



# Thermal Performance Data

Contemporary Flush Frame Direct-set Windows (8312)

**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		
		=0.25		
		=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/m <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 glass lite thicknesses.

ENERGY PERFORMANCE DATA													CANADIAN ENERGY PERFORMANCE DATA				
Contemporary Flush Frame Direct-set Windows (8312)													CANADIAN ENERGY PERFORMANCE DATA				
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-310-00516-00001	0.49	0.67	0.71	41					2.78	1.5	0.05	18		
	3/4"	Insul Low-E	WEA-N-310-00517-00001	0.34	0.36	0.62	51					1.93	1.5	0.05	18		
	3/4"	Insul Low E w/Argon	WEA-N-310-00525-00001	0.30	0.36	0.62	54					1.70	1.5	0.05	23		
	3/4"	Passive Solar	WEA-N-310-00519-00001	0.35	0.59	0.68	51					1.99	1.5	0.05	30		
	3/4"	Passive Solar w/Argon	WEA-N-310-00527-00001	0.31	0.59	0.68	54					1.76	1.5	0.05	35	Y	
	3/4"	Passive Solar Extreme	WEA-N-310-00522-00001	0.29	0.54	0.67	39					1.65	1.5	0.05	35	Y	
	3/4"	Passive Solar Extreme w/Argon	WEA-N-310-00530-00001	0.26	0.54	0.67	42	Y				1.48	1.5	0.05	39	Y	
	3/4"	Zo-e-shield 5	WEA-N-310-00518-00001	0.33	0.24	0.56	51					1.87	1.5	0.05	13		
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-310-00526-00001	0.30	0.24	0.56	55					1.70	1.5	0.05	17		
	3/4"	Zo-e-shield 5 Extreme	WEA-N-310-00523-00001	0.28	0.24	0.54	40					1.59	1.5	0.05	19		
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-310-00531-00001	0.25	0.23	0.54	44		Y	Y	Y	1.42	1.5	0.05	22		
	1"	Zo-e-shield 6	WEA-N-310-00582-00001	0.33	0.24	0.55	52					1.87	1.5	0.05	13		
	1"	Zo-e-shield 6 w/ Argon	WEA-N-310-00590-00001	0.29	0.23	0.55	55					1.65	1.5	0.05	17		
	1"	Zo-e SafeGuard Certified	WEA-N-310-00587-00001	0.33	0.24	0.55	52					1.87	1.5	0.05	13		
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-310-00595-00001	0.29	0.23	0.55	55					1.65	1.5	0.05	17		
	1"	Zo-e-shield 7	WEA-N-310-00622-00001	0.26	0.22	0.44	60				Y	Y	1.48	1.5	0.05	20	
	1"	Zo-e-shield 7 w/ Argon	WEA-N-310-00626-00001	0.22	0.22	0.44	63	Y	Y	Y	Y	1.25	1.5	0.05	25		
	3/4"	Insul Low-E 240	WEA-N-310-00520-00001	0.34	0.23	0.34	51					1.93	1.5	0.05	11		
	3/4"	Insul Low-E 240 w/Argon	WEA-N-310-00528-00001	0.31	0.22	0.34	54					1.76	1.5	0.05	14		
	3/4"	Insul Low-E 340	WEA-N-310-00521-00001	0.34	0.16	0.33	51					1.93	1.5	0.05	7		
3/4"	Insul Low-E 340 w/Argon	WEA-N-310-00529-00001	0.30	0.16	0.33	54					1.70	1.5	0.05	12			
3/4"	Bronze Low E	WEA-N-310-00517-00011	0.34	0.34	0.46	51					1.93	1.5	0.05	17			
3/4"	Bronze Low E w/Argon	WEA-N-310-00525-00011	0.30	0.34	0.46	54					1.70	1.5	0.05	22			
Less Than 1" GIA or SDL	3/4"	Clear Insul	WEA-N-310-00516-00002	0.49	0.61	0.64	41					2.78	1.5	0.05	14		
	3/4"	Insul Low-E	WEA-N-310-00517-00002	0.34	0.33	0.56	51					1.93	1.5	0.05	17		
	3/4"	Insul Low E w/Argon	WEA-N-310-00525-00002	0.30	0.33	0.56	54					1.70	1.5	0.05	22		
	3/4"	Passive Solar	WEA-N-310-00519-00002	0.35	0.53	0.61	51					1.99	1.5	0.05	27		
	3/4"	Passive Solar w/Argon	WEA-N-310-00527-00002	0.31	0.54	0.61	54					1.76	1.5	0.05	33		
	3/4"	Passive Solar Extreme	WEA-N-310-00522-00002	0.29	0.49	0.60	39					1.65	1.5	0.05	32		
	3/4"	Passive Solar Extreme w/Argon	WEA-N-310-00530-00002	0.26	0.49	0.60	42	Y				1.48	1.5	0.05	36	Y	
	3/4"	Zo-e-shield 5	WEA-N-310-00518-00002	0.33	0.22	0.50	51					1.87	1.5	0.05	12		
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-310-00526-00002	0.30	0.22	0.50	55					1.70	1.5	0.05	15		
