

# STANDARD LOAD TABLE

## LONGSPAN STEEL JOISTS, LH-SERIES

Based on a Maximum Allowable Tensile Stress of 30 ksi  
 Adopted by the Steel Joist Institute May 25, 1983;  
 Revised to May 1, 2000 – Effective August 1, 2002

The black figures in the following table give the TOTAL safe uniformly distributed load-carrying capacities, in pounds per linear foot, of LH-Series Steel 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  $\frac{1}{360}$  of the span. LIVE loads which will produce a deflection of  $\frac{1}{240}$  of the span may be obtained by multiplying the RED figures by 1.5. In no case shall the TOTAL load capacity of the joists 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 the center of the span. Standard top chord pitch is  $\frac{1}{8}$  inch per foot. If pitch exceeds this standard, the load table does not apply. Sloped parallel-chord joists shall use span as defined by the length along the slope.

Where the joist span is in the RED SHADED area of the load table, the row of bridging nearest the midspan shall be diagonal bridging with bolted connections at chords and intersection. Hoisting cables shall not be released until this row of bolted diagonal bridging is completely installed.

Where the joist span is in the BLUE SHADED area of the load table, all rows of bridging shall be diagonal bridging with bolted connections at chords and intersection. Hoisting cables shall not be released until the two rows of bridging nearest the third points are completely installed.

The approximate moment of inertia of the joist, in inches<sup>4</sup> is;  
 $I_j = 26.767(W_{LL})(L^3)(10^{-6})$ , where  $W_{LL}$  = RED figure in the Load Table, and L = (clear span + .67) in feet.

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

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

The approximate joist weights per linear foot shown in these tables do not include accessories.

Joist Designation	Approx. Wt in Lbs. Per Linear Ft (Joists only)	Depth in inches	SAFE LOAD* in Lbs. Between	CLEAR SPAN IN FEET																
				21-24	25	26	27	28	29	30	31	32	33	34	35	36				
18LH02	10	18	12000	468	442	418	391	367	345	324	306	289	273	259	245					
				313	284	259	234	212	193	175	160	147	135	124	114					
18LH03	11	18	13300	521	493	467	438	409	382	359	337	317	299	283	267					
				348	317	289	262	236	213	194	177	161	148	136	124					
18LH04	12	18	15500	604	571	535	500	469	440	413	388	365	344	325	308					
				403	367	329	296	266	242	219	200	182	167	153	141					
18LH05	15	18	17500	684	648	614	581	543	508	476	448	421	397	375	355					
				454	414	378	345	311	282	256	233	212	195	179	164					
18LH06	15	18	20700	809	749	696	648	605	566	531	499	470	443	418	396					
				526	469	419	377	340	307	280	254	232	212	195	180					
18LH07	17	18	21500	840	809	780	726	678	635	595	559	526	496	469	444					
				553	513	476	428	386	349	317	288	264	241	222	204					
18LH08	19	18	22400	876	843	812	784	758	717	680	641	604	571	540	512					
				577	534	496	462	427	387	351	320	292	267	246	226					
18LH09	21	18	24000	936	901	868	838	810	783	759	713	671	633	598	566					
				616	571	527	491	458	418	380	346	316	289	266	245					
			22-24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
20LH02	10	20	11300	442	437	431	410	388	365	344	325	307	291	275	262	249	237	225	215	
				306	303	298	274	250	228	208	190	174	160	147	136	126	117	108	101	
20LH03	11	20	12000	469	463	458	452	434	414	395	372	352	333	316	299	283	269	255	243	
				337	333	317	302	280	258	238	218	200	184	169	156	143	133	123	114	
20LH04	12	20	14700	574	566	558	528	496	467	440	416	393	372	353	335	318	303	289	275	
				428	406	386	352	320	291	265	243	223	205	189	174	161	149	139	129	
20LH05	14	20	15800	616	609	602	595	571	544	513	484	458	434	411	390	371	353	336	321	
				459	437	416	395	366	337	308	281	258	238	219	202	187	173	161	150	
20LH06	15	20	21100	822	791	763	723	679	635	596	560	527	497	469	444	421	399	379	361	
				606	561	521	477	427	386	351	320	292	267	246	226	209	192	178	165	
20LH07	17	20	22500	878	845	814	786	760	711	667	627	590	556	526	497	471	447	425	404	
				647	599	556	518	484	438	398	362	331	303	278	256	236	218	202	187	
20LH08	19	20	23200	908	873	842	813	785	760	722	687	654	621	588	558	530	503	479	457	
				669	619	575	536	500	468	428	395	365	336	309	285	262	242	225	209	
20LH09	21	20	25400	990	953	918	886	856	828	802	778	755	712	673	636	603	572	544	517	
				729	675	626	581	542	507	475	437	399	366	336	309	285	264	244	227	
20LH10	23	20	27400	1068	1028	991	956	924	894	865	839	814	791	748	707	670	636	604	575	
				786	724	673	626	585	545	510	479	448	411	377	346	320	296	274	254	

