

*Vision of the way Windows should be*



S.A.W.D.A.C.  
SIDING AND WINDOW DEALERS  
ASSOCIATION OF CANADA

# *We welcome you to imagine the world of Luxury that Vinyl-Pro can create for your home*

Whether you are thinking of renovating or building, Vinyl-Pro will provide you not only with superior energy efficient windows but also with esthetically beautiful product that will greatly improve curb appeal of your house.

From sliders to casements, we offer a wide variety of colours and styles that will complement any house.

Vinyl-Pro windows are built to exceed the highest industry standards and are backed by a LIFETIME warranty. Our products are not mass produced but rather each individual window is crafted with care.



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*Let Vinyl-Pro make your home  
look elegant yet energy saving*



## **Benefits**

Vinyl-Pro windows will reduce your energy costs for years to come, because all window frames & sashes are fusion welded for strength while providing a permanent air and water tight seal.

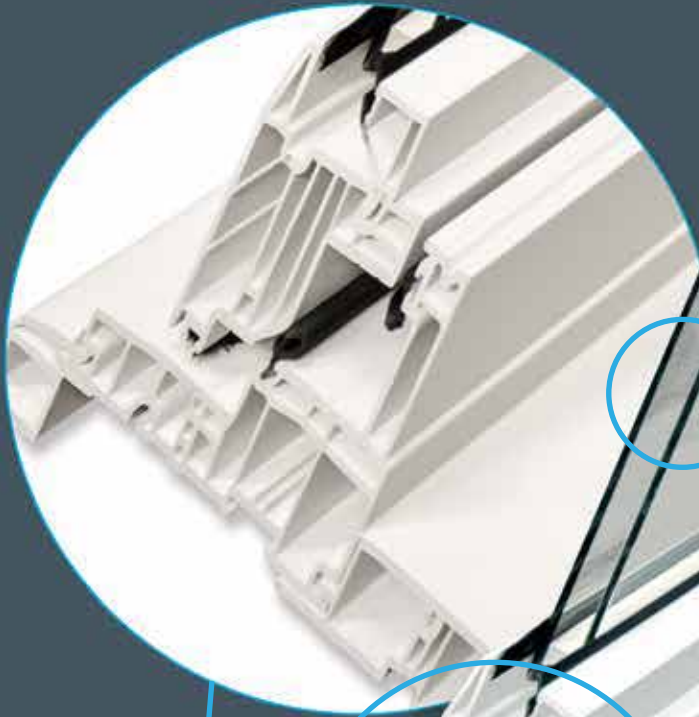
All glass units in our windows have double seal insulating glass. Multi-point locking system on casements for greater security. Truth window operating hardware for easy operation, exceptional style and durability. High strength screen cloth for pets is also available. 100% lead-Free PVC - environmentally safe manufacturing process.

## **Investment**

Vinyl-Pro windows are the best investment for your home, they are crafted by people who care, built with the finest materials and the most up to date technology available. Vinyl-Pro windows will earn your trust and confidence by providing you with the industry leading warranty. So enjoy the elegance and comfort they bring.

## A CLOSER LOOK OF VINYL CONSTRUCTION

Vinyl-Pro windows are made from an exclusive, 100% lead-free uPVC powder compound. This special compound provides our window systems with a better resistance to impact and discolouration. It ensures that they will not crack, blister or warp, while remaining maintenance free.



*These windows have the highest number of internal air chambers, giving them outstanding insulation and sound abatement qualities, as well as thermal efficiency and increased sturdiness.*

*Jamb extension  
A choice of maintenance-free PVC jamb extensions, frame moldings and corner blocks are available to enhance inside finishing.*

*Fusion welding Corners provide attractive appearance & eliminate the need for adhesive and sealants. There are no imperfections on the completely watertight and airtight surface. Internal walls are also welded for increased overall structural strength.*

*Sealed glass unit has 13/16" overall thickness. Depending on the model, glazing of different types and thicknesses can be applied, including single, double, triple and Low-E glazing as well as a glazed decorative panel (13/16" or 1- 3/8")*

### Additional Features

- Opening mechanism and high-security multipoint locking system come with stainless steel hinges and tracks.
- Hardware mounting is done through a minimum of two uPVC frame walls for secure and durable fastening.
- Depending on the model, casements open at a full 90°.

*Inside trim*



## CASEMENT



### 4-9/16 Casement

Casement windows offer a broad, unobstructed view as well as an excellent airflow.

Class CW - PG3360

Class CW - PG70

Water Penetration Resistance: 720 Pa (15.04 psf)

Air Infiltration / Exfiltration: Canadian A3 Level



### 4-9/16" Casement with Corner Multipoint

Class CW - PG4800

Class CW - PG100

Water Penetration Resistance: 720 Pa (15.04 psf)

