

# Thermal Performance Data

Visions 3500 Direct-Set Windows (9310)  
(non J-channel)



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

Canadian Qualification Criteria	Climate Zone	U-Value	or	Energy Rating
<p>As of February 2015</p>	Zone 1	<=1.60		>=25
	Zone 2	<=1.40		>=29
	Zone 3	<=1.20		>=34
	Air Leakage <= 0.3 cfm/ft2			

## 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**

**Visions 3500 Direct-Set Windows (9310)**



US  
ENERGY STAR V  
6.0

CANADIAN ENERGY  
PERFORMANCE DATA



CANADA  
ENERGY  
STAR v 4.1

Grille Option	Glazing thickness	³NFRC Total Unit Calculations ⁴Glazing 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 Ls/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-274-00865-00001	0.46	0.67	0.70	44					2.61	0.6	0.05	21				
	3/4"	Insul Low-E	WEA-N-274-00881-00001	0.31	0.36	0.61	56					1.76	0.6	0.05	22				
	3/4"	Insul Low E w/Argon	WEA-N-274-00897-00001	0.27	0.36	0.61	60	Y	Y			1.53	0.6	0.05	27	Y			
	3/4"	Passive Solar	WEA-N-274-00995-00001	0.31	0.59	0.68	56					1.76	0.6	0.05	35	Y	Y	Y	
	3/4"	Passive Solar w/Argon	WEA-N-274-01046-00001	0.28	0.59	0.68	60	Y				1.59	0.6	0.05	39	Y	Y	Y	
	3/4"	Zo-e-shield 5	WEA-N-274-00913-00001	0.30	0.24	0.55	57		Y	Y	Y		1.70	0.6	0.05	17			
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-274-00955-00001	0.26	0.24	0.55	60	Y	Y	Y	Y		1.48	0.6	0.05	21	Y		
	3/4"	Zo-e-shield 5 Extreme	WEA-N-274-00921-00001	0.24	0.23	0.54	44	Y	Y	Y	Y		1.36	0.6	0.05	23	Y	Y	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-274-00963-00001	0.22	0.23	0.54	48	Y	Y	Y	Y		1.25	0.6	0.05	26	Y	Y	
	3/4"	Zo-e-shield 6	WEA-N-274-00929-00001	0.32	0.24	0.54	54				Y		1.82	0.6	0.05	14			
	3/4"	Zo-e-shield 6 w/ Argon	WEA-N-274-00971-00001	0.27	0.24	0.54	58	Y	Y	Y	Y		1.53	0.6	0.05	20	Y		
	3/4"	Zo-e SafeGuard Certified	WEA-N-274-00937-00001	0.31	0.24	0.54	49				Y		1.76	0.6	0.05	15			
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-274-00979-00001	0.27	0.24	0.54	59	Y	Y	Y	Y		1.53	0.6	0.05	20	Y		
	3/4"	Insul Low-E 240	WEA-N-274-01012-00001	0.31	0.23	0.34	56				Y		1.76	0.6	0.05	15			
	3/4"	Insul Low-E 240 w/Argon	WEA-N-274-01063-00001	0.27	0.22	0.34	60	Y	Y	Y	Y		1.53	0.6	0.05	19	Y		
	3/4"	Insul Low-E 340	WEA-N-274-01029-00001	0.30	0.16	0.33	57		Y	Y	Y		1.70	0.6	0.05	12			
3/4"	Insul Low-E 340 w/Argon	WEA-N-274-01080-00001	0.26	0.15	0.33	60	Y	Y	Y	Y		1.48	0.6	0.05	16	Y			
3/4"	Bronze Low E	WEA-N-274-00881-00011	0.31	0.34	0.45	56						1.76	0.6	0.05	21				
3/4"	Bronze Low E w/Argon	WEA-N-274-00897-00011	0.27	0.34	0.45	60	Y	Y				1.53	0.6	0.05	26	Y			
Less Than 1" GIA or SDL	3/4"	Clear Insul	WEA-N-274-00865-00002	0.46	0.60	0.63	44					2.61	0.6	0.05	17				
	3/4"	Insul Low-E	WEA-N-274-00881-00002	0.31	0.32	0.55	56					1.76	0.6	0.05	20				
	3/4"	Insul Low E w/Argon	WEA-N-274-00897-00002	0.27	0.32	0.55	60	Y	Y			1.53	0.6	0.05	25	Y			
	3/4"	Passive Solar	WEA-N-274-00995-00002	0.31	0.53	0.61	56					1.76	0.6	0.05	32	Y	Y		
	3/4"	Passive Solar w/Argon	WEA-N-274-01046-00002	0.28	0.53	0.61	60	Y				1.59	0.6	0.05	36	Y	Y	Y	
	3/4"	Zo-e-shield 5	WEA-N-274-00913-00002	0.30	0.22	0.50	57		Y	Y	Y		1.70	0.6	0.05	15			
