

The difference between the specific weights of the air and kiln-dried specimens was not great. The specific weight of the beam was 3 or 4 lbs. per cubic foot greater than that of the specimens.

Compression specimen 20, after the first series of readings, was left under 5000 lbs. for 42 hours, the final reading varying from .00137 to .00084.

AIR-DRIED SPECIMENS FROM WHITE PINE BEAM 22.

Tensile Tests.			Compression Tests.			Shearing Tests.	
Spec.	Coefficients of elasticity.		Coefficients of elasticity.		Compres. strength in lbs. per sq. in.	Spec.	Shearing strength in lbs. per sq. in.
	Forward.	Return.	Forward.	Return.			
a_1	1,197,690	1,313,680	1,421,190	1,115,500	3,600	m_1	300.54
b	1,437,570	1,504,510	.....	.....	2,481	m_2	327.60
c	1,706,450	1,704,450	.....	.....	3,378	m_3	283.37
		5,531	.....	.....	3,967	m_4	299.73
		23.835	.....	.....	3,930	m_5	318.58
			.....	.....	3,799	m_6	353.40
			1,435,400	1,137,290	.....	m_7	324.00

SPECIMENS KILN-DRIED AT 212 F. FROM WHITE PINE BEAM 22.

Spec.	Coefficients of elasticity.		Coefficients of elasticity.		Compres. strength in lbs. per sq. in.	Spec.	Shearing strength in lbs. per sq. in.
	Forward.	Return.	Forward.	Return.			
a_2	1,521,220	1,539,320	1,802,430	1,800,140	5,011	m_1	251.62
d	2,341,150	2,363,410	2,074,340	2,056,800	4,040	m_2	296.66
e	1,736,510	9,510	.....	.....	.....	m_3	269.15
f	2,123,700	13,065	26,602	.....	.....	m_4	267.63
		26,602	.....	.....	.....	m_5	264.53

Remarks.—The mean direct tensile strength of the air-dried specimens was 2.99 times the mean compressive strength and 1.9 times the calculated mean skin-stress of the beam.

By the kiln-drying, the coefficients of elasticity were increased and the mean compressive strength was increased more than 33.6 p. c. There was also a slight increase in the mean tensile strength, but the shearing strength was diminished more than 19.1 p. c.

The ratio of the length of the compression specimens to the least transverse dimension varied between 2.02 and 10.1, and the failure was in every case due to direct crushing, excepting in the case of specimen h , in which the ratio was 29 and the failure was partly due to bending.

The injured portion was removed from specimen g , which was then re-tested after it had lost in weight 1.08 lb. per cubic foot. Its compressive strength was found to be 6733 lbs. per square inch, or 1.86 times as great as in the first test.