The benefits of the Intercept® Warm-Edge Spacer System.

ClimaTech ... A Blend of Modern Efficiencies

Comfortable rooms start with Intercept Spacers.

The Intercept Spacer System is so energy-efficient that it keeps the edges of the window glass warmer, so your home feels more comfortable in the winter. As you can see below, the temperature difference between the edges of an insulating glass unit with an ordinary spacer, and one with an Intercept Spacer System can be dramatic.

Under normal weather conditions, insulating glass (I.G.) units expand and contract with temperature change. In conventional I.G. units, the seals (the material that holds the unit together) take the stress of the flexing. This can cause seal failure and argon gas loss. In an I.G. unit with the Intercept Spacer System, the spacer flexes instead of the sealant, so it resists spacer movement and prevents seal failure.

The Intercept Spacer helps your windows last longer.

Low-E Glass Argon Gas between the panes Intercept Warm-Edge Spacer System Comfortable rooms start with Intercept Spacers. Under normal weather conditions, insulating glass (I.G.) units expand and contract with temperature change. In conventional I.G. units, the sealant (the material that holds the unit together) takes the stress of the flexing. This can cause seal failure and argon gas loss. In an I.G. unit with the Intercept Spacer System, the spacer flexes instead of the sealant, so it resists spacer movement and prevents seal failure.

Colder Neutral Warmer

With Intercept Spacer, the glass edges stay warm. So the room feels comfortable. Compare the Intercept insulating glass window (above left) to a conventional insulating glass window (above right). Both windows have Low-E glass and argon gas fill. The difference is the Intercept Warm-Edge Spacer.

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Choose Alside Window Systems with the ClimaTech® Insulated Glass Package

**What’s so important about Alside Windows with the ClimaTech insulated glass package?**

ClimaTech improves the efficiency of windows in virtually every climate. In the winter, it lets in solar heat and holds the warm air inside. In summer, it repels heat and glare while filtering out ultraviolet rays which can fade carpet, furniture, artwork and painted or stained wood. Argon gas is a colorless, odorless, nonflammable, nontoxic, and above all, safe inert gas that is heavier than air. When the air between two window panes is replaced with argon gas, the energy efficiency of the window increases. Additionally, it acts as a sound barrier to help make your home quieter.

By choosing Alside Windows with the ClimaTech insulated glass package, you can reduce your heating and cooling costs while at the same time making your home more comfortable.
When purchasing new window products, homeowners should make special note of two things. The first is the window’s performance ratings, and the second is if those ratings qualify the product for the ENERGY STAR program.

The National Fenestration Rating Council (NFRC) has developed a national energy rating system based on whole product performance. The NFRC Performance Label provides the only reliable way to determine window energy properties and to compare products.

What is ENERGY STAR?
The U.S. Department of Energy and the Environmental Protection Agency developed an ENERGY STAR designation for products meeting certain energy performance criteria – helping consumers save money and protect the environment by choosing energy-efficient products and practices.

The NFRC Energy Rating System was developed to help reduce greenhouse gas emissions and other pollutants caused by inefficient use of energy and to make it easy for consumers to identify and purchase energy-efficient products that offer savings on energy bills without sacrificing performance, features and comfort. Product can earn the ENERGY STAR label by meeting the energy performance requirements set forth in ENERGY STAR product specifications.

Why are purchasing decisions like this so important to our environment?
If all residential windows in the U.S. were replaced with ENERGY STAR qualified products, we would save $7 billion in energy costs over the next 15 years – enough to light every home in the New York City metropolitan area.

Alside Windows with the ClearVue insulated glass package are proud for the environment because they help reduce the amount of energy needed to heat and cool our homes. Most of our energy is produced by the burning of fossil fuels, which causes air pollution, smog and global warming.

Go Green
Exceptionally energy-smart and weather-tight, Alside Windows not only reduce fuel consumption needed to heat and cool homes, they also boost a long active life and achieve optimal material use and minimal waste in production. Virtually all of the vinyl scrap is recycled into other useful products, further reducing the environmental impact of waste. Vinyl window also are eco-friendly because vinyl resin is derived largely from common salt – a sustainable and abundant natural resource!

Sources: A Clear View – Vinyl Windows and the Environment. American Architectural Manufacturers Association (AAMA) and Sustainable Wood. 2

Did You Know?
Alside Vinyl Windows and Doors ... 
• Are so durable that the vast majority of those installed over the past 25 years are still in use.
• Are made of more than 60% vinyl scrap which is recycled can help reduce the amount of energy needed to heat and cool our homes. Most of our energy is produced by the burning of fossil fuels, which causes air pollution, smog and global warming.

