

# STANDARD LRFD LOAD TABLE

## DEEP LONGSPAN STEEL JOISTS, DLH-SERIES

Based on a 50 ksi Maximum Yield Strength  
Spans up to and including 144 ft. adopted by the Steel Joist Institute May 1, 2000  
Spans greater than 144 ft. up to and including 240 ft. adopted by the Steel Joist Institute May 18, 2010  
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 DLH-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. the 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 Deep Longspan Steel Joists, **DLH-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 **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".

Where the joist span is in the **GRAY 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 all rows of bridging are completely installed. The **GRAY SHADED** area starts after 100'-0" and extends up through 240'-0".

The approximate gross moment of inertia (not adjusted for shear deformation), in inches<sup>4</sup>, 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)<sup>2</sup> and divide by (the actual span - 0.33 feet)<sup>2</sup>. 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 Deep Longspan Steel Joists, **DLH-Series**.



STANDARD LOAD TABLE LONGSPAN STEEL JOISTS, DLH-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																		
					< 62		62-89		90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
52DLH10	25	52	648	40200	447	436	427	418	409	400	391	384	376	369	361	354	346	340	334				
					171	165	159	154	150	145	140	136	132	128	124	120	116	114	110				
52DLH11	26	52	712	44130	490	480	469	459	448	439	430	421	412	405	396	388	381	373	366				
					187	181	174	169	164	158	153	149	144	140	135	132	128	124	120				
52DLH12	29	52	794	49230	547	535	523	513	501	490	480	471	460	451	442	433	426	417	409				
					204	197	191	185	179	173	168	163	158	153	149	144	140	135	132				
52DLH13	34	52	964	59760	664	649	636	621	609	595	583	571	559	549	537	526	516	507	496				
					247	239	231	224	216	209	203	197	191	185	180	174	170	164	159				
52DLH14	39	52	1103	68370	760	745	729	714	699	685	670	657	645	631	619	607	595	585	573				
					276	266	258	249	242	234	227	220	213	207	201	194	189	184	178				
52DLH15	42	52	1239	76800	853	835	817	799	783	766	750	735	720	705	691	676	664	651	639				
					311	301	291	282	272	264	256	247	240	233	226	219	213	207	201				
52DLH16	45	52	1335	82800	921	901	882	862	844	826	810	792	777	760	745	730	717	702	688				
					346	335	324	314	304	294	285	276	267	260	252	245	237	230	224				
52DLH17	52	52	1537	95310	1059	1036	1014	991	970	951	930	912	892	874	858	840	823	808	792				
					395	381	369	357	346	335	324	315	304	296	286	279	270	263	255				
					< 67	67-97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112		
56DLH11	26	56	631	42300	432	424	415	408	400	393	385	379	372	366	358	352	346	340	334				
					169	163	158	153	149	145	140	136	133	129	125	122	118	115	113				
56DLH12	30	56	725	48600	496	486	477	468	459	450	442	433	426	417	409	402	394	388	381				
					184	178	173	168	163	158	153	150	145	141	137	133	130	126	123				
56DLH13	34	56	879	58860	601	591	579	568	558	547	537	526	516	507	496	487	478	471	462				
					223	216	209	204	197	191	186	181	175	171	166	161	157	152	149				
