SHRINKAGE IN SO-CALLED "COMPRESSION WOOD"

"Compression wood" is a term applied to wood of an abnormal growth, which is considerably heavier than normal wood and is usually further distinguished by very wide annual growth rings, a lack of contrast between the spring and summerwood, and a relatively dark color. How this abnormal growth is caused is not definitely known, although the theory has been advanced that excessive leaning of the tree during growth produces it, the "compression wood" being formed on the lower or leaning side.

A structural timber containing "compression wood" was recently received for examination at the Forest Products Laboratory, Madison, Wisconsin. The timber had failed in tension in the "compression wood". Large cross breaks had opened up across the grain and rendered this portion of the timber useless in withstanding further stresses. The "compression wood" was very brash and exhibited low strength in mechanical tests, except in compression parallel to the grain, in which it was about equal to the normal wood. Its specific gravity was considerably greater than that of the normal material.

The chief difference between the normal and abnormal wood, however, was in the matter of shrinkage. The "compression wood" was found to have a longitudinal or end shrinkage six times as large, and radial and tangential shrinkages less than half as large as those of the adjacent normal wood.

In the beam examined, the tendency of the "compression wood" toward excessive shrinkage had been resisted by the normal wood, with the result that the "compression wood" was actually pulled in two.