



Requirements for Use of Allowable Load Tables

1. These tables are for gravity loads only. Consult a registered design professional for wind and seismic load analysis and design.
2. All tables are based on uniformly distributed loads only. Other loads, such as concentrated or unbalanced snow loads, have not been considered and must be analyzed separately.
3. These tables are only applicable to members used under dry-service conditions where the moisture content in use is a maximum of 19% for lumber and less than 16% for glued laminated timber.
4. The compression edge of the header or beam must be laterally supported at intervals of 24" or less. In addition, lateral support must be provided at bearing points.
5. Allowable total and live plf (pounds per lineal foot) loads used to select a header or beam must be equal to or greater than the actual plf loads applied.
6. Multiple-member headers and beams must be properly connected together. See page 5 for connection guidelines.
7. These tables assume unbalanced glued laminated timber combinations used in simple-span applications. Balanced beam combinations with equal or greater design values may be substituted and used in either simple-span or continuous-span applications.
8. These tables are only applicable to members used under ordinary ranges of temperature and occasionally heated in use up to 150° F.

Southern Forest Products Association does not develop design values for either lumber or glued laminated timber. Accordingly, SFPA does not warrant the design values on which these tables are based, and assumes no liability for damage caused or contributed to by the use of such design values. In addition, SFPA and its members have no knowledge of the loads, spans, materials used, quality of workmanship, professional competence of the users, and other factors involved in specifying headers or beams for any given project; and accordingly, cannot, and do not, represent or warrant the performance in use of headers or beams incorporated into any particular construction project, and disclaim liability for injury or damage caused by the failure of a header or beam in use.

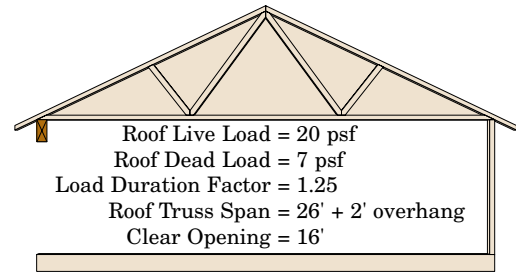
Key – for each clear opening there are three rows of values:

- TL: Maximum total load in pounds per lineal foot (plf) with deflection limited to $\ell/180$
- LL: Maximum live load in pounds per lineal foot (plf) with deflection limited to $\ell/240$
- BL: Required bearing length in inches

Steps in Sizing Headers or Beams:

1. Determine the required total load (live load + dead load) in plf.
2. Determine the required live load in plf.
3. Select a clear opening and find columns where the plf value in the TL row equals or exceeds the required total load, *and* the plf value in the LL row equals or exceeds the required live load.
4. Check required bearing lengths in the BL row.
5. Find product size options at the top of the columns meeting the total load, live load and bearing length requirements.

Example: Allowable Roof Loads



Total Load = $(26'/2 + 2') \times (20 + 7) \text{ psf} = 405 \text{ plf}$
 Live Load = $(26'/2 + 2') \times 20 \text{ psf} = 300 \text{ plf}$

Select the 16' clear opening in Tables 33-38. Read across the TL row in each table to find columns with total loads equal to or greater than the required 405 plf. Then check the LL row in those columns to make sure the corresponding live loads are equal to or greater than the required 300 plf. Solutions include: from Table 33 for No. 1 SP lumber, select (4) 2x12s requiring a 1.5" bearing length; from Table 36 for 24F-1.7E (V4) SP glulam, select a 3-1/2x11-1/4" beam requiring a 3.0" bearing length. From Table 38 for 24F-1.8E (V3) SP glulam, select a 3-1/8x11" beam requiring a 3.0" bearing length.

