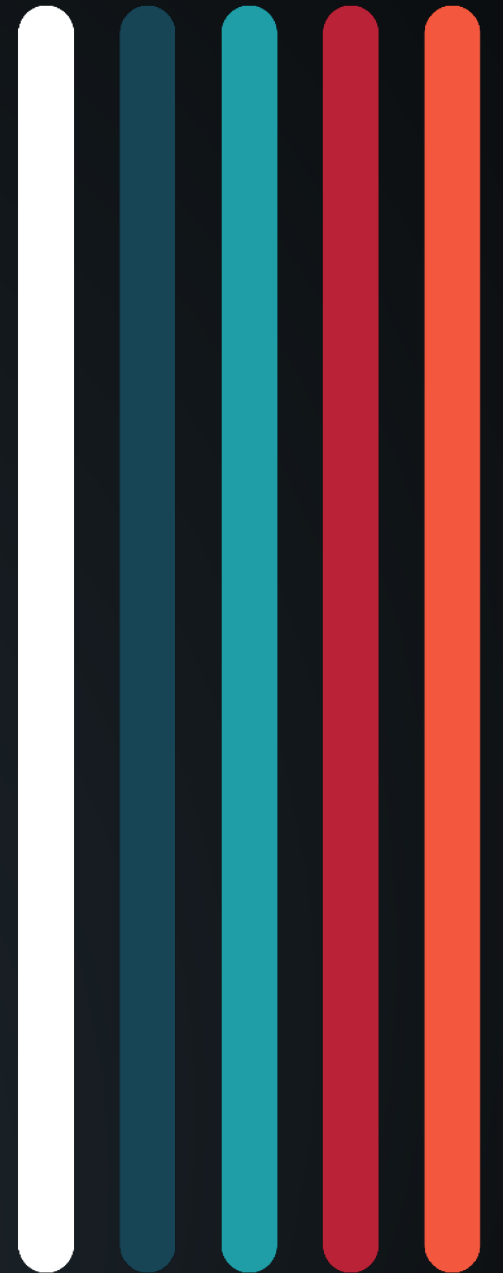


Rail Load Patterns 101:

AAR Damage Prevention & Freight Claim Committee & Publications Update



Kelsey Even, MxV Rail
Damage Prevention & Freight
Claim Committee Manager



Damage Prevention & Loading Services (DPLS)

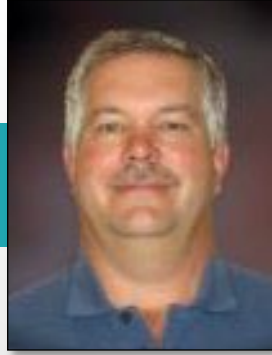
Provides industry programs and services to prevent freight damage and safety concerns during rail transportation:

- Conduct industry testing
- Conduct Quality Review Audits (Automobiles)
- Create and maintain damage prevention and load securement publications
- Coordinate industry committees and technical advisory groups (TAGS)
- Provide industry resources
 - Training, inspections, conference planning, and industry experience

MxV Rail's DPLS Team



Tom Feltault
Director, DPLS



Pat Breslin
Sr. Mgr. Automotive
Damage Prevention



Dave Hendrixon
Mgr. II, Field
Operations



Kelsey Even
Mgr., Closed Car
Loading Rule



Rama Maram
Mgr., Open Top
Loading Rules



Miles Benitez
Mgr., Site Projects



Craig Millbauer
Manager, Automotive
Damage Prevention



**DAMAGE PREVENTION
& LOADING SERVICES**



Freight & Load Securement Testing



AAR Freight & Load Securement Testing

- **Field trials**
- **Impact & on-track testing**
- **Laboratory testing**
 - Air bag verification
 - Steel and nonmetallic strapping verification
 - Webbing verification
 - Doorway protection testing – nonmetallic straps
 - Rubber friction mats verification
 - Other types of testing

How is Testing Determined?

Type of Testing:	Testing Criteria:	Testing Order:
Field Trials	<ul style="list-style-type: none">• Load patterns or securement methods that have passed other forms of testing, or• Similar to approved patterns/methods	<ul style="list-style-type: none">• Initiated after impact, on-track, or laboratory testing
Impact Testing	<ul style="list-style-type: none">• Load patterns or securement methods that are a new concept• Load securement product verification testing	<ul style="list-style-type: none">• Completed in conjunction with field, on-track, or laboratory testing
Ontrack Testing	<ul style="list-style-type: none">• Load patterns or securement methods that are a new concept• Requires a controlled testing environment	<ul style="list-style-type: none">• Completed in conjunction with impact or laboratory testing
Laboratory Testing	<ul style="list-style-type: none">• Verification of load securement products• Verification of specific product application	<ul style="list-style-type: none">• Initiated prior to impact, on-track or field testing

AAR Field Trials

- Complete 25 field trials with both origin and destination inspections with photos
- Shipments are a minimum of 500 rail miles
- Takes on average 1-2 years for a field trial to be completed



FL 05 - 19A Origin Inspection Report

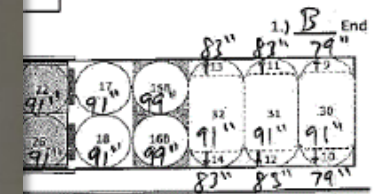
Instructions:

