INNOVATION

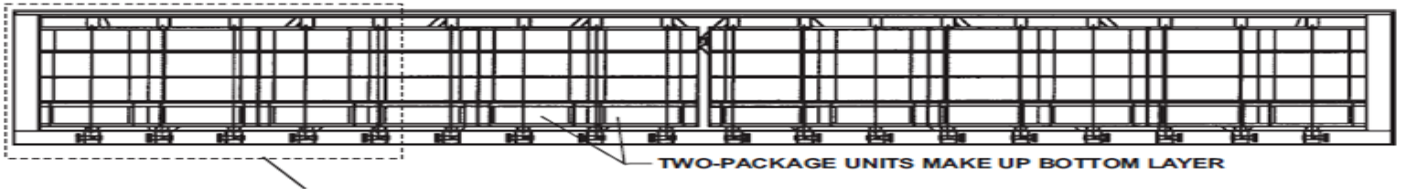
Think outside of the Box

Don’t be afraid to try something NEW

Keith Lee – General Director SQ UPRR

Fig. 54-B (Rev. 12/15)
(New 6/97)

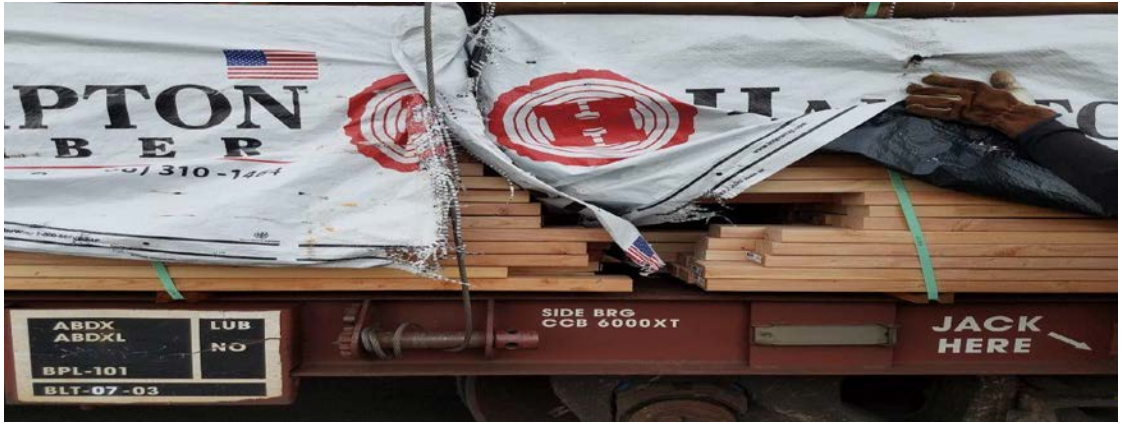
LUMBER, 4 FT TO 8 FT LONG, PACKAGED—CENTER A-FRAME FLATCARS, WITH CABLE TIE-DOWNS



Notes and Additional Requirements:

1. This figure is intended for packaged dimensional lumber 4 ft to less than 8 ft in length that, when placed in the top layer, could result in less than two Item H cables protecting the package. Lumber 8 ft long may be included in this figure and should be located in the top layer first to minimize the need for Item F top corner caps, and then in the bottom layer. (Lumber 8 ft long and over may be loaded to Fig. 54 in this Section.)
2. Voids, if any, must be in center of load and kept to a minimum.

