

ClimaTech[®]

High-Performance Insulated Glass Package

Making Your Home More Comfortable Year-Round



Alside[®]

CHOOSE ALSIDE WINDOW SYSTEMS WITH THE *Customize the Performance of Your Windows*



BEAUTIFULLY ENERGY EFFICIENT

One of the best solutions for capturing more light but keeping out the heat, cold and inclement weather is beautiful, energy-efficient Alside Windows.¹ They combine the refinements of clean lines and tasteful architectural details with the performance of superior technology and heavy-duty construction.

Stylish and strong, this expertly crafted window system will enhance the appearance of your home as well as provide a more balanced and comfortable indoor environment year-round.

CLIMATECH® INSULATED GLASS PACKAGE

INCREASE YOUR ENERGY SAVINGS WITH CLIMATECH INSULATED GLASS TECHNOLOGY


ClimaTech improves the energy efficiency of windows in virtually every climate. In the winter, it lets in solar heat and reflects the warmth back into your home. In summer, it repels heat and glare while filtering out ultraviolet rays to help reduce your air-conditioning use.

- ClimaTech features multi-layer Low-E (low-emissivity) glass, argon gas² and the Intercept® Warm-Edge Spacer System for superior thermal performance.
- Argon is an odorless, colorless, nonflammable, safe inert gas that is heavier than air.
- Argon's greater density reduces the heat exchange through the window for increased energy efficiency.

COMPARE THE PERFORMANCE DATA

When choosing new windows for your home, you'll want to take special note of the performance ratings and whether the window qualifies for ENERGY STAR® certification in your region.

The National Fenestration Rating Council (NFRC) Performance Label makes it easy to determine the window's energy-saving properties and compare one product to the next.

 National Fenestration Rating Council® CERTIFIED	ALSIDE WINDOW COMPANY MODEL 3001 – DOUBLE HUNG CPD# ASO-A-89-103386-00001 SOLID VINYL – WELDED – DOUBLE GLZD 3/4" IG. DS LO-E. ARGON.	
	ENERGY PERFORMANCE RATINGS	
U-Factor	Solar Heat Gain Coefficient	
0.29	0.28	
ADDITIONAL PERFORMANCE RATINGS		
Visible Transmittance		
0.52		
<small>Manufacturer stipulates that these ratings conform to applicable NFRC procedures for determining whole product performance. NFRC ratings are determined for a fixed set of environmental conditions and a specific product size. Consult manufacturer's literature for other product performance information. www.nfrc.org</small>		

U-Factor – Usually a number between 0.20 and 1.20, the lower the U-Factor the greater the window's resistance to heat flow or the greater its insulating value, which helps reduce your heating needs.

Solar Heat Gain Coefficient (SHGC) – A lower SHGC means less solar radiation is being admitted through your windows. Often indicated by a number between 0 and 1, a lower SHGC can help reduce air-conditioning use.

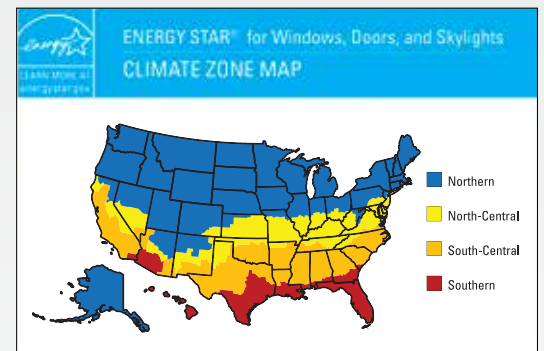
Visible Transmittance (VT) – Typically a number between 0 and 1, VT measures the amount of visible light transmitted through the window. The higher the VT, the more visible daylight will brighten your home.



WHAT IS ENERGY STAR?

The U.S. Department of Energy and the Environmental Protection Agency developed the ENERGY STAR designation for products meeting stringent energy performance criteria – helping us all conserve fossil fuel consumption and protect the environment by choosing energy-efficient products.

