

# Thermal Performance Data

Visions 3500 Casement Windows - Picture/Transom (9203)



US Qualification Criteria	Climate Zone	U-Value	SHGC	
<p>As of January 2016</p>	Northern	$\leq 0.27$	Any	Prescriptive
		$= 0.28$	$\geq 0.32$	Equivalent Energy Performance
		$= 0.29$	$\geq 0.37$	
		$= 0.30$	$\geq 0.42$	
	North-Central	$\leq 0.30$	$\leq 0.40$	
	South-Central	$\leq 0.30$	$\leq 0.25$	
Southern	$\leq 0.40$	$\leq 0.25$		

Canadian Qualification Criteria	Climate Zone	U-Value	or	Energy Rating
<p>As of February 2015</p>	Zone 1	$\leq 1.60$		$\geq 25$
	Zone 2	$\leq 1.40$		$\geq 29$
	Zone 3	$\leq 1.20$		$\geq 34$
	Air Leakage $\leq 0.3$ cfm/ft <sup>2</sup>			

## U-Value

A measurement of how much energy a material conducts. The lower the U-Value, the greater the insulating effect.

## Solar Heat Gain Coefficient (SHGC)

Measures how well a window or door prevents heat from passing through it. The lower a window or door's SHGC, the less heat it allows to pass through it.

## Visible Light Transmittance

The amount of light in the visible portion of the spectrum that passes through a glazing material.

## Condensation Resistance Rating

Measures how well a window resists the formation of condensation on the inside surface. The higher the number the better resistance to condensation.

## Energy Rating

A value demonstrating the balance between U-Value, SHGC and air leakage. The higher the number, the more efficient the product.

## R-Value

A measurement of how much a material resists heat transfer.

A higher R-Value means a greater insulating effect and a lower rate of heat flow out of the home.

While **R-value** measures resistance to heat transfer, **U-value** measures the rate of heat transfer.

In simple terms, **U-value** is the mathematical reciprocal of **R-value**; that is, **U = 1/R and R = 1/U**.

<sup>a</sup> Total Unit calculations are derived from computer simulations that are then verified by 3rd party testing in accordance with NFRC 100, NFRC 200, and NFRC 500.

<sup>b</sup> Published values reflect 3mm/3mm glass lite thicknesses.

