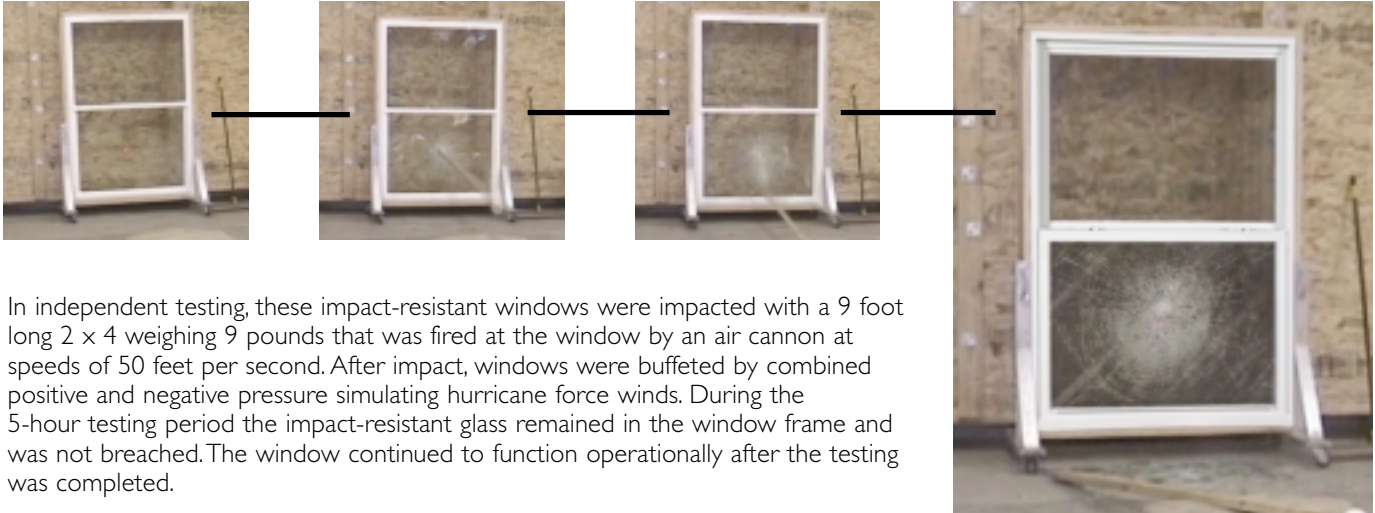




# Impact-Resistant Aluminum Windows

## Single-Hung Windows Available in Fin and Flange Construction Horizontal Rolling Windows in Fin and Flange Construction



In independent testing, these impact-resistant windows were impacted with a 9 foot long 2 x 4 weighing 9 pounds that was fired at the window by an air cannon at speeds of 50 feet per second. After impact, windows were buffeted by combined positive and negative pressure simulating hurricane force winds. During the 5-hour testing period the impact-resistant glass remained in the window frame and was not breached. The window continued to function operationally after the testing was completed.

### Impact-Resistant Glass Construction

Impact-Resistant Windows feature a 5/16" thick laminated safety glass to resist impact. The lite is constructed of two, 1/8" thick annealed glass panels laminated with an interlayer membrane. The interlayer membrane becomes transparent during the laminating process and forms a 5/16" thick panel. This unique laminated glass system creates an impact-resistant barrier and delivers outstanding thermal efficiency.



### TESTING:

AAMA 506-2000 Voluntary Specification for Hurricane Impact and Cycle Testing of Fenestration Products using methods ASTM E 1996-02 and ASTM 1886-97.

Single-Hung Window	Approx. 48" X 72"
Design Pressure Up To	70.00 psf
Impact Test	Impacted w/98" 2 x 4 @ 51 feet per second
Cyclic Load	4500 Cycle Positive 4500 Cycle Negative
ASTM E 283-91 Air Infiltration @ 6.24 psf	.013 cfm/sf
ASTM E 547 & 331-96 Water Resistance @ 7.50 psf	No Leakage
ASTM E 330-97 Uniform Structural Exterior	75.00 psf
Interior Permanent Set	75.00 psf Negligible
ASTM F 588-97 Forced Entry Resistance	No Entry