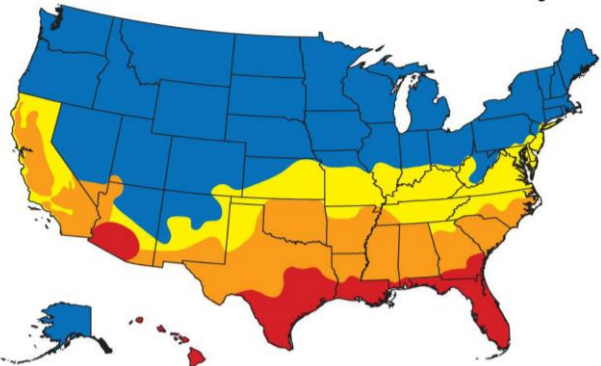


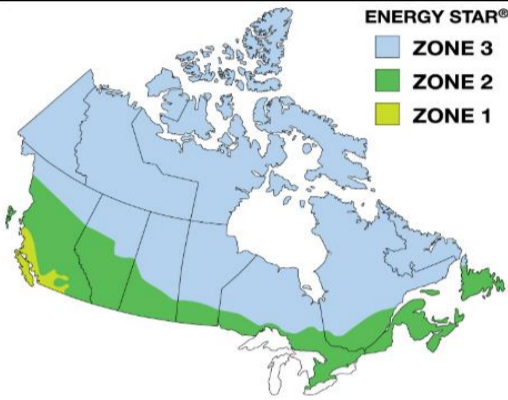
# Thermal Performance Data

VUE Collection Casement Windows - Operating (4201)

**WEATHER SHIELD.**

**WINDOWS & DOORS**

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.