Table 33 – No. 1 Southern Pine Lumber

Clear Opening		1-ply				2-ply				3-ply				4-ply			
		2 x 6	2 x 8	2 x 10	2 x 12	2 x 6	2 x 8	2 x 10	2 x 12	2 x 6	2 x 8	2 x 10	2 x 12	2 x 6	2 x 8	2 x 10	2 x 12
4'	TL	502	783	1036	1389	1005	1565	2072	2778	1720	2666	3512	4671	2293	3554	4682	6228
	LL	502	783	1036	1389	1005	1565	2072	2778	1720	2666	3512	4671	2293	3554	4682	6228
	BL	1.5	3.0	3.0	4.5	1.5	3.0	3.0	4.5	1.5	3.0	3.0	4.5	1.5	3.0	3.0	4.5
6'	TL	229	364	490	677	458	727	981	1353	788	1248	1680	2310	1050	1664	2240	3080
	LL	229	364	490	677	458	727	981	1353	788	1248	1680	2310	1050	1664	2240	3080
	BL	1.5	1.5	3.0	3.0	1.5	1.5	3.0	3.0	1.5	3.0	3.0	3.0	1.5	3.0	3.0	3.0
8'	TL	129	207	281	391	258	414	562	783	446	712	966	1344	594	950	1288	1792
	LL	129	207	281	391	258	414	562	783	424	712	966	1344	565	950	1288	1792
	BL	1.5	1.5	1.5	3.0	1.5	1.5	1.5	3.0	1.5	1.5	3.0	3.0	1.5	1.5	3.0	3.0
10'	TL	82	132	180	253	165	265	361	506	285	457	622	871	380	610	830	1161
	LL	73	132	180	253	146	265	361	506	219	457	622	871	292	610	830	1161
	BL	1.5	1.5	1.5	3.0	1.5	1.5	1.5	3.0	1.5	1.5	1.5	3.0	1.5	1.5	1.5	3.0
12'	TL	55	92	125	176	109	183	250	352	164	317	432	607	218	422	576	809
	LL	42	92	125	176	85	183	250	352	127	289	432	607	170	386	576	809
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
14'	TL	34	67	91	129	68	134	183	257	101	231	316	445	135	308	421	593
	LL	27	61	91	129	54	122	183	257	80	183	316	445	107	244	421	593
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
16'	TL	22	51	69	98	44	101	139	196	66	156	240	339	88	208	320	452
	LL	18	41	69	98	36	82	139	196	54	123	240	339	72	164	320	452
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
18'	TL	15	36	54	77	30	72	108	153	45	108	188	266	60	144	251	355
	LL	13	29	54	77	25	58	108	153	38	87	179	266	51	116	239	355
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

(See *Requirements for Use* on page 23, and *Key, Example and Notes* on this page)

Notes for Tables 33 - 38: Allowable Roof Loads (plf) - 1.25 Load Duration Factor

- Tabulated total loads (TL) and live loads (LL) represent the allowable uniformly distributed loads that a beam can support in addition to its own weight. Deflection is limited to $\ell/180$ for total load and $\ell/240$ for live load. To determine an allowable live load for a deflection limit other than $\ell/240$, multiply the LL value by the ratio of 240 divided by the desired deflection constant. The result must not exceed the corresponding TL value for the same clear opening and product.
- Tabulated bearing lengths (BL) reflect the number of 2x trimmers required at each end of the header or beam based on the corresponding plf loads (e.g., 1.5" = one trimmer, 3.0" = two trimmers, etc.). Additional checks may be required for bearing length and trimmers.
- See *Assumptions for Table Development* beginning on page 2 for details on design assumptions made to generate these tables.
- Interpolation between clear openings is permitted.
- The design span is assumed to be the clear opening plus 1/2 the required bearing length at each end.

Table 34 – No. 2 Southern Pine Lumber																	
Clear Opening		1-ply				2-ply				3-ply				4-ply			
		2 x 6	2 x 8	2 x 10	2 x 12	2 x 6	2 x 8	2 x 10	2 x 12	2 x 6	2 x 8	2 x 10	2 x 12	2 x 6	2 x 8	2 x 10	2 x 12
4'	TL	377	592	812	1087	754	1183	1623	2174	1293	2023	2764	3679	1724	2697	3685	4906
	LL	377	592	812	1087	754	1183	1623	2174	1293	2023	2764	3679	1724	2697	3685	4906
	BL	1.5	1.5	3.0	3.0	1.5	1.5	3.0	3.0	1.5	3.0	3.0	4.5	1.5	3.0	3.0	4.5
6'	TL	170	271	378	516	340	542	755	1032	586	932	1296	1767	782	1243	1728	2356
	LL	170	271	378	516	340	542	755	1032	586	932	1296	1767	782	1243	1728	2356
	BL	1.5	1.5	1.5	3.0	1.5	1.5	1.5	3.0	1.5	1.5	3.0	3.0	1.5	1.5	3.0	3.0
8'	TL	96	153	215	296	191	306	429	591	330	529	740	1017	440	705	986	1356
	LL	96	153	215	296	191	306	429	591	330	529	740	1017	440	705	986	1356
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0	1.5	1.5	1.5	3.0
10'	TL	61	98	137	190	121	195	275	380	210	338	474	655	280	450	632	873
	LL	61	98	137	190	121	195	275	380	192	338	474	655	256	450	632	873
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
12'	TL	42	67	95	131	83	135	190	263	143	233	328	454	190	311	437	606
	LL	37	67	95	131	74	135	190	263	112	233	328	454	149	311	437	606
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
14'	TL	29	49	69	96	59	98	138	192	88	169	239	332	117	226	319	443
	LL	23	49	69	96	47	98	138	192	70	161	239	332	94	214	319	443
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
16'	TL	19	37	52	73	38	74	104	145	57	128	181	252	76	171	241	336
	LL	16	36	52	73	31	72	104	145	47	108	181	252	63	144	241	336
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
18'	TL	13	29	41	57	26	57	81	113	38	93	141	197	51	124	188	263
	LL	11	25	41	57	22	51	81	113	33	76	141	197	44	101	188	263
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

