



Doug Fir Timbers Column & Beam - Load Tables

	L/240		3 to 1 LL to DL Ratio			Snow Load Duration (C = 1.15)			L/360		4 to 1 LL to DL Ratio			Normal Load Duration (C = 1.0)			
	No. 1 Douglar Fir-Larch Roof Beam Maximum Total Load (PLF)									No. 1 Douglar Fir-Larch Floor Beam Maximum Total Load (PLF)							
Beam Span (ft)	4x6	4x8	4x10	4x12	4x14	6x6	6x8	6x10	4x6	4x8	4x10	4x12	4x14	6x6	6x8	6x10	
3	1790	2744	4302	6782	8723	2517	4086	6396	1557	2386	3741	5897	7586	2189	3553	5559	
4	1098	1761	2552	3590	4907	1594	2600	3748	956	1532	2219	3122	4267	1387	2261	3259	
5	703	1227	1814	2441	3141	1020	1907	2651	613	1063	1577	2123	2731	887	1658	2305	
6	488	849	1275	1730	2181	708	1318	2051	425	738	1109	1504	1896	616	1146	1783	
7	359	624	937	1271	1602	521	968	1672	312	542	815	1105	1393	453	842	1453	
8	275	477	717	973	1227	399	741	1338	239	415	624	846	1067	347	645	1163	
9	217	377	567	769	969	315	586	1058	189	328	493	668	843	274	509	919	
10	176	306	459	623	785	255	474	856	153	266	399	541	683	222	415	745	
11	145	253	379	515	648	211	392	708	115	220	330	447	564	170	341	615	
12	122	212	319	432	545	177	329	595	88	185	277	376	474	131	286	517	
13	104	181	272	368	465	151	281	507	70	157	236	320	404	103	244	441	
14	90	156	234	318	401	130	242	437	56	128	204	276	348	82	210	379	

Sources:

-Kevin Cheung P.E., PHD., Director of Engineering Support, Tech Notes Report No. 6, Western Wood Products Association, Portland OR 97204, September 1998



No. 1 Douglar Fir-Larch Column Capacity (lbs.)													
Column Length (ft)	4x4	4x62	4x61	6x6	6x82	6x81	8x8	8x102	8x101	10x10	10x122	10x121	12x12
2	20392	31356	30704	30004	41072	40915	56007	71059	70492	90008	109051	108957	132009
3	19266	30806	29103	29680	40842	40473	55694	70816	70546	89700	108798	108584	131703
4	17342	29949	26375	29194	40509	39810	55240	70468	69970	89259	108439	108050	131269
5	14645	28700	22492	28511	40058	38879	54625	70005	69192	88673	107698	107341	130698
6	11788	26966	18260	27586	39473	37618	53827	69418	68181	87929	107376	106440	129981
7	9358	24723	14573	26373	38731	35963	52815	68691	66899	87008	106654	105326	129107
8	7484	22105	11688	24841	37807	33874	51556	67807	65304	85889	105789	103971	128060
9	6072	19387	9500	23015	36676	31384	50012	66747	63349	84546	104768	102345	126825
10	5004	16830	7838	20989	35315	28261	48157	65488	60999	82951	103575	100415	125380
11	4186	14573	6561	18906	33720	25781	45982	64007	58244	81076	102190	98145	123704
12	3548	12648	5563	16902	31909	23048	43513	62286	55116	78896	100596	95506	121774
13	3042	11030	4773	15061	29932	20538	40817	60313	51702	76396	98771	92480	119565
14	2636	9675	4137	13421	27863	18302	37995	58088	48127	73578	96700	89068	117058
15	-	-	-	11984	25781	16342	35156	55632	44531	70467	94368	85302	114235
16	-	-	-	10734	23758	14637	32398	52986	41037	67115	91770	81245	111090

Source:

-Tech Notes Report No. 9, Western Wood Products Association, Lake Oswego OR 97035, November 2022



Douglas Fir Timber Design Vaules												
Species and Commercial Grade	Size Classification	Design values in pounds per square inch (psi)							Specific Gravity ⁴ G	Grading Rules Agency		
		Bending F _b	Tension Parallel to grain F _t	Shear parallel to grain F _v	Compression perpendicular to grain F _{c⊥}	Compression parallel to grain F _c	Modulus of Elasticity					
							E	E _{min}				
DOUGLAS FIR-LARCH												
Dense Select Structural	Beams and Stringers	1,900	1,100	170	730	1,300	1,700,000	620,000	0.50	WWPA		
Select Structural		1,600	950	170	625	1,100	1,600,000	580,000				
Dense No. 1		1,550	775	170	730	1,100	1,700,000	620,000				
No. 1		1,350	675	170	625	925	1,600,000	580,000				
No. 2 Dense		1,000	500	170	730	700	1,400,000	510,000				
No. 2		875	425	170	625	600	1,300,000	470,000				
Dense Select Structural	Posts and Timbers	1,750	1,150	170	1,350	1,350	1,700,000	620,000				
Select Structural		1,500	1,000	170	1,150	1,150	1,600,000	580,000				
Dense No. 1		1,400	950	170	1,200	1,200	1,700,000	620,000				
No. 1		1,200	825	170	1,000	1,000	1,600,000	580,000				
No. 2 Dense		850	550	170	825	825	1,400,000	510,000				
No. 2		750	475	170	700	700	1,300,000	470,000				

Source:

-American Wood Council, Design Values for Wood Construction, Washington, DC 20005