

STANDARD LRFD LOAD TABLE

LONGSPAN STEEL JOISTS, LH-SERIES

Based on a 50 ksi Maximum Yield Strength
Adopted by the Steel Joist Institute May 1, 2000
Revised to May 18, 2010 – Effective December 31, 2010

The **BLACK** figures in the Load Table give the TOTAL safe factored uniformly distributed load-carrying capacities, in pounds per linear foot, of **LRFD LH-Series** Steel Joists.

The approximate joist weights, in pounds per linear foot, given in the Load Table may be added to the other building weights to determine the unfactored DEAD load. In all cases the factored DEAD load, including the joist self-weight, must be deducted from the TOTAL load to determine the factored LIVE load. The approximate joist weights do not include accessories.

The **RED** figures in the Load Table represent the unfactored, uniform load, in pounds per linear foot, which will produce an approximate joist deflection of 1/360 of the span. This load can be linearly prorated to obtain the unfactored, uniform load for supplementary deflection criteria (i.e. an unfactored uniform load which will produce a joist deflection of 1/240 of the span may be obtained by multiplying the **RED** figures by 360/240). In no case shall the prorated, unfactored load exceed the unfactored TOTAL load-carrying capacity of the joist as given in the Standard **ASD** Load Table for Longspan Steel Joists, **LH-Series**.

The Load Table applies to joists with either parallel chords or pitched top chords. Joists can have a top chord pitch up to 1/2 inch per foot. If the pitch exceeds this limit, the Load Table does not apply. When top chords are pitched, the load-carrying capacities are determined by the nominal depth of the joists at the center of the span. 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 mid span shall be diagonal bridging with bolted connections at chords and intersections. Hoisting cables shall not be released until this row of bolted diagonal bridging is completely installed. The **RED SHADED** area extends up through 60'-0".

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 intersections. Hoisting cables shall not be released until the two rows of bridging nearest the third points are completely installed. The **BLUE SHADED** area starts after 60'-0" and extends up through 100'-0".

The approximate gross moment of inertia (not adjusted for shear deformation), in inches⁴, of a standard joist listed in the Load Table may be determined as follows:

$$I_j = 26.767(W)(L^3)(10^{-6}), \text{ where } W = \text{RED figure in the Load Table, and}$$
$$L = (\text{span} - 0.33) \text{ in feet.}$$

Loads for span increments not explicitly given in the Load Table may be determined using linear interpolation between the load values given in adjacent span columns.

*The safe factored uniform load for the spans shown in the SAFE LOAD Column is equal to (SAFE LOAD) / (span). The TOTAL safe factored uniformly distributed load-carrying capacity, for spans less than those shown in the SAFE LOAD Column are given in the MAX LOAD Column.

To solve for an unfactored RED figure for spans shown in the SAFE LOAD Column (or lesser spans), multiply the unfactored RED figure of the shortest span shown in the Load Table by (the shortest span shown in the Load Table – 0.33 feet)² and divide by (the actual span – 0.33 feet)². In no case shall the calculated unfactored load exceed the unfactored TOTAL load-carrying capacity of the joist as determined from the Standard **ASD** Load Table for Longspan Steel Joists, **LH-Series**.



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STANDARD LOAD TABLE FOR LONGSPAN STEEL JOISTS, LH-SERIES

Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	Approx. Wt in Lbs. Per Linear Ft. (Joists only)	Depth in inches	Max Load (plf)	SAFE LOAD* in Lbs. Between	SPAN IN FEET															
					22-25	26	27	28	29	30	31	32	33	34	35	36				
					< 22	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
18LH02	10	18	829	18240	702 313	663 284	627 259	586 234	550 212	517 193	486 175	459 160	433 147	409 135	388 124					
18LH03	11	18	919	20220	781 348	739 317	700 289	657 262	613 236	573 213	538 194	505 177	475 161	448 148	424 136					
18LH04	12	18	1070	23550	906 403	856 367	802 329	750 296	703 266	660 242	619 219	582 200	547 182	516 167	487 153					
18LH05	15	18	1210	26610	1026 454	972 414	921 378	871 345	814 311	762 282	714 256	672 233	631 212	595 195	562 179					
18LH06	15	18	1430	31470	1213 526	1123 469	1044 419	972 377	907 340	849 307	796 280	748 254	705 232	664 212	627 195					
18LH07	17	18	1485	32670	1260 553	1213 513	1170 476	1089 428	1017 386	952 349	892 317	838 288	789 264	744 241	703 222					
18LH08	19	18	1548	34050	1314 577	1264 534	1218 496	1176 462	1137 427	1075 387	1020 351	961 320	906 292	856 267	810 246					
18LH09	21	18	1658	36480	1404 616	1351 571	1302 527	1257 491	1215 458	1174 418	1138 380	1069 346	1006 316	949 289	897 266					
			< 23	23-25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
20LH02	10	20	747	17190	663 306	655 303	646 298	615 274	582 250	547 228	516 208	487 190	460 174	436 160	412 147	393 136	373 126	355 117	337 108	
20LH03	11	20	793	18240	703 337	694 333	687 317	678 302	651 280	621 258	592 238	558 218	528 200	499 184	474 169	448 156	424 143	403 133	382 123	
20LH04	12	20	972	22350	861 428	849 406	837 386	792 352	744 320	700 291	660 265	624 243	589 223	558 205	529 189	502 174	477 161	454 149	433 139	
20LH05	14	20	1045	24030	924 459	913 437	903 416	892 395	856 366	816 337	769 308	726 281	687 258	651 238	616 219	585 202	556 187	529 173	504 161	
20LH06	15	20	1394	32070	1233 606	1186 561	1144 521	1084 477	1018 427	952 386	894 351	840 320	790 292	745 267	703 246	666 226	631 209	598 192	568 178	
20LH07	17	20	1487	34200	1317 647	1267 599	1221 556	1179 518	1140 484	1066 438	1000 398	940 362	885 331	834 303	789 278	745 256	706 236	670 218	637 202	
20LH08	19	20	1534	35280	1362 669	1309 619	1263 575	1219 536	1177 500	1140 468	1083 428	1030 395	981 365	931 336	882 309	837 285	795 262	754 242	718 225	
20LH09	21	20	1679	38610	1485 729	1429 675	1377 626	1329 581	1284 542	1242 507	1203 475	1167 437	1132 399	1068 366	1009 336	954 309	904 285	858 264	816 244	
20LH10	23	20	1810	41640	1602 786	1542 724	1486 673	1434 626	1386 585	1341 545	1297 510	1258 479	1221 448	1186 411	1122 377	1060 346	1005 320	954 296	906 274	



