

FLOOR LOADS

SIMPLE-SPAN JOIST: ALLOWABLE LOADS FOR PRI OR SSI JOISTS (PLF)

Joist Span (ft)	PRI 20				SSI 36X		PRI 40							
	9½"		11⅞"		14"		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%
6	-	277	-	277	-	277	-	360	-	400	-	400	-	400
7	-	237	-	237	-	237	-	309	-	343	-	343	-	343
8	-	208	-	208	-	208	-	270	-	300	-	300	-	300
9	-	184	-	184	-	184	234	240	-	267	-	267	-	267
10	139	166	-	166	-	166	177	216	-	240	-	240	-	240
11	107	151	-	151	-	151	137	181	-	218	-	218	-	218
12	84	138	-	138	-	138	108	152	177	197	-	200	-	200
13	67	119	113	128	-	128	87	129	143	168	-	185	-	185
14	54	103	92	119	-	119	71	112	117	145	165	171	-	171
15	45	89	76	111	109	111	58	97	96	126	137	152	-	160
16	37	74	63	102	91	104	48	85	81	111	115	133	-	150
17			53	90	77	98			68	98	97	118	130	137
18			45	81	66	92			58	88	83	105	111	122
19			39	72	56	86			50	79	71	95	95	110
20			33	65	48	78			43	71	62	85	83	99
21					42	71					54	77	72	90
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														

Notes:

- Table values apply to uniformly loaded floor joists.
- Span is measured to the center of each support.
- 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.
- Table values do not account for stiffness added by glued or nailed sheathing.
- Provide at least 1¼" of bearing length at end supports and 3½" at intermediate supports.
- 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).
- 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.

HOW TO USE FLOOR LOAD TABLES

- Choose a joist spacing and convert the live and total design loads specified in pounds per square foot (psf) to joist loads in pounds per lineal foot (plf).
Joist Spacing (ft) x Design Load (psf) = Joist Load (plf).

JOIST LOAD (PLF)

Joist Spacing		Design Load (psf)								
Inches	Feet	20	30	40	50	60	70	80	90	100
12	1	20	30	40	50	60	70	80	90	100
16	1.33	27	40	53	67	80	93	106	120	133
19.2	1.6	32	48	64	80	96	112	128	144	160
24	2	40	60	80	100	120	140	160	180	200

- Choose a span and scan across the Span row to find a joist size with sufficient Live and Total load capacities. Both requirements must be satisfied. When no value is shown in a Live column, Total load governs.
- Web stiffeners are required at all supports for 22" and 24" joists. See *Web Stiffener Requirements* on page 81 for more details.

FLOOR LOADS

SIMPLE-SPAN JOIST: ALLOWABLE LOADS FOR PRI OR SSI JOISTS (PLF)

Joist Span (ft)	PRI 60								PRI 80					
	9½"		11⅞"		14"		16"		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%
6	-	360	-	400	-	400	-	400	-	427	-	427	-	427
7	-	309	-	343	-	343	-	343	-	366	-	366	-	366
8	-	270	-	300	-	300	-	300	-	320	-	320	-	320
9	-	240	-	267	-	267	-	267	-	284	-	284	-	284
10	205	216	-	240	-	240	-	240	-	256	-	256	-	256
11	160	196	-	218	-	218	-	218	-	233	-	233	-	233
12	127	180	-	200	-	200	-	200	-	213	-	213	-	213
13	102	166	167	185	-	185	-	185	-	197	-	197	-	197
14	83	154	137	171	-	171	-	171	179	183	-	183	-	183
15	68	134	113	160	-	160	-	160	149	171	-	171	-	171
16	57	114	95	150	136	150	-	150	125	160	-	160	-	160
17			80	136	115	141	-	141	106	151	-	151	-	151
18			68	121	98	133	131	133	91	142	129	142	-	142
19			59	109	85	126	113	126	78	135	112	135	-	135
20			51	98	73	118	98	120	68	128	97	128	-	128
21					64	107	86	114			85	122	113	122
22					56	97	75	109			75	116	100	116
23					49	89	67	103			66	111	88	111
24					44	82	59	95			58	107	78	107
25							53	87					70	102
26							47	81					63	98
27							42	75					56	95
28							38	70					51	91
29														
30														
31														
32														

See notes on page 54