

Allowable Uniform Load for Simple Span Applications – Floor Beams (LDF=1.00)



Simple Span
 EWS 24F-V4
 Dry Use
 F_{bx}=2,400 psi
 F_c=650 psi
 F_{vx}=265 psi
 E_x=1.8 x 10⁶ psi

Width	Depth		Span												
			8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	
3½"	6"	LL (plf)	328	168	97	61	--	--	--	--	--	--	--	--	--
		TL (plf)	487	247	141	87	56	--	--	--	--	--	--	--	--
		BRG (in.)	1.5	1.5	1.5	1.5	1.5	--	--	--	--	--	--	--	--
	7½"	LL (plf)	641	328	190	120	80	56	--	--	--	--	--	--	--
		TL (plf)	814	486	278	173	114	78	55	--	--	--	--	--	--
		BRG (in.)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--	--	--	--	--
	9"	LL (plf)	1,107	567	328	207	138	97	71	53	--	--	--	--	--
		TL (plf)	1,174	748	485	302	200	138	99	72	54	--	--	--	--
		BRG (in.)	2.1	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--	--	--
	9½"	LL (plf)	1,302	667	386	243	163	114	83	63	--	--	--	--	--
		TL (plf)	1,308	834	571	356	236	163	117	86	64	--	--	--	--
		BRG (in.)	2.3	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--	--	--
	10½"	LL (plf)		900	521	328	220	154	113	85	65	51	--	--	--
		TL (plf)	1,599	1,020	706	483	321	223	160	118	89	68	53	--	--
		BRG (in.)	2.8	2.3	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--
	11½"	LL (plf)		1,302	754	475	318	223	163	122	94	74	59	--	--
		TL (plf)	2,046	1,306	904	661	467	325	234	173	131	101	79	62	--
		BRG (in.)	3.6	2.9	2.4	2.1	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	13½"	LL (plf)			1,107	697	467	328	239	180	138	109	87	71	--
		TL (plf)	2,646	1,690	1,170	856	653	481	347	258	196	152	119	95	--
		BRG (in.)	4.7	3.7	3.1	2.7	2.3	1.9	1.6	1.5	1.5	1.5	1.5	1.5	1.5
	14"	LL (plf)			1,235	778	521	366	267	200	154	121	97	79	--
		TL (plf)	2,846	1,817	1,258	921	703	537	388	289	220	170	134	107	--
		BRG (in.)	5.0	4.0	3.4	2.9	2.5	2.2	1.8	1.5	1.5	1.5	1.5	1.5	1.5
	15"	LL (plf)				957	641	450	328	247	190	149	120	97	--
		TL (plf)	3,268	2,087	1,446	1,059	808	635	479	357	272	211	167	133	--
		BRG (in.)	5.8	4.6	3.8	3.3	2.9	2.6	2.2	1.8	1.5	1.5	1.5	1.5	1.5
	16"	LL (plf)				1,161	778	546	398	299	230	181	145	118	--
TL (plf)		3,696	2,376	1,646	1,205	920	724	584	435	332	258	204	163	--	
BRG (in.)		6.5	5.3	4.4	3.8	3.3	2.9	2.6	2.2	1.8	1.6	1.5	1.5	1.5	
16½"	LL (plf)				1,273	853	599	437	328	253	199	159	129	--	
	TL (plf)	3,873	2,527	1,751	1,282	979	770	621	478	365	284	225	180	--	
	BRG (in.)	6.8	5.6	4.7	4.0	3.5	3.1	2.8	2.4	2.0	1.7	1.5	1.5	1.5	
18"	LL (plf)					1,107	778	567	426	328	258	207	168	--	
	TL (plf)	4,437	3,009	2,085	1,528	1,166	918	741	605	477	372	295	237	--	
	BRG (in.)	7.8	6.6	5.5	4.7	4.2	3.7	3.3	3.0	2.6	2.2	1.9	1.7	1.7	
19½"	LL (plf)						989	721	542	417	328	263	214	--	
	TL (plf)	5,060	3,532	2,448	1,794	1,370	1,079	866	706	585	476	377	304	--	
	BRG (in.)	8.9	7.8	6.5	5.6	4.9	4.3	3.9	3.5	3.2	2.8	2.4	2.1	2.1	