STANDARD LOAD TABLE FOR LONGSPAN STEEL JOISTS, LH-SERIES
 Based on a 50 ksi Maximum Yield Strength - Loads Shown in Pounds Per Linear Foot (plf)

Joist Designation	Approx. Wt in Lbs. Per Linear Ft. (Joists only)	Depth in inches	Max Load (plf) < 29	SAFELOAD* in Lbs. Between	SPAN IN FEET															
					29-33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
					34-41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
24LH03	11	24	601	17430	513	508	504	484	460	439	418	400	382	366	351	336	322	310	298	
24LH04	12	24	737	21360	628	597	568	540	514	490	468	447	427	409	393	376	361	346	333	
24LH05	13	24	789	22890	673	669	660	628	598	570	544	520	496	475	456	436	420	403	387	
24LH06	16	24	1061	30780	906	868	832	795	756	720	685	655	625	598	571	546	522	501	480	
24LH07	17	24	1166	33810	997	957	919	882	847	811	774	736	702	669	639	610	583	559	535	
24LH08	18	24	1243	36060	1060	1015	973	933	895	858	817	780	745	712	682	652	625	600	576	
24LH09	21	24	1464	42450	1248	1212	1177	1146	1096	1044	994	948	903	861	822	786	751	720	690	
24LH10	23	24	1547	44850	1323	1284	1248	1213	1182	1152	1105	1053	1002	955	912	873	834	799	766	
24LH11	25	24	1630	47280	1390	1350	1312	1276	1243	1210	1180	1152	1101	1051	1006	963	924	885	850	
28LH05	13	28	623	21180	505	484	465	445	429	417	397	382	367	355	342	330	319	309	298	
28LH06	16	28	828	28140	672	643	618	592	568	546	525	505	486	469	451	436	421	406	393	
28LH07	17	28	934	31770	757	726	696	667	640	615	591	568	547	528	508	490	474	457	442	
28LH08	18	28	1001	34020	810	775	744	712	684	657	630	604	580	556	535	516	496	478	462	
28LH09	21	28	1232	41880	1000	958	918	879	844	810	778	748	721	694	669	645	622	601	580	
28LH10	23	28	1347	45810	1093	1056	1018	976	937	900	864	831	799	769	742	715	690	666	643	
28LH11	25	28	1445	49140	1170	1143	1104	1066	1023	982	943	907	873	841	810	781	753	727	702	
28LH12	27	28	1587	53970	1285	1255	1227	1200	1173	1149	1105	1063	1023	984	948	913	880	849	819	
28LH13	30	28	1654	56250	1342	1311	1281	1252	1224	1198	1173	1149	1126	1083	1041	1002	964	930	897	
32LH06	14	32	647	25230	507	489	472	456	441	426	412	399	385	373	363	351	340	330	321	
32LH07	16	32	728	28380	568	549	529	511	493	477	462	447	432	418	406	393	381	370	360	
32LH08	17	32	790	30810	616	595	574	553	535	517	499	483	468	453	439	426	412	400	388	
32LH09	21	32	992	38670	774	747	720	694	670	648	627	606	586	568	550	534	517	502	487	
32LH10	21	32	1096	42750	856	825	796	768	742	717	693	667	645	624	603	583	564	546	529	
32LH11	24	32	1201	46830	937	903	870	840	811	783	757	732	709	687	664	643	624	604	585	
32LH12	27	32	1409	54960	1101	1068	1032	996	961	928	897	867	838	811	786	762	738	715	694	
32LH13	30	32	1572	61320	1225	1201	1177	1156	1113	1072	1035	999	964	931	900	871	843	816	790	
32LH14	33	32	1618	63120	1264	1239	1215	1192	1170	1149	1107	1069	1032	997	964	933	903	874	846	
32LH15	35	32	1673	65250	1305	1279	1255	1231	1207	1186	1164	1144	1125	1087	1051	1017	984	952	924	
36LH07	16	36	590	25350	438	424	411	399	387	376	366	355	345	336	327	318	310	301	294	
36LH08	18	36	649	27900	481	466	453	439	426	414	402	390	379	369	358	349	340	331	322	
36LH09	21	36	832	35760	616	597	579	561	544	528	513	499	484	471	459	445	433	423	412	
36LH10	21	36	916	39390	681	660	639	619	601	583	567	550	535	520	507	492	480	466	454	
36LH11	23	36	1000	42990	742	720	697	676	657	637	618	601	583	567	552	537	522	508	495	
36LH12	25	36	1197	51450	889	862	835	810	784	762	739	717	696	675	655	636	618	600	583	
36LH13	30	36	1407	60510	1045	1012	981	951	922	894	868	843	819	796	774	753	732	712	694	
36LH14	36	36	1551	66690	1152	1132	1093	1059	1024	991	961	931	903	876	850	826	802	780	757	
36LH15	36	36	1635	70320	1213	1192	1171	1153	1116	1081	1047	1015	984	955	927	900	874	850	826	



