



## Effect of Notches on the Performance of Cross-Laminated Timber

<https://research.thinkwood.com/en/permalink/catalogue2559>

Organization: Forest Products Laboratory  
Mississippi State University

Material: CLT (Cross-Laminated Timber)

Topic: Mechanical Properties

Keywords: Notches  
Notched Connections  
Bending Properties  
Flexural Properties

Research Status: In Progress

Notes: Project contacts are Robert J. Ross at the Forest Products Laboratory and Rubin Shmulsky at Mississippi State University

### Summary:

Notches, particularly when incorporated on the tensile face, influence the ultimate capacity of members, such as beams and floor panels. Understanding and quantification of failure modes, ductility, and strength of notched CLT floor panels can allow the safe application of notches on building construction. Despite wood's ductility, notches are known areas of stress concentration. The 2018 International Residential Code for one- and two-family dwellings (International Code Council 2017) restricts the use of notches on engineered wood products by requiring structural calculations instead of elucidating the ways notches might be used. To employ CLT to its maximum potential, there is a current and pressing need for better knowledge regarding the influence of notches on flexural performance.

This research seeks to review the literature regarding notches in solid and engineered beams, review typical CLT design details that employ or utilized notched panels, and conduct pilot-scale testing of notched CLT panels.

### Resource Link

<https://www.fpl.fs.fed.us/documnts/rips/fplrip-4714-038-MSU-Notches-Shmulsky-Ross.pdf>