Fig. 102-A (New 08/05) (Concluded)

CELLULOSE, FIBER INSULATION BOARD, LESS THAN 31 LB/FT^3 DENSITY, GYPSUM BOARD, PACKAGED, PLACED LENGTHWISE OR CROSSWISE, MINIMUM WIDTH 4 FT—BULKHEAD FLATCARS

Item	No. of Pcs.	Description
E	2 per each top package 10 ft long or less. Minimum 3 per top package over 10 ft.	Cables: 3/8-in. diameter, 8,800-lb minimum breaking strength. Cable assemblies must be equipped with edge protectors. Winch assemblies must be equipped with a device to maintain tension. Cables are to be secured to A-frame in slot nearest to top of package. Prior to tightening, there must be a minimum of 2 1/2 wraps of cable around the winch drum. Tension to be applied with the use of an 18-in. bar or 3/4-in. ratchet per General Rule 22 When practical, all cables must be used and must be free of kinks and tangles.
F	As required.	Void pack-out blocking: Refer to Detail A for Item F particulars and drawings. Pack-out blocking must be used to eliminate lengthwise void space greater than 8 in. in load.
G1 or G2	As required.	Pack-out securement: consisting of either G1 or G2 as described in Detail A. Item must be positioned between center partition and the load. Center item lengthwise on the void space so that a minimum of 6 in. extends behind load on each side of the void space.
Alternate Item B—For cars not equipped with permanent bearing pieces		
Alt B	3 per package 8 ft long. Add 1 for each additional 4 ft or less in package length.	Bearing pieces: lumber of one piece, preferably rough. Width must be 2 in. greater than height and the length equal to width of bottom package. Locate approximately 18 in. to 24 in. from each end of package with remaining pieces equally spaced. Must be attached to package with Item D package bands.

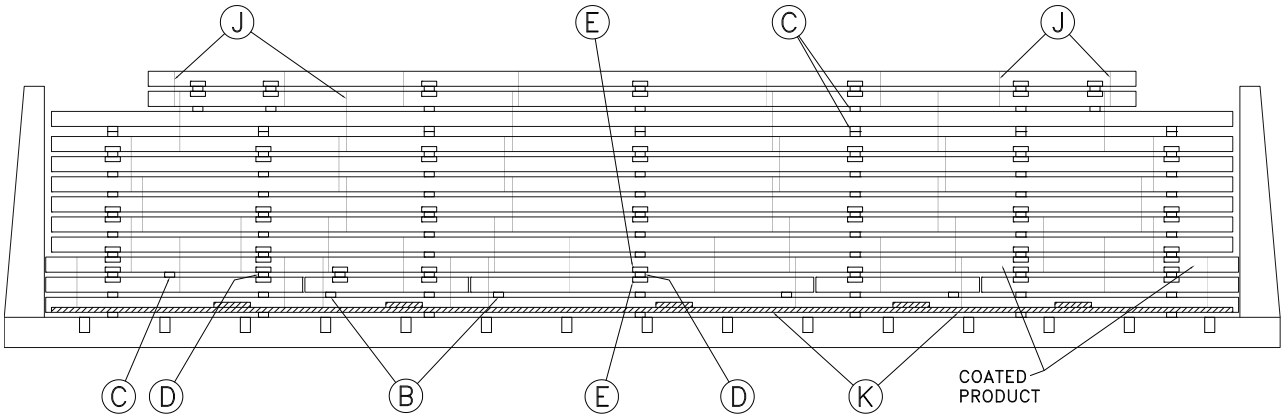
Notes and Additional Requirements:

1. Load shall be placed tight against the end bulkheads. Voids, if any, must be concentrated in center of load and kept to a minimum. Total void spaces greater than 8 in. must be blocked out in accordance with Item F. If load results in void greater than 8 in., layers shall be uniform in length so that ends are on the same vertical plane at the pack out.
2. Weight must be equally distributed on both sides of the center partition.
3. Partial layers are not permitted.
4. All packages must be placed tight against the center partition to prevent cables from loosening.
5. Packages shorter than 8 ft long are prohibited. Packages shall not exceed 34 in. high. Overlapping of mixed-height packages is permitted, provided the layer is maintained at an even height using built-up separators. When necessary to increase height of separator over 5 in., a minimum of three fillers must be used. Fillers, either lumber or load-product strips, are to be a minimum 5 1/2 in. wide × 24 in. long. Fillers shall be of uniform height, suitable to stabilize the separator on a level plane with the remainder of the layer. Pieces shall be of equal width with sides vertical and nailed, stapled, or glued together to form one piece. Secure each to separators with two nails at least 2 in. longer than height of separator. See Sketch 1.
6. Height of load may not exceed top of center partition.
7. The Open Top Loading Rules do not provide for protective covering. The foregoing specification is for securement of lading for safe movement of car and load from point of shipment to destination. Protective covering may be applied to the load at the shipper's discretion, but must comply with all other rules, be of durable construction capable of withstanding the riggers of rail transport, and be secured to prevent displacement.

