

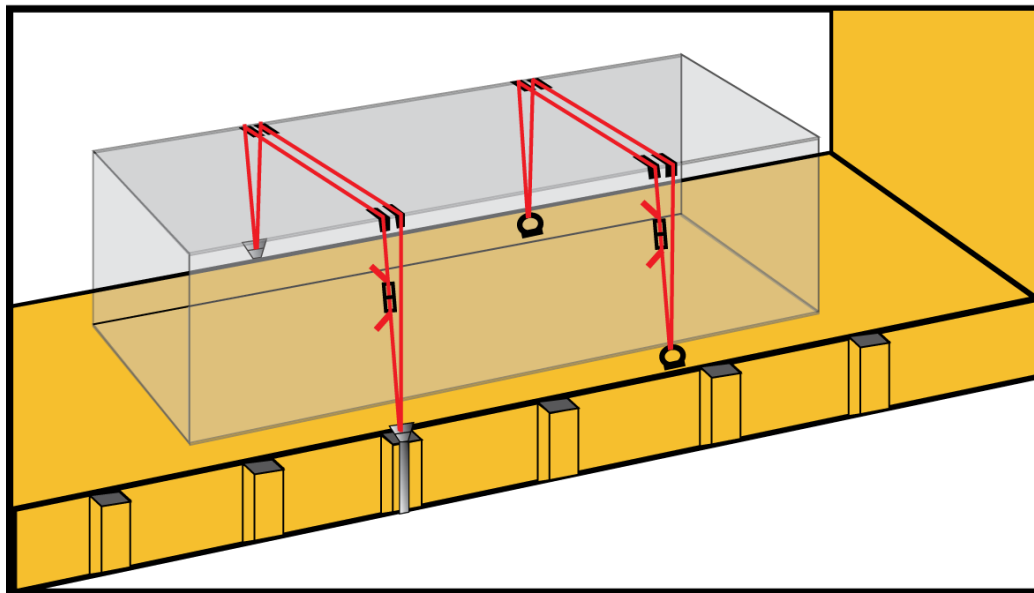
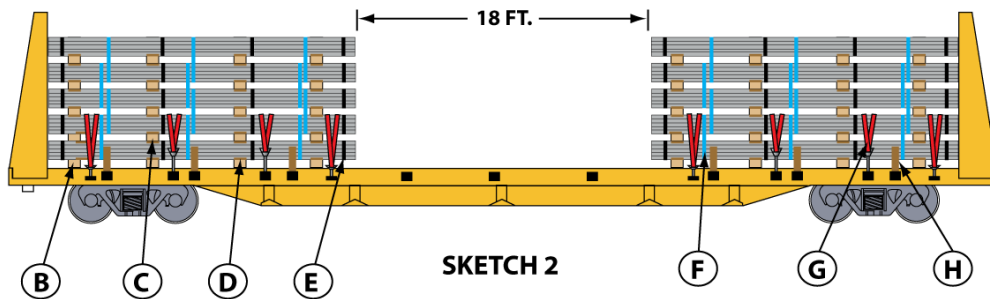
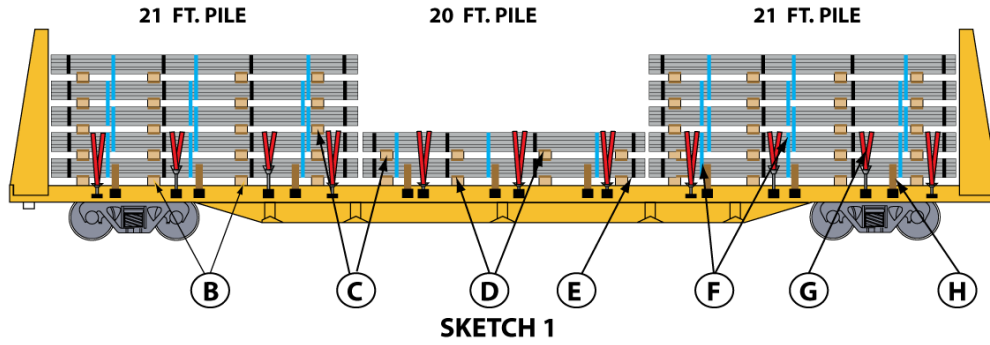


Railway Association
of Canada

PIPE, CONDUIT OR TUBING, STEEL, ½ IN. TO 9 IN. O.D., 10 FT TO 45 FT
LONG, BUNDLED-BULKHEAD FLATCARS WITH CUSHIONING DEVICES

RAC 12120

Revised 01-2024 (Ref. AAR Fig.120)



