Roseburg

1-Ply, 1.75" 2.1E true RigidLam LVL - Standard Term - Floor/Roof (PLF) L/360 LL L/240 TL Douglas-fir

ALLOWABLE UNIFORM LOAD - POUNDS PER LINEAL FOOT (Limit States Design)

Span (ft)	Depth =	4.375"	5.5"	7.25"	9.25"	9.5"	11.25"	11.875"	14"	16"	18"	20"	22"	24"
6	Unfactored Load (LL)	166	321	693	1326	1421	2175	-	-					
	Unfactored Load (TL)	248	479	1036	-	-	-	-	-					
	Total Factored Load	602	926	1300	1752	1812	2257	2428	3059					
	Min. end / Int. bearing	1.5 / 3	1.5 / 3.6	2 / 5.1	2.8 / 6.9	2.9 / 7.1	3.6 / 8.9	3.8 / 9.6	4.8 / 12					
8	Unfactored Load (LL)	72	140	310	614	660	1042	1202	1833					
	Unfactored Load (TL)	106	208	462	916	986	1558	-	-					
	Total Factored Load	338	519	873	1233	1272	1561	1669	2059					
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.8 / 4.6	2.6 / 6.5	2.7 / 6.7	3.3 / 8.2	3.5 / 8.8	4.3 / 10.8					
10	Unfactored Load (LL)	37	73	164	329	355	569	660	1030					
	Unfactored Load (TL)	54	107	242	489	528	849	985	1538					
	Total Factored Load	215	331	557	881	926	1192	1271	1551					
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.7	2.3 / 5.8	2.4 / 6.1	3.1 / 7.8	3.3 / 8.4	4.1 / 10.2					
12	Unfactored Load (LL)	22	43	96	195	211	342	398	629					
	Unfactored Load (TL)	30	62	141	289	312	508	592	937					
	Total Factored Load	149	229	386	610	641	882	976	1243					
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.1	1.9 / 4.8	2 / 5.1	2.8 / 7	3.1 / 7.7	3.9 / 9.8					
14	Unfactored Load (LL)	14	27	61	125	135	220	257	410					
	Unfactored Load (TL)	19	38	89	183	198	325	380	608					
	Total Factored Load	109	167	282	447	470	646	715	975					
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.1	1.7 / 4.4	2.4 / 6	2.6 / 6.6	3.6 / 9					
16	Unfactored Load (LL)	9	18	41	85	92	150	175	281					
	Unfactored Load (TL)	12	25	59	123	133	220	257	415					
	Total Factored Load	83	127	215	341	358	493	546	745					
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.5 / 3.8	2.1 / 5.2	2.3 / 5.8	3.2 / 7.9					
18	Unfactored Load (LL)		13	29	60	65	106	124	201					
	Unfactored Load (TL)		17	40	86	93	154	181	294					
	Total Factored Load		100	169	268	282	388	430	587					
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.4	1.9 / 4.6	2.1 / 5.1	2.8 / 7					
20	Unfactored Load (LL)		9	21	44	47	78	92	148					
	Unfactored Load (TL)		12	29	62	67	112	132	215					
	Total Factored Load		80	136	216	227	313	347	474					
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2	1.9 / 4.6	2.5 / 6.3					
22	Unfactored Load (LL)			16	33	36	59	69	112					
	Unfactored Load (TL)			21	45	49	83	98	162					
	Total Factored Load			112	178	187	258	286	390					
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.8	1.7 / 4.2	2.3 / 5.7					
24	Unfactored Load (LL)			12	26	28	46	54	87					
	Unfactored Load (TL)			15	34	37	63	75	124					
	Total Factored Load			93	149	156	216	239	327					
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 3.9	2.1 / 5.3					
26	Unfactored Load (LL)			10	20	22	36	42	69					
	Unfactored Load (TL)			11	26	28	49	58	97					
	Total Factored Load			79	126	132	183	203	277					
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.6	1.9 / 4.8					
28	Unfactored Load (LL)				16	18	29	34	55					
	Unfactored Load (TL)				20	22	38	45	76					
	Total Factored Load				108	113	157	174	238					
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.8 / 4.5					
30	Unfactored Load (LL)				13	14	24	28	45					
	Unfactored Load (TL)				15	17	30	36	61					
	Total Factored Load				93	98	136	150	206					
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2					
32	Unfactored Load (LL)				11	12	19	23	37					
	Unfactored Load (TL)				12	13	24	29	49					
	Total Factored Load				81	85	118	131	180					
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.6 / 3.9					
34	Unfactored Load (LL)				9	10	16	19	31					
	Unfactored Load (TL)				9	10	19	23	40					
	Total Factored Load				71	75	104	116	159					
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7					
36	Unfactored Load (LL)						14	16	26					
	Unfactored Load (TL)						15	19	33					
	Total Factored Load						92	102	141					
	Min. end / Int. bearing						1.5 / 3	1.5 / 3	1.5 / 3.5					
38	Unfactored Load (LL)						12	14	22					
	Unfactored Load (TL)						12	15	27					
	Total Factored Load						82	91	125					
	Min. end / Int. bearing						1.5 / 3	1.5 / 3	1.5 / 3.3					
40	Unfactored Load (LL)						10	12	19					
	Unfactored Load (TL)						10	12	22					
	Total Factored Load						73	82	112					
	Min. end / Int. bearing						1.5 / 3	1.5 / 3	1.5 / 3.2					

