

FLOOR LOADS

SIMPLE- OR MULTIPLE-SPAN JOIST—ALLOWABLE UNIFORM FLOOR LOAD (PLF)

Joist Span (ft)	PWI 20						PWI 30				PWI 40							
	9½"		11⅝"		14"		9½"		11⅝"		9½"		11⅝"		14"		16"	
	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%
6	-	265	-	265	-	265	-	254	-	254	-	299	-	311	-	311	-	311
7	-	227	-	227	-	227	-	218	-	218	-	256	-	266	-	266	-	266
8	-	199	-	199	-	199	-	191	-	191	-	224	-	233	-	233	-	233
9	-	177	-	177	-	177	-	169	-	169	-	199	-	207	-	207	-	207
10	139	159	-	159	-	159	202	152	-	152	177	179	-	186	-	186	-	186
11	107	145	-	145	-	145	118	139	-	139	137	163	-	169	-	169	-	169
12	84	133	-	133	-	133	92	127	-	127	108	149	-	155	-	155	-	155
13	67	119	113	122	-	122	74	117	-	117	87	129	143	143	-	143	-	143
14	54	103	92	114	-	114	60	109	101	109	71	112	117	133	-	133	-	133
15	45	89	76	106	-	106	49	98	83	102	58	97	96	124	-	124	-	124
16	37	74	63	100	91	100	41	82	69	95	48	85	81	111	115	117	-	117
17			53	90	77	94			58	90			68	98	97	110	-	110
18			45	81	66	88			50	85			58	88	83	104	-	104
19			39	72	56	84			43	80			50	79	71	95	95	98
20			33	65	48	78			37	73			43	71	62	85	83	93
21					42	71									54	77	72	89
22					37	64									47	71	63	82
23					32	59									41	65	56	75
24					29	54									37	59	49	69
25																	44	63
26																	39	59
27																	35	54
28																	32	51
29																		
30																		
31																		
32																		
33																		
34																		
35																		
36																		
37																		
38																		
39																		
40																		
41																		
42																		

Notes:

1. Table values apply to uniformly loaded floor joists.
2. Span is measured to the center of each support.
3. The values in the Total columns are based on an L/240 total load deflection limit. Building codes typically require L/360 for live load. Experience has shown that a live load deflection limit of L/480 at 40 psf for residential floors does a better job than L/360 of meeting most performance expectations.
4. Table values do not account for stiffness added by glued or nailed sheathing.
5. Provide at least 1¾" of bearing length at end supports and 3½" at intermediate supports.
6. Provide lateral restraint at supports (e.g. blocking panels, rim board) and along the compression flange of each joist (e.g. floor sheathing, gypsum board ceiling).
7. Use sizing software or consult a professional engineer to analyze conditions outside the scope of this table (e.g. different bearing lengths, concentrated loads) or for multiple span joists if the length of any span is less than half the length of an adjacent span.

FLOOR LOADS

SIMPLE- OR MULTIPLE-SPAN JOIST—ALLOWABLE UNIFORM FLOOR LOAD (PLF)

Joist Span (ft)	PWI 45								PWI 47													
	9½"		11½"		14"		16"		7½"		9½"		11½"		14"		16"		18"		20"	
	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%
6	-	299	-	300	-	300	-	300	-	241	-	248	-	257	-	266	-	275	-	283	-	291
7	-	256	-	257	-	257	-	257	-	207	-	213	-	221	-	228	-	235	-	242	-	249
8	-	224	-	225	-	225	-	225	-	181	-	186	-	193	-	200	-	206	-	212	-	218
9	-	199	-	200	-	200	-	200	-	161	-	165	-	172	-	177	-	183	-	188	-	194
10	177	179	-	180	-	180	-	180	126	145	-	149	-	154	-	160	-	165	-	170	-	174
11	137	163	-	164	-	164	-	164	97	132	-	135	-	140	-	145	-	150	-	154	-	159
12	108	149	-	150	-	150	-	150	76	121	115	124	-	129	-	133	-	137	-	141	-	145
13	87	138	-	138	-	138	-	138	61	111	92	114	-	119	-	123	-	127	-	130	-	134
14	71	128	117	129	-	129	-	129			75	106	-	110	-	114	-	118	-	121	-	125
15	58	116	96	120	-	120	-	120			62	99	100	103	-	106	-	110	-	113	-	116
16	48	97	81	113	-	113	-	113			51	93	84	97	-	100	-	103	-	106	-	109
17			68	106	98	106	-	106					71	91	-	94	-	97	-	100	-	103
18			58	100	83	100	-	100					60	86	85	89	-	92	-	94	-	97
19			50	95	72	95	-	95					51	81	73	84	-	87	-	89	-	92
20			43	86	62	90	83	90					44	77	64	80	-	82	-	85	-	87
21					54	86	73	86							55	76	74	78	-	81	-	83
22					47	82	64	82							48	73	65	75	-	77	-	79
23					42	78	56	78							43	69	57	72	73	74	-	76
24					37	71	50	75							38	67	50	69	65	71	-	73
25							44	72									45	66	58	68	-	70
26							40	69									40	63	52	65	65	67
27							35	65									36	61	46	63	58	65
28							32	60									32	59	42	61	52	62
29																			38	58	47	60
30																			34	57	43	58
31																			31	54	39	56
32																					36	55
33																					33	53
34																					30	50
35																					28	47
36																						
37																						
38																						
39																						
40																						
41																						
42																						