The ENERGY STAR label certifies the products are a positive choice for energy efficiency, fuel savings and the environment, and helps consumers further save on energy costs without sacrificing performance, features and comfort.



ENERGY STAR Qualification Criteria

Northern (Zone 4)	≤ 0.22 / SHGC ≥ 0.17
North-Central (Zone 3)	≤ 0.25 / SHGC ≤ 0.40
South-Central (Zone 2)	≤ 0.28 / SHGC ≤ 0.23
Southern (Zone 1)	≤ 0.32 / SHGC ≤ 0.23

IMPROVE ENERGY CONSERVATION

Precision-engineered for exceptional form and functionality, Alside windows with ClimaTech glass feature design innovations you'll appreciate from day one.

HEATING SEASON SAVINGS

In climates with a significant heating season, windows can represent a source of unwanted heat loss, discomfort and condensation problems. Alside's state-of-the-art window technology delivers advanced energy-saving performance.

- Integrated insulating components reduce heat loss and air infiltration.
- Maintains warmer glass surfaces to improve comfort and reduce condensation.
- Even larger windows can provide a strong thermal barrier against heat loss.

COOLING SEASON SAVINGS

In climates that mainly require cooling, windows can represent a source of unwanted heat gain. Alside windows with Low-E glass technology are designed to reduce unwanted solar heat from penetrating your home.

- Helps keep your home cooler for reduced air-conditioning needs.
- Allows an infusion of natural light and a clear view.

LOWER HVAC COSTS

High-performance windows not only help reduce annual heating and cooling bills, they also reduce the peak heating and cooling loads. The peak load for a building is the maximum load required for heating or cooling at one time.

Reducing this load can offer additional benefits.

- Reduction in peak loads may allow for a reduced size of heating and cooling equipment in your home.
- Smaller equipment can offer initial equipment cost savings.
- Reduced peak loads can help electrical utilities by reducing load factors during peak times in the summer.



IMPROVED COMFORT

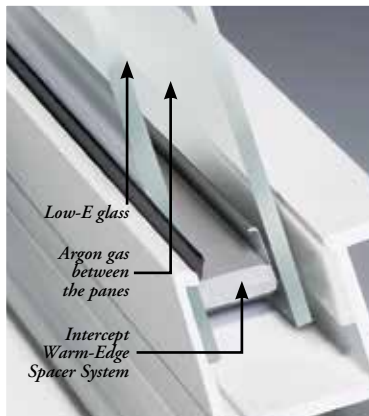
Window glazing is the glass incorporated in a window unit, such as single-pane, double-pane or triple-pane. New glazing technologies in windows help reduce heating and cooling energy use, as well as create a more balanced indoor climate.

- Windows with old glazing technology can result in the glass surface being too cold, which can create drafts and heat loss.
- Insulated glass units with lower U-Factors, proper window installation and appropriate weatherstripping reduce air leakage and help keep your home more comfortable.
- Window glazing with a low SHGC can help reduce the effects of strong, direct sunlight coming through the glass and the associated discomfort.



THE BENEFITS OF THE INTERCEPT® WARM-EDGE SPACER SYSTEM

The Intercept Warm-Edge Spacer System features a unique, one-piece metal alloy, U-channel design that creates an effective thermal barrier to help reduce conducted heat loss through the window. Its sealed, one-piece design makes Intercept spacers stronger and better at retaining insulating gas than many conventional designs.



COMFORTABLE ROOMS START WITH INTERCEPT SPACERS

Intercept's energy-efficient design keeps the edges of the window glass warmer, so your home feels more comfortable in the winter. As shown below, the difference in the edge of glass temperature in a window unit with the Intercept spacer compared to an ordinary spacer can be dramatic.

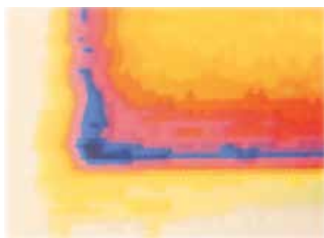


With Intercept Spacer



With Aluminum Spacer

Intercept's warm-edge technology helps prevent condensation around the window perimeter compared to a conventional aluminum spacer.

