

Why Tripane?

With energy costs continually on the rise it is more important than ever to choose energy efficient products for your home. JELD-WEN tripane windows are the best choice to reach optimal thermal performance when deciding on your glazing package. In conjunction with the various available Low-E coatings, homeowners can now choose which performance and comfort level is best for their home and this is what we refer to as 'Comfort Engineering'.

Increased Thermal Performance

Tripane windows are equipped with two dead air space as compared to one in a dualpane unit. The second dead air space acts as a second layer of insulation : increasing the thermal performance of the window.

Windows equipped with our tripane option offer unparalleled performance and when combined with a Low-E option offer superior energy efficiency.

The Comfortable Choice

Poor quality, inefficient windows create the feeling of draft due to the physics of changing air temperatures - warm air near a cold pane of glass will quickly cool, fall, and create a cycle of moving air. Windows with a higher thermal performance will lessen this effect and reduce the feeling of draft and reduce frequent temperature fluctuations.

Choosing an upgrade to tripane can greatly improve the comfort of your home.

Reduce Energy Costs

Heating and cooling costs are greatly affected by the thermal performance of your home. Windows are a common place for heat to escape and cold to penetrate. By choosing higher performing windows, you can increase the thermal performance of your home and lower your heating and cooling bills.

Condensation Relief

By adding a second dead air space in your IGU the thermal performance increases providing an opportunity to reduce the amount of condensation that may develop on your window during the winter months. Combine the tripane upgrade with Low-E and a further reduction in condensation can be realized.

External condensation on high energy performing windows occurs when the heat from the interior of your home is blocked from reaching outside, therefore allowing the exterior surface temperature of the glass to be cooler and fall below dew point. This occurrence is a sign of a well performing window.

The graphic below illustrates how the glazing option choices can affect performance. Determine what is the most important glazing feature to you and choose your glass accordingly. Increase your thermal performance with tripane and adjust your comfort level by picking the appropriate Low-E.

Energy Rating

The Energy Rating (ER) system is calculated using a formula that balances a product's U-factor with its potential solar gain and air tightness for operable and fixed windows. The higher the number, the more ability the window has to gather heat from the sun.

Solar Heat Gain Coefficient (SHGC)

The amount of solar radiation that enters a building as heat through a glazing. The lower the number, the better the glazing is at preventing solar heat gain.

U-Factor / U-Value

The U-factor (imperial), or U-value (metric) indicates the rate of heat transfer during winter night-time conditions. The lower the U-factor the slower it transfers heat, resulting in a more comfortable living space and energy savings. Our tripane Low-E argon windows provide our lowest U-factors. They also provide protection against solar heat gain and damaging ultraviolet light.

CASEMENT - ES7000		LOW-E 180 ARGON			LOW-E 272 ARGON			LOW-E 366 ARGON		
TYPE	GRILLES	U ²	SHGC	ER	U ²	SHGC	ER	U ²	SHGC	ER
DUAL GLAZED LOW-E 3MM	Without	1.48	0.43	32	1.48	0.28	24	1.42	0.19	20
TRIPLE GLAZED LOW-E 3MM (1 COAT)	Without	1.19	0.40	37	1.19	0.26	29	1.14	0.17	25
TRIPLE GLAZED LOW-E 3MM (2 COATS)	Without	0.97	0.38	41	0.97	0.24	32	0.97	0.16	28

U-Factor²: W/m²*K (metric)

Note: Information presented is for the Willmar Vinyl Collection (03/2015) and is based on 3mm glazing.

Why Low-E Matters

Low-E glass is glass that is coated with a low-emittance material which is designed to reflect heat. There are many types of Low-E available with each having unique characteristics allowing for optimal comfort engineering. When the temperature soars, ordinary window glass just can't handle the heat. And tinted glass spoils the view. **Solar Shield** Low-E 366, however, has been specially formulated to reject the sun's heat without affecting the view. When the weather turns frigid, **Solar Gain** Low-E 180 glass is the perfect cold remedy. It keeps homes warmer by letting the sun's heat stream in.



Solar Shield Low-E 366 lets more light in and provides the highest levels of solar control by blocking out the greatest amount of the sun's energy. So your home stays cool and comfortable without overloading your AC. The insulating effect of high performance window glass also helps keep your home warmer during the winter months.

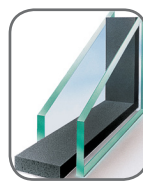


Solar Control Low-E 272 reflects an intermediate level of heat back into the room in the winter and rejects the sun's heat and UV rays in the summer. This product's patented coating provides clarity and high-performance low-solar control, reducing window heat gain by 50% compared to ordinary glass.



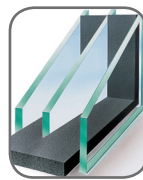
Solar Gain Low-E 180 is an excellent basic product for passive solar heat gain applications. By allowing passive energy, this high solar gain glass keeps homes warm in winter and slightly cooler in the summer.

Dualpane vs Tripane



Dualpane

Dualpane windows are made of TWO PANES of glass with space in between (sealed unit) that act as an insulation barrier.