Width	Depth		Span												
			8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	
5½"	6"	LL (plf)	516	264	153	96	64	--	--	--	--	--	--	--	--
		TL (plf)	765	388	221	136	89	60	--	--	--	--	--	--	--
		BRG (in.)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--	--	--	--	--
	7½"	LL (plf)	1,007	516	298	188	126	88	64	--	--	--	--	--	--
		TL (plf)	1,279	763	438	272	179	123	87	63	--	--	--	--	--
		BRG (in.)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--	--	--	--
	9"	LL (plf)	1,740	891	516	325	218	153	111	84	64	51	--	--	--
		TL (plf)	1,844	1,176	761	475	314	217	155	113	85	64	--	--	--
		BRG (in.)	2.1	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--	--
	9½"	LL (plf)	2,047	1,048	606	382	256	180	131	98	76	60	--	--	--
		TL (plf)	2,056	1,311	897	560	371	257	184	135	101	77	59	--	--
		BRG (in.)	2.3	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--
	10½"	LL (plf)		1,415	819	516	345	243	177	133	102	81	64	52	--
		TL (plf)	2,513	1,603	1,109	759	504	350	251	185	139	107	83	65	--
		BRG (in.)	2.8	2.3	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	11½"	LL (plf)		2,047	1,184	746	500	351	256	192	148	116	93	76	--
		TL (plf)	3,216	2,052	1,420	1,039	734	511	368	272	206	159	124	98	--
		BRG (in.)	3.6	2.9	2.4	2.1	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	13½"	LL (plf)			1,740	1,096	734	516	376	282	218	171	137	111	--
		TL (plf)	4,159	2,655	1,838	1,346	1,026	755	546	406	308	239	187	149	--
		BRG (in.)	4.7	3.7	3.1	2.7	2.3	1.9	1.6	1.5	1.5	1.5	1.5	1.5	1.5
	14"	LL (plf)			1,941	1,222	819	575	419	315	243	191	153	124	--
		TL (plf)	4,473	2,856	1,978	1,448	1,104	844	610	454	345	268	210	168	--
		BRG (in.)	5.0	4.0	3.4	2.9	2.5	2.2	1.8	1.5	1.5	1.5	1.5	1.5	1.5
	15"	LL (plf)			1,503	1,007	707	516	387	298	235	188	153	124	--
		TL (plf)	5,136	3,280	2,272	1,664	1,266	984	753	561	428	332	262	209	--
		BRG (in.)	5.8	4.6	3.8	3.3	2.9	2.5	2.2	1.8	1.5	1.5	1.5	1.5	1.5
	16"	LL (plf)			1,824	1,222	858	626	470	362	285	228	185	149	--
TL (plf)		5,809	3,733	2,586	1,894	1,433	1,114	889	684	522	406	321	257	--	
BRG (in.)		6.5	5.3	4.4	3.8	3.3	2.9	2.5	2.2	1.8	1.6	1.5	1.5	1.5	
16½"	LL (plf)			2,001	1,340	941	686	516	397	312	250	203	164	--	
	TL (plf)	6,086	3,971	2,751	2,015	1,520	1,182	943	751	574	447	353	283	--	
	BRG (in.)	6.8	5.6	4.7	4.0	3.4	3.0	2.7	2.4	2.0	1.7	1.5	1.5	1.5	
18"	LL (plf)				1,740	1,222	891	669	516	406	325	264	214	--	
	TL (plf)	6,972	4,728	3,276	2,383	1,795	1,396	1,114	908	749	584	463	372	--	
	BRG (in.)	7.8	6.6	5.5	4.7	4.1	3.6	3.2	2.9	2.6	2.2	1.9	1.7	1.7	
19½"	LL (plf)					1,554	1,133	851	656	516	417	336	276	--	
	TL (plf)	7,952	5,551	3,847	2,777	2,091	1,627	1,299	1,059	878	738	593	477	--	
	BRG (in.)	8.9	7.8	6.5	5.5	4.7	4.2	3.7	3.3	3.0	2.8	2.4	2.1	2.1	
21"	LL (plf)						1,415	1,063	819	644	516	419	349	--	
	TL (plf)	9,041	6,250	4,432	3,199	2,410	1,875	1,498	1,221	1,012	851	725	601	--	
	BRG (in.)	10.1	8.8	7.5	6.3	5.5	4.8	4.3	3.8	3.5	3.2	2.9	2.6	2.6	
22½"	LL (plf)							1,307	1,007	792	634	516	436	--	
	TL (plf)	10,258	6,966	5,055	3,649	2,749	2,140	1,709	1,394	1,156	972	828	712	--	
	BRG (in.)	11.5	9.8	8.5	7.2	6.2	5.5	4.9	4.4	4.0	3.6	3.4	3.1	3.1	
24"	LL (plf)								1,222	961	770	626	526	--	
	TL (plf)	11,628	7,741	5,716	4,126	3,110	2,421	1,934	1,578	1,309	1,101	938	807	--	
	BRG (in.)	13.0	10.9	9.6	8.1	7.0	6.2	5.5	5.0	4.5	4.1	3.8	3.5	3.5	