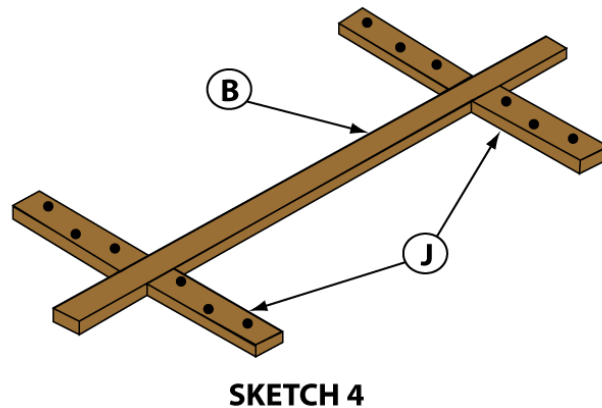
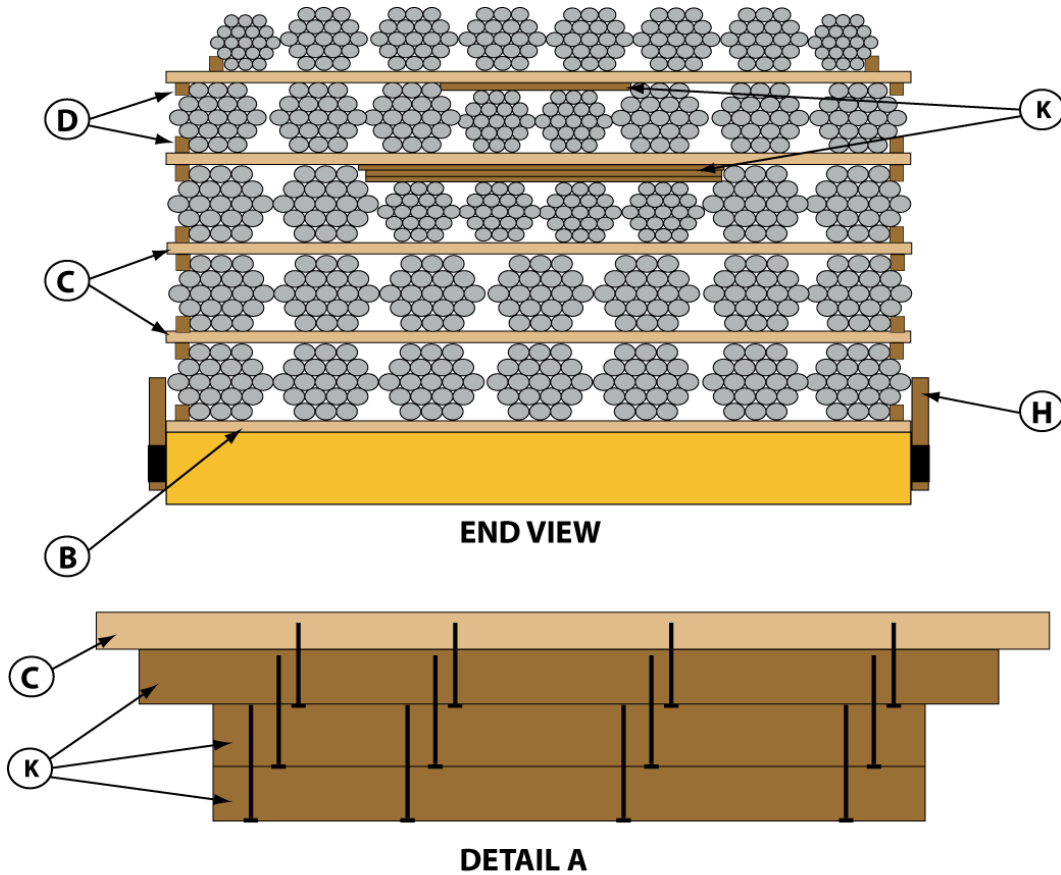
ITEM G DOUBLE TIE DOWN METHOD
SKETCH 3



PIPE, CONDUIT OR TUBING, STEEL, ½ IN. TO 9 IN. O.D., 10 FT TO 45 FT LONG,
BUNDLED-BULKHEAD FLATCARS WITH CUSHIONING DEVICES

RAC 12120 (Continued)

Revised 01-2024 (Ref. AAR Fig.120)



PIPE, CONDUIT OR TUBING, STEEL, ½ IN. TO 9 IN. O.D., 10 FT TO 45 FT LONG,
BUNDLED-BULKHEAD FLATCARS WITH CUSHIONING DEVICES

RAC 12120 (Continued)

