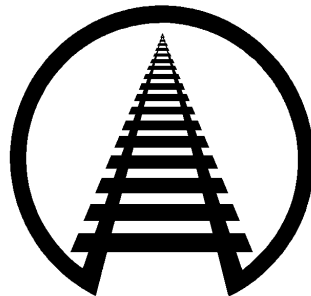


# General Information Series No. 754

## Wood Bins Braced by Disposable Inflatable Dunnage Bags and Lengthwise Void Fillers

(Closed Car Loading Guide, Part 7, Bulk Containers, Section 6.3 Revised)

Approved by  
**DAMAGE PREVENTION & FREIGHT CLAIM COMMITTEE**  
*Association of American Railroads*



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#### GENERAL RULES

The General Rules relating to personal safety and the safe operation of trains, contained in AAR Circular Nos. 42-K and 43-F or supplements thereto, issued by the Association of American Railroads, **must be observed**.

These loading rules and/or practices apply to shipments transported in the USA, Canada and Mexico.

The loading methods in individual closed car loading publications issued by the Damage Prevention and Loading Services Section of the Association of American Railroads are minimum standards that have been evaluated and approved. These minimum standards offer practical guidelines on the subjects covered. Since these are minimum standards, it may be necessary to supplement these methods in some instances.

Securement standards in AAR closed car loading publications are intended for safe transit of the rail car from origin to destination and prevention of lading and equipment damage. These standards do not address unloading practices.

This approval may be withdrawn if the loads using these methods exhibit consistent load failure during actual shipments.

*Loading and bracing methods not presently approved may receive consideration for approval and publication under Section II - Evaluation of New Loading and Bracing Methods and Materials for Closed Cars, Trailers or Containers of **General Information Bulletin No. 2, "Rules and Procedures for Testing of New Loading and Bracing Methods or Materials"**. Submit requests to Director Damage Prevention and Loading Services, AAR/TTCI, 55500 DOT Road, Pueblo, CO 81001.*

**CAUTION:** Car rocking motion caused by the lift equipment entering and/or exiting the rail car may cause unsupported packages or articles with a higher center of gravity to fall to the floor. Minimize access to the car. Exercise caution when inside a partially loaded car. Lift operators should stay on lift equipment, whenever possible, while inside a partially loaded car.

#### SELECTION AND PREPARATION OF CAR

It is the railroad's responsibility to supply boxcars which are clean, have sound roofs, sides and end walls, smooth floors and snug fitting doors. Any exception is cause for rejection. If the boxcar supplied is not suitable for loading and the shipper elects to load the boxcar rather than reject it, it is the shipper's responsibility to properly prepare the boxcar.

