

American National Standard SJI-LH/DLH-2010

STANDARD ASD LOAD TABLE

LONGSPAN STEEL JOISTS, LH-SERIES

Based on a 50 ksi Maximum Yield Strength
Adopted by the Steel Joist Institute May 25, 1983
Revised to May 18, 2010 – Effective December 31, 2010

The **BLACK** figures in the Load Table give the TOTAL safe uniformly distributed load-carrying capacities, in pounds per linear foot, of **ASD 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 DEAD load. In all cases the DEAD load, including the joist self-weight, must be deducted from the TOTAL load to determine the LIVE load. The approximate joist weights do not include accessories.

The **RED** figures in the Load Table represent the 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 uniform load for supplementary deflection criteria (i.e. a uniform load that 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 load exceed the TOTAL load-carrying capacity of the joist.

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 uniform load for the spans shown in the SAFE LOAD Column is equal to (SAFE LOAD) / (span). The TOTAL safe 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 a **RED** figure for spans shown in the SAFE LOAD Column (or lesser spans), multiply the 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 load exceed the TOTAL load-carrying capacity of the joist.





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) < 22	SAFE LOAD* in Lbs. Between	SPAN IN FEET														
					22-25	26	27	28	29	30	31	32	33	34	35	36			
18LH02	10	18	553	12160	468 313	442 284	418 259	391 234	367 212	345 193	324 175	306 160	289 147	273 135	259 124				
18LH03	11	18	613	13480	521 348	493 317	467 289	438 262	409 236	382 213	359 194	337 177	317 161	299 148	283 136				
18LH04	12	18	714	15700	604 403	571 367	535 329	500 296	469 266	440 242	413 219	388 200	365 182	344 167	325 153				
18LH05	15	18	806	17740	684 454	648 414	614 378	581 345	543 311	508 282	476 256	448 233	421 212	397 195	375 179				
18LH06	15	18	954	20980	809 526	749 469	696 419	648 377	605 340	566 307	531 280	499 254	470 232	443 212	418 195				
18LH07	17	18	990	21780	840 553	809 513	780 476	726 428	678 386	635 349	595 317	559 288	526 264	496 241	469 222				
18LH08	19	18	1032	22700	876 577	843 534	812 496	784 462	758 427	717 387	680 351	641 320	604 292	571 267	540 246				
18LH09	21	18	1105	24320	936 616	901 571	868 527	838 491	810 458	783 418	759 380	713 346	671 316	633 289	598 266				
			< 23	23-25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
20LH02	10	20	498	11460	442 306	437 303	431 298	410 274	388 250	365 228	344 208	325 190	307 174	291 160	275 147	262 136	249 126	237 117	225 108
20LH03	11	20	529	12160	469 337	463 333	458 317	452 302	434 280	414 258	395 238	372 218	352 200	333 184	316 169	299 156	283 143	269 133	255 123
20LH04	12	20	648	14900	574 428	566 406	558 386	528 352	496 320	467 291	440 265	416 243	393 223	372 205	353 189	335 174	318 161	303 149	289 139
20LH05	14	20	697	16020	616 459	609 437	602 416	595 395	571 366	544 337	513 308	484 281	458 258	434 238	411 219	390 202	371 187	353 173	336 161
20LH06	15	20	930	21380	822 606	791 561	763 521	723 477	679 427	635 386	596 351	560 320	527 292	497 267	469 246	444 226	421 209	399 192	379 178
20LH07	17	20	991	22800	878 647	845 599	814 556	786 518	760 484	711 438	667 398	627 362	590 331	556 303	526 278	497 256	471 236	447 218	425 202
20LH08	19	20	1023	23520	908 669	873 619	842 575	813 536	785 500	760 468	722 428	687 395	654 365	621 336	588 309	558 285	530 262	503 242	479 225
20LH09	21	20	1119	25740	990 729	953 675	918 626	886 581	856 542	828 507	802 475	778 437	755 399	712 366	673 336	636 309	603 285	572 264	544 244
20LH10	23	20	1207	27760	1068 786	1028 724	991 673	956 626	924 585	894 545	865 510	839 479	814 448	791 411	748 377	707 346	670 320	636 296	604 274





