

STANDARD LOAD TABLE

OPEN WEB STEEL JOISTS, J- SERIES

Based on Allowable Stress of 22,000 PSI

Adopted by the Steel Joist Institute and American Institute of Steel Construction Inc., November 1, 1972

The black figures in the following table give the TOTAL safe uniformly distributed load-carrying capacities, in pounds per linear foot, of J-Series Steel Joists. The weight of DEAD loads, including the joists, must be deducted to determine the LIVE load carrying capacities of the joists. The load table may be used for parallel chord joists installed to a maximum slope of 1/2 inch per foot.

The figures shown in red in this load table are the LIVE loads per linear foot of joist which will produce an approximate deflection of 1/360 of the span. LIVE loads which will produce a deflection of 1/240 of the span may be

obtained by multiplying the figures in red by 1.5. In no case shall the total load capacity of the joist be exceeded.**

Tests on steel joists designed in accordance with the Standard Specifications have demonstrated that the Standard Load Tables are applicable for concentrated top chord loadings (such as are developed in bulb-tee roof construction) when the sum of the equal concentrated top chord loading does not exceed the allowable uniform loading for the joist type and span and the loads are placed at spacings not exceeding 33" along the top chord.

LOADS ABOVE THE COLORED LINES ARE GOVERNED BY SHEAR.

Joist Designation	8J3	10J3	10J4	12J3	12J4	12J5	12J6	14J3	14J4	14J5	14J6	14J7	16J4	16J5	16J6	16J7	16J8
Nominal *Depth (in.)	8	10	10	12	12	12	12	14	14	14	14	14	16	16	16	16	16
Resist. Moment (in.-lbs.)	70,000	89,000	111,000	108,000	135,000	161,000	196,000	127,000	159,000	190,000	230,000	276,000	173,000	216,000	258,000	310,000	359,000
Max. End React. (lbs.)	2000	2200	2400	2300	2500	2700	3000	2400	2800	3100	3400	3700	3000	3300	3600	4000	4300
†Approx. Wt. (lbs./ft.)	4.8	4.8	6.0	5.1	6.0	7.0	8.1	5.2	6.4	7.3	8.4	9.7	6.6	7.6	8.5	10.1	11.3
Span in Feet	8																
8	500																
9	444																
10	400	440	480														
11	364	400	436														
12	324 266	367	400	383	417	450	500										
13	276 209	338 337	369	354	385	415	462										
14	238 167	303 270	343 334	329	357	386	429	343	400	443	486	529					
15	207 136	264 219	320 271	307	333	360	400	320	373	413	453	493					
16	182 112	232 181	289 223	281 264	313	338	375	300	350	388	425	463	375	413	450	500	538
17		205 151	256 186	249 220	294 287	318	353	282	329	365	400	435	353	388	424	471	506
18		183 127	228 157	222 185	278 242	300 284	333	261 257	311	344	378	411	333	367	400	444	478
19		164 108	205 133	199 157	249 206	284 241	316 286	235 218	294 285	326	358	389	316	347	379	421	453
20		148 92	185 114	180 135	225 177	268 207	300 246	212 187	265 245	310 287	340	370	288	330	360	400	430
21				163 117	204 152	243 179	286 212	192 162	240 212	287 248	324 295	352 348	262 260	314	343	381	410
22				149 101	186 133	222 155	270 185	175 141	219 184	262 215	309 257	336 302	238 226	298 278	327	364	391
23				136 89	170 116	203 136	247 162	160 123	200 161	239 189	290 225	322 265	218 198	272 243	313 287	348 346	374
24				125 78	156 102	186 120	227 142	147 108	184 142	220 166	266 198	308 233	200 174	250 214	299 253	333 304	358 353
25								135 96	170 125	203 147	245 175	294 206	185 154	230 190	275 224	320 269	344 310
26								125 85	157 111	187 131	227 156	272 183	171 137	213 169	254 199	306 239	331 275
27								116 76	145 99	174 117	210 139	252 164	158 122	198 151	236 177	283 214	319 246
28								108 68	135 89	162 104	196 125	235 147	147 110	184 135	219 159	264 192	305 220
29													137 99	171 121	205 143	246 172	285 198
30													128 89	160 110	191 129	230 156	266 179
31													120 81	150 99	179 117	215 141	249 162
32													113 74	141 90	168 107	202 128	234 148