Notes:

1. The values shown are the maximum uniform unfactored and factored loads in pounds per linear foot that can be applied to the beam. The weight of the beam has been deducted from the Total Unfactored Load (TL) and Total Factored Load.
2. Bearing lengths are in inches based on the compression perpendicular to grain resistance of the LVL beam. For bearing on other wood materials, the bearing resistance of the supporting material should be checked.
3. The tabulated values are for simple span or for continuous span beams.
4. Design span is the clear span between supports plus one half of the required bearing at each end.
5. The table is for standard term loading and dry service conditions.
6. Lateral support at points of bearing and continuous lateral support for top of beam must be provided to prevent rotation or lateral displacement.
7. Calculations have been carried out in accordance with CSA O86-14.
8. 1-1/2" thick LVL members 14" and deeper and 1-3/4" thick LVL members 16" and deeper must be a minimum of 2 plies unless designed by a design professional.
9. See Roseburg EWP Design Guide for information regarding the connection of multiple-ply members and installation guidelines.
10. Allowable loads shown for multiple ply LVL members are also applicable to factory glued LVL beams with the same thickness as the combined multiple plies.

Directions for use of Table:

1. Determine the total factored load, unfactored live load and unfactored total load.
2. Choose a span that meets or exceeds the actual design span (centre to centre of bearing).
3. Scan from left to right within the span row to find a cell where: the L/360 (LL) load exceeds the unfactored live load; the L/240 (TL) load exceeds the unfactored total load; the factored total load resistance exceeds the factored total load. All four rows including minimum bearing must be checked. Where no unfactored loads are shown, total factored load will govern.
4. If the selected beam is too deep or the bearing length is too long, resize the beam using a wider member.
5. For an L/480 live load deflection limit, multiply the tabulated L/360 (LL) loads by 0.75. For an L/180 total load limit, multiply the tabulated L/240 (TL) loads by 1.33.

Nov. 2020

Roseburg

2-Ply, 1.75" 2.1E true RigidLam LVL - Standard Term - Floor/Roof (PLF) L/360 LL L/240 TL Douglas-fir

ALLOWABLE UNIFORM LOAD - POUNDS PER LINEAL FOOT (Limit States Design)

