

# Thermal Performance Data

Visions 3500 Direct-Set Windows (9311)  
(J-channel)



US Qualification Criteria	Climate Zone	U-Value	SHGC	
<p>As of January 2016</p>	Northern	$\leq 0.27$	Any	Prescriptive
		$\leq 0.28$	$\geq 0.32$	Equivalent Energy Performance
		$\leq 0.29$	$\geq 0.37$	
		$\leq 0.30$	$\geq 0.42$	
	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 Direct-Set Windows (9311)								US ENERGY STAR V 6.0						CANADA ENERGY STAR v 4.1					
Grille Option	Glazing thickness	<sup>a</sup> NFRC Total Unit Calculations <sup>b</sup> Glazing Option	CPD #	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	N	NC	SC	S	U-Value (metric)	Maximum Air Leakage L/s/m2	Air Infiltration/Exfiltration Average	Energy Rating	1	2	3	
No GIA or SDL	3/4"	Clear Insul	WEA-N-306-00557-00001	0.45	0.67	0.70	45					2.56	0.6	0.01	23				
	3/4"	Insul Low-E	WEA-N-306-00560-00001	0.30	0.36	0.61	57		Y			1.70	0.6	0.01	24				
	3/4"	Insul Low E w/Argon	WEA-N-306-00622-00001	0.26	0.36	0.61	60	Y	Y			1.48	0.6	0.01	28	Y			
	3/4"	Passive Solar	WEA-N-306-00566-00001	0.31	0.59	0.68	56					1.76	0.6	0.01	36	Y	Y	Y	
	3/4"	Passive Solar w/Argon	WEA-N-306-00628-00001	0.27	0.59	0.68	60	Y				1.53	0.6	0.01	41	Y	Y	Y	
	3/4"	Zo-e-shield 5	WEA-N-306-00563-00001	0.30	0.24	0.55	57		Y	Y	Y		1.70	0.6	0.01	17			
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-306-00625-00001	0.26	0.24	0.55	61	Y	Y	Y	Y		1.48	0.6	0.01	21	Y		
	3/4"	Zo-e-shield 5 Extreme	WEA-N-306-00578-00001	0.24	0.23	0.54	44	Y	Y	Y	Y		1.36	0.6	0.01	23	Y	Y	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-306-00640-00001	0.21	0.23	0.54	48	Y	Y	Y	Y		1.19	0.6	0.01	27	Y	Y	Y
	3/4"	Zo-e-shield 6	WEA-N-306-00601-00001	0.30	0.24	0.54	58		Y	Y	Y		1.70	0.6	0.01	17			
	3/4"	Zo-e-shield 6 w/ Argon	WEA-N-306-00663-00001	0.26	0.23	0.54	61	Y	Y	Y	Y		1.48	0.6	0.01	21	Y		
	3/4"	Zo-e SafeGuard Certified	WEA-N-306-00607-00001	0.30	0.24	0.54	59		Y	Y	Y		1.70	0.6	0.01	17			
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-306-00669-00001	0.26	0.23	0.54	62	Y	Y	Y	Y		1.48	0.6	0.01	21	Y		
	3/4"	Insul Low-E 240	WEA-N-306-00572-00001	0.31	0.22	0.34	56				Y		1.76	0.6	0.01	14			
	3/4"	Insul Low-E 240 w/Argon	WEA-N-306-00634-00001	0.27	0.22	0.34	60	Y	Y	Y	Y		1.53	0.6	0.01	19	Y		
	3/4"	Insul Low-E 340	WEA-N-306-00575-00001	0.30	0.16	0.33	57		Y	Y	Y		1.70	0.6	0.01	12			
	3/4"	Insul Low-E 340 w/Argon	WEA-N-306-00637-00001	0.26	0.16	0.33	61	Y	Y	Y	Y		1.48	0.6	0.01	17	Y		
	3/4"	Bronze Low E	WEA-N-306-00560-00011	0.30	0.34	0.45	57		Y				1.70	0.6	0.01	22			
3/4"	Bronze Low E w/Argon	WEA-N-306-00622-00011	0.26	0.34	0.45	60	Y	Y				1.48	0.6	0.01	27	Y			
Less Than 1" GIA or SDL	3/4"	Clear Insul	WEA-N-306-00557-00002	0.45	0.60	0.63	45					2.56	0.6	0.01	19				
	3/4"	Insul Low-E	WEA-N-306-00560-00002	0.30	0.32	0.55	57		Y			1.70	0.6	0.01	21				
	3/4"	Insul Low E w/Argon	WEA-N-306-00622-00002	0.26	0.32	0.55	60	Y	Y			1.48	0.6	0.01	26	Y			
	3/4"	Passive Solar	WEA-N-306-00566-00002	0.31	0.53	0.61	56					1.76	0.6	0.01	32	Y	Y		