- 1.) Label the ends of the boxcar in the diagram, either A-end or B-end. The B-end of the boxcar is where the brake wheel is located.
- 2.) Load the base rolls following the pattern diagram.
- 3.) Load the T-loaded rolls - centered in the middle of the boxcar and measure from the ends of the rolls to the side walls.
- 4.) A/c checks in place under each T-loaded roll (rolls 27-32)? Note size and type of checks used on T-loaded rolls.
Yes ☒ No ☐ Explain: _____
- 5.) List the size and height of risers used under blocking rolls 7, 8, 15, and 26. Blocking rolls are to block a minimum 50% of the T-loaded rolls.
- 6.) Load the doorway rolls on minimum 2 mm rubber mats with the outer edge rolled under a minimum of 2 inches.
- 7.) Fill the lengthwise voids with 2/3rd height void fillers. Note the location of the void fillers and measure and record the distance between the rolls separated by the void fillers. Also, note the location, void size, and thickness of additional void fillers (if any) used in the loading.
- 8.) Measure and record the distances between the doorway rolls and the doors (19-22 and 23-26).
- 9.) Photograph the doorway area after loading is complete and submit completed form and photos to ops@aar.com.

3.)	Measure Roll To A Sidewall	Measure Roll To B Sidewall	Roll Width
Roll 27	12 3/8 inches	11 inches	91 inches
Roll 28	8 1/2 inches	14 9/16 inches	91 inches
Roll 29	11 1/4 inches	11 5/8 inches	91 inches
Roll 30	10 inches	14 inches	91 inches
Roll 31	13 1/2 inches	10 3/8 inches	91 inches

T-load Rubber Mat
4.) Check Size/Type 8" x 27" x 2 mm
5.) Riser Size/Height 40" x 40" x 4" 5 each
card board

8.) Measure from Roll to Doorway			
Roll 19	N/A	Roll 23	N/A
Roll 20	7/8 inch	Roll 24	
Roll 21	1/2 inch	Roll 25	
Roll 22	7/8 inch	Roll 26	



AAR Impact Testing

- **The test railcar is released into a stationary string of railcars (anvil string)**
 - Track is either inclined or the test railcar is “kicked” at a set speed
 - Impact speed is determined by the test parameters and measured by radar
 - Simulates railcar handling/sorting in rail yards
 - Testing speeds and number of impacts based on equipment and commodity type

Equipment Type	Number of Impacts	Impact Speeds
Closed Car – boxcars & containers	4	4 – 6 mph
Open Top – flatcars & gondolas	4	4 – 8 mph
Automobile racks	4 – 10	4 – 10 mph
Hazardous materials	4	4 – 8 mph

AAR On-track Testing

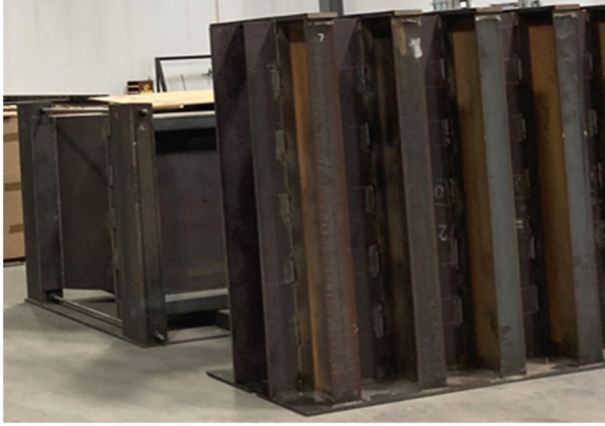
- Ontrack testing uses the Facility for Accelerated Service Testing (FAST) track at MxV Rail to simulate over-the-road train vibration over a 1,000 rail miles
- Impact testing is conducted prior to and during ontrack testing cycles



Laboratory Testing: Air Bag Verification

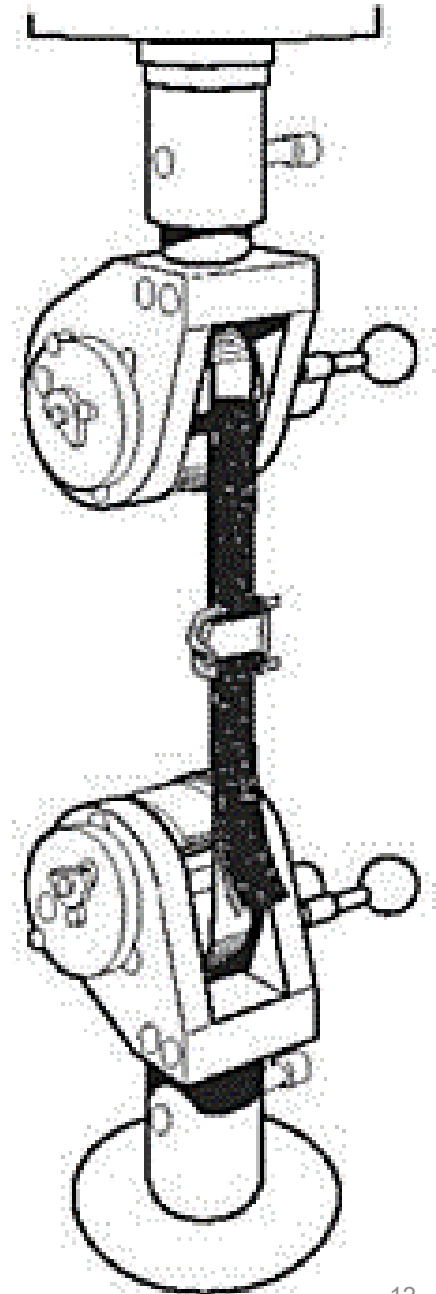
- **Ten samples leak tested for 19 days in racking**
 - Based on air bag level;
 - Lose no more than 1-2 psi
- **Five samples burst tested in burst fixture**
 - Hold pressure based on air bag level for one minute (8-30 psi)

