

Comparison Of the Stiffness and Energy Dissipation of Cellulosic Fiber Board and Oriented Strand Board Wood-Frame Shear Walls with Openings

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Abstract : Cellulosic fiber board (CFB) is a lightweight form of sheathing comprised of 94% post-consumer recycled materials. The stiffness and energy dissipation cyclic performance of CFB sheathed shear walls compared to Oriented Strand Board (OSB) walls is the focus of this study. A total of 23 walls were tested under cyclical loading to determine their stiffness and energy dissipation characteristics. The walls consisted of 2.44 m high by 3.66 m long CFB and OSB sheathed walls with and without openings. For the walls with openings, the effects of blocking and strapping on their stiffness and energy dissipation behavior were also evaluated. It was concluded that CFB is a sustainable and viable alternative to OSB.

Keywords : cellulosic fiber board, oriented strand board, wall stiffness, energy dissipation, wood-framed shear wall

Conference Title : ICCCE 2025 : International Conference on Civil and Construction Engineering

Conference Location : Melbourne, Australia

Conference Dates : February 03-04, 2025