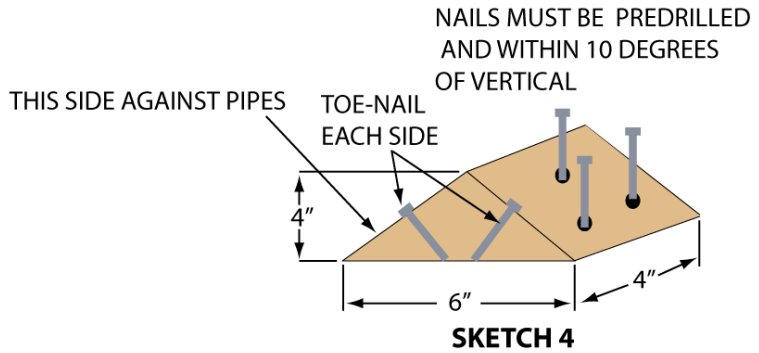
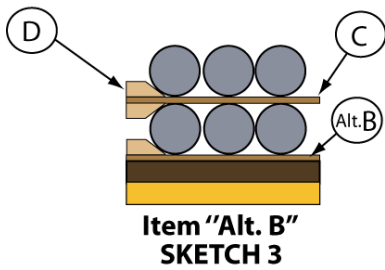
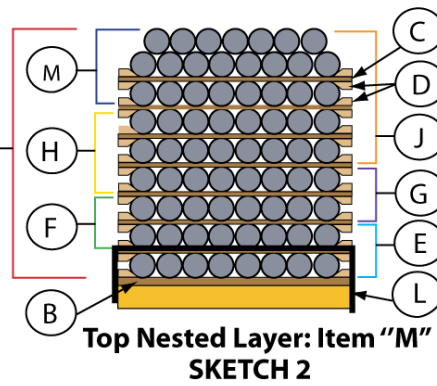
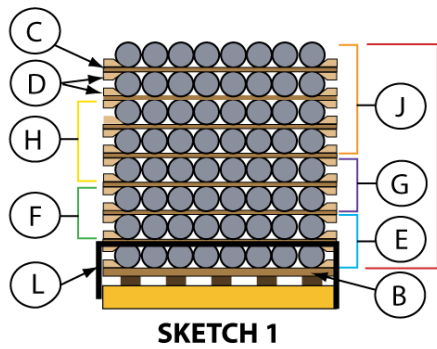
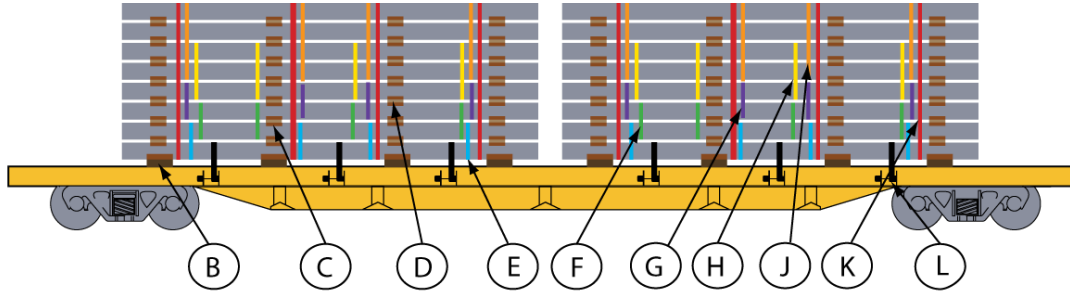
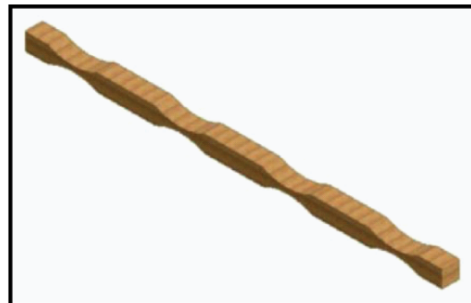


PIPE, STEEL COATED 6- 5/8 IN. TO 16 IN. OUTSIDE DIAMETER, 40 FT LONG,
TWO PILES, FLAT CARS 89 FT WITH CUSHIONING DEVICES

RAC 12140
Revised Sept.2024



SPRUCE BEARING PIECE FULL 4 in. X 6 in.
CONTOURED TO FIT PIPE
SKETCH 5



SPRUCE SEPARATOR FULL 2 in. X 6 in.
CONTOURED TO FIT PIPE
SKETCH 6

**PIPE, STEEL COATED 6- 5/8 IN. TO 16 IN. OUTSIDE DIAMETER, 40 FT LONG,
TWO PILES, FLAT CARS 89 FT WITH CUSHIONING DEVICES**