Level 1-4 and Level 5 Air Bag Burst Racks



Laboratory Testing: Steel or Non-Metallic Strap Verification

- Steel straps meet the specifications in ASTM D3953
- Nonmetallic straps (packaging and load securement) meet the specifications in ASTM D3950
- Straps must meet the minimum break strength/joint strength requirements based on type & size or grade



2 Post Tensile Machine for Strap Testing



Laboratory Testing: Rubber Friction Mats Verification

- New testing process started in 2022
- Previously mats had to complete impact or field testing and meet minimum mat thickness
- Rubber mat testing performance measures:
 - Thickness measurements
 - Coefficient of friction (COF) & durability testing
 - Performance Testing

Other Laboratory Testing:

- **Layer separators for drum shipments**
- **Webbing verification**
- **Doorway protection testing – nonmetallic straps**
- **Bridge plates for autoracks**
- **Compression testing**
- **Other testing as requested...**

Testing Update – 2023

- **Laboratory Testing:**


- 33-Air bag verification tests
- 38-Steel & nonmetallic straps tests
- 1-Doorway protection straps test

- **Impact Testing:**

- 11-Impact testing projects
 - Auto testing & proprietary testing

- **Field Trials:**

- 24-Open field trials (20 boxcars & 4 intermodal)
 - 15 field trials for roll paper; 10 field trials actively shipping

 **Association of
American Railroads**
c/o Transportation Technology Center, Inc., P.O. Box 11130, 55500 DOT Road, Pueblo, CO 81001

FL 2-22 Origin Inspection Form – 22 Floor-spot

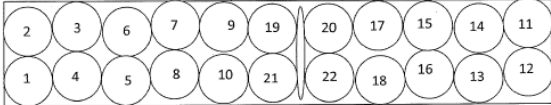
Instructions:

1. Label the ends of the boxcar in the diagram, either A-end or B-end. The B-end is where the brake wheel is located.
2. Record the location of any void fillers used in the load pattern. Include size of the void filler and amount of void filled.
3. Install 108 in. long airbags in the doorway void maintaining 2/3rd coverage of the roll stack height. Measure the void and PSI after inflation.
4. Measure and record the distance between rolls 19 thru 22 and the door edge.
5. Apply approved AAR doorway protection strapping as outlined in Closed Car Loading Guide Part 2 – Best Practices of Loading Roll Paper (12/19).
6. Photograph the doorway area after loading is complete and submit completed form and photos to dpls@aar.com.

Location:	Void (in.)	Type/Size:
9-19	2.5	19x90x2.5
10-21	2.5	19x90x2.5
17-20	5	19x90x2.5
18-22	5	19x90x2.5

Roll	Distance
Roll 19	3.11"
Roll 20	3.5"
Roll 21	4"
Roll 22	3.5"