Width	Depth		Span											
			8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'
6¾"	9"	LL (plf)	2,136	1,094	633	399	267	188	137	103	79	62	--	--
		TL (plf)	2,263	1,443	934	583	386	266	190	139	104	79	60	--
		BRG (in.)	2.1	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	10½"	LL (plf)		1,736	1,005	633	424	298	217	163	126	99	79	64
		TL (plf)	3,084	1,967	1,361	932	619	429	308	227	171	131	101	79
		BRG (in.)	2.8	2.3	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	11¾"	LL (plf)		2,512	1,454	915	613	431	314	236	182	143	114	93
		TL (plf)	3,947	2,519	1,743	1,276	900	627	451	334	253	195	152	120
		BRG (in.)	3.6	2.9	2.4	2.1	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	13½"	LL (plf)			2,136	1,345	901	633	461	347	267	210	168	137
		TL (plf)	5,104	3,258	2,256	1,652	1,244	927	670	498	378	293	230	183
		BRG (in.)	4.7	3.7	3.1	2.7	2.3	1.9	1.6	1.5	1.5	1.5	1.5	1.5
	15"	LL (plf)				1,845	1,236	868	633	475	366	288	231	188
		TL (plf)	6,304	4,025	2,788	2,023	1,522	1,183	925	689	525	407	321	257
		BRG (in.)	5.8	4.6	3.8	3.3	2.8	2.5	2.2	1.8	1.5	1.5	1.5	1.5
	16½"	LL (plf)					1,645	1,155	842	633	487	383	307	250
		TL (plf)	7,469	4,873	3,364	2,427	1,827	1,420	1,133	922	704	548	433	347
		BRG (in.)	6.8	5.6	4.6	3.9	3.4	3.0	2.6	2.4	2.0	1.7	1.5	1.5
	18"	LL (plf)					2,136	1,500	1,094	822	633	498	399	324
		TL (plf)	8,556	5,802	3,972	2,865	2,157	1,678	1,339	1,091	904	717	568	456
		BRG (in.)	7.8	6.6	5.5	4.6	4.0	3.5	3.1	2.8	2.6	2.2	1.9	1.7
	19½"	LL (plf)						1,907	1,390	1,045	805	633	507	412
		TL (plf)	9,759	6,800	4,626	3,338	2,514	1,956	1,562	1,272	1,055	886	728	586
		BRG (in.)	8.9	7.8	6.4	5.4	4.6	4.1	3.6	3.3	3.0	2.7	2.4	2.1
21"	LL (plf)							1,736	1,305	1,005	790	633	515	
	TL (plf)	11,096	7,671	5,328	3,845	2,897	2,254	1,800	1,467	1,216	1,023	871	737	
	BRG (in.)	10.1	8.8	7.3	6.2	5.3	4.7	4.2	3.8	3.4	3.1	2.9	2.6	
22½"	LL (plf)								1,605	1,236	972	778	633	
	TL (plf)	12,590	8,549	6,077	4,386	3,305	2,572	2,054	1,675	1,389	1,169	995	856	
	BRG (in.)	11.5	9.8	8.4	7.1	6.1	5.4	4.8	4.3	3.9	3.6	3.3	3.1	
24"	LL (plf)									1,500	1,180	945	768	
	TL (plf)	14,271	9,501	6,872	4,961	3,738	2,910	2,325	1,896	1,573	1,323	1,127	970	
	BRG (in.)	13.0	10.9	9.5	8.0	6.9	6.1	5.4	4.9	4.4	4.0	3.7	3.4	
Width	Depth		Span											
			8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'
8¾"	9"	LL (plf)	2,769	1,418	820	517	346	243	177	133	103	81	65	53
		TL (plf)	2,934	1,871	1,211	756	500	345	247	181	135	102	78	60
		BRG (in.)	2.1	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	10½"	LL (plf)		2,251	1,303	820	550	386	281	211	163	128	103	83
		TL (plf)	3,997	2,550	1,764	1,208	802	557	400	295	222	170	131	103
		BRG (in.)	2.8	2.3	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	11¾"	LL (plf)		3,256	1,884	1,187	795	558	407	306	236	185	148	121
		TL (plf)	5,116	3,265	2,260	1,634	1,167	812	585	433	328	253	197	156
		BRG (in.)	3.6	2.9	2.4	2.0	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	13½"	LL (plf)		2,769	1,743	1,168	820	598	449	346	272	218	177	148
		TL (plf)	6,616	4,224	2,897	2,088	1,570	1,202	868	645	490	380	298	237
		BRG (in.)	4.7	3.7	3.1	2.6	2.2	1.9	1.6	1.5	1.5	1.5	1.5	1.5
	15"	LL (plf)				2,392	1,602	1,125	820	616	475	373	299	243
		TL (plf)	8,171	5,210	3,542	2,554	1,922	1,494	1,191	893	680	528	417	333
		BRG (in.)	5.8	4.6	3.8	3.2	2.7	2.4	2.1	1.8	1.5	1.5	1.5	1.5
	16½"	LL (plf)					2,132	1,498	1,092	820	632	497	398	324
		TL (plf)	9,682	6,247	4,249	3,064	2,306	1,793	1,430	1,164	913	710	562	450
		BRG (in.)	6.8	5.5	4.5	3.8	3.3	2.9	2.6	2.3	2.0	1.7	1.5	1.3
	18"	LL (plf)						1,944	1,418	1,065	820	645	517	420
		TL (plf)	11,092	7,373	5,016	3,618	2,724	2,119	1,691	1,377	1,141	930	737	592
		BRG (in.)	7.8	6.5	5.3	4.5	3.9	3.4	3.0	2.7	2.5	2.2	1.9	1.7
	19½"	LL (plf)							1,802	1,354	1,043	820	657	534
		TL (plf)	12,651	8,587	5,843	4,215	3,174	2,470	1,971	1,606	1,331	1,119	944	760
		BRG (in.)	8.9	7.6	6.2	5.2	4.5	4.0	3.5	3.2	2.9	2.7	2.4	2.1

Tabulated values are pounds per linear foot.

1. Applicable to simply-supported beam with sufficient bracing to avoid lateral buckling ($C_L = 1.0$).
2. Applicable to dry-use service conditions ($C_M = 1.0$).
3. Tabulated live load (LL) is based on the deflection criterion of span/360.
4. Tabulated total load (TL) is based on the deflection criterion of span/240.
5. Tabulated total load (TL) is in addition to beam weight (assumed 35 pcf).
6. Selected beam size shall satisfy both live load and total load.
7. "---" indicates the allowable load is smaller than 50 plf.
8. Blank live load indicates the live load is greater than the total load.
9. Bearing "BRG" is in inches and is calculated based on the total load including the beam weight.