- Reduce electricity usage. A study conducted by Franklin Associates found that using vinyl over aluminum framing saves the U.S. nearly two trillion BTUs of energy per year – enough to meet the yearly electrical needs of 20,000 single-family homes.
- Vinyl can be recycled and reused repeatedly. Scrap is routinely recycled into new vinyl products. In fact, 99% of the vinyl used by window manufacturers like Alside goes into a finished product.
- Vinyl can be reprocessed and recycled repeatedly. Scrap is routinely recycled into other useful products, further reducing the environmental impact of waste. Vinyl windows also are eco-friendly because vinyl resin is derived largely from common salt – a sustainable and abundant natural resource!
Energy & Cost Savings

Hunting Season Savings

In climates that require heating, windows can represent a source of unwanted heat gain. Low-E windows can reduce this unwanted heat by reducing heat loss, increasing comfort, and saving energy. Windows can also help prevent indoor condensation, which can lead to mold and mildew growth, and improve indoor air quality.

Cooling Season Savings

In climates that rely heavily on air-conditioning to provide comfort, windows can reduce unwanted heat gain, improve comfort, and save energy.

Low-E HVAC Costs

High-performance windows not only help to reduce annual heating and cooling costs, but also reduce the need for air-conditioning. This reduces the load required on the heating or cooling system, which can lower energy costs and help to provide a more comfortable living environment.

Improved Comfort

High-performance windows can provide a more comfortable living environment by reducing unwanted heat gain, improving air quality, and reducing noise.

Windows can also help to reduce the need for air-conditioning, which can lower energy costs and help to provide a more comfortable living environment.

Low-E Glass – Making the Difference

The performance of Alside Windows can be enhanced with the addition of Low-E glass, argon gas*, and the PPG® Intercept Warm Edge Spacer System. These high-performance window packages, featuring Low-E glass, argon gas, and the PPG® Intercept Warm Edge Spacer System, can help to reduce unwanted heat gain, improve comfort, and save energy.

Performance Options

Make your home an energy oasis! It's easy!

Heating Season Savings

In climates with a significant heating season, windows can represent a source of unwanted heat loss. Low-E windows can help to reduce this unwanted heat loss by improving the thermal performance of the window, reducing air infiltration, and providing a warm and energy-efficient environment.

Cooling Season Savings

In warm climates, the negative impact of unwanted heat gain can be significant. Low-E windows can help to reduce this heat gain by improving the performance of the window, reducing air infiltration, and providing a cool and energy-efficient environment.

Energy & Cost Savings

In climates with a significant heating season, windows can represent a source of unwanted heat loss, while in warm climates, the negative impact of unwanted heat gain can be significant. Low-E windows can help to reduce both heat loss and heat gain by improving the performance of the window, reducing air infiltration, and providing a warm and energy-efficient environment.

Improve Your Comfort and Energy Efficiency

The performance of Alside Windows can be enhanced with the addition of Low-E glass, argon gas*, and the PPG® Intercept Warm Edge Spacer System. These high-performance window packages can help to reduce unwanted heat gain, improve comfort, and save energy.

Table 1: Low-E Glass U-Factor Performance

<table>
<thead>
<tr>
<th>Glass Package</th>
<th>U-Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard clear unit VT – 0.44</td>
<td></td>
</tr>
<tr>
<td>Conventional aluminum spacer</td>
<td></td>
</tr>
<tr>
<td>Air fill</td>
<td></td>
</tr>
<tr>
<td>Low-E glass unit</td>
<td>0.35</td>
</tr>
<tr>
<td>Intercept spacer</td>
<td>0.19</td>
</tr>
<tr>
<td>Argon Gas fill</td>
<td></td>
</tr>
</tbody>
</table>

Source: www.ppg.com. The thermal performance properties of specific glazings and frames can vary depending on product design and materials. The results presented here are averages. Consult specific manufacturers for NFRC rated U-Factors and SHGC for products of interest.

A Solution for Solving the Solar Heat Gain Confusion

The solar heat gain coefficient (SHGC) is a number that represents the fraction of solar radiation absorbed through a window, both transmitted and absorbed, and transmitted and absorbed radiation. The lower the SHGC, the less solar heat it transmits, which leads to better solar shading ability. It is a linear variable that is used to ensure solar control and comfort, with a 0.50 SHGC being equated to an additional 25%.

Reducing UV While Maintaining the View

UV energy is the invisible rays of the spectrum and is responsible for the photosynthesis process in plants and animals. The sun’s rays are absorbed by the earth, causing a rise in temperature and creating an ozone layer in the earth’s atmosphere. The sun’s rays are also responsible for the fading of carpets, curtains, and fabrics, and even paint finishes. Visible light is simply the portion of the electromagnetic spectrum that produces light that can be seen.

Low-E Glass provides superior protection against UV energy. Over 80% of solar energy is absorbed by the visible area of the glass. Low-E Glass reduces solar heat gain, improving the comfort of the home, while maintaining the view.

![Low-E Glass U-Factor Performance Table](https://example.com/table1.png)

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