

Table C12.4-1 Nail Minimum Spacing Tables

	Wood Side Members	
	Not Prebored	Prebored
Edge distance	$2.5d$	$2.5d$
End distance		
- tension load parallel to grain	$15d$	$10d$
- compression load parallel to grain	$10d$	$5d$
Spacing (pitch) between fasteners in a row		
- parallel to grain	$15d$	$10d$
- perpendicular to grain	$10d$	$5d$
Spacing (gage) between rows of fasteners		
- in-line	$5d$	$3d$
- staggered	$2.5d$	$2.5d$

Table 12.5.1C Edge Distance Requirements^{1,2}

Direction of Loading	Minimum Edge Distance
Parallel to Grain:	
where $\ell/D \leq 6$	1.5D
where $\ell/D > 6$	1.5D or $\frac{1}{2}$ the spacing between rows, whichever is greater
Perpendicular to Grain: ²	
loaded edge	4D
unloaded edge	1.5D

1. The ℓ/D ratio used to determine the minimum edge distance shall be the lesser of:

- (a) length of fastener in wood main member/D = ℓ_m/D
- (b) total length of fastener in wood side member(s)/D = ℓ_s/D

Table 12.5.1A End Distance Requirements

Direction of Loading	End Distances	
	Minimum end distance for $C_{\Delta} = 0.5$	Minimum end distance for $C_{\Delta} = 1.0$
Perpendicular to Grain	2D	4D
Parallel to Grain, Compression: (fastener bearing away from member end)	2D	4D
Parallel to Grain, Tension: (fastener bearing toward member end)		
for softwoods	3.5D	7D
for hardwoods	2.5D	5D

Table 12.5.1B Spacing Requirements for Fasteners in a Row

Direction of Loading	Spacing	
	Minimum spacing	Minimum spacing for $C_{\Delta} = 1.0$
Parallel to Grain	3D	4D
Perpendicular to Grain	3D	Required spacing for attached members