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## Development of Fundamental Research on Drying of Boxed-heart Square Timber of Sugi (*Cryptomeria japonica*)

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Abstract: The development of efficient drying methods may be one of the keys for expanding the utilization of domestic sugi (*Cryptomeria japonica* D. Don) because of the remarkably high drying cost associated with its high green moisture content and of the difficulty of high-quality drying of boxed heart square timbers which are susceptible to drying checks. Therefore, various drying methods, including super-heated steam heating, intentional drying-set, and dielectric heating, have been developed by taking advantage of processing under high temperature. Along with the development of drying methods, fundamental research has been conducted on promoted moisture movement, drying stress relaxation, and strength properties of dried timber to achieve efficient, high-quality drying with less checking and degradation. The paper describes recent achievements in the field of applied high-temperature drying and related research on drying of sugi.

**Keywords:** sugi, high temperature drying, rapid drying, checking prevention



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