

# FLOOR LOADS

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

Joist Span (ft)	PWI 20						PWI 30				PWI 40							
	9½"		11⅞"		14"		9½"		11⅞"		9½"		11⅞"		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	-	159	-	159	-	159	-	152	-	152	-	179	-	186	-	186	-	186
11	143	145	-	145	-	145	-	139	-	139	-	163	-	169	-	169	-	169
12	113	133	-	133	-	133	124	127	-	127	144	149	-	155	-	155	-	155
13	91	119	-	122	-	122	99	117	-	117	116	129	-	143	-	143	-	143
14	74	103	-	114	-	114	81	109	-	109	95	112	-	133	-	133	-	133
15	61	90	103	106	-	106	67	102	-	102	79	97	-	124	-	124	-	124
16	51	79	86	100	-	100	56	95	94	95	66	85	108	111	-	117	-	117
17			73	90	-	94			79	90			92	98	-	110	-	110
18			62	81	-	88			68	85			78	88	-	104	-	104
19			53	72	77	84			58	80			67	79	-	95	-	98
20			46	65	66	78			50	76			58	71	83	85	-	93
21					58	71									73	77	-	89
22					51	64									64	71	-	82
23					45	59									56	65	-	75
24					40	54									50	59	67	69
25																	60	63
26																	54	59
27																	48	54
28																	43	51
29																		
30																		
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36																		
37																		
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**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

## 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	-	179	-	180	-	180	-	180	-	145	-	149	-	154	-	160	-	165	-	170	-	174
11	-	163	-	164	-	164	-	164	129	132	-	135	-	140	-	145	-	150	-	154	-	159
12	144	149	-	150	-	150	-	150	102	121	-	124	-	129	-	133	-	137	-	141	-	145
13	116	138	-	138	-	138	-	138	82	111	-	114	-	119	-	123	-	127	-	130	-	134
14	95	128	-	129	-	129	-	129			100	106	-	110	-	114	-	118	-	121	-	125
15	79	119	-	120	-	120	-	120			83	99	-	103	-	106	-	110	-	113	-	116
16	66	105	108	113	-	113	-	113			70	93	-	97	-	100	-	103	-	106	-	109
17			92	106	-	106	-	106					-	91	-	94	-	97	-	100	-	103
18			78	100	-	100	-	100					81	86	-	89	-	92	-	94	-	97
19			67	95	-	95	-	95					70	81	-	84	-	87	-	89	-	92
20			58	86	84	90	-	90					61	77	-	80	-	82	-	85	-	87
21					73	86	-	86							75	76	-	78	-	81	-	83
22					64	82	-	82							66	73	-	75	-	77	-	79
23					57	78	76	78							58	69	-	72	-	74	-	76
24					50	71	68	75							52	67	69	69	-	71	-	73
25							61	72									61	66	-	68	-	70
26							54	69									55	63	-	65	-	67
27							49	65									49	61	-	63	-	65
28							44	60									44	59	57	61	-	62
29																			52	58	-	60
30																			47	57	-	58
31																			43	54	54	56
32																					49	55
33																					45	53
34																					41	50
35																					38	47
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# FLOOR LOADS

## 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	-	148	-	148	-	148	-	148	-	163	-	169	-	169	-	169	-	179	-	179	-	179	-	179	-	179	
12	-	136	-	136	-	136	-	136	-	149	-	155	-	155	-	155	-	164	-	164	-	164	-	164	-	164	
13	113	126	-	126	-	126	-	126	135	138	-	143	-	143	-	143	-	151	-	151	-	151	-	151	-	151	
14	92	117	-	117	-	117	-	117	111	128	-	133	-	133	-	133	-	141	-	141	-	141	-	141	-	141	
15	76	109	-	109	-	109	-	109	92	119	-	124	-	124	-	124	-	131	-	131	-	131	-	131	-	131	
16	64	102	-	102	-	102	-	102	77	112	-	117	-	117	-	117	-	123	-	123	-	123	-	123	-	123	
17			90	96	-	96	-	96			107	110	-	110	-	110	-	116	-	116	-	116	-	116	-	116	
18			77	91	-	91	-	91			92	104	-	104	-	104	100	109	-	109	-	109	-	109	-	109	
19			66	86	-	86	-	86			79	98	-	98	-	98	87	104	-	104	-	104	-	104	-	104	
20			57	82	-	82	-	82			69	93	-	93	-	93	75	98	-	98	-	98	-	98	-	98	
21					73	78	-	78					86	89	-	89			94	94	-	94	-	94	-	94	
22					64	74	-	74					76	85	-	85			83	89	-	89	-	89	-	89	
23					56	71	-	71					67	81	-	81			73	86	-	86	-	86	-	86	
24					50	68	68	68					60	78	-	78			65	82	-	82	-	82	-	82	
25							60	65								71	75			77	79	-	79	-	79	-	79
26							54	63								64	72			69	76	-	76	-	76	-	76
27							49	60								58	69			62	73	-	73	-	73	-	73
28							44	58								52	67			56	70	-	70	-	70	-	70
29																							66	68	-	68	
30																							60	66	-	66	
31																							55	63	-	63	
32																										62	
33																										57	60
34																										53	58
35																										49	56
36																											
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# FLOOR LOADS