For Joist Depths 18" to 22" inclusive

Joist Designation	18J5	18J6	18J7	18J8	18J9	18J10	18J11	20J5	20J6	20J7	20J8	20J9	20J10	20J11	22J6	22J7	22J8	22J9	22J10	22J11
Nominal *Depth (in.)	18	18	18	18	18	18	18	20	20	20	20	20	20	20	22	22	22	22	22	22
Resist. Moment (in.-lbs.)	243,000	293,000	352,000	406,000	462,000	517,000	597,000	265,000	316,000	382,000	455,000	517,000	579,000	669,000	335,000	420,000	493,000	572,000	640,000	741,000
Max. End React. (lbs.)	3500	3900	4200	4500	4900	5300	5900	3800	4100	4300	4600	5000	5400	6000	4200	4500	4800	5300	5700	6200
†Approx. Wt. (lbs./ft.)	7.9	9.0	10.2	11.3	12.4	13.8	15.6	8.1	9.2	10.6	11.9	12.8	14.4	16.1	9.6	10.5	11.9	13.1	14.4	16.4
Span in Feet	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
18	389	433	467	500	544	589														
19	368	411	442	474	516	558	621													
20	350	390	420	450	490	530	590	380	410	430	460	500	540	600						
21	333	371	400	429	467	505	562	362	390	410	438	476	514	571						
22	318	355	382	409	445	482	536	345	373	391	418	455	491	545	382	409	436	482	518	564
23	304	339	365	391	426	461	513	330	357	374	400	435	470	522	365	391	417	461	496	539
24	281 274	325 324	350	375	408	442	492	307	342	358	383	417	450	500	350	375	400	442	475	517
25	259 243	312 286	336	360	392	424	472	283	328	344	368	400	432	480	336	360	384	424	456	496
26	240 216	289 255	323 305	346	377	408	454	261	312 300	331	354	385	415	462	323	346	369	408	438	477
27	222 193	268 227	311 272	333 312	363 340	393 383	437 435	242 235	289 268	319	341	370	400	444	306	333	356	393	422	459
28	207 173	249 204	299 244	321 280	350 305	379 344	421 390	225 211	269 240	307 292	329	357	386	429	285 281	321	343	379	407	443
29	193 155	232 184	279 220	310 252	338 274	366 309	407 351	210 190	250 216	297 263	317	345 343	372	414	266 253	310 307	331	366	393	428
30	180 140	217 166	261 199	300 227	327 248	353 280	393 317	196 171	234 195	283 238	307 286	333 310	360 350	400 397	248 228	300 277	320	353	380	413
31	169 127	203 150	244 180	282 206	316 224	342 253	381 287	184 155	219 177	265 215	297 259	323 281	348 317	387 360	232 207	290 251	310	342	368	400
32	158 116	191 137	229 164	264 187	301 204	331 230	369 261	173 141	206 161	249 196	288 236	313 255	338 288	375 327	218 188	273 228	300 282	331 314	356 352	388
33	149 106	179 125	215 149	249 171	283 186	316 210	358 238	162 129	193 147	234 178	279 215	303 233	327 263	364 298	205 172	257 208	291 257	321 286	345 321	376 366
34	140 96	169 114	203 136	234 156	266 170	298 192	344 218	153 118	182 134	220 163	262 196	294 213	318 240	353 273	193 157	242 190	282 235	312 261	335 294	365 335
35	132 88	159 104	192 125	221 143	251 156	281 176	325 200	144 108	172 123	208 150	248 180	281 195	309 220	343 250	182 144	229 175	268 216	303 240	326 269	354 307
36	125 81	151 96	181 115	209 132	238 143	266 162	307 183	136 99	163 113	197 137	234 166	266 179	298 203	333 230	172 132	216 160	254 198	294 220	317 247	344 282
37								129 91	154 104	186 127	222 152	252 165	282 187	324 212	163 122	205 148	240 183	279 203	308 228	335 260
38								122 84	146 96	176 117	210 141	239 153	267 172	309 195	155 112	194 136	228 169	264 187	295 210	326 240
39								116 78	139 89	167 108	199 130	227 141	254 159	293 181	147 104	184 126	216 156	251 173	281 195	318 222
40								110 72	132 82	159 100	190 121	215 131	241 148	279 168	140 96	175 117	205 145	238 161	267 180	309 205
41															133 89	167 109	196 134	227 149	254 167	294 191
42															127 83	159 101	186 125	216 139	242 156	280 177
43															121 78	151 94	178 116	206 129	231 145	267 165
44															115 72	145 88	170 109	197 121	220 136	255 154

*Indicates Nominal Depth of steel joists only.

†Approximate Weights per Linear Foot of steel joists only. Accessories and nailer strip not included.

*†See manufacturers' catalog for detailed information on specific joist types.

**Section 5.9 of the "Standard Specifications for Open Web Steel Joists, J- and H-Series" limits the design LIVE load deflection as follows:

FLOORS, 1/360 span. ROOFS, 1/360 of span where a plaster ceiling is attached or suspended; 1/240 of span for all other cases.



