During intense earthquakes and other natural disasters, buildings experience significant damage, including deformation and buckling, due to non-linear displacement. Structural dampers absorb high amounts of energy and can prevent or reduce damage. One such device, a buckling restrained brace (BRB), absorbs energy through plastic deformation. However, conventional BRBs, typically concrete in a steel tube that perform well under large forces (200,000+ pounds) are heavy and have not yet been developed for small capacity applications.

The heavy timber buckling restrained brace consists of a steel core and heavy timber casing to prevent buckling, even for small capacity applications. It can be used in buildings, bridges, and other structures to dissipate seismic energy and prevent damage from natural disasters. It improves resiliency by acting as a fuse to protect the structure. This casing can be further fortified by adding compression screws to account for forces that run perpendicular to the grain.

- Experiments were carried out according to AISC-341 qualification testing requirements and demonstrated excellent performance which met and exceeded AISC requirements.

- Ongoing testing to validate performance.

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