

Drying properties and predictions of pre-drying curves of some families of *Eucalyptus nitens*

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Abstract

Some drying properties were determined and the drying curves were predicted during pre-drying of *Eucalyptus nitens*. In particular the variability of transversal shrinkage and collapse were evaluated. Four trees, each of one of different families were collected from plantations of *E. nitens* grown in the 8th Region of Chile. The wood samples of shrinkage and collapse were obtained from the first log, in three positions from the pith to bark. Samples of 25x70x450 mm were prepared and then properly stacked for pre-drying at 30°C. The collapse was determined by the difference of shrinkage before and after reconditioning. The drying curves were determined using an overall mass transfer coefficient. The transversal shrinkage and

collapse tended to increase with radial position, despite that transversal shrinkage and collapse were more intense in the transition zone. The pre-drying curves are satisfactory predicted using an overall mass transfer coefficient.

Key words: Wood pre-drying, collapse, overall mass transfer