56DLH14	39	56	993	66540	679	666	652	640	628	616	604	594	582	571	562	552	541	532	523				
					249	242	234	228	221	214	209	202	196	190	186	181	175	171	167				
56DLH15	42	56	1135	76020	777	762	747	732	717	703	690	676	664	651	639	628	616	604	594				
					281	272	264	256	248	242	234	228	221	215	209	204	198	192	188				
56DLH16	46	56	1224	82020	838	822	805	789	774	759	744	730	717	703	690	678	666	654	642				
					313	304	294	285	277	269	262	254	247	240	233	227	221	214	209				
56DLH17	51	56	1411	94530	964	945	927	907	891	873	856	840	823	808	793	780	765	751	738				
					356	345	335	325	316	306	298	289	281	273	266	258	251	245	238				
					< 71	71-99	100-105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	
60DLH12	29	60	659	46800	46800	442	433	426	418	411	405	397	391	384	378	372	366	360	354	348			
					168	163	158	154	150	146	142	138	134	131	128	124	121	118	115				
60DLH13	35	60	801	56880	56880	537	526	517	508	499	490	483	474	466	459	451	444	436	429	423			
					203	197	191	187	181	176	171	167	163	158	154	151	147	143	139				
60DLH14	40	60	890	63210	63210	597	586	574	564	555	544	534	525	516	507	498	490	481	474	465			
					216	210	205	199	193	189	183	178	173	170	165	161	156	152	149				
60DLH15	43	60	1045	74190	74190	700	687	675	663	651	640	628	618	607	597	588	577	568	559	550			
					255	248	242	235	228	223	218	210	205	200	194	190	185	180	175				
60DLH16	46	60	1149	81570	81570	769	756	741	727	714	702	690	676	666	654	642	631	621	610	600			
					285	277	269	262	255	247	241	235	228	223	217	211	206	201	196				
60DLH17	52	60	1320	93750	93750	885	868	853	837	822	807	793	778	765	751	737	726	714	702	690			
					324	315	306	298	290	283	275	267	261	254	247	241	235	228	223				
60DLH18	59	60	1524	108180	108180	1021	1002	984	966	948	931	915	898	883	867	852	838	823	810	796			
					366	357	346	337	327	319	310	303	294	286	279	272	266	259	252				
					< 76	76-99	100-113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	
64DLH12	31	64	594	45120	45120	396	388	382	376	370	364	358	352	346	342	336	331	327	321	316			
					153	150	146	142	138	135	132	129	125	122	119	116	114	111	109				
64DLH13	34	64	720	54750	54750	481	472	465	457	450	442	436	429	421	415	409	403	396	390	385			
					186	181	176	171	168	163	159	155	152	148	144	141	137	134	131				
64DLH14	40	64	825	62730	62730	550	540	531	523	514	505	498	489	481	474	466	459	451	444	438			
					199	193	189	184	179	174	171	166	162	158	154	151	147	143	140				
64DLH15	43	64	946	71910	71910	631	621	610	600	591	580	571	562	553	544	537	528	520	511	504			
					234	228	223	217	211	206	201	196	191	187	182	177	173	170	165				
64DLH16	46	64	1065	80940	80940	711	699	687	675	664	652	642	631	621	610	601	591	582	573	564			
					262	254	248	242	235	229	224	218	213	208	203	198	193	189	184				
64DLH17	52	64	1227	93270	93270	819	804	790	777	763	751	738	726	714	702	691	681	669	658	648			
					298	290	283	275	268	262	255	248	243	237	231	226	220	215	210				
64DLH18	59	64	1417	107700	107700	945	928	912	897	880	867	852	838	823	810	798	784	772	760	748			
					337	328	320	311	304	296	288	282	274	267	261	255	249	243	237				
					< 81	81-99	100-121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	
68DLH13	37																						