Table 35 – No. 3 Southern Pine Lumber																	
Clear Opening		1-ply				2-ply				3-ply				4-ply			
		2 x 6	2 x 8	2 x 10	2 x 12	2 x 6	2 x 8	2 x 10	2 x 12	2 x 6	2 x 8	2 x 10	2 x 12	2 x 6	2 x 8	2 x 10	2 x 12
4'	TL	219	344	499	685	439	688	997	1369	756	1182	1708	2337	1007	1576	2278	3116
	LL	219	344	499	685	439	688	997	1369	756	1182	1708	2337	1007	1576	2278	3116
	BL	1.5	1.5	1.5	3.0	1.5	1.5	1.5	3.0	1.5	1.5	1.5	3.0	1.5	1.5	1.5	3.0
6'	TL	98	155	226	315	195	309	453	630	337	533	780	1083	450	711	1040	1444
	LL	98	155	226	315	195	309	453	630	337	533	780	1083	450	711	1040	1444
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
8'	TL	54	86	127	178	109	173	255	356	188	299	440	614	251	399	586	819
	LL	54	86	127	178	109	173	255	356	188	299	440	614	251	399	586	819
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
10'	TL	34	55	81	113	68	109	161	227	119	189	279	392	158	252	373	522
	LL	34	55	81	113	68	109	161	227	119	189	279	392	158	252	373	522
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
12'	TL	23	37	55	78	46	74	110	155	81	129	192	270	108	172	255	359
	LL	23	37	55	78	46	74	110	155	81	129	192	270	108	172	255	359
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
14'	TL	16	27	40	56	33	53	79	112	58	93	138	195	77	124	185	260
	LL	16	27	40	56	33	53	79	112	58	93	138	195	77	124	185	260
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
16'	TL	12	20	30	42	24	40	59	84	43	70	104	147	57	93	138	196
	LL	12	20	30	42	24	40	59	84	43	70	104	147	57	93	138	196
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
18'	TL	9	15	23	32	18	30	46	65	33	53	80	114	44	71	107	152
	LL	9	15	23	32	18	30	46	65	31	53	80	114	41	71	107	152
	BL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

(See Requirements for Use on page 23, and Key, Example and Notes on page 34)