Example of natural center void on 92 5/8” and 104 5/8” lumber on 73’ Centerbeam



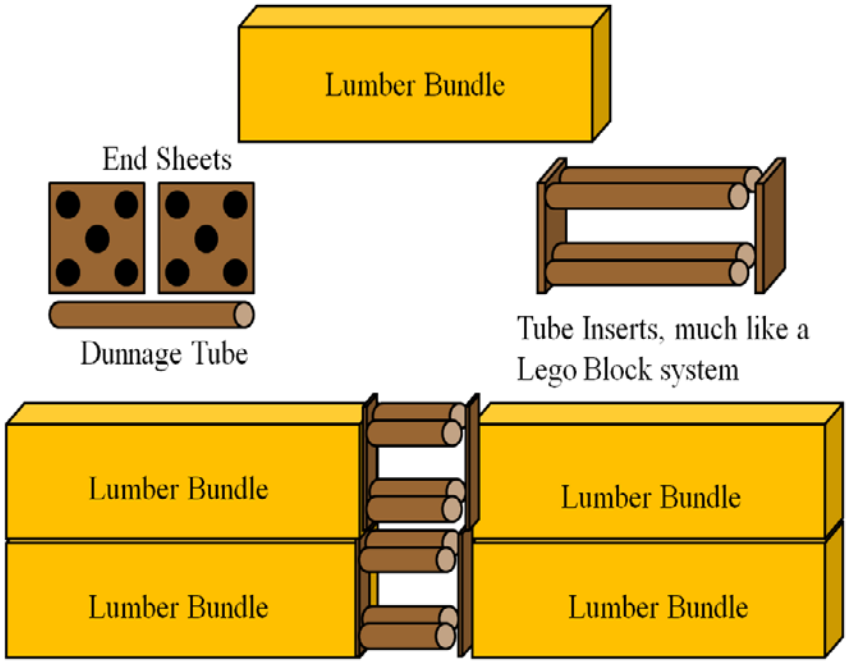
Examples of shifting lumber on these cars

Examples of shifting lumber on these cars

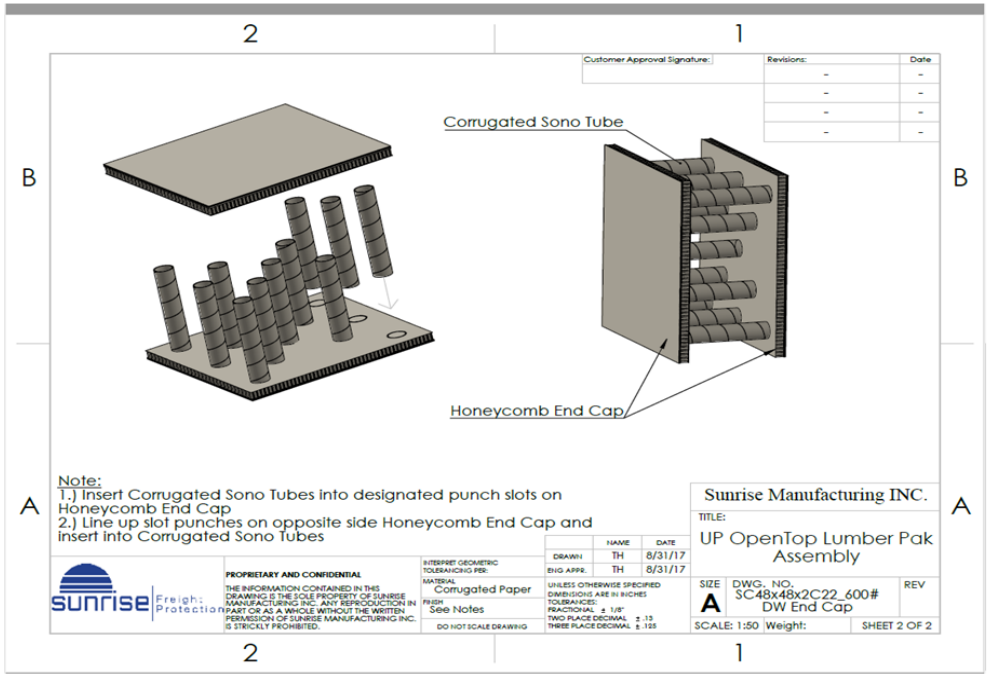
Remembering back to pre 2017 when a system of this sort was tried for LVL Shipments

“ We can rebuild this. We have the technology. We have the capability to build a better system. It will be better than it was before. Better, Stronger, Safer….”

