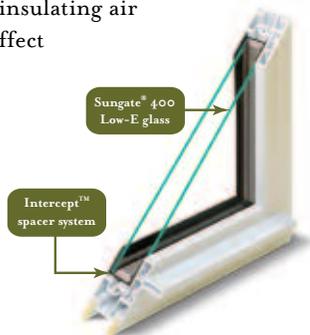


BE COMFORTABLE WITH YOUR ENERGY BILL

INSULATING GLASS

Choosing the right glass for your windows means choosing the right insulating glass (I.G.) unit. An I.G. unit contains two (or three) panes of glass and a spacer that holds the panes together and creates an insulating air space. It is the I.G. unit that will affect window performance the most.

The insulating ability of Sungate 400 Low-E Glass can be complimented with the use of PPG's Intercept™ Spacer System for I.G. units. The Intercept "Warm-Edge" Spacer System is now at work on more than 600 million windows in North America. It is by far the most popular window spacer technology in North America because it helps homeowners save money on their energy bills, reduces condensation and improves the overall performance of their windows.



OVERALL PERFORMANCE

You can improve the energy-saving performance of a standard insulating glass unit by 40% or more if you incorporate Sungate 400 Low-E Glass, argon gas in the air space and Intercept spacer technology by PPG.

Note: Comparisons are based on center of glass measurements of 3/4" insulating glass units; two 1/8" (3mm) glass panes and a 1/2" (12mm) space filled with air for the ordinary insulating glass and filled with 90% argon gas for the Sungate 400 insulating glass, with the low-e coating on the third surface. Actual glass performance may differ slightly due to glass thickness, gas fill and glass-to-frame ratio. All tabulated data is based on the National Fenestration Rating Council, using the Lawrence Berkeley National Laboratory's Window 5.2 software, the preeminent window performance measurement standard in North America.

SELECT PPG GLASS WITH CONFIDENCE

You can be comfortable with your choice of PPG residential glass. PPG has been at the forefront of residential glass technology and innovation since 1883 and has pioneered many of the glass technologies you'll find in some of the world's best windows.

Contact your window dealer or call 1-888-PPG-GLASS (1-888-774-4527) for a list of window manufacturers that use PPG glass. More information for homeowners and construction professionals is available on our web site, www.ppgglass.com.



IT'S WHAT TO LOOK FOR IN A WINDOW™



PPG customers use our products to manufacture Energy Star-qualified windows, doors and skylights.

PPG Industries, Inc.
Glass Business & Discovery Center
400 Guys Run Road
Cheswick, PA 15024

6177 11/09
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be comfortable
WITH SUNGATE® 400
LOW-E GLASS

 Glass Technology
Since 1883

IT'S WHAT TO LOOK FOR IN A WINDOW™



be comfortable

FOR YEAR-ROUND COMFORT AND WINTER WARMTH, MAKE IT SUNGATE® 400 LOW-E GLASS.

Sungate 400 Low-E glass offers the perfect balance of energy efficiency and interior comfort for heating-dominated climates. Developed for Canadian Energy Star requirements, Sungate 400 Low-E glass is the perfect choice for northern U.S. climate zones as well. Sungate 400 Low-E glass effectively harvests and retains heat to help reduce overall heating costs.

WARMER IN WINTER

The overall U-value of Sungate 400 Low-E glass is about 42% better than standard clear insulating glass. Lower U-value means higher performance and lower heating bills.

YEAR-ROUND COMFORT

The total solar energy transmitted through Sungate 400 Low-E glass is only 12% less than that transmitted by standard clear insulating glass. By reducing relative heat gain, Sungate 400 Low-E glass provides year-round energy efficiency and comfort.