Table 36 – 24F-1.7E (V4) Southern Pine Glued Laminated Timber

Clear Opening		3-1/2" Width								5-1/2" Width							
		Depth (in.)								Depth (in.)							
		9-1/4	9-1/2	11-1/4	11-7/8	14	16	18	19-1/4	11-1/4	11-7/8	14	16	18	19-1/4	20-5/8	22
6'	TL	2110	2187	2774	---	---	---	---	---	3484	3774	4881	---	---	---	---	---
	LL	2110	2187	2774	---	---	---	---	---	3484	3774	4881	---	---	---	---	---
	BL	3.0	3.0	4.5	---	---	---	---	---	3.0	3.0	4.5	---	---	---	---	---
8'	TL	1454	1503	1865	2003	2510	---	---	---	2342	2515	3151	3828	4595	5129	5773	---
	LL	1454	1503	1865	2003	2510	---	---	---	2342	2515	3151	3828	4595	5129	5773	---
	BL	3.0	3.0	3.0	4.5	4.5	---	---	---	3.0	3.0	4.5	4.5	6.0	6.0	7.5	---
10'	TL	958	1009	1400	1501	1852	2213	2609	2876	1761	1884	2324	2778	3275	3611	4005	4427
	LL	831	898	1400	1501	1852	2213	2609	2876	1761	1884	2324	2778	3275	3611	4005	4427
	BL	3.0	3.0	3.0	3.0	4.5	4.5	6.0	6.0	3.0	3.0	3.0	4.5	4.5	6.0	6.0	7.5
12'	TL	643	695	982	1090	1466	1736	2026	2218	1410	1504	1839	2178	2542	2783	3063	3358
	LL	488	528	864	1010	1466	1736	2026	2218	1365	1504	1839	2178	2542	2783	3063	3358
	BL	3.0	3.0	3.0	3.0	4.5	4.5	6.0	6.0	3.0	3.0	3.0	4.5	4.5	4.5	6.0	6.0
14'	TL	407	441	725	806	1111	1427	1655	1804	1139	1251	1521	1790	2075	2263	2477	2702
	LL	311	337	551	646	1041	1427	1655	1804	866	1016	1521	1790	2075	2263	2477	2702
	BL	1.5	1.5	3.0	3.0	4.5	4.5	6.0	6.0	3.0	3.0	3.0	4.5	4.5	4.5	4.5	6.0
16'	TL	272	295	488	573	855	1109	1394	1519	767	900	1295	1518	1752	1905	2078	2259
	LL	210	227	374	438	707	1041	1394	1519	587	688	1114	1518	1752	1905	2078	2259
	BL	1.5	1.5	3.0	3.0	3.0	4.5	4.5	6.0	3.0	3.0	3.0	4.5	4.5	4.5	4.5	6.0
18'	TL	189	205	343	403	656	881	1107	1261	538	633	1031	1317	1515	1643	1789	1939
	LL	148	160	264	310	501	740	1041	1261	415	487	788	1167	1515	1643	1789	1939
	BL	1.5	1.5	1.5	1.5	3.0	4.5	4.5	4.5	1.5	1.5	3.0	3.0	4.5	4.5	4.5	4.5
20'	TL	136	148	248	293	479	711	901	1024	390	460	753	1106	1334	1445	1570	1698
	LL	108	117	194	227	369	544	767	932	304	357	580	855	1210	1445	1570	1698
	BL	1.5	1.5	1.5	1.5	3.0	3.0	4.5	4.5	1.5	1.5	3.0	3.0	4.5	4.5	4.5	4.5
22'	TL	100	109	185	218	359	536	743	845	290	343	565	842	1142	1288	1397	1510
	LL	81	88	146	171	279	412	581	707	229	269	438	648	914	1114	1365	1510
	BL	1.5	1.5	1.5	1.5	3.0	3.0	4.5	4.5	1.5	1.5	3.0	3.0	4.5	4.5	4.5	4.5
24'	TL	---	---	140	166	275	412	586	708	220	261	432	648	920	1087	1242	1358
	LL	---	---	113	132	216	320	451	548	177	208	339	502	709	863	1056	1278
	BL	---	---	1.5	1.5	1.5	3.0	3.0	4.5	1.5	1.5	1.5	3.0	3.0	4.5	4.5	4.5
26'	TL	---	---	108	129	214	323	460	562	170	202	337	507	723	884	1053	1193
	LL	---	---	89	104	170	253	357	434	139	164	267	397	561	683	835	1009
	BL	---	---	1.5	1.5	1.5	3.0	3.0	3.0	1.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5
28'	TL	---	---	85	101	170	256	367	450	---	159	267	403	577	706	868	1024
	LL	---	---	71	84	137	203	287	350	---	131	215	319	451	550	673	812
	BL	---	---	1.5	1.5	1.5	1.5	3.0	3.0	---	1.5	1.5	1.5	3.0	3.0	4.5	4.5
30'	TL	---	---	---	---	136	206	297	364	---	---	214	324	466	572	704	855
	LL	---	---	---	---	111	165	234	286	---	---	175	260	368	449	550	664
	BL	---	---	---	---	1.5	1.5	3.0	3.0	---	---	1.5	1.5	3.0	3.0	3.0	4.5
32'	TL	---	---	---	---	110	168	242	298	---	---	173	264	381	468	578	703
	LL	---	---	---	---	92	137	194	236	---	---	144	215	304	371	455	550
	BL	---	---	---	---	1.5	1.5	3.0	3.0	---	---	1.5	1.5	3.0	3.0	3.0	4.5
34'	TL	---	---	---	---	90	138	200	246	---	---	141	217	314	387	479	583
	LL	---	---	---	---	77	114	162	197	---	---	120	179	254	310	380	460
	BL	---	---	---	---	1.5	1.5	1.5	3.0	---	---	1.5	1.5	1.5	3.0	3.0	3.0
36'	TL	---	---	---	---	---	114	166	205	---	---	---	179	261	322	400	488
	LL	---	---	---	---	---	96	137	167	---	---	---	151	215	262	321	389
	BL	---	---	---	---	---	1.5	1.5	1.5	---	---	---	1.5	1.5	1.5	3.0	3.0
38'	TL	---	---	---	---	---	95	139	172	---	---	---	149	219	271	336	411
	LL	---	---	---	---	---	82	116	142	---	---	---	129	183	223	274	331
	BL	---	---	---	---	---	1.5	1.5	1.5	---	---	---	1.5	1.5	1.5	3.0	3.0