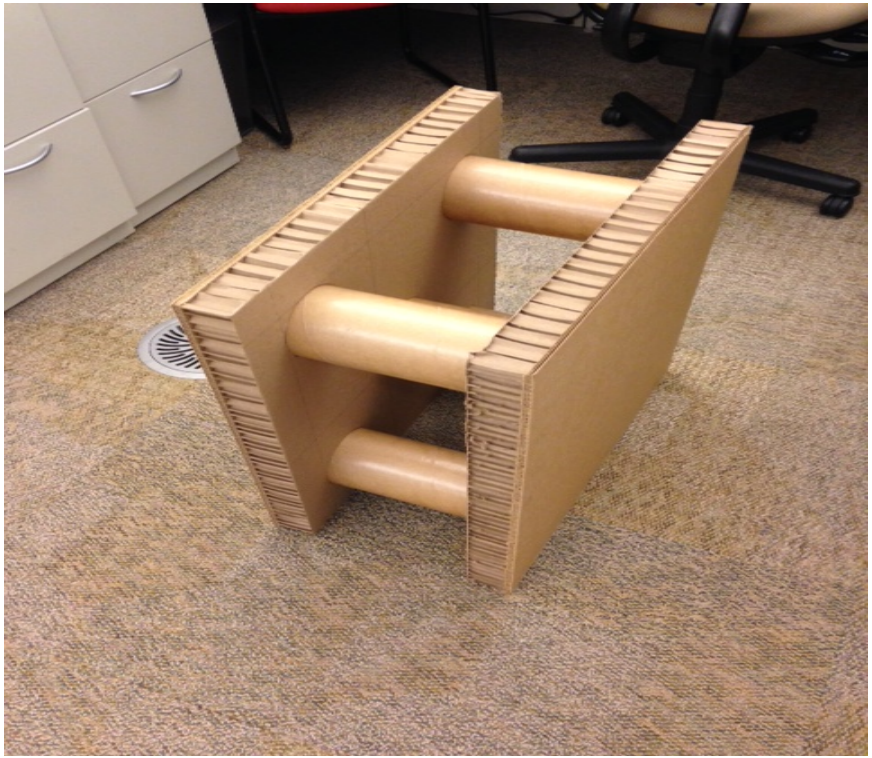
Concept Idea proposed to Dunnage Manufacturer



UPRR & Sunrise Mfg. Corrugated Void Filler Concept and Prototype



Conceptualize and Design a Product to address this industry issue.
The creation of the LLP – Longitudinal Lumber Pak



First Prototype Sample

Test Car #1 at Napawine, WA – UP273237
Center Void @ 36 ¾” Load Weight 192,024 lbs

Test Car #1 at St. Joseph, MO – UP273237

Arrival Condition
non filler side.

Arrival Condition
non filler side.

Test Car #1 at St. Joseph, MO – UP273237

A End, 1” movement off end wall Non filler side.

Movement in bottom layer Non filler side.

Center Void, 1” movement toward center Non filler side.

Test Car #1 at St. Joseph, MO – UP273237

A End, no movement off end wall, Filler side.

A End, no movement into center void, Filler side.

A End, no movement into center void, Filler side.

Test Car #1 at St. Joseph, MO – UP273237

B End, 1” movement off end wall, Filler side.

B End, 1” movement off end wall, Filler side.

Center Void Filler side.

Test Car #1 at St. Joseph, MO – UP273237

Center LLP Filler
No deterioration to the
Tubes or End Panel Caps

UP273273
Origin: Napavine, WA
Switch: Longview Jct. WA
Hump: Hinkle, OR
Hump: North Platte, NE
Hump: Kansas City, KS
Switch: St. Joseph, MO

Total Rail Miles: 1,936

Release Date: 1/3/2019
Spot Date: 1/14/2019

Test Car #2 at Napawine, WA – TTZX862946
Center Void @ 34” Load Weight 195,840 lbs

Test Car #2 at Rolla, CO – TTZX862946

Center Filler LLP
No product movement on LLP Filler side.
Notice alignment on Non filler, back side.

Center Filler LLP
Hampton had noted at origin issues with shrink wrap protection on end cap.
Tubes all in good condition on arrival.

Test Car #2 at Rolla, CO – TTZX862946

B End, 6” movement off end wall, Non filler side.

B End, 6” movement Center Void Bundle starting to show coring Non filler side.

A End, no movement off end wall, Non filler side.

TTZX862946
Origin: Napavine, WA
Switch: Longview Jct. WA
Hump: Hinkle, OR
Hump: Pocatello, ID
Switch: Green River, WY
Switch: Cheyenne, WY
Switch: Rolla, CO

Total Rail Miles: 1,416

Release Date: 1/4/2019
Spot Date: 1/14/2019

Test Car #4 at Roseburg, OR – TTZX87392
Center Void @ 32” Load Weight 190,000 lbs

LLP System Side

Test Car #4 at Roseburg, OR – TTZX87392
Center Void @ 32” Load Weight 190,000 lbs

UPRR/Hampton/Sunrise Lumber
Longitudinal Lumber Pack Testing
Additional Comments:
Lumber blocking placed on west side in void, on bottom units.
The end panel shrink wrap (plastic coating) isn't strong enough to keep from tearing or ripping, allowing rain to intrude.

