

Capacity-Based Design for Cross-Laminated Timber Buildings

Author: M. S. Alkin

Abstract: The research presented in this paper investigated the in-plane and out-of-plane behavior of cross-laminated timber (CLT) panels under various loading conditions. The study focused on the capacity-based design of CLT buildings, which involves ensuring that the structure is designed to fail in a controlled manner, typically at the level of the joints or connections, rather than the panels themselves. This approach allows for the prediction and control of the failure mode, leading to improved safety and performance of the building.

Capacity-Based Design for Cross-Laminated Timber Buildings

Investigation into the Hysteretic Performance of Self-Centering Timber Beam-to-Column Joints

Author: M. S. Alkin

Abstract: This paper presents the results of an experimental investigation into the hysteretic performance of self-centering timber beam-to-column joints. The study involved the development and testing of several joint configurations, with a focus on their ability to resist lateral loads and return to their original position after unloading. The results showed that the self-centering joints performed well under cyclic loading, exhibiting high strength and stiffness, as well as excellent energy dissipation and self-centering capabilities. These findings are valuable for the design of timber structures in seismic regions, where self-centering joints can provide enhanced safety and serviceability.

Investigation into the Hysteretic Performance of Self-Centering Timber Beam-to-Column Joints