

# High Performance WINDOWS and DOORS

Energy Efficiency is a Top Priority



## JELD-WEN and ENERGY STAR®

Although they don't actually use energy, windows and doors can be a major source of heat loss. This is why more and more Canadians demand high performance windows and doors that meet ENERGY STAR standards. By considerably lowering energy costs, they represent substantial savings while providing comfort to your home or building. In addition, they help reduce potential condensation and attenuate outside noise.

For all these reasons, JELD-WEN Canada is a proud member of the ENERGY STAR program in the window, sliding glass door and entry door category. This program ensures that energy performance are tested by a laboratory accredited by the Standards Council of Canada. You can be sure that all JELD-WEN products bearing the ENERGY STAR symbol are ideally designed to withstand all Canadian weather conditions.

**In order to enjoy the benefits of JELD-WEN high-performance windows and doors, you must choose our low emissivity (Low E) glass, available as an option.**



## 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.

In addition to administering the program, Natural Resources Canada oversees the promotion of its symbol and compliance with strict certification standards. For more information on energy efficiency, visit [www.energystar.gc.ca](http://www.energystar.gc.ca)

## How to Choose the Right ENERGY STAR Windows and Doors

- 1 Consult the Canadian ENERGY STAR map and determine what climate zone you are in.
- 2 Visit a locally trained JELD-WEN dealer. If you need to locate a dealer visit: [www.jeld-wen.ca](http://www.jeld-wen.ca) and click "WHERE TO BUY"
- 3 Discuss all of the options with your local dealer, and determine the best product to meet your energy requirements.

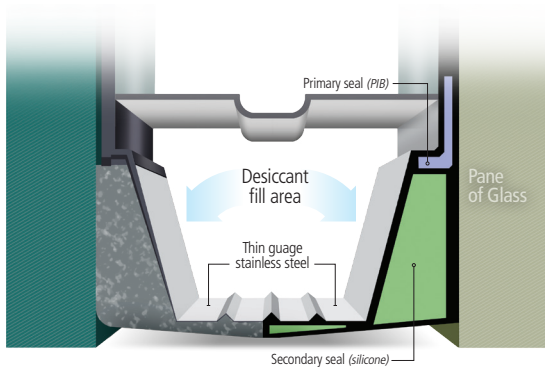
**ENERGY STAR windows and doors allow for Energy savings that could reach 12%.**

# INSULATING GLASS OPTIONS

Our insulating glass is available in dualpane (two glass panels separated by a sealed airspace) and tripane (three glass panels separated by two sealed airspaces). Tripane are especially appropriate for extreme climates since they provide additional glass and airspace for improved insulation. Note that some window and door products are not available with tripane due to functional limitations.

## Cardinal's XL Edge Spacer®

XL Edge stainless steel spacer is a key component for the moisture and gas barrier characteristics of edge seal. The use of stainless steel provides the necessary resistance to corrosion from moisture and chemicals, and therefore, does not require sealant on the backside of the spacer. The removal of the sealant on the backside of the spacer improves the thermal performance of the edge, without compromising the durability of the IG unit.



## Energy Rating Numbers for JELD-WEN Classic Collection

Total window performance measures the centre of glass, the largest area for heat gain and loss, as well as the edge of the glass and the window's frame to provide an overall U, solar heat gain coefficient and condensation resistance rating.

## Qualifying Criteria

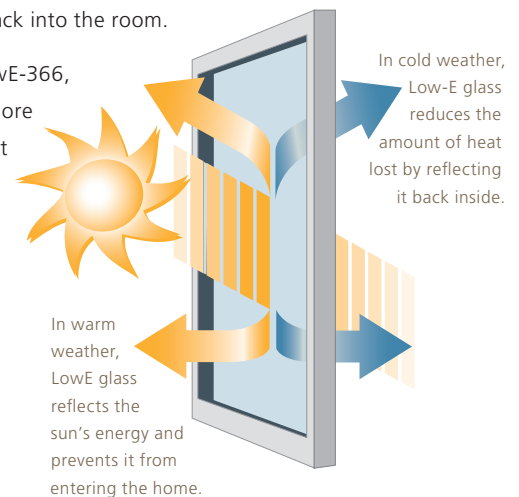
For ENERGY STAR®, windows are qualified for their energy efficiency by either a U or Energy Rating (ER) for each of the four Canadian zones. The better of the two criteria is used to determine the zone rating for the window.

