



## COMFORT for Where You Live

### Designed to **Perform**

Sunrise Windows have been tested, qualified, and certified by two of the industry's most cited and consumer-focused laboratory programs for energy efficiency and air infiltration ratings:

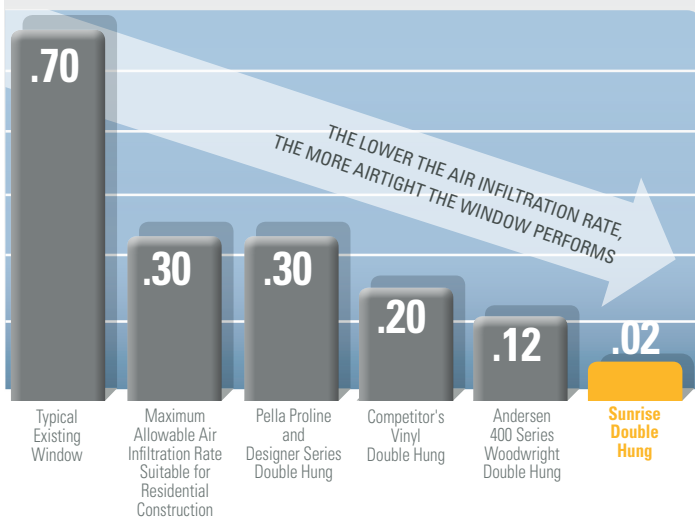
- » **ENERGY STAR** ([www.energystar.gov](http://www.energystar.gov)) is a United States Government supported program dedicated to helping consumers protect the environment through investment in the most energy-efficient products on the market.
- » **National Fenestration Rating Council (NFRC)** ([www.nfrc.org](http://www.nfrc.org)) provides five separate test ratings in order to help consumers compare the performance characteristics of different brands of windows and doors. These five ratings are featured on the NFRC Energy Performance Label affixed to every window we supply.

Sunrise Windows exceed ENERGY STAR's performance guidelines for every climate zone in the country. Sunrise Windows also tests all of their products to the exacting standards of the NFRC and the American Architectural Manufacturers Association ([www.aamanet.org](http://www.aamanet.org)).

### Air Tight Construction

Air infiltration causes cold drafts and temperature differences within a room. When air infiltration is an issue, heat loss in the winter and heat gain in the summer can become a major concern. Sunrise Windows have some of the industry's lowest air infiltration rates. Our triple weatherstrip barrier provides 50% more weather-stripping than other windows, providing greater protection and increasing whole home efficiency.

### AIR INFILTRATION RATINGS



With a constant 25 mile per hour wind, this test shows how many cubic feet of air infiltrates through each square foot of the window each minute. Results are from Pella Product Guide Specification 2008, and Andersen 2009 Performance Standards. Sunrise Double Hung results from April 2016 testing.

### Energy Efficient **Insulation**

Sunrise Windows (made with environmentally friendly, polyurethane-insulated extrusions) provide twice the R-factor of competitor's vinyl foam filled windows. Sunrise Windows are constructed using energy-efficient, pure virgin uPVC that helps in keeping your home insulated.



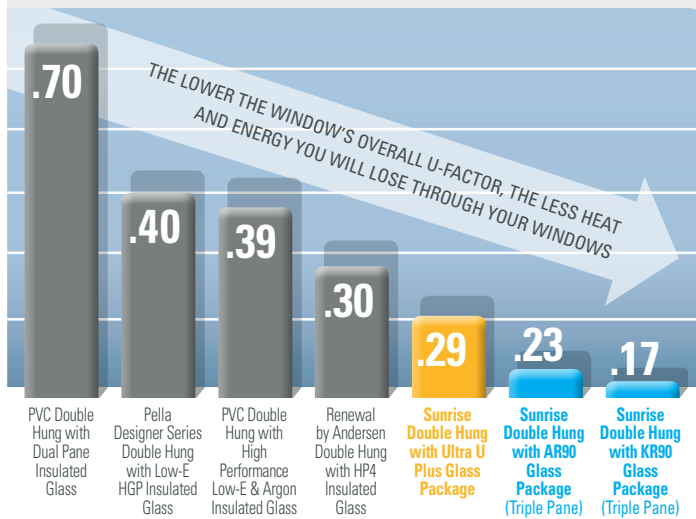
Fourteen leaky 28" by 48" windows throughout a home can be responsible for air infiltration  
**EQUIVALENT TO REMOVING  
AN ENTIRE WINDOW**  
from its rough opening!

