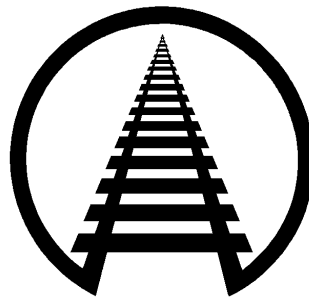


General Information Series No. 791

DRUM-PAK® Dunnage for Open Head Drums in Cushioned Boxcars

(Closed Car Loading Guide Part 7, Bulk Containers, Section 6.9)

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



Issued
July 2018

Published by
Association of American Railroads/TTCI
Damage Prevention and Loading Services
55500 DOT Road
Pueblo, CO 81001

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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-M and 43-G 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This approval may be withdrawn if the loads using these methods exhibit consistent load failure during actual shipments.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.*

GENERAL

6.9 DRUM-PAK® Dunnage for Open Head Drums in Cushioned Boxcars

6.9.1 Use this method for loading 58 gallon fiber drums filled with tomato paste into single- or double-door, cushioned-equipped boxcars having an inside length of 60 ft. 9 in. and secured with DRUM-PAK dunnage and 6 AAR approved Type 1A, Grade 7, polyester cord straps with ladder buckles. Figure 1 is an example of a load pattern for 60 ft cars. The number of drums actually loaded will depend on weight and order requirements. The load tested consisted of 378 drums loaded in 3 complete layers. Open-head fiber drums must contain the product within aseptic liners. See Table 1 for Fiber Drum Specifications.

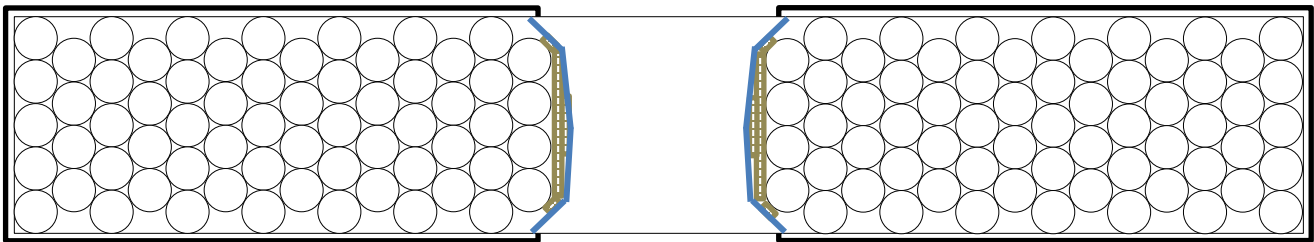


Figure 1: Load pattern for 58 gallon drums in 60 ft cars

6.9.2 Use one DRUM-PAK dunnage for each layer of drums. The overall size of the DRUM-PAK dunnage is 32 in. tall x 98 in. wide x 18 in. deep. See Figure 3.

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6.9.3 Use only cushioned-equipped railcars when employing this loading method.

6.9.3 Cushion end walls with 2" thick small cell honeycomb having a minimum crush strength of 2,250 psf.

6.9.4 Loop six lengths of AAR approved Type 1A, Grade 7, polyester cord strapping through the sidewall anchors at six horizontal positions preferably vertically offset and at least 6 in. behind the face of the load. Cut the looped straps in lengths that can be comfortably joined at the center face of the load after the DRUM-PAK dunnage have been positioned. Choose the anchor locations so the topmost strap is as close to the top of the load and the bottom strap is as close to the bottom of the load as possible. Space the remaining straps equally between the top and bottom straps. Temporarily secure the straps to the sidewalls or drape the straps outside the railcar so that they do not impede loading.

6.9.4 Load the drums two or three layers high in a 5-4-5 pattern starting at each end wall. Use 1 inch thick small cell honeycomb panels or equivalent between each layer as separator sheets.

6.9.5 Position one set of hinged DRUM-PAK dunnage upright on end for each layer of drums at the face of the load. See Figure 2.

