

Seismic Testing



Seismic Testing Fast Facts

- Largest AAMA 501.6-compliant racking fixture available.
- Measurements can test in-plane and out-of-plane seismic effects.
- Effects can be performed on inside-corner and outside-corner configurations.
- Specimens can be subjected to dynamic and static racking up to +/- 6 inches.
- Force loads of up to 50,000 pounds.
- Only AAMA accredited fixture for the commercial marketplace.

Value

During earthquakes, drifts in the building frame can cause glass to fragment and fall from the framing system, a problem that threatens the life and safety of pedestrians and building occupants. Even if no glass hazard is apparent, the integrity of the glazing system may be compromised, requiring expensive repair. Recognizing these issues, the 2003 International Building Code (IBC) and the National Fire Protection Association (NFPA) Building Code 5000 require testing to determine the glass fallout factor in glazed wall systems.



ATI seismic testing meets California, Washington, and other State requirements. Test results also provide valuable information on system weakness and ways to improve product performance.

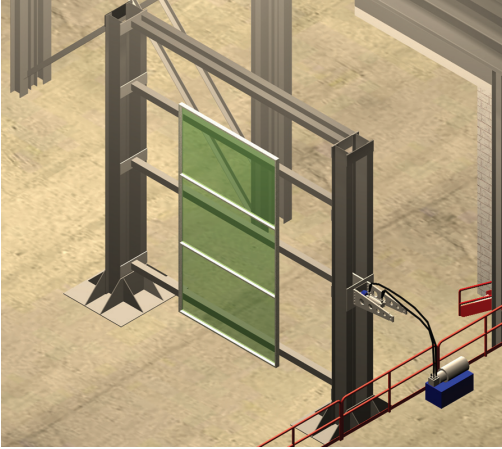
Typical test specimens include:

- Tempered,
- Laminated,
- Heat strengthened, and
- Regular annealed glass in both monolithic and insulating configurations.

Tested systems include:

- Overhead glazing,
- Slope glazing, as well as
- Vertical glazing for skylights, storefronts, glass panels, and curtain-wall designs in building cladding, entrances, atriums, and stairwells.

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Innovations

ATI has worked closely with AAMA and other industry experts to develop a seismic dynamic test standard. We are the first independent commercial laboratory accredited by AAMA to conduct AAMA 501.6-01 testing. We devised the industry's first seismic racking test apparatus at our York, PA, facility. This dynamic test fixture can simulate "design earthquake" and "maximum capable event" conditions.

The test fixture subjects the specimen to movements until fallout occurs. The Delta fallout is defined as the drift that causes glass to fall from the specimen. Critical glass fallout occurs when an individual glass fragment larger than 650 mm(2) (1.0in. (2)) falls in any direction from the test panel holding the specimen.

An optional Delta cracking test can be performed to determine the dynamic racking amplitude that causes initial glass cracking.

Insights and Possibilities

Many variables affect the performance and service life of fenestration products and building materials. That's why ATI offers a comprehensive range of laboratory, environmental, and field test programs. Prior to and following seismic testing, you can have your specimen subjected to a variety of performance tests (air, water, wind) to evaluate system serviceability. With ATI, you get the convenience of thermal, durability, impact, and other performance testing administered by one firm with facilities located on both coasts and the Midwest.

Typical testing methods :

AAMA 501.4

AAMA 501.6

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