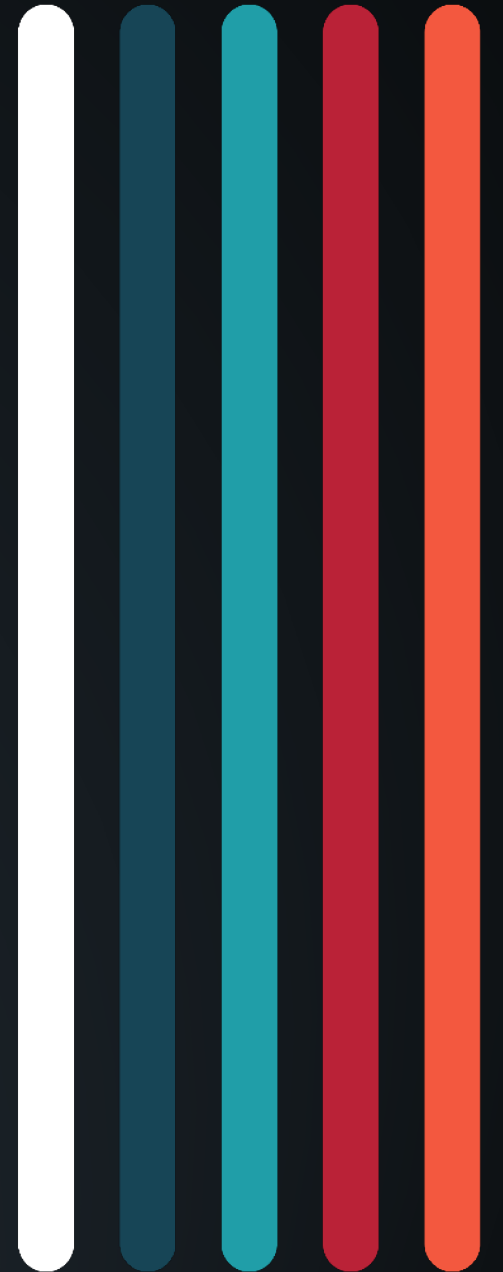
1. _____ 1. X



Void:	Void (in.):	Type/Size:	PSI:
19 & 20	9 1/4	36x108	5
21 & 22	9 3/4	36x108	5

3

AAR Damage Prevention Committees



AAR – DPLS Committees

- **Boxcar & Intermodal (Closed Car)**
 - Damage Prevention & Freight Claim Committee (DP&FC)
- **Open Top**
 - Open Top Loading Rules Committees (OTLR)
- **Automobile Damage Prevention**
 - Specially Equipped Freight Car Committee (SEFCC)
 - Multi-Level Pooling Executive Committee (MPEC)
 - Automotive Logistics Executive Committee (ALEC)
 - Vehicle and Equipment Quality Task Force (VEQ)
 - Reload Steering Committee (Reload)
 - Transit Improvement Process Team (TIPT)
 - Mexico – U.S. Automotive Rail Task Force (MUAR)

The Function of DPLS Committees

- 1. Review requests for testing and determine type of testing required**
- 2. Review test data and reports, and either approve methods for publication or request additional testing**
- 3. Review and approve all damage prevention publications**
- 4. Request the creation of technical advisory group (TAGs) or completion of industry testing or research to further examine a critical topic**

Damage Prevention & Freight Claim Committee (DP&FC)

- **DP&FC Committee (2023 – 2024)**
 - Representatives from all Class – 1 Carriers
 - Representatives from two short-lines
 - Representatives from three AAR Gold Associate Companies
 - Representatives from MxV Rail/AAR, TTX, and RAC
- **Combined tenure of over 50 years on the committee**
- **Committee meets virtually or in-person either monthly or bi-monthly**

DP&FC Committee TAGS

- **Quality Lead Team for the Prevention of Damage to Paper and Baled Pulp (QLT):**
 - Reviews loading patterns and securement methods for roll paper and baled pulp
 - Revises CCLG Part 2 – Best Practices of Loading Roll Paper
- **Intermodal Ride Quality TAG:**
 - Completed revisions to Circular 43-H and completed pending revisions to the IMLG
- **Impact Test Procedure TAG:**
 - Formed to review current impact test procedures and to conduct the necessary research and review to update the test procedures as relevant

DP&FC Committee TAGS

- **Boxcar Auto Part Shipments with Electric Vehicle Batteries TAG:**
 - The TAG is reviewing how EV batteries could be loaded and secured for boxcar & intermodal shipments
- **Closed Car Loading Patterns and Boxcar Specifications TAG**
 - The TAG is reviewing currently approved loading patterns based on end of car specifications and boxcar size and type and how patterns can be tested or expanded to other car specifications

Damage Prevention Publications



AAR – DPLS Publications

- **Circular Documents:**

- Loading and securement rules and updates for closed car, open top, and automobile shipments

- **Manuals:**

- Open Top Loading Rules Manuals (OTLR);
- Closed Car & Intermodal Loading Guides (CCLG/IMLG)
 - General Information Series (GIS)/General Information Bulletins (GIB)
- Automobile manuals:
 - Multi-level manual
 - MSRP Section-N (*Manual of Standards and Recommend Practices*)

AAR – DPLS Publications

Circular 42-P – General Rules Governing the Loading of Carload Shipments of Commodities in Closed Cars (3/23)

- Rule 5 – Loading, Blocking, & Bracing – Boxcars; Items E – J
- Rule 7 – Center of Gravity
- Editing and reference updates

Circular 43-H – Rules Governing the Loading, Blocking, and Bracing of Freight in Closed Containers & Trailers (8/22)

- All sections were revised;
 - Inspection & Selection of Equipment
 - Maximum Weights and Weight Distribution
 - Hazardous Materials/Hazardous Substances
 - Loading & Securement
 - Weight Distribution for Concentrated Weight

AAR – DPLS Publications

Closed Car Loading Guides (CCLG):

- *Part 1 – Minimum Loading Standards for Freight in General Purpose Boxcars (8/21)*
- *Part 2 – Best Practices for Loading of Roll Paper in Railcars (12/19)*
- *Part 3 – Minimum Loading Standards for Plywood and Similar Building Products in Closed Cars (3/14)*
- *Part 4 – Minimum Loading Standards for Lumber in Closed Cars (6/14)*
- *Part 5 – Minimum Loading Standards for Building Brick in Closed Cars (6/14)*
- *Part 6 – Minimum Loading Standards for Prepared Food & Similarly Packaged in Closed Cars (2/14)*
- *Part 7 – Minimum Loading Standards for Intermediate Bulk Containers in Closed Cars (7/14)*
- *Part 8 – Minimum Loading Standards for Bagged and Baled Commodities in Closed Cars (7/14)*
- *Part 9 – Minimum Loading Standards for Coiled Metal Products in Closed Cars (5/22)*
- *Part 10 – Minimum Loading Standards for Large Metal Products in Closed Cars (11/21)*
- *IMLG - Intermodal Loading Guide for Products in Closed Trailers & Containers (01/16)*

5.7.4 Place strip risers so that their longest dimension is lengthwise of the car. Do not use paper-based strip risers in the doorway area; use only in the ends of the car. See Fig. 5.10.