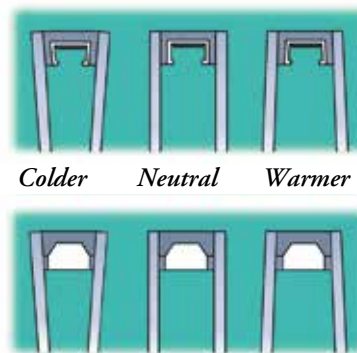


As shown in this thermograph of room side glass temperatures with warm indicated in yellow and cool in blue, the Intercept spacer (left) keeps the glass significantly warmer than a conventional spacer (right), especially at the edges of the glass.

Conditions: Cold side temperature = 0°F; room side temperature = 72°F; room side relative humidity = 25%.

THE INTERCEPT WARM-EDGE SPACER SYSTEM HELPS YOUR WINDOWS LAST LONGER

The spacer system in your window not only enhances the energy efficiency, it also stabilizes the panes of glass. Intercept is designed to flex and withstand the effects of temperature changes, which creates less stress on the sealant bond.



The Intercept spacer in the insulated glass unit provides flex during temperature changes, keeping the stress off the sealant to help prevent seal failure.

With conventional aluminum spacers, the sealant flexes, which can lead to sealant failure and loss of insulation ability.



LOW-E GLASS – MAKING THE DIFFERENCE

Did you know an average household spends more than 40% of its annual energy budget on heating and cooling costs?³ Alside Windows with ClimaTech insulating glass packages can be tailored to make your home more energy efficient.

WHAT MAKES CLIMATECH INSULATED GLASS SO EFFECTIVE?

When you consider that windows are roughly 80% glass, you'll see why it's important to choose an energy-efficient glass system to help seal off energy loss. Alside windows are precision-engineered for greater energy savings, keeping your home warmer in the winter and cooler in the summer with less energy use. Our combination of UV filtering Low-E glass, argon gas and the Intercept Warm-Edge Spacer System dramatically enhances energy efficiency.

Low-E (low emissivity) glass features a virtually clear, metallic coating that makes your windows more energy efficient by allowing them to transfer less heat.

- During the summer, Low-E helps block unwanted solar heat penetration to help conserve air-conditioning use.
- In winter months, Low-E insulating glass helps reduce heat loss by reflecting warmth back into your home.

MAKE YOUR HOME AN ENERGY MISER. IT'S EASY!

For greater energy savings, upgrade your Alside Windows with a ClimaTech insulating glass package, featuring Low-E glass, argon gas and the Intercept Warm-Edge Spacer System. The superior thermal performance of these insulating glass units can help lower your energy costs while further reducing the consumption of fossil fuels. Many ClimaTech insulating glass packages meet the latest ENERGY STAR requirements and are certified for energy-saving performance.



Low-E glass filters long-wave radiation from the sun. This helps reduce solar heat gain from the summer sun, helping to keep your home cooler.



Low-E glass takes on a new duty in winter months by slowing indoor heat from escaping.



Alside offers a variety of ENERGY STAR-certified products. Consult your window professional for energy-efficient glass packages for your home and climate zone.

Out of the many different styles of homes we see every day, each one of them will have different heating and cooling requirements to enable the homeowner to achieve year-round comfort. Just as the ENERGY STAR label depicts different heating and cooling requirements for northern and southern climates, a window also must prove to be versatile enough to be efficient in many different climates or seasonal situations.

That is why the ClimaTech insulated glass package relies on the many energy performance characteristics of Low-E glass. Shown below are three of the most critical performance requirements you'll want to consider when choosing an enhanced glass unit for your new windows.

IMPROVING A WINDOW'S WINTER U-FACTOR PERFORMANCE

The U-Factor (also referred to as U-Value) is a number that represents the rate of heat flow through a glazing system. The lower the U-Factor, the greater a window's resistance to heat flow and the better its insulating value. This performance is critical to homeowners who may experience increased heating conditions not only during the winter months but also in the fall and early spring.