Span (ft)	Depth =	4.375"	5.5"	7.25"	9.25"	9.5"	11.25"	11.875"	14"	16"	18"	20"	22"	24"
6	Unfactored Load (LL)	333	641	1385	2652	2842	4350	-	-	-	-	-	-	-
	Unfactored Load (TL)	495	957	2071	-	-	-	-	-	-	-	-	-	-
	Total Factored Load	1204	1851	2600	3504	3624	4515	4856	6118	7475	9034	10843	12967	15495
	Min. end / Int. bearing	1.5 / 3	1.5 / 3.6	2 / 5.1	2.8 / 6.9	2.9 / 7.1	3.6 / 8.9	3.8 / 9.6	4.8 / 12	5.9 / 14.7	7.1 / 17.8	8.5 / 21.3	10.2 / 25.5	12.2 / 30.5
8	Unfactored Load (LL)	144	281	621	1228	1321	2084	2403	3666	-	-	-	-	-
	Unfactored Load (TL)	212	416	925	1833	1972	3115	-	-	-	-	-	-	-
	Total Factored Load	675	1038	1746	2465	2544	3122	3338	4118	4921	5800	6768	7838	9027
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.8 / 4.6	2.6 / 6.5	2.7 / 6.7	3.3 / 8.2	3.5 / 8.8	4.3 / 10.8	5.2 / 12.9	6.1 / 15.2	7.1 / 17.8	8.2 / 20.6	9.5 / 23.7
10	Unfactored Load (LL)	74	146	327	658	710	1138	1321	2059	2920	3933	-	-	-
	Unfactored Load (TL)	108	214	484	979	1056	1697	1970	3076	-	-	-	-	-
	Total Factored Load	430	662	1114	1762	1852	2384	2541	3101	3665	4269	4916	5613	6364
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.7	2.3 / 5.8	2.4 / 6.1	3.1 / 7.8	3.3 / 8.4	4.1 / 10.2	4.8 / 12	5.6 / 14	6.5 / 16.2	7.4 / 18.4	8.4 / 20.9
12	Unfactored Load (LL)	43	85	193	391	422	684	796	1258	1808	2470	3241	4116	-
	Unfactored Load (TL)	61	123	282	578	624	1015	1183	1874	2697	-	-	-	-
	Total Factored Load	297	458	771	1220	1283	1764	1952	2486	2918	3375	3858	4369	4911
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.1	1.9 / 4.8	2 / 5.1	2.8 / 7	3.1 / 7.7	3.9 / 9.8	4.6 / 11.5	5.3 / 13.3	6.1 / 15.2	6.9 / 17.2	7.8 / 19.4
14	Unfactored Load (LL)	27	54	123	250	270	441	514	820	1189	1639	2173	2787	3480
	Unfactored Load (TL)	37	76	177	367	397	650	760	1217	1769	2443	-	-	-
	Total Factored Load	217	335	564	894	940	1292	1431	1951	2423	2789	3173	3575	3997
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.1	1.7 / 4.4	2.4 / 6	2.6 / 6.6	3.6 / 9	4.5 / 11.2	5.1 / 12.9	5.9 / 14.6	6.6 / 16.5	7.4 / 18.4
16	Unfactored Load (LL)	18	36	83	169	183	300	350	562	820	1138	1519	1963	2470
	Unfactored Load (TL)	24	50	117	245	266	439	515	830	1215	1691	2260	2924	-
	Total Factored Load	165	255	430	682	717	986	1092	1490	1916	2376	2693	3024	3368
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.5 / 3.8	2.1 / 5.2	2.3 / 5.8	3.2 / 7.9	4 / 10.1	5 / 12.5	5.7 / 14.2	6.4 / 16	7.1 / 17.8
18	Unfactored Load (LL)	13	26	58	120	130	213	249	401	588	820	1100	1429	1808
	Unfactored Load (TL)	15	33	81	171	186	309	363	589	867	1213	1631	2123	2690
	Total Factored Load	129	200	338	536	564	777	860	1174	1510	1885	2299	2619	2909
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.4	1.9 / 4.6	2.1 / 5.1	2.8 / 7	3.6 / 9	4.5 / 11.2	5.5 / 13.7	6.2 / 15.6	6.9 / 17.3
20	Unfactored Load (LL)	9	19	43	88	95	156	183	296	435	609	820	1070	1359
	Unfactored Load (TL)	10	23	57	123	134	224	264	431	638	897	1211	1584	2017
	Total Factored Load	104	161	272	432	455	627	694	948	1219	1523	1858	2224	2559
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2	1.9 / 4.6	2.5 / 6.3	3.2 / 8.1	4 / 10.1	4.9 / 12.3	5.9 / 14.7	6.8 / 16.9
22	Unfactored Load (LL)	7	14	32	66	72	118	138	224	330	464	627	820	1045
	Unfactored Load (TL)	7	16	41	91	99	167	197	323	481	679	921	1210	1546
	Total Factored Load	85	132	224	356	374	516	571	780	1005	1255	1532	1833	2161
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.8	1.7 / 4.2	2.3 / 5.7	2.9 / 7.4	3.7 / 9.2	4.5 / 11.2	5.3 / 13.4	6.3 / 15.7
24	Unfactored Load (LL)	5	11	25	51	55	91	107	174	257	361	489	641	820
	Unfactored Load (TL)	4	11	30	68	74	127	150	248	370	525	715	942	1208
	Total Factored Load	71	110	187	297	313	431	478	653	841	1051	1283	1537	1811
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 3.9	2.1 / 5.3	2.7 / 6.7	3.4 / 8.4	4.1 / 10.3	4.9 / 12.3	5.8 / 14.4
26	Unfactored Load (LL)		9	20	40	44	72	85	137	203	286	389	511	654
	Unfactored Load (TL)		8	23	52	57	98	116	193	290	413	564	746	959
	Total Factored Load		93	158	252	265	365	405	554	714	893	1090	1305	1539
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.6	1.9 / 4.8	2.5 / 6.2	3.1 / 7.8	3.8 / 9.5	4.5 / 11.3	5.3 / 13.3
28	Unfactored Load (LL)		7	16	32	35	58	68	110	164	231	314	413	530
	Unfactored Load (TL)		5	17	40	44	76	91	153	231	330	452	599	773
	Total Factored Load		79	135	215	227	313	347	476	613	767	937	1122	1323
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.8 / 4.5	2.3 / 5.8	2.9 / 7.2	3.5 / 8.8	4.2 / 10.5	4.9 / 12.4
30	Unfactored Load (LL)			13	26	29	47	55	90	134	189	257	338	435
	Unfactored Load (TL)			12	31	34	60	72	122	186	267	367	487	630
	Total Factored Load			116	186	196	271	301	412	532	665	813	974	1149
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	2.2 / 5.4	2.7 / 6.7	3.3 / 8.2	3.9 / 9.8	4.6 / 11.5
32	Unfactored Load (LL)			10	22	24	39	46	74	110	156	213	281	361
	Unfactored Load (TL)			9	24	27	48	58	99	151	218	301	401	520
	Total Factored Load			101	162	171	237	263	360	465	582	712	853	1007
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.6 / 3.9	2 / 5.1	2.5 / 6.3	3.1 / 7.7	3.7 / 9.2	4.3 / 10.8
34	Unfactored Load (LL)			9	18	20	32	38	62	92	131	178	235	303
	Unfactored Load (TL)			6	19	21	38	46	80	124	179	249	333	432
	Total Factored Load			89	143	150	208	231	317	410	513	628	753	888
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7	1.9 / 4.8	2.4 / 5.9	2.9 / 7.2	3.5 / 8.7	4.1 / 10.2
36	Unfactored Load (LL)			7	15	17	27	32	53	78	110	151	199	257
	Unfactored Load (TL)			4	14	16	31	37	66	102	149	207	278	363
	Total Factored Load			78	126	133	184	205	281	364	456	558	669	790
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.8 / 4.5	2.2 / 5.6	2.7 / 6.8	3.3 / 8.2	3.8 / 9.6
38	Unfactored Load (LL)				13	14	23	27	45	66	94	128	170	219
	Unfactored Load (TL)				11	12	25	30	54	85	125	174	235	307
	Total Factored Load				112	118	164	182	251	324	407	498	598	706
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.7 / 4.3	2.1 / 5.3	2.6 / 6.5	3.1 / 7.7	3.6 / 9.1
40	Unfactored Load (LL)				11	12	20	24	38	57	81	110	146	189
	Unfactored Load (TL)				8	9	20	24	45	71	105	147	199	261
	Total Factored Load				100	105	147	163	225	291	365	447	537	634
	Min. end / Int. bearing				1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.6 / 4	2 / 5	2.5 / 6.2	2.9 / 7.4	3.5 / 8.7

