

COMPARATIVE TABLE

# RESIDENTIAL GLAZING

Quebec

Version 2.0

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 **MULTIVER**  
Cutting edge of the glass industry



# DEFINITIONS

## U-value :

A measure of the heat gain or loss through glazing due to temperature differences between the indoor and outdoor air. The lower the U-value, the better the insulation.

R-value = (1/U)

## % Visible light transmittance (Tvis) :

The percentage of light in the visible spectrum that passes through the glass. In the case of a home under normal conditions, we recommend a percentage of over 65 % for additional " comfort ".

## % UV Tdw-ISO :

This percentage represents potential damage from UV fading and visible light. It is considered by the International Organization for Standardization (ISO) to be a more accurate barometer of fade resistance than UV transmissivity alone. The lower the percentage, the better protected your property is.

## Shading coefficient (SC) :

The ratio of total solar heat gain through a specific type of glass relative to that through regular 3 mm clear glass (SC = 1).

## Solar Heat Gain Coefficient (SHGC) :

The ratio of solar that is transferred indoors both directly and indirectly through the glazing (86 % of the Shading Coefficient).

## Relative heat gain (RHG) :

The total net heat gain through glass into a building due to both air-to-air thermal conductance and solar heat gain. The higher the RHG, the more you will save on heating costs. The lower the RHG, the more you will save of air conditioning costs.



# ADVICE ON HOW TO CHOOSE THE RIGHT CONFIGURATION

Insulated glass units serve four main functions :

- 1) **Enhancing the well-being of occupants** by providing natural light and a view to the outside world.
- 2) **Isolating and protecting** building openings from weather conditions.
- 3) **Regulating heat exchange** through buildings openings.
- 4) **Protecting your property** from sun's harmful rays.

\*It is therefore important to take into account the intended use of the product to draw the right conclusions from the data listed above.

**In the case of a home located in a region with harsh winters**, it is recommended to opt for double- or triple-glazed insulated units with low-e glass. Their higher insulating value will help reduce heat loss.

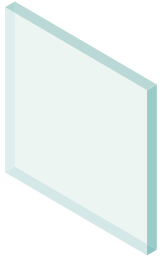
**In the case of large south/west-facing panes of glass or a home used only in summer**, it is recommended to opt for double- or triple-glazed insulated units with low-e glass designed to reduce solar heat gain (e.g. Econover Select 40 on surface 2). Such products will help reduce air conditioning costs.

**In the case of replacement units**, your choice should be based on the same criteria; however, you must take into account the measurements of the initial product.

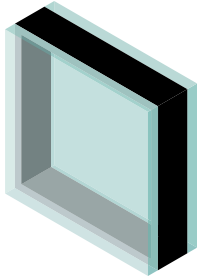
For example, it may not be possible to replace a double-glazed unit with a triple-glazed unit considering that the overall thickness must be the same.

It should be noted that insulated glass units are only one of many components of any fenestration product and that you should **ensure the quality of all of the components in the final product**.

\*All fenestration products must be installed by qualified professionals.

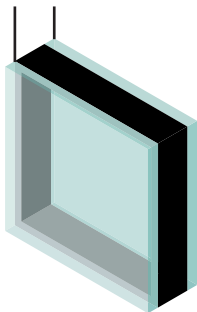



PRODUCT	U-VALUE [BTU/HR- FT2-°F]	R-VALUE [HR-FT2- °F/BTU]	TVIS [%]	% UV TDW- ISO [-]	SHADING COEFFI- CIENT (SC) [-]	SHGC [-]	RHG [BTU/HR- FT2]
<b>MONOLITHIC GLASS</b>							
3 mm clear	1.04	0.96	90	85	1.01	0.88	215
3 mm grey	1.04	0.96	62	56	0.82	0.71	176
3 mm bronze	1.04	0.96	68	58	0.84	0.73	180

