

PRODUCT **ForceFront Storm Monumental Entrance WZ 4**
 Wind Zone 4 – HVHZ approved, wide stile

TEST RESULTS

Air Infiltration	ASTM E283	1.0 cfm/ft ² @ 1.57 psf
Structural – Design Load	ASTM E330, TAS 202	+/- 100 psf
Structural – Overload	ASTM E330, TAS 202	+/- 150 psf
Forced Entry	AAMA 1304	300 lb point load
Hurricane Impact and Cycling	ASTM E 1996 ASTM E 1886 TAS 201, TAS 203	D missile +/- 100 psf
State Product Approvals	FLORIDA TEXAS	FL # 14563 (HVHZ approved) DR-730

TEST LAB

ATI

West Palm Beach, FL 33404

Report Number	T584-0101-11-WZ4	T584-0301-11-WZ4
Test Date	1/21/2011 – 2/15/2011	3/16/2011 – 4/13/2011
Report Date	4/26/2011	4/26/2011

Reference reports in above table and state product approvals for complete test specimen description and product application. Contact a Tubelite representative for more information.

Tubelite Representative:

 (sign) 9/25/2019 (date)
 Tim Fookes - Vice President of Engineering (title)

TEST METHODS

Air Infiltration: ASTM E283-04, *Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen*. Testing was conducted at 1.57 psf positive static air pressure difference.

Static Pressure Water Resistance: ASTM E331-00, *Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, Curtain Walls by Uniform Static Air Pressure Difference*. Testing was conducted at 0 psf positive static air pressure difference for 15 minute duration. Water applied at a minimum rate of 5 gal/ft²/hr.

Structural Performance: ASTM E330-02, *Standard Test Method for Structural Performance of Exterior Windows, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*. Testing was conducted up to +/- 100 psf design loads and +/- 150 psf overloads. Allowable Criteria: Design - L/175 deflection normal to wall plane for clear spans up to 13'-6". Overload – net permanent set shall not exceed 0.2% of the clear span.

Forced Entry: AAMA 1304-02, *Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems*. Specimens tested using a 300lb point load.

Florida Building Code TAS 201-94: *Impact Test Procedures*. Missile Type D, HVHZ

Florida Building Code TAS 202-94: *Criteria for Testing Impact and Non Impact Resistant Building Envelope Components Using Uniform Static Air Pressure*. Pressure: +/- 100 psf.

Florida Building Code TAS 203-94: *Criteria for Testing Products Subject to Cyclic Wind Pressure Loading*. Pressure cycling: +/- 100 psf.

ASTM E 1996-06: *Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes*. Missile Types C, D, and E. Pressure cycling up to +/- 70 psf.

ASTM E 1886-05: *Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials*. Missile Types D, Pressure cycling: +/- 100 psf.