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-274-00955-00002	0.26	0.21	0.50	60	Y	Y	Y	Y		1.48	0.6	0.05	20	Y		
	3/4"	Zo-e-shield 5 Extreme	WEA-N-274-00921-00002	0.24	0.21	0.48	44	Y	Y	Y	Y		1.36	0.6	0.05	22	Y	Y	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-274-00963-00002	0.22	0.21	0.48	48	Y	Y	Y	Y		1.25	0.6	0.05	25	Y	Y	
	3/4"	Zo-e-shield 6	WEA-N-274-00930-00001	0.33	0.22	0.49	54				Y		1.87	0.6	0.05	12			
	3/4"	Zo-e-shield 6 w/ Argon	WEA-N-274-00972-00001	0.29	0.22	0.49	58		Y	Y	Y		1.65	0.6	0.05	16			
	3/4"	Zo-e SafeGuard Certified	WEA-N-274-00938-00001	0.33	0.22	0.49	49				Y		1.87	0.6	0.05	12			
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-274-00980-00001	0.29	0.21	0.49	59		Y	Y	Y		1.65	0.6	0.05	16			
	3/4"	Insul Low-E 240	WEA-N-274-01012-00002	0.31	0.21	0.31	56				Y		1.76	0.6	0.05	13			
	3/4"	Insul Low-E 240 w/Argon	WEA-N-274-01063-00002	0.27	0.20	0.31	60	Y	Y	Y	Y		1.53	0.6	0.05	18	Y		
	3/4"	Insul Low-E 340	WEA-N-274-01029-00002	0.30	0.15	0.30	57		Y	Y	Y		1.70	0.6	0.05	11			
3/4"	Insul Low-E 340 w/Argon	WEA-N-274-01080-00002	0.26	0.14	0.30	60	Y	Y	Y	Y		1.48	0.6	0.05	16				
3/4"	Bronze Low E	WEA-N-274-00881-00012	0.31	0.31	0.41	56						1.76	0.6	0.05	19				
3/4"	Bronze Low E w/Argon	WEA-N-274-00897-00012	0.27	0.31	0.41	60	Y	Y				1.53	0.6	0.05	24	Y			
1" Or Over GIA or SDL	3/4"	Clear Insul	WEA-N-274-00865-00003	0.46	0.54	0.56	44					2.61	0.6	0.05	14				
	3/4"	Insul Low-E	WEA-N-274-00881-00003	0.31	0.29	0.49	56					1.76	0.6	0.05	18				
	3/4"	Insul Low E w/Argon	WEA-N-274-00897-00003	0.27	0.29	0.49	60	Y	Y			1.53	0.6	0.05	23	Y			
	3/4"	Passive Solar	WEA-N-274-00995-00003	0.31	0.47	0.54	56					1.76	0.6	0.05	29	Y			
	3/4"	Passive Solar w/Argon	WEA-N-274-01046-00003	0.28	0.48	0.54	60	Y				1.59	0.6	0.05	33	Y	Y		
	3/4"	Zo-e-shield 5	WEA-N-274-00913-00003	0.30	0.20	0.44	57		Y	Y	Y		1.70	0.6	0.05	14			
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-274-00955-00003	0.26	0.19	0.44	60	Y	Y	Y	Y		1.48	0.6	0.05	18	Y		
	3/4"	Zo-e-shield 5 Extreme	WEA-N-274-00921-00003	0.24	0.19	0.43	44	Y	Y	Y	Y		1.36	0.6	0.05	21	Y	Y	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-274-00963-00003	0.22	0.19	0.43	48	Y	Y	Y	Y		1.25	0.6	0.05	24	Y	Y	
	3/4"	Zo-e-shield 6	WEA-N-274-00930-00002	0.33	0.20	0.43	54				Y		1.87	0.6	0.05	11			
	3/4"	Zo-e-shield 6 w/ Argon	WEA-N-274-00972-00002	0.29	0.19	0.43	58		Y	Y	Y		1.65	0.6	0.05	15			
	3/4"	Zo-e SafeGuard Certified	WEA-N-274-00938-00002	0.33	0.20	0.43	49				Y		1.87	0.6	0.05	11			
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-274-00980-00002	0.29	0.19	0.43	59		Y	Y	Y		1.65	0.6	0.05	15			
	3/4"	Insul Low-E 240	WEA-N-274-01012-00003	0.31	0.19	0.27	56				Y		1.76	0.6	0.05	12			
	3/4"	Insul Low-E 240 w/Argon	WEA-N-274-01063-00003	0.27	0.18	0.27	60	Y	Y	Y	Y		1.53	0.6	0.05	17	Y		
	3/4"	Insul Low-E 340	WEA-N-274-01029-00003	0.30	0.13	0.26	57		Y	Y	Y		1.70	0.6	0.05	10			
3/4"	Insul Low-E 340 w/Argon	WEA-N-274-01080-00003	0.26	0.13	0.26	60	Y	Y	Y	Y		1.48	0.6	0.05	15				
3/4"	Bronze Low E	WEA-N-274-00881-00013	0.31	0.28	0.36	56						1.76	0.6	0.05	18				
3/4"	Bronze Low E w/Argon	WEA-N-274-00897-00013	0.27	0.28	0.36	60	Y	Y				1.53	0.6	0.05	23	Y			