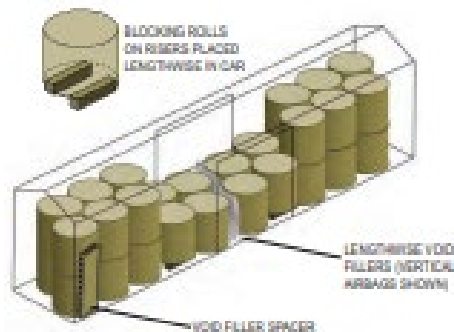


Figure 5.10 Strip riser placement

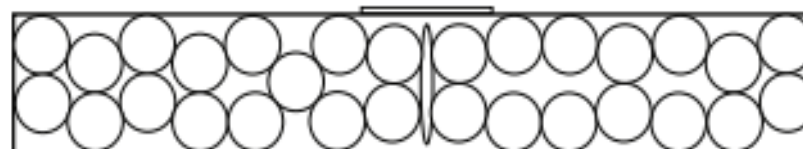
5.7.5 Follow manufacturers' instructions for proper orientation of square risers. recommended orientation of square risers in square to the car. Riser may extend roll only if the riser does not come in contact with or could be damaged by another Fig. 5.11.



Figure 5.11 Square riser placement

5.7.6 Do not stack and tape risers together. Only pad-type risers glued together laminated risers. If glued together, the manufacturer of the riser should provide specifications for appropriate adhesive.

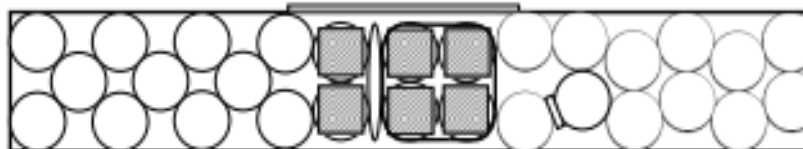
8-60-50-29-1 50 in. Diameter 60-9 x 9-6 Railcar Horizontal Dunnage Bag 29 Floor Spots



Suitable Door Types	Doorway Protection	Maximum Door Width (ft)	Suitable Draft Gear Type
✓ Single sliding	7.3/7.4	12	✓ Cushion underframe
✓ Single plug	7.6	12	

Reference 6.2

8-60-50-29-2 50 in. Diameter 60-9 x 9-6 Railcar Strapping with Horizontal Dunnage Bags 29 Floor Spots



Suitable Door Types	Doorway Protection	Maximum Door Width (ft)	Suitable Draft Gear Type
✓ Single sliding	7.7	12	
✓ Double sliding	7.7	16	
✓ Single plug	7.7	12	✓ Cushion underframe
✓ Double plug	7.7	16	

Reference paragraphs 6.2, 7.7

UNIT LOADING

6.2 Cased Goods on Slip Sheets with Pneumatic Dunnage

6.2.1 The slip-sheet method was evaluated with a 60-unit load of fiberboard cases of canned goods, stacked in a bonded pattern. The test load weighed 135,000 lb. See Fig. 6.2.

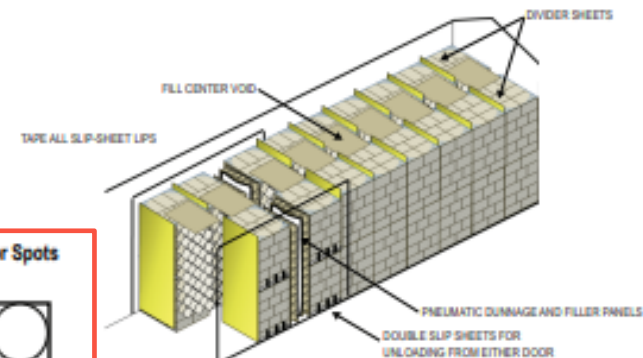


Fig. 6.2 Cased goods with pneumatic dunnage

units on slip sheets with the slip-sheet lips taped in an upright position. Place units high in the car or place two units on a pallet that is loaded into the car. (8 in. dimension) crosswise inside the railcar. Place void fillers in the center void to prevent movement.

board divider sheets in front of each unitized stack, one against each stack for the car. These units are placed tight lengthwise in the car.

placed in the doorway area of the car must have two slip sheets to allow unloading from the car. These units must have the slip-sheet lips taped at both sides of the

ing lengthwise void in the doorway area with double-faced cellular honeycomb or inflatable dunnage bags, one per row. The void fillers are restricted to 4 in. in on each side of the verified pneumatic dunnage bag. This can be either one 2-in.-thick sheets. Minimum required crush strength is 1,500 lb/ft² for the void

verified pneumatic dunnage bags from 3 psi to 6 psi, depending on the nature of the void filled by the bag after inflation is 12 in. If origin void is larger, use rise void fillers at different stack locations to reduce the void to 12 in. after 4.

methods may be necessary to prevent bag(s) displacement from void area. Tape, double-faced tape, and glue.

protection is required, except in plug door cars.

