

# **Development of Protective Treatments for Cross-laminated Timber**

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Originating in Europe, cross-laminated timber (CLT) is increasingly being used in residential and non-residential construction in North America and around the world. Moisture management methods are used to protect CLT buildings from decay, and soil treatments are used to protect against termites. However, additional protective treatments may be needed for some applications, or in markets with severe termite hazards. Given the size of CLT panels, conventional pressure treatment is not feasible. A surface-applied penetrating treatment was investigated for its ability to penetrate CLT panels. The resulting treated zones were superficial and penetration was deemed insufficient for protection against decay and termites. The fabrication of CLT from pressure-treated lamina with selected adhesives was also investigated. Borate treated lamina glued together without re-planing after treatment had poorer adhesion than untreated controls. Future work should focus on the development of more effective penetrating dip treatments, or modification of treatments or adhesives to effectively bond preserved wood without re-planing after treatment. AWWA standardization of treatments for CLT would require several changes including adapted E standards, identification of appropriate quality assurance protocols, modified guidance documents, the addition of specification requirements to U1, and the addition of treatment and processing requirements to T1.