Seismic Design of Timber Buildings with a Direct Displacement-Based Design Method

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Summary:

Modern seismic design procedures are widely represented by the concept of Performance-Based Seismic Design (PBSD). Direct Displacement-Based Design (DDBD) procedure for PBSD of buildings is considered a very promising method which uses displacement as an input design parameter. The DDBD procedure first codified by Priestley requires an a priori estimate of the design displacement and the associated equivalent viscous damping of the structure, at design performance levels. In this paper, design parameters for the ultimate limit state have been developed for a common construction system for timber buildings. Such parameters are defined as a function of mechanical and geometrical connection configurations.

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