

INTERCEPT INSULATING GLASS SYSTEMS

Choosing the right window includes choosing the right insulating glass unit, which will determine most of a window's energy performance. An insulating glass unit is comprised of two (or three) panes of glass and the insulating air space between them.

PPG's Intercept system, with "warm-edge" spacers, features a unique, one-piece, tin-plated or stainless steel, U-channel design. This design creates an effective thermal barrier to help reduce conducted heat loss through the window and makes Intercept spacers stronger and better at retaining insulating gas than many conventional designs.

PPG has been an industry leader in the development and production of insulating glass since the late 1940s, when Twindow[®] Insulating Glass was introduced. PPG's commitment to ongoing research and development has provided the technical expertise required for the introduction of prior PPG insulating glass brands such as: Weatherpane[®] and Twindow products as well as our glass-edged Twindow XI insulating glass units.

Features and Benefits

1. Reduced Interior Condensation

Intercept[®] insulating glass units reduce condensation problems around the window perimeter. Compare the Intercept insulating glass window on the left with a conventional insulating glass window on the right. Both windows have low-e glass and argon infill. The difference is the Intercept "warm-edge" spacer.



With Intercept[®] Spacer



With Aluminum Spacer

Conditions:

Cold side temperature=0°F

Room side temperature=72°F

Room side relative humidity=25%

2. Reduced Heat Loss

Intercept spacers are so energy efficient they keep the edges of the window glass warmer, so your home feels more comfortable in the winter. As you can see below, the temperature difference can be dramatic.



Intercept Insulating Glass Unit



Conventional Insulating Glass Unit

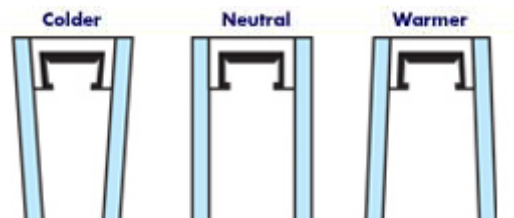
This thermograph or “heat picture” compares room side glass temperature for an Intercept insulating glass unit (left: yellow is warmer; blue is cooler) and a conventional unit (right). Because the Intercept glass technology allows for significantly warmer glass temperature, especially at the edges, your home will feel more comfortable.

3. Improved Insulating Glass Unit Life

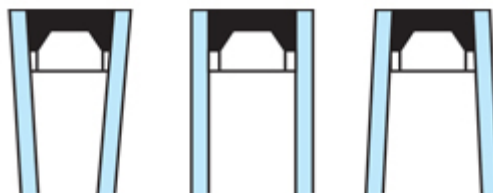
Less condensation means:

- Fewer stains or less damage to windows or walls.
- Higher allowable relative humidity indoors/less annoying static electricity.
- Better clarity of view.

Under normal weather conditions, insulating glass units expand and contract with temperature changes. In conventional insulating glass units, sealant takes the stress of the flexing, which can cause seal failure and insulating gas loss.



With Intercept glass technology, the spacers flex—instead of the sealant—to resist spacer movement and sealant failure.



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

4. Warmer Glass Temperature

Warmer glass temperature means:

- Better insulating value (89% higher R-value).
- Lower energy bills.
- Fewer drafts, improved comfort.

Intercept® Insulating Glass Performance Comparisons

Compare the performance of windows using the Intercept insulating glass technology versus conventional insulating glass aluminum spacers. Intercept windows provide warmer indoor glass temperatures and lower U-values/higher insulation performance.

Window Unit Performance Comparison:

Intercept Insulating Glass Unit vs. Conventional Insulating Glass Unit

Window Unit Performance Comparison-Intercept® I.G. Unit vs. Conventional I.G. Unit

	PPG Intercept® Steel Plated Spacer	Conventional Aluminum Spacer
Center-of-Glass U-Value	0.24	0.24
Emissivity (Solarban® 60* Solar Control Low-E glass)	0.04	0.04
Edge U-Value	0.34	0.45
Window U-Value (overall)	0.28	0.31
Minimum Indoor Glass Temperature at Bottom Frame	37°F	32°F

Conditions: 2.5mm glass thickness, 1/2" air space (argon gas fill), Solarban® 60 Solar Control Low-E glass, 0°F outside-15 mph wind, 70°F inside, 24" x 48" vinyl casement.