Allowable Uniform Loads

1.6E Beam–Roof Non-Snow 125%

ALLOWABLE UNIFORM LOADS* – POUNDS PER LINEAL FOOT

ONE x 1¾" 1.6E PWLVL

Span (ft)	Key	3½"	5½"	7¼"	9¼"	9½"	11¼"	11⅞"	14"
6	LL	96	374	-	-	-	-	-	-
	TL	99	388	770	1037	1073	1337	1438	1811
	BRG	1.5 / 3	1.5 / 3	1.8 / 4.4	2.4 / 5.9	2.5 / 6.2	3.1 / 7.7	3.3 / 8.2	4.2 / 10.4
7	LL	-	-	-	-	-	-	-	-
	TL	53	208	479	857	885	1093	1171	1457
	BRG	1.5 / 3	1.5 / 3	1.5 / 3.2	2.3 / 5.7	2.4 / 5.9	2.9 / 7.3	3.1 / 7.8	3.9 / 9.8
8	LL		-	-	-	-	-	-	-
	TL		121	279	729	753	924	988	1219
	BRG		1.5 / 3	1.5 / 3	2.2 / 5.6	2.3 / 5.8	2.8 / 7.1	3 / 7.6	3.7 / 9.3
9	LL		-	-	528	572	-	-	-
	TL		75	173	604	634	800	854	1047
	BRG		1.5 / 3	1.5 / 3	2.1 / 5.2	2.2 / 5.5	2.8 / 6.9	2.9 / 7.4	3.6 / 9
10	LL		-	-	385	417	692	-	-
	TL		48	112	489	513	696	752	917
	BRG		1.5 / 3	1.5 / 3	1.9 / 4.7	2 / 4.9	2.7 / 6.7	2.9 / 7.2	3.5 / 8.8
11	LL		-	-	289	313	520	612	-
	TL		32	76	381	413	574	633	816
	BRG		1.5 / 3	1.5 / 3	1.6 / 4	1.7 / 4.4	2.4 / 6.1	2.7 / 6.7	3.4 / 8.6
12	LL			-	223	241	401	471	-
	TL			53	293	317	482	531	715
	BRG			1.5 / 3	1.5 / 3.4	1.5 / 3.7	2.2 / 5.6	2.5 / 6.1	3.3 / 8.2
13	LL			-	175	190	315	371	607
	TL			37	229	249	410	452	609
	BRG			1.5 / 3	1.5 / 3	1.5 / 3.1	2.1 / 5.1	2.3 / 5.7	3 / 7.6
14	LL			-	140	152	252	297	486
	TL			27	183	198	331	389	524
	BRG			1.5 / 3	1.5 / 3	1.5 / 3	1.8 / 4.5	2.1 / 5.3	2.8 / 7.1
15	LL				114	123	205	241	395
	TL				148	160	268	316	456
	BRG				1.5 / 3	1.5 / 3	1.6 / 3.9	1.8 / 4.6	2.6 / 6.6
16	LL				94	102	169	199	326
	TL				121	131	220	260	400
	BRG				1.5 / 3	1.5 / 3	1.5 / 3.4	1.6 / 4	2.5 / 6.2
17	LL				78	85	141	166	272
	TL				100	109	183	216	353
	BRG				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	2.3 / 5.8
18	LL				66	71	119	140	229
	TL				84	91	153	181	299
	BRG				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	2.1 / 5.2
19	LL					61	101	119	194
	TL					77	129	153	253
	BRG					1.5 / 3	1.5 / 3	1.5 / 3	1.9 / 4.7
20	LL						87	102	167
	TL						110	130	216
	BRG						1.5 / 3	1.5 / 3	1.7 / 4.2
21	LL						75	88	144
	TL						95	112	186
	BRG						1.5 / 3	1.5 / 3	1.5 / 3.8
22	LL						65	76	125
	TL						82	97	161
	BRG						1.5 / 3	1.5 / 3	1.5 / 3.5
23	LL							67	110
	TL							84	140
	BRG							1.5 / 3	1.5 / 3.2
24	LL								96
	TL								122
	BRG								1.5 / 3
25	LL								85
	TL								107
	BRG								1.5 / 3
26	LL								76
	TL								95
	BRG								1.5 / 3
27	LL								68
	TL								84
	BRG								1.5 / 3
28	LL								61
	TL								75
	BRG								1.5 / 3
29	LL								
	TL								
	BRG								
30	LL								
	TL								
	BRG								

* Can be applied to the beam in addition to its own weight.
Simple or multiple beam spans.