LLP System Side

Ridged Wood Blocking as a Hampton Test

Test Car #4 at Sills, NY – TTZX87392

Appears to be some product coring on opposite side with ridged bracing.

LLP System

Test Car #4 at Sills, NY – TTZX87392

Appears to be some product coring on side with ridged bracing.

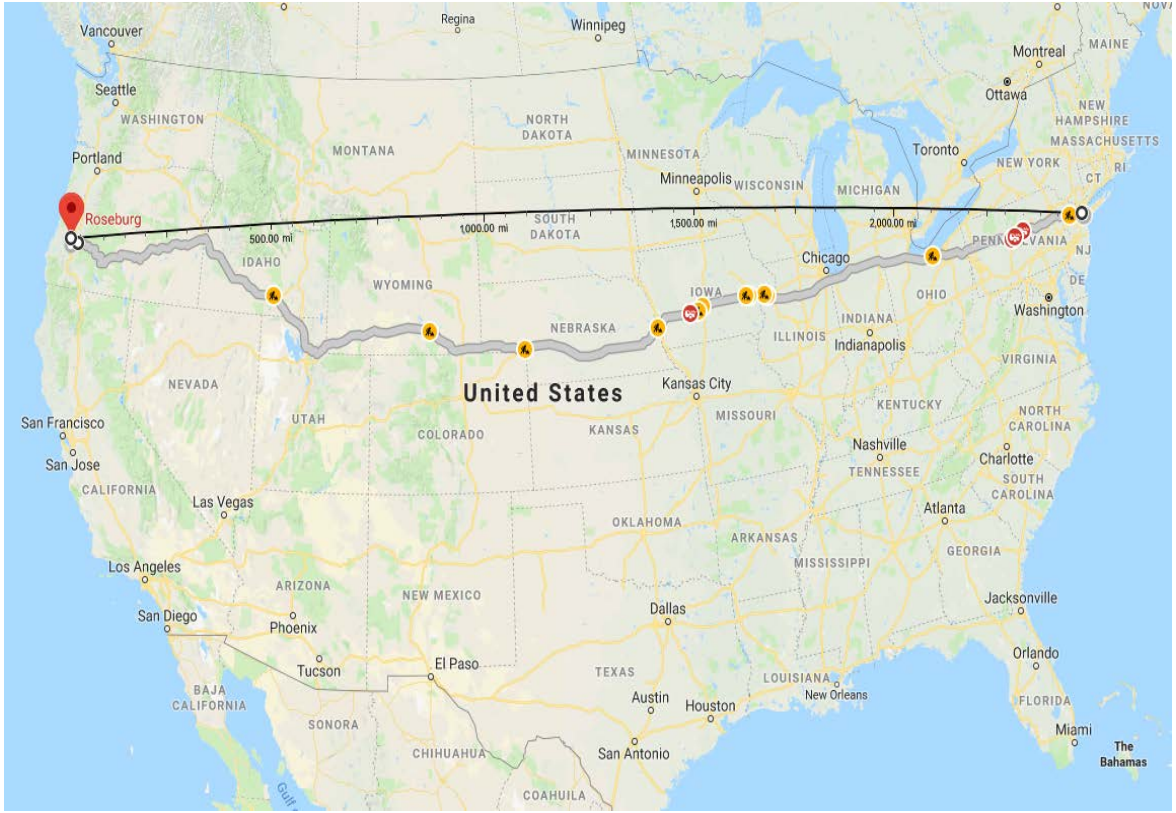
Ridged Wood Blocking as a Hampton Test

A “Cross Country” Test

TTZX87392
Origin: Roseburg, OR
Switch: CORP RR
Switch: Eugene, OR
Hump: North Platte, NE
Hump: Proviso (Chicago)
Interchange/Hump: BRC (Chicago)
Switch: Buffalo, NY
Switch: Fresh Pond, NY