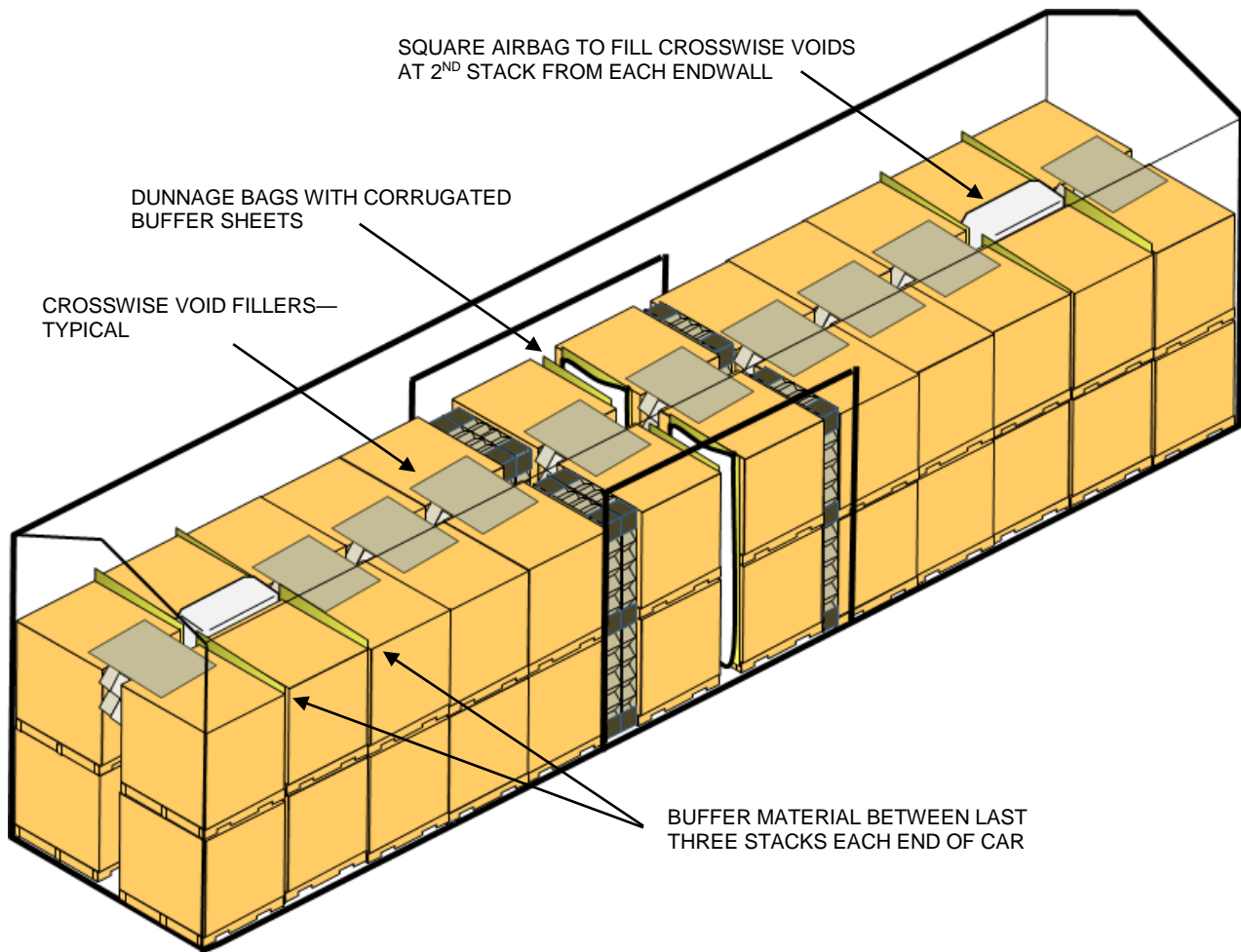
The shipper has the responsibility to inspect boxcars at origin to see that they are suitable to carry lading safely and damage free to destination. It is important that boxcars are clean and free from protruding nails, brads, staples, temporary anchor plates, fragments of steel strap, old blocking etc. Some projections of lining or anchor devices may require covering with sheets of corrugated fiberboard taped in place.

#### GENERAL

##### 6.3 Wood Bins Braced by Disposable Inflatable Dunnage Bags and Lengthwise Void Fillers

6.3.1 This method is used for loading wood bins filled with tomato products in single- or double door boxcars with inside lengths of 50 ft to 60 ft 9 in. Figures 6.5 and 6.6 are examples of two loading patterns. Some variation may be necessary depending on the number of wood bins being loaded. The typical wood bin tested was 44 in. wide × 48 in. long × 43 in. high. The number of wood bins actually loaded will depend on weight and order requirements.