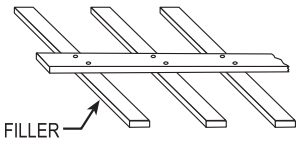
Reference the General Rules in Section 1 of the *Open Top Loading Rules Manual* for additional details.

Fig. 112-A (Rev. 12/15)
(New 03/03)

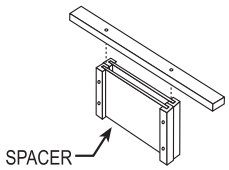
ENGINEERED-WOOD PRODUCTS, LVL, PSL, AND LSL STRUCTURAL BEAMS AND I-JOISTS, PACKAGED, 8 FT LONG AND OVER—BULKHEAD FLATCARS, 48 FT AND OVER



Note: Package bands not shown on drawing.



SKETCH 1



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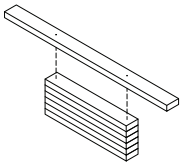
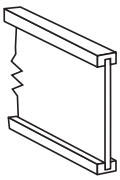
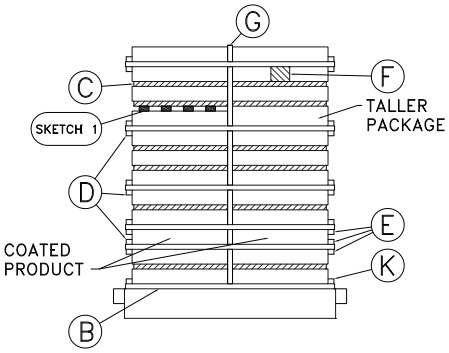


SKETCH 3



I-JOIST



END VIEW

Item	No. of Pcs.	Description
A		At origin, load must be centrally located on car, with the bottom layer no more than 2 ft. from the bulkheads at each end of car.
B	Minimum 2 per package 8 ft long. Add one for each additional 10 ft of package length.	Bearing pieces: 2 in. × 4 in., lumber. Length must extend a minimum of 3 in. beyond each side of pile, but not beyond the outside edge of stake pockets. Locate near end of package with others, when required, equally spaced between. Bearing pieces must be of equal height and free of decay and strength impairing knots. Secure each to car floor with four common nails, the length to be not less than two inches greater than thickness of bearing pieces.
C	Minimum 2 per package 8 ft long. Add one for each additional 10 ft of package length.	Package Separators: 2 in. × 4 in. lumber. Length equal to width of package. Locate near end of package with others, when required, equally spaced between. Where practicable, locate in line with Items B. When side-by-side packages are not of equal height, it will be necessary to apply a minimum of three perpendicular fillers to ensure that separators are on a level plane. Fillers are to be at least 5 1/2 in. wide by 48 in. long, height to suit. Secure each to separators with two 16-D nails. See Sketch 1.
D	Minimum 2 per package 8 ft long. Add one for each additional 10 ft of package length.	Load separators: 2 in. × 4 in. lumber, length equal to width of load. Apply in place of Item C between every third layer. When practicable, locate in line with Items B and C. When side-by-side packages are not of equal height, apply fillers as described in Item C. The length must extend beyond width of load sufficient to permit full-contact application of Item E chocks. When coated product is located in a layer, Item D load separators are to be positioned above and below such layers, except below bottom layer where Items B and K will suffice.
E	As required.	Chocks: 2 in. × 4 in. × 6 in., lumber. Item E chocks must be located against the side of packages, on top and bottom of each Item D load separator. Position perpendicular to the separator as shown. Secure each chock with three 16-D nails.

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Fig. 112-A (Rev. 12/15) (Continued)
(New 03/03)

ENGINEERED-WOOD PRODUCTS, LVL, PSL, AND LSL STRUCTURAL BEAMS AND I-JOISTS, PACKAGED, 8 FT LONG AND OVER—BULKHEAD FLATCARS, 48 FT AND OVER

