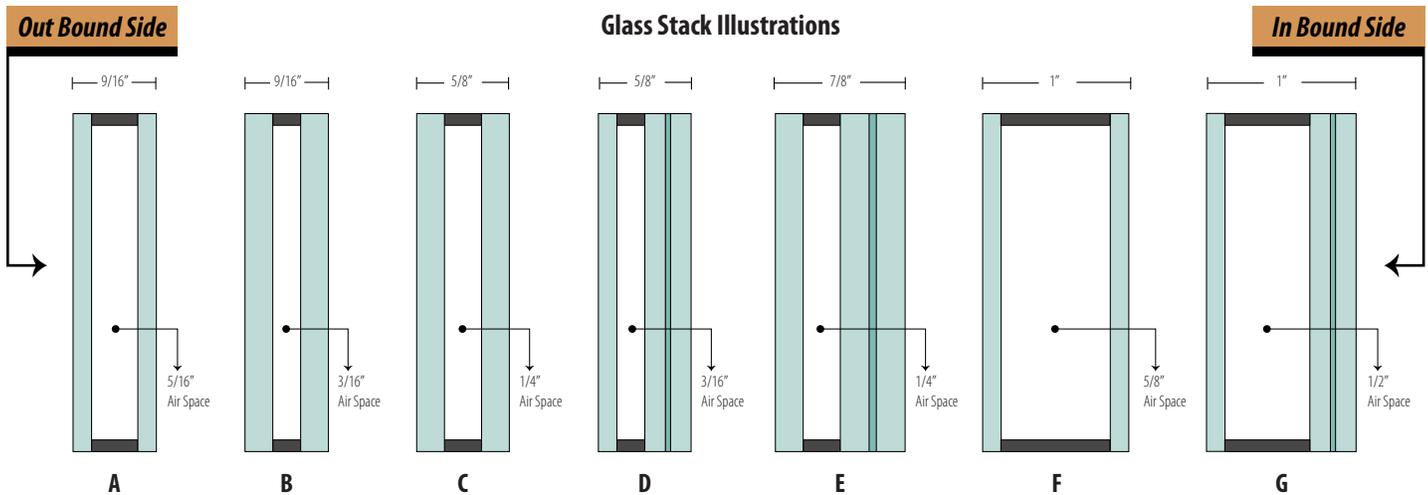


# NuEnergy® High Performance Glass

## NuEnergy® Glass Packages Make the Cut

Energy efficiency is a concern for everyone. The glass you select is the most important component when considering energy efficiency in windows or patio doors. Since the 1950's, the evolution of high performance glazing systems – often combining low-e coatings and warm edge spacers – has narrowed the thermal advantage that one window framing material may have over another. NuAir offers some of the most cutting-edge technologies in energy efficient glass systems in the window and door industry. NuEnergy® glass packages consists of Solarban®60 Solar Control Low-E Glass by PPG. Solarban®60 was engineered to control solar heat gain, which is essential to minimizing cooling costs.

NuAir produces various arrangements of glass in an I.G. (Insulated Glass) unit and the charts below will help you understand what's available in our standard offerings for windows and doors. Whether your concern is energy efficiency or impact resistance or both, NuEnergy® glass packages are a clear-cut choice when it comes to high performance windows and doors.



## Available Glass Stack & Sizing Chart

Stack	Out Bound	Air Space	In Bound	Total Stack	Obscure Option	Temper Option
A	1/8"	5/16"	1/8"	9/16"	S1	Yes
B	3/16"	3/16"	3/16"	9/16"	S1	Yes
C	3/16"-T	1/4"	3/16"-T	5/8"	S1	-
D	1/8"-T	3/16"	5/16"-L	5/8"	S1	-
E	3/16"-T	1/4"	7/16"-HSL	7/8"	S1	-
F	3/16"-T	5/8"	3/16"-T	1"	S1	-
G	3/16"-T	1/2"	5/16"-L	1"	S1	-

T = Tempered, L = Laminated, HSL = Heat Strengthened Laminated, S1 = Option Available on Glass Surface 1 only.

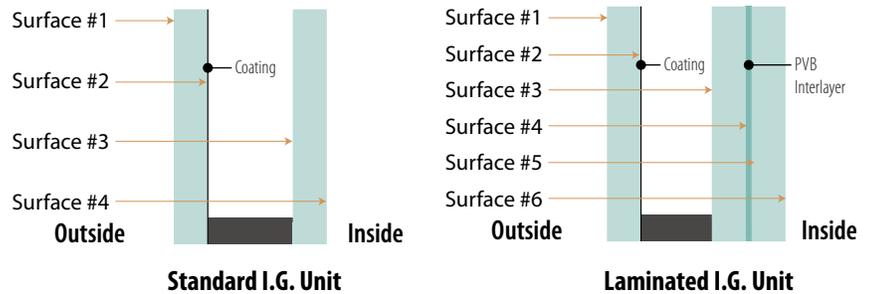
## Product Availability Chart

Series	A	B	C	D	E	F	G
900	•	•					
950	•	•					
975	•	•					
9000				•			
200 SGD			•				
500 SGD			•				
975 SGD			•				
9000 SGD					•		
900 French						•	
9000 French							•