Notes:

1. The values shown are the maximum uniform unfactored and factored loads in pounds per linear foot that can be applied to the beam. The weight of the beam has been deducted from the Total Unfactored Load (TL) and Total Factored Load.
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7. Calculations have been carried out in accordance with CSA O86-14.
8. 1-1/2" thick LVL members 14" and deeper and 1-3/4" thick LVL members 16" and deeper must be a minimum of 2 plies unless designed by a design professional.
9. See Roseburg EWP Design Guide for information regarding the connection of multiple-ply members and installation guidelines.
10. Allowable loads shown for multiple ply LVL members are also applicable to factory glued LVL beams with the same thickness as the combined multiple plies.

Directions for use of Table:

1. Determine the total factored load, unfactored live load and unfactored total load.
2. Choose a span that meets or exceeds the actual design span (centre to centre of bearing).
3. Scan from left to right within the span row to find a cell where: the L/360 (LL) load exceeds the unfactored live load; the L/240 (TL) load exceeds the unfactored total load; the factored total load resistance exceeds the factored total load. All four rows including minimum bearing must be checked. Where no unfactored loads are shown, total factored load will govern.
4. If the selected beam is too deep or the bearing length is too long, resize the beam using a wider member.
5. For an L/480 live load deflection limit, multiply the tabulated L/360 (LL) loads by 0.75. For an L/180 total load limit, multiply the tabulated L/240 (TL) loads by 1.33.

Nov. 2020

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3-Ply, 1.75" 2.1E true RigidLam LVL - Standard Term - Floor/Roof (PLF) L/360 LL L/240 TL Douglas-fir