Total Rail Miles: 2,563

Release Date: 1/7/2019
Spot Date: 1/22/2019



Test Car #5 at Roseburg, OR – TTZX85268
Center Void @ 32” Load Weight 190,000 lbs

LLP System Side

Test Car #5 at Roseburg, OR – TTZX85268
Center Void @ 32” Load Weight 190,000 lbs

Ridged Wood Blocking as a Hampton Test

Test Car #5 at Keasbey, NJ/Raritan Center, NJ – TTZX85268

Test Car #5 at Keasbey, NJ/Raritan Center, NJ – TTZX85268

Note some movement
Longitudinal 2nd layer
Also some cable movement

Note some coring
Longitudinal 1st layer
in-between lateral wooden pieces.

TTZX85268
Origin: Roseburg, OR
Switch: CORP RR
Switch: Eugene, OR
Hump: North Platte, NE
Hump: Proviso (Chicago)
Interchange: NSRR (Chicago)
Switch: Conway, PA
Interchange: RCRY (Metuchen, NJ)

Total Rail Miles: 2,921

Release Date: 1/10/2019
Spot Date: 1/28/2019

NON TEST CAR: TTZX865469

Roseburg, OR – Keasbey, NJ /Raritan Center, NJ

Release Date: 1/14/2019 – Spot Date 1/28/2019

Routing same as Test Car #5

Photos indicate product shift and coring within the load along with package bands breaking

NON TEST CAR: TTZX864556

Routing same as Test Car #2

TTZX864556

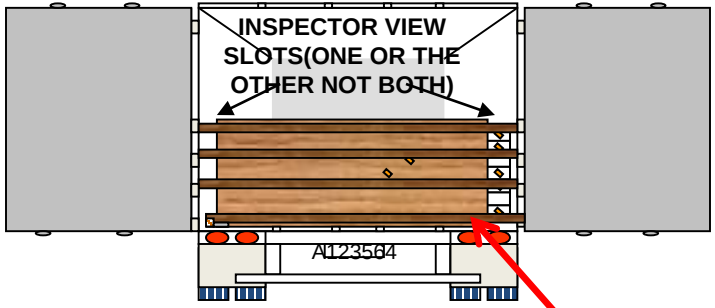
Waybill ID	Date	Commodity	Shipper Name Rail Origin	Consignee Name Rail Destination	Actions
293212	2019-02-05	LUMBER	Hampton Lumber Mills Inc Napavine, WA	LOWES FLATBED DISTRIBUTION Rolla, CO	Movement Events

Potential Improvements: Non Metallic Strap Application on outside, stapled to keep in place

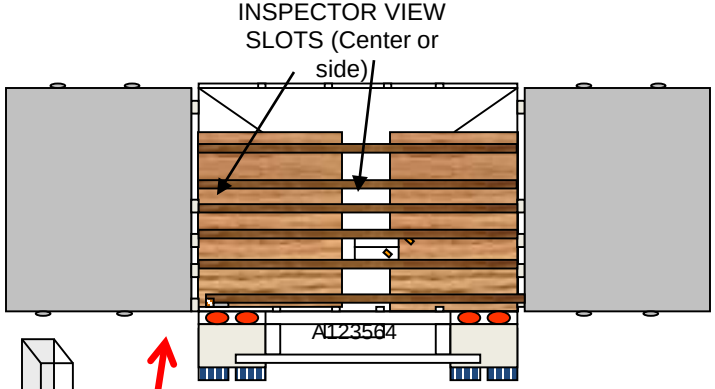
Potential Improvements: Non Metallic Strap Application thru void unitizing both sides.

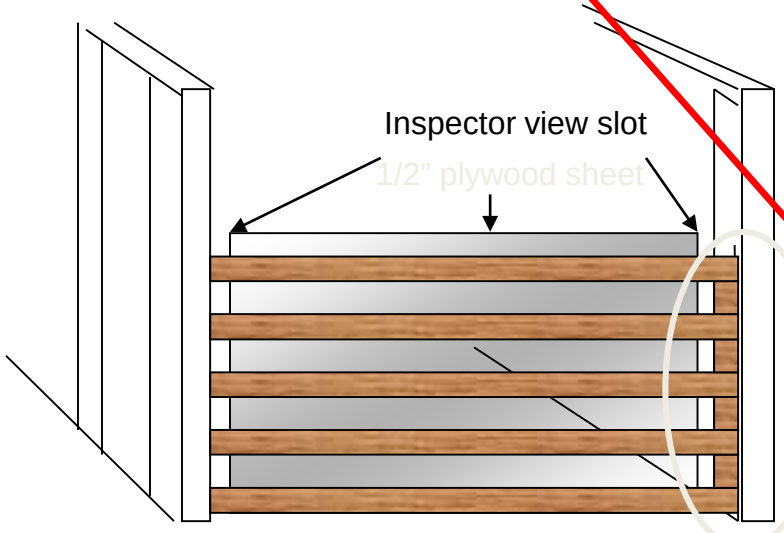
Possible Bull-Board Replacement?