# Efficiency Ratings

## Heat Loss Reduction

U-factor is one of the most important measurements in determining the energy efficiency of a window. This rating specifies how much heat a window, including the frame, glass, and insulating materials, allows in or out of the house — with lower numbers indicating better insulation. U-factor is important wherever you live, but is a primary concern in colder climates. Sunrise offers windows with U-factors as low as .17.

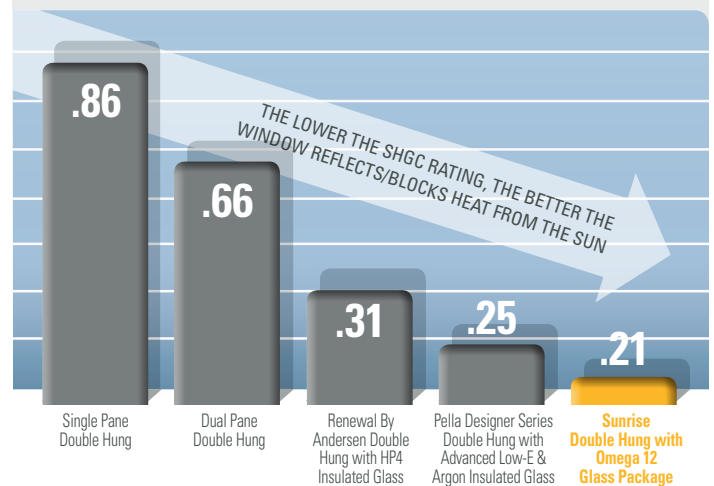
### RESIDENTIAL U-FACTOR RATINGS



## Heat Gain Resistance

In warm climates, however, another important heat rating to consider is Solar Heat Gain Coefficient (SHGC). SHGC ratings specify how well an insulated glass unit resists or blocks heat gain caused by the sun — with lower numbers indicating greater resistance.

### SOLAR HEAT GAIN (SHGC) RATINGS BASED ON WHOLE UNIT TESTING

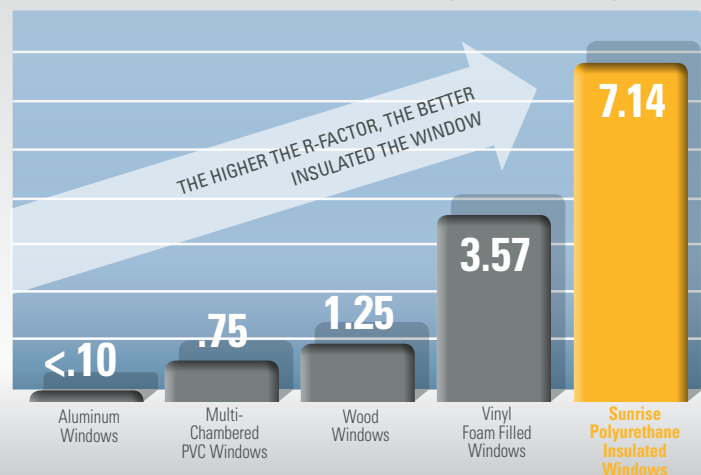


U-factor and Solar Heat Gain Coefficient results were researched and found on the National Fenestration Rating Council's (NFRC) website, [www.nfrc.org](http://www.nfrc.org), and are part of the public access information recorded on the site's Certified Products Directory. Overall Residential U-factor Ratings for Sunrise Windows Double Hung windows are in accordance with NFRC 400/ASTM E283 procedures for determining fenestration product U-factor and SHGC ratings.