**Wood Bins Braced by Disposable Inflationable Dunnage Bags and Lengthwise Fillers**



**Figure 6.5 Wood bins with dunnage bags in a 50 ft car**

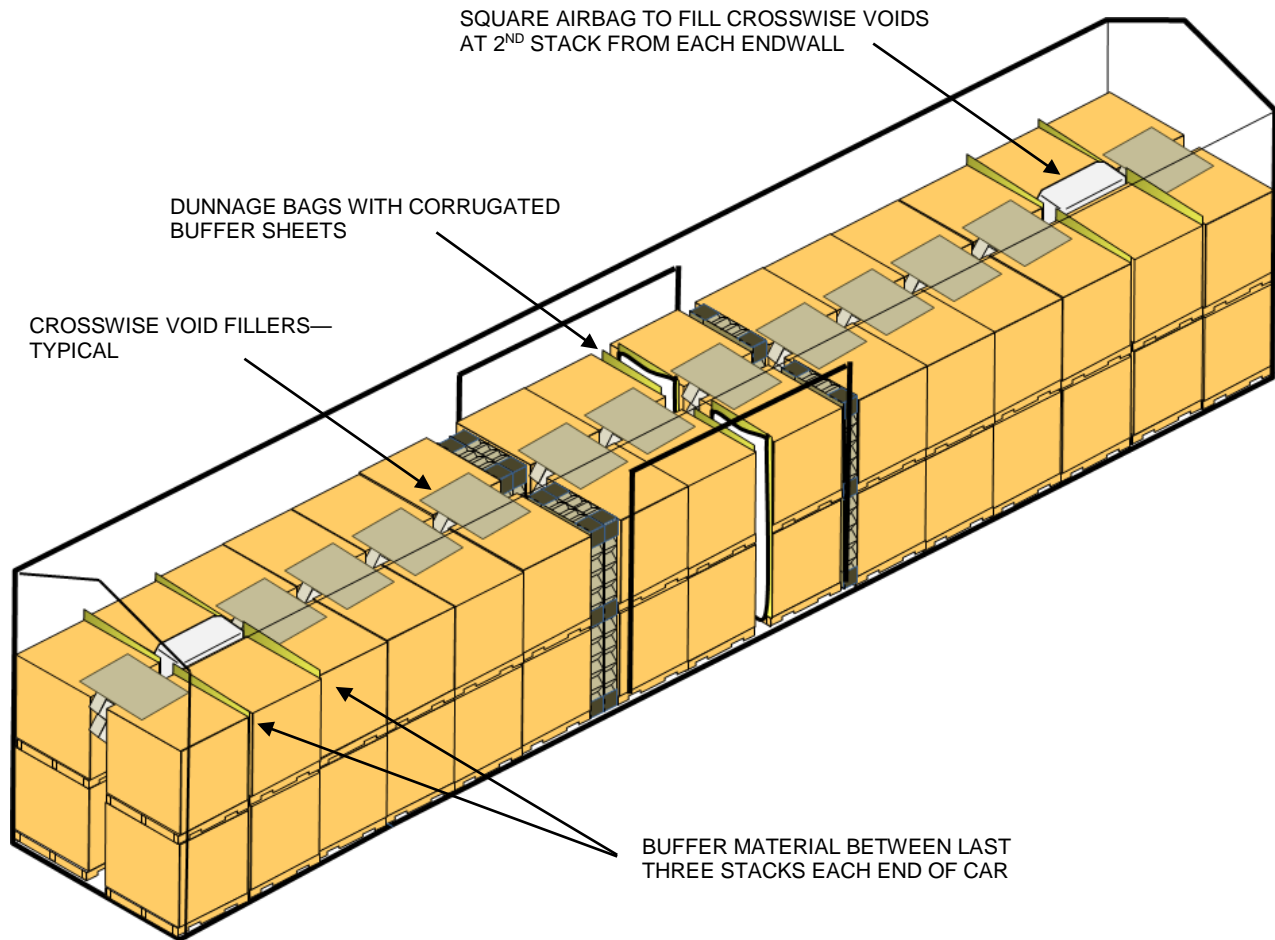
6.3.2 Use eight 5/8 in. × 0.020 in. minimum steel package bands having minimum breaking strength of 1,250 lb with a minimum joint strength of 938 lb (75% of the minimum breaking strength) or the appropriate polyester plastic bands for each wood bin. Apply four bands horizontally to unitize the bin sides. Apply four bands vertically (two in one direction and two in the other) to secure the bin to the pallet. See Figure 6.5.

6.3.3 If necessary, use 2 in. × 4 in. lumber or other suitable material at the ends of the car to square up bowed endwalls.

