



Thermal Performance Data

Contemporary Flush Frame French Casement Windows (8221)

WEATHER SHIELD.

WINDOWS & DOORS

US Qualification Criteria	Climate Zone	U-Value	SHGC	
 <p>Energy Star Version 7.0 Starting October 2023</p>	Northern	<=0.22	>=0.17	Prescriptive
		=0.23	>=0.35	Equivalent Energy Performance
		=0.24	>=0.40	
		=0.25		
		=0.26		
	North-Central	<=0.25	<=0.40	
South-Central	<=0.28	<=0.23		
Southern	<=0.32	<=0.23		

Canadian Qualification Criteria	U-Value	or	Energy Rating
 <p>Energy Star Version 5.0 starting January 2020</p>	<=1.22		>=34
	Air Leakage <= 1.5 L/s/m2		

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 glass lite thicknesses.

ENERGY PERFORMANCE DATA													CANADIAN ENERGY PERFORMANCE DATA			
Contemporary Flush Frame French Casement Windows (8221)													ENERGY STAR			
Grille Option	Glazing thickness	NFRC Total Unit Calculations Glazing Option	CPD #	U-Value	Solar Heat Gain Coefficient	Visible Light Transmittance	Condensation Resistance Rating	US ENERGY STAR V 7.0				U-Value (metric)	Maximum Air Leakage L/s/m2	Air Infiltration/Exfiltration Average	Energy Rating	CANADA ENERGY STAR v5.0
								N	NC	SC	S					
No GIA or SDL	3/4"	Clear Insul	WEA-N-290-00751-00001	0.46	0.57	0.59	42					2.61	1.5	0.02	16	
	3/4"	Insul Low-E	WEA-N-290-00768-00001	0.33	0.31	0.52	52					1.87	1.5	0.02	17	
	3/4"	Insul Low E w/Argon	WEA-N-290-00876-00001	0.30	0.30	0.52	55					1.70	1.5	0.02	20	
	3/4"	Passive Solar	WEA-N-290-00803-00001	0.34	0.50	0.57	52					1.93	1.5	0.02	27	
	3/4"	Passive Solar w/Argon	WEA-N-290-00912-00001	0.31	0.50	0.57	55					1.76	1.5	0.02	30	
	3/4"	Passive Solar Extreme	WEA-N-290-00809-00001	0.29	0.45	0.56	41					1.65	1.5	0.02	30	
	3/4"	Passive Solar Extreme w/Argon	WEA-N-290-00918-00001	0.27	0.45	0.56	44					1.53	1.5	0.02	32	
	3/4"	Zo-e-shield 5	WEA-N-290-00785-00001	0.33	0.21	0.47	53					1.87	1.5	0.02	11	
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-290-00894-00001	0.29	0.20	0.47	56				Y	1.65	1.5	0.02	15	
	3/4"	Zo-e-shield 5 Extreme	WEA-N-290-00828-00001	0.28	0.20	0.45	42			Y	Y	1.59	1.5	0.02	17	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-290-00936-00001	0.26	0.20	0.45	45			Y	Y	1.48	1.5	0.02	19	
	1"	Zo-e-shield 6	WEA-N-290-00846-00001	0.35	0.21	0.46	50					1.99	1.5	0.02	9	
	1"	Zo-e-shield 6 w/ Argon	WEA-N-290-00948-00001	0.30	0.20	0.46	53				Y	1.70	1.5	0.02	14	
	1"	Zo-e SafeGuard Certified	WEA-N-290-00864-00001	0.34	0.21	0.45	50					1.93	1.5	0.02	10	
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-290-00966-00001	0.30	0.20	0.45	54				Y	1.70	1.5	0.02	14	
	3/4"	Insul Low-E 240	WEA-N-290-00815-00001	0.33	0.19	0.29	52					1.87	1.5	0.02	10	
	3/4"	Insul Low-E 240 w/Argon	WEA-N-290-00924-00001	0.30	0.19	0.29	55				Y	1.70	1.5	0.02	14	
	3/4"	Insul Low-E 340	WEA-N-290-00821-00001	0.33	0.14	0.28	52					1.87	1.5	0.02	7	
	3/4"	Insul Low-E 340 w/Argon	WEA-N-290-00930-00001	0.30	0.13	0.28	55				Y	1.70	1.5	0.02	10	
	3/4"	Bronze Low E	WEA-N-290-00779-00001	0.33	0.29	0.39	52					1.87	1.5	0.02	16	
3/4"	Bronze Low E w/Argon	WEA-N-290-00888-00001	0.30	0.29	0.39	55					1.70	1.5	0.02	19		
Less Than 1" GIA or SDL	3/4"	Clear Insul	WEA-N-290-00751-00002	0.46	0.50	0.53	42					2.61	1.5	0.02	12	
	3/4"	Insul Low-E	WEA-N-290-00768-00002	0.33	0.27	0.46	52					1.87	1.5	0.02	15	
	3/4"	Insul Low E w/Argon	WEA-N-290-00876-00002	0.30	0.27	0.46	55					1.70	1.5	0.02	18	
	3/4"	Passive Solar	WEA-N-290-00803-00002	0.34	0.44	0.51	52					1.93	1.5	0.02	23	