**STANDARD LOAD TABLE/LONG SPAN STEEL JOISTS, LH-SERIES**  
Based on a Maximum Allowable Tensile Stress of 30 ksi

Joist Designation	Approx. Wt in Lbs. Per Linear Ft. (Joists only)	Depth in inches	SAFELOAD* in Lbs. Between	CLEAR SPAN IN FEET																		
				28-32		33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
				33-39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	
24LH03	11	24	11500	342	339	336	323	307	293	279	267	255	244	234	224	215	207	199	191			
				235	226	218	204	188	175	162	152	141	132	124	116	109	102	96	90			
24LH04	12	24	14100	419	398	379	360	343	327	312	298	285	273	262	251	241	231	222	214			
				288	265	246	227	210	195	182	169	158	148	138	130	122	114	107	101			
24LH05	13	24	15100	449	446	440	419	399	380	363	347	331	317	304	291	280	269	258	248			
				308	297	285	264	244	226	210	196	182	171	160	150	141	132	124	117			
24LH06	16	24	20300	604	579	555	530	504	480	457	437	417	399	381	364	348	334	320	307			
				411	382	356	331	306	284	263	245	228	211	197	184	172	161	152	142			
24LH07	17	24	22300	665	638	613	588	565	541	516	491	468	446	426	407	389	373	357	343			
				452	421	393	367	343	320	297	276	257	239	223	208	195	182	171	161			
24LH08	18	24	23800	707	677	649	622	597	572	545	520	497	475	455	435	417	400	384	369			
				480	447	416	388	362	338	314	292	272	254	238	222	208	196	184	173			
24LH09	21	24	28000	832	808	785	764	731	696	663	632	602	574	548	524	501	480	460	441			
				562	530	501	460	424	393	363	337	313	292	272	254	238	223	209	196			
24LH10	23	24	29600	882	856	832	809	788	768	737	702	668	637	608	582	556	533	511	490			
				596	559	528	500	474	439	406	378	351	326	304	285	266	249	234	220			
24LH11	25	24	31200	927	900	875	851	829	807	787	768	734	701	671	642	616	590	567	544			
				624	588	555	525	498	472	449	418	388	361	337	315	294	276	259	243			
				33-39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	
28LH05	13	28	14000	14000	337	323	310	297	286	275	265	255	245	237	228	220	213	206	199	193		
					219	205	192	180	169	159	150	142	133	126	119	113	107	102	97	92		
28LH06	16	28	18600	18600	448	429	412	395	379	364	350	337	324	313	301	291	281	271	262	253		
					289	270	253	238	223	209	197	186	175	166	156	148	140	133	126	120		
28LH07	17	28	21000	21000	505	484	464	445	427	410	394	379	365	352	339	327	316	305	295	285		
					326	305	285	267	251	236	222	209	197	186	176	166	158	150	142	135		
28LH08	18	28	22500	22500	540	517	496	475	456	438	420	403	387	371	357	344	331	319	308	297		
					348	325	305	285	268	252	236	222	209	196	185	175	165	156	148	140		
28LH09	21	28	27700	27700	667	639	612	586	563	540	519	499	481	463	446	430	415	401	387	374		
					428	400	375	351	329	309	291	274	258	243	228	216	204	193	183	173		
28LH10	23	28	30300	30300	729	704	679	651	625	600	576	554	533	513	495	477	460	444	429	415		
					466	439	414	388	364	342	322	303	285	269	255	241	228	215	204	193		
28LH11	25	28	32500	32500	780	762	736	711	682	655	629	605	582	561	540	521	502	485	468	453		
					498	475	448	423	397	373	351	331	312	294	278	263	249	236	223	212		
28LH12	27	28	35700	35700	857	837	818	800	782	766	737	709	682	656	632	609	587	566	546	527		
					545	520	496	476	454	435	408	383	361	340	321	303	285	270	256	243		
28LH13	30	28	37200	37200	895	874	854	835	816	799	782	766	751	722	694	668	643	620	598	577		
					569	543	518	495	472	452	433	415	396	373	352	332	314	297	281	266		
					38-46	47-48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
32LH06	14	32	16700	16700	338	326	315	304	294	284	275	266	257	249	242	234	227	220	214	208		
					211	199	189	179	169	161	153	145	138	131	125	119	114	108	104	99		
32LH07	16	32	18800	18800	379	366	353	341	329	318	308	298	288	279	271	262	254	247	240	233		
					235	223	211	200	189	179	170	162	154	146	140	133	127	121	116	111		
32LH08	17	32	20400	20400	411	397	383	369	357	345	333	322	312	302	293	284	275	267	259	252		
					255	242	229	216	205	194	184	175	167	159	151	144	137	131	125	120		
32LH09	21	32	25600	25600	516	498	480	463	447	432	418	404	391	379	367	356	345	335	325	315		
					319	302	285	270	256	243	230	219	208	198	189	180	172	164	157	149		
32LH10	21	32	28300	28300	571	550	531	512	495	478	462	445	430	416	402	389	376	364	353	342		
					352	332	315	297	282	267	254	240	228	217	206	196	186	178	169	162		
32LH11	24	32	31000	31000	625	602	580	560	541	522	505	488	473	458	443	429	416	403	390	378		
					385	363	343	325	308	292	277	263	251	239	227	216	206	196	187	179		
32LH12	27	32	36400	36400	734	712	688	664	641	619	598	578	559	541	524	508	492	477	463	449		
					450	428	406	384	364	345	327	311	295	281	267	255	243	232	221	211		
32LH13	30	32	40600	40600	817	801	785	771	742	715	690	666	643	621	600	581	562	544	527	511		
					500	480	461	444	420	397	376	354	336	319	304	288	275	262	249	238		
32LH14	33	32	41800	41800	843	826	810	795	780	766	738	713	688	665	643	622	602	583	564	547		
					515	495	476	458	440	417	395	374	355	337	321	304	290	276	264	251		
32LH15	35	32	43200	43200	870	853	837	821	805	791	776	763	750	725	701	678	656	635	616	597		
					532	511	492	473	454	438	422	407	393	374	355	338	322	306	292	279		
					42-46	47-56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
36LH07	16	36	16800	16800	292	283	274	266	258	251	244	237	230	224	218	212	207	201	196	191		
					177	168	160	153	146	140	134	128	122	117	112	107	103	99	95	91		
36LH08	18	36	18500	18500	321	311	302	293	284	276	268	260	253	246	239	233	227	221	215	209		
					194	185	176	168	160	153	146	140	134	128	123	118	113	109	104	100		
36LH09	21	36	23700	23700	411	398	386	374	363	352	342	333	323	314	306	297	289					