## Energy Protection

While the U-factor and SHGC are used to express the insulation value of windows, R-factor is used for insulation in most other parts of the building envelope (walls, floors, roofs); and as it pertains to windows, it relates to the frame and sash. Sunrise injects our window and sliding patio door frames with polyurethane — the same type of insulation used in residential refrigerators — to provide some of the most energy efficient, highest rated windows in the industry.

### R-FACTOR RATINGS FOR WINDOW FRAME MATERIALS (PER LINEAL INCH)



“

We had 21 windows and one patio slider installed exactly 1 year ago, and with this winter we had in Michigan, these windows made a huge difference. Our gas bills went down quite a bit, furnace ran less, and house temp was more consistent. Also, the triple panes made a huge difference; in summer the back of the house would be 20-30 degrees hotter from 3-7pm and now it's the same as the rest.

”

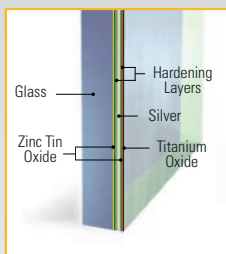
# Glass Packages

## DUAL PANE GLASS

### Passive U

A  $\frac{7}{8}$ " overall dual glazed insulated glass unit featuring our exclusive Passive U glass, the MAXEdge™ spacer system, and an air space filled with high density argon gas. The Passive U coating structure is composed of six layers of high performance reflective metallic shields.

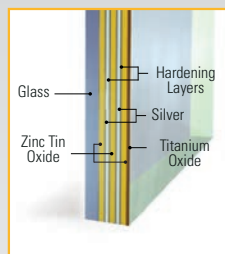
With Interior Low-E Option: Passive U<sup>2</sup>



### Ultra U Plus

A  $\frac{7}{8}$ " overall dual glazed insulated glass unit featuring our exclusive Ultra U Plus glass, the MAXEdge™ spacer system, and an air space filled with high density argon gas. The Ultra U Plus coating structure is composed of eight layers of high performance reflective metallic shields.

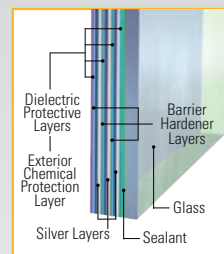
With Interior Low-E Option: Ultra U Plus<sup>2</sup>



### Omega 12

A  $\frac{7}{8}$ " overall dual glazed insulated glass unit featuring our exclusive Omega 12 glass, the MAXEdge™ spacer system, and an air space filled with high density argon gas. The Omega 12 coating structure is composed of twelve layers of high performance reflective metallic shields.

With Interior Low-E Option: Omega 12<sup>2</sup>



#### Passive U (P2100a)

	U-FACTOR	SHGC
Double Hung	0.30	0.49
Casement	0.27	0.45

#### Passive U<sup>2</sup> (P2210a)

	U-FACTOR	SHGC
Double Hung	0.25	0.48
Casement	0.23	0.44

#### Ultra U Plus (N2100a)

	U-FACTOR	SHGC
Double Hung	0.29	0.28
Casement	0.27	0.26

#### Ultra U Plus<sup>2</sup> (N2210a)

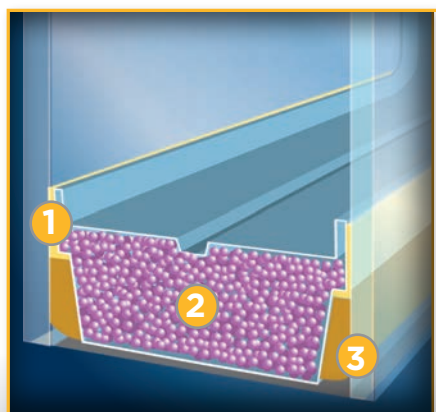
	U-FACTOR	SHGC
Double Hung	0.25	0.28
Casement	0.23	0.26