(See Requirements for Use on page 23, Key and Example on page 34, and Notes on page 34 and this page)

Notes for Table 36: Allowable Roof Loads (plf) - 1.25 Load Duration Factor

- For practicality, allowable roof loads are omitted from the table when they exceed 3,000 and 6,000 pounds per lineal foot (plf) for the 3-1/2" and 5-1/2"-wide beams, respectively, and when a glued laminated timber's span-to-depth ratio exceeds 30.
- To determine allowable roof loads for 3- and 3-1/8"-wide glued laminated timber beams, multiply tabulated total loads (TL) and live loads (LL) for 3-1/2"-wide beams by 0.857 and 0.893, respectively. Then check the required bearing length (BL).
- To determine allowable roof loads for 5- and 5-1/8"-wide glued laminated timber beams, multiply the TL and LL values for 5-1/2" wide beams by 0.909 or 0.932, respectively. Then check the required bearing length (BL).

Table 37 - 24F-1.7E (V4) Southern Pine Glued Laminated Timber																			
Clear Opening		3-1/8" Width								5-1/8" Width									
		Depth (in.)								Depth (in.)									
		8-1/4	9-5/8	11	12-3/8	13-3/4	15-1/8	16-1/2	17-7/8	11	12-3/8	13-3/4	15-1/8	16-1/2	17-7/8	19-1/4	20-5/8	22	23-3/8
6'	TL	1619	1988	2398	2855	---	---	---	---	3143	3742	4416	5179	---	---	---	---	---	---
	LL	1619	1988	2398	2855	---	---	---	---	3143	3742	4416	5179	---	---	---	---	---	---
	BL	3.0	3.0	4.5	4.5	---	---	---	---	3.0	4.5	4.5	4.5	---	---	---	---	---	---
8'	TL	1058	1364	1617	1890	2185	2504	2852	---	2119	2476	2863	3282	3737	4234	4779	5379	---	---
	LL	1016	1364	1617	1890	2185	2504	2852	---	2119	2476	2863	3282	3737	4234	4779	5379	---	---
	BL	3.0	3.0	3.0	4.5	4.5	6.0	6.0	---	3.0	3.0	4.5	4.5	4.5	6.0	6.0	7.5	---	---
10'	TL	684	924	1197	1411	1615	1831	2061	2306	1597	1848	2115	2399	2700	3021	3365	3732	4126	4549
	LL	532	832	1197	1411	1615	1831	2061	2306	1597	1848	2115	2399	2700	3021	3365	3732	4126	4549
	BL	1.5	3.0	3.0	4.5	4.5	4.5	6.0	6.0	3.0	3.0	3.0	4.5	4.5	4.5	6.0	6.0	6.0	7.5
12'	TL	410	645	839	1054	1280	1442	1613	1792	1280	1473	1676	1889	2112	2346	2594	2854	3129	3419
	LL	312	489	722	1016	1280	1442	1613	1792	1191	1473	1676	1889	2112	2346	2594	2854	3129	3419
	BL	1.5	3.0	3.0	3.0	4.5	4.5	4.5	6.0	3.0	3.0	3.0	4.5	4.5	4.5	4.5	6.0	6.0	6.0
14'	TL	258	409	606	780	958	1152	1324	1464	994	1224	1387	1556	1733	1916	2108	2308	2518	2736
	LL	198	312	461	650	882	1152	1324	1464	756	1069	1387	1556	1733	1916	2108	2308	2518	2736
	BL	1.5	1.5	3.0	3.0	3.0	4.5	4.5	6.0	3.0	3.0	3.0	3.0	4.5	4.5	4.5	4.5	6.0	6.0
16'	TL	172	274	408	577	737	888	1051	1228	669	947	1182	1322	1468	1619	1775	1937	2105	2279
	LL	134	211	312	440	599	790	1016	1228	512	722	984	1304	1468	1619	1775	1937	2105	2279
	BL	1.5	1.5	1.5	3.0	3.0	4.5	4.5	4.5	1.5	3.0	3.0	3.0	4.5	4.5	4.5	4.5	6.0	6.0