Allowable Uniform Load for Simple Span Applications - Roof Beams, Snow Load (LDF=1.15)



Simple Span

EWS 24F-V4

Dry Use

F_{bx}=2,400 psi

F_c=650 psi

F_{vx}=265 psi

E_x=1.8 x 10⁶ psi

Width	Depth		Span											
			8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'
6"	LL (plf)	492	252	146	92	62	43	--	--	--	--	--	--	--
		TL (plf)	599	331	189	117	77	53	--	--	--	--	--	--
		BRG (in.)	1.5	1.5	1.5	1.5	1.5	1.5	--	--	--	--	--	--
7 1/2"	LL (plf)	492	285	179	120	84	62	46	--	--	--	--	--	
		TL (plf)	937	597	373	233	154	106	76	55	41	--	--	
		BRG (in.)	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--	
9"	LL (plf)	851	492	310	208	146	106	80	62	48	--	--		
		TL (plf)	1351	862	596	406	269	187	134	99	74	57	44	
		BRG (in.)	2.4	1.9	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
9 1/2"	LL (plf)	579	365	244	172	125	94	72	57	46	--	--		
		TL (plf)	1505	961	665	478	318	221	159	117	88	68	53	
		BRG (in.)	2.7	2.1	1.8	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
10 1/2"	LL (plf)	782	492	330	232	169	127	98	77	62	50	--		
		TL (plf)	1840	1174	813	595	431	300	216	160	121	94	73	
		BRG (in.)	3.3	2.6	2.2	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
11 7/8"	LL (plf)	712	477	335	244	183	141	111	89	72	--	--		
		TL (plf)	2355	1503	1041	762	581	437	316	235	178	138	109	
		BRG (in.)	4.2	3.3	2.8	2.4	2.1	1.8	1.5	1.5	1.5	1.5	1.5	
13 1/2"	LL (plf)	701	492	359	270	208	163	131	106	--	--	--		
		TL (plf)	3045	1945	1347	987	753	592	467	348	265	206	163	
		BRG (in.)	5.4	4.3	3.6	3.1	2.7	2.4	2.1	1.7	1.5	1.5	1.5	
14"	LL (plf)	782	549	400	301	232	182	146	119	--	--	--		
		TL (plf)	3275	2092	1449	1061	810	637	514	389	297	231	183	
		BRG (in.)	5.8	4.6	3.9	3.3	2.9	2.6	2.3	1.9	1.6	1.5	1.5	
15"	LL (plf)	675	492	370	285	224	179	146	--	--	--	--		
		TL (plf)	3761	2402	1664	1219	931	733	591	480	367	286	226	
		BRG (in.)	6.6	5.3	4.4	3.8	3.3	2.9	2.7	2.4	2.0	1.7	1.5	
16"	LL (plf)	819	597	449	346	272	218	177	--	--	--	--		
		TL (plf)	4253	2734	1895	1388	1060	834	673	554	447	349	277	
		BRG (in.)	7.5	6.0	5.0	4.3	3.8	3.4	3.0	2.7	2.4	2.1	1.8	
16 1/2"	LL (plf)	655	492	379	298	239	194	--	--	--	--	--		
		TL (plf)	4456	2908	2015	1477	1127	888	717	590	490	384	304	
		BRG (in.)	7.9	6.4	5.4	4.6	4.0	3.6	3.2	2.9	2.7	2.3	2.0	
18"	LL (plf)	851	639	492	387	310	252	--	--	--	--	--		
		TL (plf)	5104	3462	2400	1759	1343	1058	854	698	579	487	398	
		BRG (in.)	9.0	7.6	6.4	5.5	4.8	4.2	3.8	3.4	3.1	2.9	2.5	
19 1/2"	LL (plf)	812	626	492	394	320	--	--	--	--	--	--		
		TL (plf)	5822	4065	2818	2066	1578	1243	998	814	675	568	484	
		BRG (in.)	10.3	9.0	7.5	6.4	5.6	5.0	4.5	4.0	3.6	3.3	3.1	
21"	LL (plf)	966	773	629	504	429	362	305	--	--	--	--		
		TL (plf)	10401	7192	5101	3683	2775	2161	1726	1408	1168	983	837	
		BRG (in.)	11.7	10.1	8.6	7.3	6.3	5.5	4.9	4.4	4.0	3.7	3.4	
22 1/2"	LL (plf)	951	773	629	504	429	362	305	--	--	--	--		
		TL (plf)	11801	8015	5817	4200	3166	2466	1970	1607	1334	1123	957	
		BRG (in.)	13.2	11.3	9.8	8.3	7.2	6.3	5.6	5.0	4.6	4.2	3.9	
24"	LL (plf)	933	773	629	504	429	362	305	--	--	--	--		
		TL (plf)	13377	8907	6578	4750	3581	2789	2229	1819	1510	1271	1083	
		BRG (in.)	15.0	12.5	11.1	9.4	8.1	7.1	6.3	5.7	5.2	4.7	4.4	