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Span (ft)	Depth =	4.375"	5.5"	7.25"	9.25"	9.5"	11.25"	11.875"	14"	16"	18"	20"	22"	24"
10	Unfactored Load (LL)	112	219	491	987	1065	1707	1981	3089	4379	5899	-	-	-
	Unfactored Load (TL)	161	321	727	1468	1584	2546	2955	4614	-	-	-	-	-
	Total Factored Load	646	994	1671	2643	2778	3576	3812	4652	5497	6403	7374	8419	9546
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.7	2.3 / 5.8	2.4 / 6.1	3.1 / 7.8	3.3 / 8.4	4.1 / 10.2	4.8 / 12	5.6 / 14	6.5 / 16.2	7.4 / 18.4	8.4 / 20.9
12	Unfactored Load (LL)	65	128	289	586	633	1025	1194	1887	2712	3705	4861	6174	-
	Unfactored Load (TL)	91	185	423	867	936	1523	1775	2812	4046	-	-	-	-
	Total Factored Load	446	687	1157	1830	1924	2645	2929	3729	4378	5062	5787	6554	7367
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.1	1.9 / 4.8	2 / 5.1	2.8 / 7	3.1 / 7.7	3.9 / 9.8	4.6 / 11.5	5.3 / 13.3	6.1 / 15.2	6.9 / 17.2	7.8 / 19.4
14	Unfactored Load (LL)	41	81	184	375	405	661	771	1230	1783	2459	3259	4181	5221
	Unfactored Load (TL)	56	114	266	550	595	976	1141	1825	2653	3664	-	-	-
	Total Factored Load	326	502	846	1340	1410	1938	2146	2926	3635	4184	4759	5362	5995
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.1	1.7 / 4.4	2.4 / 6	2.6 / 6.6	3.6 / 9	4.5 / 11.2	5.1 / 12.9	5.9 / 14.6	6.6 / 16.5	7.4 / 18.4
16	Unfactored Load (LL)	28	55	124	254	275	449	526	843	1230	1707	2279	2945	3705
	Unfactored Load (TL)	35	74	176	368	399	659	772	1245	1823	2536	3390	4386	-
	Total Factored Load	248	382	645	1022	1075	1480	1638	2235	2874	3564	4040	4536	5052
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.5 / 3.8	2.1 / 5.2	2.3 / 5.8	3.2 / 7.9	4 / 10.1	5 / 12.5	5.7 / 14.2	6.4 / 16	7.1 / 17.8
18	Unfactored Load (LL)	19	38	87	180	194	319	373	602	882	1230	1650	2144	2712
	Unfactored Load (TL)	23	50	121	257	278	463	544	883	1300	1820	2447	3185	4035
	Total Factored Load	194	300	507	805	846	1165	1290	1761	2265	2828	3449	3929	4364
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.4	1.9 / 4.6	2.1 / 5.1	2.8 / 7	3.6 / 9	4.5 / 11.2	5.5 / 13.7	6.2 / 15.6	6.9 / 17.3
20	Unfactored Load (LL)	14	28	64	132	142	234	275	444	652	913	1230	1605	2039
	Unfactored Load (TL)	15	35	86	185	201	336	395	646	956	1345	1817	2376	3025
	Total Factored Load	156	241	408	649	682	940	1041	1421	1829	2285	2787	3336	3839
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2	1.9 / 4.6	2.5 / 6.3	3.2 / 8.1	4 / 10.1	4.9 / 12.3	5.9 / 14.7	6.8 / 16.9
22	Unfactored Load (LL)	11	21	48	99	107	177	208	336	496	696	940	1230	1568
	Unfactored Load (TL)	10	24	62	136	148	250	295	485	721	1019	1382	1814	2319
	Total Factored Load	127	198	335	533	561	773	857	1171	1507	1883	2297	2750	3241
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.8	1.7 / 4.2	2.3 / 5.7	2.9 / 7.4	3.7 / 9.2	4.5 / 11.2	5.3 / 13.4	6.3 / 15.7
24	Unfactored Load (LL)	8	16	37	77	83	137	161	261	385	542	733	962	1230
	Unfactored Load (TL)	6	17	46	102	111	190	225	372	555	788	1072	1413	1812
	Total Factored Load	106	165	280	446	469	647	717	980	1262	1577	1925	2305	2717
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 3.9	2.1 / 5.3	2.7 / 6.7	3.4 / 8.4	4.1 / 10.3	4.9 / 12.3	5.8 / 14.4
26	Unfactored Load (LL)	6	13	29	60	65	108	127	206	305	430	583	766	981
	Unfactored Load (TL)	4	12	34	78	85	147	174	290	435	620	846	1119	1439
	Total Factored Load	89	139	237	377	397	548	608	831	1071	1339	1635	1958	2309
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.6	1.9 / 4.8	2.5 / 6.2	3.1 / 7.8	3.8 / 9.5	4.5 / 11.3	5.3 / 13.3
28	Unfactored Load (LL)	5	10	23	49	53	87	102	166	245	346	470	619	795
	Unfactored Load (TL)	2	8	25	60	66	115	136	229	346	495	678	899	1159
	Total Factored Load	76	118	202	323	340	470	521	713	920	1150	1405	1683	1985
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.8 / 4.5	2.3 / 5.8	2.9 / 7.2	3.5 / 8.8	4.2 / 10.5	4.9 / 12.4
30	Unfactored Load (LL)		8	19	39	43	71	83	135	200	283	385	508	652
	Unfactored Load (TL)		5	19	46	51	90	108	183	278	400	550	731	945
	Total Factored Load		102	175	279	294	407	451	618	798	998	1219	1461	1724
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	2.2 / 5.4	2.7 / 6.7	3.3 / 8.2	3.9 / 9.8	4.6 / 11.5
32	Unfactored Load (LL)		7	16	33	35	58	69	112	166	234	319	421	542
	Unfactored Load (TL)		3	14	36	40	72	86	148	226	327	451	601	779
	Total Factored Load		88	152	244	256	355	394	540	698	873	1068	1280	1510
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.6 / 3.9	2 / 5.1	2.5 / 6.3	3.1 / 7.7	3.7 / 9.2	4.3 / 10.8
34	Unfactored Load (LL)		6	13	27	29	49	57	93	139	196	267	353	455
	Unfactored Load (TL)		1	10	28	31	58	69	121	186	269	373	499	649
	Total Factored Load		77	133	214	225	312	347	476	615	770	942	1129	1333
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7	1.9 / 4.8	2.4 / 5.9	2.9 / 7.2	3.5 / 8.7	4.1 / 10.2
36	Unfactored Load (LL)			11	23	25	41	48	79	117	166	226	299	385
	Unfactored Load (TL)			7	22	24	46	56	99	153	224	311	418	544
	Total Factored Load			117	189	199	277	307	422	545	684	836	1003	1184
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.8 / 4.5	2.2 / 5.6	2.7 / 6.8	3.3 / 8.2	3.8 / 9.6
38	Unfactored Load (LL)			9	20	21	35	41	67	100	141	193	255	329
	Unfactored Load (TL)			4	16	19	37	45	81	127	187	261	352	460
	Total Factored Load			104	168	177	246	274	376	487	610	747	896	1059
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.7 / 4.3	2.1 / 5.3	2.6 / 6.5	3.1 / 7.7	3.6 / 9.1
40	Unfactored Load (LL)			8	17	18	30	35	58	86	121	166	219	283
	Unfactored Load (TL)			2	12	14	29	36	67	106	157	221	299	391
	Total Factored Load			93	150	158	220	245	337	437	548	671	805	951
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.6 / 4	2 / 5	2.5 / 6.2	2.9 / 7.4	3.5 / 8.7
42	Unfactored Load (LL)			7	14	16	26	31	50	74	105	144	190	245
	Unfactored Load (TL)			0	9	10	23	29	55	89	133	188	255	335
	Total Factored Load			83	135	142	198	220	304	393	494	605	727	859
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.9	1.9 / 4.8	2.3 / 5.9	2.8 / 7	3.3 / 8.2
44	Unfactored Load (LL)			6	13	14	23	27	43	65	92	125	166	214
	Unfactored Load (TL)			-1	6	7	18	23	46	75	112	160	218	288
	Total Factored Load			74	121	128	179	199	274	356	447	548	659	779
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7	1.8 / 4.6	2.2 / 5.6	2.7 / 6.7	3.1 / 7.9