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		
					24LH03	11	24	401	11620	342	339	336	323	307	293	279	267	255	244	234	224	215
24LH04	12	24	491	14240	419	398	379	360	343	327	312	298	285	273	262	251	241	231	222			
24LH05	13	24	526	15260	449	446	440	419	399	380	363	347	331	317	304	291	280	269	258			
24LH06	16	24	708	20520	604	579	555	530	504	480	457	437	417	399	381	364	348	334	320			
24LH07	17	24	777	22540	665	638	613	588	565	541	516	491	468	446	426	407	389	373	357			
24LH08	18	24	829	24040	707	677	649	622	597	572	545	520	497	475	455	435	417	400	384			
24LH09	21	24	976	28300	832	808	785	764	731	696	663	632	602	574	548	524	501	480	460			
24LH10	23	24	1031	29900	882	856	832	809	788	768	737	702	668	637	608	582	556	533	511			
24LH11	25	24	1087	31520	927	900	875	851	829	807	787	768	734	701	671	642	616	590	567			
			< 34	34-41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56			
28LH05	13	28	415	14120	337	323	310	297	286	275	265	255	245	237	228	220	213	206	199			
28LH06	16	28	552	18760	448	429	412	395	379	364	350	337	324	313	301	291	281	271	262			
28LH07	17	28	623	21180	505	484	464	445	427	410	394	379	365	352	339	327	316	305	295			
28LH08	18	28	667	22680	540	517	496	475	456	438	420	403	387	371	357	344	331	319	308			
28LH09	21	28	821	27920	667	639	612	586	563	540	519	499	481	463	446	430	415	401	387			
28LH10	23	28	898	30540	729	704	679	651	625	600	576	554	533	513	495	477	460	444	429			
28LH11	25	28	964	32760	780	762	736	711	682	655	629	605	582	561	540	521	502	485	468			
28LH12	27	28	1058	35980	857	837	818	800	782	766	737	709	682	656	632	609	587	566	546			
28LH13	30	28	1103	37500	895	874	854	835	816	799	782	766	751	722	694	668	643	620	598			
			< 39	39-46	47-49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64		
32LH06	14	32	431	16820	338	326	315	304	294	284	275	266	257	249	242	234	227	220	214			
32LH07	16	32	485	18920	411	399	389	379	369	361	353	345	338	331	325	319	314	308	304			
32LH08	17	32	527	20540	411	397	383	369	357	345	333	322	312	302	293	284	275	267	259			
32LH09	21	32	661	25780	516	498	480	463	447	432	418	404	391	379	367	356	345	335	325			
32LH10	21	32	731	28500	571	550	531	512	495	478	462	445	430	416	402	389	376	364	353			
32LH11	24	32	801	31220	625	602	580	560	541	522	505	488	473	458	443	429	416	403	390			
32LH12	27	32	939	36640	734	712	688	664	641	619	598	578	559	541	524	508	492	477	463			
32LH13	30	32	1048	40880	817	801	785	771	742	715	690	666	643	621	600	581	562	544	527			
32LH14	33	32	1079	42080	843	826	810	795	780	766	738	713	688	665	643	622	602	583	564			
32LH15	35	32	1115	43500	870	853	837	821	805	791	776	763	750	725	701	678	656	635	616			
			< 43	43-46	47-56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	
36LH07	16	36	393	16900	292	283	274	266	258	251	244	237	230	224	218	212	207	201	196			
36LH08	18	36	433	18600	321	311	302	293	284	276	268	260	253	246	239	233	227	221	215			
36LH09	21	36	554	23840	411	398	386	374	363	352	342	333	323	314	306	297	289	282	275			
36LH10	21	36	611	26260	454	440	426	413	401	389	378	367	357	347	338	328	320	311	303			
36LH11	23	36	667	28660	495	480	465	451	438	425	412	401	389	378	368	358	348	339	330			
36LH12	25	36	798	34300	593	575	557	540	523	508	493	478	464	450	437	424	412	400	389			
36LH13	30	36	938	40340	694	675	654	634	615	596	579	562	546	531	516	502	488	475	463			
36LH14	36	36	1034	44460	768	755	729	706	683	661	641	621	602	584	567	551	535	520	505			
36LH15	36	36	1090	46880	809	795	781	769	744	721	698	677	656	637	618	600	583	567	551			