ENERGY PERFORMANCE DATA								ENERGY STAR		CANADIAN ENERGY PERFORMANCE DATA				ENERGY STAR					
Visions 3500 Casement Windows - Picture/Transom (9203)								US ENERGY STAR V 6.0						CANADA ENERGY STAR v 4.1					
Grille Option	Glazing thickness	aNFRC Total Unit Calculations bGlazing Option	CPD #	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	US ENERGY STAR V 6.0				U-Value (metric)	Maximum Air Leakage L/s/m2	Air Infiltration/Exfiltration Average	Energy Rating	CANADA ENERGY STAR v 4.1			
								N	NC	SC	S					1	2	3	
No GIA or SDL	3/4"	Clear Insul	WEA-N-302-00665-00001	0.44	0.60	0.63	44					2.50	0.6	0.01	20				
	3/4"	Insul Low-E	WEA-N-302-00668-00001	0.30	0.33	0.55	56		Y			1.70	0.6	0.01	22				
	3/4"	Insul Low E w/Argon	WEA-N-302-00730-00001	0.26	0.32	0.55	60	Y	Y			1.48	0.6	0.01	26	Y			
	3/4"	Passive Solar	WEA-N-302-00674-00001	0.31	0.53	0.61	56					1.76	0.6	0.01	32	Y	Y		
	3/4"	Passive Solar w/Argon	WEA-N-302-00736-00001	0.27	0.53	0.61	60	Y				1.53	0.6	0.01	37	Y	Y	Y	
	3/4"	Zo-e-shield 5	WEA-N-302-00671-00001	0.29	0.22	0.50	57		Y	Y	Y		1.65	0.6	0.01	17			
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-302-00733-00001	0.26	0.21	0.50	61	Y	Y	Y	Y		1.48	0.6	0.01	20	Y		
	3/4"	Zo-e-shield 5 Extreme	WEA-N-302-00686-00001	0.24	0.21	0.49	44	Y	Y	Y	Y		1.36	0.6	0.01	22	Y	Y	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-302-00748-00001	0.22	0.21	0.49	48	Y	Y	Y	Y		1.25	0.6	0.01	25	Y	Y	
	3/4"	Zo-e-shield 6	WEA-N-302-00709-00001	0.30	0.21	0.49	58		Y	Y	Y		1.70	0.6	0.01	15			
	3/4"	Zo-e-shield 6 w/ Argon	WEA-N-302-00771-00001	0.26	0.21	0.49	61	Y	Y	Y	Y		1.48	0.6	0.01	20	Y		
	3/4"	Zo-e SafeGuard Certified	WEA-N-302-00715-00001	0.30	0.21	0.49	58		Y	Y	Y		1.70	0.6	0.01	15			
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-302-00777-00001	0.26	0.21	0.49	62	Y	Y	Y	Y		1.48	0.6	0.01	20	Y		
	3/4"	Insul Low-E 240	WEA-N-302-00680-00001	0.30	0.20	0.31	56		Y	Y	Y		1.70	0.6	0.01	14			
	3/4"	Insul Low-E 240 w/Argon	WEA-N-302-00742-00001	0.27	0.20	0.31	60	Y	Y	Y	Y		1.53	0.6	0.01	18	Y		
	3/4"	Insul Low-E 340	WEA-N-302-00683-00001	0.30	0.15	0.30	57		Y	Y	Y		1.70	0.6	0.01	11			
	3/4"	Insul Low-E 340 w/Argon	WEA-N-302-00745-00001	0.26	0.14	0.30	60	Y	Y	Y	Y		1.48	0.6	0.01	16			
	3/4"	Bronze Low E	WEA-N-302-00668-00011	0.30	0.31	0.41	56		Y				1.70	0.6	0.01	21			
3/4"	Bronze Low E w/Argon	WEA-N-302-00730-00011	0.26	0.31	0.41	60	Y	Y				1.48	0.6	0.01	25	Y			
Less Than 1" GIA or SDL	3/4"	Clear Insul	WEA-N-302-00665-00002	0.44	0.54	0.56	44					2.50	0.6	0.01	16				
	3/4"	Insul Low-E	WEA-N-302-00668-00002	0.30	0.29	0.49	56		Y			1.70	0.6	0.01	20				
	3/4"	Insul Low E w/Argon	WEA-N-302-00730-00002	0.26	0.29	0.49	60	Y	Y			1.48	0.6	0.01	24	Y			
	3/4"	Passive Solar	WEA-N-302-00674-00002	0.31	0.48	0.54	56					1.76	0.6	0.01	29	Y	Y		
	3/4"	Passive Solar w/Argon	WEA-N-302-00736-00002	0.27	0.48	0.54	60	Y				1.53	0.6	0.01	34	Y	Y	Y	
	3/4"	Zo-e-shield 5	WEA-N-302-00671-00002	0.29	0.20	0.44	57		Y	Y	Y		1.65	0.6	0.01	15			
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-302-00733-00002	0.26	0.19	0.44	61	Y	Y	Y	Y		1.48	0.6	0.01	19	Y		
