



## Development of Preservative-treated Southern Pine Cross-laminated Timber

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Organization: Mississippi State University  
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 Publication:  
 Material: CLT (Cross-Laminated Timber)  
 Application: Industrial Application  
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 Preservative Treatment  
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 Summary:

This project aims to develop the preservative-treatment procedures for industrial cross-laminated timber (CLT) mats composed of southern yellow pine (SYP) lumber. The feasibility of pre- and post-treating CLT panels with an environment-friendly preservative system for ground-contact applications at an industrial scale will be evaluated from adhesion, mechanical, and durability performance aspects. As for the pre-treatment method, CLT panels will be consolidated with preservative-treated lumber adopting industrial CLT manufacturing parameters, including glue-type and clamping pressure. Alternatively, conventional CLT panels will be pressure treated with the same preservative system and dried afterward. As one of the primary focuses of the research, drying schedules which would not damage wood or adhesive layers will be determined. Also, penetration and retention of the preservatives throughout the post-treated panels will be analyzed. Adhesion and mechanical performance of the treated panels will be evaluated according to industry-accepted standards. Durability performance of the treated panels will be examined through laboratory weathering and on-site field tests.