

CRUSHING STRENGTH OF WHITE PINE.

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The tests, the results of which are given in the following tables, though not extensive enough to permit of any very definite conclusions being drawn, may prove of interest as serving to show the relative crushing strength of pine transversely and longitudinally placed, that is, with the load applied to the sides of the fibres, and with the load applied to the ends; also the effects of moisture on the longitudinal crushing strength.

The specimens used in the tests were cut from pieces of white pine about three and three-quarter inches square, and are from the heart wood of small trees. Although they were not all cut from the one piece, the material in them was so similar in quality that the different tests will admit of comparison.

The pieces from which the specimens were taken were purchased from a city lumber firm 21st October, 1896, and represent fairly the average quality of pine from which 4 x 4 inch scantling is cut. They were stored in the laboratory of the School of Practical Science until the tests were made.

The first table gives the transverse crushing strength tested on March 17th, 1897. The specimens were all cut in four-inch lengths from one piece, the specific gravity of which was 37.25, and which contained 12.2 per cent. of moisture calculated on the weight after being dried. This is about the normal amount of water contained in thoroughly seasoned wood protected from the weather. The loads required to produce a compression of three per cent. and of fifteen per cent. respectively, are given in table No. 1 in the fourth and fifth columns. The second column gives the thickness of the block, and the third the dimensions of the area subjected to pressure. Figs. (a), (b) and (c) show the different ways in which the blocks were placed