## LowE, LowE-179 and LowE-366

Our high-performance LowE (LowE-270) insulating glass lowers energy costs, helps homes stay cooler in the summer and warmer in the winter, prevents fading of interior furnishings, and reduces condensation. It also delivers greater visible light transmittance than tinted glass.

LowE-179 (LowE-180) is the optimal solution for ENERGY STAR® in certain regions of the country. LowE-179 offers maximum protection against the cold by blocking heat loss to the outside and reflecting heat back into the room.

We also offer LowE-366, which provides more protection against solar heat gain and fading, blocking 95% of the sun's damaging ultraviolet rays.



## What is Performance Energy Rating (ER) and the U?

The U measures the transfer rate or the thermal conductance of a product. The lower this value is, the higher the insulative properties become.

The energy performance rating assesses a window based on 3 aspects: the solar heat gain contribution, heat loss by the frame, the glazing or the sparge and the heat loss by air leakage, no matter the material and the assembly method. Also, the higher the ER value of a product is, the better its energy performance.

# PERFORMANCE RESULTS

			NFRC														
			Double Glass														
Classic Wood			LowE-179					LowE-270					LowE-366				
Series	Type	Grid	ER	SGHC	U	R	ZONE	ER	SGHC	U	R	ZONE	ER	SGHC	U	R	ZONE
Casement	Operating	without	27	0.47	0.32	3.13	B	17	0.25	0.30	3.33	A	14	0.19	0.29	3.45	A
		with	25	0.43	0.32	3.13	B	13	0.21	0.31	3.23	A	10	0.16	0.31	3.23	DNQ
	Fixed	without	33	0.55	0.31	3.23	C	22	0.29	0.28	3.57	B	18	0.22	0.28	3.57	B
		with	29	0.49	0.31	3.23	C	16	0.24	0.30	3.33	A	13	0.18	0.30	3.33	A
Direct Set	Fixed Lite	without	39	0.61	0.29	3.45	D	25	0.32	0.27	3.70	B	21	0.24	0.26	3.85	B
		with	35	0.55	0.29	3.45	D	19	0.26	0.29	3.45	A	16	0.19	0.28	3.57	A
Awning	Operating	without	26	0.46	0.32	3.13	B	17	0.25	0.30	3.33	A	15	0.19	0.29	3.45	A
		with	24	0.42	0.32	3.13	A	13	0.21	0.31	3.23	A	11	0.16	0.31	3.23	DNQ
Double Hung	Operating	without	27	0.50	0.33	3.03	B	17	0.27	0.31	3.23	A	13	0.20	0.31	3.23	A
		with	24	0.45	0.33	3.03	A	11	0.21	0.33	3.03	DNQ	9	0.16	0.32	3.13	DNQ
	Fixed Lite	without	31	0.52	0.31	3.23	C	20	0.28	0.29	3.45	A	16	21.00	0.29	3.45	A
		with	28	0.47	0.31	3.23	B	14	0.22	0.31	3.23	A	11	0.17	0.31	3.23	DNQ

