4 CRITICAL STEPS TO ENSURE SAFE LOADS IN INTERMODAL CONTAINERS

Provided by Litco International, Inc.

Ensuring load safety in intermodal shipping is strictly the responsibility of the shipper. Although the railroads, trucking companies, and ships that may carry your cargo on part of its journey may choose to inspect your load, it is ultimately up to you as the manufacturer or grower to confirm that all goods packed into the container are properly weight distributed and packed tightly enough to prevent damage to the goods being shipped. A key element of that packing is to remove any voids or empty spaces in-between portions of the load.

THE FOUR STEPS TO ENSURE A SAFE LOAD

1. Plan the Load
2. Adhere to Maximum Weights and Weight Distribution Requirements
3. Unitize Properly and Efficiently
4. Secure the Load Effectively

Step 1: Load Planning

Plan your load to prevent damage to lading and equipment. Lading that is already damaged should never be loaded.

Plan your load so that crosswise void space is minimized.

Use appropriate bracing or filler material to maintain vertical alignment and prevent crosswise movement.

Secure incomplete layers of lading to prevent movement.

Fill lengthwise space with lading, approved filler material, or appropriate blocking and bracing.

Do not use void filler material or pallets as a bulkhead.

Step 2: Weight Distribution Requirements

Weight of the lading as positioned within Trailer on Freight Car (TOFC) or Container On Freight Car (COFC) must be evenly distributed side-to-side and end-to-end.

Maximum Weights and Weight Distribution:

A. Trailer (TOFC): The load weight MUST NOT exceed the limit as stated on the manufacturer's plate. Combined weight of trailer and lading may not exceed 65,000 lbs.*

*Maximum weights as defined in current AAR Specifications M931-99 for trailers (effective 5/1/99 and subject to revisions thereto.

B. Container (COFC): Combined weight of container and lading may not exceed the weight specified below for the length of container being loaded:

Nominal Length (ft.)	Maximum Gross Weight (lbs.)** (Lading Plus Tare)
53'	67,200
48'	67,200
45'	67,200
40'	67,200
20'	52,900

***Maximum weights as defined in current AAR Specification M930-98 for containers (effective 11/1/98) and subject to revisions thereto.*

Lading weight in intermodal trailers/containers must be evenly distributed both crosswise and lengthwise.

The combined weight of your lading and trailer/container must conform to all Federal, State, (Canadian) Provincial and any local transportation requirements that will be in force at point of origin all the way through to final destination.

Lading weight should never exceed 25,000 lbs. per 10 linear feet or 2,500 lbs. per linear foot.

Step 3: Unitization of Your Load

A. If your loads are on wooden pallets:

(1) Instruct lift drivers to position palletized units with unit to unit contact allowing no overhang of product.

(2) Fill any lengthwise under-hang that may exist on pallets. Under-hang is the result of product (lading) that does not reach the end(s) of the pallet – caused by using an oversize pallet.

B. If your loads are on slip sheets:

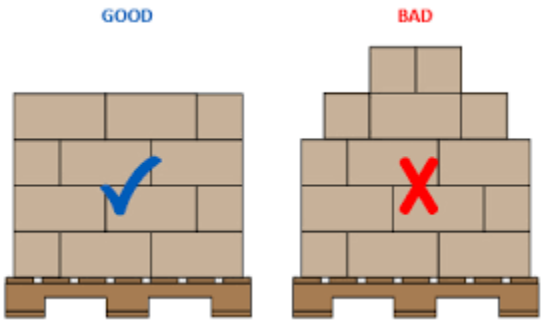
(1) Lift truck drivers should load-in units with unit to unit contact lengthwise in trailer/container. Fill any lengthwise void to provide a solid face for applying securement.

(2) Minimize crosswise voids and be sure to maintain vertical alignment.

C. Incomplete layers:

(1) Avoid creating incomplete layers of packaged goods whenever possible. If incomplete layers cannot be avoided and must be loaded, refer to the section below on blocking and bracing techniques to avoid empty spaces by using the appropriate filler material(s).

When utilizing void filler, follow manufacturer's instructions and make height and width dimensions of the faces of the filler material as near as possible the same as the dimensions of the faces of the units they will be separating.

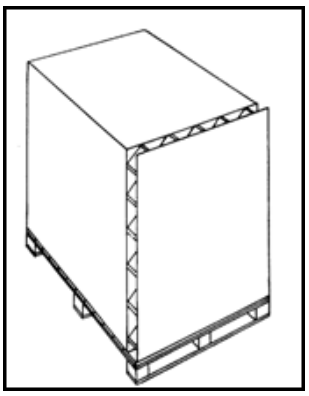


Step 4: Secure the Load, Filling All Voids to Prevent Movement

Your primary goal related to positioning, blocking and bracing unitized pallets or boxes, and removing (or filling) any empty space within the intermodal container, is to prevent lengthwise and lateral movement.

As stated above in unitization, you should attempt to avoid any inconsistent or mismatched layers in your packing. If, due to packaging constraints, incomplete layers of products exist, isolate any loose product utilizing bulkhead product (like Litco's Diamond-Pak® corrugated bulkhead void filler.) Bulkhead should cover both the full face and height for light-weight commodities.

For heavier commodities unitize the incomplete layer, securing the rear portion to the bottom layer.



