

STANDARD LOAD TABLE

FOR LONGSPAN STEEL JOISTS, LJ-SERIES

Based on Allowable Stress of 22,000 psi

Adopted by Steel Joist Institute and American Institute of Steel Construction, Inc., July 1, 1966

The black figures in the following table give the TOTAL safe uniformly-distributed load-carrying capacities, in pounds per linear foot, of LJ-Series joists. The weight of DEAD loads, including the joists, must in all cases be deducted to determine the LIVE load-carrying capacities of the joists. The approximate DEAD load of the joists may be determined from the weights per linear foot shown in the tables.

The red figures 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 red figure by 1.5. In no case shall the total load capacity of the joist be exceeded.*

This load table applies to joists with either parallel chords or standard pitched top chords. When top chords are pitched, the carrying capacities are determined by the nominal depth of the joists at center of the span.

Standard top chord pitch is 1/8 inch per foot. If pitch exceeds this standard, the load table does not apply. The load table may be used for parallel chord joists installed to a maximum slope of 1/2 inch per foot.

When holes are required in top or bottom chords, the carrying capacities must be reduced in proportion to reduction of chord areas.

The top chords are considered as being stayed laterally by floor slab or roof deck.

Loads to the right of the heavy vertical lines are to be used for roof construction only.

Loads below heavy stepped lines are governed by maximum end reaction.

The approximate joist weights per linear foot shown in these tables include accessories.

Joist Designation	Approx. Wt. in Lbs. per Linear Ft.	Depth in Inches	Maximum End Reaction Lbs.	CLEAR OPENING OR NET SPAN IN FEET															
				25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
18LJ02	13	18	4401	343	324 323	306 289	290 260	275 235	260 212	244 193	230 176	217 160	206 147	195 135	185 124				
18LJ03	14	18	4902	382	362 346	342 310	321 279	300 251	280 227	263 207	247 188	233 172	219 157	207 144	196 133				
18LJ04	16	18	5762	449 430	423 384	394 344	367 309	343 279	321 252	301 229	283 209	266 190	251 174	237 160	224 147				
18LJ05	17	18	6442	502	475 454	450 406	426 365	398 330	372 298	349 271	328 247	309 225	291 206	275 189	260 174				
18LJ06	19	18	7610	593 554	549 494	510 442	475 397	444 358	415 324	389 295	366 268	344 245	325 224	307 206	290 190				
18LJ07	20	18	7912	616	593 560	572 502	532 451	497 407	465 368	436 334	410 304	386 278	364 255	344 234	325 215				
18LJ08	22	18	8529	664	639 620	616 555	595 499	575 450	538 408	505 370	474 337	447 308	421 282	398 259	376 238				
18LJ09	24	18	8803	685	660	636 601	614 540	593 488	574 441	556 401	523 365	492 333	464 305	438 280	415 258				
18LJ10	27	18	9489	739	711	685 676	662 608	639 548	618 496	599 451	581 410	547 375	516 343	488 315	461 290				
18LJ11	29	18	10018	780	751	724 698	698 671	675 605	653 548	632 498	613 453	595 414	578 379	546 348	516 320				
18LJ12	32	18	10358	807	776	748 722	722 656	698 656	675 594	654 539	634 491	615 449	597 411	580 377	565 347				
20LJ03	14	20	4979	388	369	351	334	318 314	304 284	290 258	276 235	260 215	245 196	232 166	219 153	208 141	197 131	187 122	178 122
20LJ04	16	20	5954	464	439	416	395	375 387	356 349	337 316	317 287	298 262	281 239	266 201	251 185	238 170	226 158	215 146	204 135
20LJ05	17	20	6545	510	485	461	439	419 412	399 373	381 339	364 309	346 282	326 258	308 237	291 218	276 201	262 186	249 172	237 160
20LJ06	19	20	7732	602	579	559	530	498 555	466 499	437 450	410 370	386 308	364 282	344 259	326 220	308 203	293 188	278 174	265 174
20LJ07	20	20	8262	643	619	597	576	557 565	521 462	489 419	459 382	432 349	408 319	385 293	365 270	345 249	328 230	311 213	296 198
20LJ08	22	20	8977	699	673	648	626	605 566	585 513	567 466	533 424	502 387	473 355	447 326	423 300	401 276	380 255	361 237	344 220
20LJ09	24	20	9325	726	699	674	650	628 615	608 557	588 506	570 461	554 421	522 386	493 354	467 300	442 278	420 257	399 239	379 268
20LJ10	27	20	10053	783	753	726	701	677 625	655 568	634 517	615 472	597 433	580 397	548 365	519 337	491 312	466 289	443 268	421 268
20LJ11	29	20	10358	807	776	748	722	698	675	654 627	634 571	615 522	597 478	580 439	565 404	550 373	522 344	496 319	472 296
20LJ12	32	20	11058	861	829	799	771	745	721	698 680	677 620	656 566	637 476	620 438	603 404	587 374	572 346	543 346	517 321
20LJ13	36	20	11569	901	867	836	807	779	754	730	708	687 648	667 593	648 545	631 501	614 462	598 427	583 396	569 367