Publication Update: 2022 - 2023

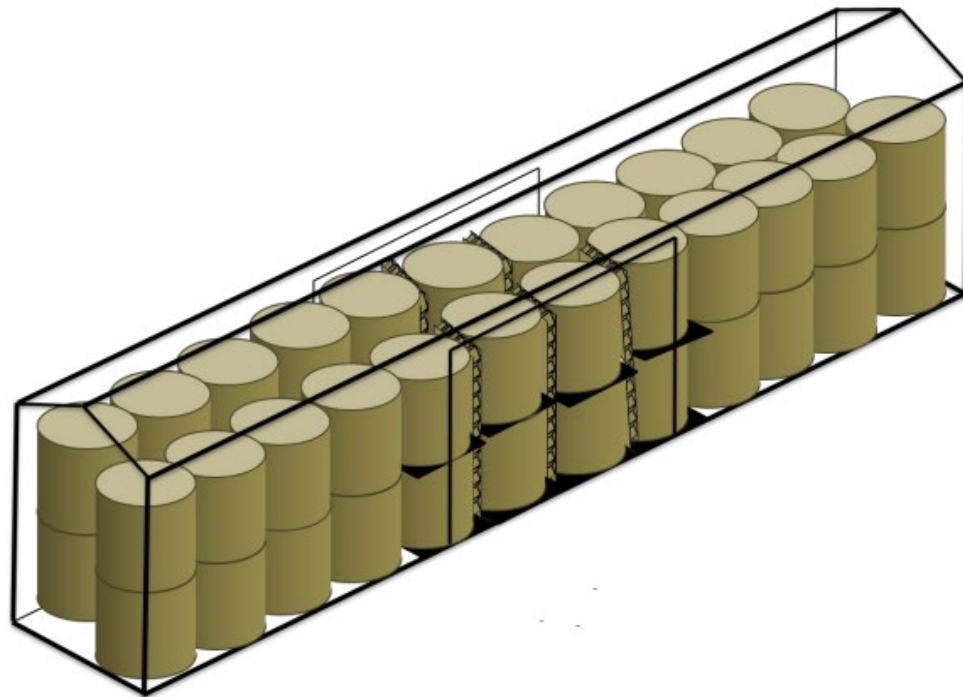
General Information Series (GIS)

GIS No.	Commodity	Equipment	Loading Notes
871	54 in. Roll Paper	50 ft. boxcars with cushion underframe & single plug doors	Secured with horizontal air bags; 20 & 21 floor-spots
872	Intermodal Freight (nonhazardous)	20 ft. & 40 ft. containers	Secured with Cordstrap® Barriers
873	48 in. Roll Paper	60 ft. boxcars with cushion underframes & double plug doors	Secured with horizontal air bags, rubber mats, and encircling straps
875	50 in. Roll Paper	60 ft. boxcars with cushion underframes & 10 ft. doors	Secured with horizontal air bags
876	60 in. Roll Paper	50 ft. & 60 ft. boxcars with cushion underframe & plug doors	Multi-layer rolls in the doorway; secured with 2/3 rd height void fillers & rubber mats
877	Wood Bins – Tomato Products	50 ft. boxcars with cushion underframe & single plug doors	Bins stacked three high; load pattern for 68 bins
878	50 in. Roll Paper	50 ft. boxcars with cushion underframes & single plug doors	Secured with horizontal air bags; 23 floor-spots

GIS Publication Update

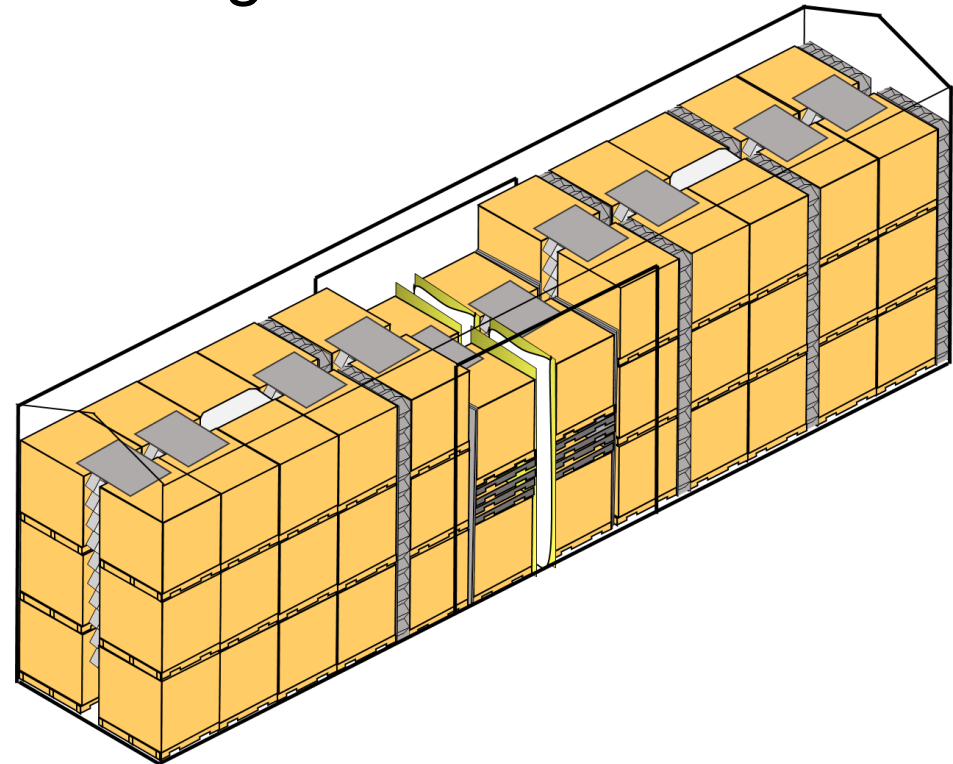
- **GIS 876: 60 in. Roll Paper**

- 50 ft. & 60 ft. Boxcars with cushion underframes & plug doors
- Multi-layer rolls in the doorway area secured with 2/3rd height void filler & rubber mats



