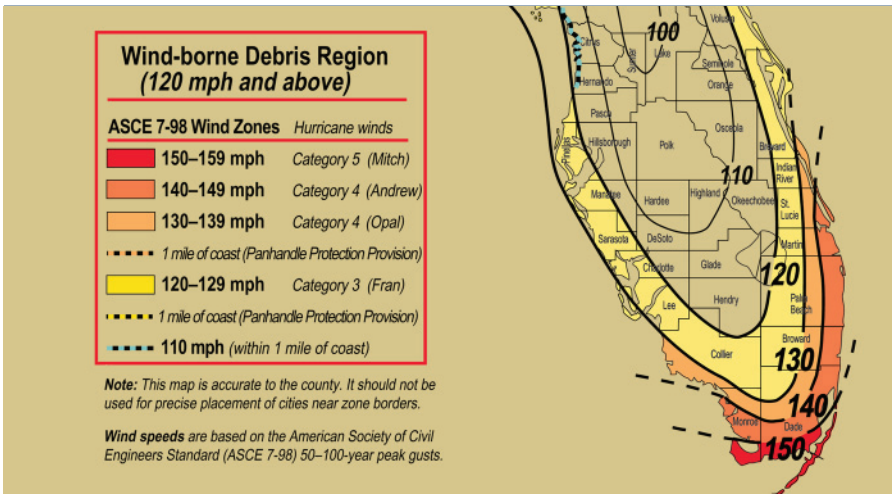
Impact and Cycling Testing

Impact and Cycling Fast Facts

- Provided by the leader in fenestration and building-material performance testing with over 30 years experience.
- Measures effects of wind-driven rain propelled by vane axial fans up to 110 mph with a water spray rack rate of 8 inches per hour.
- Provides large- and small-missile testing with advanced air cannon built by ATI.
- Tests pressure differentials up to 500 PSF with air and pressure control panel for reversible blower system and wind uplift chamber (roof testing).

Value

For safety reasons, building materials that are subject to high winds, wind-borne debris, high-intensity rainstorms, and internal/external pressure changes must be tested to determine their performance. If materials do not perform as expected, major damage and personal injury may result.



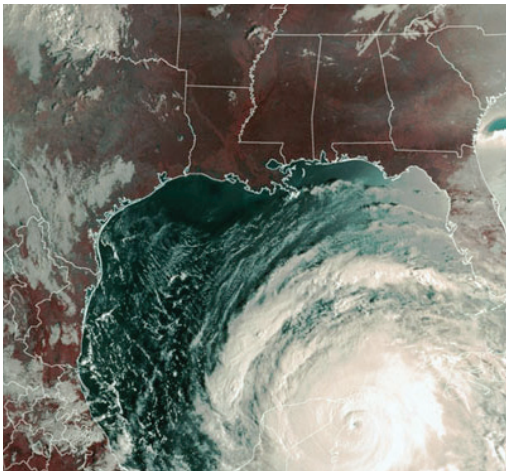
ATI provides a comprehensive range of impact and cycling tests under ASTM, SBCCI, and Florida Building Code protocols for fenestration products (windows and doors), structures (framing and safe rooms), and systems (store fronts and curtain walls).

Windows, doors, and curtain walls are particularly affected by these adverse conditions. ATI has the expertise to provide a comprehensive range of impact and cycling tests on a wide range of building products and curtain wall mockups. The results help architects, contractors, and owners evaluate the performance of building materials, fenestration products, and curtain wall systems under extreme conditions.

Tested specimens typically include:

- Windows
- Doors
- Sliding glass doors
- Store fronts
- Roofs, framing
- Safe rooms
- Curtain walls.

Impact and Cycling Testing



Typical testing methods:

ASTM E 1886
ASTM E 1996
SBCCI SSTD 12
TAS 201
TAS 202
TAS 203

Innovations

Tests for air and water leakage, structural loading, and impact resistance are performed in our approved laboratories, using equipment that is specially designed to create the required conditions.

To perform large- and small-missile testing, an air cannon built by ATI can fire variously sized timbers at specified velocities and impact locations.

An air and pressure control panel with reversible blower system, water spray rack system, and wind uplift chamber (roof testing) are used to test performance under varying pressure differentials. Pressure tests can be performed up to 500 PSF.

Water spray nozzles and a vane axial fan are used to subject roof assemblies to driven rain at speeds up to 110 mph at a rate of up to 8 inches per hour.

For flexibility, ATI laboratories are built to accommodate large specimens, enabling us to handle large mockups or test several smaller specimens all at once.

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. With ATI, you get the convenience of testing solar transmittance, thermal, durability, and other performance parameters administered by one firm with facilities located on both coasts and in the Midwest.

Thanks to consistent ATI procedures, all data and reports are professionally compiled in standard forms, including:

- Technical reports for performance evaluation of materials or components
- Statistical analysis of lab data
- Technical reports on problems, obstacles, or risks

Our customers draw upon our expertise in over 700 test methods performed in accordance with ASTM, AAMA, ANSI, military, and international standards, including ICC. And we continue to develop procedures and apply new test methods to meet customer requirements.