Item	No. of Pcs.	Description
F	2 per package 30 ft long or less. Add 1 for each additional 20 ft or less.	Spacers: constructed with two adjoining I-joists, affixed to 1 1/2 in. × 3 1/2 in. × minimum 24 in. piece of lumber. Spacers must be used within a package when the combined width of packages in one layer varies from the combined width of adjacent packages. Height must equal height of packages. See Sketch 2. Spacers also may be constructed of lumber or laminated lumber, secured to 1 1/2 in. × 3 1/2 in. × minimum of 24 in. piece of lumber using 16-D nails. See Sketch 3.
G	5	Vertical load stabilizers: 2 in. × 4 in. lumber. Length must extend to bottom of bottom layer, but not below and must not exceed height of load. Secure each to side of the same stack with a minimum of two nails, at least 2 in. longer than the thickness of stabilizers. Nails are to be spaced one 4 ft from the top and one near the bottom of stabilizer.
		I-joists
H	4 per package 40 ft long or less. Add 2 for each additional 10 ft of package length.	Package bands: 3/4 in. × .020 in. high tension steel, on I-joists in packages up to 49 1/2 in. wide × 24 in. high. May be substituted with approved 5/8 in. × .040 in. polyester strapping per General Rule 19 of Section 1. On packages of I-joists over 49 1/2 in. wide and/or over 24 in. high, 1 1/4 in. × .029 in. high tension bands must be used. May be substituted with approved non-metallic strapping as permitted in General Rule 19 of Section 1.
		Veneer Lumber or (Solid) Beams in Packages Up to 49 1/2 in. Wide and Up to 16 in. High.
	4 per package 40 ft long or less. Add 2 for each additional 10 ft of package length.	Package bands: 3/4 in. × .022 in. high tension, on any laminated veneer lumber or beams other than I-beams. May be substituted with approved 5/8 in. × .040 in. polyester strapping per General Rule 19 of Section 1. May be substituted with approved non-metallic strapping as permitted in General Rule 19 of Section 1.
		Veneer Lumber or (Solid) Beams in Packages Over 49 1/2 in. Wide and/or over 16 in. High.
	4 per package 40 ft long or less. Add 2 for each additional 10 ft of package length.	Package bands: 1 1/4 in. × .029 in. high tension, on any laminated veneer lumber or beams, other than I-joists, must be used on packages over 49 1/2 in. wide and/or over 16 in. high. May be substituted with approved non-metallic strapping as permitted in General Rule 19 of Section 1.
J	Minimum of 2 per package and 6 per layer. 8 on layers extending above top of bulkhead.	Interlacing bands: 1 1/4 in. × .029 in. high tension bands. Bands to encircle the first, second, and third layers. The next set of bands to encircling packages in the third, fourth, and fifth layers. Interlacing must be repeated in this way between each additional group of three layers or less to top of load. Any layer containing coated product must have one additional Item J band applied to each package in the layer so as to encircle adjacent layers above and below such layer. May be substituted with approved non-metallic strapping as permitted in General Rule 19 of Section 1.
K	1 per each side of load.	Guide rails: 1 1/2 in. × 2 1/4 in. lumber, must be continuous and extend to ends of load in bottom layer. Secure to Items B, with two 16d nails. Guide rails must be made up of lengths spanning at least two bearing pieces, Item B, butted and capped with similar material of the same dimension as guide rails, a minimum of 36 in. in length, secured with six 16d nails, three on each side of the joint. Joints must be made between bearing pieces. Locate parallel with, and approximately ½ in. from base of load. When material in the bottom layer is coated, full 2 in. × 4 in. guide rails must be applied.

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Fig. 112-A (Rev. 12/15) (Concluded)
(New 03/03)

ENGINEERED-WOOD PRODUCTS, LVL, PSL, AND LSL STRUCTURAL BEAMS AND I-JOISTS, PACKAGED, 8 FT LONG AND OVER—BULKHEAD FLATCARS, 48 FT AND OVER

Notes and Additional Requirements:

1. For the purposes of this figure, engineered-wood products include LVL (laminated veneer lumber), PSL (parallel-strand lumber), and LSL (laminated-strand lumber). Where veneer lumber is referred to, this includes LVL, PSL, and LSL product.
2. The weight on both sides of load must be as close as possible, but must not exceed 4000 lb variance.
3. At least 50% of top package must be below top of bulkhead; any stencil on car restricting height supersedes this limit.
4. The load height shall not exceed the height of the bulkheads.
5. Height of packages in top layer must not vary more than 12 in.
6. I-joists in a single package must be limited to one layer high.
7. Package height must not exceed package width.
8. All product in a package must be of the same length.
9. Longer layers are to be located in the bottom portion of the load.
10. A layer may be no more than 6 in. narrower per side than the layer immediately beneath it with the exception of the top layer which may be 24 in. narrower per side than the layer immediately beneath it.
11. Where the use of lumber is referred to in this figure, it may be substituted with AAR approved laminated material per General Rule 11.6. Material used for bearing pieces, separators, vertical stabilizers, or guide rails, whether laminated or solid lumber, must not be coated.
12. If car is equipped with web straps, the straps must be utilized for added securement.
13. All dunnage must be free from decay and strength impairing knots.
14. When car is equipped with a steel deck or nailable-steel floor, shippers must apply five pair of stub stakes with block-out material secured between the guide rails and the stakes. Stakes are to be placed to coincide with the location of Item B bearing pieces. Solid wood 2 × 4 blocking is to be cut to fill the lateral space between the outside of the guide rail and each stub stake. The lateral blocking is to be secured to the top of the bearing piece with at least three common nails, at least 2-in. longer than the thickness of the block. For this application, bearing piece location must be planned in advance to align with stake pockets to support the securement of lateral blocking.

Reference the General Rules in Section 1 of the *Open Top Loading Rules Manual* for additional details.

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