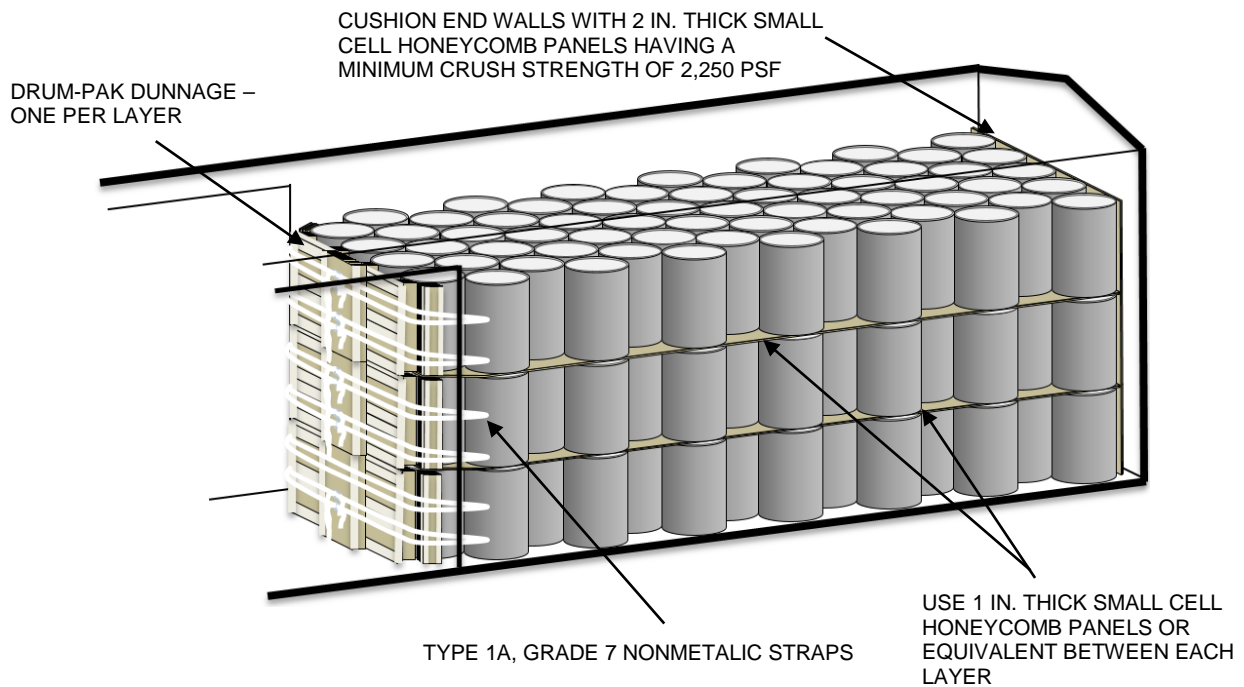


Figure 2: DRUM-PAK dunnage secured with nonmetallic straps

6.9.6 Secure the load in each end of the car using AAR approved Type 1A, Grade 7, polyester cord straps in a looped application secured to permanent wall anchors. Join with ladder-style buckles at the front of the load. Use the correct buckle and tensioning tools on the straps in accordance with the manufacturer's instructions. Apply properly to maintain strap tension. Apply strap hangers to all straps to maintain strap position during transit.

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Figure 3: Photo of DRUM-PAK dunnage, the side facing drums

**Table 1
Fiber Drum Specifications
(As tested)**

NOMINAL DIMENSIONS

Inside Diameter:	21-1/2"
Inside Height:	37"
Outside Height:	38"
Tare Weight (approx):	16.79#
Net Packing Weight:	N/A

NOMINAL CAPACITY

U.S. Gallons:	58
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CONSTRUCTION – (All thickness and weights reflect minimum requirements)

Sidewall:	Convolutely wound paperboard meeting minimum thickness of 1200 PSI Mullen. (ASTM D 774/D 774m – 97)		
Sidewall Adhesive:	Thermoplastic Low Density Polyethylene (LDPE) Adhesive		
Lining:	56# Plain Kraft (1 lamination)		
Barrier:	N/A		
Bottom:	.132" Heading Thickness		
Chime Band Top:	Galvanized Steel	Width:	.022" Wide
Chime Band Bottom:	Galvanized Steel	Width:	.024" Wide
Closure:	Galvanized Steel		
Cover Type:	26 Ga Galvanized Steel		
Gasket:	N/A		
Fittings:	N/A	Diaphragm:	N/A
Additional Construction Information:	N/A		

TREATMENT

Exterior Finish:	45# Kraft Poly Skin (LDPE on both sides of outer layer) / (1 lamination)	Paint or Skin Color:	Gray
Print:	N/A		
Print Color:	N/A		
Poly Bag:	N/A	Bag Option:	N/A
Misc. Treatments:	N/A		

Special Instructions:	Interior laminations (6) are 57# LDPE with LDPE adhesive between each fibre layer of sidewall / Total sidewall laminations equals 8
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DRUM-PAK® Dunnage for Open Head Drums in Cushioned Boxcars