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Joist Designation	Approx. Wt. in Lbs. per Linear Ft.	Depth in Inches	Maximum End Reaction Lbs.	CLEAR OPENING OR NET SPAN IN FEET															
				33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
24LJ04	16	24	5538	329	315	302	290	279	268	258	248	236	225	215	206	197	188	181	173
24LJ05	17	24	6076	361	347	334	322	310	297	284	271	259	248	237	227	218	209	201	194
24LJ06	19	24	7457	443	424	407	390	375	356	339	322	307	293	279	267	255	244	234	225
24LJ07	20	24	8214	488	468	449	431	414	398	379	360	343	327	312	298	285	273	262	251
24LJ08	22	24	9662	574	549	525	503	482	460	438	418	399	380	363	347	332	318	305	292
24LJ09	24	24	10266	609	592	575	560	537	513	487	464	442	421	402	384	368	352	337	324
24LJ10	27	24	10884	646	627	610	593	577	563	540	514	490	467	446	426	408	391	374	359
24LJ11	29	24	11447	680	660	641	624	607	592	577	563	542	521	499	477	457	437	419	402
24LJ12	32	24	12245	727	706	686	667	650	633	617	602	587	574	548	524	501	480	460	441
24LJ13	36	24	12604	748	727	706	687	669	651	635	619	604	590	577	564	552	528	506	486
24LJ14	38	24	13136	780	757	736	716	697	679	662	646	630	615	601	588	575	563	539	517
				41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
28LJ06	19	28	7041	338	327	316	304	292	280	269	259	249	240	232	223	215	208	201	194
28LJ07	20	28	7750	372	360	348	337	326	316	304	292	281	271	261	252	243	234	226	218
28LJ08	22	28	9145	439	423	405	388	372	357	343	330	317	305	294	284	274	264	255	246
28LJ09	24	28	10229	491	473	456	441	424	407	391	376	362	348	336	324	312	302	291	281
28LJ10	27	28	11145	535	519	498	481	465	449	434	418	402	387	373	359	347	335	323	312
28LJ11	29	28	11904	571	558	539	521	504	487	471	456	439	423	408	393	379	366	353	341
28LJ12	32	28	12833	615	601	587	574	562	550	531	513	496	478	460	443	427	413	398	384
28LJ13	36	28	13683	656	641	626	612	599	586	574	562	551	529	509	490	472	455	438	423
28LJ14	38	28	14313	687	670	655	640	626	613	600	588	576	565	544	523	504	486	468	452
28LJ15	41	28	14758	708	691	675	660	646	632	619	606	594	582	571	560	550	530	511	493
				49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
32LJ07	20	32	7400	298	288	278	269	259	251	242	235	227	220	213	206	200	194	189	183
32LJ08	22	32	8493	342	330	318	307	296	286	277	267	259	250	243	235	228	221	214	208
32LJ09	24	32	9784	394	380	366	353	341	330	319	308	298	289	280	271	263	255	247	240
32LJ10	27	32	10653	429	416	404	392	379	366	353	342	331	320	310	300	291	282	274	266
32LJ11	28	32	11522	464	451	435	418	403	388	374	361	349	337	326	315	305	295	286	277
32LJ12	30	32	12987	523	502	483	465	447	431	416	401	387	374	362	350	339	328	318	308
32LJ13	36	32	14878	599	587	575	565	544	525	506	488	471	455	440	426	412	399	387	375
32LJ14	38	32	15334	617	605	593	582	571	561	541	522	504	487	471	456	441	427	414	401
32LJ15	41	32	15858	638	625	613	602	590	580	569	559	550	532	514	497	481	466	451	437
32LJ16	48	32	17296	696	682	669	656	644	632	621	610	599	589	579	570	560	552	535	518
				57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
36LJ08	22	36	7871	273	265	256	249	241	234	227	221	214	208	203	197	192	187	182	177
36LJ09	23	36	9169	318	308	298	288	279	270	262	254	246	239	232	225	219	212	206	201
36LJ10	26	36	10149	352	341	330	320	311	302	293	284	275	267	259	252	245	238	231	225
36LJ11	28	36	11100	385	373	361	350	340	330	320	311	302	294	286	278	270	263	256	249
36LJ12	30	36	12657	439	424	410	397	384	372	360	349	339	329	319	310	301	292	284	276
36LJ13	36	36	15108	524	510	497	482	467	452	438	425	412	400	388	377	366	356	346	336
36LJ14	38	36	16221	562	553	535	517	501	485	470	455	441	428	416	404	392	381	371	360
36LJ15	41	36	17108	593	583	573	564	546	528	512	496	481	467	453	440	427	415	404	393
36LJ16	48	36	18433	639	628	617	607	597	588	579	570	561	553	537	521	507	492	479	466
36LJ17	54	36	19708	683	671	660	649	639	628	619	609	600	591	582	574	565	557	550	535