Air Infiltration / Exfiltration: Canadian A3 Level

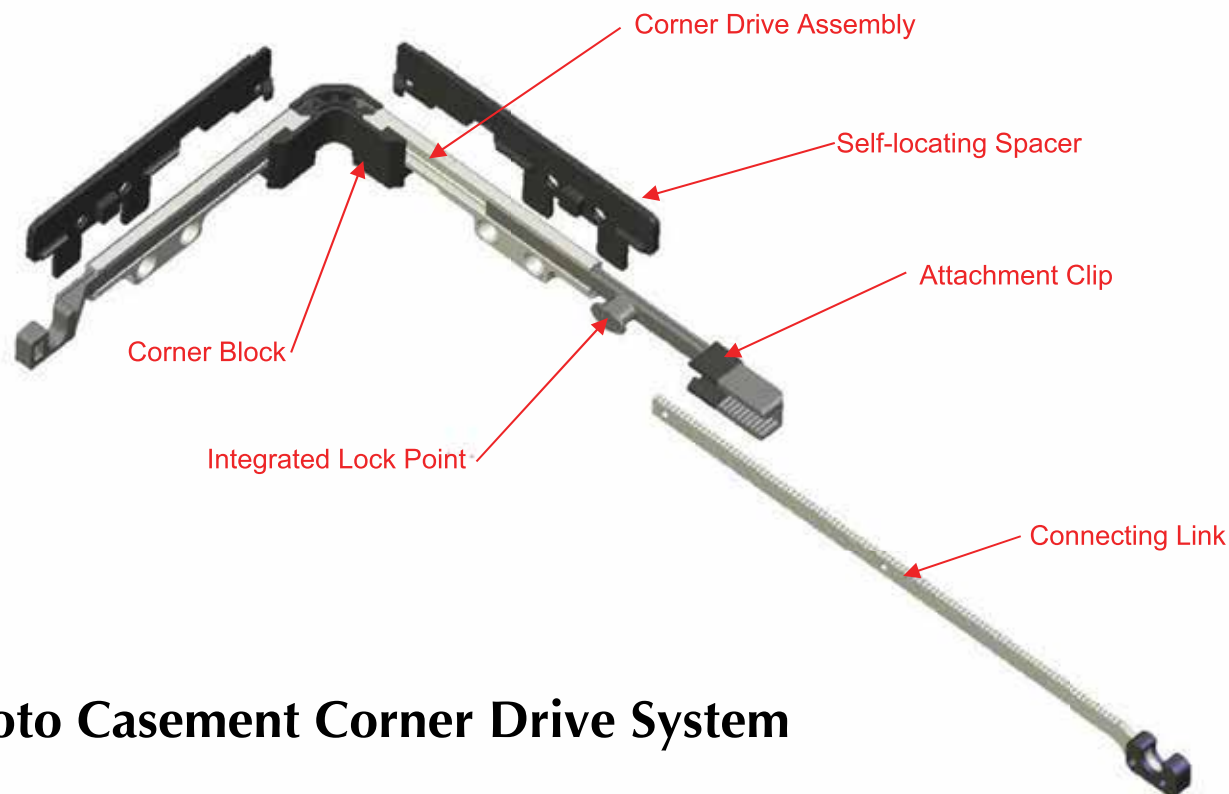


*For detail info on energy ratings & u-values,  
Please visit [www.nrcan.ca](http://www.nrcan.ca)*



# Roto North America

Excellence in Window & Door Hardware



## Roto Casement Corner Drive System

### Roto CCD

- Innovative product that offers enhanced security and superior performance through an integrated lock point positioned 3" from the corner and secured to the window frame
- Ensures consistent locking at the top corner of the window, regardless of the window height. This is typically the weakest area in structural and air infiltration tests
- Offers enhanced security and performance of DP100 or higher
- Connects directly to Roto's LB06/LB08 lock bar assembly





## AWNING



### 4-9/16 Awning

Vinyl-Pro's awning windows can be installed stand-alone to create a dramatic effect. They can also be used in combination with our fixed windows to build a truly graceful picture window. Our awning windows have the same energy-saving properties and quality features as much as our Casement windows.

Class LC - PG2640

Class LC - PG55

Water Penetration Resistance: 720 Pa (15.04 psf)

Air Infiltration / Exfiltration: Canadian A3 Level



*For detail info on energy ratings & u-values,  
Please visit [www.nrcan.ca](http://www.nrcan.ca)*

## PICTURE WINDOWS & FIXED CASEMENTS



### Picture

Vinyl-Pro offers you maximum versatility in window design through customized picture window frame shapes. Our picture models can function as stand-alone windows or can be used in combination of our fixed, casement, double-hung or single-slider windows.

### Fixed Casement (high profile)

Non-opening, fixed windows are the ideal solutions when you wish to create a broad expanse of windows in your home. Large mid-section and two vertical side sections allow a panoramic view while providing a sturdy frame. Vinyl-Pro's fixed windows offer all the features and craftsmanship found in our other models.



## GLASS OPTIONS



### Clear Glass

Clear Glass unit provides more efficiency on noise protection than single pane glass. A clear glass unit allows heat and cold air from both the inside and outside to pass through without resistance.

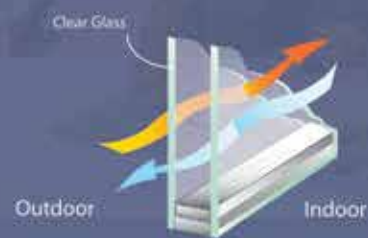
### Low-E Glass

In winter, Low-E Glass reduces heat loss to the cold outdoors by dramatically reducing radiant heat transfer and actually reflecting interior heat back into the room. It allows more of the sun's rays to enter a home as solar energy to be converted into usable heat. As in winter, the same effect of keeping interior heat inside, and in summer it helps to reduce the flow of hot outside air into the cooler interior. Therefore, it helps to lower your energy cost all year long. Low-E Glass also reduces transmission of the sun's UV ray which is the leading cause of premature fading and degradation of fabrics & carpeting.