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Joist Designation	Approx. Wt in Lbs. Per Linear Ft. (Joists Only)	Depth in inches	Max Load (plf) < 48	SAFELOAD* in Lbs. Between		SPAN IN FEET														
				48-59	60-65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
				40LH08	16	40	521	25020	25020	381	370	361	351	342	333	325	316	309	301	294
40LH09	21	40	685	32880	32880	498	484	472	459	447	436	424	414	403	394	384	375	366	358	349
40LH10	21	40	754	36180	36180	550	535	520	507	493	481	469	457	445	435	424	414	403	393	382
40LH11	22	40	823	39510	39510	598	582	567	552	537	523	510	498	484	472	462	450	439	429	418
40LH12	25	40	1002	48090	48090	729	708	688	670	652	636	619	603	588	573	559	546	532	519	507
40LH13	30	40	1181	56700	56700	859	835	813	792	771	750	730	712	694	676	660	643	628	613	598
40LH14	35	40	1351	64830	64830	984	957	930	904	880	856	834	813	792	772	753	735	717	699	682
40LH15	36	40	1511	72510	72510	1101	1068	1036	1006	978	949	924	898	874	850	828	807	786	766	747
40LH16	42	40	1665	79920	79920	1212	1194	1176	1158	1141	1126	1095	1065	1036	1009	982	957	933	909	886
			< 53	53-59	60-73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88
44LH09	19	44	569	30150	30150	408	397	388	379	370	363	354	346	339	331	324	316	310	303	297
44LH10	21	44	628	33300	33300	450	439	429	418	408	399	390	381	373	364	357	349	342	334	327
44LH11	22	44	679	36000	36000	487	475	465	453	442	433	423	414	403	396	387	378	370	363	354
44LH12	25	44	842	44610	44610	603	589	574	561	547	534	520	508	496	484	472	462	450	439	430
44LH13	30	44	998	52890	52890	715	699	681	666	649	634	619	606	592	579	565	553	541	529	519
44LH14	31	44	1148	60870	60870	823	801	780	759	739	721	703	685	669	654	637	622	609	594	580
44LH15	36	44	1336	70830	70830	958	934	912	889	868	847	826	805	786	768	750	732	714	699	682
44LH16	42	44	1541	81660	81660	1105	1078	1051	1026	1002	978	955	933	912	891	870	852	832	814	796
44LH17	47	44	1655	87690	87690	1185	1170	1153	1138	1125	1098	1072	1048	1024	1000	978	957	936	915	895
			< 57	57-59	60-81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
48LH10	21	48	528	30120	30120	369	361	354	346	339	331	325	318	312	306	300	294	288	282	277
48LH11	22	48	573	32670	32670	399	390	382	373	366	358	351	343	337	330	324	318	312	306	300
48LH12	25	48	724	41250	41250	504	493	483	472	462	451	442	433	424	415	408	399	391	384	376
48LH13	29	48	867	49410	49410	603	589	576	564	552	540	529	517	507	498	487	477	468	459	450
48LH14	32	48	1023	58290	58290	712	696	681	666	651	637	624	610	598	585	574	562	550	540	529
48LH15	36	48	1176	67020	67020	817	799	781	765	748	732	717	702	687	672	658	645	633	619	607
48LH16	42	48	1355	77250	77250	943	922	901	882	864	844	826	810	792	777	760	745	730	715	702
48LH17	47	48	1522	86760	86760	1059	1035	1012	990	969	948	928	909	889	871	853	837	820	804	787