Make height and width dimensions of the faces of the filler material as near as possible the same as the dimensions of the faces of the units they will be separating.

Filler Construction: Lengthwise void fillers are to be of uniform strength over the face of the void filler and capable of withstanding a load of 1500 lbs./sq. ft.

Using Empty Space Fillers, Product Dividers and Layer Separators

A. Separate different type packaging (different weights, product densities, packing materials, etc.) lengthwise by use of wood or fiberboard sheets of sufficient height to protect the tallest stack of product.

Popular for this application due to its light weight, yet sturdy construction, is Litco's Diamond-Pak® corrugated bulkhead void filler which prevents forward and backward movement of cargo in rail cars, truck trailers, and shipping containers. Diamond-Pak panels can be sized to exactly correspond to your shipping dimensions, avoiding any waste. NOTE: Lengthwise void fillers (Bulkhead) must be of uniform strength over the entire face of the void filler and capable of withstanding a load of 1500 lbs./sq. ft.

B. Use sufficient filler to completely take up all crosswise space inside a trailer/container to prevent lateral movement in the load.

Two of Litco's corrugated void fill products were developed and are built specifically to remove empty spaces in this application. Center Drop® and Saddle-Pak® corrugated void fillers are designed to fill a void left by missing pallets and otherwise-empty space created when center positioning a pallet for balanced weight distribution side-to-side. Both products meet AAR regulations, fold and store flat expanding instantly to full pallet dimensions.

C. Use a sturdy separator when commodities are loaded more than a single layer high. Litco's DiamondCorr® WoodPak is a wood-frame reinforced corrugated solution ideal for this application. Use this or other suitable material making sure your separator provides an even, stable base for the upper layer.

D. If you do use lumber, be sure it is of sound material, free of defects that would impair its strength, and free of nails which could damage product.

PRO TIP: Although tempting, **do not utilize wooden pallets as dunnage**. Nails and broken board create hazards and the cost of pallets is much greater than flexible corrugated void filler solutions.

E. Inflatable Dunnage Bags are a simple, conveniently stored option for filling spaces left between crosswise loads. Always be sure to use the proper dimension bag to maintain contact with both sides of the loads which are being stabilized. Inflatable bags are not to be used to fill lengthwise voids and should never be inflated to over 15 inches wide.

PRO TIP: If you have a gap over 15 inches wide between two loads, you can utilize inflatable dunnage if you incorporate Litco's Diamond-Pak® corrugated bulkhead void filler to fill the additional space on either side of the inflatable bag.

Final Thoughts

Forklifts, reach stackers, straddle carriers, and cranes will reposition your intermodal shipping container multiple times, loading and unloading trucks or trains along the journey. There is ample opportunity for cargo to shift inside a container if cargo is insecurely packed.

As you fill voids and apply blocking and bracing to secure the load, be sure to maintain proper lengthwise and crosswise weight distribution. By avoiding inconsistencies in weight, you prevent lading from shifting during transit damaging doors, nose, walls or from falling out when doors are opened.

Appendix I - Available Litco Corrugated Void Fill Products

Corrugated Bulkhead Void Fillers

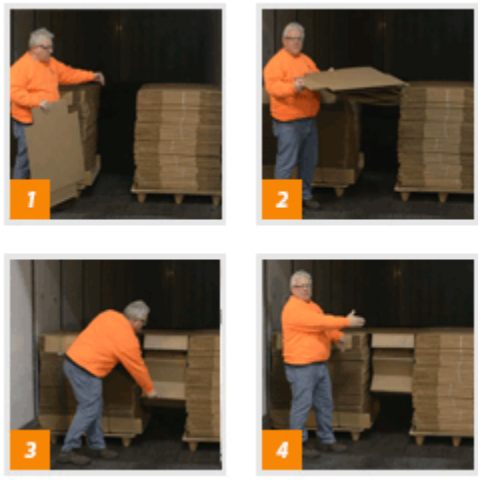
Diamond-Pak® Bulkhead Void Fill

Diamond-Pak® corrugated bulkhead void filler prevents forward and backward movement of cargo in rail cars, truck trailers and shipping containers.

Center Drop Corrugated Void Fillers

Diamond-Corr® Cross-wise Corrugated Void Fill

Diamond-Corr® light-weight corrugated void fillers store flat and expand as needed to fill spaces between heavy loads.



Pallet-sized Corrugated Void Filler

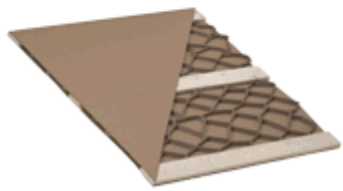
Saddle-Pak® Corrugated Void Fill

Saddle-Pak® void fillers are designed to fill the void left by missing pallets and expand to full pallet dimensions.

Reinforced Corrugated Void Filler

DiamondCorr® WoodPak Corrugated Void Fill

DiamondCorr® WoodPak void filler prevents forward and backward movement of cargo in rail cars, truck trailers and shipping containers.



Appendix II - Litco International Contact Information

Watch our 30 second videos to see complete installation and how-to-use tutorials at https://www.litco.com/corrugated-void-fill/.

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Carry on.

All Litco products are designed to Carry your products safely and securely on through the most demanding supply chains.