BCI® Design Properties

BCI® Joist Series	Depth [inches]	Weight [plf]	Moment [ft-lbs]	EI x 10^6 [lb-in^2]	K x 10^6 [lbs]	Shear [lbs]	End Reaction [lbs]				Intermediate Reaction [lbs]			
							1 3/4" Bearing		3 1/2" Bearing		3 1/2" Bearing		5 1/4" Bearing	
							No WS(1)	WS(2)	No WS(1)	WS(2)	No WS(1)	WS(2)	No WS(1)	WS(2)
5000 1.7	9 1/2	2.0	2460	160	5.0	1475	950	1125	1125	1275	2100	2350	2525	2750
	11 7/8	2.3	3150	265	6.0	1625	950	1425	1425	1475	2250	2850	2525	3000
	14	2.5	3735	390	8.0	1825	950	1525	1475	1725	2350	3050	2525	3200
6000 1.7	9 1/2	2.2	2865	180	5.0	1575	1175	1375	1375	1425	2400	2650	2700	2750
	11 7/8	2.5	3670	305	6.0	1675	1175	1425	1425	1475	2500	2850	2900	3000
	14	2.7	4350	445	8.0	1925	1175	1525	1525	1725	2600	3150	2925	3200
	16	2.9	4965	605	9.0	2175	1175	1625	1550	1975	2650	3350	2950	3350
6500 1.8	9 1/2	2.3	3505	210	5.0	1575	1175	1375	1375	1425	2400	2650	2700	2750
	11 7/8	2.6	4495	350	7.0	1675	1175	1425	1425	1475	2500	2850	2900	3000
	14	2.9	5330	515	8.0	1925	1175	1525	1525	1725	2600	3150	2925	3200
	16	3.1	6085	695	9.0	2175	1175	1625	1550	1975	2650	3350	2950	3350
60 2.0	11 7/8	2.9	6235	430	7.0	1675	1175	1425	1425	1475	2750	2850	3200	3250
	14	3.1	7440	635	8.0	1925	1175	1525	1525	1725	2750	3450	3200	3650
	16	3.3	8520	860	9.0	2175	1175	1625	1550	1975	2750	3650	3200	3750
90 2.0	11 7/8	3.9	9550	645	7.0	2150	1425	1850	1800	1950	3375	3700	4000	4300
	14	4.1	11390	940	8.0	2350	1450	1950	1850	2150	3400	3850	4100	4450
	16	4.4	13050	1275	9.0	2550	1475	2150	1900	2350	3425	4000	4200	4650
	18	4.6	14690	1660	10.0	2750	N/A(3)	2300	N/A(3)	2550	N/A(3)	4150	N/A(3)	4750
	20	4.8	16310	2100	11.0	2850	N/A(3)	2500	N/A(3)	2650	N/A(3)	4300	N/A(3)	4850

NOTES:

(1) No web stiffeners required.
(2) Web stiffeners required.
(3) Not applicable, web stiffeners required.

- Moment, shear and reactions values based upon a load duration of 100% and may be adjusted for other load durations.
- Design values listed are applicable for Allowable Stress Design (ASD).

BUILDING CODE EVALUATION REPORTS

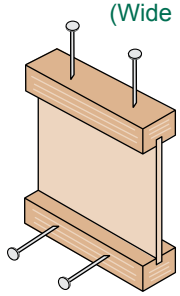
- ICC ESR 1336 (IBC, IRC, UBC)

$$\Delta = \frac{5wl^4}{384\,EI} + \frac{wl^2}{K}$$

Δ = deflection [in]
w = uniform load [lb/in]
l = clear span [in]
EI = bending stiffness [lb-in^2]
K = shear deformation coefficient [lb]

BCI® Closest Allowable Nail Spacing

Nailing Perpendicular to Glue Lines (Wide Face)



Nailing Parallel to Glue Lines (Narrow Face)

Nail Size	All BCI® Joists			
	Nailing Perpendicular to Glue Line (Wide Face)		Nailing Parallel to Glue Line (Wide Face)	
	O.C. Spacing [inches]	End of Joist [inches]	O.C. Spacing [inches]	End of Joist [inches]
8d Box	2	1 1/2	4	1 1/2
8d Common	2	1 1/2	4	3
10d & 12d Box	2	1 1/2	4	3
16d Box	2	1 1/2	4	3
10d & 12d Common	3	2	6	4
16d Sinker	3	2	6	4
16d Common	3	2	6	4

- If more than one row of nails is used, the rows must be offset at least 1/2 inch.
- Simpson Strong-Tie A35 connectors may be attached to the side of BCI® 60 and 90 joist flanges only. Use nails as specified by Simpson Strong-Tie; do not attach connectors on both sides of a flange at the same location.