

LVL FLANGE PWI JOIST SERIES REFERENCE DESIGN VALUES

REFERENCE DESIGN VALUES ⁽¹⁾

Joist Series	Joist Depth	PWI Joist	EI ⁽²⁾ (x 10 ⁶ lb-in ²)	k ⁽³⁾ (x 10 ⁶ lb)	M ⁽⁴⁾ (ft-lb)	V ⁽⁵⁾ (lb)	ER ⁽⁶⁾ (lb)	IR ⁽⁷⁾ (lb)	Vertical Load ⁽⁸⁾ (plf)
PWI 20	9½"	PWI 2095	145	4.94	2520	1330	915	1990	2000
	11⅞"	PWI 2011	253	6.18	3265	1705	915	1990	2000
	14"	PWI 2014	373	7.28	3890	1955	915	1990	2000
PWI 30	9½"	PWI 3095	161	4.94	3225	1330	945	1905	2000
	11⅞"	PWI 3011	280	6.18	4170	1705	945	1905	2000
PWI 40	9½"	PWI 4095	193	4.94	2735	1330	1080	2240	2000
	11⅞"	PWI 4011	330	6.18	3545	1705	1080	2330	2000
	14"	PWI 4014	482	7.28	4270	1955	1080	2330	2000
	16"	PWI 4016	657	8.32	4950	2190	1080	2330	2000
PWI 45	9½"	PWI 4595	193	4.94	3345	1330	980	2240	2000
	11⅞"	PWI 4511	330	6.18	4315	1705	980	2250	2000
	14"	PWI 4514	486	7.28	5140	1955	980	2250	2000
	16"	PWI 4516	665	8.32	5880	2190	980	2250	2000
PWI 47	7⅞"	PWI 4778	133	4.10	2690	1000	865	1810	2000
	9½"	PWI 4795	206	4.94	3335	1330	875	1860	2000
	11⅞"	PWI 4711	344	6.18	4280	1705	885	1930	2000
	14"	PWI 4714	499	7.28	5075	1955	900	1995	2000
	16"	PWI 4716	674	8.32	5790	2190	910	2060	2000
	18"	PWI 4718	878	9.36	6500	2425	920	2120	1450
PWI 50	20"	PWI 4720	1112	10.40	7200	2660	930	2180	1450
	9½"	PWI 5095	186	4.94	3800	1330	1015	2040	2000
	11⅞"	PWI 5011	322	6.18	4915	1705	1015	2040	2000
	14"	PWI 5014	480	7.28	5860	1955	1015	2040	2000
	16"	PWI 5016	663	8.32	6715	2190	1015	2040	2000
PWI 60	9½"	PWI 6095	231	4.94	3780	1330	1080	2240	2000
	11⅞"	PWI 6011	396	6.18	4900	1705	1080	2330	2000
	14"	PWI 6014	584	7.28	5895	1955	1080	2330	2000
	16"	PWI 6016	799	8.32	6835	2190	1080	2330	2000
PWI 70	11⅞"	PWI 7011	440	6.18	6730	1705	1160	2460	2000
	14"	PWI 7014	644	7.28	8030	1955	1160	2460	2000
	16"	PWI 7016	873	8.32	9200	2190	1160	2460	2000
	18"	PWI 7018	1141	9.36	10355	2425	1160	2460	1450
	20"	PWI 7020	1447	10.40	11495	2660	1160	2460	1450
PWI 77	9½"	PWI 7795	261	6.08	5155	1430	1285	2695	2400
	11⅞"	PWI 7711	442	7.60	6675	1925	1285	2695	2400
	14"	PWI 7714	648	8.96	7960	2125	1285	2695	2400
	16"	PWI 7716	881	10.24	9120	2330	1285	2695	2400
	18"	PWI 7718	1152	11.52	10265	2535	1285	2695	1800
	20"	PWI 7720	1463	12.80	11395	2740	1285	2695	1800
	22"	PWI 7722	1815	14.08	12520	2935	2390 ⁽⁹⁾	4125 ⁽⁹⁾	1300
	24"	PWI 7724	2209	15.36	13630	3060	2390 ⁽⁹⁾	4125 ⁽⁹⁾	1300
PWI 90	9½"	PWI 9095	392	6.08	7915	1430	1400	2860	2400
	11⅞"	PWI 9011	661	7.60	10255	1925	1400	3355	2400
	14"	PWI 9014	965	8.96	12235	2125	1400	3355	2400
	16"	PWI 9016	1306	10.24	14020	2330	1400	3355	2400
	18"	PWI 9018	1703	11.52	15780	2535	1400	3355	1800
	20"	PWI 9020	2155	12.80	17520	2740	1400	3355	1800
	22"	PWI 9022	2664	14.08	19245	2935	2400 ⁽⁹⁾	4605 ⁽⁹⁾	1300
	24"	PWI 9024	3232	15.36	20955	3060	2400 ⁽⁹⁾	4605 ⁽⁹⁾	1300

1. Values apply to normal load duration. All values except EI, k and Vertical Load may be adjusted for other load durations as permitted by the code.

2. Bending stiffness (EI).

3. Coefficient of shear deflection (k). Use Equations 1 or 2 to calculate uniform load or center point load deflections in a simple-span application.

Uniform Load:

$$[1] \delta = \frac{5wl^4}{384EI} + \frac{wl^2}{k}$$

Center Point Load:

$$[2] \delta = \frac{Pl^3}{48EI} + \frac{2Pl}{k}$$

Where:

δ = calculated deflection [in]
w = uniform load [lb/in]
l = design span [in]

P = concentrated load [lb]
EI = bending stiffness of the I-joist [lb-in²]
k = coefficient of shear deflection [lb]

4. Moment capacity (M). The tabulated values shall not be increased by any code-allowed repetitive member factor.

5. Shear capacity (V).

6. End reaction capacity (ER) of the I-joist without web stiffeners and a minimum bearing length of 1¼ inches.

7. Intermediate reaction capacity (IR) of the I-joist without web stiffeners and a minimum bearing length of 3½ inches.

8. Blocking panel and rim joist vertical load capacity.

9. Web stiffeners required. See *Web Stiffener Requirements* on page 93.