# NuEnergy® High Performance Glass

## Understanding NuEnergy® Coated Glass Options

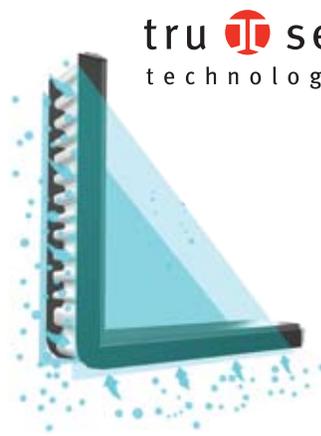
NuEnergy® glass packages utilizing Solarban®60 Solar Control Glass are available exclusively in standard as well as laminated I.G. (Insulated Glass) units. The Low-E coating must be glazed within the insulating glass airspace on the #2 glass surface. When combined with tinted glass, the tint will be provided on glass surface #3. Please refer to the illustration to help explain the glass surfaces designations in a typical I.G. unit.



## TruSeal™ I.G. Spacer Technology

Another feature of NuEnergy® High Performance Glass is the use of the DuraSeal™ Warm Edge I.G. Spacer made by TruSeal™. The type of spacer bar used in an I.G. glass unit plays a key role in the efficiency of the window. DuraSeal's patented technology incorporates unique materials and a breakthrough in continuous composite manufacturing processes. This advanced technology offers a higher performance spacer system at a competitive price. DuraSeal™ takes optimum advantage of laminates and adhesives to reduce thermal conductivity while improving surface and corner appearance over other insulating glass spacers. This multi-layered spacer system featuring specialized components results in superior window performance and aesthetics over other warm edge spacers. DuraSeal's technology takes insulating glass spacers to the next level, setting a new standard for efficiency and performance.

- Improved Condensation Resistance
- Less Conductivity
- Reduced Total Window U-Value
- Continuous Moisture Vapor Barrier
- Low Moisture Vapor Transmission Rate



### Continuous Corners

DuraSeal's impermeable continuous foil laminate barrier eliminates any short circuit at notched corners and has a consistent moisture vapor transmission path (MVP) because it bends around corners avoiding the open seams of competitive products.

tru seal  
technologies

### Desiccant Topcoat

Desiccant concentrated in the top layer provides rapid dewpoint suppression.



### Bondline Adhesive

Proprietary high performance adhesive providing exceptional resistance to gas and moisture vapor transmission.



### Spacer Subassembly

Unique multi-component spacer which is bendable yet incompressible and stable.



NuEnergy® Available Low-E Glass Stacks						
S-1	S-2	S-3	S-4	S-5	S-6	
CLEAR	SOLARBAN60	CLEAR	OBSCURE	N/A	N/A	Standard I.G.
CLEAR	SOLARBAN60	TINT	N/A	N/A	N/A	
CLEAR	SOLARBAN60	CLEAR	CLEAR	CLEAR	OBSCURE	Laminated I.G.
CLEAR	SOLARBAN60	TINT	CLEAR	CLEAR	OBSCURE	

# NuEnergy® High Performance Glass

## Window Energy Measurements

A window's U-factor is a commonly cited energy saving performance measure, but it is less critical in Florida and other warm climates. Florida's codes allow a higher U-factor to be offset by improved performance in other measures, especially solar heat gain coefficient or SHGC. SHGC is the most significant measure of a window's energy saving performance in southern climates. SHGC measures the amount of solar radiation that a window transfers into the interior of a home. The lower the SHGC, the better the window performs. SHGC is expressed as a number between 0 and 1. The Florida Energy Code requirement for Solar Heat Gain Coefficient is 0.40. SHGC has replaced a measurement known as the shading coefficient, which is no longer used. While SHGC measures solar radiation, it does not necessarily indicate the amount of visible light that a window admits. That's measured by another indicator, known as visible transmittance (VT). Visible transmittance measures the fraction of the visible spectrum that is transmitted through a window assembly. A higher VT means more daylight and brighter views.

## PPG's Solarban®60 Solar Control Glass

The NuEnergy® High Performance Glass System utilizes PPG's Solarban®60 Solar Control glass. The low-e coating on Solarban®60 glass is applied by the magnetic sputtered vacuum deposition process to ensure superior thermal performance. Solarban®60 delivers excellent SHGC performance without compromising the amount of visible light transmitted into the home. In fact the total solar energy transmitted through Solarban 60 glass is almost 50% less than that transmitted by standard clear insulating glass.

## Solarban® 60 Features and Comparison

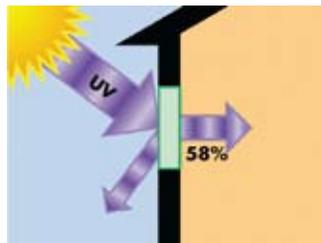
### Standard Clear I.G.



