

Thermal Performance Data

Visions 3500 Single Hung Windows (9109)
(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/ft ²			

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 $R = 1/U$.

^a 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.

^b Published values reflect 3mm/3mm glass lite thicknesses.

ENERGY PERFORMANCE DATA														CANADIAN ENERGY PERFORMANCE DATA				
Visions 3500 Single Hung Windows (9109)														CANADA ENERGY STAR v 4.1				
Grille Option	Glazing thickness	^a NFRC Total Unit Calculations ^b Glazing 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/m ²	Air Infiltration/Exfiltration Average	Energy Rating			
								N	NC	SC	S					1	2	3
								ENERGY STAR								ENERGY STAR		
No GIA or SDL	3/4"	Clear Insul	WEA-N-305-00429-00001	0.46	0.62	0.65	44					2.61	0.6	0.17	18			
	3/4"	Insul Low-E	WEA-N-305-00432-00001	0.32	0.33	0.57	55					1.82	0.6	0.17	19			
	3/4"	Insul Low E w/Argon	WEA-N-305-00494-00001	0.28	0.33	0.57	58	Y	Y			1.59	0.6	0.17	24	Y		
	3/4"	Passive Solar	WEA-N-305-00438-00001	0.32	0.55	0.63	54					1.82	0.6	0.17	32	Y	Y	
	3/4"	Passive Solar w/Argon	WEA-N-305-00500-00001	0.29	0.55	0.63	58	Y				1.65	0.6	0.17	35	Y	Y	Y
	3/4"	Zo-e-shield 5	WEA-N-305-00435-00001	0.31	0.22	0.52	55				Y	1.76	0.6	0.17	14			
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-305-00497-00001	0.28	0.22	0.52	59		Y	Y	Y	1.59	0.6	0.17	18	Y		
	3/4"	Zo-e-shield 5 Extreme	WEA-N-305-00450-00001	0.26	0.22	0.50	43	Y	Y	Y	Y	1.48	0.6	0.17	20	Y		
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-305-00512-00001	0.24	0.22	0.50	47	Y	Y	Y	Y	1.36	0.6	0.17	23	Y	Y	
	3/4"	Zo-e-shield 6	WEA-N-305-00473-00001	0.32	0.22	0.51	57				Y	1.82	0.6	0.17	13			
	3/4"	Zo-e-shield 6 w/ Argon	WEA-N-305-00535-00001	0.28	0.22	0.51	61		Y	Y	Y	1.59	0.6	0.17	18	Y		
	3/4"	Zo-e SafeGuard Certified	WEA-N-305-00479-00001	0.32	0.22	0.50	58				Y	1.82	0.6	0.17	13			
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-305-00541-00001	0.28	0.22	0.50	61		Y	Y	Y	1.59	0.6	0.17	18	Y		
	3/4"	Insul Low-E 240	WEA-N-305-00444-00001	0.32	0.21	0.32	54				Y	1.82	0.6	0.17	12			
	3/4"	Insul Low-E 240 w/Argon	WEA-N-305-00506-00001	0.29	0.20	0.32	58		Y	Y	Y	1.65	0.6	0.17	15			
	3/4"	Insul Low-E 340	WEA-N-305-00447-00001	0.31	0.15	0.31	55				Y	1.76	0.6	0.17	10			
	3/4"	Insul Low-E 340 w/Argon	WEA-N-305-00509-00001	0.28	0.15	0.31	58		Y	Y	Y	1.59	0.6	0.17	14			
	3/4"	Bronze Low E	WEA-N-305-00432-00011	0.32	0.32	0.42	55					1.82	0.6	0.17	18			
	3/4"	Bronze Low E w/Argon	WEA-N-305-00494-00011	0.28	0.32	0.42	58	Y	Y			1.59	0.6	0.17	23	Y		
	Less Than 1" GIA or SDL	3/4"	Clear Insul	WEA-N-305-00429-00002	0.46	0.56	0.58	44					2.61	0.6	0.17	15		
3/4"		Insul Low-E	WEA-N-305-00432-00002	0.32	0.30	0.51	55					1.82	0.6	0.17	17			
3/4"		Insul Low E w/Argon	WEA-N-305-00494-00002	0.28	0.30	0.51	58		Y			1.59	0.6	0.17	22	Y		
3/4"		Passive Solar	WEA-N-305-00438-00002	0.32	0.49	0.56	54					1.82	0.6	0.17	28	Y		
3/4"		Passive Solar w/Argon	WEA-N-305-00500-00002	0.29	0.49	0.56	58	Y				1.65	0.6	0.17	32	Y	Y	
3/4"		Zo-e-shield 5	WEA-N-305-00435-00002	0.31	0.20	0.46	55				Y	1.76	0.6	0.17	13			
