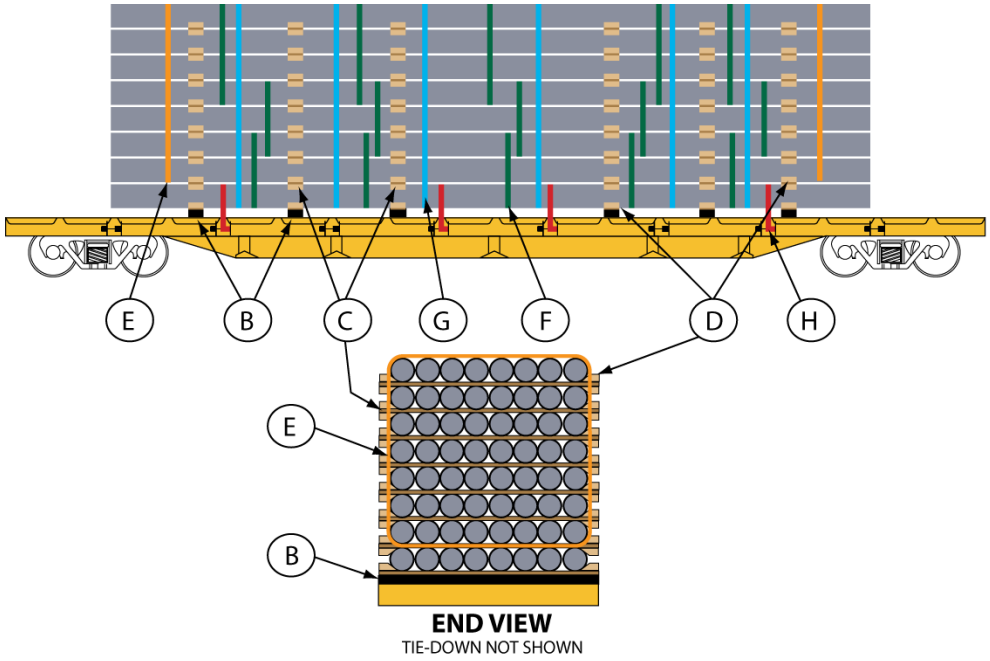
Railway Association of Canada

PIPES, STEEL COATED 6-5/8 IN. TO 16 IN. OUTSIDE DIAMETER, INCLUSIVE, 45 FT. TO 62 FT. IN LENGTH, INCLUSIVE, FLAT CARS 89 FT. WITH CUSHIONING DEVICES

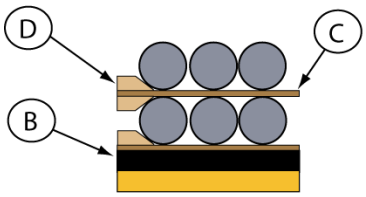
RAC 12159

Revised 10-2016

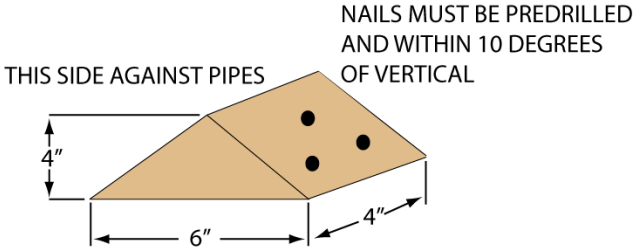


END VIEW

TIE-DOWN NOT SHOWN



SKETCH 1



SKETCH 2

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

SKETCH 3

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

SKETCH 4

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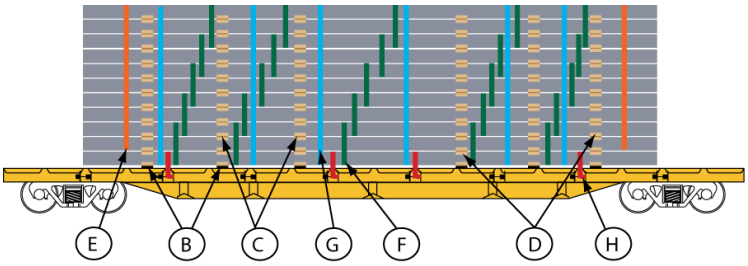
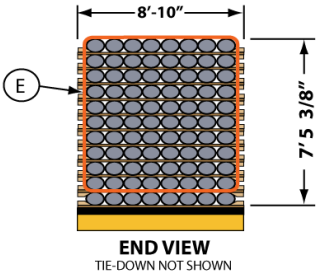
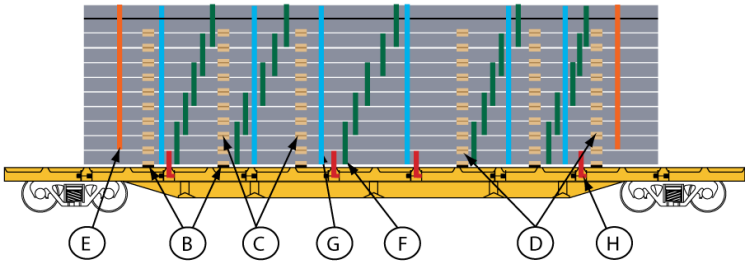
RAC 12159 (Continued)