2 plies minimum for depths greater than 14 inches.

Wax-based sealer applied to mitigate moisture issues associated with wood products during storage and construction.

Key to Table:

LL = Maximum live load – limits deflection to L/240

TL = Maximum total load – limits deflections to L/180 (or a maximum of 0.3125" for beams 7¼" deep or less)

BRG = Required end / intermediate bearing length (inches), based on bearing stress of 750 psi.

Allowable Uniform Loads

1.6E Beam–Roof Non-Snow 125%

ALLOWABLE UNIFORM LOADS* – POUNDS PER LINEAL FOOT

TWO x 1¾" 1.6E PWLVL

Span (ft)	Key	3½"	5½"	7¼"	9¼"	9½"	11¼"	11⅞"	14"	16"	18"	20"	22"	24"
6	LL	192	748	-	-	-	-	-	-	-	-	-	-	-
	TL	198	776	1540	2074	2146	2674	2876	3622	4426	5350	6422	7680	9076
	BRG	1.5 / 3	1.5 / 3	1.8 / 4.4	2.4 / 5.9	2.5 / 6.2	3.1 / 7.7	3.3 / 8.2	4.2 / 10.4	5.1 / 12.7	6.1 / 15.3	7.4 / 18.4	8.8 / 22	10.4 / 26
7	LL	-	-	-	-	-	-	-	-	-	-	-	-	-
	TL	106	416	958	1714	1770	2186	2342	2914	3514	4184	4936	5786	6692
	BRG	1.5 / 3	1.5 / 3	1.5 / 3.2	2.3 / 5.7	2.4 / 5.9	2.9 / 7.3	3.1 / 7.8	3.9 / 9.8	4.7 / 11.8	5.6 / 14	6.6 / 16.5	7.7 / 19.4	9 / 22.4
8	LL		-	-	-	-	-	-	-	-	-	-	-	-
	TL		242	558	1458	1506	1848	1976	2438	2912	3434	4006	4640	5298
	BRG		1.5 / 3	1.5 / 3	2.2 / 5.6	2.3 / 5.8	2.8 / 7.1	3 / 7.6	3.7 / 9.3	4.5 / 11.1	5.3 / 13.1	6.1 / 15.3	7.1 / 17.8	8.1 / 20.3
9	LL		-	-	1056	1144	-	-	-	-	-	-	-	-
	TL		150	346	1208	1268	1600	1708	2094	2486	2910	3372	3872	4384
	BRG		1.5 / 3	1.5 / 3	2.1 / 5.2	2.2 / 5.5	2.8 / 6.9	2.9 / 7.4	3.6 / 9	4.3 / 10.7	5 / 12.5	5.8 / 14.5	6.7 / 16.7	7.6 / 18.9
10	LL		-	-	770	834	1384	-	-	-	-	-	-	-
	TL		96	224	978	1026	1392	1504	1834	2168	2526	2910	3322	3738
	BRG		1.5 / 3	1.5 / 3	1.9 / 4.7	2 / 4.9	2.7 / 6.7	2.9 / 7.2	3.5 / 8.8	4.2 / 10.4	4.8 / 12.1	5.6 / 13.9	6.4 / 15.9	7.2 / 17.9
11	LL		-	-	578	626	1040	1224	-	-	-	-	-	-
	TL		64	152	762	826	1148	1266	1632	1922	2230	2558	2908	3256
	BRG		1.5 / 3	1.5 / 3	1.6 / 4	1.7 / 4.4	2.4 / 6.1	2.7 / 6.7	3.4 / 8.6	4.1 / 10.1	4.7 / 11.8	5.4 / 13.5	6.1 / 15.3	6.9 / 17.2
12	LL			-	446	482	802	942	-	-	-	-	-	-
	TL			106	586	634	964	1062	1430	1726	1996	2282	2584	2884
	BRG			1.5 / 3	1.5 / 3.4	1.5 / 3.7	2.2 / 5.6	2.5 / 6.1	3.3 / 8.2	4 / 9.9	4.6 / 11.5	5.3 / 13.1	6 / 14.9	6.6 / 16.6
13	LL			-	350	380	630	742	1214	-	-	-	-	-
	TL			74	458	498	820	904	1218	1550	1806	2060	2326	2588
	BRG			1.5 / 3	1.5 / 3	1.5 / 3.1	2.1 / 5.1	2.3 / 5.7	3 / 7.6	3.9 / 9.7	4.5 / 11.3	5.1 / 12.9	5.8 / 14.5	6.5 / 16.2
14	LL			-	280	304	504	594	972	-	-	-	-	-
	TL			54	366	396	662	778	1048	1334	1650	1876	2114	2348
	BRG			1.5 / 3	1.5 / 3	1.5 / 3	1.8 / 4.5	2.1 / 5.3	2.8 / 7.1	3.6 / 9	4.4 / 11.1	5.1 / 12.6	5.7 / 14.2	6.3 / 15.8
