

AIR-DRIED SPECIMENS FROM SPRUCE BEAM 24.

Tension Results.				Compression Results.				Shearing Results.			
Spec.	Coefficients of elasticity.		Tensile strength in lbs. per sq. in.	Sp. wt. in lbs. per cu. ft.	Spec.	Coefficients of elasticity.		Compressive strength in lbs. per sq. in.	Sp. wt. in lbs. per cu. ft.	Spec.	Shearing strength in lbs. per sq. in.
	Forward.	Return.				Forward.	Return.				
21	2,161,000	2,181,220	11,603.7	.....	f_1	1,538,946	1,530,420	2781.75	32.475	f_1	323.08
a_1	1,978,840	1,971,110	11,148.2	.....	f_2	1,538,946	1,530,420	2781.75	32.475	f_2	323.08
...	2,030,000	2,035,330	11,148.2	.....	f_3	1,538,946	1,530,420	2781.75	32.475	f_3	323.08
a_2	2,011,120	2,035,330	11,461.7	.....	f_4	1,538,946	1,530,420	2781.75	32.475	f_4	323.08
b_1	2,023,120	1,986,800	12,106.6	.....	f_5	1,538,946	1,530,420	2781.75	32.475	f_5	323.08
b_2	1,956,550	1,990,800	10,218.6	.....	f_6	1,538,946	1,530,420	2781.75	32.475	f_6	323.08
b_3	1,920,180	1,994,220	12,676.1	.....	f_7	1,538,946	1,530,420	2781.75	32.475	f_7	323.08
c	2,127,280	2,171,470	13,404.2	.....	f_8	1,538,946	1,530,420	2781.75	32.475	f_8	323.08
d_1	2,086,020	2,117,930	13,112.4	.....	f_9	1,538,946	1,530,420	2781.75	32.475	f_9	323.08
d_2	2,148,920	2,175,230	11,880.3	.....	f_{10}	1,538,946	1,530,420	2781.75	32.475	f_{10}	323.08
e_1	1,731,720	1,761,420	11,020.6	.....	f_{11}	1,538,946	1,530,420	2781.75	32.475	f_{11}	323.08
e_2	1,872,180	1,894,110	10,906.8	.....	f_{12}	1,538,946	1,530,420	2781.75	32.475	f_{12}	323.08
e_3	1,679,170	1,719,620	11,787.1	.....	f_{13}	1,538,946	1,530,420	2781.75	32.475	f_{13}	323.08

Remarks.—The mean direct tensile strength was more than double the calculated mean skin stress and 4.21 times the mean direct compressive strength.

The mean shearing strength of the round specimens was 1.86 times the mean shearing strength of the flat specimens.

Tension specimen a_2 , after the first series of readings, was left under the load of 1600 lbs. for 43½ hours, the final reading varying from .01243 to .01707.

The ratios of length to least transverse dimension in the compression specimens varied between 6.81 and 8.9, and the failure was in each case due to direct crushing.

Between the first and second series of readings g_1 was entirely relieved of load for 17 hours. After two repetitions of loading and relieving from load, specimen f_3 was left under 5,600 lbs. for 1½ hours, and during this interval the reading varied from .00099 to .00092.