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Based on a Maximum Allowable Tensile Stress of 30 ksi

Joist Designation	Approx. Wt in Lbs. Per Linear Ft. (Joists Only)	Depth in inches	SAFELOAD* in Lbs. Between		CLEAR SPAN IN FEET															
			47-59	60-64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
40LH08	16	40	16600	16600	254	247	241	234	228	222	217	211	206	201	196	192	187	183	178	174
					150	144	138	132	127	122	117	112	108	104	100	97	93	90	86	83
40LH09	21	40	21800	21800	332	323	315	306	298	291	283	276	269	263	256	250	244	239	233	228
					196	188	180	173	166	160	153	147	141	136	131	126	122	118	113	109
40LH10	21	40	24000	24000	367	357	347	338	329	321	313	305	297	290	283	276	269	262	255	249
					216	207	198	190	183	176	169	162	156	150	144	139	134	129	124	119
40LH11	22	40	26200	26200	399	388	378	368	358	349	340	332	323	315	308	300	293	286	279	273
					234	224	215	207	198	190	183	176	169	163	157	151	145	140	135	130
40LH12	25	40	31900	31900	486	472	459	447	435	424	413	402	392	382	373	364	355	346	338	330
					285	273	261	251	241	231	222	213	205	197	189	182	176	169	163	157
40LH13	30	40	37600	37600	573	557	542	528	514	500	487	475	463	451	440	429	419	409	399	390
					334	320	307	295	283	271	260	250	241	231	223	214	207	199	192	185
40LH14	35	40	43000	43000	656	638	620	603	587	571	556	542	528	515	502	490	478	466	455	444
					383	367	351	336	323	309	297	285	273	263	252	243	233	225	216	209
40LH15	36	40	48100	48100	734	712	691	671	652	633	616	599	583	567	552	538	524	511	498	486
					427	408	390	373	357	342	328	315	302	290	279	268	258	248	239	230
40LH16	42	40	53000	53000	808	796	784	772	761	751	730	710	691	673	655	638	622	606	591	576
					469	455	441	428	416	404	387	371	356	342	329	316	304	292	282	271
			<b>52-59</b>	<b>60-72</b>	<b>73</b>	<b>74</b>	<b>75</b>	<b>76</b>	<b>77</b>	<b>78</b>	<b>79</b>	<b>80</b>	<b>81</b>	<b>82</b>	<b>83</b>	<b>84</b>	<b>85</b>	<b>86</b>	<b>87</b>	<b>88</b>
44LH09	19	44	20000	20000	272	265	259	253	247	242	236	231	226	221	216	211	207	202	198	194
					158	152	146	141	136	131	127	122	118	114	110	106	103	99	96	93
44LH10	21	44	22100	22100	300	293	286	279	272	266	260	254	249	243	238	233	228	223	218	214
					174	168	162	155	150	144	139	134	130	125	121	117	113	110	106	103
44LH11	22	44	23900	23900	325	317	310	302	295	289	282	276	269	264	258	252	247	242	236	232
					188	181	175	168	162	157	151	146	140	136	131	127	123	119	115	111
44LH12	25	44	29600	29600	402	393	383	374	365	356	347	339	331	323	315	308	300	293	287	280
					232	224	215	207	200	192	185	179	172	166	160	155	149	144	139	134
44LH13	30	44	35100	35100	477	466	454	444	433	423	413	404	395	386	377	369	361	353	346	338
					275	265	254	246	236	228	220	212	205	198	191	185	179	173	167	161
44LH14	31	44	40400	40400	549	534	520	506	493	481	469	457	446	436	425	415	406	396	387	379