3/4"		Zo-e-shield 5 w/ Argon	WEA-N-305-00497-00002	0.28	0.20	0.46	59		Y	Y	Y	1.59	0.6	0.17	16	Y		
3/4"		Zo-e-shield 5 Extreme	WEA-N-305-00450-00002	0.26	0.20	0.45	43	Y	Y	Y	Y	1.48	0.6	0.17	19	Y		
3/4"		Zo-e-shield 5 Extreme w/ Argon	WEA-N-305-00512-00002	0.24	0.20	0.45	47	Y	Y	Y	Y	1.36	0.6	0.17	21	Y	Y	
3/4"		Zo-e-shield 6	WEA-N-305-00473-00002	0.32	0.20	0.45	57				Y	1.82	0.6	0.17	11			
3/4"		Zo-e-shield 6 w/ Argon	WEA-N-305-00535-00002	0.28	0.20	0.45	61		Y	Y	Y	1.59	0.6	0.17	16	Y		
3/4"		Zo-e SafeGuard Certified	WEA-N-305-00479-00002	0.32	0.20	0.45	58				Y	1.82	0.6	0.17	11			
3/4"		Zo-e SafeGuard Certified w/ Argon	WEA-N-305-00541-00002	0.28	0.20	0.45	61		Y	Y	Y	1.59	0.6	0.17	16	Y		
3/4"		Insul Low-E 240	WEA-N-305-00444-00002	0.32	0.19	0.28	54				Y	1.82	0.6	0.17	11			
3/4"		Insul Low-E 240 w/Argon	WEA-N-305-00506-00002	0.29	0.19	0.28	58		Y	Y	Y	1.65	0.6	0.17	15			
3/4"		Insul Low-E 340	WEA-N-305-00447-00002	0.31	0.14	0.28	55				Y	1.76	0.6	0.17	9			
3/4"		Insul Low-E 340 w/Argon	WEA-N-305-00509-00002	0.28	0.13	0.28	58		Y	Y	Y	1.59	0.6	0.17	12			
3/4"		Bronze Low E	WEA-N-305-00432-00012	0.32	0.29	0.38	55					1.82	0.6	0.17	17			
3/4"		Bronze Low E w/Argon	WEA-N-305-00494-00012	0.28	0.28	0.38	58		Y			1.59	0.6	0.17	21	Y		
1" Or Over GIA or SDL		3/4"	Clear Insul	WEA-N-305-00429-00003	0.46	0.50	0.52	44					2.61	0.6	0.17	11		
	3/4"	Insul Low-E	WEA-N-305-00432-00003	0.32	0.27	0.45	55					1.82	0.6	0.17	15			
	3/4"	Insul Low E w/Argon	WEA-N-305-00494-00003	0.28	0.27	0.45	58		Y			1.59	0.6	0.17	20	Y		
	3/4"	Passive Solar	WEA-N-305-00438-00003	0.32	0.44	0.50	54					1.82	0.6	0.17	25	Y		
	3/4"	Passive Solar w/Argon	WEA-N-305-00500-00003	0.29	0.44	0.50	58	Y				1.65	0.6	0.17	29	Y		
	3/4"	Zo-e-shield 5	WEA-N-305-00435-00003	0.31	0.18	0.41	55				Y	1.76	0.6	0.17	12			
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-305-00497-00003	0.28	0.18	0.41	59		Y	Y	Y	1.59	0.6	0.17	15			
	3/4"	Zo-e-shield 5 Extreme	WEA-N-305-00450-00003	0.26	0.18	0.40	43	Y	Y	Y	Y	1.48	0.6	0.17	18	Y		
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-305-00512-00003	0.24	0.18	0.40	47	Y	Y	Y	Y	1.36	0.6	0.17	20	Y	Y	
	3/4"	Zo-e-shield 6	WEA-N-305-00473-00003	0.32	0.18	0.40	57				Y	1.82	0.6	0.17	10			
	3/4"	Zo-e-shield 6 w/ Argon	WEA-N-305-00535-00003	0.28	0.18	0.40	61		Y	Y	Y	1.59	0.6	0.17	15			
	3/4"	Zo-e SafeGuard Certified	WEA-N-305-00479-00003	0.32	0.18	0.40	58				Y	1.82	0.6	0.17	10			
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-305-00541-00003	0.28	0.18	0.40	61		Y	Y	Y	1.59	0.6	0.17	15			
	3/4"	Insul Low-E 240	WEA-N-305-00444-00003	0.32	0.17	0.25	54				Y	1.82	0.6	0.17	10			
	3/4"	Insul Low-E 240 w/Argon	WEA-N-305-00506-00003	0.29	0.17	0.25	58		Y	Y	Y	1.65	0.6	0.17	13			
	3/4"	Insul Low-E 340	WEA-N-305-00447-00003	0.31	0.13	0.24	55				Y	1.76	0.6	0.17	9			
	3/4"	Insul Low-E 340 w/Argon	WEA-N-305-00509-00003	0.28	0.12	0.24	58		Y	Y	Y	1.59	0.6	0.17	12			
	3/4"	Bronze Low E	WEA-N-305-00432-00013	0.32	0.26	0.33	55					1.82	0.6	0.17	15			
	3/4"	Bronze Low E w/Argon	WEA-N-305-00494-00013	0.28	0.26	0.33	58		Y			1.59	0.6	0.17	20	Y		