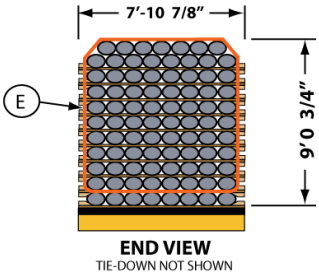
Revised 10-2016





SKETCH 5 (6-5/8″)





SKETCH 6 (8-5/8″)

Railway Association of Canada

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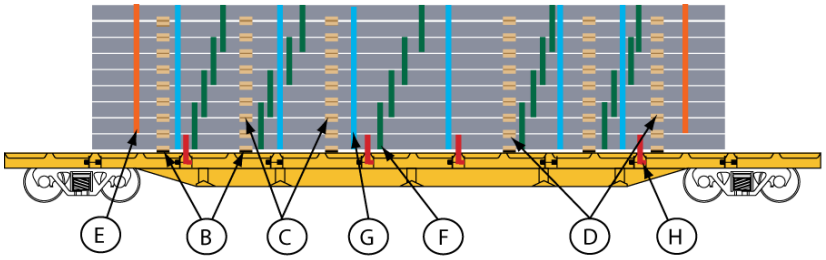
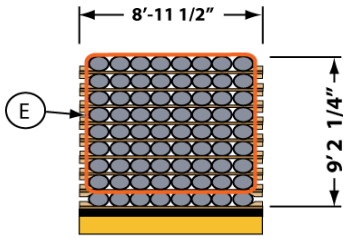
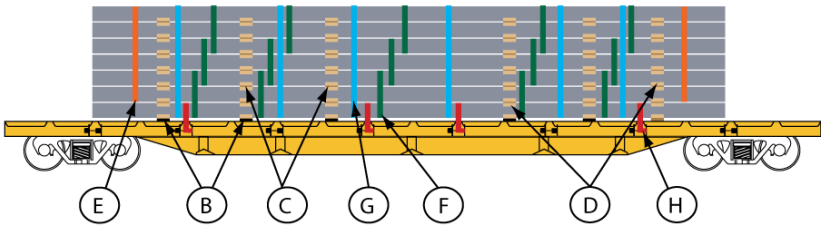
RAC 12159 (Continued)

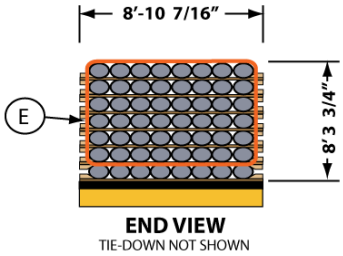
Revised 10-2016





SKETCH 7 (10-3/4")





SKETCH 8 (12-3/4")

PIPES, STEEL COATED 6-5/8 IN. TO 16 IN. OUTSIDE DIAMETER, INCLUSIVE, 45 FT. TO 62 FT. IN LENGTH, INCLUSIVE, FLAT CARS 89 FT. WITH CUSHIONING DEVICES

RAC 12159 (Continued)