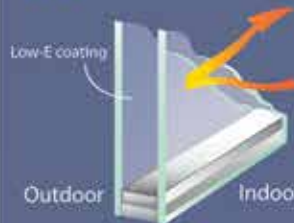
### Triple Glass

Triple pane glass windows are the most energy efficient models in the market, due to the extra pane of glass, insulating glasses help keep cold air outside and warm air in, or vice versa. Special coatings are often applied to the glass windows to enhance their energy efficiency by eliminating solar gain.

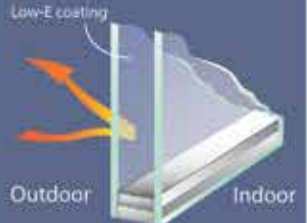
### Clear Glass



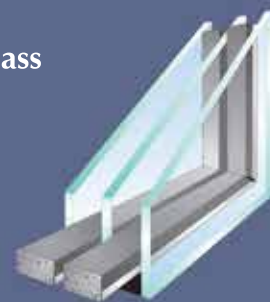
### Low-E Glass Winter



### Low-E Glass Summer



### Triple Glass



# LoE 180

## Realize All the Benefits of High Solar Gain Glass.

LoE-180 is the perfect cold remedy. Ideal for passive solar applications, it allows winter sun's heat to pass into the building while blocking heat loss to the outside. In a double-pane unit with argon fill, Cardinal LoE-180 glass delivers an ER of 45, U-factor of 0.26 and visible light transmission of 77%.

This means high levels of cold weather comfort for occupants. What's more, the warmer indoor glass surface means relative humidity can be controlled and maintained properly, improving occupants' comfort and surroundings. Building owners and/or managers benefit from significant energy savings. And because LoE-180 transmits more natural light, architects may be able to reduce lighting loads, resulting in even more savings. Naturally saving energy is also good for the environment.

Cardinal LoE-180 glass can be supplied in stock sheets and can be tempered and laminated for stock delivery. Maximum stock sheet size: 96"x144" (2.43 meters x 3.65 meters).

Cardinal LoE Glass Sets the Standard for Energy-Efficient Glass. Our patented, state-of-the-art sputtered coatings are unmatched by any other glass manufacturer. These high-transmission coatings are virtually clear, blocking the heat and reducing solar gain, while optimizing light transmission. In fact, our LoE2 and LoE3 coatings actually outperform tinted glass often used.

Cardinal produces nearly 700 million square feet of coated glass annually, at seven coating plants across the U.S. Our Intelligent Quality Assurance Program (I.Q.) ensures the quality of every piece of glass. Using our patented inspection systems, we thoroughly examine the glass for exterior and room side color, visible transmission/reflection, IR reflection and edge deletion.

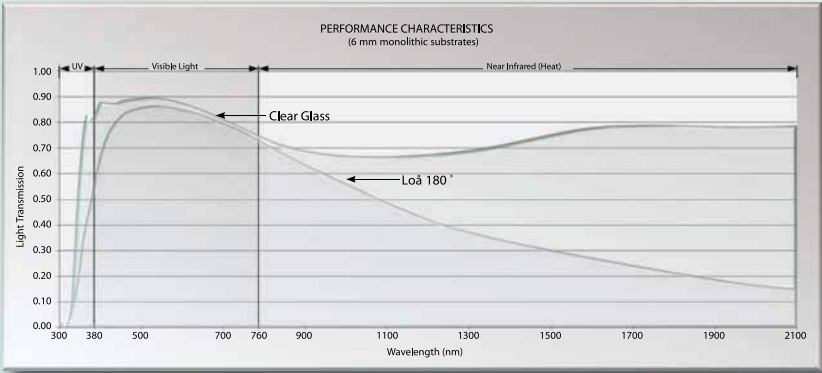


# Cardinal LoE-180 Delivers Outstanding Thermal Performance.

	Unit Make Up			Visible Light			Solar Energy					U Factor - Air				U Factor - Argon				ER *
	Exterior Lite	Airspace	Inboard Lite	Transmission	Reflectance		SHGC	SC	LSG	RHG		BTU/Hr.ft² °F		W/m² °K		BTU/Hr.ft² °F		W/m² °K		
					Exterior	Interior				BTU/Hr.ft²	W/m²	Summer	Winter	Summer	Winter	Summer	Winter			
6mm	Clear	13mm	Clea	80%	15%	15%	0.72	0.83	1.11	172	542	0.49	0.47	2.81	2.68	0.47	0.45	2.69	2.55	26
	LoE180 (#2)	13mm	Clea	77%	15%	14%	0.60	0.69	1.28	142	447	0.28	0.30	1.60	1.72	0.23	0.26	1.32	1.47	43
	Clear	13mm	LoE180 (#3)	77%	14%	15%	0.64	0.73	1.20	150	474	0.28	0.30	1.60	1.72	0.23	0.26	1.32	1.47	45

\*These values are based on center of glass numbers assuming no air flow.