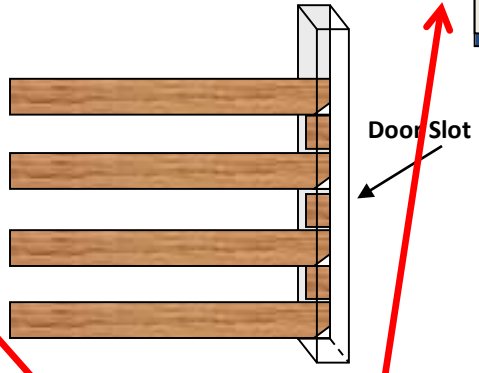
Bull-Board Installation

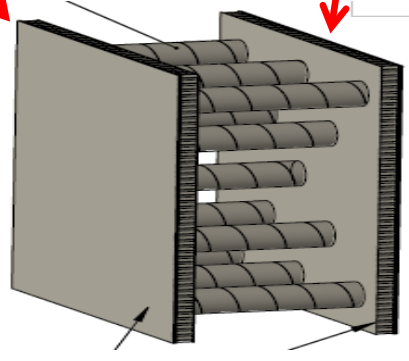


Note: VIEW SLOTS SHOULD BE LARGE ENOUGH TO VIEW, PACKAGING, METHOD OF LOADING,. BUT NOT LARGE ENOUGH TO ALLOW PACKAGE TO FALL THROUGH VIEWING VOID.









Installation of Bull Boards

1) measure length from inside door slot to inside door slot

2) Cut 2x6 1/16 inch Longer then length measure in #1 above

3) Cut bevel into bottom corner of 2x6 for installation into the door slot.

4) Hammer 2x6 into door slot

5) Insert vertical spacer to maintain alignment.

6) repeat steps 1 thru 5

7) solid board bull boards consist of all lateral boards and no vertical spacers.

UNION PACIFIC RAILROAD

Possible Floor Blocking Replacement?

BLOCKING AND BRACING MATERIALS

5.6.7 In pulpboard loads, lengthwise voids can be taken up by using an end-wall spacer on the floor between the second roll loaded and the endwall of the car (see Figure 5.4). This prevents the rolls from bypassing each other and becoming wedged at the end of the car.