For Joist Depths 24" to 30" inclusive

Joist Designation	24J6	24J7	24J8	24J9	24J10	24J11	26J8	26J9	26J10	26J11	28J8	28J9	28J10	28J11	30J8	30J9	30J10	30J11	
Nominal *Depth (in.)	24	24	24	24	24	24	26	26	26	26	28	28	28	28	30	30	30	30	
Resist. Moment (in.-lbs.)	367,000	460,000	540,000	627,000	701,000	813,000	574,000	682,000	763,000	885,000	621,000	737,000	824,000	957,000	667,000	793,000	885,000	1,029,000	
Max. End React. (lbs.)	4400	4700	5000	5600	5900	6400	5400	5900	6300	6800	5700	6200	6600	7100	5900	6400	6800	7400	
†Approx. Wt. (lbs./ft.)	9.9	11.1	12.4	13.3	14.8	16.7	12.2	14.1	15.4	17.1	13.0	14.3	15.9	17.9	13.8	14.9	16.6	18.3	
Span in Feet																			
24	367	392	417	467	492	533													
25	352	376	400	448	472	512													
26	338	362	385	431	454	492	415	454	485	523									
27	326	348	370	415	437	474	400	437	467	504									
28	312	336	357	400	421	457	386	421	450	486	407	443	471	507					
29	291	324	345	386	407	441	372	407	434	469	393	428	455	490					
30	272	313	333	373	393	427	360	393	420	453	380	413	440	473	393	427	453	493	
31	255 248	303 299	323	361	381	413	348	381	406	439	368	400	426	458	381	413	439	477	
32	239 225	294 272	313	350	369	400	338	369	394	425	356	388	413	444	369	400	425	463	
33	225 205	282 248	303	339	358	388	327	358	382	412	345	376	400	430	358	388	412	448	
34	212 188	265 227	294 283	329 314	347	376	318 317	347	371	400	335	365	388	418	347	376	400	435	
35	200 172	250 208	286 259	320 288	337 323	366	309 290	337	360	389	326	354	377	406	337	366	389	423	
36	189 158	237 191	278 238	311 264	328 297	356 339	295 267	338 312	350	378	317 311	344	367	394	328	356	378	411	
37	179 146	224 176	263 219	303 243	319 274	346 312	280 246	319 288	341 324	368	302 287	335	357	384	319	346	368	400	
38	169 135	212 162	249 202	289 225	311 253	337 288	265 227	311 266	332 299	358 341	287 265	326 310	347	374	308 305	337	358	389	
39	161 124	202 150	237 187	275 208	303 234	328 266	252 210	299 246	323 276	349 316	272 245	318 287	338 322	364	292 282	328	349	379	
40	153 115	192 139	225 174	261 193	292 217	320 247	239 194	284 228	315 256	340 292	259 227	307 266	330 299	355 342	278 262	320 306	340	370	
41	146 107	182 129	214 161	249 179	278 201	312 229	228 181	270 211	303 238	332 272	246 211	292 247	322 278	346 318	265 243	312 285	332 320	361	
42	139 100	174 120	204 150	237 166	265 187	305 213	217 168	258 197	288 221	324 253	235 196	279 229	311 258	338 295	252 226	300 265	324 298	352 341	
43	132 93	166 112	195 140	226 155	253 174	293 199	207 156	246 183	275 206	316 235	224 183	266 214	297 241	330 275	240 211	286 247	316 278	344 318	
44	126 87	158 105	186 130	216 145	241 163	280 186	198 146	235 171	263 193	305 220	214 171	254 200	284 225	323 257	230 196	273 230	305 259	336 297	
45	121 81	151 98	178 122	206 135	231 152	268 173	189 137	225 160	251 180	291 205	204 159	243 187	271 210	315 240	220 184	261 215	291 242	329 278	
46	116 76	145 92	170 114	198 127	221 142	256 162	181 128	215 150	240 168	279 192	196 149	232 175	260 197	302 225	210 172	250 202	279 227	322 260	
47	111 71	139 86	163 107	189 119	212 133	245 152	173 120	206 140	230 158	267 180	187 140	222 164	249 184	289 211	201 161	239 189	267 213	311 244	
48	106 67	133 81	156 100	181 111	203 125	235 143	166 112	197 132	221 148	256 169	180 131	213 154	238 173	277 198	193 151	229 177	256 200	298 229	
49							159 106	189 124	212 139	246 159	172 124	205 144	229 163	266 186	185 142	220 167	246 188	286 215	
50							153 100	182 117	203 131	236 150	166 116	197 136	220 153	255 175	178 134	211 157	236 177	274 202	
51							147 94	175 110	196 124	227 141	159 110	189 128	211 144	245 165	171 126	203 148	227 166	264 191	
52							142 88	168 104	188 117	218 133	153 103	182 121	203 136	236 156	164 119	196 139	218 157	254 180	
53											147 98	175 114	196 128	227 147	158 112	188 132	210 148	244 170	
54											142 92	168 108	188 121	219 139	152 106	181 125	202 140	235 161	
55											137 87	162 102	182 115	211 132	147 101	175 118	195 133	227 152	
56											132 83	157 97	175 109	203 125	142 95	169 112	188 126	219 144	
57														137 90	163 106	182 119	212 137		
58														132 86	157 101	175 113	204 130		
59														128 81	152 95	169 108	197 123		
60														124 77	147 91	164 102	191 117		

*Indicates Nominal Depth of steel joists only.

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