat platforms that allow goods to be easily moved by material handling equipment.



## Crates

Wooden shipping containers that offer a high level of protection.

# SECURING LTL FREIGHT

## STACKING AND PALLETIZING

Misaligned corners and pallet overhang can lead to significant loss in strength.



Slight misalignment of corners  
**12.5% loss in strength**



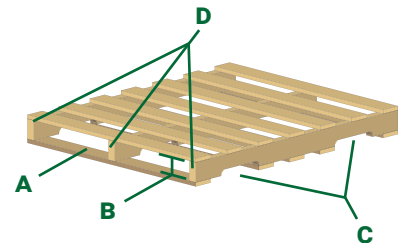
Pallet deck misalignment  
**32% loss in strength**



Pallet overhang  
**50% loss in strength**

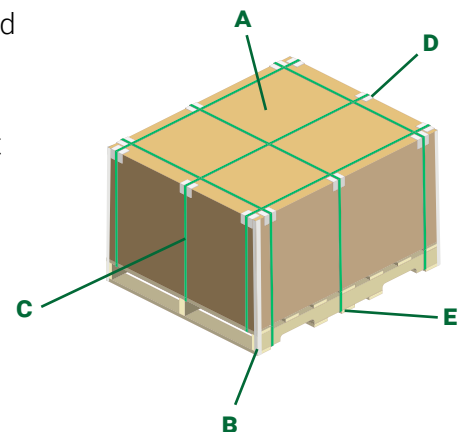
- ▶ Pallets should be designed and constructed to withstand the normal rigors of the LTL environment.

- A.** All pallets should have a bottom deck to prevent collapse from fork tine pressure
- B.** At least three inches of clearance is needed for pallet jack access from the side
- C.** Long pallets should be designed with access on all sides
- D.** Chamfered runner boards should be at least 28 inches apart to allow for pallet jack access



- ▶ Freight should be stabilized and securely fastened to the pallet deck.

- A.** Use tie sheets between layers of boxes and at the top and bottom of the shipment to protect against abrasion and soiling
- B.** Use corner boards to help keep boxes aligned, prevent boxes from shifting off of the pallet, and help prevent damage from strapping and stretch wrap
- C.** Strap and chock freight to the pallet to keep it from shifting
- D.** Use strap protectors between straps and packaging
- E.** Avoid placing straps where forklift tines or pallet jack wheels may come in contact with them





## STRETCH FILM APPLICATION

Use stretch film to keep products contained on pallets and help protect shipments from external elements. For best results, use a stretch wrapping machine and stretch the film to at least 80 percent of its recommended stretch. Consult your stretch film supplier to make sure you're applying it properly.

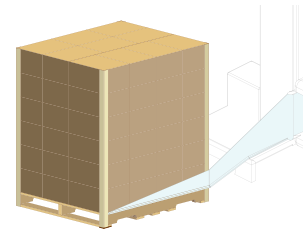


Stretch film is not designed to prevent damage to fragile or painted surfaces or protect against abrasion

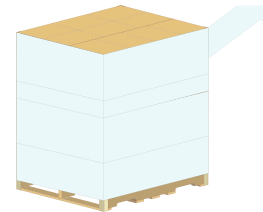
## WRAPPING TECHNIQUE

Pallets should be double wrapped for optimal protection.

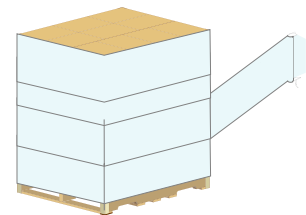
1. Start at the bottom and move upward, overlapping layers for consistent coverage



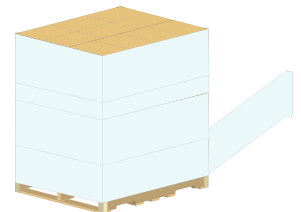
2. Wrap around the top three times, letting two to six inches of film go over the top of the shipment



3. Move downward, covering the surface again



4. Wrap the bottom of the pallet two times

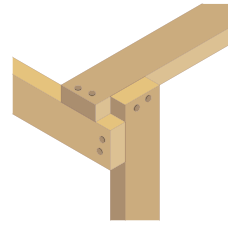




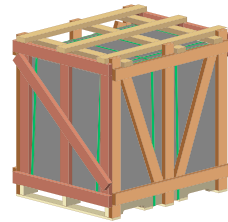
## CRATING GUIDELINES

Crates can be fully enclosed or have a skeletal frame depending on the needs of the freight.