18'	TL	119	191	286	407	556	704	835	976	469	667	911	1149	1273	1400	1531	1667	1807	1952
	LL	94	149	221	312	425	561	722	911	362	512	697	921	1191	1400	1531	1667	1807	1952
	BL	1.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5	1.5	3.0	3.0	3.0	4.5	4.5	4.5	4.5	4.5	6.0
20'	TL	85	137	207	296	406	538	678	793	339	485	665	883	1097	1233	1346	1463	1582	1706
	LL	69	109	162	229	312	413	532	671	265	376	512	677	872	1105	1346	1463	1582	1706
	BL	1.5	1.5	1.5	1.5	3.0	3.0	3.0	4.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5	4.5	4.5	6.0
22'	TL	---	102	154	221	304	405	524	657	252	362	498	664	859	1053	1200	1302	1407	1514
	LL	---	82	122	173	236	312	403	508	200	284	387	512	661	834	1038	1272	1407	1514
	BL	---	1.5	1.5	1.5	1.5	3.0	3.0	4.5	1.5	1.5	1.5	3.0	3.0	4.5	4.5	4.5	4.5	6.0
24'	TL	---	---	117	168	233	311	404	512	192	276	381	509	662	840	1017	1161	1265	1360
	LL	---	---	94	134	183	242	312	395	154	219	299	397	512	647	804	984	1191	1360
	BL	---	---	1.5	1.5	1.5	3.0	3.0	3.0	1.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5	4.5	4.5
26'	TL	---	---	90	131	181	243	316	402	148	214	297	398	519	660	823	985	1116	1234
	LL	---	---	74	105	144	191	247	312	122	173	236	313	405	512	636	778	940	1124
	BL	---	---	1.5	1.5	1.5	1.5	3.0	3.0	1.5	1.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5	4.5
28'	TL	---	---	---	103	143	193	252	321	---	169	235	316	413	526	658	809	958	1077
	LL	---	---	---	84	116	153	198	251	---	138	189	251	325	412	512	627	757	904
	BL	---	---	---	1.5	1.5	1.5	3.0	3.0	---	1.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5	4.5
30'	TL	---	---	---	82	115	155	203	259	---	134	188	254	332	425	533	656	796	934
	LL	---	---	---	69	94	125	162	205	---	113	154	205	265	336	418	512	619	739
	BL	---	---	---	1.5	1.5	1.5	1.5	3.0	---	1.5	1.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5
32'	TL	---	---	---	---	93	126	165	212	---	---	152	206	271	347	436	538	655	785
	LL	---	---	---	---	78	103	134	169	---	---	127	169	219	278	346	424	512	612
	BL	---	---	---	---	1.5	1.5	1.5	1.5	---	---	1.5	1.5	1.5	1.5	3.0	3.0	3.0	4.5
34'	TL	---	---	---	---	76	103	136	175	---	---	124	169	223	286	361	446	543	653
	LL	---	---	---	---	65	86	112	141	---	---	106	141	183	232	289	354	429	512
	BL	---	---	---	---	1.5	1.5	1.5	1.5	---	---	1.5	1.5	1.5	1.5	3.0	3.0	3.0	3.0
36'	TL	---	---	---	---	---	85	112	145	---	---	---	139	184	238	300	373	455	547
	LL	---	---	---	---	---	73	94	119	---	---	---	119	154	196	244	299	362	433
	BL	---	---	---	---	---	1.5	1.5	1.5	---	---	---	1.5	1.5	1.5	1.5	3.0	3.0	3.0
38'	TL	---	---	---	---	---	---	94	121	---	---	---	---	154	199	252	313	383	462
	LL	---	---	---	---	---	---	80	102	---	---	---	---	131	167	208	255	309	369
	BL	---	---	---	---	---	---	1.5	1.5	---	---	---	---	1.5	1.5	1.5	3.0	3.0	3.0

