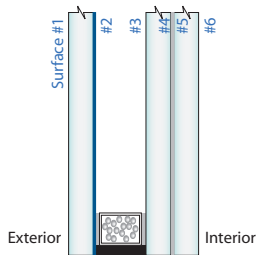
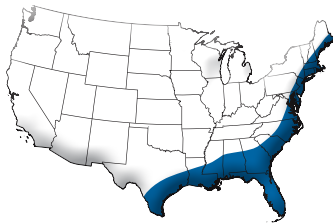




Guardian Hurricane Glass

Enhanced protection for high-risk coastal areas



Protection from the storm with hurricane-grade Guardian Laminated Glass.

In coastal areas prone to tropical storms and hurricanes, including the entire gulf and east coast, Guardian Laminated Glass plays a crucial role in meeting the required building regulatory codes. And while codes may vary from one area to another, everyone agrees: hurricane-grade laminated glass can help protect homes from the potential destruction of stormy weather.

Weather patterns are unpredictable, but one thing is certain: storms will strike and hurricane-grade Guardian laminated glass can offer a layer of safety. Available in a variety of configurations with many combinations of PVB thicknesses, our laminated glass:

- is specifically designed to withstand high winds, flying debris and weather-related impact
- tends to remain in the window frame after impact to greatly reduce the risk of injury from falling or flying glass pieces
- protects buildings by working to keep the wind outside, reducing the risk of structural damage

Thicker lamination for tougher requirements.

For storm protection in southern Florida, Guardian laminated glass offers thicker lamination and superior protection from wind and windborne debris. Depending on the thickness of the glass and PVB, Guardian laminated glass can provide either of the two windborne debris impact category ratings as required by the Miami-Dade County building code:

- small-missile resistance (e.g., roof gravel), which can impact all elevations of a building with sufficient velocity to break glass. This includes elevations of 30 feet and higher, requiring resistance to 2gm rocks impacting at a velocity of 80 ft. per second (30 rocks per glazing unit).
- large-missile resistance (e.g., tree limbs, garbage cans), which typically impact building closer to ground level with sufficient force to break windows and penetrate walls. Below elevations of 30 feet, requiring resistance to 2" x 4" timbers weighing 9 lbs. impacting end-on at 50 ft. per second (two timbers per glazing unit).

NOTE: The testing requirements for Miami-Dade County listed above also includes pressure cycling: each of above impacts followed by 9,000 cycles of pressure representing hurricane

Hurricane-Grade Guardian Laminated Glass

- Satisfies stringent Miami-Dade County building code requirements.
- Meets CPSC Category II and ANSI Z97.1 safety standards.
- Withstands high winds, flying debris and weather-related impact.
- Increases intruder resistance.
- Blocks over 99% of harmful UV rays.
- Reduces solar heat gain and improves U-factor when used with ClimaGuard low-E products.
- Available in full truckloads, partial truckloads, case quantities and make-to-order.

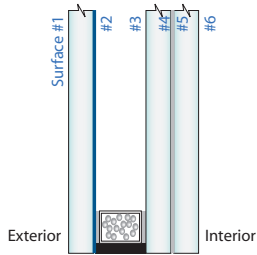
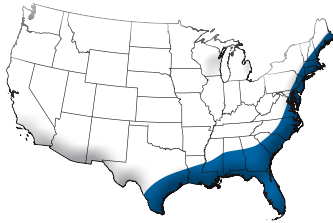
GUARDIAN® CLIMAGUARD®

Residential Glass Innovation



Guardian Hurricane Glass

Enhanced protection for high-risk coastal areas



Have it all: storm protection AND energy efficiency.

Hurricane-grade Guardian Laminated Glass is available with a full range of low-E coatings to increase energy efficiency and deliver cost savings for the homeowner. Glazing systems can also be configured to deliver safety from impact, fade resistance and acoustical dampening year-round.

Insist on Guardian Laminated Glass.

We take the complexity out of laminated glass and even offer make-to-order and high-volume custom sizes. Guardian laminated glass can be used in many configurations to meet the needs of regional climates and local codes.

Double Glazed w/.060 PVB	Visible Light				SHGC	U-Factor		Hurricane	
	Trans	Reflect Out	Reflect In	UV Trans		1/2" Gap Argon	Air	Small Missile	Large Missile
70/36 + Lami	69%	11%	12%	0.1%	0.379	0.243	0.289	Yes	No
62/27 + Lami	61%	11%	12%	0.1%	0.276	0.241	0.286	Yes	No
55/27 + Lami	54%	17%	19%	0.1%	0.274	0.241	0.287	Yes	No
NU 70 + Lami	73%	12%	12%	0.1%	0.568	0.278	0.319	Yes	No
Double Glazed w/.090 PVB									
70/36 + Lami	69%	11%	12%	0.1%	0.379	0.242	0.286	Yes	Yes
62/27 + Lami	61%	11%	12%	0.1%	0.276	0.239	0.284	Yes	Yes
55/27 + Lami	54%	17%	19%	0.1%	0.274	0.240	0.285	Yes	Yes
NU 70 + Lami	73%	12%	12%	0.1%	0.566	0.276	0.316	Yes	Yes

I.G.U. Construction:

Double glazed: 3.0mm Clr, 1/2" Air Gap, 3.0mm Clr, .060 Clr PVB, 3.0mm Clr and

3.0mm Clr, 1/2" Air Gap, 3.0mm Clr, .090 Clr PVB, 3.0mm Clr. 100% Air and 90% Argon/10% Air Filled Units.

All low-E coatings are on the #2 surface. Small and Large missile requirements are based on complete window systems of which ClimaGuard glass products can be a component. All data calculated in accordance with LBNL Window 6 methodology.



ClimaGuard Product Information

Phone: 855.660.5905

ClimaGuardProductInfo@Guardian.com