	3/4"	Zo-e-shield 5 Extreme	WEA-N-302-00686-00002	0.24	0.19	0.43	44	Y	Y	Y	Y		1.36	0.6	0.01	21	Y	Y	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-302-00748-00002	0.22	0.19	0.43	48	Y	Y	Y	Y		1.25	0.6	0.01	24	Y	Y	
	3/4"	Zo-e-shield 6	WEA-N-302-00709-00002	0.30	0.19	0.44	58		Y	Y	Y		1.70	0.6	0.01	14			
	3/4"	Zo-e-shield 6 w/ Argon	WEA-N-302-00771-00002	0.26	0.19	0.44	61	Y	Y	Y	Y		1.48	0.6	0.01	19	Y		
	3/4"	Zo-e SafeGuard Certified	WEA-N-302-00715-00002	0.30	0.19	0.44	58		Y	Y	Y		1.70	0.6	0.01	14			
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-302-00777-00002	0.26	0.19	0.44	62	Y	Y	Y	Y		1.48	0.6	0.01	19	Y		
	3/4"	Insul Low-E 240	WEA-N-302-00680-00002	0.30	0.19	0.27	56		Y	Y	Y		1.70	0.6	0.01	14			
	3/4"	Insul Low-E 240 w/Argon	WEA-N-302-00742-00002	0.27	0.18	0.27	60	Y	Y	Y	Y		1.53	0.6	0.01	17	Y		
	3/4"	Insul Low-E 340	WEA-N-302-00683-00002	0.30	0.13	0.27	57		Y	Y	Y		1.70	0.6	0.01	10			
	3/4"	Insul Low-E 340 w/Argon	WEA-N-302-00745-00002	0.26	0.13	0.27	60	Y	Y	Y	Y		1.48	0.6	0.01	15			
	3/4"	Bronze Low E	WEA-N-302-00668-00012	0.30	0.28	0.36	56		Y				1.70	0.6	0.01	19			
3/4"	Bronze Low E w/Argon	WEA-N-302-00730-00012	0.26	0.28	0.36	60	Y	Y				1.48	0.6	0.01	24	Y			
1" Or Over GIA or SDL	3/4"	Clear Insul	WEA-N-302-00665-00003	0.44	0.48	0.50	44					2.50	0.6	0.01	13				
	3/4"	Insul Low-E	WEA-N-302-00668-00003	0.30	0.26	0.44	56		Y			1.70	0.6	0.01	18				
	3/4"	Insul Low E w/Argon	WEA-N-302-00730-00003	0.26	0.26	0.44	60	Y	Y			1.48	0.6	0.01	23	Y			
	3/4"	Passive Solar	WEA-N-302-00674-00003	0.31	0.42	0.48	56					1.76	0.6	0.01	26	Y			
	3/4"	Passive Solar w/Argon	WEA-N-302-00736-00003	0.27	0.43	0.48	60	Y				1.53	0.6	0.01	31	Y	Y		
	3/4"	Zo-e-shield 5	WEA-N-302-00671-00003	0.29	0.18	0.39	57		Y	Y	Y		1.65	0.6	0.01	14			
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-302-00733-00003	0.26	0.18	0.39	61	Y	Y	Y	Y		1.48	0.6	0.01	18	Y		
	3/4"	Zo-e-shield 5 Extreme	WEA-N-302-00686-00003	0.24	0.17	0.38	44	Y	Y	Y	Y		1.36	0.6	0.01	20	Y	Y	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-302-00748-00003	0.22	0.17	0.38	48	Y	Y	Y	Y		1.25	0.6	0.01	22	Y	Y	
	3/4"	Zo-e-shield 6	WEA-N-302-00709-00003	0.30	0.18	0.39	58		Y	Y	Y		1.70	0.6	0.01	13			
	3/4"	Zo-e-shield 6 w/ Argon	WEA-N-302-00771-00003	0.26	0.17	0.39	61	Y	Y	Y	Y		1.48	0.6	0.01	17	Y		
	3/4"	Zo-e SafeGuard Certified	WEA-N-302-00715-00003	0.30	0.18	0.39	58		Y	Y	Y		1.70	0.6	0.01	13			
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-302-00777-00003	0.26	0.17	0.39	62	Y	Y	Y	Y		1.48	0.6	0.01	17	Y		
	3/4"	Insul Low-E 240	WEA-N-302-00680-00003	0.30	0.17	0.24	56		Y	Y	Y		1.70	0.6	0.01	13			
	3/4"	Insul Low-E 240 w/Argon	WEA-N-302-00742-00003	0.27	0.16	0.24	60	Y	Y	Y	Y		1.53	0.6	0.01	16			
	3/4"	Insul Low-E 340	WEA-N-302-00683-00003	0.30	0.12	0.24	57		Y	Y	Y		1.70	0.6	0.01	10			
	3/4"	Insul Low-E 340 w/Argon	WEA-N-302-00745-00003	0.26	0.12	0.24	60	Y	Y	Y	Y		1.48	0.6	0.01	14			
	3/4"	Bronze Low E	WEA-N-302-00668-00013	0.30	0.25	0.32	56		Y	Y	Y		1.70	0.6	0.01	17			
3/4"	Bronze Low E w/Argon	WEA-N-302-00730-00013	0.26	0.25	0.32	60	Y	Y	Y	Y		1.48	0.6	0.01	22	Y			