RAC 12140 (Continued)
Revised Sept.2024

Item	No. of Pcs.	Description
A		Vacant
B	Minimum 4 per pile	Bearing pieces: hardwood 4 in. x 6 in. minimum, in one piece and preferably rough. Length equal to width of car floor and secured to floor with three ¾ in. diameter bolts, one at each end and one as close as possible to centerline of car (holes are not permitted in car center sill). Locate end piece approximately 4 ft. from each end, with others equally spaced between.
Alt. B	Minimum 4 per pile	Alternate Item B (for cars equipped with permanently installed bearing pieces or when car has wood or nailable steel floor). Bearing pieces caps: hardwood 2 in. x 6 in. in one piece and preferably rough. Length equal to, but not greater than, permanent bearing piece. Secured to permanent bearing piece with six 20-D nails. If necessary to extend beyond the end of permanent bearing piece to apply Item D, alternate Item B must be increased to 4 in. x 6 in. and is not permitted to extend more than 10 in. beyond the end of the permanent bearing piece unless adequately supported. See SKETCH 3.
C	Minimum 4 per pile	Separators: Hardwood, 2 in x 6 in., in one piece and preferably rough. Length sufficient to apply full length of Item D chock blocks. Locate between each layer not nested and in line with Items B or alternate Items B, where practical.
D	2 per each item B or Alt. Item B 4 per each item "C"	Chock Blocks: Hardwood 4 in. x 6 in. x 8 in., located to contact pipe and nailed to bearing pieces and top and bottom of separators with five 16-D nails. See SKETCH 4.
E to L	See below	Banding: 2 in. x .044 in. High tensile steel banding. Bands must not be placed closer than 24 in. from ends of pipes. Space bands equally over length of pipe. All bands passing around bottom layer must be located as far as possible from Item B, or Alternate Item B and Item C.

**PIPE, STEEL COATED 6- 5/8 IN. TO 16 IN. OUTSIDE DIAMETER, 40 FT LONG,
TWO PILES, FLAT CARS 89 FT WITH CUSHIONING DEVICES**

RAC 12140 (Continued)
Revised Sept.2024

Item	No. of Pcs.	Description
E	4 per pile	To encircle layers one and two.
F	4 per pile	To encircle layers two and three.
G	4 per pile	To encircle layers three and four.
H	4 per pile	To encircle layers four through six, or top of load if more than four but less than six layers or if any of these layers are nested.
J	4 per pile	To encircle layers five through top of load.
K	4 per pile	Overall encircling all layers.
L	3 per pile	Tie-Down assemblies: consisting of a ratchet and polyester woven strap 4 in. wide with 20,000 lbs. MBS. Locate near bearing pieces where practical. Place over bottom layer of pipes and anchor to opposite side of car, securing to prevent displacement. Winch taut using a minimum 30 in. bar. Maintain as much clearance from steel bands as possible to avoid damages to straps. If insufficient winches available Type 1A Grade 8 polyester strap is acceptable.
M	4 per pile	When top layers are nested, encircle all nested layers and the supporting separated layer below. See SKETCH 2 .

Notes:

1. At origin, load must be tight and centrally located on car. Centerline of pipe must be within inside edge of car side sills. Pipes must have a minimum of 4 ft. of void space between each end of the car and the load, plus a minimum of 10 in. clearance between piles.
2. Bearing pieces and separator are sufficient for each pile up to half the load limit of the railcar.
3. Douglas Fir Coastal is acceptable as an alternate for hardwood in this figure for use as bearing pieces and separators as per Rule 10.1 Note 3. Of the AAR General Rules Section 1 and must be a full 3X4 in. rough cut.
4. Spruce may be used as an alternate for hardwood in this figure for the bearing pieces and separators. When substituted, bearing pieces must be a full 4X6 in. contoured and separators a full 6X6 in. double-contoured to fit pipe diameters. Contours in bearing pieces and separators must be at least 2 in. deep. (As per **SKETCH 5&6**)

**PIPE, STEEL COATED 6- 5/8 IN. TO 16 IN. OUTSIDE DIAMETER, 40 FT LONG,
TWO PILES, FLAT CARS 89 FT WITH CUSHIONING DEVICES**

RAC 12140 (Continued)

Revised Sept.2024

5. This figure is intended for pipes that are nominally 40 ft. long (+ 0 ft. – 12 ft.).
6. Item B bearing pieces may extend beyond width of car floor to accommodate the application of Item D chock blocks. Any unsupported extension greater than 10 in. must be adequately braced to support impending loads.
7. The end pattern is restricted to loading up to the same numbers of layers equaling the number of pipes in a layer, plus one row of pipes nested on top. Example: Seven pipes wide may be loaded seven separated layers high with an additional eighth layer nested on top as in **SKETCH 2**. Height of load must not exceed 10 ft. above car deck
8. All separated layers must be equal in width except the top layer, which may be narrower.
9. This figure is designed for a total load weight of 150,000 lb. For loads greater than 150,000 lb. (but less than the load limit of the car), add additional bearing pieces and separators as described in **TABLE 1**.

Table 1. Load weights vs. Bearing pieces and separators		
Load Weight	No. Bearing Pieces per Pile	No. Separators per pile
150,000 or less	4	4
150,001-170,000	5	5
170,001-190,000	6	6
190,001-210,000	7	7

10. Longer length pipe must be located in the bottom layer of the load. Place pipes shorter than 35 ft. on the top two tiers. Length of pipes can be no shorter than 28 ft.
11. When short pipe lengths are loaded on the top two tiers, place two extra encircling bands on the top 2/3 of the pile to include the shortest pipe length. A short length of pipe is defined as 8 ft. or more less than the longest pipe.

PIPE, STEEL COATED 6- 5/8 IN. TO 16 IN. OUTSIDE DIAMETER, 40 FT
LONG, TWO PILES, FLAT CARS 89 FT WITH CUSHIONING DEVICES

RAC 12140 (Concluded)

Revised Sept.2024

12. All banding must be equally spaced throughout the entire pile.
13. More pieces per tier (width of load) may be loaded if the same end configuration and number of bands required by all sketches are applied as indicated

See General Rules for further details.