15	LL				228	246	410	482	790	-	-	-	-	-
	TL				296	320	536	632	912	1160	1436	1722	1936	2146
	BRG				1.5 / 3	1.5 / 3	1.6 / 3.9	1.8 / 4.6	2.6 / 6.6	3.4 / 8.4	4.1 / 10.4	5 / 12.4	5.6 / 14	6.2 / 15.5
16	LL				188	204	338	398	652	972	-	-	-	-
	TL				242	262	440	520	800	1018	1260	1524	1788	1978
	BRG				1.5 / 3	1.5 / 3	1.5 / 3.4	1.6 / 4	2.5 / 6.2	3.1 / 7.9	3.9 / 9.7	4.7 / 11.7	5.5 / 13.8	6.1 / 15.2
17	LL				156	170	282	332	544	810	-	-	-	-
	TL				200	218	366	432	706	900	1114	1348	1602	1834
	BRG				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	2.3 / 5.8	3 / 7.4	3.7 / 9.2	4.4 / 11.1	5.3 / 13.1	6 / 15
18	LL				132	142	238	280	458	682	972	-	-	-
	TL				168	182	306	362	598	802	992	1200	1428	1656
	BRG				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	2.1 / 5.2	2.8 / 7	3.5 / 8.6	4.2 / 10.4	5 / 12.4	5.8 / 14.4
19	LL					122	202	238	388	580	826	-	-	-
	TL					154	258	306	506	718	888	1076	1278	1484
	BRG					1.5 / 3	1.5 / 3	1.5 / 3	1.9 / 4.7	2.7 / 6.6	3.3 / 8.2	4 / 9.9	4.7 / 11.7	5.4 / 13.6
20	LL						174	204	334	498	708	-	-	-
	TL						220	260	432	646	800	970	1152	1336
	BRG						1.5 / 3	1.5 / 3	1.7 / 4.2	2.5 / 6.3	3.1 / 7.8	3.8 / 9.4	4.5 / 11.2	5.2 / 12.9
21	LL						150	176	288	430	612	840	-	-
	TL						190	224	372	558	724	878	1044	1210
	BRG						1.5 / 3	1.5 / 3	1.5 / 3.8	2.3 / 5.7	3 / 7.4	3.6 / 9	4.3 / 10.6	4.9 / 12.3
22	LL						130	152	250	374	532	730	-	-
	TL						164	194	322	484	658	798	948	1100
	BRG						1.5 / 3	1.5 / 3	1.5 / 3.5	2.1 / 5.2	2.8 / 7.1	3.4 / 8.6	4.1 / 10.1	4.7 / 11.8
23	LL							134	220	328	466	640	850	-
	TL							168	280	422	602	728	866	1006
	BRG							1.5 / 3	1.5 / 3.2	1.9 / 4.8	2.7 / 6.8	3.3 / 8.2	3.9 / 9.7	4.5 / 11.3
24	LL								192	288	410	562	748	-
	TL								244	370	530	668	794	922
	BRG								1.5 / 3	1.8 / 4.4	2.5 / 6.2	3.1 / 7.8	3.7 / 9.3	4.3 / 10.8
25	LL								170	254	362	498	662	846
	TL								214	326	468	614	730	848
	BRG								1.5 / 3	1.6 / 4.1	2.3 / 5.8	3 / 7.5	3.6 / 8.9	4.1 / 10.4
26	LL								152	226	322	442	588	752
	TL								190	288	414	566	674	782
	BRG								1.5 / 3	1.5 / 3.7	2.1 / 5.3	2.9 / 7.2	3.4 / 8.6	4 / 10
27	LL								136	202	288	396	526	672
	TL								168	256	368	508	624	724
	BRG								1.5 / 3	1.5 / 3.5	2 / 4.9	2.7 / 6.8	3.3 / 8.3	3.8 / 9.6
28	LL								122	182	258	354	472	602
	TL								150	228	328	454	578	672
	BRG								1.5 / 3	1.5 / 3.2	1.8 / 4.6	2.5 / 6.3	3.2 / 8	3.7 / 9.2
29	LL									164	232	318	424	542
	TL									204	294	408	538	624
	BRG									1.5 / 3	1.7 / 4.3	2.4 / 5.9	3.1 / 7.7	3.6 / 8.9
30	LL									148	210	288	384	490
	TL									182	264	366	492	582
	BRG									1.5 / 3	1.6 / 4	2.2 / 5.5	2.9 / 7.3	3.4 / 8.6