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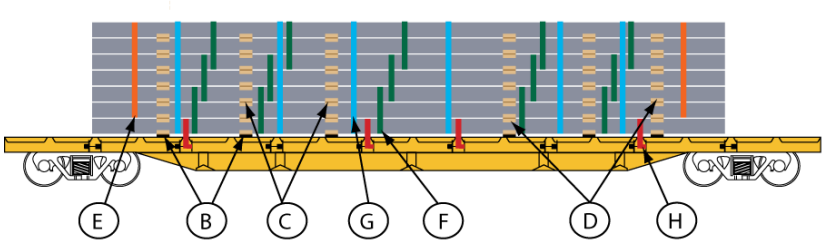
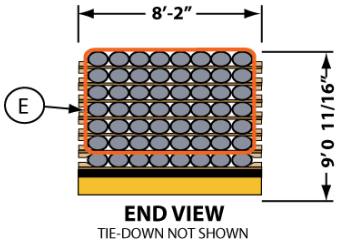
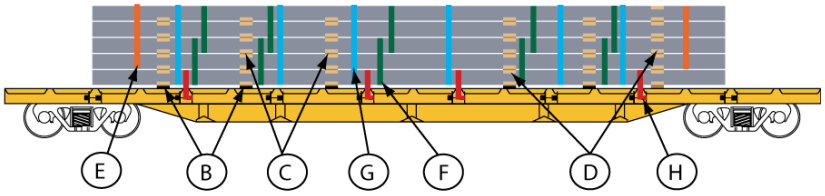
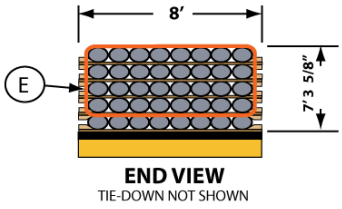




SKETCH 9 (14″)





SKETCH 10 (16″)

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RAC 12159 (Continued)
Revised 10-2016

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 will be spaced uniformly to support the load. Secure each to car floor with six (6) common nails, the 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., pre-drilled. Locate at each end on top of Items "B", and on top and bottom of Item "C" against pipe and secure each with six (6) 20-D common nails. Not required when items A & B are full contoured.
E	2 per pile	End encircling Bands: 2 in. x .044 in. high tension. Pass between first and second bottom layers encircling all layers above it. Place one at each end of pile and locate 2/3 distance in from end of pipe and first separator. May be substituted with Type 1A Grade 6 polyester cord strapping.
F	5 per each layer	Load interlacing bands: 2 in. x .044in 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 4 layers. May be substituted with Type 1A Grade 6 polyester cord strapping.
G	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. May be substituted with Type 1A Grade 6 polyester cord strapping.

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RAC 12159 (Continued)
Revised 10-2016

Item	No. of Pcs.	Description
H	4 per pile	Tie-down assemblies: consisting of a ratchet and polyester woven straps 4 in. wide with 20,000 lb. minimum breaking strength (M.B.S.) Locate near bearing pieces where practical. Place over bottom layer of pipe 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 damage to straps.

ALTERNATE ITEMS:		
Item	**No. of Pcs.**	**Description**
Alt. B	Minimum 6 per pile	Bearing Pieces: Spruce, full 4 in. x 6 in. contoured minimum 2" 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 (6) common nails, the 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 minimum 2" 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:

1. This figure is designed and intended for nominal pipe lengths of 45 to 62 ft. with variances within a load of no greater than **plus or minus (+/-)** 10ft.

2. Longer length pipe must be located on the bottom layer of the load. Place pipe shorter than 45 ft on the top two tiers, unless complying with **Note 11**. Length of pipe to be no less than 20 ft.

3. Bands are sufficient for loads up to 140,000 lb. Add one band of each designation, on load sketch used, for each additional 20, 000 lb or less of load weight.

Load Weight	No. Item F per Pile	No. Item G 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 200,000	8	9

4. When short pipe lengths are loaded on the top two tiers **(see Note 2**), place two extra bands that encircle the top 2/3 of pile to include the shortest pipe length. A short length of pipe is defined as 15 ft less than the longest pipe.

5. Bearing pieces and separators, as shown, are sufficient for loads up to 140,000 lb. Add one additional bearing piece and separator for each additional 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 200,000	9	9

6. Pipe must be centrally located on car. Center line of pipe must be within inside edge of car side sills.

7. When pipe is coated and/or wrapped, adequate padding or protection must be used to prevent chafing at bearing points. (Shipper’s discretion to use as optional requirement.)

8. 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

9. All banding should be equally spaced throughout the entire pile.

10. Maximum two pipe lengths can be loaded end to end (double-ended) on the top two tiers. The distance between the pipes must be a minimum of 12 in. and a maximum of 24 in. Pipe that is double-ended can be no longer than the pieces directly beneath it.

11. Maximum two pipe lengths can be loaded end to end (double-ended) on the bottom layer and must be equal to the length of pipes above it. The distance between the pipes must be a minimum of 12 in. and a maximum of 24 in. Outside pipe must be a single piece and be the full length of the load.

12. Height of load must not exceed 10 ft. above car floor.

13. Couplings, sleeves, or thread protectors must be staggered to avoid contact and maintain even load.

See General Rules for further details.