Tripane

Tripane windows feature THREE PANES of glass with space between each (sealed units) that act as an insulation barrier.

Frequently Asked Questions

What is the average cost of a tripane upgrade?

The average cost is an additional 15% of the price of the window.

What is Argon Gas and why is it used?

Argon Gas is used to fill the space between two or three panes of glass (IGU). Non-toxic, nonreactive, clear and odorless, Argon Gas is heavier than air and also inert, so it minimizes convection currents that can occur inside the sealed unit and discourage the formation of frost on cold winter days.

Will a tripane upgrade get rid of the condensation I currently experience on my windows?

A tripane window is the best option to reduce the risk of condensation. Environmental conditions in the home will also play a role in reducing condensation.

How much will I save on my energy bills?

Depending on your climate and local energy rates, it is estimated that by upgrading to a higher ENERGY STAR rating and diligently managing your home's energy, you could save \$250-\$500* per year in energy costs.

Will a Low-E coating prevent my plants from growing?

The spectrum of light needed for plant growth is not interrupted by a coating of Low-E on glass, making it an ideal choice for sun-rooms and greenhouses.

How many coats of Low-E can I have on my window?

A dualpane window has 1 coat of Low-E (on one pane of glass) while a tripane window has 2 coats (1 coat on two panes of glass).

* <http://www.homedepot.ca/eco-options/blog/energy/improve-your-homes-energy-efficiency>

What is Comfort Engineering ?

Comfort Engineering is the process of reviewing the Low-E glass options and operating styles for the windows in your home in order to regulate room temperature and create year-round comfort.

Do you enjoy waking up to the sun's warming rays in the morning? You may consider installing Solar Gain Low-E 180, which provides passive solar heat gain, on an east-facing window in your bedroom. There may also be a room in your home where you are looking to reduce heat gain, such as living room with large, south-facing windows. Solar Shield Low-E 366 repels UV rays, which helps curb excess heating during the warmest hours of the day.

By choosing the right glazing options, you also get the freedom to place furniture closer to windows without worrying about temperature inconsistencies. In a way, you are actually increasing your living space thereby making the most of every square foot of your room.



What is Net-Zero?

A Net-Zero Energy (NZE) home produces as much energy as it receives, using natural energy for consumption. This innovative new way of home building has been around for less than ten years but has recently been generating a buzz. Thanks to Natural Resources Canada's current eco II program, 5 selected builders have been enabled to construct five Net-Zero Energy homes each, demonstrating the feasibility of building Net-Zero Energy housing communities in Ontario, Quebec, Nova Scotia, and Alberta. It is said that by the year 2030, every new home built in Canada will be a Net-Zero Energy efficient home.

There are three key factors that make up a successful Net-Zero Energy home:

Energy Conservation

From extra-insulated walls, to JELD-WEN Tripane windows, a Net-Zero Energy home is more airtight than most Canadian homes.

Passive Solar Energy

This is where Comfort Engineering comes into play. Build your home south-facing, and install high-performance windows in conjunction with overhangs that will help keep the hot summer sun to a minimum while letting warm winter sun in.

Energy Production

Solar photo-voltaic panels are gaining popularity now that they are not as expensive as they once were. These are among the best ways to produce the energy you consume.

What is ENERGY STAR®?

ENERGY STAR is a voluntary Canadian energy efficiency initiative that helps consumers identify the most energy efficient products available. Administered by Natural Resources Canada, the ENERGY STAR program is internationally recognized and users include various levels of government, public service companies, manufacturers, retailers and environmental organizations.

Although they don't use energy, windows and doors can be a major source of heat loss. As a result, more Canadians are seeking high-performance, energy efficient windows and doors. By considerably lowering energy costs, energy efficient windows translate into substantial savings while providing comfort to your home. In addition, they can reduce potential condensation and cut down on outside noise.

Homes equipped with ENERGY STAR-qualified products have lower operating costs because they use less energy than conventional products. From an environmental perspective, improving efficiency reduces greenhouse gases that contribute to climate change.

What is an ENERGY STAR® home?

An ENERGY STAR qualified new home is on average 20 percent more energy efficient than a home built to code. These homes present a practical choice for homeowners looking for a new home that is energy efficient and environmentally friendly.

What sets an ENERGY STAR® home apart?

It's really the energy savings of an ENERGY STAR home that separates it from other homes on the market.

Typical features of an ENERGY STAR home include:

- Efficient heating and cooling systems that use less energy, reduce indoor humidity and improve the overall comfort of your home.
- High-performance ENERGY STAR windows, patio doors, and skylights keep the heat in during the winter and out during the summer.
- Walls and ceilings insulated beyond what is required by the building code.
- A variety of ENERGY STAR products which use less electricity by meeting strict technical specifications.
- A heat or energy recovery ventilation system (HRV or ERV) ensures your home has controlled ventilation.

For further information on ENERGY STAR® Homes:
www.nrcan.gc.ca/energy/efficiency/housing/new-homes/5057

For more information visit: www.nrcan.gc.ca | www.jeld-wen.ca