Width	Depth		Span											
			8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'
6¾"	9"	LL (plf)		1640	949	598	400	281	205	154	119	93	75	61
		TL (plf)	2605	1662	1150	782	519	360	259	191	143	110	85	66
		BRG (in.)	2.4	1.9	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	10½"	LL (plf)			1507	949	636	447	326	245	188	148	119	96
		TL (plf)	3549	2265	1568	1147	831	578	417	309	234	180	141	111
		BRG (in.)	3.3	2.6	2.2	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	11¾"	LL (plf)				1373	920	646	471	354	273	214	172	140
		TL (plf)	4541	2900	2008	1470	1121	842	608	452	344	266	209	167
		BRG (in.)	4.2	3.3	2.8	2.4	2.1	1.8	1.5	1.5	1.5	1.5	1.5	1.5
	13½"	LL (plf)					1352	949	692	520	400	315	252	205
		TL (plf)	5873	3750	2598	1903	1434	1115	889	671	512	398	314	251
		BRG (in.)	5.4	4.3	3.6	3.1	2.7	2.3	2.1	1.7	1.5	1.5	1.5	1.5
	15"	LL (plf)						1302	949	713	549	432	346	281
		TL (plf)	7253	4633	3210	2330	1754	1364	1089	887	708	551	437	350
		BRG (in.)	6.6	5.3	4.4	3.8	3.2	2.8	2.5	2.3	2.0	1.7	1.5	1.5
	16½"	LL (plf)							1263	949	731	575	460	374
		TL (plf)	8593	5609	3873	2795	2105	1637	1307	1065	883	740	587	472
		BRG (in.)	7.9	6.4	5.3	4.5	3.9	3.4	3.0	2.7	2.5	2.3	2.0	1.7
	18"	LL (plf)								1232	949	747	598	486
		TL (plf)	9844	6677	4572	3299	2485	1934	1544	1259	1044	878	747	618
		BRG (in.)	9.0	7.6	6.3	5.3	4.6	4.0	3.6	3.2	2.9	2.7	2.5	2.2
	19½"	LL (plf)									1207	949	760	618
		TL (plf)	11228	7824	5325	3844	2896	2254	1801	1468	1218	1024	872	750
		BRG (in.)	10.3	9.0	7.3	6.2	5.3	4.7	4.2	3.8	3.4	3.1	2.9	2.7
21"	LL (plf)											949	772	
	TL (plf)	12765	8827	6133	4427	3336	2598	2075	1692	1404	1182	1006	866	
	BRG (in.)	11.7	10.1	8.4	7.1	6.1	5.4	4.8	4.3	3.9	3.6	3.3	3.1	
22½"	LL (plf)												949	
	TL (plf)	14484	9837	6994	5050	3806	2964	2368	1932	1603	1349	1150	990	
	BRG (in.)	13.2	11.3	9.6	8.1	7.0	6.2	5.5	4.9	4.5	4.1	3.8	3.5	
24"	LL (plf)													
	TL (plf)	16417	10932	7909	5711	4305	3353	2679	2186	1815	1528	1302	1121	
	BRG (in.)	15.0	12.5	10.9	9.2	7.9	7.0	6.2	5.6	5.1	4.6	4.3	4.0	
Width	Depth		Span											
			8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'
8¾"	9"	LL (plf)		2126	1230	775	519	365	266	200	154	121	97	79
		TL (plf)	3377	2154	1490	1014	673	467	335	247	186	142	110	86
		BRG (in.)	2.4	1.9	1.6	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	10½"	LL (plf)			1954	1230	824	579	422	317	244	192	154	125
		TL (plf)	4600	2936	2032	1487	1077	750	540	400	303	234	183	144
		BRG (in.)	3.3	2.6	2.2	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	11¾"	LL (plf)				1780	1192	837	611	459	353	278	222	181
		TL (plf)	5887	3759	2602	1882	1416	1091	789	586	446	345	271	216
		BRG (in.)	4.2	3.3	2.8	2.3	2.0	1.8	1.5	1.5	1.5	1.5	1.5	1.5
	13½"	LL (plf)					1752	1230	897	674	519	408	327	266
		TL (plf)	7613	4862	3336	2405	1810	1407	1122	870	663	516	407	326
		BRG (in.)	1.5	4.3	3.5	3.0	2.6	2.3	2.0	1.7	1.5	1.5	1.5	1.5
	15"	LL (plf)						1688	1230	924	712	560	448	365
		TL (plf)	9402	5996	4078	2942	2215	1722	1374	1119	918	715	566	454
		BRG (in.)	6.6	5.3	4.3	3.7	3.2	2.8	2.5	2.2	2.0	1.7	1.5	1.5
	16½"	LL (plf)							1638	1230	948	745	597	485
		TL (plf)	11139	7189	4891	3529	2657	2067	1650	1344	1114	936	761	612
		BRG (in.)	7.9	6.4	5.2	4.4	3.8	3.3	3.0	2.7	2.4	2.2	2.0	1.7
	18"	LL (plf)									1230	968	775	630
		TL (plf)	12761	8485	5774	4166	3138	2442	1950	1589	1317	1108	942	802
		BRG (in.)	9.0	7.5	6.1	5.2	4.5	3.9	3.5	3.1	2.9	2.6	2.4	2.2
	19½"	LL (plf)										1230	985	801
		TL (plf)	14554	9882	6725	4854	3657	2846	2273	1853	1537	1293	1100	946
		BRG (in.)	10.3	8.7	7.1	6.0	5.2	4.6	4.1	3.7	3.3	3.0	2.8	2.6

Tabulated values are pounds per linear foot.

