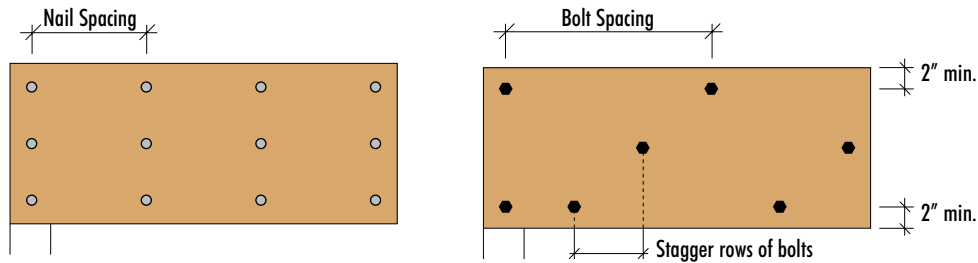
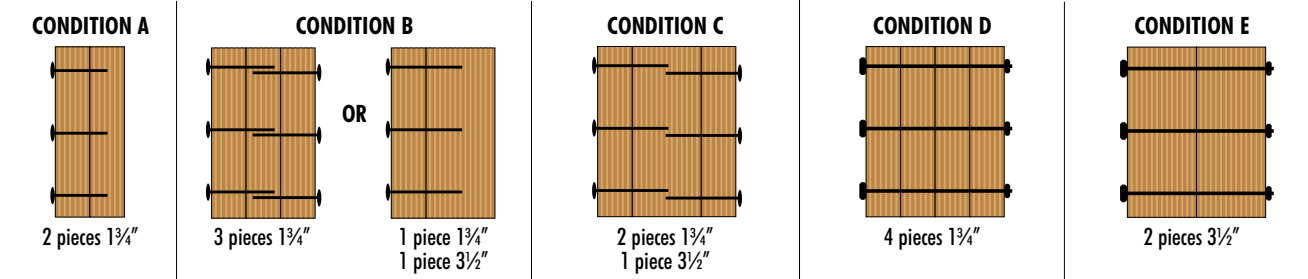


# MULTIPLE-PLY PWLVL BEAM ASSEMBLY

## COMBINATIONS OF 1 3/4" AND 3 1/2" PLYS



## 1 3/4" AND 3 1/2" PLYS—MAXIMUM UNIFORM SIDE LOAD (PLF)

| Condition                                     | 3/4" x 0.131" Nails          |                    | 16d Common Nails   |                    | 1/2" Bolts         |                    |                    |
|---|------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|   | 2 Rows at 12" o.c.           | 3 Rows at 12" o.c. | 2 Rows at 12" o.c. | 3 Rows at 12" o.c. | 2 Rows at 24" o.c. | 2 Rows at 12" o.c. | 3 Rows at 12" o.c. |
| Condition A (2-1 3/4")                        | 390                          | 585                | 565                | 845                | 510                | 1015               | 1520               |
| Condition B (3-1 3/4" OR 1-1 3/4" + 1-3 1/2") | 290                          | 435                | 425                | 635                | 380                | 765                | 1145               |
| Condition C (2-1 3/4" + 1-3 1/2")             | 260                          | 390                | 375                | 565                | 465                | 930                | 1395               |
| Condition D (4-1 3/4")                        | Use bolts for this condition |                    |                    |                    | 340                | 680                | 1015               |
| Condition E (2-3 1/2")                        | Use bolts for this condition |                    |                    |                    | 860                | 1720               | 2580               |

### Notes:

- Minimum fastener schedule for smaller side loads and top-loaded beams:  
 Conditions A, B & C, beams 12" deep or less:  
 2 rows 3/4" x 0.131" at 12" o.c.  
 Conditions A, B & C, beams deeper than 12":  
 3 rows 3/4" x 0.131" at 12" o.c.  
 Conditions D & E, all beam depths:  
 2 rows 1/2" bolts at 24" o.c.
- The table values for nails may be doubled for 6" o.c. and tripled for 4" o.c. nail spacings.
- The nail schedules shown apply to both sides of a three-ply beam.
- The table values apply to bolts meeting the requirements of ANSI/ASME Standard B18.2.1. A standard cut washer, or metal plate or strap of equal or greater dimensions, shall be provided between the wood and the bolt head and between the wood and the nut. The distance from the edge of the beam to the bolt holes must be at least 2" for 1/2" bolts. Bolt holes shall be the same diameter as the bolt.
- 7" wide beams must be loaded from both sides and/or top loaded.
- Beams wider than 7" must be designed by the engineer of record.
- Load duration factors may be applied to the table values.
- For proprietary fastener alternatives, consult the manufacturer's literature.

## HOW TO USE THE MAXIMUM UNIFORM SIDE LOAD TABLE

### EXAMPLE:

#### THREE 1 3/4" PLYS LOADED FROM BOTH SIDES AND ABOVE (CONDITION B)

- Use allowable load tables or sizing software to size the beam to carry a total load of  $(300 + 610 + 550) = 1460$  plf.
- Refer to the Condition B row in the table. Scan across the row from left to right for a table value greater than 550 plf, which is the greatest side load carried by the beam. The fourth value in the row indicates that 3 rows of 16d common nails at 12" o.c. will accommodate a side load of 635 plf which is greater than the 550 plf required. Use 3 rows of 16d common nails at 12" o.c., from both sides, to assemble the beam.

