

# STANDARD LOAD TABLE

## LONGSPAN STEEL JOISTS, LJ- SERIES

Based on a Maximum Allowable Tensile Stress of 22,000 psi

Adopted by Steel Joist Institute and American Institute of Steel Construction, Inc., July 1, 1970

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.

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	SAFE LOAD** in Lbs. Between	CLEAR OPENING OR NET SPAN IN FEET															
				21-24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
18LJ02	13	18	8800	343	324	306	290	275	260	244	230	217	206	195	185				
					323	289	260	235	212	193	176	160	147	135	124				
18LJ03	14	18	9800	382	362	342	321	300	280	263	247	233	219	207	196				
					346	310	279	251	227	207	188	172	157	144	133				
18LJ04	16	18	11500	449	423	394	367	343	321	301	283	266	251	237	224				
					430	384	344	309	279	252	229	209	190	174	160	147			
18LJ05	17	18	12800	502	475	450	426	398	372	349	328	309	291	275	260				
					454	406	365	330	298	271	247	225	206	189	174				
18LJ06	19	18	15200	593	549	510	475	444	415	389	366	344	325	307	290				
					554	494	442	397	358	324	295	268	245	224	206	190			
18LJ07	20	18	15800	616	593	572	532	497	465	436	410	386	364	344	325				
					560	502	451	407	368	334	304	278	255	234	215				
18LJ08	22	18	17000	664	639	616	595	575	538	505	474	447	421	398	376				
					620	555	499	450	408	370	337	308	282	259	238				
18LJ09	24	18	17600	685	660	636	614	593	574	556	523	492	464	438	415				
						601	540	488	441	401	365	333	305	280	258				
18LJ10	27	18	18900	739	711	685	662	639	618	599	581	547	516	488	461				
						676	608	548	496	451	410	375	343	315	290				
18LJ11	29	18	20000	780	751	724	698	675	653	632	613	595	578	546	516				
							671	605	548	498	453	414	379	348	320				
18LJ12	32	18	20700	807	776	748	722	698	675	654	634	615	597	580	565				
								656	594	539	491	449	411	377	347				
			22-24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
20LJ03	14	20	9900	388	369	351	334	318	304	290	276	260	245	232	219	208	197	187	178
								314	284	258	235	215	196	180	166	153	141	131	122
20LJ04	16	20	11900	464	439	416	395	375	356	337	317	298	281	266	251	238	226	215	204
								387	349	316	287	262	239	219	201	185	170	158	146
20LJ05	17	20	13000	510	485	461	439	419	399	381	364	346	329	308	291	276	262	249	237
								412	373	339	309	282	258	237	218	201	186	172	160
20LJ06	19	20	15400	602	579	559	530	498	466	437	410	386	364	344	326	308	293	278	265
								555	499	450	407	370	337	308	282	259	238	220	203
20LJ07	20	20	16500	643	619	597	576	557	521	489	459	432	408	385	365	345	328	311	296
								565	510	462	419	382	349	319	293	270	249	230	213
20LJ08	22	20	17900	699	673	648	626	605	585	567	533	502	473	447	423	401	380	361	344
								566	513	466	424	387	355	326	300	276	255	237	220
20LJ09	24	20	18600	726	699	674	650	628	608	588	570	554	522	493	467	442	420	399	379
								615	557	506	461	421	386	354	326	300	278	257	239
20LJ10	27	20	20100	783	753	726	701	677	655	634	615	597	580	548	519	491	466	443	421
								625	568	517	472	433	397	365	337	312	289	268	
20LJ11	29	20	20700	807	776	748	722	698	675	654	634	615	597	580	565	550	522	496	472
									627	571	522	478	439	404	373	344	319	296	
20LJ12	32	20	22100	861	829	799	771	745	721	698	677	656	637	620	603	587	572	543	517
										680	620	566	518	476	438	404	374	346	321
20LJ13	36	20	23100	901	867	836	807	779	754	730	708	687	667	648	631	614	598	583	569
											648	593	545	501	462	427	396	367	