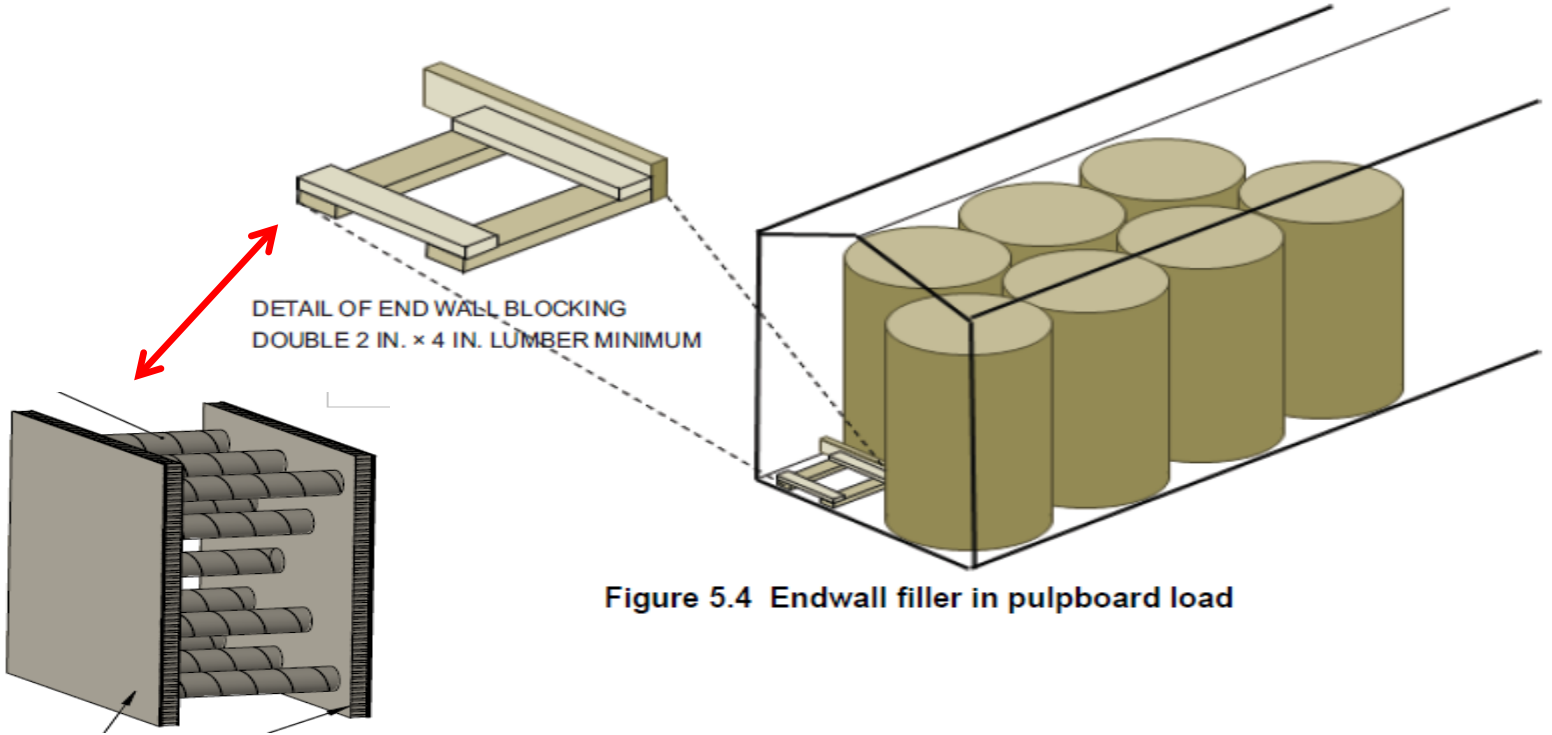
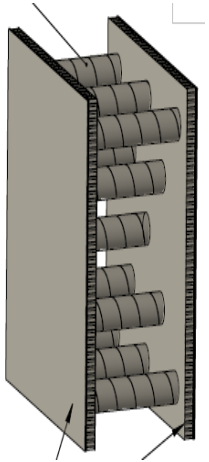
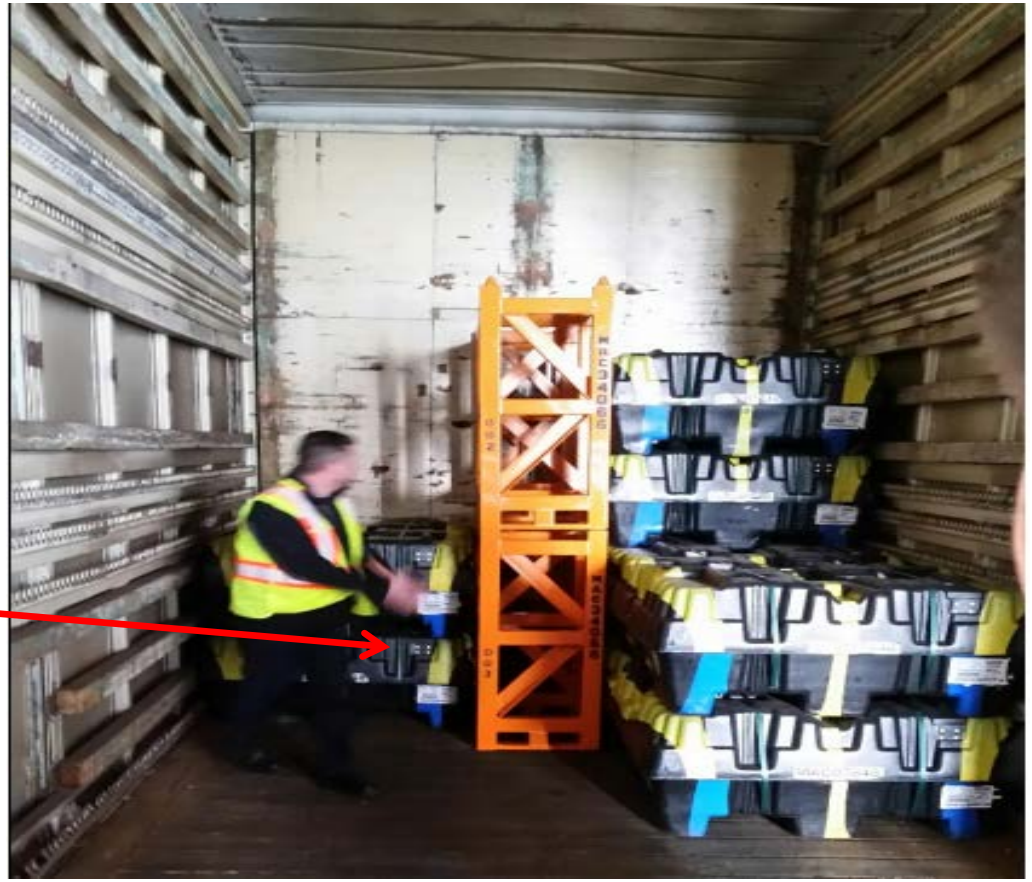