## Performance Characteristics vs. Clear Glass

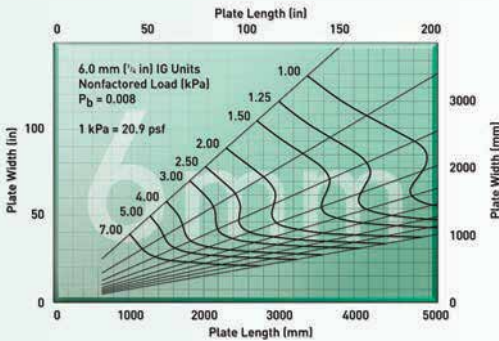


## How to Use the Wind Load Chart and Design Factors:

- Locate the long dimension and short dimension on the chart.
- Draw a vertical line from the long dimension and a horizontal line from the short dimension.
- At the point where these lines intersect, interpolate between the wind load (kPa) contours to determine the allowable wind load. For windload in PDF, use the conversion factor in chart.
- If the glass construction other than annealed-annealed is to be used, determine the wind load for the annealed-annealed glass with the appropriate glass thickness, and multiply this wind load by the appropriate load factor (see Load Factors).

Load Factors	
Annealed-Annealed	1.0
Heat Strengthened-Annealed	1.11
Heat Strengthened-Heat Strengthened	2.0
Heat Strengthened-Tempered	2.11
Tempered-Tempered	6.0

## Transmitted and Exterior Appearance of Clearvs. LoE-180 Glass.



Cardinal Glass Industries is considered one of the world’s leading providers of superior quality glass products. From the melting of sand to produce clear float glass to the vacuum sputtering of silver to produce low-emissivity coatings, Cardinal manufactures the quality components and finished insulating glass products used in top-of-the-line buildings around the world.

# LoE<sup>2</sup> 272

Get Superior Thermal Performance Year Around.

LoE<sup>2</sup>-272 is ideal for any climate, any weather. Just look at the numbers. In a double-pane unit with argon fill, Cardinal LoE<sup>2</sup>-272 glass delivers an SHGC of 0.40, U-factor of 0.25 and visible light transmission of 70%. All with no haze or bluish cast.

This means high levels of year-round comfort for occupants. What's more, the warmer indoor glass surface means relative humidity can be controlled and maintained properly, improving occupants' comfort and surroundings. Building owners and/or managers benefit from significant energy savings. And because LoE<sup>2</sup>-272 transmits more natural light and reduces solar gain, architects may be able to reduce lighting and air conditioning loads, resulting in even more savings. Naturally saving energy is also good for the environment.

Cardinal LoE<sup>2</sup>-272 glass can be supplied in stock sheets and can be tempered and laminated for stock delivery. Maximum stock sheet size: 96" x 144" (2.43 meters x 3.65 meters).

Cardinal LoE Glass Sets the Standard for Energy-Efficient Glass.

Our patented, state-of-the-art sputtered coatings are unmatched by any other glass manufacturer. These high-transmission coatings are virtually clear, blocking the heat and reducing solar gain, while optimizing light transmission. In fact, our LoE<sup>2</sup> and LoE<sup>3</sup> coatings actually outperform tinted glass often used.

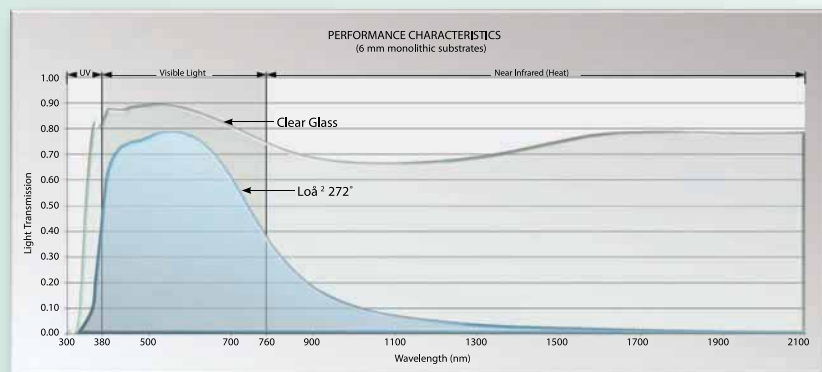
Cardinal produces nearly 700 million square feet of coated glass annually, at seven coating plants across the U.S. Our Intelligent Quality Assurance Program (I.Q.) ensures the quality of every piece of glass. Using our patented inspection systems, we thoroughly examine the glass for exterior and room side color, visible transmission/reflection, IR reflection and edge deletion.



# Cardinal LoE<sup>2</sup>-272 Delivers Outstanding Thermal Performance.

	Unit Make Up			Visible Light			Solar Energy					U Factor - Air				U Factor - Argon			
	Exterior Lite	Airsapc	Inboard Lite	Transmissio	Reflectance		SHGC	SC	LSG	RHG		BTU/Hr.ft²°F		W/m²°K		BTU/Hr.ft²°F		W/m²°K	
					Exterior	Interior				BTU/Hr.ft²	W/m²	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
6mm	Clear	13mm	Clear	80%	15%	15%	0.72	0.83	1.11	172	542	0.49	0.47	2.81	2.68	0.47	0.45	2.69	2.55
	LoE² 272*	13mm	Clear	70%	10%	11%	0.40	0.46	1.75	95	300	0.27	0.29	1.54	1.67	0.22	0.25	1.25	1.41
	Arctic Blue	13mm	LoE² 272®	41%	7%	9%	0.28	0.32	1.47	67	212	0.27	0.29	1.54	1.67	0.22	0.25	1.25	1.41
	Evergreen	13mm	LoE² 272®	51%	8%	9%	0.30	0.34	1.72	71	224	0.27	0.29	1.54	1.67	0.22	0.25	1.25	1.41
	Blue-Green	13mm	LoE² 272®	59%	9%	10%	0.37	0.42	1.61	88	276	0.27	0.29	1.54	1.67	0.22	0.25	1.25	1.41
	Bronze	13mm	LoE² 272®	40%	7%	9%	0.31	0.36	1.27	75	238	0.27	0.29	1.54	1.67	0.22	0.25	1.25	1.41