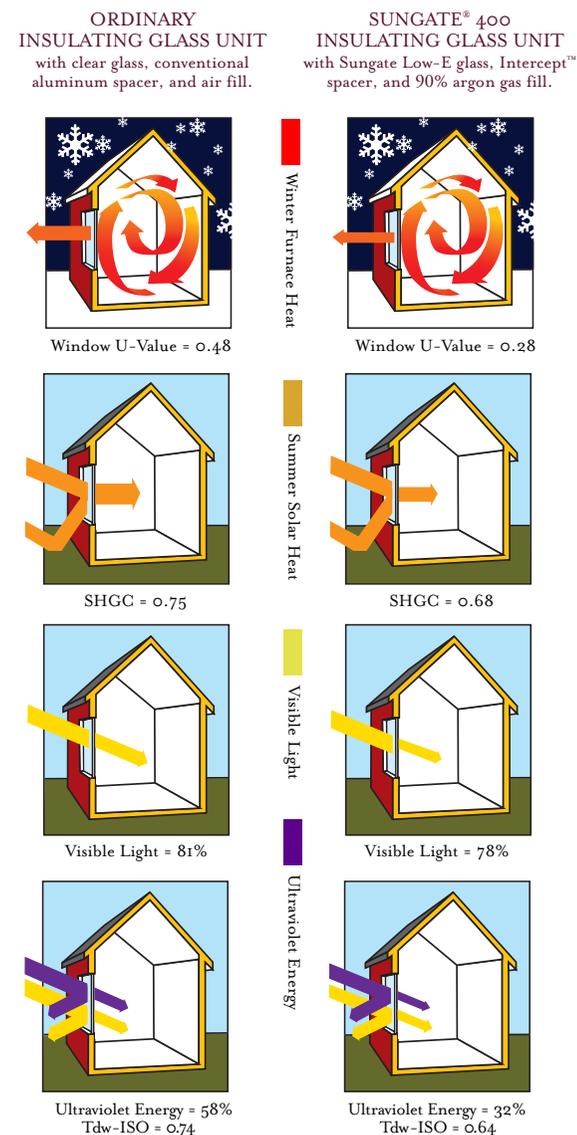
AT EASE WITH LIGHTING

Sungate 400 Low-E glass has the look of traditional glass inside and out — transmitting about 96% of visible light as ordinary insulating glass. Additional light means brighter, more appealing interiors.

FADE PROTECTION

The Sungate 400 Low-E coated glass blocks 68% of the ultraviolet (UV) energy, which is traditionally associated with fading. However, a more complete measure of fading resistance, “total damage-weighted transmittance,” or “Tdw-ISO,” shows that Sungate 400 glass also protects your fabrics, furniture and carpets from fading about 14% better than clear insulating glass.

Damage Weighted Transmittance is calculated according to a function called “Tdw-ISO,” developed by the International Standards Organization (ISO) and published by the International Commission on Illumination (CIE), the world’s leading technical organization on lighting and illumination. The “Tdw-ISO” calculation measures fading risk from solar radiation across the entire solar light spectrum, from UV light (280-380 nanometers) through visible light (390-780 nanometers). According to the CIE standard, which is considered more comprehensive than UV rating alone, Sungate 400 glass can minimize fading damage across the entire solar spectrum more effectively than glass designed primarily to block UV light.



Choosing windows? The decision is easy when you know PPG glass: the glass that offers quality, innovation, durability and comfort in any climate.

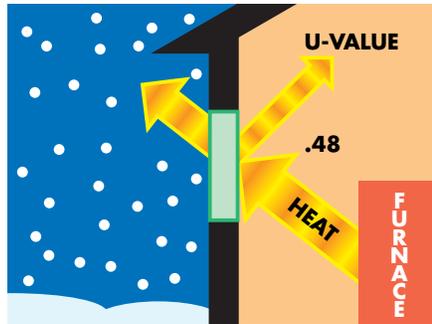
Windows made with PPG glass will help you feel more comfortable in many ways. We make glass to keep you warmer on a chilly winter’s night and cooler on the hottest day of summer. We make glass that increases energy efficiency and saves you money. We even make glass that cleans itself.

Sungate® 400 Low-E glass is a specially-coated glass that is ideal for cooler climates – helping to keep your home cozy while improving energy efficiency and lowering heating costs. This quality glass option also reduces UV fading damage without adversely affecting the quality of natural light that enters your home.

SUNGATE® 400
Low-E Glass

Features / Benefits Comparison

Standard Clear Insulating Glass

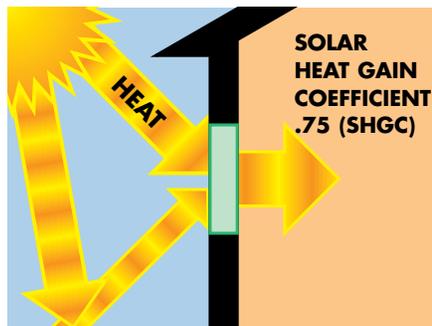
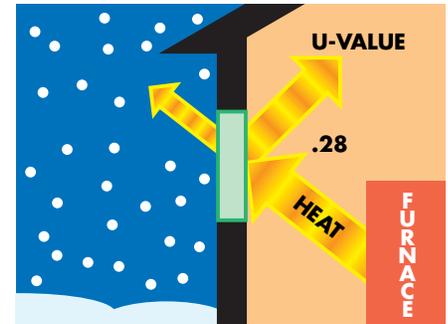


Warmer In Winter

The winter nighttime U-Value (insulating value) of a *Sungate® 400* (3) glass is 42% better than standard clear insulating glass.