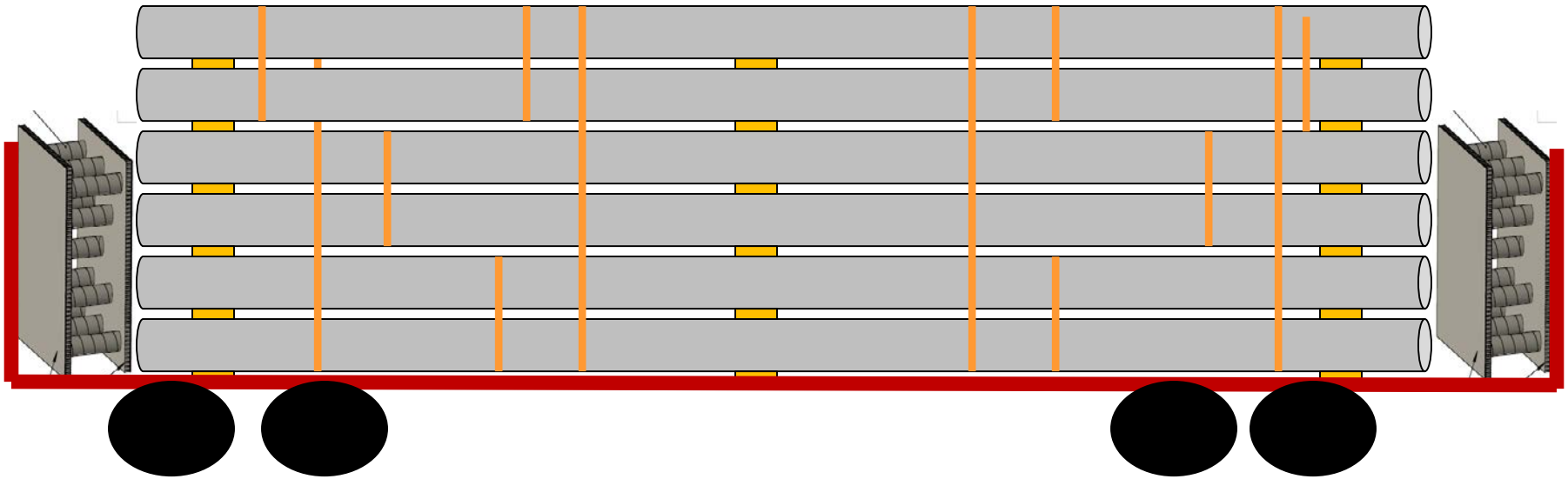
Figure 5.4 Endwall filler in pulpboard load

Possible Center or Side Wall Void Filler Option?

Auto Parts – Boxcar - Lateral Void Filler





Possible End Wall Void Filler Option?

End Wall Filler – 50’, 60’ Pipe in 65’ Gondolas