



## Checking in CLT panels : an exploratory study

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Abstract:

A study was conducted with the primary objective of gathering information for the development of a protocol for evaluating the surface quality of cross-laminated timber (CLT) products. The secondary objectives were to examine the effect of moisture content (MC) reduction on the development of surface checks and gaps, and find ways of minimizing the checking problems in CLT panels. The wood materials used for the CLT samples were rough-sawn Select grade Hem-Fir boards 25 x 152 mm (1 x 6 inches). Polyurethane was the adhesive used. The development of checks and gaps were evaluated after drying at two temperature levels at ambient relative humidity (RH).

The checks and gaps, as a result of drying to 6% to 10% MC from an initial MC of 13%, occurred randomly depending upon the characteristics of the wood and the manner in which the outer laminas were laid up in the panel. Suggestions are made for minimizing checking and gap problems in CLT panels. The checks and gaps close when the panels are exposed to higher humidity.

Guidelines were proposed for the development of a protocol for classifying CLT panels into appearance grades in terms of the severity of checks and gaps. The grades can be based on the estimated dimensions of the checks and gaps, their frequency, and the number of laminas in which they appear.

Building construction - Laminated

Laminated products

Panels - Tests

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