## Performance Characteristics vs. Clear Glass



## Transmitted and Exterior Appearance of Clear vs. LoE<sup>2</sup>-272 Glass.

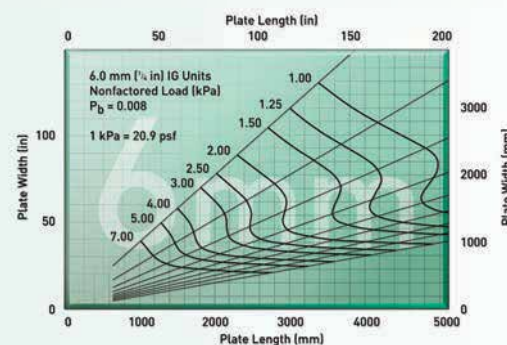


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- If the glass construction other than annealed-annealed is to be used, determine the wind load for the annealed-annealed glass with the appropriate glass thickness, and multiply this wind load by the appropriate load factor (see Load Factors).

### Load Factors

Annealed-Annealed	1.0
Heat Strengthened-Annealed	1.11
Heat Strengthened-Heat Strengthened	2.0
Heat Strengthened-Tempered	2.11
Tempered-Tempered	6.0



Cardinal Glass Industries is considered one of the world's leading providers of superior quality glass products. From the melting of sand to produce clear float glass to the vacuum sputtering of silver to produce low-emissivity coatings, Cardinal manufactures the quality components and finished insulating glass products used in top-of-the-line buildings around the world.

# LoE<sup>3</sup> 366

Get the Perfect Balance of Solar Control and High Visibility. Just look at the numbers. In a double-pane unit with argonfill, Cardinal LoE<sup>3</sup>-366 glass delivers an SHGC of 0.27, U-factor of 0.24 and visible light transmission of 63%. All with no interior-darkening tints and virtually no exterior reflectance.

This means a high level of year-round comfort for occupants. What's more, the warmer indoor glass surface means relative humidity can be controlled and maintained properly, improving occupants' comfort and surroundings.

Building owners and/or managers benefit from significant energy savings. And because LoE<sup>3</sup>-366 transmits more natural light and reduces solar gain, architects may be able to reduce lighting and air conditioning loads, resulting in even more savings. Naturally saving energy is also good for the environment.

Cardinal LoE-366 glass can be supplied in stock sheets and can be tempered<sup>3</sup> and laminated for stock delivery. Maximum stock sheet size: 96" x 144" (2.43 meters x 3.65 meters).

**Cardinal LoE Glass Sets the Standard for Energy-Efficient Glass.** Our patented, state-of-the-art sputtered coatings are unmatched by any other glass manufacturer. These high-transmission coatings are virtually clear, blocking the heat and reducing solar gain, while optimizing light transmission. In fact, our LoE<sup>2</sup> and LoE<sup>3</sup> coatings actually outperform tinted glass of ten used.

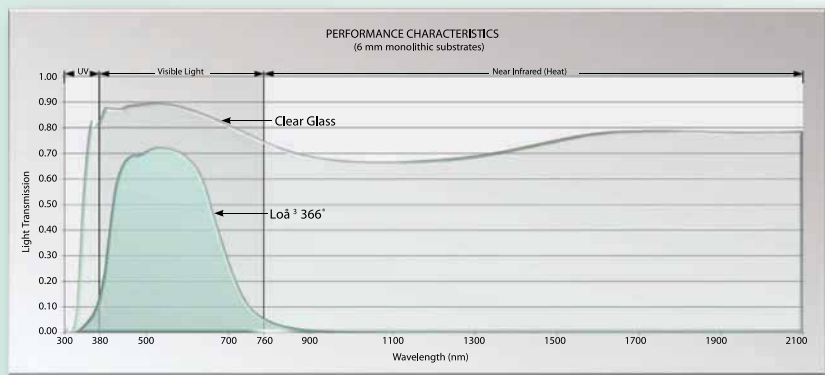
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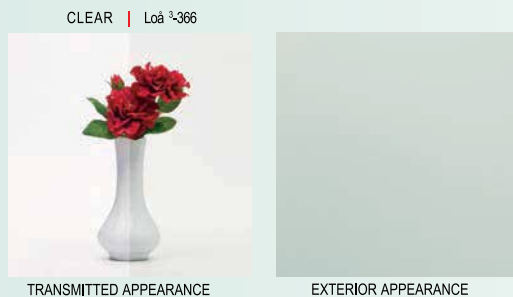
# Cardinal LoE<sup>3</sup>-366 Delivers Outstanding Thermal Performance.

