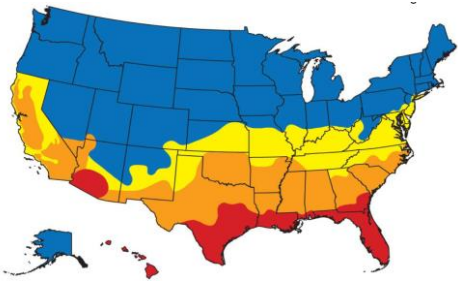
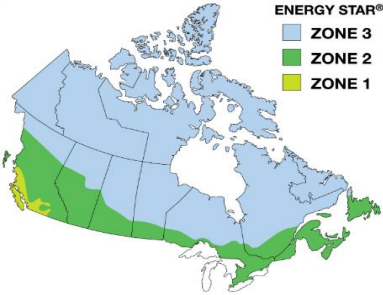


# Thermal Performance Data

Contemporary Flush Frame Push Out Casement Windows (8220)

**WEATHER SHIELD.**  
WINDOWS & DOORS

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	
	North-Central	=0.30	>=0.42	
		<=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													CANADIAN ENERGY PERFORMANCE DATA		ENERGY STAR				
Contemporary Flush Frame Push Out Casement Windows (8220)													US ENERGY STAR V 6.0		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	ENERGY STAR				U-Value (metric)	Maximum Air Leakage Ls/m²	Air Infiltration/Exfiltration Average	Energy Rating	ENERGY STAR			
								N	NC	SC	S					1	2	3	
No GIA or SDL	3/4"	Clear Insul	WEA-N-292-00786-00001	0.46	0.54	0.56	43					2.61	0.6	0.11	14				
	3/4"	Insul Low-E	WEA-N-292-00803-00001	0.34	0.29	0.49	55					1.93	0.6	0.11	14				
	3/4"	Insul Low E w/Argon	WEA-N-292-00911-00001	0.31	0.29	0.49	58					1.76	0.6	0.11	18				
	3/4"	Passive Solar	WEA-N-292-00838-00001	0.34	0.47	0.54	55					1.93	0.6	0.11	25				
	3/4"	Passive Solar w/Argon	WEA-N-292-00947-00001	0.31	0.47	0.54	58					1.76	0.6	0.11	28	Y			
	3/4"	Passive Solar Extreme	WEA-N-292-00844-00001	0.30	0.43	0.53	42	Y				1.70	0.6	0.11	27	Y			
	3/4"	Passive Solar Extreme w/Argon	WEA-N-292-00953-00001	0.28	0.43	0.53	46	Y				1.59	0.6	0.11	30	Y	Y		
	3/4"	Zo-e-shield 5	WEA-N-292-00820-00001	0.33	0.20	0.44	55				Y	1.87	0.6	0.11	10				
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-292-00929-00001	0.30	0.19	0.44	59		Y	Y	Y	1.70	0.6	0.11	14				
	3/4"	Zo-e-shield 5 Extreme	WEA-N-292-00863-00001	0.29	0.19	0.43	43		Y	Y	Y	1.65	0.6	0.11	15				
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-292-00971-00001	0.27	0.19	0.43	47	Y	Y	Y	Y	1.53	0.6	0.11	17	Y			
	3/4"	Zo-e-shield 6	WEA-N-292-00881-00001	0.35	0.20	0.43	52				Y	1.99	0.6	0.11	8				
	3/4"	Zo-e-shield 6 w/ Argon	WEA-N-292-00983-00001	0.31	0.19	0.43	57				Y	1.76	0.6	0.11	12				
	3/4"	Zo-e SafeGuard Certified	WEA-N-292-00899-00001	0.35	0.20	0.43	53				Y	1.99	0.6	0.11	8				
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-292-01001-00001	0.31	0.19	0.43	56				Y	1.76	0.6	0.11	12				
	1"	Zo-e-shield 7	WEA-N-292-01063-00001	0.27	0.18	0.35	64	Y	Y	Y	Y	1.53	0.6	0.11	17	Y			
	1"	Zo-e-shield 7 w/ Argon	WEA-N-292-01079-00001	0.24	0.18	0.35	67	Y	Y	Y	Y	1.36	0.6	0.11	20	Y	Y		
	3/4"	Insul Low-E 240	WEA-N-292-00850-00001	0.34	0.18	0.27	55				Y	1.93	0.6	0.11	8				