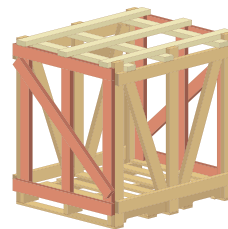
- A.** Design crates to include three-way locking corners to ensure they stay intact during transit and meet the minimum NMFC requirements for a crate.



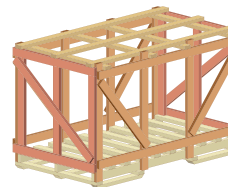
- B.** All objects within a crate should be blocked, braced and properly cushioned to prevent damage during shipment.



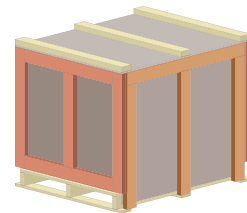
- C.** Skeletal crates should have diagonal boards angled between 30 degrees and 60 degrees to increase rigidity.



- D.** Long crates should be designed with access on all sides and include chamfered runner boards.



- E.** All plywood in an enclosed crate should be fully supported by solid wood.



# SCHEDULING PICKUP

## BILL OF LADING FORM

A bill of lading (BOL) is required for all LTL shipments. Create and print BOLs online with our bill of lading tool. To avoid billing errors, include accurate information about practices.



The number of pallets or pieces being shipped



The shipment's description and dimensions for each unit



The NMFC number



The shipment's weight (including packaging and pallets)

## PICKUP REQUESTS

LTL shipments can be scheduled easily online. The following information will be needed:



Pickup and delivery locations. Company name and street address



Time and date for pickup. Requested pickup date and time, and dock close time



Contact information. Name and phone number for the shipper and consignee



Commodity type. Shipment description and any special handling needs



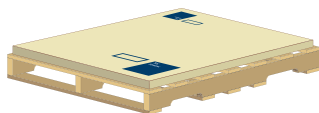
Shipment dimensions. Number of handling units, exact dimensions and weight of the shipment

# LABELING GUIDELINES

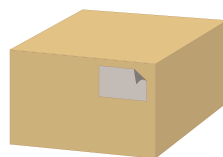
Properly labeling freight is the best way to prevent separation, loss and damage.

Before pickup, make sure:

- PRO numbers and address labels are placed on all fork tine entry faces so they're visible to the forklift driver
- All old PRO numbers and address labels are removed or covered
- At least one PRO sticker is placed next to the address label
- Labels are placed on each handling piece, and each item is numbered (X of X)
- Freight more than 96 inches long has labels on or near both ends
- DOT hazardous material labels are applied to hazardous freight



Labels are not required on the top of freight unless they won't fit on the side



Temperature changes can cause tape to lose adhesiveness. Apply a layer of shrink wrap over labels to keep them in place.

**To: Name**  
**Location: Sou**

Use a metal or paint marker to label metal freight in case tags or labels come off during transit.

## COMMON PRECAUTIONARY LABELS

Use these labels to identify freight that requires special handling:

- Fragile, handle with care
- This way up
- Keep dry
- Top heavy
- Protect from freezing
- Strap to wall
- Do not fork (extra charges may apply)



Did you know you can create shipment labels for your LTL freight online? Our shipping label tool will help you keep track of all required information so shipments can be delivered accurately.

# LTL SHIPPING WITH ARCBEST

As a proven leader in the LTL industry since 1923, ArcBest® carrier ABF Freight® is a trusted partner for fast, secure service in both regional and national markets. We strive for excellence in every aspect of our industry — and it shows. From safety guidelines to sustainability programs, we've been recognized multiple times for our procedures and initiatives. Honors include the Excellence in Security Award and President's Trophy for Safety by the American Trucking Associations and the Quest for Quality Award by Logistics Management magazine.

**240+**

More than 240 service centers across North America

**50+**

Coverage to all 50 states, Canada, Mexico and Puerto Rico

**99%**

Over 99 percent of ABF Freight shipments move claim-free



The ABF Freight Rules Tariff governs and covers specific topics particular to ABF Freight, including but not limited to: carrier regulations, special services offered and prohibited or restricted articles.

For more details on packaging for the LTL distribution environment, please see the complete ABF Freight LTL Packaging Guidelines.

***MORE THAN LOGISTICS™***