* Can be applied to the beam in addition to its own weight. Simple or multiple beam spans.

Key to Table:

LL = Maximum live load – limits deflection to L/240

TL = Maximum total load – limits deflections to L/180 (or a maximum of 0.3125" for beams 7¼" deep or less)

BRG = Required end / intermediate bearing length (inches), based on bearing stress of 750 psi.

Allowable Uniform Loads

1.6E Beam–Roof Non-Snow 125%

ALLOWABLE UNIFORM LOADS* – POUNDS PER LINEAL FOOT

THREE x 1¾" 1.6E PWLVL

Span (ft)	Key	3½"	5½"	7¼"	9¼"	9½"	11¼"	11⅞"	14"	16"	18"	20"	22"	24"
6	LL	288	1122	-	-	-	-	-	-	-	-	-	-	-
	TL	297	1164	2310	3111	3219	4011	4314	5433	6639	8025	9633	11520	13614
	BRG	1.5 / 3	1.5 / 3	1.8 / 4.4	2.4 / 5.9	2.5 / 6.2	3.1 / 7.7	3.3 / 8.2	4.2 / 10.4	5.1 / 12.7	6.1 / 15.3	7.4 / 18.4	8.8 / 22	10.4 / 26
7	LL	-	-	-	-	-	-	-	-	-	-	-	-	-
	TL	159	624	1437	2571	2655	3279	3513	4371	5271	6276	7404	8679	10038
	BRG	1.5 / 3	1.5 / 3	1.5 / 3.2	2.3 / 5.7	2.4 / 5.9	2.9 / 7.3	3.1 / 7.8	3.9 / 9.8	4.7 / 11.8	5.6 / 14	6.6 / 16.5	7.7 / 19.4	9 / 22.4
8	LL		-	-	-	-	-	-	-	-	-	-	-	-
	TL		363	837	2187	2259	2772	2964	3657	4368	5151	6009	6960	7947
	BRG		1.5 / 3	1.5 / 3	2.2 / 5.6	2.3 / 5.8	2.8 / 7.1	3 / 7.6	3.7 / 9.3	4.5 / 11.1	5.3 / 13.1	6.1 / 15.3	7.1 / 17.8	8.1 / 20.3
9	LL		-	-	1584	1716	-	-	-	-	-	-	-	-
	TL		225	519	1812	1902	2400	2562	3141	3729	4365	5058	5808	6576
	BRG		1.5 / 3	1.5 / 3	2.1 / 5.2	2.2 / 5.5	2.8 / 6.9	2.9 / 7.4	3.6 / 9	4.3 / 10.7	5 / 12.5	5.8 / 14.5	6.7 / 16.7	7.6 / 18.9
10	LL		-	-	1155	1251	2076	-	-	-	-	-	-	-
	TL		144	336	1467	1539	2088	2256	2751	3252	3789	4365	4983	5607
	BRG		1.5 / 3	1.5 / 3	1.9 / 4.7	2 / 4.9	2.7 / 6.7	2.9 / 7.2	3.5 / 8.8	4.2 / 10.4	4.8 / 12.1	5.6 / 13.9	6.4 / 15.9	7.2 / 17.9
11	LL		-	-	867	939	1560	1836	-	-	-	-	-	-
	TL		96	228	1143	1239	1722	1899	2448	2883	3345	3837	4362	4884
