



RSL Energy Efficiency Program



Energy efficiency and beauty at your doorway!



Overview

- On July 1st 2010 a new NFRC (National Fenestration Rating Council) requirement for IGUs (Insulated Glass Units) goes into effect regarding performance rating and labeling. This is a federally mandated requirement for Energy Star qualification. As a component manufacturer, no doorglass product can be Energy Star certified alone. RSL, however, has conducted and passed the testing required by NFRC.
- RSL has selected NAMI (National Accreditation and Management Institute), an NFRC authorized company, as its certification agency for this program. Performance testing will be conducted every two years and an audit of RSL's fabrication process will be done twice annually. RSL will identify approved IGU with NAMI logo and approval # etched in the bottom right corner of each IGU.
- Architectural Testing for ASTM E2190 conducted successful seal durability testing (fogging, humidity & accelerated weathering) of RSL sealed insulating glass units and summarized the results in ATI report #89495.01-122-28. NAMI certified these test results (report #NI1009973).
- Architectural Testing conducted Acoustical Performance testing (report #83632.01-113-11). This test measured sound transmission loss.
- Architectural Testing conducted thermal performance simulations of RSL Clear, LowE, GBG, BBG, Impact and decorative doorglass in accordance with NFRC standards for U Factor, Solar Heat Gain Coefficient, and Visible Transmittance. The tests included a wide range of doorglass sizes with various spacer widths, materials, insulating techniques, gas filling, clear tempered and LowE glass. The test were conducted using both polystyrene and polyurethane filled steel and fiberglass doors.





Overview

- RSL doorglass frames protect against moisture and air infiltration in two ways (frame to glass and frame to door). RSL vinyl and Impact frames both have co-extruded flaps on both frame to glass and frame to door edges. These white, watertight flaps eliminate oozing and provide an excellent seal.
- RSL's injection molded frames use a frame to door sealant that is a white, foamed material combining the best qualities of closed cell foam and elastomer (rubbery) sealants. This high adhesion sealant has moderate surface tack with superior heat resistance (283°F). The frame to glass sealant uses a mildew resistant, solid butyl that will not shrink, crack or become brittle.
- RSL's Hurricane Impact units are engineered to meet high velocity hurricane zone requirements TAS 201, 202 & 203. Tested at Testing Evaluation Laboratories and approved by Florida Building Code #FL11515, this product withstood 9000 pressure cycles against water & air infiltration and has a DP of +/- 60psf.
- RSL Clear, LowE, and GBG doorglass is insulated with aluminum spacer bars, whose horizontal lengths are filled with moisture absorbing desiccant. To ensure accurate identification of the time and location of manufacture, the vertical aluminum spacer bars are etched with "RSL" and the month and year of assembly.
- RSL uses soft coat and hard LowE glass in order to reduce air conditioning energy in the summer and reduce heating in the winter. This energy efficient glass is insulated on the #2 side (sealed in the airspace on the outer pane of tempered glass and facing the inside of the home).



A wide selection of RSL products meet energy efficient requirements.



Test Standards

Rigorous requirements ensure durable IGU performance.

- **ASTM E2188 - 2002**

Standard test method for IGU weather & humidity cyclic testing

- **ASTM E2189 - 2002**

Standard test method for IGU resistance to fogging

- **ASTM E2190 - 2008**

Standard test method for IGU performance. Six samples tested for 105 days in humidity and weather cycling tests with initial, intermediate and final frost / dew point requirements at minimum to -40°C . Two samples tested for 7 days to resistance to fogging with no fogging as pass criteria

- **ASTM E413-04**

Standard test method for rating sound insulation

- **NFRC 100-2004**

Procedure for determining U-Factors

- **NFRC 200-2004**

Procedure for determining Solar Heat Gain Coefficient & Visible Transmittance





Save up to \$1500 with Stimulus Tax Credit



What is Low-E?

Low-E glass has an invisible metallic coating that blocks heat flow. Demonstrated to save energy, Low-E glass reduces solar heat gain in the summer — saving on air conditioning, and reduces heat loss in the winter — saving on heating bills. The Federal government recognizes the value of energy products and has provided Energy Tax Credits to encourage installation in homes. RSL makes energy efficient Blinds Between Glass (BBG), Grills Between Glass (GBG), clear and decorative doorglass.

What is U-Value and SHGC?

U-Value is a measurement of how much heat is escaping from a home. The lower the number — the better. A lower number means that less heat is being lost - and more heat is kept inside. Lower U-Value numbers are more important in colder climates.

SHGC stands for 'Solar Heat Gain Coefficient'. It is a measurement of how much solar radiation enters a home. Again, a lower number is better, meaning less solar heat is allowed to enter the home. Lower SHGC numbers are more important in warmer climates.

How does the new Federal Energy Tax Credit work?