#### Omega 12 (S2100a)

	U-FACTOR	SHGC
Double Hung	0.28	0.21
Casement	0.26	0.19

#### Omega 12<sup>2</sup> (S2210a)

	U-FACTOR	SHGC
Double Hung	0.24	0.21
Casement	0.22	0.19



### Dual Pane IGU System

- 1 » **Polyisobutylene (PIB) Seal Barrier** is the first layer of the dual-seal system. Prevents moisture from penetrating the insulated glass unit, and also retains argon gas in the airspace.
- 2 » **Desiccant beads** fill the MAXEdge™ spacer for an additional layer of vapor protection to further protect the window against moisture getting between the panes.
- 3 » **Secondary Silicone Barrier** is the second layer in the dual-seal system. Creates a weatherable, structural bond that adheres the glass to the spacer, and retains its strength during expansion and contraction cycles.

All Sunrise glass systems are licensed and certified in accordance with the NFRC Certification Program, as well as verified to meet or **EXCEED PERFORMANCE GUIDELINES** for every climate zone of the ENERGY STAR program.

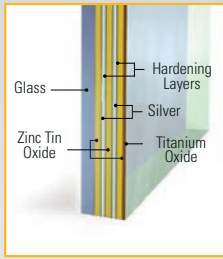




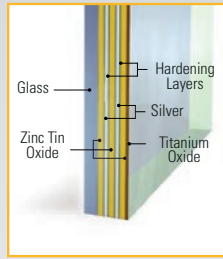
## TRIPLE PANE GLASS

**AR90**

A  $\frac{7}{8}$ " overall triple glazed insulated glass unit made up of two panes of Ultra U Plus glass (coated with eight layers of high performance reflective metallic shields) and one pane of clear glass. Complete with the MAXEdge™ spacer system and two chambers filled with high density argon gas. With Interior Low-E Option: AR90<sup>2</sup>

**KR90**

A  $\frac{7}{8}$ " overall triple glazed insulated glass unit made up of two panes of Ultra U Plus glass (coated with eight layers of high performance reflective metallic shields) and one pane of clear glass. Complete with the MAXEdge™ spacer system and two chambers filled with high density krypton gas. With Interior Low-E Option: KR90<sup>2</sup>



	AR90 (N3200a)	
	U-FACTOR	SHGC
Double Hung	0.23	0.22
Casement	0.21	0.20

	AR90 <sup>2</sup> (N3310a)	
	U-FACTOR	SHGC
Double Hung	0.21	0.22
Casement	0.19	0.20



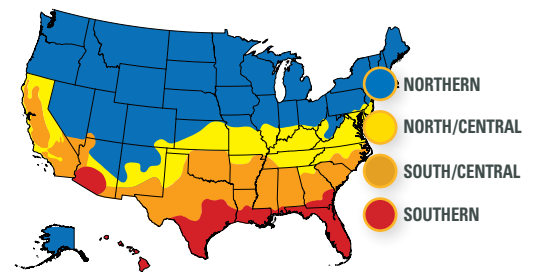
	KR90 (N3200k)	
	U-FACTOR	SHGC
Double Hung	0.19	0.22
Casement	0.17	0.20

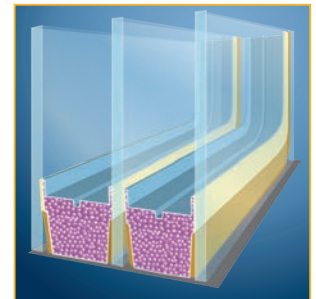
	KR90 <sup>2</sup> (N3310k)	
	U-FACTOR	SHGC
Double Hung	0.17	0.22
Casement	0.16	0.20



The ENERGY STAR Most Efficient designation identifies products that represent the leading edge in energy efficiency among those that qualify for the ENERGY STAR program. Look for the ★ to quickly identify the Sunrise glass packages that meet qualify for this elite designation.