	Unit Make Up			Visible Light		Solar Energy					U Factor - Air				U Factor - Argon			
	Exterior Lite	Airspace	Inboard Lite	Transmission	Reflectance	SHGC	SC	LSG	RHG		BTU/Hr.ft <sup>2</sup> °F		W/m <sup>2</sup> °K		BTU/Hr.ft <sup>2</sup> °F		W/m <sup>2</sup> °K	
				Exterior	Interior			BTU/Hr.ft <sup>2</sup>	W/m <sup>2</sup>		Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
6mm	Clear	13mm	Clear	80%	15%	15%	0.72	0.83	1.11	542	0.49	0.47	2.81	2.68	0.47	0.45	2.69	2.55
	Loã³ 366®	13mm	Clear	63%	11%	11	0.27	0.31	2.33	65	0.26	0.29	1.48	1.65	0.20	0.24	1.14	1.36
	Arctic Blue	13mm	Loã³ 366®	37%	7%	9%	0.24	0.28	1.54	59	0.26	0.29	1.48	1.65	0.20	0.24	1.14	1.36
	Evergreen	13mm	Loã³ 366®	46%	8%	10%	0.27	0.31	1.70	64	0.26	0.29	1.48	1.65	0.20	0.24	1.14	1.36
	Blue-Green	13mm	Loã³ 366®	53%	9%	10%	0.32	0.37	1.66	76	0.26	0.29	1.48	1.65	0.20	0.24	1.14	1.36
	Bronze	13mm	Loã³ 366®	37%	7%	10%	0.26	0.30	1.42	62	0.26	0.29	1.48	1.65	0.20	0.24	1.14	1.36

## Performance Characteristics vs. Clear Glass



## Transmitted and Exterior Appearance of Clear vs. LoE<sup>3</sup>-366 Glass

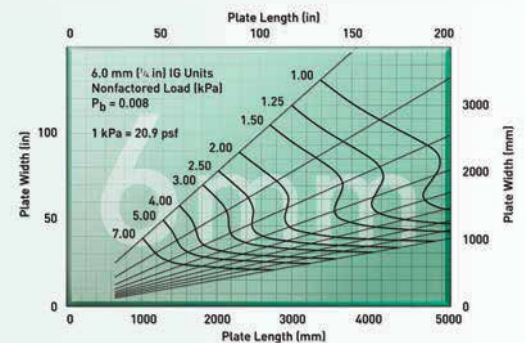


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### Load Factors

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# LoE-i89 Glass

ENHANCED WINTER PERFORMANCE GLASS



## Double-pane windows become triple-pane performers.

There's no need to go to triple-pane windows to meet the various energy-saving guidelines. No need to invest in redesigning your windows and altering your manufacturing processes either. A double-pane IG unit with LoE-i89 can meet the guidelines.

LoE-i89 is sputtered onto the indoor lite, the #4 surface, thus reflecting escaping heat back into the room and lowering U-Factors. Coupled with our LoE2 or LoE3 glass and argon fill, this double-pane unit delivers performance much better than clear triple-pane – a centre of glass U-Factor of just 0.20 compared to 0.37 with clear triple-pane.

To surpass the U-Factor performance of our LoE-i89 double-pane unit, you would need to go to a triple-pane unit with a low- $\tilde{E}$  coating in each gap.

## GLASS PERFORMANCE

Double Pane with LoE-i89

IG TYPE AND COATING	VISIBLE LIGHT			FADE TRANSMISSION		SOLAR	U-FACTOR IP / SI	
	TRANS- MITTANCE	EXTERNAL REFLECTANCE	INTERNAL REFLECTANCE	UV	ISO	HEAT GAIN COEFFICIENT	AIR FILL	ARGON FILL
L0E-180, L0E-i89	77%	15%	14%	0.27	0.61	0.62	0.24	0.21
L0E-272, L0E-i89	70%	11%	11%	0.16	0.53	0.41	0.23	0.20
L0E-270, L0E-i89	69%	12%	12%	0.14	0.51	0.36	0.23	0.20
L0E-366, L0E-i89	63%	11%	11%	0.05	0.41	0.27	0.23	0.20

7/8" Triple Pane

IG TYPE AND COATING	VISIBLE LIGHT			FADE TRANSMISSION		SOLAR	U-FACTOR IP / SI	
	TRANS MITTANCE	EXTERNAL REFLECTANCE	INTERNAL REFLECTANCE	UV	ISO	HEAT GAIN COEFFICIENT	AIR FILL	ARGON FILL
L0E-180, L0E-180	70%	20%	20%	0.13	0.50	0.56	0.26	0.20
L0E-272, L0E-180	63%	15%	18%	0.08	0.44	0.38	0.25	0.20
L0E-270, L0E-180	62%	16%	19%	0.07	0.43	0.34	0.25	0.20
L0E-366, L0E-180	57%	14%	18%	0.02	0.36	0.25	0.25	0.20



## CUSTOM INTERNAL GRIDS & SPECIALTY SHAPES



### Window Grids

The use of creative window grids can make a standard window look extraordinary special. Today's homeowners prefer the look of internal grids in their windows to complement the architectural style of their home.

Internal grids, inside the insulated glass unit, add style and eliminate cleaning. We provide a wide selection of patterns, finishing and colours to choose from.

### Specialty Shapes

Specialty shapes can make your home look more unique and special. It comes in different shapes, from styles like Half-round to Octagons. Every product is custom made to the exact sizes specified.



## SUPER SPACER

### The Product

Warm edge technology is more than just a low-conductive product that helps make windows more thermally efficient. The warm edge spacer is the actual seal that keeps the glass package in windows from falling.