Notes:

1. The values shown are the maximum uniform unfactored and factored loads in pounds per linear foot that can be applied to the beam. The weight of the beam has been deducted from the Total Unfactored Load (TL) and Total Factored Load.
2. Bearing lengths are in inches based on the compression perpendicular to grain resistance of the LVL beam. For bearing on other wood materials, the bearing resistance of the supporting material should be checked.
3. The tabulated values are for simple span or for continuous span beams.
4. Design span is the clear span between supports plus one half of the required bearing at each end.
5. The table is for standard term loading and dry service conditions.
6. Lateral support at points of bearing and continuous lateral support for top of beam must be provided to prevent rotation or lateral displacement.
7. Calculations have been carried out in accordance with CSA O86-14.
8. 1-1/2" thick LVL members 14" and deeper and 1-3/4" thick LVL members 16" and deeper must be a minimum of 2 plies unless designed by a design professional.
9. See Roseburg EWP Design Guide for information regarding the connection of multiple-ply members and installation guidelines.
10. Allowable loads shown for multiple ply LVL members are also applicable to factory glued LVL beams with the same thickness as the combined multiple plies.

Directions for use of Table:

1. Determine the total factored load, unfactored live load and unfactored total load.
2. Choose a span that meets or exceeds the actual design span (centre to centre of bearing).
3. Scan from left to right within the span row to find a cell where: the L/360 (LL) load exceeds the unfactored live load; the L/240 (TL) load exceeds the unfactored total load; the factored total load resistance exceeds the factored total load. All four rows including minimum bearing must be checked. Where no unfactored loads are shown, total factored load will govern.
4. If the selected beam is too deep or the bearing length is too long, resize the beam using a wider member.
5. For an L/480 live load deflection limit, multiply the tabulated L/360 (LL) loads by 0.75. For an L/180 total load limit, multiply the tabulated L/240 (TL) loads by 1.33.

Nov. 2020

Roseburg

4-Ply, 1.75" 2.1E true RigidLam LVL - Standard Term - Floor/Roof (PLF) L/360 LL L/240 TL Douglas-fir

ALLOWABLE UNIFORM LOAD - POUNDS PER LINEAL FOOT (Limit States Design)