			NFRC														
			Double Glass														
Classic Clad			LowE-179					LowE-270					LowE-366				
Series	Type	Grid	ER	SGHC	U	R	ZONE	ER	SGHC	U	R	ZONE	ER	SGHC	U	R	ZONE
Casement	Operating	without	27	0.48	0.32	3.13	B	17	0.25	0.30	3.33	A	14	0.19	0.30	3.33	A
		with	25	0.44	0.32	3.13	B	12	0.21	0.32	3.13	DNQ	11	0.16	0.31	3.23	DNQ
	Fixed	without	33	0.55	0.31	3.23	C	22	0.29	0.28	3.57	B	18	0.22	0.28	3.57	B
		with	29	0.49	0.31	3.23	C	15	0.24	0.31	3.23	A	13	0.18	0.30	3.33	A
Direct Set	Fixed Lite Geometric	without	36	0.61	0.31	3.23	D	24	0.32	0.28	3.57	B	19	0.24	0.28	3.57	B
		with	33	0.55	0.31	3.23	C	16	0.26	0.31	3.23	A	14	0.20	0.30	3.33	A
	Fixed Lite Radius	without	37	0.61	0.30	3.33	D	24	0.32	0.28	3.57	B	20	0.24	0.27	3.70	B
		with	34	0.55	0.30	3.33	D	16	0.26	0.31	3.23	A	14	0.20	0.30	3.33	A
Awning	Operating	without	27	0.48	0.32	3.13	B	17	0.25	0.30	3.33	A	14	0.19	0.30	3.33	A
		with	25	0.44	0.32	3.13	B	14	0.21	0.31	3.23	DNQ	11	0.16	0.31	3.23	DNQ
Double Hung	Operating	without	28	0.51	0.33	3.03	B	15	0.27	0.32	3.13	A	13	0.20	0.31	3.23	A
		with	25	0.46	0.33	3.03	B	10	0.22	0.34	2.94	DNQ	8	0.16	0.33	3.03	DNQ
	Fixed Lite	without	30	0.53	0.32	3.13	C	19	0.28	0.30	3.33	A	15	0.21	0.30	3.33	A
		with	27	0.47	0.32	3.13	B	13	0.22	0.32	3.13	A	10	0.17	0.32	3.13	DNQ

			NFRC									
			Tripane Glass									
Classic Clad			2 LowE-270-179					2 LowE-179-179				
Series	Type	Grid	ER	SGHC	U	R	ZONE	ER	SGHC	U	R	ZONE
Casement	Operating	without	23	0.23	0.24	4.17	C	32	0.40	0.25	4.00	C
		with	-	-	-	-	-	-	-	-	-	-
	Fixed	without	28	0.27	0.22	4.55	C	37	0.45	0.23	4.35	D
		with	-	-	-	-	-	-	-	-	-	-
	Fixed Lite Geometric	without	33	0.29	0.19	5.26	D	33	0.40	0.20	5.00	D
		with	-	-	-	-	-	-	-	-	-	-
Fixed Lite Radius	without	33	0.29	0.19	5.26	D	33	0.40	0.20	5.00	D	
	with	-	-	-	-	-	-	-	-	-	-	
Awning	Operating	without	23	0.23	0.24	4.17	C	32	0.40	0.25	4.00	C
		with	-	-	-	-	-	-	-	-	-	-

The above tables outline the U and Energy Rating required to be ENERGY STAR® qualified in each zone. Many Classic Collection windows qualify for more than one zone. The more zones a product qualifies for, the more energy efficient that window will be.

# Performance Rating for JELD-WEN Classic Collection

The industry standard tests can be used to specify the appropriate window based on the building requirements and climate conditions. Generally speaking, the higher the numbers, the better the window performance. Choose a rating level that satisfies the environmental conditions of the home. Determine if any of the voluntary performance criteria are required for your windows and check to confirm that they meet the required standards.