	3/4"	Insul Low-E 240 w/Argon	WEA-N-292-00959-00001	0.31	0.18	0.27	58				Y	1.76	0.6	0.11	12				
	3/4"	Insul Low-E 340	WEA-N-292-00856-00001	0.33	0.13	0.27	55				Y	1.87	0.6	0.11	6				
3/4"	Insul Low-E 340 w/Argon	WEA-N-292-00965-00001	0.30	0.13	0.27	59		Y	Y	Y	1.70	0.6	0.11	10					
3/4"	Bronze Low E	WEA-N-292-00814-00001	0.34	0.28	0.37	55					1.93	0.6	0.11	14					
3/4"	Bronze Low E w/Argon	WEA-N-292-00923-00001	0.31	0.28	0.37	58					1.76	0.6	0.11	17					
Less Than 1" GIA or SDL	3/4"	Clear Insul	WEA-N-292-00786-00004	0.46	49.00	51.00	43					2.61	0.6	0.11	###	Y	Y	Y	
	3/4"	Insul Low-E	WEA-N-292-00803-00002	0.34	0.27	0.44	55					1.93	0.6	0.11	13				
	3/4"	Insul Low E w/Argon	WEA-N-292-00911-00002	0.31	0.26	0.44	58					1.76	0.6	0.11	16				
	3/4"	Passive Solar	WEA-N-292-00838-00002	0.34	0.43	0.49	55					1.93	0.6	0.11	22				
	3/4"	Passive Solar w/Argon	WEA-N-292-00947-00002	0.31	0.43	0.49	58					1.76	0.6	0.11	26	Y			
	3/4"	Passive Solar Extreme	WEA-N-292-00844-00002	0.30	0.39	0.48	42			Y		1.70	0.6	0.11	25	Y			
	3/4"	Passive Solar Extreme w/Argon	WEA-N-292-00953-00002	0.28	0.39	0.48	46	Y	Y			1.59	0.6	0.11	27	Y			
	3/4"	Zo-e-shield 5	WEA-N-292-00820-00002	0.33	0.18	0.40	55				Y	1.87	0.6	0.11	9				
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-292-00929-00002	0.30	0.18	0.40	59		Y	Y	Y	1.70	0.6	0.11	13				
	3/4"	Zo-e-shield 5 Extreme	WEA-N-292-00863-00002	0.29	0.18	0.39	43		Y	Y	Y	1.65	0.6	0.11	14				
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-292-00971-00002	0.27	0.17	0.39	47	Y	Y	Y	Y	1.53	0.6	0.11	16	Y			
	3/4"	Zo-e-shield 6	WEA-N-292-00882-00001	0.37	0.18	0.39	52				Y	2.10	0.6	0.11	4				
	3/4"	Zo-e-shield 6 w/ Argon	WEA-N-292-00984-00001	0.34	0.18	0.39	57				Y	1.93	0.6	0.11	8				
	3/4"	Zo-e SafeGuard Certified	WEA-N-292-00900-00001	0.36	0.18	0.39	53				Y	2.04	0.6	0.11	6				
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-292-01002-00001	0.32	0.18	0.39	57				Y	1.82	0.6	0.11	10				
	1"	Zo-e-shield 7	WEA-N-292-01064-00001	0.28	0.16	0.32	64			Y	Y	Y	1.59	0.6	0.11	14			
	1"	Zo-e-shield 7 w/ Argon	WEA-N-292-01081-00001	0.25	0.16	0.32	67	Y	Y	Y	Y	1.42	0.6	0.11	18	Y			
	3/4"	Insul Low-E 240	WEA-N-292-00850-00002	0.34	0.17	0.25	55				Y	1.93	0.6	0.11	7				
	3/4"	Insul Low-E 240 w/Argon	WEA-N-292-00959-00002	0.31	0.16	0.25	58				Y	1.76	0.6	0.11	10				
	3/4"	Insul Low-E 340	WEA-N-292-00856-00002	0.33	0.12	0.24	55				Y	1.87	0.6	0.11	6				