1. Applicable to simply-supported beam with sufficient bracing to avoid lateral buckling ($C_L = 1.0$).
2. Applicable to dry-use service conditions ($C_M = 1.0$).
3. Tabulated live load (LL) is based on the deflection criterion of span/240.
4. Tabulated total load (TL) is based on the deflection criterion of span/180.
5. Tabulated total load (TL) is in addition to beam weight (assumed 35 pcf).
6. Selected beam size shall satisfy both live load and total load.
7. "-" indicates the allowable load is smaller than 40 plf.
8. Blank live load indicates the live load is greater than the total load.
9. Bearing "BRG" is in inches and is calculated based on the total load including the beam weight.

Allowable Uniform Load for Simple Span Applications – Roof Beams, Non-Snow Load (LDF=1.25)



Simple Span

EWS 24F-V4

Dry Use

F_{bx}=2,400 psi

F_c=650 psi

F_{vx}=265 psi

E_x=1.8 x 10⁶ psi

Width	Depth		Span												
			8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	
3 1/2"	6"	LL (plf)	492	252	146	92	62	43	--	--	--	--	--	--	--
		TL (plf)	651	331	189	117	77	53	--	--	--	--	--	--	--
		BRG (in.)	1.5	1.5	1.5	1.5	1.5	1.5	--	--	--	--	--	--	--
	7 1/2"	LL (plf)	961	492	285	179	120	84	62	46	--	--	--	--	--
		TL (plf)	1019	650	373	233	154	106	76	55	41	--	--	--	--
		BRG (in.)	1.8	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--	--	--
	9"	LL (plf)		851	492	310	208	146	106	80	62	48	--	--	--
		TL (plf)	1469	937	649	406	269	187	134	99	74	57	44	--	--
		BRG (in.)	2.6	2.1	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--
	9 1/2"	LL (plf)		1000	579	365	244	172	125	94	72	57	46	--	--
		TL (plf)	1637	1045	723	478	318	221	159	117	88	68	53	41	--
		BRG (in.)	2.9	2.3	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--
	10 1/2"	LL (plf)		872	492	310	208	146	106	80	62	48	--	--	--
		TL (plf)	2001	1277	884	647	431	300	216	160	121	94	73	58	--
		BRG (in.)	3.5	2.8	2.4	2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--
	11 7/8"	LL (plf)		1131	712	477	335	244	183	141	111	89	72	--	--
		TL (plf)	2560	1635	1132	829	626	437	316	235	178	138	109	86	--
		BRG (in.)	4.5	3.6	3.0	2.6	2.2	1.8	1.5	1.5	1.5	1.5	1.5	--	--
	13 1/2"	LL (plf)		1046	701	492	359	270	208	163	131	106	--	--	--
		TL (plf)	3311	2115	1465	1073	819	645	467	348	265	206	163	130	--
		BRG (in.)	5.8	4.7	3.9	3.3	2.9	2.6	2.1	1.7	1.5	1.5	1.5	--	--
	14"	LL (plf)		872	549	400	301	232	182	146	119	--	--	--	--
		TL (plf)	3561	2275	1576	1155	881	694	522	389	297	231	183	146	--
		BRG (in.)	6.3	5.0	4.2	3.6	3.1	2.8	2.3	1.9	1.6	1.5	1.5	--	--
	15"	LL (plf)		961	675	492	370	285	224	179	146	--	--	--	--
		TL (plf)	4089	2612	1810	1327	1013	797	643	480	367	286	226	182	--
		BRG (in.)	7.2	5.8	4.8	4.1	3.4	3.2	2.7	2.2	1.5	1.8	1.6	1.5	--
	16"	LL (plf)		819	597	449	346	272	218	177	--	--	--	--	--
		TL (plf)	4624	2973	2060	1510	1153	908	733	585	447	349	277	222	--
		BRG (in.)	8.2	6.6	5.5	4.7	4.1	3.6	3.3	2.9	2.4	2.1	1.8	1.6	--
	16 1/2"	LL (plf)		899	655	492	379	298	239	194	--	--	--	--	--
		TL (plf)	4844	3162	2192	1606	1227	966	780	642	491	384	304	245	--
		BRG (in.)	8.5	7.0	5.8	5.0	4.4	3.9	3.5	3.2	2.7	2.3	2.0	1.7	--
	18"	LL (plf)		851	639	492	387	310	252	--	--	--	--	--	--
		TL (plf)	5550	3765	2610	1913	1461	1151	930	760	631	501	398	321	--
		BRG (in.)	9.8	8.3	6.9	5.9	5.2	4.6	4.2	3.7	3.4	2.9	2.5	2.2	--
19 1/2"	LL (plf)		1081	812	626	492	394	320	--	--	--	--	--	--	
	TL (plf)	6329	4420	3064	2247	1716	1353	1086	886	736	619	509	411	--	
	BRG (in.)	11.2	9.8	8.1	7.0	6.1	5.4	4.8	4.4	4.0	3.6	3.2	2.8	--	

