



Ductility of Wooden Structures Including Solid Wood Buildings

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Organization: Université de Sherbrooke
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Material: Timber (unspecified)
Application: Wood Building Systems
Topic: Design and Systems
Seismic
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Ductility Factors
Non-linear Dynamic Analysis
Research Status: In Progress
Notes: Project contact is Jean Proulx at Université de Sherbrooke

Summary:

This project will involve the modeling of typical multistage buildings and non-linear dynamic analyzes for various seismic hazards (Montreal, Quebec, Charlevoix). The models will be developed using OpenSees, and validated with commercial software (SAFI, SAP2000). The temporal responses of typical buildings, subject to earthquakes generated for the region, will be calculated for different parameters (number of floors, bays, types of SRFS). Pushover type analyzes will also be carried out (rigid frame systems or shear walls). Sectional ductility demands will be evaluated for different types of wood sections and assemblies. These ductility values will be used to target the best wood seismic resistance systems, depending on the type of construction.