ENERGY PERFORMANCE DATA								ENERGY STAR		CANADIAN ENERGY PERFORMANCE DATA				ENERGY STAR					
VUE Collection Casement Windows - Operating (4201)								US ENERGY STAR V 6.0						CANADA ENERGY STAR v 4.1					
Grille Option	Glazing thickness	<sup>a</sup> NFRC Total Unit Calculations 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	1"	Clear Insul	WEA-N-334-00325-00001	0.49	0.51	0.56	47					2.78	-	0.00	9				
	1"	Insul Low-E	WEA-N-334-00327-00001	0.37	0.29	0.49	59					2.10	-	0.00	11				
	1"	Insul Low E w/Argon	WEA-N-334-00343-00001	0.34	0.29	0.49	62					1.93	-	0.00	14				
	1"	Passive Solar	WEA-N-334-00265-00001	0.38	0.49	0.56	60					2.16	-	0.00	21				
	1"	Passive Solar w/Argon	WEA-N-334-00273-00001	0.35	0.49	0.56	62					1.99	-	0.00	25				
	1"	Passive Solar Extreme	WEA-N-334-00266-00001	0.33	0.45	0.54	47					1.87	-	0.00	25	Y			
	1"	Passive Solar Extreme w/Argon	WEA-N-334-00274-00001	0.31	0.45	0.54	50					1.76	-	0.00	27	Y			
	1"	Zo-e-shield 5	WEA-N-334-00263-00001	0.37	0.20	0.45	60				Y		2.10	-	0.00	6			
	1"	Zo-e-shield 5 w/ Argon	WEA-N-334-00271-00001	0.34	0.20	0.45	63				Y		1.93	-	0.00	9			
	1"	Zo-e-shield 5 Extreme	WEA-N-334-00331-00001	0.32	0.20	0.43	47				Y		1.82	-	0.00	12			
	1"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-334-00272-00001	0.30	0.19	0.44	52		Y	Y	Y		1.70	-	0.00	14			
	1"	Zo-e-shield 6	WEA-N-334-00359-00001	0.37	0.20	0.45	60				Y		2.10	-	0.00	6			
	1"	Zo-e-shield 6 w/ Argon	WEA-N-334-00367-00001	0.33	0.20	0.45	63				Y		1.87	-	0.00	11			
	1"	Zo-e SafeGuard Certified	WEA-N-334-00364-00001	0.36	0.20	0.44	61				Y		2.04	-	0.00	7			
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-334-00372-00001	0.33	0.20	0.44	64				Y		1.87	-	0.00	11			
	1"	Zo-e-shield 7	WEA-N-334-00277-00001	0.31	0.18	0.36	65				Y		1.76	-	0.00	12			
	1"	Zo-e-shield 7 w/ Argon	WEA-N-334-00281-00001	0.27	0.18	0.36	65	Y	Y	Y	Y		1.53	-	0.00	17	Y		
	1"	Insul Low-E 240	WEA-N-334-00337-00001	0.37	0.18	0.26	58				Y		2.10	-	0.00	4			
	1"	Insul Low-E 240 w/Argon	WEA-N-334-00275-00001	0.35	0.19	0.28	62				Y		1.99	-	0.00	7			
	1"	Insul Low-E 340	WEA-N-334-00339-00001	0.37	0.14	0.26	59				Y		2.10	-	0.00	2			
1"	Insul Low-E 340 w/Argon	WEA-N-334-00276-00001	0.34	0.13	0.27	62				Y		1.93	-	0.00	5				
1"	Bronze Low E	WEA-N-334-00327-00011	0.37	0.24	0.30	59				Y		2.10	-	0.00	8				
1"	Bronze Low E w/Argon	WEA-N-334-00343-00011	0.34	0.23	0.30	62				Y		1.93	-	0.00	11				
Less Than 1" GIA or SDL	1"	Clear Insul	WEA-N-334-00325-00002	0.49	0.47	0.51	47					2.78	-	0.00	6				
	1"	Insul Low-E	WEA-N-334-00327-00002	0.37	0.27	0.44	59					2.10	-	0.00	10				
	1"	Insul Low E w/Argon	WEA-N-334-00343-00002	0.34	0.26	0.44	62					1.93	-	0.00	13				
	1"	Passive Solar	WEA-N-334-00265-00002	0.38	0.45	0.50	60					2.16	-	0.00	19				
	1"	Passive Solar w/Argon	WEA-N-334-00273-00002	0.35	0.45	0.50	62					1.99	-	0.00	22				
	1"	Passive Solar Extreme	WEA-N-334-00266-00002	0.33	0.41	0.49	47					1.87	-	0.00	23				
	1"	Passive Solar Extreme w/Argon	WEA-N-334-00274-00002	0.31	0.41	0.49	50					1.76	-	0.00	25	Y			
	1"	Zo-e-shield 5	WEA-N-334-00263-00002	0.37	0.18	0.41	60				Y		2.10	-	0.00	4			
	1"	Zo-e-shield 5 w/ Argon	WEA-N-334-00271-00002	0.34	0.18	0.41	63				Y		1.93	-	0.00	8			
	1"	Zo-e-shield 5 Extreme	WEA-N-334-00331-00002	0.32	0.18	0.39	47				Y		1.82	-	0.00	11			
	1"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-334-00272-00002	0.30	0.18	0.40	52		Y	Y	Y		1.70	-	0.00	13			
	1"	Zo-e-shield 6	WEA-N-334-00359-00002	0.37	0.18	0.41	60				Y		2.10	-	0.00	4			
	1"	Zo-e-shield 6 w/ Argon	WEA-N-334-00367-00002	0.33	0.18	0.41	63				Y		1.87	-	0.00	9			
	1"	Zo-e SafeGuard Certified	WEA-N-334-00364-00002	0.36	0.18	0.40	61				Y		2.04	-	0.00	6			
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-334-00372-00002	0.33	0.18	0.40	64				Y		1.87	-	0.00	9			
	1"	Zo-e-shield 7	WEA-N-334-00278-00001	0.31	0.17	0.33	65				Y		1.76	-	0.00	11			
	1"	Zo-e-shield 7 w/ Argon	WEA-N-334-00282-00001	0.28	0.17	0.33	65		Y	Y	Y		1.59	-	0.00	15			
	1"	Insul Low-E 240	WEA-N-334-00337-00002	0.37	0.17	0.24	58				Y		2.10	-	0.00	4			
	1"	Insul Low-E 240 w/Argon	WEA-N-334-00275-00002	0.35	0.17	0.25	62				Y		1.99	-	0.00	6			
	1"	Insul Low-E 340	WEA-N-334-00339-00002	0.37	0.13	0.24	59				Y		2.10	-	0.00	2			
1"	Insul Low-E 340 w/Argon	WEA-N-334-00276-00002	0.34	0.12	0.25	62				Y		1.93	-	0.00	5				
1"	Bronze Low E	WEA-N-334-00327-00012	0.37	0.22	0.27	59				Y		2.10	-	0.00	7				
1"	Bronze Low E w/Argon	WEA-N-334-00343-00012	0.34	0.21	0.27	62				Y		1.93	-	0.00	10				