6.3.4 Load wood bins, long side lengthwise to the car, in each end. Load in two rows, each row against opposite sidewalls. Load and align all wood bins corner to corner, tightly against the endwalls and sidewalls. It is possible that the first few wood bins loaded in each end of the car may tend to twist during the transportation cycle. Therefore, use separators to prevent damage to the horizontal package bands between the first and second and second and third wood bins in each end of the car.

6.3.5 Load the wood bins in the doorway long side crosswise to the car. Fill the lengthwise void in the doorway area with void fillers and pneumatic dunnage. Place void fillers 8 in. thick × 45 in. wide × 89 in. high between the last stack of wood bins (end of car) and the first doorway wood bin. Typical railcars (50 ft to 50 ft 6 in.) will require two void fillers placed in tandem at each location. Align void fillers with the last end-of-car wood bins.

### Wood Bins Braced by Disposable Inflatable Dunnage Bags and Lengthwise Fillers



**Figure 6.6 Wood bins with dunnage bags in a 60 ft car**

6.3.6 Construct void fillers so that the area of the void filler contacting the top and bottom of each wood bin has minimum compression strength of 6,000 lb/ft<sup>2</sup>. Locate corrugated blocks with minimum compression strength of 6,000 lb/ft<sup>2</sup> at each corner of the void filler and also equidistant between the top and bottom corners. The blocks in each corner are 6 in. × 6 in. × 8 in. thick. The blocks along the sides are 8 in. × 8 in. × 8 in. thick. Construct all of the remaining area of the void fillers with honeycomb to a maximum of 9 in. cell linerboard. See Figure 6.2 for an example of void filler showing construction requirements.

6.3.7 Fill the remaining voids between the two doorway wood bins on each side of the boxcar with a 48 in. × 84 in. pneumatic dunnage bag of the appropriate level for the weight of the load (use to fill a 4 in. to 12 in. space after inflation). One sheet of fiberboard is required on each side of the pneumatic dunnage bags to serve as a buffer. Inflate each bag to 6 psi. Check the bags for leakage 30 minutes after inflation.

6.3.8 Fill all crosswise voids throughout the car with void fillers with a minimum compression strength of 500 lb/ft<sup>2</sup>. Void fillers must fit tightly between the containers to prevent lateral shifting. Crosswise void fillers, drop-down filler type, must fully brace the top layer containers and 30% (minimum) of the bottom layer containers.

6.3.9 Use 48 in. × 84 in. level 1 square airbags to fill the crosswise voids between the bins in the 2<sup>nd</sup> stack from each endwall. One sheet of fiberboard is required on each side of the pneumatic dunnage bags to serve as a buffer. Inflate each bag to 2.5 psi. Check the bags for leakage 30 minutes after inflation.

## **General Information Series No. 754**

### **Wood Bins Braced by Disposable Inflatable Dunnage Bags and Lengthwise Fillers**

#### **General Information Series Publications**

- 744** Double Layer Load Secured with Cordstrap® Barriers in a 20-ft Container (ILG Method I-4) (7/15)
- 745** Nonhazardous Loads Secured with Cordstrap® Barriers in 40-ft Containers (ILG Method I-5) (2/16)
- 749** 50 in. Diameter Roll Paperboard in 50 ft. Cushioned Boxcars with Horizontal Airbags (8/16)
- 750** Double Layer Loads of 55 Gallon Closed Head Steel Drums Secured with Cordstrap® Barriers in a 20-ft Container (Intermodal Loading Guide Method I-4HM)(8/16)
- 751** Non-metallic Strap Substitution for Steel Strap as Doorway Protection in Boxcars (Cancels GIS 743) (8/16)
- 752** Large Diameter Paper Rolls in 60 ft. Cushioned Boxcars with Anchored Straps (10/16)
- 753** 60 in. Diameter Roll Paperboard in 60 ft. Boxcars with Doorway Stacks on Risers (10/16)
- 754** Wood Bins Braced by Disposable Inflationable Dunnage Bags and Lengthwise Fillers (CCLG Part 7, Section 6.3 Revised 10/16)