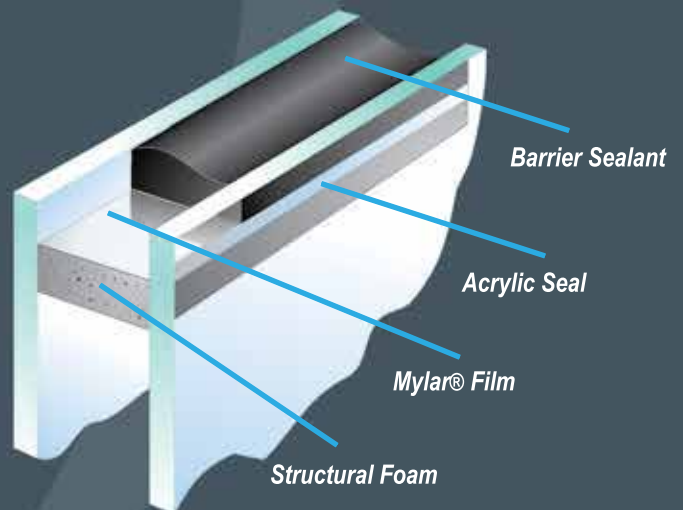
There are two types of insulating glass systems on the market today: Single seal and dual seal systems. Single seal units are constructed of only one type of sealant, which is called upon to perform double-duty. Not only must the sealant retard the infiltration of moisture vapour, but it must also hold the unit together under a wide variety of both high and low temperatures while withstanding the effects of high humidity and ultraviolet exposure.

A dual-seal unit is constructed using a combination of a sealant that functions mainly as a high-strength adhesive and a second sealant, which is used primarily as a moisture vapour seal.

Super Spacer® is a dual seal insulating glass system. This NO-Metal, structural foam spacer clearly resists condensation, reduces energy costs, provides long-life durability and adds both comfort and value to your windows.

Protect your most precious possessions - choose Health Smart Windows for your home and family.

Super Spacer...the winning choice for the industry's most durable insulating glass units.



**Super Spacer  
Reverses dual seal construction**

You want to do your part. We can help



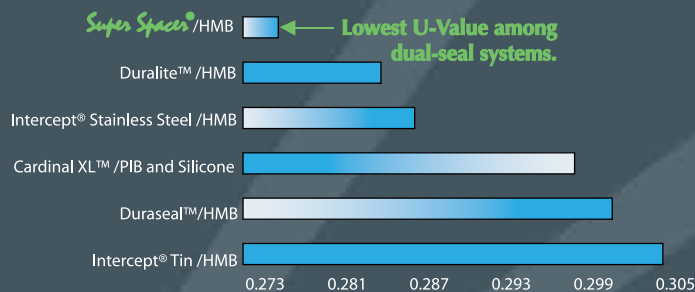
 **Edgetech**  
We're there for you at every turn! 30



# You want to do your part. We can help



The all-foam formula of Super Spacer® is proven to be less conductive, which can block heat from escaping or entering through the glass edge. It provides optimal thermal performance and is the lowest U-Value in the industry.



- Optimized energy savings
- Enhanced environmental comfort and health near windows
- Condensation and mold resistance like no other spacer
- Extreme durability for sustainable performance



*Super Spacer*®  
**SustainaView™**  
Window Technology



[www.sustainaview.com](http://www.sustainaview.com)

## The Problem

Many of today's energy efficient windows offer glass packages with "Warm Edge Technology." The problem is that highly conductive metal-based insulating glass spacers are often used in these new windows.

A new window can lose up to 50% of its overall stated R-value with a metal-based spacer at the edge of the glass. R stands for the "resistance" of the transfer of heat or cold through a solid object. So, a higher R-value means better insulation against heating and cooling loss.

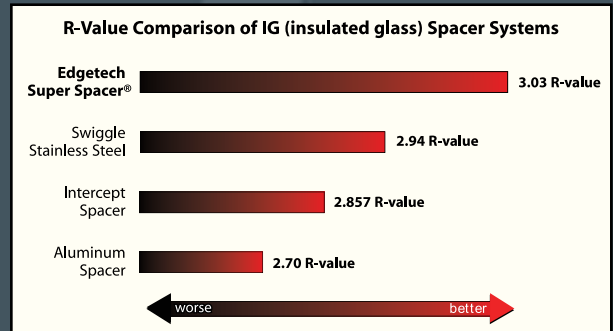
The edge of the insulating glass is the most vulnerable to heating and cooling loss. This usually leads to condensation. It's a problem that looks unsightly, and over time, it will stain wood, peel paint and rot frames.

Not only that, but window condensation can contribute to mold growth, a sinister presence hidden from sight deeply inside window and wall openings.

In fact, visible mold can often be found in poorly insulated or installed windows. Mold is more and more being linked to child asthma plus increases in general respiratory illness, allergies and outbreaks of fungal diseases.

Vinyl-Pro is one of a few manufactures carrying this product.

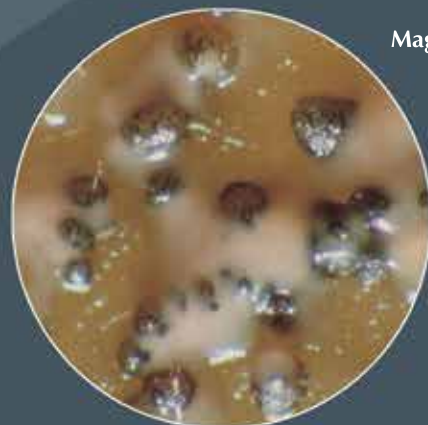
Condensation can contribute to mold growth.



Computer simulations conducted by Enermodal Engineering, a certified independent third party testing facility. Super Spacer® is a registered trademark of Edgetech IG Inc. Swiggle® is a registered trademark of TruSeal. Intercept® is a registered trademark of PPG Industries, Inc.



