



Session 2A:

After the Fire: Damage Assessment for the Repair of Mass Timber Building Elements

The 2021 edition of the International Building Code includes comprehensive language for the design and construction of taller and larger buildings of mass timber construction. A concern has been expressed by owners, designers and insurers of these buildings about repairing them following a fire or other damage. This presentation provides an overview of the methods used to assess structural damage and potential structural repair options associated with the impacts of fire and firefighting water on engineered mass timber construction. The presenters will identify recent research on this topic, typical water demand used for firefighting, and case studies of mass timber repair projects.



Richard J. Kristie, PE, SE

Rich Kristie is a licensed professional engineer and structural engineer with over 46 years of experience and is currently a Principal with Wiss, Janney, Elstner Associates in Northbrook, Illinois. Since joining WJE in 1985, Rich has conducted investigations of damaged structures, evaluated existing structures, performed laboratory testing, and prepared repair plans and specifications. He specializes in investigations involving wood structures, wood truss roof systems, hardwood floors and millwork, steel plate shell structures and steel frame structures with corrosion and welding problems, steel pole structures, and fire-damaged structures. Mr. Kristie has authored several papers and articles related to the investigation and repair of wood structures, including "Inspection and Repair of Plate-Connected Wood Trusses," which was presented at an International Conference on Timber Engineering. He was lead author of a paper titled "Investigating and Repairing Wood Bowstring Trusses," published in the ASCE's Practice Periodical on Structural Design and Construction, and coauthored a paper titled "Failure Investigation of 100-Year-Old Timber Roof Truss," presented at the Third Forensic Engineering Congress. He will share his experience in several case studies involving repair of mass timber buildings in this presentation.

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