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[Image PDF (1076K)] [References]

Relationships between Internal Cracks and Strains during High Temperature Drying of Sugi Boxed-Heart Square Timbers

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Abstract: Internal strains in sugi (*Cryptomeria japonica* D. DON) boxed-heart square timbers were measured by using strain gauges during high temperature drying above 100°C. We discuss relationships between internal cracks and strains during high temperature drying of two specimens 120 cm in length. The results obtained were as follows :
1) Internal cracks occur radially at each corner of the square cross section of the timbers.
2) The steep increase of the internal shrinkage may be attributed to the relief of tensile stress owing to the formation of cracks.
3) It is surmised that the first internal crack can occur within about 30 hours after the beginning of high temperature drying, and after that internal cracks may occur at the other corners of the square cross section.

Keywords: high temperature drying, strain gauge, internal crack, internal strain, tensile stress

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