Window condensation can fuel mold growth



Magnified mold

Children's health problems are linked to indoor mold.



## INTERIOR FINISHES



- Vinyl package with contemporary rosettes



- Vinyl package in wood stain finish



- Vinyl package with stepcasting



- Vinyl package with classic rosettes



## EXTERIOR FINISHES



- Shape Transom on top of Casement & Fixed Casement combination with 5/8" brickmould



- Combination of Casement & Awning with 5/8" brickmould & simulated divided light (SDL) grills



- Combination of windows with 2" brickmould



## AVAILABLE COLOURS & STAIN OPTIONS

### Colour

Vinyl-Pro offers a wide range of exciting colours to compliment any home improvement project.

### Stain

Vinyl-Pro also offers a three stage stain for both exterior and interior part of the window to achieve the look of natural wood finishing.



## SHOWROOM





## MANUFACTURING FACILITY



- All our vinyl windows are fusion welded with a burn off 1/4" to ensure durability and strength.
- 45° cuts are done with digital precision to provide maximum strength while welding.
- CNC corner cleaning technology eliminates hand scratching of weld lips and provides the best automated finish available in the industry.
- At Vinyl-Pro we also make our own sealed glass thermo units to ensure prompt delivery & quality.





# WHAT IS CONDENSATION ?



## Understanding Condensation on Window

Ever wonder why condensation forms on your windows - and what you can do to prevent it?

Below is a collection of questions and answers designed to provide you with a better understanding of condensation and how you can minimize it.

### Exterior condensation questions?

*What causes exterior condensation?*

Exterior condensation occurs when moist air comes into contact with cool surfaces, such as glass. This type of condensation appears when the dew point in the air is higher than the temperature of the glass. This occurs when a cool night follows a warmer day, most typically during the spring and fall seasons.

*How does low-e missivity glass affect exterior condensation?*

Low-E glass reduces heat conducted through the glass from the warm interior of the home to the outside glass surface. Heat conduction can be reduced by as much as 50 percent with an efficient Low-E coated glass. This reflected heat energy reduces the outside glass temperature and can result in condensation on the glass. Exterior condensation is actually an indication that the insulating glass in the window is performing as it should.

### Interior condensation questions?

*What Causes condensation on the inside glass of window?*

Whenever there is excess humidity in a home, it manifests itself in the form of condensation on the coldest area of a wall, which is normally the windows. The warmer the air, the more moisture it will retain, so when air in your home comes in contact with the colder glass surfaces, it is subsequently cooled and moisture is released in the form of condensation on the glass.

*Do windows cause condensation?*

No, condensation on window is not the fault of the window. However, by replacing drafty windows and door or installing a new roof or siding, you are reducing air flow in your home and making it tighter. Tighter homes actually retain more humidity.

*Where on a window does condensation normally form and why?*

Condensation often forms at the meeting rail and at the bottom of the lower sash on the interior of the glass. This is because when warm air cools, it falls down across the interior surface of the window at the same time the temperature of the air is falling. The air contacts the horizontal surface of the trapped water vapor to escape and form on the meeting rail's surface. The air then rolls over the edge of the meeting rail and again gains speed until it encounters the lower handle of the sash. At this point, the water vapor again makes its exit and lies at the bottom of the sash.

*Can I reduce the condensation on my window?*

Yes. In order to reduce condensation, humidity must be controlled and air movement must be generated. As the exterior temperature drops, the humidity level needs to decrease if condensation is to be controlled.

*What steps can I take to reduce humidity in my house?*

The two main things you can do are to control sources of moisture and increase ventilation. To decrease or control excess humidity and condensation:

1. Use exhaust fans in your kitchen, laundry and bathrooms.
2. Vent gas burners, clothes dryers, etc. to the outdoors.
3. Shut off furnace humidifiers and other humidifying devices in your home.
4. Be sure that the ventilating louvers in your attic, basement or crawl spaces are open and amply sized.
5. Open fireplace dampers to allow an escape route for moisture-laden air.
6. Air out your house a few minutes each day.

### Normal Maintenance

The PVCu windows only require to be washed with warm soapy water, perhaps when the glass is being cleaned. You should never use any abrasive materials to clean these windows as this will cause scratching, dull the surface and encourage the formation of dirt and stains.

Do not use cleaners containing aggressive organic solvents because they could affect the surface appearance of the vinyl. Examples of such cleaners are: chlorine bleach, liquid grease remover, strong soaps and detergents containing organic solvents, nail polish remover and furniture polish/cleaner.

For WoodGrain Finishes, use mild household cleaners. Do not use harsh abrasive cleaners on these surfaces. Use a Mr. Clean® Magic Eraser® on the hard to clean areas.

### Normal Maintenance for Glass

Clean the glass using standard glass cleaner such as Windex®. Do not use abrasive cleaners, as it will scratch the glass. Decals and dried debris can be removed with a new single edged razor blade, wetting the glass first with glass cleaner.

### Normal Maintenance of the Screen

To clean the screens, simply hose them off with water. For built-up dirt, you can use a mild soap and sponge, then rinse thoroughly. Do not use aerosol cleaning agents on screens, as certain propellants in the cleaners can cause damage to the molded corner parts.



[www.vinyl-pro.ca](http://www.vinyl-pro.ca)



AAMA/WDMA/CSA 101/I.S.2/A440-08 & A440SI-09 CSA A440.2-09