



Alternative Power and Hand Driven Nailing of Multiple Ply 1 3/4" Wide VERSA-LAM® Beams

When using multiple ply 1 3/4" VERSA-LAM® beams to create a wider member, the connection of the plies is as critical as determining the beam size. When side loaded beams are not connected properly, the inside plies do not support their share of the load and thus the load carrying capacity of the full member decreases significantly.

BC CALC® reports show a connection detail for connecting multiple ply 1 3/4" VERSA-LAM® beams. BC CALC® reports will either show the member having no side loads or the calculated side load. When the nails shown on the connection detail are not readily available on the job site, the following table may be used to substitute power driven nails or hand driven nails.

Example: Connection detail on the BC CALC® report shows 16d sinker nails at 12" o.c. As an alternative, 3" x 0.131" power driven nails can be used at 8" o.c. or 16d common nails can be used at 14" o.c.

As Shown on BC CALC® Report		Power Driven Nails				Hand Driven Nails		
Nail	O.C. Spacing	3 1/2" x 0.162"	3" x 0.148"	3 1/4" x 0.131" 3" x 0.131"	3 1/4" x 0.120" 3" x 0.120"	16d Common 3 1/2" x 0.162"	16d Sinker 3 1/4" x 0.148"	16d Box 3 1/2" x 0.135"
16d Common 3 1/2" x 0.162"	24"	24"	20"	16"	12"	24"	20"	16"
	12"	12"	10"	8"	6"	12"	10"	8"
	6"	6"	N/A	N/A	N/A	6"	N/A	N/A
16d Sinker 3 1/4" x 0.148"	24"	24"	24"	18"	16"	24"	24"	20"
	12"	14"	12"	8"	8"	14"	12"	10"
	6"	6"	6"	N/A	N/A	6"	6"	N/A
16d Box 3 1/2" x 0.135"	24"	24"	24"	22"	18"	24"	24"	24"
	12"	16"	12"	10"	8"	16"	12"	12"
	6"	8"	6"	N/A	N/A	8"	6"	6"
		Alternate On-Center Spacing						

Notes:

- For multiple ply 1 3/4" VERSA-LAM® beams with only top load, beam may be fastened at 24" o.c. for all nails shown above (top mounted hangers shall be analyzed as side loads).
- Use end distance, edge distance, row spacing and number of rows shown on connection detail found on BC CALC® Report.
- Alternate nailing not available for all nail types.
- Contact professional of record for connection design of side-loaded point loads beyond what is shown in Boise Cascade Tech Note LVL-4 and LVL-10.
- Table is not applicable for 1 1/2" wide VERSA-LAM® beams.