	3/4"	Passive Solar w/Argon	WEA-N-306-00628-00002	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-306-00563-00002	0.30	0.22	0.50	57		Y	Y	Y		1.70	0.6	0.01	15			
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-306-00625-00002	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-306-00578-00002	0.24	0.21	0.48	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-306-00640-00002	0.21	0.21	0.48	48	Y	Y	Y	Y		1.19	0.6	0.01	26	Y	Y	Y
	3/4"	Zo-e-shield 6	WEA-N-306-00601-00002	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-306-00663-00002	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-306-00607-00002	0.30	0.21	0.49	59		Y	Y	Y		1.70	0.6	0.01	15			
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-306-00669-00002	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-306-00572-00002	0.31	0.20	0.31	56				Y		1.76	0.6	0.01	13			
	3/4"	Insul Low-E 240 w/Argon	WEA-N-306-00634-00002	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-306-00575-00002	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-306-00637-00002	0.26	0.14	0.30	61	Y	Y	Y	Y		1.48	0.6	0.01	16			
	3/4"	Bronze Low E	WEA-N-306-00560-00012	0.30	0.31	0.41	57		Y				1.70	0.6	0.01	21			
3/4"	Bronze Low E w/Argon	WEA-N-306-00622-00012	0.26	0.31	0.41	60	Y	Y				1.48	0.6	0.01	25	Y			
1" Or Over GIA or SDL	3/4"	Clear Insul	WEA-N-306-00557-00003	0.45	0.54	0.56	45					2.56	0.6	0.01	15				
	3/4"	Insul Low-E	WEA-N-306-00560-00003	0.30	0.29	0.49	57		Y			1.70	0.6	0.01	20				
	3/4"	Insul Low E w/Argon	WEA-N-306-00622-00003	0.26	0.29	0.49	60	Y	Y			1.48	0.6	0.01	24	Y			
	3/4"	Passive Solar	WEA-N-306-00566-00003	0.31	0.47	0.54	56					1.76	0.6	0.01	29	Y			
	3/4"	Passive Solar w/Argon	WEA-N-306-00628-00003	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-306-00563-00003	0.30	0.20	0.44	57		Y	Y	Y		1.70	0.6	0.01	14			
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-306-00625-00003	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-306-00578-00003	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-306-00640-00003	0.21	0.19	0.43	48	Y	Y	Y	Y		1.19	0.6	0.01	25	Y	Y	Y
	3/4"	Zo-e-shield 6	WEA-N-306-00601-00003	0.30	0.19	0.43	58		Y	Y	Y		1.70	0.6	0.01	14			
	3/4"	Zo-e-shield 6 w/ Argon	WEA-N-306-00663-00003	0.26	0.19	0.43	61	Y	Y	Y	Y		1.48	0.6	0.01	19	Y		
	3/4"	Zo-e SafeGuard Certified	WEA-N-306-00607-00003	0.30	0.19	0.43	59		Y	Y	Y		1.70	0.6	0.01	14			
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-306-00669-00003	0.26	0.19	0.43	62	Y	Y	Y	Y		1.48	0.6	0.01	19	Y		
	3/4"	Insul Low-E 240	WEA-N-306-00572-00003	0.31	0.19	0.27	56				Y		1.76	0.6	0.01	12			
	3/4"	Insul Low-E 240 w/Argon	WEA-N-306-00634-00003	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-306-00575-00003	0.30	0.13	0.26	57		Y	Y	Y		1.70	0.6	0.01	10			
	3/4"	Insul Low-E 340 w/Argon	WEA-N-306-00637-00003	0.26	0.13	0.26	61	Y	Y	Y	Y		1.48	0.6	0.01	15			
	3/4"	Bronze Low E	WEA-N-306-00560-00013	0.30	0.28	0.36	57		Y				1.70	0.6	0.01	19			
3/4"	Bronze Low E w/Argon	WEA-N-306-00622-00013	0.26	0.28	0.36	60	Y	Y				1.48	0.6	0.01	24	Y			