See notes on page 20

FLOOR LOADS

SIMPLE- OR MULTIPLE-SPAN JOIST—ALLOWABLE UNIFORM FLOOR LOAD (PLF)

Joist Span (ft)	PWI 50								PWI 60								PWI 70											
	9½"		11⅞"		14"		16"		9½"		11⅞"		14"		16"		11⅞"		14"		16"		18"		20"			
	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%		
6	-	272	-	272	-	272	-	272	-	299	-	311	-	311	-	311	-	328	-	328	-	328	-	328	-	328		
7	-	233	-	233	-	233	-	233	-	256	-	266	-	266	-	266	-	281	-	281	-	281	-	281	-	281		
8	-	204	-	204	-	204	-	204	-	224	-	233	-	233	-	233	-	246	-	246	-	246	-	246	-	246		
9	-	181	-	181	-	181	-	181	-	199	-	207	-	207	-	207	-	219	-	219	-	219	-	219	-	219		
10	-	163	-	163	-	163	-	163	-	179	-	186	-	186	-	186	-	197	-	197	-	197	-	197	-	197		
11	133	148	-	148	-	148	-	148	160	163	-	169	-	169	-	169	-	179	-	179	-	179	-	179	-	179		
12	105	136	-	136	-	136	-	136	127	149	-	155	-	155	-	155	-	164	-	164	-	164	-	164	-	164		
13	84	126	-	126	-	126	-	126	102	138	-	143	-	143	-	143	-	151	-	151	-	151	-	151	-	151		
14	68	117	114	117	-	117	-	117	83	128	-	133	-	133	-	133	-	141	-	141	-	141	-	141	-	141		
15	56	109	94	109	-	109	-	109	68	119	113	124	-	124	-	124	124	131	-	131	-	131	-	131	-	131		
16	47	94	79	102	-	102	-	102	57	112	95	117	-	117	-	117	104	123	-	123	-	123	-	123	-	123		
17			66	96	-	96	-	96			80	110	-	110	-	110	88	116	-	116	-	116	-	116	-	116		
18			57	91	82	91	-	91			68	104	98	104	-	104	75	109	107	109	-	109	-	109	-	109		
19			48	86	71	86	-	86			59	98	85	98	-	98	64	104	92	104	-	104	-	104	-	104		
20			42	82	61	82	-	82			51	93	73	93	-	93	56	98	80	98	-	98	-	98	-	98		
21					53	78	73	78					64	89	86	89			70	94	93	94	-	94	-	94		
22					47	74	64	74					56	85	75	85			61	89	82	89	-	89	-	89		
23					41	71	56	71					49	81	67	81			54	86	72	86	-	86	-	86		
24					36	68	50	68					44	78	59	78			48	82	64	82	-	82	-	82		
25							44	65							53	75				57	79	73	79	-	79	-	79	
26							39	63							47	72				51	76	66	76	-	76	-	76	
27							35	60							42	69				46	73	59	73	-	73	-	73	
28							32	58							38	67				41	70	53	70	67	70	-	70	
29																						48	68	61	68	-	68	
30																						44	66	55	66	-	66	
31																						40	63	50	63	-	63	
32																									46	62	-	62
33																									42	60	-	60
34																									38	58	-	58
35																									35	56	-	56
36																												
37																												
38																												
39																												
40																												
41																												
42																												

Notes:

1. Table values apply to uniformly loaded floor joists.
2. Span is measured to the center of each support.
3. The values in the Total columns are based on an L/240 total load deflection limit. Building codes typically require L/360 for live load. Experience has shown that a live load deflection limit of L/480 at 40 psf for residential floors does a better job than L/360 of meeting most performance expectations.
4. Table values do not account for stiffness added by glued or nailed sheathing.
5. Provide at least 1¾" of bearing length at end supports and 3½" at intermediate supports.
6. Provide lateral restraint at supports (e.g. blocking panels, rim board) and along the compression flange of each joist (e.g. floor sheathing, gypsum board ceiling).
7. Use sizing software or consult a professional engineer to analyze conditions outside the scope of this table (e.g. different bearing lengths, concentrated loads) or for multiple span joists if the length of any span is less than half the length of an adjacent span.