Classic Wood		CANADIAN PERFORMANCE RATINGS – CAN/CSA A440-00						
Series	Type	Air	Water	Wind Deflection	Wind Blowout	Screen	Forced Entry	Test Sized W x H
Casement	Operating	A3	B7	C5	C5	S1	F10	28" x 64"
		A3	B7	C3	C3	S1	F10	36" x 72"
		A3	B7	C4	C4	S1	F10	24" x 84"
	Fixed	FX	B7	C5	C5	N/A	N/A	72" x 72"
		FX	B3	C4	C4	N/A	N/A	84" x 84"
		FX	B3	C5	C3	N/A	F20	84" x 84"
	2 Sections	A3	B4	C3	C3	N/A	N/A	72" x 72"
		FX	B4	C4	C4	N/A	N/A	56" x 64"
Awning	Operating	A3	B6	C4	C4	S1	F10	48" x 48"
		A3	B6	C5	C5	S1	F10	40" x 40"
Double Hung	Operating	A3	B3	C5	C3	S1	F10	45 3/8" x 60"
		A3	B3	C5	C3	S1	F10	33 3/8" x 80"
	Fixed Lite	FX	B4	C4	C4	S1	F10	45 3/8" x 60"
		FX	B4	C4	C4	S1	F10	33 3/8" x 80"

Classic Clad		CANADIAN PERFORMANCE RATINGS – CAN/CSA A440-00							
Series	Type	Air	Water	Wind Deflection	Wind Blowout	Screen	Forced Entry	Test Sized W x H	
Casement	Operating	A3	B7	C5	C5	S1	F10	28" x 64"	
		A3	B7	C3	C3	S1	F10	36" x 72"	
		A3	B7	C5	C5	S1	F10	28" x 84"	
	Fixed	FX	B7	C4	C4	N/A	F10	72" x 72"	
		FX	B7	C2	C2	N/A	F10	84" x 84"	
		FX	B3	C5	C4	N/A	F10	84" x 84"	
	Fixed Lite	Geometric	FX	B3	C5	C4	N/A	F10	84" x 84"
		Radius	FX	B3	C5	C4	N/A	F10	84" x 84"
2 Sections		–	–	–	–	N/A	N/A	48" x 48"	
		–	–	–	–	N/A	N/A	40" x 40"	
Awning	Operating	A3	B7	C2	C2	S1	F10	48" x 48"	
		A3	B7	C3	C3	S1	F10	40" x 40"	
Double Hung	Operating	A3	B4	C3	C3	S1	F10	45 3/8" x 80"	
		A3	B4	C4	C4	S1	F10	37 3/8" x 76"	
	Fixed Lite	FX	B4	C5	C4	N/A	F20	77 3/8" x 88"	
		FX	B3	C5	C3	N/A	F20	49 3/8" x 76"	

**Condensation Resistance (CR)** – Measures how well a product will resist the formation of condensation and is expressed as a number between 1 and 100.

The higher this number is the better the window will resist the formation of condensation. This rating is useful for the comparing of window products and is not meant to indicate when the condensation will actually occur.

**Energy Rating** – The Energy Rating (ER) system is calculated using a formula that balances a product's U 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.

**Glass Reflectance** – Measured as a % of visible light, used to compare reflectance (such as when looking out from a lit room through windows at night).

**R-value** – Measures resistance of heat transfer, or insulative properties. The higher the r-value the better the insulating effect.

**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.

**Total Window Solar Heat Gain Coefficient (SHGC)** – Measures the fraction of incident solar heat transferred through a window – centre of glass, edge and frame. The lower the number, the better the window is at blocking heat.

**Total Window U** – Measures the rate of heat transfer during winter nighttime conditions. (0° C outside, 22° C inside). The lower the U rating the slower the heat transfer.

**U** – The U rating indicates the rate of heat transfer during winter nighttime conditions. The lower the U the slower it transfers heat, resulting in a more comfortable living space and energy savings. Our tripane LowE argon windows provide our lowest U. They also provide protection against solar heat gain and damaging ultraviolet light.

**UV Blocked** – % of ultraviolet radiation blocked by glazing (300-380nm). The higher the %, the more UV radiation is blocked.

**Visible Light** – % of visible light transmitted through glazing. The higher the %, the more light is transmitted.