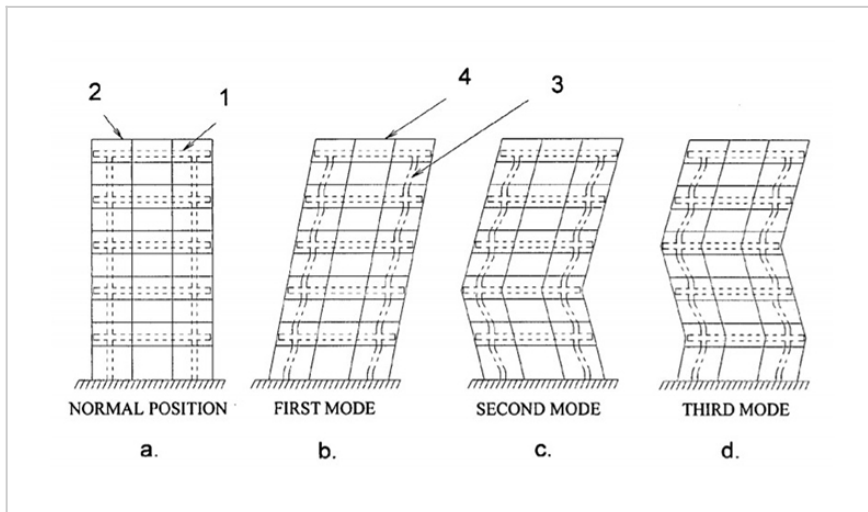


# Novel Design of Earthquake Resistant Glass Panels for Curtain Walls

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PennState



Four modes of panels

## Technology Summary

Earthquakes over the past three decades in the United States, Japan, and elsewhere have prompted considerable attention towards developing improved earthquake resistant building systems. Most seismically isolated wall systems designed to resist earthquakes are tailored primarily for new building construction, not building retrofits, and limit aesthetic choices of a building's exterior.

Proof of concept was established by subjecting mock-ups of several invention embodiments to dynamic racking crescendo test conditions in a preliminary laboratory study. Using the invention, even crudely manufactured glass panels with imperfections in the vulnerable corner regions can exceed the performance of glass panels with edge finishing of the highest manufactured quality.

## Application & Market Utility

The invention is applicable to all new and existing buildings in seismic zones. The invention offers the possibility of lowering earthquake hazard insurance premiums, lower expected costs due to post-earthquake disruptions in normal building operations, and lessens the need for more elaborate wall system design modifications to reduce earthquake induced glass damage. The inventors also believe that these same benefits can be extended to applications that integrate solar panels into building facade and/or sloped glazing framing systems.

## Next Steps

Implementation into pilot testing by a licensee prior to commercialization of U.S. Patent No. 8,539,725.

TECHNOLOGY READINESS LEVEL

4-7

### Seeking

Investment | Licensing | Research

### Keywords

- Commercial/Residential Glass Panels
- Solar Panels
- Conventional Framing Systems
- Earthquake resistant glass
- glazing products

### Researchers

**Ali Memari, Ph.D.**

Professor of Architectural Engineering

[Online Bio](#)

[Website](#)

### Originating College

College of Engineering

### Office of Technology Management Contact

Smith, Matthew

mds126@psu.edu

814-863-1122



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