Span (ft)	Depth =	4.375"	5.5"	7.25"	9.25"	9.5"	11.25"	11.875"	14"	16"	18"	20"	22"	24"
10	Unfactored Load (LL)	149	293	655	1316	1419	2277	2642	4119	5839	7866	-	-	-
	Unfactored Load (TL)	215	429	969	1957	2111	3394	3941	6152	-	-	-	-	-
	Total Factored Load	861	1325	2228	3523	3705	4768	5083	6202	7330	8537	9832	11225	12728
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.7	2.3 / 5.8	2.4 / 6.1	3.1 / 7.8	3.3 / 8.4	4.1 / 10.2	4.8 / 12	5.6 / 14	6.5 / 16.2	7.4 / 18.4	8.4 / 20.9
12	Unfactored Load (LL)	87	171	385	782	844	1367	1592	2517	3616	4940	6481	8232	-
	Unfactored Load (TL)	122	246	564	1155	1248	2030	2367	3749	5395	-	-	-	-
	Total Factored Load	595	916	1542	2440	2566	3527	3905	4972	5837	6750	7715	8738	9823
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3.1	1.9 / 4.8	2 / 5.1	2.8 / 7	3.1 / 7.7	3.9 / 9.8	4.6 / 11.5	5.3 / 13.3	6.1 / 15.2	6.9 / 17.2	7.8 / 19.4
14	Unfactored Load (LL)	55	108	245	500	540	881	1029	1640	2378	3279	4345	5574	6961
	Unfactored Load (TL)	74	152	354	733	793	1301	1521	2434	3537	4885	-	-	-
	Total Factored Load	434	670	1129	1787	1879	2585	2862	3901	4847	5579	6346	7150	7994
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.1	1.7 / 4.4	2.4 / 6	2.6 / 6.6	3.6 / 9	4.5 / 11.2	5.1 / 12.9	5.9 / 14.6	6.6 / 16.5	7.4 / 18.4
16	Unfactored Load (LL)	37	73	165	339	366	599	701	1124	1640	2277	3038	3926	4940
	Unfactored Load (TL)	47	99	234	491	532	878	1029	1660	2430	3382	4520	5848	-
	Total Factored Load	330	510	860	1363	1434	1973	2185	2979	3832	4752	5387	6048	6736
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.5 / 3.8	2.1 / 5.2	2.3 / 5.8	3.2 / 7.9	4 / 10.1	5 / 12.5	5.7 / 14.2	6.4 / 16	7.1 / 17.8
18	Unfactored Load (LL)	26	51	117	240	259	425	498	802	1176	1640	2200	2858	3616
	Unfactored Load (TL)	31	67	161	342	371	617	725	1177	1734	2427	3263	4246	5380
	Total Factored Load	259	400	676	1073	1128	1553	1720	2347	3020	3771	4599	5238	5818
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.4	1.9 / 4.6	2.1 / 5.1	2.8 / 7	3.6 / 9	4.5 / 11.2	5.5 / 13.7	6.2 / 15.6	6.9 / 17.3
20	Unfactored Load (LL)	19	37	85	176	190	312	366	592	870	1218	1640	2139	2718
	Unfactored Load (TL)	20	46	114	246	267	448	527	861	1275	1793	2423	3168	4033
	Total Factored Load	208	322	544	865	910	1253	1388	1895	2439	3046	3716	4448	5119
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 4.2	1.9 / 4.6	2.5 / 6.3	3.2 / 8.1	4 / 10.1	4.9 / 12.3	5.9 / 14.7	6.8 / 16.9
22	Unfactored Load (LL)	14	28	64	132	143	236	277	448	661	928	1253	1640	2091
	Unfactored Load (TL)	13	32	83	182	197	333	393	647	962	1358	1843	2419	3092
	Total Factored Load	170	264	447	711	748	1031	1143	1561	2009	2510	3063	3667	4321
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.8	1.7 / 4.2	2.3 / 5.7	2.9 / 7.4	3.7 / 9.2	4.5 / 11.2	5.3 / 13.4	6.3 / 15.7
24	Unfactored Load (LL)	11	22	50	102	111	183	214	348	513	722	978	1283	1640
	Unfactored Load (TL)	8	22	61	136	149	253	299	496	741	1050	1430	1884	2416
	Total Factored Load	141	219	373	594	625	862	956	1306	1682	2103	2566	3073	3622
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 3.9	2.1 / 5.3	2.7 / 6.7	3.4 / 8.4	4.1 / 10.3	4.9 / 12.3	5.8 / 14.4
26	Unfactored Load (LL)	9	17	39	81	87	144	169	275	407	573	777	1021	1308
	Unfactored Load (TL)	5	15	45	104	113	195	232	386	580	826	1129	1492	1918
	Total Factored Load	119	185	315	503	529	731	810	1108	1428	1786	2180	2611	3078
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.6	1.9 / 4.8	2.5 / 6.2	3.1 / 7.8	3.8 / 9.5	4.5 / 11.3	5.3 / 13.3
28	Unfactored Load (LL)	7	14	31	65	70	116	136	221	327	462	627	826	1060
	Unfactored Load (TL)	2	10	34	80	87	153	182	306	461	659	904	1198	1545
	Total Factored Load	101	158	270	431	453	627	695	951	1226	1534	1873	2244	2646
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.8 / 4.5	2.3 / 5.8	2.9 / 7.2	3.5 / 8.8	4.2 / 10.5	4.9 / 12.4
30	Unfactored Load (LL)	6	11	25	53	57	94	111	180	267	378	513	677	870
	Unfactored Load (TL)	0	7	25	62	68	121	144	245	371	533	733	975	1260
	Total Factored Load	87	136	233	373	392	543	602	824	1063	1331	1626	1948	2298
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.7 / 4.2	2.2 / 5.4	2.7 / 6.7	3.3 / 8.2	3.9 / 9.8	4.6 / 11.5
32	Unfactored Load (LL)	5	9	21	43	47	78	91	149	221	312	425	561	722
	Unfactored Load (TL)	-1	4	18	48	53	96	115	198	302	435	601	801	1039
	Total Factored Load	75	118	202	325	342	474	526	721	930	1165	1423	1706	2013
	Min. end / Int. bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.6 / 3.9	2 / 5.1	2.5 / 6.3	3.1 / 7.7	3.7 / 9.2	4.3 / 10.8
34	Unfactored Load (LL)		8	18	36	39	65	76	124	185	261	356	471	606
	Unfactored Load (TL)		1	13	37	41	77	93	161	248	359	497	665	865
	Total Factored Load		103	177	285	300	417	462	635	820	1027	1256	1506	1777
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7	1.9 / 4.8	2.4 / 5.9	2.9 / 7.2	3.5 / 8.7	4.1 / 10.2
36	Unfactored Load (LL)		6	15	31	33	55	64	105	156	221	301	398	513
	Unfactored Load (TL)		0	9	29	32	61	75	132	205	298	415	557	726
	Total Factored Load		90	156	252	266	369	410	563	727	911	1115	1338	1579
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.8 / 4.5	2.2 / 5.6	2.7 / 6.8	3.3 / 8.2	3.8 / 9.6
38	Unfactored Load (LL)		5	13	26	28	47	55	89	133	188	257	340	439
	Unfactored Load (TL)		-2	5	22	25	49	60	108	170	249	349	469	613
	Total Factored Load		80	139	224	236	328	365	502	649	814	996	1195	1411
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.7 / 4.3	2.1 / 5.3	2.6 / 6.5	3.1 / 7.7	3.6 / 9.1
40	Unfactored Load (LL)		5	11	22	24	40	47	77	114	162	221	293	378
	Unfactored Load (TL)		-3	3	16	19	39	49	89	142	210	294	398	522
	Total Factored Load		71	124	200	211	294	326	450	582	730	894	1074	1268
	Min. end / Int. bearing		1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.6 / 4	2 / 5	2.5 / 6.2	2.9 / 7.4	3.5 / 8.7
42	Unfactored Load (LL)			9	19	21	35	41	66	99	140	191	253	327
	Unfactored Load (TL)			1	12	14	31	39	74	119	177	250	339	447
	Total Factored Load			111	180	189	264	294	405	524	659	807	969	1145
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.9	1.9 / 4.8	2.3 / 5.9	2.8 / 7	3.3 / 8.2
44	Unfactored Load (LL)			8	17	18	30	35	58	86	122	167	221	285
	Unfactored Load (TL)			-1	8	10	24	31	61	100	150	213	291	384
	Total Factored Load			99	162	171	238	265	366	475	596	731	879	1039
	Min. end / Int. bearing			1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7	1.8 / 4.6	2.2 / 5.6	2.7 / 6.7	3.1 / 7.9