## 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%	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%	Live L/480	Total 100%			
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	-	367	-	367	-	254	-	298	-	298	-	298	-	298	-	298	-	409	-	409	
10	-	216	-	216	-	216	-	216	-	216	-	216	-	330	-	330	-	229	-	268	-	268	-	268	-	268	-	268	-	368	-	368	
11	-	196	-	196	-	196	-	196	-	196	-	196	-	300	-	300	-	208	-	244	-	244	-	244	-	244	-	244	-	335	-	335	
12	-	180	-	180	-	180	-	180	-	180	-	180	-	275	-	275	-	191	-	224	-	224	-	224	-	224	-	224	-	307	-	307	
13	155	166	-	166	-	166	-	166	-	166	-	166	-	254	-	254	-	176	-	206	-	206	-	206	-	206	-	206	-	283	-	283	
14	127	154	-	154	-	154	-	154	-	154	-	154	-	236	-	236	-	163	-	192	-	192	-	192	-	192	-	192	-	263	-	263	
15	105	144	-	144	-	144	-	144	-	144	-	144	-	220	-	220	148	153	-	179	-	179	-	179	-	179	-	179	-	246	-	246	
16	88	135	-	135	-	135	-	135	-	135	-	135	-	206	-	206	125	143	-	168	-	168	-	168	-	168	-	168	-	230	-	230	
17			121	127	-	127	-	127	-	127	-	127	-	194	-	194			-	158	-	158	-	158	-	158	-	158	-	217	-	217	
18			104	120	-	120	-	120	-	120	-	120	-	183	-	183			146	149	-	149	-	149	-	149	-	149	-	205	-	205	
19			89	113	-	113	-	113	-	113	-	113	-	174	-	174			126	141	-	141	-	141	-	141	-	141	-	194	-	194	
20			78	108	-	108	-	108	-	108	-	108	-	165	-	165			110	134	-	134	-	134	-	134	-	134	-	184	-	184	
21				97	103	-	103	-	103	-	103	-	157	-	157					-	128	-	128	-	128	-	128	-	175	-	175		
22				85	98	-	98	-	98	-	98	-	150	-	150					120	122	-	122	-	122	-	122	-	167	-	167		
23				75	94	-	94	-	94	-	94	-	143	-	143					107	117	-	117	-	117	-	117	-	160	-	160		
24				67	90	89	90	-	90	-	90	-	138	-	138					95	112	-	112	-	112	-	112	-	154	-	154		
25					80	86	-	86	-	86	-	86	-	132	-	132					-	107	-	107	-	107	-	107	-	147	-	147	
26					71	83	-	83	-	83	-	83	-	127	-	127					101	103	-	103	-	103	-	103	-	142	-	142	
27					64	80	-	80	-	80	-	80	-	122	-	122					91	99	-	99	-	99	-	99	-	136	-	136	
28					58	77	75	77	-	77	115	118	-	118						83	96	-	96	-	96	-	96	-	132	-	132		
29						68	74	-	74	104	114	-	114								-	93	-	93	-	93	-	93	-	127	-	127	
30						61	72	-	72	95	110	-	110								87	89	-	89	-	89	-	89	-	123	-	123	
31						56	70	-	70	86	104	104	106								80	87	-	87	-	87	-	87	-	119	-	119	
32							64	67	79	98	95	103																84	111	115	-	115	
33							59	65	72	92	87	100																81	102	112	-	112	
34							54	63	67	87	80	94															77	79	94	108	-	108	
35							50	62	61	82	74	89															71	77	87	105	104	105	
36								57	77	68	84																		80	102	96	102	
37									52	73	63	80																	74	100	89	100	
38									48	69	59	76																	69	97	83	97	
39											54	72																		77	94		
40												51	68																	72	92		
41												47	65																	67	90		
42												44	62																	62	88		

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