When filing federal tax returns up to \$1500 of the doorglass purchase can be deducted under the 25c - Non-Business Energy Property Tax Credit. The tax credit requirements include exterior doors and windows that:

- are used to improve an existing home,
- must be installed in the taxpayer's primary residence,
- are installed and being used between January 1, 2009 and December 31, 2010,
- have NFRC certified U-Value and SHGC ratings that do not exceed .30.

How do you claim your Tax Credit?

1. Purchase and install RSL doorglass.
2. Keep receipts. RSL will provide a manufacturer's certificate if requested.
3. Use IRS form 5695, which should be available early 2010.
4. Homeowners are not required to submit manufacturer's certificates with tax returns.
5. This credit is not a rebate. Please consult a tax advisor for more details.



Energy Efficiency Ratings in Steel Doors

The performance ratings below were developed by Architectural Testing using applicable NFRC procedures for determining whole product performance. The ratings are determined for a fixed set of conditions and specs.

Polyurethane Core

		1/2" Clear	1/2" Low-E	3/4" Low-E	GBG Low-E	BBG Clear	Decorative Liquid Crystal	Decorative Liquid Crystal Low-E	Decorative Coming	Decorative Coming Low-E	Hurricane Impact	Hurricane Impact Low-E
Half Light	UFactor	.28	.26	.22		.24	.26		.24		.25	
	SHGC	.20	.17	.10		TBD	TBD		.16		.17	
	DT/VT	.21	.17	.18		—	—		.17		.20	
	ST											
3/4 Light	UFactor	.30	.27	.23		.26	.28		.25		.28	
	SHGC	.24	.21	.13		TBD	TBD		.19		.21	
	DT/VT	.25	.23	.22		—	—		.20		.24	
	ST											
Full Light	UFactor	.38	.33	.27		.30	.32		.33		.31	
	SHGC	.31	.27	.16		TBD	TBD		.32		.27	
	DT/VT	.33	.30	.28		—	—		.27		.32	
	ST	.28					.34		.32			

Polystyrene Core

		1/2" Clear	1/2" Low-E	3/4" Low-E	GBG Low-E	BBG Clear	Decorative Liquid Crystal	Decorative Liquid Crystal Low-E	Decorative Coming	Decorative Coming Low-E	Hurricane Impact	Hurricane Impact Low-E
Half Light	UFactor											
	SHGC											
	DT/VT											
	ST											
3/4 Light	UFactor											
	SHGC											
	DT/VT											
	ST											
Full Light	UFactor											
	SHGC											
	DT/VT											
	ST											

U-Factor: Defines the amount of heat loss. The lower the value, the less heat is transmitted through the entry door.

Solar Heat Gain Coefficient (SHGC): The portion of directly transmitted and absorbed solar energy that enters the interior. The lower the value, the less heat is transmitted through the entry.

Daylight Transmission/Visible Transmission (DT/VT): Measures how much light comes through the entry. The higher the value, from 0 to 1, the more daylight is let in over the unit area of the entry.

Sound Transmission (ST): Measures how much sound comes through the entry. The higher the value, the more sound transmission is reduced.

BBG SHGC varies with the position of the blinds.



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Energy Efficiency Ratings in Fiberglass Doors

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Polyurethane Core

		1/2" Clear	1/2" Low-E	3/4" Low-E	GBG Low-E	BBG Clear	Decorative Liquid Crystal	Decorative Liquid Crystal Low-E	Decorative Coming	Decorative Coming Low-E	Hurricane Impact	Hurricane Impact Low-E
Half Light	UFactor	.28	.26	.22		.24	.25		.23		.25	
	SHGC	.20	.17	.10		TBD	TBD		.16		.17	
	DT/VT	.21	.19	.18		—	—		.17		.20	
	ST											
3/4 Light	UFactor	.30	.27	.23		.26	.27		.24		.27	
	SHGC	.24	.21	.13		TBD	TBD		.19		.21	
	DT/VT	.25	.23	.22		—	—		.20		.24	
	ST											
Full Light	UFactor	.36	.32	.26		.30	.32		.33		.31	
	SHGC	.31	.27	.16		TBD	TBD		.32		.27	
	DT/VT	.33	.30	.28		—	—		.27		.32	
	ST	.28					.34		.32			

Polystyrene Core

		1/2" Clear	1/2" Low-E	3/4" Low-E	GBG Low-E	BBG Clear	Decorative Liquid Crystal	Decorative Liquid Crystal Low-E	Decorative Coming	Decorative Coming Low-E	Hurricane Impact	Hurricane Impact Low-E
Half Light	UFactor											
	SHGC											
	DT/VT											
	ST											
3/4 Light	UFactor											
	SHGC											
	DT/VT											
	ST											
Full Light	UFactor											
	SHGC											
	DT/VT											
	ST											

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