(See Requirements for Use on page 23, Key and Example on page 34, and Notes on page 34 and this page)

Notes for Table 37: Allowable Roof Loads (plf) - 1.25 Load Duration Factor

- For practicality, allowable roof loads are omitted from the table when they exceed 3,000 and 6,000 pounds per lineal foot (plf) for the 3-1/8" and 5-1/8"-wide beams, respectively, and when a glued laminated timber's span-to-depth ratio exceeds 30.
- To determine allowable roof loads for 3- and 3-1/2"-wide glued laminated timber beams, multiply tabulated total loads (TL) and live loads (LL) for 3-1/8"-wide beams by 0.96 and 1.12, respectively. Then check the required bearing length (BL).
- To determine allowable roof loads for 5- and 5-1/2"-wide glued laminated timber beams, multiply the TL and LL values for 5-1/8" wide beams by 0.976 or 1.073, respectively. Then check the required bearing length (BL).

Table 38 – 24F-1.8E (V3) Southern Pine Glued Laminated Timber

Clear Opening		3-1/8" Width									5-1/8" Width								
		Depth (in.)									Depth (in.)								
		8-1/4	9-5/8	11	12-3/8	13-3/4	15-1/8	16-1/2	17-7/8	11	12-3/8	13-3/4	15-1/8	16-1/2	17-7/8	19-1/4	20-5/8	22	23-3/8
6'	TL	1826	2421	---	---	---	---	---	---	5029	---	---	---	---	---	---	---	---	
	LL	1826	2421	---	---	---	---	---	---	5029	---	---	---	---	---	---	---	---	
	BL	3.0	4.5	---	---	---	---	---	---	4.5	---	---	---	---	---	---	---	---	
8'	TL	1058	1419	1824	2264	2736	---	---	---	2991	3714	4486	5298	---	---	---	---	---	
	LL	1058	1419	1824	2264	2736	---	---	---	2991	3714	4486	5298	---	---	---	---	---	
	BL	3.0	3.0	4.5	4.5	6.0	---	---	---	4.5	4.5	6.0	6.0	---	---	---	---	---	
10'	TL	684	924	1195	1495	1821	2171	2541	2928	1960	2452	2987	3561	4168	4802	5459	---	---	
	LL	563	881	1195	1495	1821	2171	2541	2928	1960	2452	2987	3561	4168	4802	5459	---	---	
	BL	1.5	3.0	3.0	4.5	4.5	6.0	6.0	7.5	3.0	4.5	4.5	6.0	6.0	7.5	9.0	---	---	
12'	TL	434	646	839	1054	1290	1546	1819	2109	1376	1729	2116	2535	2984	3459	3958	4477	5004	
	LL	330	518	765	1054	1290	1546	1819	2109	1255	1729	2116	2535	2984	3459	3958	4477	5004	
	BL	1.5	3.0	3.0	3.0	4.5	4.5	6.0	6.0	3.0	3.0	4.5	4.5	6.0	6.0	7.5	7.5	9.0	
14'	TL	273	433	620	780	958	1151	1360	1582	1016	1280	1571	1888	2230	2594	2971	3364	3774	
	LL	210	330	488	688	934	1151	1360	1582	800	1129	1532	1888	2230	2594	2971	3364	3774	
	BL	1.5	1.5	3.0	3.0	3.0	4.5	4.5	6.0	3.0	3.0	3.0	4.5	4.5	6.0	6.0	7.5	7.5	
16'	TL	182	290	432	599	737	888	1051	1226	708	983	1209	1456	1720	1998	2293	2605	2930	
	LL	141	223	330	466	634	836	1051	1226	542	764	1040	1372	1720	1998	2293	2605	2930	
	BL	1.5	1.5	3.0	3.0	3.0	4.5	4.5	4.5	3.0	3.0	3.0	4.5	4.5	4.5	6.0	6.0	7.5	
18'	TL	126	202	303	431	584	704	835	976	497	706	957	1151	1358	1581	1818	2068	2332	
	LL	100	157	234	330	449	594	765	965	383	542	737	974	1255	1581	1818	2068	2332	
	BL	1.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5	1.5	3.0	3.0	3.0	4.5	4.5	4.5	6.0	6.0	
20'	TL	90	146	220	313	430	570	678	793	360	514	704	928	1097	1279	1472	1678	1894	
	LL	73	115	171	242	330	436	563	711	281	398	542	716	923	1167	1447	1678	1894	