ENERGY STAR Climate **Zone Map****Maximum Efficiency**

A  $\frac{7}{8}$ " overall triple-glazed insulated glass unit with two panes of Ultra U Plus glass and one pane of sound absorbing glass sandwiching two chambers filled with high density argon gas is combined with a polyurethane foam frame to create the AR90 and KR90 Glass Systems and achieve an R-5 rating.



Sunrise offers a series of high performance

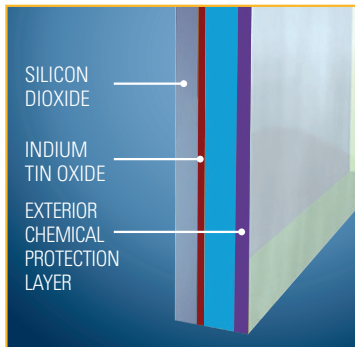
**INSULATED GLASS SYSTEMS**

that are engineered to provide maximum thermal efficiency and comfort no matter where you may live.

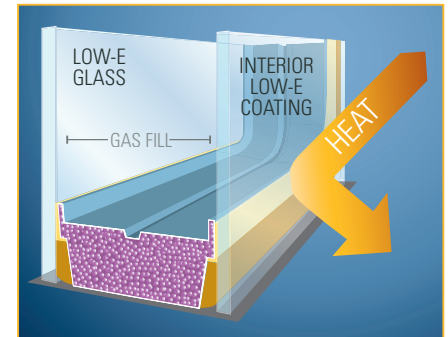
## Comfort Options for Glass

### Keeping Heat Inside with **Interior Low-E**

Similar to what is used on premium cell phones and tablets, Sunrise's optional Interior Low-E coatings are scratch resistant, long lasting and they reflect your home's heat back into the room. Superior thermal performance is delivered using argon or krypton filled cavities and innovative glass coatings. This combination outperforms conventional windows to keep your home comfortable at any temperature, but is primarily beneficial in climate zones where insulation (U-factor) is the primary concern.



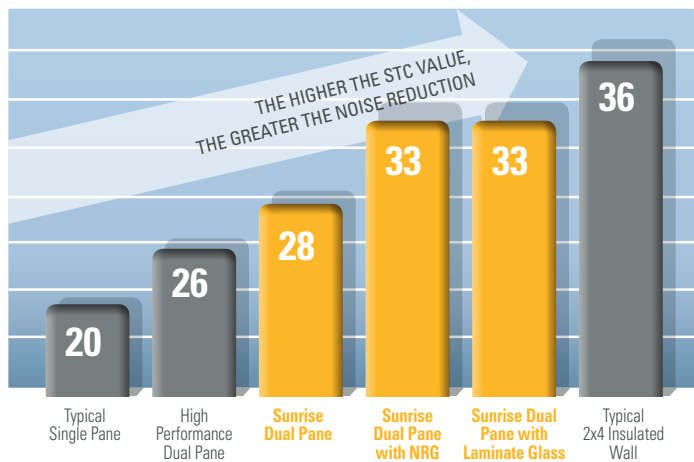
- » **Exceeds** 2019 ENERGY STAR standards
- » **Improves comfort** when weather turns cold
- » **Consistent, long-lasting** comfort and performance
- » **Durable**, scratch resistant, and easy to clean
- » **Lifetime Warranty** covers the entire window, including the glass
- » **Available together** with N-Series or P-Series glass packages



### Keeping Unwanted Sounds Outside with **Noise Reduction Glass**

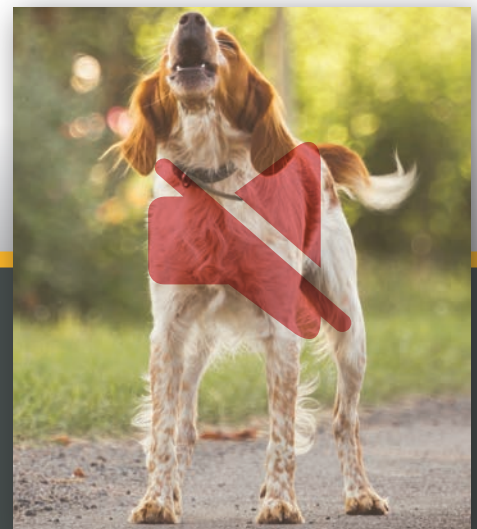
The world around us is filled with unwanted sounds, such as barking dogs, loud conversations, lawn mowers, and traffic noise. These sounds can travel into your home through or around windows and doors, disrupting your peace and quiet. Sunrise offers the Noise Reduction Glass option that not only provides superior energy performance, but noise reduction as well — at a fraction of the cost of traditional sound abatement options.