GIS Publication Update

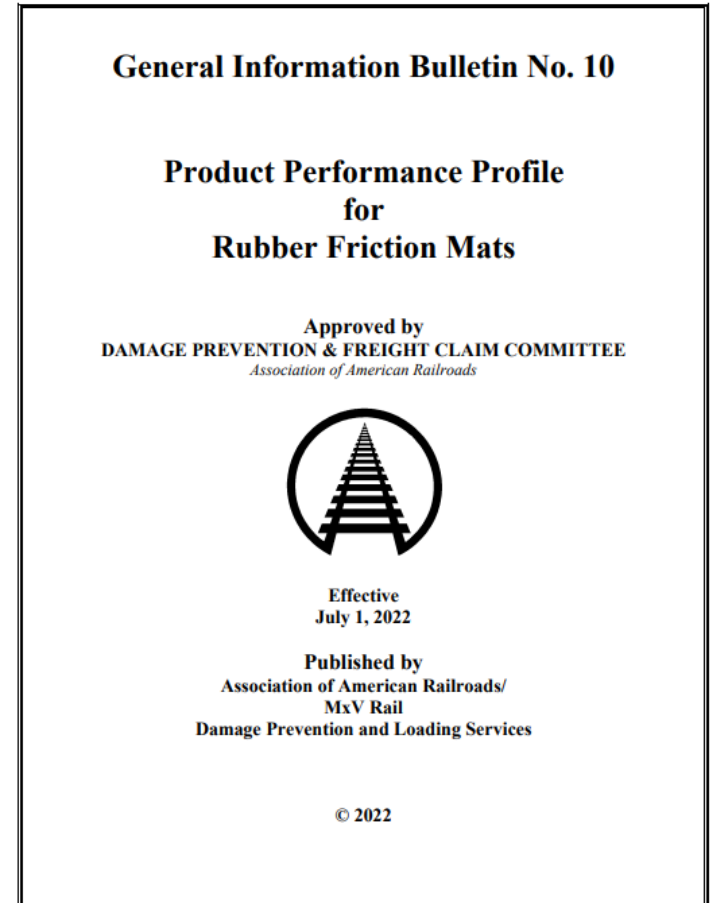
- **GIS 877: Wood Bins (68) – Tomato Products**
 - 50 ft. Boxcars with cushion underframes & single plug doors
 - Bins are stacked three high in the boxcar; two high in the doorway
 - Partial layer is secured by 50% blocking



AAR - DPLS Publications

General Information Bulletins (GIB):

- No. 2 – *Rules and Procedures for Test of New Loading & Bracing Methods or Materials (5/23)*
- No. 9 – *Product Performance Profile for Pneumatic Dunnage (1/22)*
 - Pneumatic Dunnage Product Verification List
- No. 10 - *Product Performance Profile for Rubber Friction Mats (7/22)*
 - Rubber Friction Mat Product Verification List



AAR – DPLS Publications

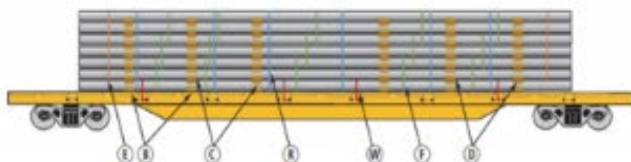
Open Top Loading Rules (2023):

- Section 1 – General Rules Governing Loading of Commodities on Open Top Cars
- Section 2 – Metal Products Including Pipe
- Section 3 – Machinery, Heavy Components, & Miscellaneous Commodities
- Section 4 - Archived Rules & Figures from Sections 1-7
- Section 5 – Forest Products & Miscellaneous Building Materials
- Section 6 – Military Equipment & Material
- Section 7 – Rules Governing Loading of Commodities on Open Top Trailers & Containers for Rail Transport

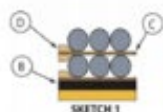
AAR Open Top Loading Rules Manual

Fig. 267-A (Rev. 10/19)
(New 05/16)

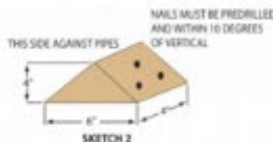
PIPE, STEEL, BARE, COATED, OR WRAPPED; 6 5/8 IN. TO 16 IN. O.D., 45 FT TO 65 FT IN LENGTH—FLATCARS, 89 FT, WITH CUSHIONING DEVICES



VIEW A: END VIEW WITH FULL TOP LAYER
(TIE-DOWN NOT SHOWN)



SKETCH 3



SKETCH 4

05/2017

Section 2, Part 3

AAR Open Top Loading Rules Manual

Fig. 267-A (Rev. 10/19) (Continued)
(New 05/16)

PIPE, STEEL, BARE, COATED, OR WRAPPED; 6 5/8 IN. TO 16 IN. O.D., 45 FT TO 65 FT IN LENGTH—FLATCARS, 89 FT, WITH CUSHIONING DEVICES



VIEW B: END VIEW WITH NESTED TOP LAYER
(TIE-DOWN NOT SHOWN)