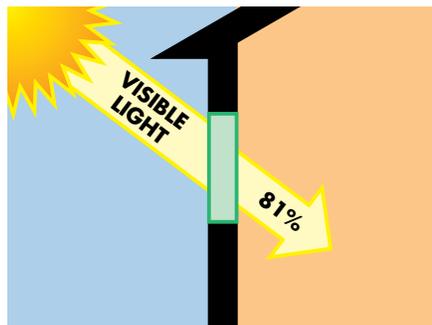
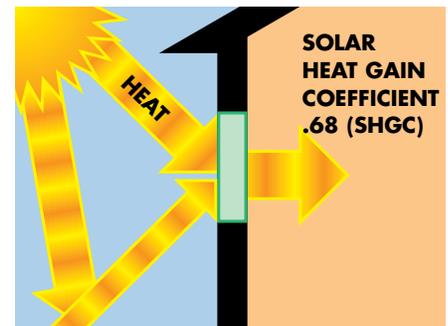
- Lower U-values mean higher performance
- Reduces furnace heat loss
- Helps reduce heating energy costs

Sungate® 400 (3) Insulating Glass



The total solar energy transmitted through *Sungate® 400* (3) glass is only 12% less than that transmitted by standard clear insulating glass.

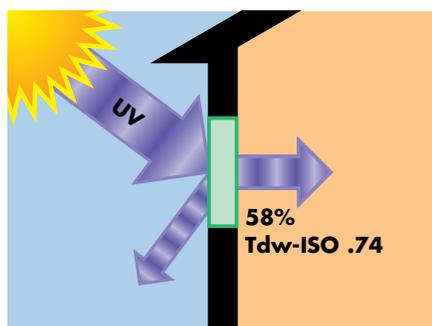
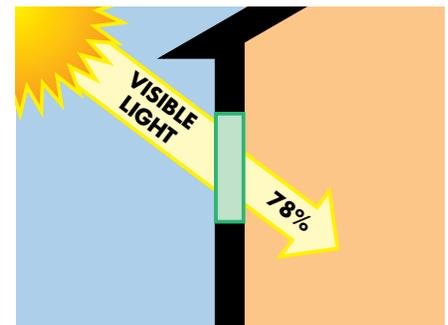
- Higher SHGC numbers mean more solar heat gain
- Helps keep interiors warmer
- Helps reduce heating energy costs



Transmits Visible Light/Appearance

Insulating units with *Sungate® 400* (3) transmit about 96% of the visible light as standard clear insulating glass.

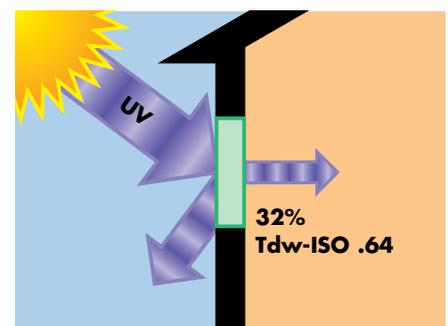
- Provides exterior appearance similar to clear glass



Fading Factors

While *Sungate® 400* (3) glass blocks 68% of damaging UV energy, it also blocks other contributors to fading – in all, 14% better than standard clear insulating glass.

- Helps protect interior furnishings, fabrics and carpets from fading



Note: Tdw-ISO represents potential fading damage caused by both UV and visible light. It is considered by the U.S. Department of Energy and the International Standards Organization (ISO) to be a more accurate barometer of fade resistance than UV transmittance alone. All comparisons are center of glass based on an insulating unit containing 3/4" insulating units; two 1/8" (3mm) glass lights and a 1/2" (12mm) air-filled space for the standard clear insulating glass and 90% argon gas-filled space for the *Sungate® 400* insulating glass. Actual glass performance may differ due to glass thickness, gas fill and glass to frame ratio.

Solar Heat Gain Coefficient (SHGC) represents the solar heat gain through the glass relative to the incident solar radiation. It is equal to 86% of the shading coefficient.

Figures may vary due to manufacturing tolerances. All tabulated data are based on the National Fenestration Rating Council (NFRC) methodology, using the Lawrence Berkeley National Laboratory's Window 5.2 software.

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www.ppgglass.com

PPG Glass Technology
Since 1883



All PPG architectural glass is Cradle to Cradle Certified™. Cradle to Cradle is a certification mark for MBDC.



PPG customers use our products to manufacture Energy Star compliant windows, doors and skylights.