Notes:

1. The values shown are the maximum uniform unfactored and factored loads in pounds per linear foot that can be applied to the beam. The weight of the beam has been deducted from the Total Unfactored Load (TL) and Total Factored Load.
2. Bearing lengths are in inches based on the compression perpendicular to grain resistance of the LVL beam. For bearing on other wood materials, the bearing resistance of the supporting material should be checked.
3. The tabulated values are for simple span or for continuous span beams.
4. Design span is the clear span between supports plus one half of the required bearing at each end.
5. The table is for standard term loading and dry service conditions.
6. Lateral support at points of bearing and continuous lateral support for top of beam must be provided to prevent rotation or lateral displacement.
7. Calculations have been carried out in accordance with CSA O86-14.
8. 1-1/2" thick LVL members 14" and deeper and 1-3/4" thick LVL members 16" and deeper must be a minimum of 2 plies unless designed by a design professional.
9. See Roseburg EWP Design Guide for information regarding the connection of multiple-ply members and installation guidelines.
10. Allowable loads shown for multiple ply LVL members are also applicable to factory glued LVL beams with the same thickness as the combined multiple plies.

Directions for use of Table:

1. Determine the total factored load, unfactored live load and unfactored total load.
2. Choose a span that meets or exceeds the actual design span (centre to centre of bearing).
3. Scan from left to right within the span row to find a cell where: the L/360 (LL) load exceeds the unfactored live load; the L/240 (TL) load exceeds the unfactored total load; the factored total load resistance exceeds the factored total load. All four rows including minimum bearing must be checked. Where no unfactored loads are shown, total factored load will govern.
4. If the selected beam is too deep or the bearing length is too long, resize the beam using a wider member.
5. For an L/480 live load deflection limit, multiply the tabulated L/360 (LL) loads by 0.75. For an L/180 total load limit, multiply the tabulated L/240 (TL) loads by 1.33.

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