3/4"	Insul Low-E 340 w/Argon	WEA-N-292-00965-00002	0.30	0.12	0.24	59		Y	Y	Y	1.70	0.6	0.11	9					
3/4"	Bronze Low E	WEA-N-292-00814-00002	0.34	0.26	0.33	55					1.93	0.6	0.11	13					
3/4"	Bronze Low E w/Argon	WEA-N-292-00923-00002	0.31	0.25	0.33	58				Y	1.76	0.6	0.11	16					
1" Or Over GIA or SDL	3/4"	Clear Insul	WEA-N-292-00786-00003	0.46	0.44	0.46	43					2.61	0.6	0.11	8				
	3/4"	Insul Low-E	WEA-N-292-00803-00003	0.34	0.24	0.40	55				Y	1.93	0.6	0.11	11				
	3/4"	Insul Low E w/Argon	WEA-N-292-00911-00003	0.31	0.24	0.40	58				Y	1.76	0.6	0.11	15				
	3/4"	Passive Solar	WEA-N-292-00838-00003	0.34	0.39	0.44	55					1.93	0.6	0.11	20				
	3/4"	Passive Solar w/Argon	WEA-N-292-00947-00003	0.31	0.39	0.44	58					1.76	0.6	0.11	24				
	3/4"	Passive Solar Extreme	WEA-N-292-00844-00003	0.30	0.35	0.43	42			Y		1.70	0.6	0.11	23				
	3/4"	Passive Solar Extreme w/Argon	WEA-N-292-00953-00003	0.28	0.36	0.43	46	Y	Y			1.59	0.6	0.11	26	Y			
	3/4"	Zo-e-shield 5	WEA-N-292-00820-00003	0.33	0.17	0.36	55				Y	1.87	0.6	0.11	9				
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-292-00929-00003	0.30	0.16	0.36	59		Y	Y	Y	1.70	0.6	0.11	12				
	3/4"	Zo-e-shield 5 Extreme	WEA-N-292-00863-00003	0.29	0.16	0.35	43		Y	Y	Y	1.65	0.6	0.11	13				
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-292-00971-00003	0.27	0.16	0.35	47	Y	Y	Y	Y	1.53	0.6	0.11	16				
	3/4"	Zo-e-shield 6	WEA-N-292-00883-00001	0.36	0.17	0.35	52				Y	2.04	0.6	0.11	5				
	3/4"	Zo-e-shield 6 w/ Argon	WEA-N-292-00985-00001	0.32	0.16	0.35	57				Y	1.82	0.6	0.11	9				
	3/4"	Zo-e SafeGuard Certified	WEA-N-292-00901-00001	0.36	0.16	0.35	53				Y	2.04	0.6	0.11	4				
	3/4"	Zo-e SafeGuard Certified w/ Argon	WEA-N-292-01003-00001	0.32	0.16	0.35	57				Y	1.82	0.6	0.11	9				
	1"	Zo-e-shield 7	WEA-N-292-01065-00001	0.28	0.15	0.29	64			Y	Y	Y	1.59	0.6	0.11	14			
	1"	Zo-e-shield 7 w/ Argon	WEA-N-292-01082-00001	0.25	0.15	0.29	67	Y	Y	Y	Y	1.42	0.6	0.11	17	Y			
	3/4"	Insul Low-E 240	WEA-N-292-00850-00003	0.34	0.15	0.22	55				Y	1.93	0.6	0.11	6				
	3/4"	Insul Low-E 240 w/Argon	WEA-N-292-00959-00003	0.31	0.15	0.22	58				Y	1.76	0.6	0.11	10				
	3/4"	Insul Low-E 340	WEA-N-292-00856-00003	0.33	0.11	0.22	55				Y	1.87	0.6	0.11	5				
3/4"	Insul Low-E 340 w/Argon	WEA-N-292-00965-00003	0.30	0.11	0.22	59		Y	Y	Y	1.70	0.6	0.11	9					
3/4"	Bronze Low E	WEA-N-292-00814-00003	0.34	0.23	0.30	55				Y	1.93	0.6	0.11	11					
3/4"	Bronze Low E w/Argon	WEA-N-292-00923-00003	0.31	0.23	0.30	58				Y	1.76	0.6	0.11	15					