	BRG		1.5 / 3	1.5 / 3	1.6 / 4	1.7 / 4.4	2.4 / 6.1	2.7 / 6.7	3.4 / 8.6	4.1 / 10.1	4.7 / 11.8	5.4 / 13.5	6.1 / 15.3	6.9 / 17.2
12	LL			-	669	723	1203	1413	-	-	-	-	-	-
	TL			159	879	951	1446	1593	2145	2589	2994	3423	3876	4326
	BRG			1.5 / 3	1.5 / 3.4	1.5 / 3.7	2.2 / 5.6	2.5 / 6.1	3.3 / 8.2	4 / 9.9	4.6 / 11.5	5.3 / 13.1	6 / 14.9	6.6 / 16.6
13	LL			-	525	570	945	1113	1821	-	-	-	-	-
	TL			111	687	747	1230	1356	1827	2325	2709	3090	3489	3882
	BRG			1.5 / 3	1.5 / 3	1.5 / 3.1	2.1 / 5.1	2.3 / 5.7	3 / 7.6	3.9 / 9.7	4.5 / 11.3	5.1 / 12.9	5.8 / 14.5	6.5 / 16.2
14	LL			-	420	456	756	891	1458	-	-	-	-	-
	TL			81	549	594	993	1167	1572	2001	2475	2814	3171	3522
	BRG			1.5 / 3	1.5 / 3	1.5 / 3	1.8 / 4.5	2.1 / 5.3	2.8 / 7.1	3.6 / 9	4.4 / 11.1	5.1 / 12.6	5.7 / 14.2	6.3 / 15.8
15	LL				342	369	615	723	1185	-	-	-	-	-
	TL				444	480	804	948	1368	1740	2154	2583	2904	3219
	BRG				1.5 / 3	1.5 / 3	1.6 / 3.9	1.8 / 4.6	2.6 / 6.6	3.4 / 8.4	4.1 / 10.4	5 / 12.4	5.6 / 14	6.2 / 15.5
16	LL				282	306	507	597	978	1458	-	-	-	-
	TL				363	393	660	780	1200	1527	1890	2286	2682	2967
	BRG				1.5 / 3	1.5 / 3	1.5 / 3.4	1.6 / 4	2.5 / 6.2	3.1 / 7.9	3.9 / 9.7	4.7 / 11.7	5.5 / 13.8	6.1 / 15.2
17	LL				234	255	423	498	816	1215	-	-	-	-
	TL				300	327	549	648	1059	1350	1671	2022	2403	2751
	BRG				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	2.3 / 5.8	3 / 7.4	3.7 / 9.2	4.4 / 11.1	5.3 / 13.1	6 / 15
18	LL				198	213	357	420	687	1023	1458	-	-	-
	TL				252	273	459	543	897	1203	1488	1800	2142	2484
	BRG				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	2.1 / 5.2	2.8 / 7	3.5 / 8.6	4.2 / 10.4	5 / 12.4	5.8 / 14.4
19	LL					183	303	357	582	870	1239	-	-	-
	TL					231	387	459	759	1077	1332	1614	1917	2226
	BRG					1.5 / 3	1.5 / 3	1.5 / 3	1.9 / 4.7	2.7 / 6.6	3.3 / 8.2	4 / 9.9	4.7 / 11.7	5.4 / 13.6
20	LL						261	306	501	747	1062	-	-	-
	TL						330	390	648	969	1200	1455	1728	2004
	BRG						1.5 / 3	1.5 / 3	1.7 / 4.2	2.5 / 6.3	3.1 / 7.8	3.8 / 9.4	4.5 / 11.2	5.2 / 12.9
