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The Ratio of Working Stress to Allowable Stress of Structural Members of Wooden Houses I. Columns and sill plates of houses built in a general area

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Abstract: The ratio of working stress to allowable stress on columns and sill plates in three wooden houses, which were build in a general area, was investigated. It was found that : 1) The load-bearing ratio (working stress/allowable stress) on columns at each of durations of load was sufficiently small with some exceptions. 2) For long term load (dead and live loads) and short term load from snow, there was relatively smaller safety margin than that for the other loads in first floor columns which support a balcony and a long beam for a large space. 3) For short term load (seismic and wind loads), the safety margin of columns which are part of a shear wall showed a tendency to decrease with increasing strength of the shear wall. 4) The features on sill plates were very similar to them on columns.

Keywords: working stress, allowable stress, load-bearing ratio



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