	3/4"	Zo-e-shield 5 Extreme	WEA-N-310-00523-00002	0.28	0.22	0.49	40				Y	Y	1.59	1.5	0.05	18	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-310-00531-00002	0.25	0.21	0.49	44		Y	Y	Y	1.42	1.5	0.05	21		
	1"	Zo-e-shield 6	WEA-N-310-00582-00002	0.33	0.22	0.49	52					1.87	1.5	0.05	12		
	1"	Zo-e-shield 6 w/ Argon	WEA-N-310-00590-00002	0.29	0.21	0.49	55					1.65	1.5	0.05	16		
	1"	Zo-e SafeGuard Certified	WEA-N-310-00587-00002	0.33	0.22	0.49	52					1.87	1.5	0.05	12		
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-310-00595-00002	0.29	0.21	0.49	55					1.65	1.5	0.05	16		
	1"	Zo-e-shield 7	WEA-N-310-00623-00001	0.26	0.20	0.40	60				Y	Y	1.48	1.5	0.05	19	
	1"	Zo-e-shield 7 w/ Argon	WEA-N-310-00627-00001	0.22	0.20	0.40	63	Y	Y	Y	Y	1.25	1.5	0.05	24		
	3/4"	Insul Low-E 240	WEA-N-310-00520-00002	0.34	0.21	0.31	51					1.93	1.5	0.05	10		
	3/4"	Insul Low-E 240 w/Argon	WEA-N-310-00528-00002	0.31	0.20	0.31	54					1.76	1.5	0.05	13		
	3/4"	Insul Low-E 340	WEA-N-310-00521-00002	0.34	0.15	0.30	51					1.93	1.5	0.05	6		
3/4"	Insul Low-E 340 w/Argon	WEA-N-310-00529-00002	0.30	0.14	0.30	54					1.70	1.5	0.05	11			
3/4"	Bronze Low E	WEA-N-310-00517-00012	0.34	0.31	0.42	51					1.93	1.5	0.05	16			
3/4"	Bronze Low E w/Argon	WEA-N-310-00525-00012	0.30	0.31	0.42	54					1.70	1.5	0.05	21			
1" Or Over GIA or SDL	3/4"	Clear Insul	WEA-N-310-00516-00003	0.49	0.54	0.57	41					2.78	1.5	0.05	10		
	3/4"	Insul Low-E	WEA-N-310-00517-00003	0.34	0.30	0.49	51					1.93	1.5	0.05	15		
	3/4"	Insul Low E w/Argon	WEA-N-310-00525-00003	0.30	0.29	0.49	54					1.70	1.5	0.05	19		
	3/4"	Passive Solar	WEA-N-310-00519-00003	0.35	0.48	0.54	51					1.99	1.5	0.05	24		
	3/4"	Passive Solar w/Argon	WEA-N-310-00527-00003	0.31	0.48	0.54	54					1.76	1.5	0.05	29		
	3/4"	Passive Solar Extreme	WEA-N-310-00522-00003	0.29	0.44	0.53	39					1.65	1.5	0.05	29		
	3/4"	Passive Solar Extreme w/Argon	WEA-N-310-00530-00003	0.26	0.44	0.53	42	Y				1.48	1.5	0.05	33		
	3/4"	Zo-e-shield 5	WEA-N-310-00518-00003	0.33	0.20	0.45	51					1.87	1.5	0.05	11		
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-310-00526-00003	0.30	0.20	0.45	55					1.70	1.5	0.05	14		
	3/4"	Zo-e-shield 5 Extreme	WEA-N-310-00523-00003	0.28	0.20	0.44	40				Y	Y	1.59	1.5	0.05	17	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-310-00531-00003	0.25	0.19	0.44	44		Y	Y	Y	1.42	1.5	0.05	20		
	1"	Zo-e-shield 6	WEA-N-310-00582-00003	0.33	0.20	0.44	52					1.87	1.5	0.05	11		
	1"	Zo-e-shield 6 w/ Argon	WEA-N-310-00590-00003	0.29	0.19	0.44	55					1.65	1.5	0.05	15		
	1"	Zo-e SafeGuard Certified	WEA-N-310-00587-00003	0.33	0.20	0.44	52					1.87	1.5	0.05	11		
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-310-00595-00003	0.29	0.19	0.44	55					1.65	1.5	0.05	15		
	1"	Zo-e-shield 7	WEA-N-310-00623-00002	0.26	0.18	0.36	60				Y	Y	1.48	1.5	0.05	18	
	1"	Zo-e-shield 7 w/ Argon	WEA-N-310-00627-00002	0.22	0.18	0.36	63	Y	Y	Y	Y	1.25	1.5	0.05	23		
	3/4"	Insul Low-E 240	WEA-N-310-00520-00003	0.34	0.19	0.28	51					1.93	1.5	0.05	9		
	3/4"	Insul Low-E 240 w/Argon	WEA-N-310-00528-00003	0.31	0.18	0.28	54					1.76	1.5	0.05	12		
	3/4"	Insul Low-E 340	WEA-N-310-00521-00003	0.34	0.14	0.27	51					1.93	1.5	0.05	6		
3/4"	Insul Low-E 340 w/Argon	WEA-N-310-00529-00003	0.30	0.13	0.27	54					1.70	1.5	0.05	10			
3/4"	Bronze Low E	WEA-N-310-00517-00013	0.34	0.28	0.37	51					1.93	1.5	0.05	14			
3/4"	Bronze Low E w/Argon	WEA-N-310-00525-00013	0.30	0.28	0.37	54					1.70	1.5	0.05	19			