

Nailing Sheathing to Web Joist Products

Basic Info:

Web Joist NW Corp.
118 Borovec Road
Chehalis, WA 98532

Nails:	Size Dia. x Len.	F _{yb} (psi)	Dia. (In.)	10D (In.)
8d Box	0.113"x2½"	100,000	0.113	1.130
8d Com	0.131"x2½"	100,000	0.131	1.310
10d Box	0.128"x3"	100,000	0.128	1.280
10d Com	0.148"x3"	90,000	0.148	1.480

Nail penetration (P) in main member to be 10D for full nail values.

Size: 2012 NDS, Table L4, page 178

F_{yb} & P: 2012 NDS, Table 11Q, page 108, Footnote 2

Sheathing:		Str. 1 & Marine		Other Grades		OSB		Sheathing is side member
Thickness		G	F _{es} (psi)	G	F _{es} (psi)	G	F _{es} (psi)	
15/32"	(½")	0.50	4,650	0.42	3,350	0.50	4,650	
19/32"	(⅝")	0.50	4,650	0.42	3,350	0.50	4,650	
23/32"	(¾")	0.50	4,650	0.42	3,350	0.50	4,650	

2012 NDS, Table 11.3.3B, page 82

Refers to a structural wood sheathing; Plywood or OSB.

Chords or Flanges:		DF-L		SPF		Chord or Flange is main member
Size	MSR Grade	G	F _{em} (psi)	G	F _{em} (psi)	
2x4	2100f-1.8E	0.50	4,650	0.46	4,000	
2x4	2400f-2.0E	0.51	4,800	0.50	4,650	
2x4	2850f-2.3E	0.54	5,350	0.50	4,650	
2x6	2100f-1.8E	0.50	4,650	0.46	4,000	
2x6	2400f-2.0E	0.51	4,800	0.50	4,650	
2x6	2850f-2.3E	0.54	5,350	0.50	4,650	
3x4	2400f-2.1E	0.51	4,800	0.50	4,650	

G: 2012 NDS, Table 11.3.3A, page 81

F_{em}: 2012 NDS, Table 11.3.3, page 80, Footnote 2

Nail Values (Lbs.) @ 100%		Lateral Load on Deck = 200 plf (Varies)						Diff. (Lbs.)
		Chord or Flange Main Member						
		G = 0.50			G = 0.46			
Sheathing Side Mbr.		Lbs. per nail	Nail o/c"	*Use o/c"	Lbs. per nail	Nail o/c"	*Use o/c"	
15/32" Sheathing G=0.50	8d Box	58	3.480	3.0	56	3.360	3.0	2
	8d Com	74	4.440	4.0	72	4.320	4.0	2
	10d Box	71	4.260	4.0	69	4.140	4.0	2
	10d Com	88	5.280	5.0	85	5.100	5.0	3
19/32" Sheathing G=0.50	8d Box	64	3.840	3.5	62	3.720	3.5	2
	8d Com	80	4.800	4.5	78	4.680	4.5	2
	10d Box	78	4.680	4.5	75	4.500	4.5	3
	10d Com	95	5.700	5.5	92	5.520	5.5	3
23/32" Sheathing G=0.50	8d Box	72	4.320	4.0	69	4.140	4.0	3
	8d Com	88	5.280	5.0	86	5.160	5.0	2
	10d Box	85	5.100	5.0	83	4.980	4.5	2
	10d Com	103	6.180	6.0	100	6.000	6.0	3

Lbs. per nail Values: 2012 NDS, Table 11Q, page 108

*Use o/c" is Nail o/c" round down to ½"

Above table is based on a floor at 100%.

Nail o/c" = (Lbs. per nail x 12 In./Ft.) / Load (Lbs./Ft.)

Nail Values & o/c" spacing may be increased for C_D factors (115%, 125% & 160%).

Comment: In this example the Use o/c" for G=0.5 & G=0.46 were the same except for one combination.

If Nail o/c" for exception was increases by 1/32" (4.98"+0.03125"=5.011"), rounded would be 5.0".

Many combinations of sheathing thickness & nail size will result in same Use o/c spacing.