					315	302	291	279	268	259	249	240	231	223	215	207	200	193	187	181
44LH15	36	44	47000	47000	639	623	608	593	579	565	551	537	524	512	500	488	476	466	455	445
					366	352	339	326	314	303	292	281	271	261	252	243	234	227	219	211
44LH16	42	44	54200	54200	737	719	701	684	668	652	637	622	608	594	580	568	555	543	531	520
					421	405	390	375	362	348	336	324	313	302	291	282	272	263	255	246
44LH17	47	44	58200	58200	790	780	769	759	750	732	715	699	683	667	652	638	624	610	597	584
					450	438	426	415	405	390	376	363	351	338	327	316	305	295	285	276
			<b>56-59</b>	<b>60-80</b>	<b>81</b>	<b>82</b>	<b>83</b>	<b>84</b>	<b>85</b>	<b>86</b>	<b>87</b>	<b>88</b>	<b>89</b>	<b>90</b>	<b>91</b>	<b>92</b>	<b>93</b>	<b>94</b>	<b>95</b>	<b>96</b>
48LH10	21	48	20000	20000	246	241	236	231	226	221	217	212	208	204	200	196	192	188	185	181
					141	136	132	127	123	119	116	112	108	105	102	99	96	93	90	87
48LH11	22	48	21700	21700	266	260	255	249	244	239	234	229	225	220	216	212	208	204	200	196
					152	147	142	137	133	129	125	120	117	113	110	106	103	100	97	94
48LH12	25	48	27400	27400	336	329	322	315	308	301	295	289	283	277	272	266	261	256	251	246
					191	185	179	173	167	161	156	151	147	142	138	133	129	126	122	118
48LH13	29	48	32800	32800	402	393	384	376	368	360	353	345	338	332	325	318	312	306	300	294
					228	221	213	206	199	193	187	180	175	170	164	159	154	150	145	141
48LH14	32	48	38700	38700	475	464	454	444	434	425	416	407	399	390	383	375	367	360	353	346
					269	260	251	243	234	227	220	212	206	199	193	187	181	176	171	165
48LH15	36	48	44500	44500	545	533	521	510	499	488	478	468	458	448	439	430	422	413	405	397
					308	298	287	278	269	260	252	244	236	228	221	214	208	201	195	189
48LH16	42	48	51300	51300	629	615	601	588	576	563	551	540	528	518	507	497	487	477	468	459
					355	343	331	320	310	299	289	280	271	263	255	247	239	232	225	218
48LH17	47	48	57600	57600	706	690	675	660	646	632	619	606	593	581	569	558	547	536	525	515
					397	383	371	358	346	335	324	314	304	294	285	276	268	260	252	245

\* The safe uniform load for the clear spans shown in the Safe Load Column is equal to (Safe Load)/(Clear span + 0.67). (The added 0.67 feet (8 inches) is required to obtain the proper length on which the Load Tables were developed).

In no case shall the safe uniform load, for clear spans less than the minimum clear span shown in the Safe Load Column, exceed the uniform load calculated for the

minimum clear span listed in the Safe Load Column.

To solve for live loads for clear spans shown in the Safe Load Column (or lesser clear spans), multiply the live load of the shortest clear span shown in the Load Table by the (the shortest clear span shown in the Load Table + 0.67 feet)<sup>2</sup> and divide by (the actual clear span + 0.67 feet)<sup>2</sup>. The live load shall not exceed the safe uniform load.