Winter Furnace Heat



Standard clear unit
Conventional aluminum spacer
Air fill

Window U-Factor – 0.56-0.70⁴



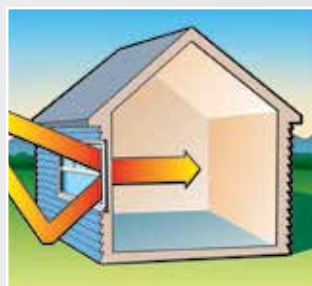
Low-E glass unit
Intercept spacer
Argon gas fill

Window U-Factor – 0.29⁵

A SOLUTION FOR SOLVING THE SOLAR HEAT GAIN COEFFICIENT DILEMMA

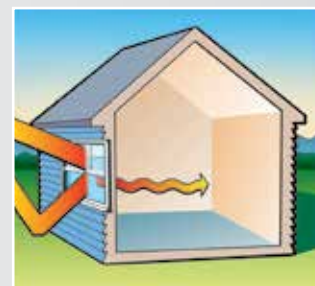
The solar heat gain coefficient (SHGC) is a number that represents the fraction of solar radiation admitted through a window, both transmitted and absorbed, and subsequently released inward. The lower a window's SHGC, the less solar heat it transmits, which leads to greater shading ability. Climates that rely heavily on air-conditioning will benefit from a window product that displays a low SHGC.

Summer Solar Heat



Standard clear unit
Conventional aluminum spacer
Air fill

SHGC – >0.60⁴



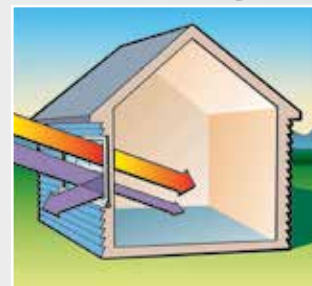
Low-E glass unit
Intercept spacer
Argon gas fill

SHGC – 0.30⁵

REDUCING UV ENERGY WHILE MAINTAINING THE VISIBLE LIGHT

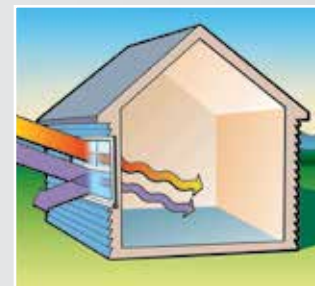
Ultraviolet light (UV) rays are the invisible rays of the spectrum and are found in everyday sunlight. These rays of light are responsible for the fading of carpets, fabrics and interior finishes. Visible light is simply the portion of the electromagnetic spectrum that produces light that can be seen.

Light Transmittance



Standard clear unit
Conventional aluminum spacer
Air fill

VT – >0.60⁴



Low-E glass unit
Intercept spacer
Argon gas fill

VT – 0.55⁵



GREEN INSPIRATION

Alside Windows and Patio Doors are performance-engineered to help conserve energy and reduce the consumption of fossil fuels used for heating and cooling homes. Using less energy to heat and cool your home not only saves money, it can reduce your home's carbon footprint as well. High-quality products with a long lifespan can also help lessen your impact on the environment.

Protecting our natural resources and choosing more sustainable products are just a few ways we can help safeguard our planet. Together, we can encourage ecological well-being with everyday actions of environmental stewardship.



This brochure is meant to educate on the general benefits of Low-E glass and argon gas when utilized in today's vinyl window products. Heating and cooling savings will vary per geographic region. The Efficient Window Collaborative (www.efficientwindows.org), PPG (www.ppg.com), ENERGY STAR (www.energystar.gov), and the NFRC (www.nfrc.org) provide information that will help homeowners to learn more about the benefits of energy-efficient window products. *Residential Windows: A Guide to New Technologies and Energy Performance*, third edition, also offers great insight for this subject matter.



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