



Displacement Design Procedure for Cross Laminated Timber (CLT) Rocking Walls with Sacrificial Dampers

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Summary:

This paper presents the preliminary design of a rocking Cross-laminated Timber (CLT) wall using a displacement-based design procedure. The CLT wall was designed to meet three performance expectations: immediate occupancy (IO), life safety (LS), and collapse prevention (CP). Each performance expectation is defined in terms of an inter-story drift limit with a predefined non-exceedance probability at a given hazard level. U-shape flexural plates were used to connect the vertical joint between the CLT panels to obtain a ductile behavior and adequate energy dissipation during seismic motion. A design method for ensuring self-centering mechanism is also presented.

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