### Cooler In Summer

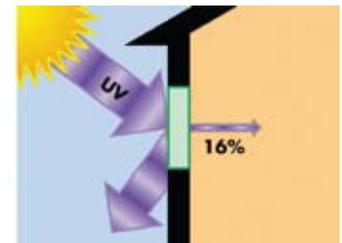
The total solar energy transmitted through Solarban® 60 (2) glass is almost 50% less than that transmitted by standard clear insulating glass.

### PPG Solarban® 60 I.G.



### Reduces Ultraviolet Energy

Solarban® 60 (2) glass reduces fabric-fading UV energy 72% more effectively than standard clear insulating glass.



### Transmits More Visible Light

The Solarban® 60 (2) window transmits about 88% as much desirable visible light as standard clear insulating glass.



## Solarban60® Advantages

- Has a natural appearance, both when viewed from the outside and inside.
- Provides glare control in bright, sunny climates.
- Blocks more than 60% of the total solar energy reflected.
- Versatile enough to be used in any climate zone.
- Use when low SHGC, low shading coefficient and high LSG (ratio of VT to SHGC) is required.
- Lower UV-transmittance (reduces fading)
- Reduced solar energy transmittance
- Increased solar energy reflectance.
- Improves window U-value as compared to uncoated glass.
- Reduces room side condensation of the window.



# NuEnergy® High Performance Glass

## SunClean® Self-Cleaning Glass

PPG's SunClean™ Self-Cleaning glass is a coated glass product that has both photocatalytic and hydrophilic properties. Together, these properties make windows easier to clean. A durable, transparent coating is applied to hot glass during the formation process making it an integral part of the outer surface.

Because of the coating's photocatalytic property, it is energized by UV rays to help slowly break down and loosen organic dirt. Because of its hydrophilic property, water sheets evenly over the glass surface, instead of beading. This sheeting action helps flush the surface clean and accelerates drying to minimize spotting and streaking.

Compared to normal glass, SunClean's self-cleaning coating keeps the glass cleaner for longer in outdoor applications where the glass is exposed to daylight.

SunClean™ can significantly reduce both maintenance costs and time compared to normal glass making it the ideal choice for use in highly polluted environments (around airports, road networks, in urban and industrial areas, etc) as its photocatalytic properties will allow more time to elapse between window cleaning.

### The Best of All Worlds

By adding SunClean glass to Solarban70 Solar Control glass in an I.G. Unit, you will have the convenience of self-cleaning glass with the comfort and energy saving features of Low-E glass. Combine this with the KeepSafe™ Maximum PVB interlayer for impact resistance and you have some of the most advanced high performance glass in the world. When PPG SunClean™ glass is used in conjunction with Solarban70 it will always be glazed on glass surface #1 (the outbound side). Refer to the chart on this page for NuAir's SunClean glazing options.



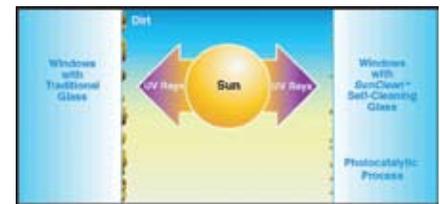
With PPG SunClean™



Standard Annealed Glass

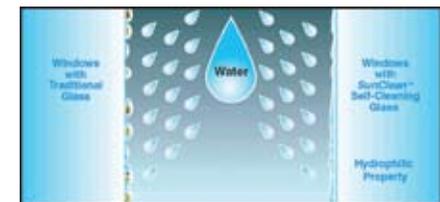
### Photocatalytic Process

In a photocatalytic process, ultraviolet (UV) light from the sun energizes the SunClean glass coating to help slowly break down and loosen organic dirt. Since UV light is abundant even on cloudy days or in shaded areas, this process works non-stop throughout the day.



The coating's hydrophilic property makes water droplets spread out, or sheet, across the surface of the glass. Because of this, when rain or a light spray of water hits the window, the water helps to more effectively rinse away loosened dirt. This sheeting action, which works throughout the day and night, helps the window dry quickly with minimal spotting and streaking.

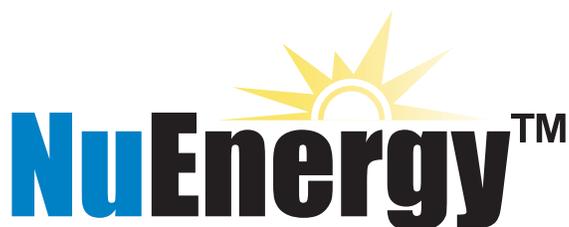
### Hydrophilic Process



**Glass Technology**  
Since 1883

### SunClean® Available Glass Stacks

S-1	S-2	S-3	S-4	S-5	S-6	
SUNCLEAN	SOLARBAN70	CLEAR	OBSCURE	N/A	N/A	Standard I.G.
SUNCLEAN	SOLARBAN70	TINT	N/A	N/A	N/A	
SUNCLEAN	SOLARBAN70	CLEAR	CLEAR	CLEAR	OBSCURE	Laminated I.G.
SUNCLEAN	SOLARBAN70	TINT	CLEAR	CLEAR	OBSCURE	



High Performance Glass Systems

By: NuAir Windows and Doors