#### SOUND TRANSMISSION CLASSIFICATION FOR DOUBLE HUNG WINDOWS



CHANGES IN STC RATING	CHANGES IN APPARENT LOUDNESS
+/- 1	Almost imperceptible
+/- 3	Just perceptible
+/- 5	Clearly noticeable
+/- 10	Twice (or half) as loud

Sound reduction in windows and doors is tested and most commonly rated for comparison using a Sound Transmission Class (STC) rating. Sunrise windows are tested and rated to ASTM E(90) for Sound Transmission (test sizes per ASTM E1425). STC ratings will vary by product type. The higher the rating value the greater the sound reduction. Data compiled from [stcratings.com](http://stcratings.com)



Specialty glass options, like Interior Low-E or **NOISE REDUCTION GLASS (NRG)** improves the comfort and efficiency of a home.

## Comfort & Convenience Options

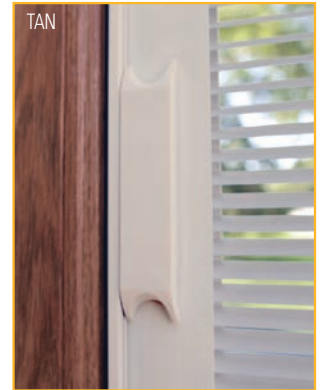


**SUNBLINDS®**  
The Blinds You Never Clean *Exclusively from Sunrise*

### Between the Glass

SunBlinds® adjustable mini blinds are actually sealed between the panes of glass, offering easier maintenance, added style, and improved comfort in your home.

SunBlinds® are constructed with a single, side slide magnetic operator that can raise, lower, and tilt the blind assembly. Sunrise Lift & Tilt SunBlinds® are available for all standard-size Sliding Patio Doors and Casement or Awning windows manufactured with the performance sash configuration.



SUNBLINDS® ARE AVAILABLE IN TWO POPULAR, NEUTRAL COLORS (BOTH SLAT AND OPERATOR) THAT COMPLEMENT ANY WINDOW STYLE AND FINISH SELECTED.



Powered by Nature

### Self-Cleaning Glass

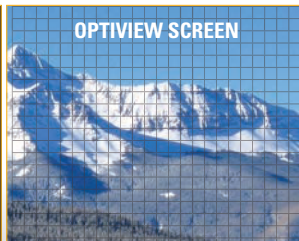
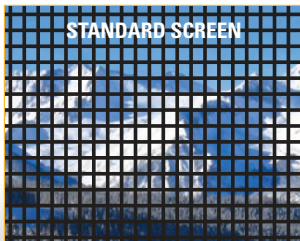
SolarClean™ self-cleaning glass combines technologies that allow the sun's ultraviolet rays and the sheeting characteristics of the glass to break down the adhesion of dirt and debris from the glass, while rain or a light water spray rinses it away. SolarClean™ offers minimal maintenance; less spotting and streaking. Best of all, it's guaranteed for life.



### Specialty Screening Options



OptiView™ Sheer Screen allows for a clearer view, better insect protection, better airflow and enhanced curb appeal.



### PetTough Screen

PetTough Screen is made of a strong, vinyl-coated polyester that resists damage by dogs and cats while being complete pet-friendly.



“

We loved our (Sunrise) Bay windows. And, now we have Sunrise Windows in our entire home. We have one window that is original from when our home was built in 1963. You can bet it'll be a Sunrise some day!

”