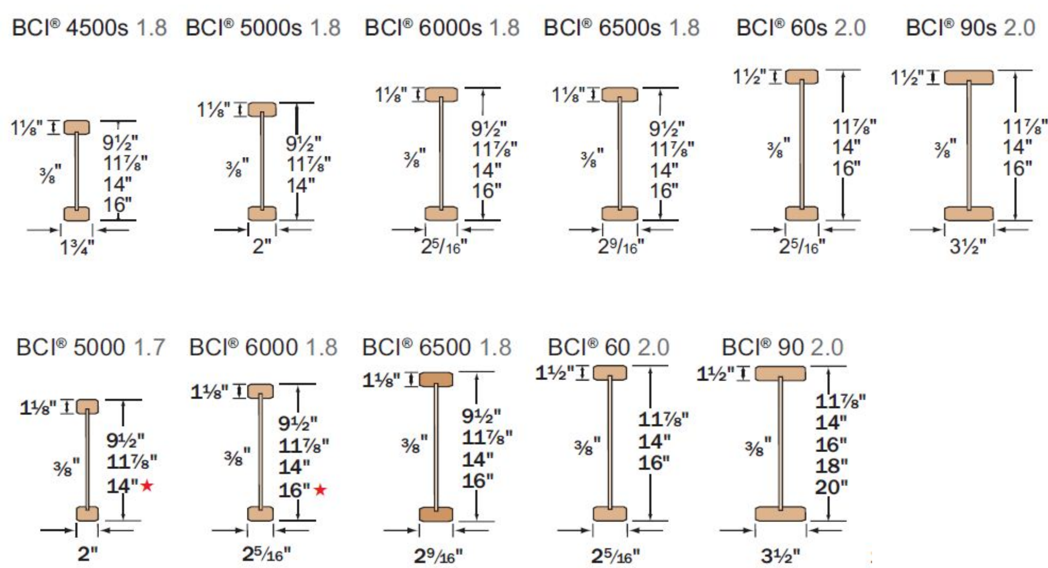
Horizontal Diaphragm Designed with BCI® Joists

Product Profile:



Lateral Design Properties:

Table 1 – BCI® Lateral Design Properties

Minimum flange dimensions	Unblocked horizontal diaphragm	Blocked horizontal diaphragm
1 1/8” x 1 1/2”	As per Table 9.5.2 of CSA 086-09 for framing members with a minimum width of 1 1/2”	As per Table 9.5.2 of CSA 086-09 for framing members with a minimum width of 1 1/2”; 6” o.c. spacing at boundary & continuous panel edges parallel to load; boundary nailing may be reduced to 4” o.c. spacing if nails are staggered
1 1/8” x 2 5/16”	As per Table 9.5.2 of CSA 086-09 for framing members with a minimum width of 2 1/2”	As per Table 9.5.2 of CSA 086-09 for framing members with a minimum width of 1 1/2”; 6” o.c. spacing at boundary & continuous panel edges parallel to load; boundary nailing may be reduced to 4” o.c. spacing if nails are staggered (subject to the limitations shown in red in Table 9.5.2 below)
1 1/8” x 2 9/16”	As per Table 9.5.2 of CSA 086-09 for framing members with a minimum width of 2 1/2”	As per Table 9.5.2 of CSA 086-09 for framing members with a minimum width of 1 1/2” ; 6” o.c. spacing at boundary & continuous panel edges parallel to load; boundary nailing may be reduced to 4” o.c. spacing if nails are staggered (subject to the limitations shown in red in Table 9.5.2 below)
1 1/2” x 2 5/16”	As per Table 9.5.2 of CSA 086-09 for framing members with a minimum width of 2 1/2”	

Table 9.5.2 - CSA086-09

Common nail size	Min. Panel thickness	Joist Series	Blocked horizontal diaphragms		Unblocked horizontal diaphragms	
			Nail spacing at diaphragm boundaries and at continuous panel edges parallel to load (in)		Nails spaced 6" max. at supported edges	
			6	4		
			Nail spacing at other panel edges (in)		Case 1	Case 2, 3 & 4
(in)	(in)		6	6		
6d (0.113" x 2")	5/16"	BCI 4500s/5000/5000s	315	418	281	206
		BCI 6000/6000s/6500/6500s	356	466	315	233
	3/8"	BCI 4500s/5000/5000s	343	466	308	233
		BCI 6000/6000s/6500/6500s	391	521	343	260
8d (0.131" x 2.5")	3/8"	BCI 4500s/5000/5000s	445	596	404	301
		BCI 6000/6000s/6500/6500s	500	672	445	336
	7/16"	BCI 4500s/5000/5000s	473	630	432	315
		BCI 6000/6000s/6500/6500s	534	706	473	356
	19/32"	BCI 4500s/5000/5000s	500	672	445	336
		BCI 6000/6000s/6500/6500s	562	747	493	370
10d (0.148" x 3")	3/8"	BCI 4500s/5000/5000s	541	719	473	356
		BCI 6000/6000s/6500/6500s	603	802	541	404
	7/16"	BCI 4500s/5000/5000s	596	795	534	404
		BCI 6000/6000s/6500/6500s	672	891	596	445
	19/32"	BCI 4500s/5000/5000s		1199		
		BCI 6000/6000s/6500/6500s		1321		

Notes:

- BCI® series may be used as framing members in horizontal diaphragms using the values from CSA 086-09 - Table 9.5.2 with the limitations shown in red
- Nails should be staggered around diaphragm perimeter
- The tabulated values are based on dry service conditions, standard-term duration of load, and apply to nailed shear panels using structural wood-based panels
- Nails shall be space 12" on center along intermediate framing members
- For diaphragms fabricated with nails having a diameter that deviates from the diameter specified in this table (diameters within 80% of the standard common nail diameter), the tabulated values should be adjusted by $(d_{F1}/d_{F2})^2$
  where:
  d_{F1} = diameter of the nail being considered (in)
  d_{F2} = diameter of the common wire nail given in this table (in)