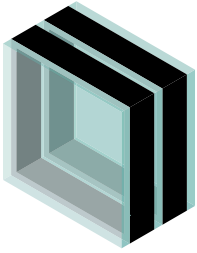


PRODUCT	U-VALUE [BTU/HR- FT2-°F]	R-VALUE [HR-FT2- °F/BTU]	TVIS [%]	% UV TDW- ISO [-]	SHADING COEFFI- CIENT (SC) [-]	SHGC [-]	RHG [BTU/HR- FT2]
<b>DOUBLE-GLAZED UNIT (22.2 mm overall thickness)</b>							
3 mm clear 3 mm/clear - 100 % air - 15.88 mm space	0.48	2.07	82	75	0.91	0.79	188
3 mm clear Econover Select 73 surface 3 - 95 % argon / 5 % air - 15.88 mm space	0.30	3.33	74	64	0.84	0.74	173
3 mm clear Econover Select 40, surface 2 - 95 % argon / 5 % air - 15.88 mm space	0.26	3.92	73	56	0.45	0.39	92

Low-e glass  
surface 2 and 4



PRODUCT	U-VALUE [BTU/HR- FT2-°F]	R-VALUE [HR-FT2- °F/BTU]	TVIS [%]	% UV TDW- ISO [-]	SHADING COEFFI- CIENT (SC) [-]	SHGC [-]	RHG [BTU/HR- FT2]
<b>DOUBLE-GLAZED UNIT WITH TWO LOW-E GLASS PANES, ON SURFACES 2 AND 4 (22.2 mm overall thickness)</b>							
Econover Select 73, surface 2 Econover Select 73, surface 4 - 95 % argon / 5 % air - 15.88 mm space	0.23	4.34	67	55	0.69	0.60	141
Econover Select 40, surface 2 Econover Select 73, surface 4 - 95 % argon / 5 % air - 15.88 mm space) 	0.21	4.88	66	48	0.42	0.37	87



PRODUCT	U-VALUE [BTU/HR- FT <sup>2</sup> -°F]	R-VALUE [HR-FT <sup>2</sup> - °F/BTU]	TVIS [%]	%UVTDW- ISO [-]	SHADING COEFFI- CIENT (SC) [-]	SHGC [-]	RHG [BTU/ HR-FT <sup>2</sup> ]
<b>TRIPLE-GLAZED UNIT</b> (31.8 mm overall thickness)							
3 mm clear 3 mm clear 3 mm clear - 100 % air, - 12.7 mm and 11.9 mm spaces	0.31	3.23	75	68	0.82	0.71	169
3 mm clear 3 mm clear Econover Select 73, surface 5 - 95 % argon / 5 % air - 12.7 mm and 11.9 mm spaces	0.20	5.00	68	58	0.76	0.66	156
Econover Select 40, surface 2 3 mm clear 3 mm clear - 95 % argon / 5 % air - 12.7 mm and 11.9 mm spaces	0.18	5.41	66	51	0.42	0.36	86
3 mm clear Econover Select 73, surface 3 Econover Select 73, surface 5 - 95 % argon / 5 % air - 12.7 mm and 11.9 mm spaces	0.15	6.54	62	49	0.71	0.62	145
Econover Select 40, surface 2 Econover Select 40, surface 4 3 mm clear - 95 % argon / 5 % air - 12.7 mm and 11.9 mm spaces	0.12	8.2	58	41	0.36	0.31	74

- \* Performance data were generated by the Berkeley Lab WINDOW 7.3 software.
- \* Glass performance calculations do not take spacers into account. We recommend that you select a spacer with low thermal conductivity to reduce condensation as well as heat loss.
- \* Adding grilles to insulated units as well as glass spacing and thickness can affect the overall performance.
- \* Multiver offers virtually unlimited insulated glass unit configurations to meet your needs.





This document gives a general description of the product. For further information, please contact an authorized supplier of Multiver products. The use of any of the products mentioned herein is the sole responsibility of the users. Multiver assumes no responsibility for the use of its products.

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