FLOOR LOADS

SIMPLE- OR MULTIPLE-SPAN JOIST—ALLOWABLE UNIFORM FLOOR LOAD (PLF)

Joist Span (ft)	PWI 77															PWI 90																
	9½"		11⅞"		14"		16"		18"		20"		22"		24"		9½"		11⅞"		14"		16"		18"		20"		22"		24"	
	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480	Live L/480	Total 100% L/480		
6	-	359	-	359	-	359	-	359	-	359	-	359	-	550	-	550	-	381	-	447	-	447	-	447	-	447	-	447	-	614	-	614
7	-	308	-	308	-	308	-	308	-	308	-	308	-	471	-	471	-	327	-	383	-	383	-	383	-	383	-	383	-	526	-	526
8	-	270	-	270	-	270	-	270	-	270	-	270	-	413	-	413	-	286	-	336	-	336	-	336	-	336	-	336	-	461	-	461
9	-	240	-	240	-	240	-	240	-	240	-	240	-	240	-	240	-	254	-	298	-	298	-	298	-	298	-	298	-	409	-	409
10	-	216	-	216	-	216	-	216	-	216	-	216	-	216	-	216	-	229	-	268	-	268	-	268	-	268	-	268	-	368	-	368
11	183	196	-	196	-	196	-	196	-	196	-	196	-	300	-	300	-	208	-	244	-	244	-	244	-	244	-	244	-	335	-	335
12	145	180	-	180	-	180	-	180	-	180	-	180	-	275	-	275	-	191	-	224	-	224	-	224	-	224	-	224	-	307	-	307
13	116	166	-	166	-	166	-	166	-	166	-	166	-	254	-	254	165	176	-	206	-	206	-	206	-	206	-	206	-	283	-	283
14	95	154	-	154	-	154	-	154	-	154	-	154	-	236	-	236	135	163	-	192	-	192	-	192	-	192	-	192	-	263	-	263
15	78	144	128	144	-	144	-	144	-	144	-	144	-	220	-	220	112	153	-	179	-	179	-	179	-	179	-	179	-	246	-	246
16	65	130	107	135	-	135	-	135	-	135	-	135	-	206	-	206	94	143	152	168	-	168	-	168	-	168	-	168	-	230	-	230
17			90	127	-	127	-	127	-	127	-	127	-	194	-	194			129	158	-	158	-	158	-	158	-	158	-	217	-	217
18			77	120	110	120	-	120	-	120	-	120	-	183	-	183			110	149	-	149	-	149	-	149	-	149	-	205	-	205
19			66	113	95	113	-	113	-	113	-	113	-	174	-	174			95	141	135	141	-	141	-	141	-	141	-	194	-	194
20			57	108	82	108	-	108	-	108	-	108	-	165	-	165			82	134	117	134	-	134	-	134	-	134	-	184	-	184
21				71	103	96	103	-	103	-	103	-	157	-	157						102	128	-	128	-	128	-	128	-	175	-	175
22				63	98	84	98	-	98	-	98	-	150	-	150					90	122	119	122	-	122	-	122	-	167	-	167	
23				55	94	74	94	-	94	-	94	-	143	-	143					79	117	106	117	-	117	-	117	-	160	-	160	
24				49	90	66	90	85	90	-	90	130	138	-	138					71	112	94	112	-	112	-	112	-	154	-	154	
25					58	86	75	86	-	86	116	132	-	132						84	107	-	107	-	107	-	107	-	147	-	147	
26					52	83	68	83	-	83	104	127	125	127						75	103	96	103	-	103	-	103	-	142	-	142	
27					47	80	61	80	76	80	94	122	113	122						67	99	87	99	-	99	132	136	-	136	-	136	
28					42	77	55	77	69	77	84	118	102	118						61	96	78	96	-	96	119	132	-	132	-	132	
29						49	74	62	74	76	114	92	114								71	93	89	93	108	127	-	127	-	127		
30						45	72	56	72	69	110	84	110							64	89	81	89	99	123	118	123	-	123	-	123	
31						41	70	51	70	63	104	76	106							59	87	74	87	90	119	108	119	-	119	-	119	
32								47	67	58	98	70	103											67	84	82	115	99	115	-	115	
33								43	65	53	92	64	100											62	81	75	112	91	112	-	112	
34								39	63	48	87	59	94											57	79	69	108	83	108	-	108	
35								36	62	45	82	54	89											52	77	64	105	77	105	-	105	
36									41	77	50	84													59	102	71	102	-	102	-	102
37										38	73	46	80													54	100	66	100	-	100	
38										35	69	42	76													50	97	61	97	-	97	
39											39	72																	56	94	-	94
40												37	68																52	92	-	92
41												34	65																49	90	-	90
42												32	62																46	88	-	88

See notes on page 22