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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	348	16680	16680	254	247	241	234	228	222	217	211	206	201	196	192
40LH09	21	40	457	21920	21920	332	323	315	306	298	291	283	276	269	263	256	250	244	239	233	
40LH10	21	40	503	24120	24120	367	357	347	338	329	321	313	305	297	290	283	276	269	262	255	
40LH11	22	40	549	26340	26340	399	388	378	368	358	349	340	332	323	315	308	300	293	286	279	
40LH12	25	40	668	32060	32060	486	472	459	447	435	424	413	402	392	382	373	364	355	346	338	
40LH13	30	40	788	37800	37800	573	557	542	528	514	500	487	475	463	451	440	429	419	409	399	
40LH14	35	40	900	43220	43220	656	638	620	603	587	571	556	542	528	515	502	490	478	466	455	
40LH15	36	40	1007	48340	48340	734	712	691	671	652	633	616	599	583	567	552	538	524	511	498	
40LH16	42	40	1110	53280	53280	808	796	784	772	761	751	730	710	691	673	655	638	622	606	591	
				< 53	53-59	60-73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88
44LH09	19	44	379	20100	20100	272	265	259	253	247	242	236	231	226	221	216	211	207	202	198	
44LH10	21	44	419	22200	22200	300	293	286	279	272	266	260	254	249	243	238	233	228	223	218	
44LH11	22	44	453	24000	24000	325	317	310	302	295	289	282	276	269	264	258	252	247	242	236	
44LH12	25	44	561	29740	29740	402	393	383	374	365	356	347	339	331	323	315	308	300	293	287	
44LH13	30	44	665	35260	35260	477	466	454	444	433	423	413	404	395	386	377	369	361	353	346	
44LH14	31	44	766	40580	40580	549	534	520	506	493	481	469	457	446	436	425	415	406	396	387	
44LH15	36	44	891	47220	47220	639	623	608	593	579	565	551	537	524	512	500	488	476	466	455	
44LH16	42	44	1027	54440	54440	737	719	701	684	668	652	637	622	608	594	580	568	555	543	531	
44LH17	47	44	1103	58460	58460	790	780	769	759	750	732	715	699	683	667	652	638	624	610	597	
				< 57	57-59	60-81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
48LH10	21	48	352	20080	20080	246	241	236	231	226	221	217	212	208	204	200	196	192	188	185	
48LH11	22	48	382	21780	21780	266	260	255	249	244	239	234	229	225	220	216	212	208	204	200	
48LH12	25	48	482	27500	27500	336	329	322	315	308	301	295	289	283	277	272	266	261	256	251	
48LH13	29	48	578	32940	32940	402	393	384	376	368	360	353	345	338	332	325	318	312	306	300	
48LH14	32	48	682	38860	38860	475	464	454	444	434	425	416	407	399	390	383	375	367	360	353	
48LH15	36	48	784	44680	44680	545	533	521	510	499	488	478	468	458	448	439	430	422	413	405	
48LH16	42	48	904	51500	51500	629	615	601	588	576	563	551	540	528	518	507	497	487	477	468	
48LH17	47	48	1015	57840	57840	706	690	675	660	646	632	619	606	593	581	569	558	547	536	525	