Revised 01-2024 (Ref. AAR Fig.120)

Item	No. of Pcs.	Description
A		Vacant.
B	3 per pile 12 ft long or less. Add 1 for each additional 10 ft or less.	Bearing pieces: hardwood, minimum 3 in. x 4 in., in one piece and preferably rough. Length equal to width of car but not extend beyond outside face of stake pockets. Secure each to car floor with 4 common nails, the length to be not less than 2 in. greater than thickness of bearing pieces. Space nails equally across the length of the bearing piece.
C	3 per pile 12 ft. long or less. Add 1 for each additional 10 ft. or less	Separators: hardwood, minimum 3 in. x 4 in., in one piece and preferably rough. Length equal to width of car but must not extend beyond outside face of stake pockets. Locate in line with ITEM B bearing pieces when practical.
D	2 per each Item B. and 4 per each Item C.	Chock blocks: lumber, 2 in. x 4 in. x 4 in. Locate at each end of ITEMS B against pipe and secure each with two 16-D common nails. On ITEMS C , locate one top and bottom on each side of load against pipe and secure each with two 16-D common nails.
E	3 per package 22 ft. long or less. Add 1 for each additional 10 ft. or less.	Package bands: 1 1/4 in. x 0.029 in. high tension bands to encircle each bundle of pipe. Locate one band near each end with others spaced equally between.
F	3 per layer 22 ft long or less. Add 1 for each additional 10 ft or less.	Interlacing bands: 1 1/4 in. x .029 in. high tension bands. Locate bands 2 to 3 ft from end of pile with others equally spaced between as shown. Bands are to encircle two adjacent layers together. Encircle layers 1 and 2, 2 and 3, 3 and 4 etc. to top of load. May be substituted with Type 1A grade 5 equivalent polyester straps. Bands are to be located at least 2 in. apart and as far from ITEMS B AND C as practical.

PIPE, CONDUIT OR TUBING, STEEL, ½ IN. TO 9 IN. O.D., 10 FT TO 45 FT LONG,
BUNDLED-BULKHEAD FLATCARS WITH CUSHIONING DEVICES

RAC 12120 (Continued)

Revised 01-2024 (Ref. AAR Fig.120)

Item	No. of Pcs.	Description
G	2 pair per pile 10 ft long. long or less. Add 1 for each additional 8 ft or less.	Tie-down straps: AAR approved Type 1A polyester Grade 7 strapping (double tie-down method). Position one strap near each end of pile with others equally spaced between. Straps must go over the second layer. Strapping must be tensioned with the proper tensioning tool and secured with the appropriate ladder buckle in accordance with manufacturer's recommendations. See SKETCH 3 .
H	As required	Stub stakes: hardwood, 4 in. × 5 in., length to extend from bottom of stake pocket to 10 in. above car floor. Locate 1 pair of stakes near the ends of each pile and every other stake pocket between. Secure to prevent displacement.
J	4 per each Item B	Cleats: 2 in. × 6 in. × 2 ft. Locate approximately 18 in. from side of car, two on each side of Item B . Secure each to car deck with three 20-D nails and toenail each cleat to the bearing piece for lateral securement. See Sketch 3. Not required when Item B bearing pieces are secured to car floor. See SKETCH 4 .
K	As required	Filler blocks: hardwood, each piece to be 4 in. x 2 in. or less. Length and number sufficient to fill lateral and vertical void resulting from mixed height bundles in the same layer, not to include the top. Must be laminated to ITEM C . Each piece must be secured with 4 nails a minimum of 2 in. longer than thickness of filler piece. See DETAIL A .

Notes:

1. At origin, end piles must be placed against bulkheads with additional pile(s), when applicable, located between. The load must be distributed as equally as possible over the length of the car to minimize load height as well as longitudinal void space.
2. Height of load must not exceed 11 ft. above car floor or load height must not exceed load width.
3. Bundles must be hexagon in shape, height must not exceed width and all pipes must be nested within the package.

**PIPE, CONDUIT OR TUBING, STEEL, ½ IN. TO 9 IN. O.D., 10 FT TO 45 FT LONG,
BUNDLED-BULKHEAD FLATCARS WITH CUSHIONING DEVICES**

RAC 12120 (Concluded)

Revised 01-2024 (Ref. AAR Fig.120)

4. When mixed height bundles are loaded in a layer, shorter height bundles must be in center of layer. The smaller bundles may not make up than 4 ft of the layer width. Outside bundles must be of equal height, except in the top layer.
5. Each pile must be always protected by at least two pairs of stub stakes.
6. Any layer above the bottom tier must be supported by a layer of equal or greater width.

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