General Information Series Publications

- 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)
- 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 Inflatable Dunnage Bags and Lengthwise Fillers (CCLG Part 7, Section 6.3 Revised 10/16)
- 755** 55-Gallon Steel Drums on Pallets Secured with Cordstrap® Barriers in 40-ft ISO Containers (Nonhazardous Materials only) (Intermodal Loading Guide Method I-6) (new 11/16)
- 757** 46 in. to 57 in. Diameter Roll Paper on End Using Rubber Mats (Revised Intermodal Loading Guide Method E-21) (1/17)
- 758** 58 in. Diameter Roll Pulpboard with an Incomplete Second Layer Loaded On End (Former Pamphlet No. 39, Method 11) (2/17)
- 759** Revision to Paragraph 2.5, Distribution of Weight Crosswise in Cars, CCLG Part 10, Primary Metals (2/17)
- 760** Incomplete Layers of Plywood Secured in Boxcars with Nonmetallic Straps, CCLG Part 3, Plywood (2/17)
- 761** 37 in. Diameter Plastic Stretch Wrapped Kraft Rolls Loaded in a Single Layer in 60 ft. Cushioned Boxcars Using Rubber Mats and Lengthwise Filler Panels (3/17)
- 763** Roll Paperboard in Boxcars with Doorway Stacks on Risers and Rubber Mats (6/17)(Cancels GIS 762)
- 764** Non-metallic Strap Substitution for Steel Strap as Doorway Protection in Boxcars (Cancels GIS 756) (06/17)
- 765** Wood Bins Braced by Disposable Inflatable Dunnage Bags and Shock-Gard® Lengthwise Void Fillers (7/17)
- 766** 45 in. Diameter Roll Paper in 60 ft. Cushioned Boxcars with Double Plug Doors (8/17)
- 768** Gearboxes Mounted on Sleds in 20 ft. Long ISO Containers (9/17)
- 769** 42 in. Diameter Roll Paper in 60 ft. Cushioned Boxcars Using Rubber Mats and Airbags (CCLG Part 2, 8.3.2.6)(9/17)
- 770** 48 in. Diameter Roll Paper in 50 ft. Cushioned Boxcars Using Horizontal Airbags (CCLG, Part 2, Section 8) (9/17)
- 771** 50 in. Diameter Roll Paper in 50 ft. Cushioned Boxcars Using Sidewall Fillers and Horizontal Airbags (CCLG, Part 2, Sections 5.6.10 & 8.2.4.4 Revised)(10/17)
- 772** 81 in. Diameter Roll Paperboard in 50 ft. Standard Draft Gear Boxcars with Sliding Doors (CCLG Part 2, Section 8.2.8.1) (10/17)
- 773** 42 in. Diameter Roll Paper in 50 ft. Cushioned Boxcars with 12 ft. Doors (CCLG Part 2, Section 8.2.2.5) (12/17)
- 774** 48 in. Diameter Roll Paper in 60 ft. Cushioned Boxcars with 16 ft. Double Doors (CCLG Part 2, Section 8.3.4.5) (12/17)
- 775** 54 in. Diameter Paperboard on End Using Rubber Mats (New Intermodal Loading Guide Method E-22)(January 2018)
- 776** 45 in. Diameter Roll Paper in 50 ft. Cushioned Boxcars with 12 ft. Doors (CCLG Part 2, Section 8.2.3.8) (2/18)
- 777** Double Layer Loads of 76-55 Gallon Drums Secured with Ty-Gard DS™ Barriers in 20-ft Containers (Intermodal Loading Guide Method B-9)(3/18)
- 778** Split Loads of 58 in. Diameter Roll Pulpboard on End Using Rubber Mats when Stowed in Trailers Having Large Metal Plates Approximately 9 ft. in Length at the Nose (Intermodal Loading Guide Method E-22)(3/18)
- 779** Double Layer Load Secured with Cordstrap® Barriers in a 20-ft Container (ILG Method I-4HM) (3/18) Cancels GIS 744
- 780** Loads Secured with Cordstrap® Barriers in 40-ft Containers (ILG Method I-5HM) (3/18) Cancels GIS 745
- 781** Wood Bins Braced by Disposable Inflatable Dunnage Bags and BIN-PAK™ or M-PAK® Lengthwise Void Fillers (4/18)
- 782** Plastic Intermediate Bulk Containers with Disposable Inflatable Dunnage Bags and Lengthwise Void Fillers – Schoeller Allibert (CCLG Part 7, Section 6.2)(4/18)
- 783** Cased Goods Secured by Tuff Wrap™ D.I.D. Bags (Intermodal Loading Guide Method F-4 New)(4/18)
- 784** Cased Goods Secured by Rothschenk S.A.M. D.I.D. Bags (Intermodal Loading Guide Method F-4 New)(5/18)
- 785** Intermodal Loads Secured with TyGard DS™ (Intermodal Loading Guide Method B-9 New)(5/18)
- 786** Aluminum Coils on Platforms/Skids Loaded on Rubber Mats & Secured by Two Floor Anchored Web Straps & Supplemental Securement Straps (CCLG Part 9, Section 8.6) (6/18)
- 787** Universal Storage Containers Loaded in 53 ft. Intermodal Containers (ILG Method H-15 New)(6/18)
- 788** 60 in. Diameter Roll Paperboard in 60 ft. Cushioned Boxcars with 12 ft. Wide Plug Doors (CCLG Part 2, 8.3.7.2)(6/18)
- 789** Split Loads of 58 in. Diameter Roll Pulpboard on End Using Rubber Mats when Stowed in Trailers Having Large Metal Plates Approximately 9 ft. in Length at the Nose (Intermodal Loading Guide Method E-19 Revised)(6/18)
- 790** 58 in. Diameter Roll Paperboard in 50 ft. Cushioned Boxcars with 12 ft. Wide Plug Doors (CCLG Part 2, 8.2.5.8 Revised)(6/18)

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791 DRUM-PAK® Dunnage for Open Head Drums in Cushioned Boxcars (CCLG Part 7, Section 6.9) (6/18)