



Structural Performance of the Second Oldest Glued-Laminated Structure in the United States

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Summary:

The second glued-laminated structure built in the United States was constructed at the USDA Forest Products Laboratory (FPL) in 1934 to demonstrate the performance of wooden arch buildings. After 75 years of use the structure was decommissioned in 2010. Shortly after construction, researchers structurally evaluated the glued laminated arch structure for uniform loading on the center arch. This structural system evaluation was added to the existing laboratory work on glued-laminated arches to develop the foundation on which the current glued-laminated arch design criteria is based. After 75 years of service and decommissioning, recovered arches were tested in the laboratory to evaluate the loss of structural performance. Loss of structural performance was evaluated by comparing original and current deformation. Based on a preliminary visual and structural assessment, the degradation of structural performance was minimal in the arches, except for two arch that were affected by the building fire.

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