# STANDARD LOAD TABLE / LONGSPAN STEEL JOISTS, LJ-SERIES

Based on Allowable Stress of 22,000 psi

Joist Designation	Approx. Wt. in Lbs. per Linear Ft.	Depth in Inches	SAFE LOAD** in Lbs. Between	CLEAR OPENING OR NET SPAN IN FEET															
				28-32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
24LJ04	16	24	11000	329	315	302	290	279	268	258	248	236	225	215	206	197	188	181	173
24LJ05	17	24	12100	361	347	334	322	310	297	284	271	259	248	237	227	218	209	201	194
24LJ06	19	24	14900	443	424	407	390	375	356	339	322	307	293	279	267	255	244	234	225
24LJ07	20	24	16400	488	468	449	431	414	398	379	360	343	327	312	298	285	273	262	251
24LJ08	22	24	19300	574	549	525	503	482	460	438	418	399	380	363	347	322	318	305	292
24LJ09	24	24	20500	609	592	575	560	537	513	487	464	442	421	402	384	368	352	337	324
24LJ10	27	24	21700	646	627	610	593	577	563	540	514	490	467	446	426	408	391	374	359
24LJ11	29	24	22800	680	660	641	624	607	592	577	563	542	521	499	477	457	437	419	402
24LJ12	32	24	24400	727	706	686	667	650	633	617	602	587	574	548	524	501	480	460	441
24LJ13	36	24	25200	748	727	706	687	669	651	635	619	604	590	577	564	552	528	506	486
24LJ14	38	24	26200	780	757	736	716	697	679	662	646	630	615	601	588	575	563	539	517
			<b>33-40</b>	<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>	<b>51</b>	<b>52</b>	<b>53</b>	<b>54</b>	<b>55</b>	<b>56</b>
28LJ06	19	28	14000	338	327	316	304	292	280	269	259	249	240	232	223	215	208	201	194
28LJ07	20	28	15500	372	360	348	337	326	316	304	292	281	271	261	252	243	234	226	218
28LJ08	22	28	18200	439	423	405	388	372	357	343	330	317	305	294	284	274	264	255	246
28LJ09	24	28	20400	491	473	456	441	424	407	391	376	362	348	336	324	312	302	291	281
28LJ10	27	28	22200	535	516	498	481	465	449	434	418	402	387	373	359	347	335	323	312
28LJ11	29	28	23800	571	558	539	521	504	487	471	456	439	423	408	393	379	366	353	341
28LJ12	32	28	25600	615	601	587	574	562	550	531	513	496	478	460	443	427	413	398	384
28LJ13	36	28	27300	656	641	626	612	599	586	574	562	551	529	509	490	472	455	438	423
28LJ14	38	28	28600	687	670	655	640	626	613	600	588	576	565	544	523	504	486	468	452
28LJ15	41	28	29500	708	691	675	660	646	632	619	606	594	582	571	560	550	530	511	493
			<b>38-48</b>	<b>49</b>	<b>50</b>	<b>51</b>	<b>52</b>	<b>53</b>	<b>54</b>	<b>55</b>	<b>56</b>	<b>57</b>	<b>58</b>	<b>59</b>	<b>60</b>	<b>61</b>	<b>62</b>	<b>63</b>	<b>64</b>
32LJ07	20	32	14800	298	288	278	269	259	251	242	235	227	220	213	206	200	194	189	183
32LJ08	22	32	16900	342	330	318	307	296	286	277	267	259	250	243	235	228	221	214	208
32LJ09	24	32	19500	394	380	366	353	341	330	319	308	298	289	280	271	263	255	247	240
32LJ10	27	32	21300	429	416	404	392	379	366	353	342	331	320	310	300	291	282	274	266
32LJ11	28	32	23000	464	451	435	418	403	388	374	361	349	337	326	315	305	295	286	277
32LJ12	30	32	25900	523	502	483	465	447	431	416	401	387	374	362	350	339	328	318	308
32LJ13	36	32	29700	599	587	575	565	544	525	506	488	471	455	440	426	412	399	387	375
32LJ14	38	32	30600	617	605	593	582	571	561	541	522	504	487	471	456	441	427	414	401
32LJ15	41	32	31700	638	625	613	602	590	580	569	559	550	532	514	497	481	466	451	437
32LJ16	48	32	34500	696	682	669	656	644	632	621	610	599	589	579	570	560	552	535	518
			<b>42-56</b>	<b>57</b>	<b>58</b>	<b>59</b>	<b>60</b>	<b>61</b>	<b>62</b>	<b>63</b>	<b>64</b>	<b>65</b>	<b>66</b>	<b>67</b>	<b>68</b>	<b>69</b>	<b>70</b>	<b>71</b>	<b>72</b>
36LJ08	22	36	15700	273	265	256	249	241	234	227	221	214	208	203	197	192	187	182	177
36LJ09	23	36	18300	318	308	298	288	279	270	262	254	246	239	232	225	219	212	206	201
36LJ10	26	36	20200	351	342	330	320	311	302	293	284	275	267	259	252	245	238	231	225
36LJ11	28	36	22200	385	373	361	350	340	330	320	311	302	294	286	278	270	263	256	249
36LJ12	30	36	25300	439	424	410	397	384	372	360	349	339	329	319	310	301	292	284	276
36LJ13	36	36	30200	524	510	497	482	467	452	438	425	412	400	388	377	366	356	346	336
36LJ14	38	36	32400	562	553	535	517	501	485	470	455	441	428	416	404	392	381	371	360
36LJ15	41	36	34200	581	573	553	535	517	501	485	470	455	441	428	416	404	392	381	370
36LJ16	48	36	36800	639	628	617	607	597	588	579	570	561	553	537	521	507	492	479	466
36LJ17	54	36	39400	683	671	660	649	639	628	619	609	600	591	582	574	565	557	550	535