Width	Depth		Span												
			8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	
5 1/2"	6"	LL (plf)	773	396	229	144	97	68	50	--	--	--	--	--	--
		TL (plf)	1023	520	298	184	121	83	58	42	--	--	--	--	--
		BRG (in.)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--	--	--	--
	7 1/2"	LL (plf)	1511	773	448	282	189	133	97	73	56	44	--	--	--
		TL (plf)	1601	1021	587	366	242	167	119	87	65	49	--	--	--
		BRG (in.)	1.8	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--	--
	9"	LL (plf)		1337	773	487	326	229	167	126	97	76	61	50	--
		TL (plf)	2308	1473	1019	637	423	294	211	155	117	89	69	54	--
		BRG (in.)	2.6	2.1	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--
	9 1/2"	LL (plf)		1572	910	573	384	270	196	148	114	89	72	58	--
		TL (plf)	2573	1642	1136	751	499	347	249	184	139	107	83	65	--
		BRG (in.)	2.9	2.3	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--
	10 1/2"	LL (plf)		1228	773	518	364	265	199	154	121	97	79	--	--
		TL (plf)	3144	2007	1390	1017	677	471	340	252	191	147	115	91	--
		BRG (in.)	3.5	2.8	2.4	2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	--	--
	11 7/8"	LL (plf)		1777	1119	750	526	384	288	222	175	140	114	--	--
		TL (plf)	4024	2569	1779	1303	983	686	496	369	280	217	171	136	--
		BRG (in.)	4.5	3.6	3.0	2.6	2.2	1.8	1.5	1.5	1.5	1.5	1.5	--	--
	13 1/2"	LL (plf)		1644	1101	773	564	424	326	257	205	167	--	--	--
		TL (plf)	5203	3323	2302	1687	1287	1010	734	547	417	324	256	205	--
		BRG (in.)	5.8	4.7	3.9	3.3	2.9	2.6	2.1	1.7	1.5	1.5	1.5	--	--
	14"	LL (plf)		1228	863	629	472	364	286	229	186	--	--	--	--
		TL (plf)	5596	3575	2477	1815	1385	1083	820	611	466	363	287	230	--
		BRG (in.)	6.3	5.0	4.2	3.6	3.1	2.8	2.3	1.9	1.6	1.5	1.5	--	--
	15"	LL (plf)		1511	1061	773	581	448	352	282	229	--	--	--	--
		TL (plf)	6425	4105	2845	2085	1588	1235	986	755	577	449	356	286	--
		BRG (in.)	7.2	5.8	4.8	4.1	3.6	3.2	2.8	2.4	2.0	1.7	1.5	1.5	--
	16"	LL (plf)		1288	939	705	543	427	342	278	--	--	--	--	--
		TL (plf)	7266	4672	3238	2373	1796	1398	1116	910	703	548	435	349	--
		BRG (in.)	8.2	6.6	5.5	4.7	4.1	3.6	3.2	2.9	2.4	2.1	1.8	1.6	--
	16 1/2"	LL (plf)		1412	1029	773	596	469	375	305	--	--	--	--	--
		TL (plf)	7612	4969	3444	2524	1905	1483	1184	965	772	603	478	385	--
		BRG (in.)	8.5	7.0	5.8	5.0	4.3	3.8	3.4	3.0	2.7	2.3	2.0	1.7	--
	18"	LL (plf)		1337	1004	773	608	487	396	--	--	--	--	--	--
		TL (plf)	8721	5916	4101	2985	2249	1751	1399	1141	946	787	625	504	--
		BRG (in.)	9.8	8.3	6.9	5.9	5.1	4.5	4.0	3.6	3.3	2.9	2.5	2.2	--
19 1/2"	LL (plf)		1277	983	773	619	503	--	--	--	--	--	--	--	
	TL (plf)	9946	6945	4815	3478	2621	2041	1631	1330	1104	929	791	645	--	
	BRG (in.)	11.2	9.8	8.1	6.9	5.9	5.2	4.6	4.2	3.8	3.5	3.2	2.8	--	
21"	LL (plf)		1228	966	773	629	503	--	--	--	--	--	--	--	
	TL (plf)	11308	7820	5547	4005	3019	2351	1879	1533	1272	1071	913	786	--	
	BRG (in.)	12.7	11.0	9.4	7.9	6.8	6.0	5.3	4.8	4.4	4.0	3.7	3.4	--	
22 1/2"	LL (plf)		1188	951	773	--	--	--	--	--	--	--	--	--	
	TL (plf)	12830	8715	6326	4568	3444	2683	2144	1750	1453	1223	1043	898	--	
	BRG (in.)	14.4	12.2	10.7	9.0	7.8	6.8	6.1	5.5	5.0	4.6	4.2	3.9	--	
24"	LL (plf)		1155	939	--	--	--	--	--	--	--	--	--	--	
	TL (plf)	14543	9685	7153	5166	3895	3034	2426	1980	1644	1385	1180	1017	--	
	BRG (in.)	16.3	13.6	12.1	10.2	8.8	7.7	6.9	6.2	5.6	5.2	4.7	4.4	--	

