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PERFORATED PLATE SEISMIC DAMPERS

MECHANICAL, CIVIL, & ENVIRONMENT

Cost effective and energy efficient seismic dampers that increase structural stability and reduce damage during seismic events.

TECHNOLOGY TYPE

Infrastructure
Seismic Dampers

STAGE OF DEVELOPMENT

Proof of concept
demonstrated in initial testing.

IP PROTECTION

U.S. Utility and Continuation Patents Issued

Perforated Plate Seismic
Damper
US8037647B2
US8099914B2
US8397444B2

LEARN MORE

Reference Number: U-4119

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TECHNOLOGY SUMMARY

Intense earthquakes and other natural disasters cause significant damage, including deformation and buckling, to buildings that experience non-linear displacement. Structural dampers, which absorb high amounts of energy, prevent or reduce damage. Expenses and specialization, however, limit their use to high-cost applications.

Perforated Plate Seismic Dampers offer a novel method for efficient seismic energy absorption at a low cost. A single steel plate shaped to have four “nodes” or fuse points, stretches under seismic accelerations, focusing the shear and tension forces onto the four nodes. This unique plate formation absorbs excess energy, thereby reducing the lateral displacement and resultant damage to buildings during seismic events.

FEATURES AND BENEFITS

- Absorbs high amounts of seismic energy to reduce structural displacement.
- Reduces building damage during natural disasters.
- Accounts for non-linear movements.
- Decreases costs.
- Integrates with existing structures.

INVENTOR PROFILE

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DATE UPDATED: 7/23/2019