21	LL						225	264	432	645	918	1260	-	-
	TL						285	336	558	837	1086	1317	1566	1815
	BRG						1.5 / 3	1.5 / 3	1.5 / 3.8	2.3 / 5.7	3 / 7.4	3.6 / 9	4.3 / 10.6	4.9 / 12.3
22	LL						195	228	375	561	798	1095	-	-
	TL						246	291	483	726	987	1197	1422	1650
	BRG						1.5 / 3	1.5 / 3	1.5 / 3.5	2.1 / 5.2	2.8 / 7.1	3.4 / 8.6	4.1 / 10.1	4.7 / 11.8
23	LL							201	330	492	699	960	1275	-
	TL							252	420	633	903	1092	1299	1509
	BRG							1.5 / 3	1.5 / 3.2	1.9 / 4.8	2.7 / 6.8	3.3 / 8.2	3.9 / 9.7	4.5 / 11.3
24	LL								288	432	615	843	1122	-
	TL								366	555	795	1002	1191	1383
	BRG								1.5 / 3	1.8 / 4.4	2.5 / 6.2	3.1 / 7.8	3.7 / 9.3	4.3 / 10.8
25	LL								255	381	543	747	993	1269
	TL								321	489	702	921	1095	1272
	BRG								1.5 / 3	1.6 / 4.1	2.3 / 5.8	3 / 7.5	3.6 / 8.9	4.1 / 10.4
26	LL								228	339	483	663	882	1128
	TL								285	432	621	849	1011	1173
	BRG								1.5 / 3	1.5 / 3.7	2.1 / 5.3	2.9 / 7.2	3.4 / 8.6	4 / 10
27	LL								204	303	432	594	789	1008
	TL								252	384	552	762	936	1086
	BRG								1.5 / 3	1.5 / 3.5	2 / 4.9	2.7 / 6.8	3.3 / 8.3	3.8 / 9.6
28	LL								183	273	387	531	708	903
	TL								225	342	492	681	867	1008
	BRG								1.5 / 3	1.5 / 3.2	1.8 / 4.6	2.5 / 6.3	3.2 / 8	3.7 / 9.2
29	LL									246	348	477	636	813
	TL									306	441	612	807	936
	BRG									1.5 / 3	1.7 / 4.3	2.4 / 5.9	3.1 / 7.7	3.6 / 8.9
30	LL									222	315	432	576	735
	TL									273	396	549	738	873
	BRG									1.5 / 3	1.6 / 4	2.2 / 5.5	2.9 / 7.3	3.4 / 8.6

* Can be applied to the beam in addition to its own weight. Simple or multiple beam spans.

Key to Table:

LL = Maximum live load – limits deflection to L/240

TL = Maximum total load – limits deflections to L/180 (or a maximum of 0.3125" for beams 7¼" deep or less)

BRG = Required end / intermediate bearing length (inches), based on bearing stress of 750 psi.