**STANDARD LOAD TABLE LONGSPAN STEEL JOISTS, LRFD DLH-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																	
				< 81	81-99	100-111	112	115	118	121	124	127	130	133	136	139	142	145	148	151	155
80DLH15	40	80	966	78240	78240	699	663	632	602	575	549	525	503	482	461	443	425	408	392	371	347
80DLH16	46	80	1161	94020	94020	840	802	763	727	691	658	628	600	574	549	525	504	483	463	439	411
80DLH17	53	80	1341	108630	108630	971	926	881	839	800	765	731	699	669	641	615	590	567	545	517	485
80DLH18	60	80	1518	122760	122760	1097	1044	993	947	903	863	825	789	756	723	695	666	641	615	584	548
80DLH19	67	80	1768	143220	143220	1280	1218	1160	1104	1052	1005	960	918	878	840	806	774	743	714	677	635
80DLH20	75	80	1987	160980	160980	1446	1382	1323	1268	1211	1157	1104	1056	1011	968	927	891	855	821	780	731
			< 89	89-99	100-120	121	124	127	130	133	136	139	142	145	148	151	155	160	165	170	175
88DLH16	46	88	1048	93270	93270	771	735	701	671	642	615	591	567	545	524	503	477	448	422	398	376
88DLH17	51	88	1185	105450	105450	871	830	789	753	719	687	659	630	605	579	557	528	495	465	437	412
88DLH18	58	88	1359	120930	120930	1001	953	908	866	827	791	756	725	695	666	639	607	565	535	503	473
88DLH19	65	88	1572	139890	139890	1157	1101	1049	999	954	912	873	836	801	770	738	701	657	617	580	547
88DLH20	76	88	1808	160950	160950	1334	1281	1232	1184	1133	1085	1041	998	959	921	885	841	790	743	700	660
88DLH21	89	88	2231	198540	198540	1649	1568	1494	1425	1361	1301	1244	1191	1143	1097	1053	999	936	880	827	779
			< 97	97-99	100-129	130	133	136	139	142	145	148	151	155	160	165	170	175	180	185	190
96DLH17	52	96	1085	105270	105270	810	776	744	711	684	657	632	608	578	542	509	480	452	427	404	382
96DLH18	58	96	1222	118500	118500	912	875	839	803	770	740	713	686	653	615	579	546	516	488	463	438
96DLH19	66	96	1460	141660	141660	1091	1046	1001	957	917	878	842	809	768	720	676	636	601	566	536	507
96DLH20	74	96	1644	159420	159420	1236	1184	1131	1083	1037	993	952	915	868	815	766	721	680	642	607	574
96DLH21	90	96	2062	200010	200010	1541	1473	1410	1350	1296	1243	1196	1149	1093	1026	965	908	856	809	765	724
96DLH22	102	96	2310	224070	224070	1725	1662	1601	1542	1487	1436	1382	1329	1264	1188	1118	1054	995	941	890	843
			< 105	105-138		139	142	145	148	151	155	160	165	170	175	180	185	190	195	200	205
104DLH18	59	104	1100	115470		831	798	768	734	708	674	635	601	568	537	508	482	458	435	414	394
104DLH19	67	104	1337	140430		1011	971	933	897	861	819	770	727	686	648	613	581	552	524	497	473
104DLH20	75	104	1504	157890		1146	1107	1071	1032	992	944	886	833	784	739	698	660	626	593	563	535
104DLH21	90	104	1890	198480		1434	1376	1322	1271	1220	1160	1091	1028	970	917	866	821	779	740	703	668
104DLH22	104	104	2119	222540		1607	1551	1499	1449	1401	1340	1261	1189	1121	1059	1001	944	901	855	812	779
104DLH23	109	104	2334	245100		1772	1712	1644	1578	1514	1437	1348	1267	1192	1125	1062	1004	952	902	857	814
			< 113	113-147		148	151	155	160	165	170	175	180	185	190	195	200	205	210	215	220
112DLH19	67	112	1223	138150		935	900	857	805	759	716	677	643	610	579	549	523	498	476	454	433
112DLH20	76	112	1384	156360		1065	1032	985	927	873	824	780	740	702	667	632	603	574	547	522	500
112DLH21	91	112	1743	196950		1337	1287	1223	1150	1083	1022	966	915	867	823	782	744	709	676	645	616
112DLH22	104	112	1956	221010		1499	1451	1392	1321	1250	1181	1117	1057	1002	952	904	860	820	782	745	712
112DLH23	110	112	2155	243540		1653	1601	1535	1454	1369	1288	1214	1147	1086	1030	977	928	882	839	800	763
112DLH24	131	112	2555	286660		1956	1895	1818	1727	1631	1539	1455	1379	1307	1241	1179	1123	1070	1019	972	928
			< 121	121-165		166	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240
120DLH20	77	120	1229	148650		896	856	808	766	726	691	658	627	598	570	544	521	498	477	457	439
120DLH21	92	120	1528	184860		1122	1072	1012	959	908	864	821	782	745	710	678	648	620	593	569	545
120DLH22	104	120	1751	211920		1283	1235	1169	1106	1049	997	949	903	860	821	783	749	716	686	657	629
120DLH23	111	120	1938	234480		1415	1361	1287	1219	1157	1099	1046	995	948	903	862	822	786	751	719	689
120DLH24	132	120	2298	278070		1676	1610	1522	1441	1367	1300	1237	1177	1122	1070	1022	977	934	894	857	821
120DLH25	152	120	2633	318630		1926	1847	1748	1656	1571	1492	1418	1350	1287	1228	1173	1122	1073	1026	983	943