Item	No. of Pcs.	Description
A		Vacant
B	Minimum 6 per pile	Bearing pieces: hardwood, 2 in. x 6 in., preferably rough, in one piece. Length equal to width of car. Intermediate bearing pieces spaced uniformly to support the load. Secure each to car floor with six common nails (equally spaced across entire length of bearing piece), length to be not less than 2 in. greater than thickness of bearing piece.
C	Minimum 6 per pile	Separators: hardwood, 2 in. x 6 in., length equal to width of load but not to extend beyond width of car. Locate between each layer and in line with items B when possible.
D	2 per each item B 4 per each item C	Chock blocks: hardwood 4 in. x 4 in. x 6 in., predrilled. Locate at each end on top of items B and on top and bottom of item C against pipe and secure each with three 20-D common nails. Not required when items Alt B and Alt C are full contoured.
E	2 per pile	End encircling bands: 2 in. x .044 in. high tension. Pass between first and second layers, encircling all layers above it. Place one at each end of pile and locate two-thirds distance in from end of pipe and first separator.
F	5 per each layer	Load-interlacing bands: 2 in. x .044 in. high tension. Interlace entire load together by encircling first, second, and third layers; then third, fourth, and fifth layers, etc., to top of load. Top set may consist of four layers.
G		Vacant
H		Vacant
R	6	Encircling bands: 2 in. x .044 in. high tension. Encircle entire load, evenly spaced, and locate as far as possible from bearing pieces, separators, and other bands.
W	4 per pile	Tie-down assemblies: consisting of a winch, ratchet, and polyester woven straps 4 in. wide with 20,000 MBS. Locate near bearing pieces where practical. Place over bottom layer of pipe and anchor to opposite side of car, securing to prevent displacement. Winch lashed using a minimum 30 in. bar. Maintain as much clearance from steel bands as possible to avoid damage to straps. Note: This application may be used only on sketches utilizing item E separators between the bottom and second layers.

Section 2, Part 3

05/2017

AAR Open Top Loading Rules Manual

Fig. 267-A (Rev. 10/19) (Concluded)
(New 05/16)

PIPE, STEEL, BARE, COATED, OR WRAPPED; 6 5/8 IN. TO 16 IN. O.D., 45 FT TO 65 FT IN LENGTH—FLATCARS, 89 FT, WITH CUSHIONING DEVICES

Item	No. of Pcs.	Description
Alternate securement items		
Alt B	Minimum 6 per pile	Bearing pieces: spruce, full 4 in. x 6 in., contoured 2 in. to fit pipe, preferably rough, in one piece. Length equal to width of car. Intermediate bearing pieces spaced uniformly to support the load. Secure each to car floor with six common nails, length to be not less than 2 in. greater than thickness of bearing piece. (Sketch 3)
Alt C	Minimum 6 per pile	Separators: spruce, full 6 in. x 6 in., double contoured 2 in. to fit pipe, preferably rough, in one piece. Length equal to width of load but not to extend beyond width of car. Locate between each layer and in line with items B when possible. (Sketch 4).

Notes and Additional Requirements:

1. Variances in pipe length must not exceed 10 ft.
2. Longer lengths of pipe must be located in the bottom of the load with shorter material loaded above.
3. Pipe must be located centrally on car at origin.
4. More pieces per tier (width of load) may be loaded if the same end configuration and number of bands required are applied as indicated.
5. When pipe is coated, adequate padding or protection must be used to prevent chafing at bearing points. (Shipper's discretion to use as optional requirement.)
6. Height of load must not exceed 10 ft above car floor or combined center of gravity (of load and car) must not exceed 96 in. above top of rail. Refer to General Rule 40.
7. Height of pile cannot exceed width of pile. Exception: if the top layer is nested, the height may be one layer taller than wide (see View B).
8. Bands are sufficient for loads up to 140,000 lb. Add one additional item F load interlacing band and one additional item R encircling band for each 20,000 lb or less of load weight.

Load Weight	No.	No. Item R per Pile
140,000 or less	5	6
140,001 to 160,000	6	7
160,001 to 180,000	7	8
180,001 to 210,000	8	9

9. Bearing pieces and separators, as shown, are sufficient for loads up to 140,000 lb. Add one bearing piece and separator for each 20,000 lb or less of load weight.

Load Weight	No. Bearing Pieces per Pile	No. Separators per Pile
140,000 or less	6	6
140,001 to 160,000	7	7
160,001 to 180,000	8	8
180,001 to 210,000	9	9

10. All banding must be equally spaced throughout the entire pile.
11. Type 1A Grade 8 non-metallic strapping may be used if item W tie-down assemblies are missing or defective. Attach strapping to either lading strap anchors or stake pockets with appropriate hooks and/or buckles.
12. Refer to Section 1, General Rule 3, for weight distribution requirements when loading cars longer than 60 ft in length. Reference the General Rules in Section 1 of the Open Top Loading Rules Manual for additional details.

05/2017

Section 2, Part 3

Want to Learn More?

- **Visit DP&FC Publications Webpages:**
 - <https://aar.com/standards/damage-publications.php>
 - <https://aar.com/standards/IntermodalLoadingPublications.php>
 - <https://aar.com/standards/damage-training.php>
- **Attend the 131st Damage Prevention & Freight Claim Conference**
 - June 3rd – 6th, 2024, Minneapolis, MN
 - Email dpls@aar.com
- **Join the AAR Associate Program**
 - <https://www.aar.org/about-us/join-aar/>
- **Join the DPLS Non-Rail Associate Membership or Special Rail Membership**
 - Email dpls@aar.com
- **Request to join informational mailing lists**
 - Email dpls@aar.com

Thank You