Width	Depth		Span											
			8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'
6¾"	9"	LL (plf)		1640	949	598	400	281	205	154	119	93	75	61
		TL (plf)	2833	1808	1251	782	519	360	259	191	143	110	85	66
		BRG (in.)	2.6	2.1	1.7	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	10½"	LL (plf)			1507	949	636	447	326	245	188	148	119	96
		TL (plf)	3859	2463	1705	1248	831	578	417	309	234	180	141	111
		BRG (in.)	3.5	2.8	2.4	2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	11¾"	LL (plf)			2180	1373	920	646	471	354	273	214	172	140
		TL (plf)	4938	3153	2184	1599	1207	842	608	452	344	266	209	167
		BRG (in.)	4.5	3.6	3.0	2.6	2.2	1.8	1.5	1.5	1.5	1.5	1.5	1.5
	13½"	LL (plf)				2017	1352	949	692	520	400	315	252	205
		TL (plf)	6385	4078	2826	2070	1560	1214	900	671	512	398	314	251
		BRG (in.)	5.8	4.7	3.9	3.3	2.9	2.5	2.1	1.7	1.5	1.5	1.5	1.5
	15"	LL (plf)				1854	1302	949	713	549	432	346	281	
		TL (plf)	7886	5038	3491	2534	1909	1485	1185	926	708	551	437	350
		BRG (in.)	7.2	5.8	4.8	4.1	3.5	3.1	2.8	2.4	2.0	1.7	1.5	1.5
	16½"	LL (plf)					1733	1263	949	731	575	460	374	
		TL (plf)	9343	6099	4212	3040	2290	1782	1423	1160	948	740	587	472
		BRG (in.)	8.5	7.0	5.8	4.9	4.2	3.7	3.3	3.0	2.7	2.3	2.0	1.7
	18"	LL (plf)						1640	1232	949	747	598	486	
		TL (plf)	10703	7260	4972	3589	2704	2105	1681	1371	1137	957	767	618
		BRG (in.)	9.8	8.3	6.8	5.8	5.0	4.4	3.9	3.5	3.2	2.9	2.5	2.2
	19½"	LL (plf)							1567	1207	949	760	618	
		TL (plf)	12207	8507	5791	4181	3151	2453	1960	1599	1326	1116	951	792
		BRG (in.)	11.2	9.7	8.0	6.7	5.8	5.1	4.5	4.1	3.7	3.4	3.1	2.8
21"	LL (plf)								1507	1186	949	772		
	TL (plf)	13878	9597	6669	4815	3629	2826	2259	1843	1529	1287	1097	944	
	BRG (in.)	12.7	11.0	9.2	7.7	6.7	5.9	5.2	4.7	4.3	3.9	3.6	3.3	
22½"	LL (plf)									1458	1167	949		
	TL (plf)	15746	10696	7605	5492	4140	3225	2577	2103	1746	1470	1253	1079	
	BRG (in.)	14.4	12.2	10.5	8.8	7.6	6.7	6.0	5.4	4.9	4.5	4.1	3.8	
24"	LL (plf)											1417	1152	
	TL (plf)	17848	11886	8600	6211	4682	3648	2916	2380	1976	1664	1419	1222	
	BRG (in.)	16.3	13.6	11.8	10.0	8.6	7.6	6.7	6.1	5.5	5.0	4.7	4.3	
Width	Depth		Span											
8¾"	9"	LL (plf)		2126	1230	775	519	365	266	200	154	121	97	79
		TL (plf)	3672	2343	1621	1014	673	467	335	247	186	142	110	86
		BRG (in.)	2.6	2.1	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	10½"	LL (plf)			1954	1230	824	579	422	317	244	192	154	125
		TL (plf)	5002	3193	2211	1618	1077	750	540	400	303	234	183	144
		BRG (in.)	3.5	2.8	2.4	2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	11¾"	LL (plf)			2826	1780	1192	837	611	459	353	278	222	181
		TL (plf)	6401	4088	2831	2048	1541	1091	789	586	446	345	271	216
		BRG (in.)	4.5	3.6	3.0	2.6	2.2	1.8	1.5	1.5	1.5	1.5	1.5	1.5
	13½"	LL (plf)				2615	1752	1230	897	674	519	408	327	266
		TL (plf)	8277	5287	3628	2617	1970	1532	1167	870	663	516	407	326
		BRG (in.)	5.8	4.7	3.9	3.3	2.8	2.5	2.1	1.7	1.5	1.5	1.5	1.5
	15"	LL (plf)					2403	1688	1230	924	712	560	448	365
		TL (plf)	10222	6520	4436	3200	2410	1875	1496	1201	918	715	566	454
		BRG (in.)	7.2	5.8	4.7	4.0	3.4	3.0	2.7	2.4	2.0	1.7	1.5	1.5
	16½"	LL (plf)						2247	1638	1230	948	745	597	485
		TL (plf)	12111	7818	5320	3839	2892	2250	1797	1464	1214	959	761	612
		BRG (in.)	8.5	6.9	5.6	4.8	4.1	3.6	3.2	2.9	2.6	2.3	2.0	1.7
	18"	LL (plf)							1597	1230	968	775	630	
		TL (plf)	13874	9226	6279	4532	3414	2658	2123	1731	1435	1207	995	802
		BRG (in.)	9.8	8.1	6.7	5.6	4.9	4.3	3.8	3.4	3.1	2.8	2.5	2.2
	19½"	LL (plf)									1564	1230	985	801
		TL (plf)	15824	10745	7313	5280	3978	3098	2474	2018	1674	1409	1200	1027
		BRG (in.)	11.2	9.5	7.8	6.5	5.7	5.0	4.4	4.0	3.6	3.3	3.1	2.8

Tabulated values are pounds per linear foot.

1. Applicable to simply-supported beam with sufficient bracing to avoid lateral buckling ($C_L = 1.0$).
2. Applicable to dry-use service conditions ($C_M = 1.0$).
3. Tabulated live load (LL) is based on the deflection criterion of span/240.
4. Tabulated total load (TL) is based on the deflection criterion of span/180.
5. Tabulated total load (TL) is in addition to beam weight (assumed 35 pcf).
6. Selected beam size shall satisfy both live load and total load.
7. "-" indicates the allowable load is smaller than 40 plf.
8. Blank live load indicates the live load is greater than the total load.
9. Bearing "BRG" is in inches and is calculated based on the total load including the beam weight.