LONGSPAN STEEL JOISTS, LJ-SERIES

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Joist Designation	Approx. Wt. in Lbs. per Linear Ft.	Depth in Inches	Maximum End Reaction Lbs.	CLEAR OPENING OR NET SPAN IN FEET															
				65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
40LJ09	23	40	8602	262	255	248	241	235	229	223	217	212	207	202	197	192	188	183	179
40LJ10	26	40	9521	290	282	274	267	260	253	246	240	234	228	223	217	212	207	202	198
40LJ11	28	40	10375	316	308	299	291	284	276	269	262	256	249	243	237	232	226	221	216
40LJ12	30	40	12181	371	361	351	341	332	323	315	307	299	291	284	277	270	264	257	251
40LJ13	36	40	14479	441	429	417	406	395	385	375	365	356	347	338	330	322	314	307	300
40LJ14	38	40	16219	494	479	465	452	439	426	415	403	392	382	372	362	353	344	335	327
40LJ15	41	40	17664	538	522	507	492	478	464	452	439	427	416	405	394	384	375	365	356
40LJ16	48	40	19468	592	584	575	567	558	551	535	521	507	493	480	468	456	444	433	422
40LJ17	54	40	20884	636	626	617	608	599	591	582	574	566	559	552	537	524	510	498	485
40LJ18	60	40	22506	685	675	665	655	646	636	628	619	611	602	594	587	579	572	565	558
				656	627	600	575	551	528	506	486	467	448	431	415	399	384	370	
				73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88
44LJ10	26	44	8913	242	236	230	225	219	214	209	205	200	196	191	187	183	179	175	172
44LJ11	27	44	9687	263	257	251	245	239	234	228	223	218	213	208	204	199	195	191	187
44LJ12	30	44	11565	314	306	299	292	285	278	271	265	259	253	248	242	237	232	227	222
44LJ13	35	44	13517	367	357	348	339	330	322	314	306	299	291	285	278	271	265	259	253
44LJ14	38	44	15617	424	413	403	393	384	375	366	357	349	341	334	326	319	312	305	299
44LJ15	41	44	17422	473	460	448	436	425	414	404	394	384	375	366	358	349	341	333	326
44LJ16	48	44	20626	560	545	531	517	504	491	479	467	456	445	434	424	414	405	395	387
44LJ17	54	44	22105	600	592	584	576	569	562	548	536	523	511	499	487	476	465	454	444
44LJ18	60	44	23749	644	636	627	619	611	603	596	588	581	574	567	561	548	535	523	511
44LJ19	68	44	25669	696	687	678	669	661	652	644	636	628	621	613	606	599	592	585	579
				674	647	622	598	575	553	533	513	494	477	460	444	428	414	399	386
				81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
48LJ11	27	48	9024	221	216	212	207	203	199	195	191	187	183	179	176	172	169	166	162
48LJ12	30	48	10984	269	263	257	251	246	241	236	231	226	221	217	213	208	204	200	196
48LJ13	35	48	13025	319	312	305	298	292	286	280	274	268	263	257	252	247	242	237	233
48LJ14	36	48	14618	358	350	341	333	326	318	311	304	297	291	284	278	272	267	261	256
48LJ15	41	48	17190	421	411	401	392	383	374	365	357	349	342	334	327	320	313	307	300
48LJ16	48	48	19926	488	477	466	456	446	437	427	418	409	401	393	385	377	370	362	355
48LJ17	54	48	22376	548	536	524	513	502	491	480	470	460	451	442	433	424	416	407	399
48LJ18	60	48	24871	609	601	594	587	580	573	567	561	548	536	524	513	502	492	481	472
48LJ19	68	48	26364	645	637	630	622	615	608	601	594	588	581	575	569	562	557	545	534
				594	573	552	533	515	497	480	464	449	434	420	406	394	381	369	358

*Section 104.10 of the "Standard Specifications for Longspan Steel Joists, LJ- and LH-Series" limits the design LIVE load deflection as follows: Floors, 1/360 of span. Roofs, 1/360 of span where a plaster ceiling is attached or suspended; 1/240 of span for all other cases.