	3/4"	Passive Solar w/Argon	WEA-N-290-00912-00002	0.31	0.45	0.51	55					1.76	1.5	0.02	27	
	3/4"	Passive Solar Extreme	WEA-N-290-00809-00002	0.29	0.40	0.49	41					1.65	1.5	0.02	27	
	3/4"	Passive Solar Extreme w/Argon	WEA-N-290-00918-00002	0.27	0.41	0.49	44					1.53	1.5	0.02	30	
	3/4"	Zo-e-shield 5	WEA-N-290-00785-00002	0.33	0.19	0.41	53					1.87	1.5	0.02	10	
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-290-00894-00002	0.29	0.18	0.41	56				Y	1.65	1.5	0.02	14	
	3/4"	Zo-e-shield 5 Extreme	WEA-N-290-00828-00002	0.28	0.18	0.40	42			Y	Y	1.59	1.5	0.02	16	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-290-00936-00002	0.26	0.18	0.40	45			Y	Y	1.48	1.5	0.02	18	
	1"	Zo-e-shield 6	WEA-N-290-00847-00001	0.36	0.19	0.40	50					2.04	1.5	0.02	6	
	1"	Zo-e-shield 6 w/ Argon	WEA-N-290-00949-00001	0.34	0.18	0.40	53					1.93	1.5	0.02	8	
	1"	Zo-e SafeGuard Certified	WEA-N-290-00865-00001	0.36	0.19	0.40	50					2.04	1.5	0.02	6	
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-290-00967-00001	0.32	0.18	0.40	54				Y	1.82	1.5	0.02	10	
	3/4"	Insul Low-E 240	WEA-N-290-00815-00002	0.33	0.17	0.26	52					1.87	1.5	0.02	9	
	3/4"	Insul Low-E 240 w/Argon	WEA-N-290-00924-00002	0.30	0.17	0.26	55				Y	1.70	1.5	0.02	13	
	3/4"	Insul Low-E 340	WEA-N-290-00821-00002	0.33	0.13	0.25	52					1.87	1.5	0.02	7	
	3/4"	Insul Low-E 340 w/Argon	WEA-N-290-00930-00002	0.30	0.12	0.25	55				Y	1.70	1.5	0.02	10	
	3/4"	Bronze Low E	WEA-N-290-00779-00002	0.33	0.26	0.34	52					1.87	1.5	0.02	14	
3/4"	Bronze Low E w/Argon	WEA-N-290-00888-00002	0.30	0.26	0.34	55					1.70	1.5	0.02	18		
1" Or Over GIA or SDL	3/4"	Clear Insul	WEA-N-290-00751-00004	0.46	0.45	0.46	42					2.61	1.5	0.02	9	
	3/4"	Insul Low-E	WEA-N-290-00768-00004	0.33	0.25	0.40	52					1.87	1.5	0.02	13	
	3/4"	Insul Low E w/Argon	WEA-N-290-00876-00004	0.30	0.24	0.40	55					1.70	1.5	0.02	17	
	3/4"	Passive Solar	WEA-N-290-00803-00004	0.34	0.39	0.45	52					1.93	1.5	0.02	20	
	3/4"	Passive Solar w/Argon	WEA-N-290-00912-00004	0.31	0.40	0.45	55					1.76	1.5	0.02	25	
	3/4"	Passive Solar Extreme	WEA-N-290-00809-00004	0.29	0.36	0.43	41					1.65	1.5	0.02	25	
	3/4"	Passive Solar Extreme w/Argon	WEA-N-290-00918-00004	0.27	0.36	0.43	44					1.53	1.5	0.02	27	
	3/4"	Zo-e-shield 5	WEA-N-290-00785-00004	0.33	0.17	0.36	53					1.87	1.5	0.02	9	
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-290-00894-00004	0.29	0.16	0.36	56				Y	1.65	1.5	0.02	13	
	3/4"	Zo-e-shield 5 Extreme	WEA-N-290-00828-00004	0.28	0.16	0.36	42			Y	Y	1.59	1.5	0.02	14	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-290-00936-00004	0.26	0.16	0.36	45			Y	Y	1.48	1.5	0.02	17	
	1"	Zo-e-shield 6	WEA-N-290-00848-00001	0.36	0.17	0.36	50					2.04	1.5	0.02	5	
	1"	Zo-e-shield 6 w/ Argon	WEA-N-290-00950-00001	0.31	0.16	0.36	53				Y	1.76	1.5	0.02	11	
	1"	Zo-e SafeGuard Certified	WEA-N-290-00866-00001	0.36	0.17	0.35	50					2.04	1.5	0.02	5	
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-290-00968-00001	0.32	0.16	0.35	54				Y	1.82	1.5	0.02	9	
	3/4"	Insul Low-E 240	WEA-N-290-00815-00004	0.33	0.16	0.22	52					1.87	1.5	0.02	8	
	3/4"	Insul Low-E 240 w/Argon	WEA-N-290-00924-00004	0.30	0.15	0.22	55				Y	1.70	1.5	0.02	11	
	3/4"	Insul Low-E 340	WEA-N-290-00822-00001	0.33	0.12	0.22	52					1.87	1.5	0.02	6	
	3/4"	Insul Low-E 340 w/Argon	WEA-N-290-00930-00004	0.30	0.11	0.22	55				Y	1.70	1.5	0.02	9	
	3/4"	Bronze Low E	WEA-N-290-00779-00004	0.33	0.24	0.30	52					1.87	1.5	0.02	13	
3/4"	Bronze Low E w/Argon	WEA-N-290-00888-00004	0.30	0.23	0.30	55				Y	1.70	1.5	0.02	16		