	BL	1.5	1.5	1.5	1.5	3.0	3.0	3.0	4.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5	6.0	6.0	
22'	TL	---	108	163	234	322	428	555	657	268	384	528	703	903	1053	1214	1385	1566	
	LL	---	87	129	183	250	330	426	538	212	300	409	542	699	883	1097	1341	1566	
	BL	---	1.5	1.5	1.5	3.0	3.0	3.0	4.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5	4.5	6.0	
24'	TL	---	---	124	179	247	329	427	542	204	293	405	540	701	881	1017	1161	1313	
	LL	---	---	100	141	193	256	330	417	163	232	317	420	542	685	851	1041	1257	
	BL	---	---	1.5	1.5	1.5	3.0	3.0	3.0	1.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5	6.0	
26'	TL	---	---	96	139	192	257	335	426	157	228	315	422	550	699	862	985	1116	
	LL	---	---	78	111	152	202	261	330	129	183	250	331	428	542	673	824	995	
	BL	---	---	1.5	1.5	1.5	1.5	3.0	3.0	1.5	1.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5	
28'	TL	---	---	---	109	152	204	267	340	---	179	250	335	438	558	697	845	958	
	LL	---	---	---	89	122	162	210	266	---	147	201	266	344	436	542	663	801	
	BL	---	---	---	1.5	1.5	1.5	3.0	3.0	---	1.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5	
30'	TL	---	---	---	87	122	164	215	275	---	143	200	270	353	451	565	696	830	
	LL	---	---	---	73	100	132	171	217	---	119	163	217	281	356	442	542	654	
	BL	---	---	---	1.5	1.5	1.5	1.5	3.0	---	1.5	1.5	1.5	1.5	3.0	3.0	3.0	4.5	
32'	TL	---	---	---	---	99	134	175	225	---	---	162	219	288	369	463	571	694	
	LL	---	---	---	---	82	109	141	179	---	---	135	179	232	294	366	448	542	
	BL	---	---	---	---	1.5	1.5	1.5	3.0	---	---	1.5	1.5	1.5	3.0	3.0	3.0	4.5	
34'	TL	---	---	---	---	81	110	144	186	---	---	132	180	237	304	383	473	576	
	LL	---	---	---	---	69	91	118	150	---	---	112	149	194	246	306	375	453	
	BL	---	---	---	---	1.5	1.5	1.5	1.5	---	---	1.5	1.5	1.5	3.0	3.0	3.0	4.5	
36'	TL	---	---	---	---	91	120	154	196	---	---	---	148	196	253	319	396	483	
	LL	---	---	---	---	77	100	126	166	---	---	---	126	163	207	258	317	383	
	BL	---	---	---	---	1.5	1.5	1.5	1.5	---	---	---	1.5	1.5	1.5	3.0	3.0	4.5	
38'	TL	---	---	---	---	---	100	129	166	---	---	---	---	164	212	268	333	407	
	LL	---	---	---	---	---	85	108	141	---	---	---	---	139	176	220	270	327	
	BL	---	---	---	---	---	1.5	1.5	1.5	---	---	---	---	1.5	1.5	1.5	3.0	3.0	

(See Requirements for Use on page 23, Key and Example on page 34, and Notes on page 34 and this page)

Notes for Table 38: Allowable Roof Loads (plf) - 1.25 Load Duration Factor

- For practicality, allowable roof loads are omitted from the table when they exceed 3,000 and 6,000 pounds per lineal foot (plf) for the 3-1/8" and 5-1/8"-wide beams, respectively, and when a glued laminated timber's span-to-depth ratio exceeds 30.
- To determine allowable roof loads for 3- and 3-1/2"-wide glued laminated timber beams, multiply tabulated total loads (TL) and live loads (LL) for 3-1/8"-wide beams by 0.96 and 1.12, respectively. Then check the required bearing length (BL).
- To determine allowable roof loads for 5- and 5-1/2"-wide glued laminated timber beams, multiply the TL and LL values for 5-1/8" wide beams by 0.976 or 1.073, respectively. Then check the required bearing length (BL).