

This Tech Note must be used in conjunction with the appropriate PWT Technical Guide.

**Fastener Design for PWT LVL<sup>a,b,c</sup>**

Equivalent Specific Gravity for Fastener Design (SG)	
Installed in Edge	
Nails, Withdrawal Load	Nails and Wood Screws, Lateral Load
PWT X-ply LVL	
0.46	0.5
PWT LVL	
0.46	0.5

- (a) Fastener types and orientation not specifically described above are beyond the scope of this document.
- (b) Fastener design values calculated using the tabulated equivalent specific gravities given above must be adjusted by the applicable adjustment factors specified in the NDS for connections.
- (c) Fastener spacing, and end and edge distances must be as specified in the NDS, except that nail spacing and end distance must be as specified in the table below.
- (d) Bolts and lag screws shall only be installed into the face (plank orientation) of the LVL.
- (e) The capacities for 1/2-in. (12.7-mm) diameter lag screws installed into PWT X-ply LVL for ledger attachment shall be in accordance with Table 3 of ESR-2909.

**Minimum Allowable Nail Spacings for PWT LVL<sup>a,b</sup>**


Thickness (in.)	Orientation <sup>e</sup>	Nail Size <sup>f,g</sup>	Nail Diameter (in)	Nail Length (in)	Minimum End Distance (in)	Minimum Nail Spacing per Row (in.)	
						Single Row	Multiple Rows <sup>c,d</sup>
< 1-1/2"	Edge <sup>h</sup>	8d & smaller	0.131	2-1/2	2-1/2	4	NA
		10d & 12d	0.148	3-1/4	2-1/2	4	
		16d	0.162	3-1/2	3-1/2	5	
≥ 1-1/2"		8d & smaller	0.131	2-1/2	2-1/2	3	3
		10d & 12d	0.148	3-1/4	3-1/2 <sup>i</sup>	4	4
		16d	0.162	3-1/2	3-1/2	5	5

- (a) Spacing requirements and maximum nail size for panel edge nailing of wall sheathing at adjoining panels must be in accordance with Section 4.3.2 in ESR-2909.
- (b) Edge distance shall be sufficient to prevent splitting.
- (c) Multiple rows must be spaced 1/2 inch or more from each other and offset one-half of the tabulated minimum nail spacing.
- (d) Multiple rows must be equally spaced about the centerline of the edge or face (whichever applies).
- (e) Face orientation applies to nails driven into the face of the LVL member, such that the long axis of the nail is perpendicular to the wide faces of the strands or veneers. Edge orientation applies to nails driven into the edge of the LVL member.
- (f) 16d sinkers (0.148 inch x 3-1/4 inches) may be spaced the same as a 12d common wire nail (0.148 inch x 3-1/4 inches).
- (g) Nails listed are common wire nails. For box nails, the spacing and end distance requirements of the next shorter common nail may be used: e.g., a 16d box nail may be spaced the same as a 10d and 12d common nail. Larger nail sizes and shank types not specifically described above are beyond the scope of this document.
- (h) Nail penetration for edge nailing shall not exceed 2 inches for 16d common nails (0.162 inch x 3-1/2 inches) and 2-1/2 inches for all nails with a smaller shank diameter.
- (i) Minimum end distance is permitted to be reduced to 2-1/2 inches for single row nailing.

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 WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to [www.P65Warnings.ca.gov/wood-dust](http://www.P65Warnings.ca.gov/wood-dust).