



# Thermal Performance Data

Premium Casement Windows - Picture/Transom (8211)

**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	>=0.40	
			=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**.

<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						
Premium Casement Windows - Picture/Transom (8211)											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				CANADA ENERGY STAR v5.0					
								N	NC	SC	S	U-Value (metric)	Maximum Air Leakage L/s/m2	Air Infiltration/Exfiltration Average	Energy Rating	U-Value (metric)	Maximum Air Leakage L/s/m2
No GIA or SDL	3/4"	Clear Insul	WEA-N-285-01401-00001	0.46	0.62	0.65	47					2.61	1.5	0.05	19		
	3/4"	Insul Low-E	WEA-N-285-01402-00001	0.32	0.34	0.57	53					1.82	1.5	0.05	20		
	3/4"	Insul Low E w/Argon	WEA-N-285-01410-00001	0.29	0.33	0.57	56					1.65	1.5	0.05	23		
	3/4"	Passive Solar	WEA-N-285-01405-00001	0.33	0.55	0.63	53					1.87	1.5	0.05	31		
	3/4"	Passive Solar w/Argon	WEA-N-285-01413-00001	0.29	0.55	0.63	56					1.65	1.5	0.05	36	Y	
	3/4"	Passive Solar Extreme	WEA-N-285-01406-00001	0.27	0.50	0.61	41					1.53	1.5	0.05	35	Y	
	3/4"	Passive Solar Extreme w/Argon	WEA-N-285-01414-00001	0.25	0.50	0.61	44	Y				1.42	1.5	0.05	38	Y	
	3/4"	Zo-e-shield 5	WEA-N-285-01403-00001	0.32	0.22	0.51	54				Y		1.82	1.5	0.05	13	
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-285-01411-00001	0.28	0.22	0.51	57			Y	Y		1.59	1.5	0.05	18	
	3/4"	Zo-e-shield 5 Extreme	WEA-N-285-01404-00001	0.26	0.22	0.50	42			Y	Y		1.48	1.5	0.05	20	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-285-01412-00001	0.24	0.22	0.50	45	Y	Y	Y		1.36	1.5	0.05	23		
	1"	Zo-e-shield 6	WEA-N-285-01483-00001	0.31	0.22	0.51	54				Y		1.76	1.5	0.05	14	
	1"	Zo-e-shield 6 w/ Argon	WEA-N-285-01491-00001	0.28	0.22	0.51	57			Y	Y		1.59	1.5	0.05	18	
	1"	Zo-e SafeGuard Certified	WEA-N-285-01488-00001	0.31	0.22	0.50	55				Y		1.76	1.5	0.05	14	
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-285-01496-00001	0.28	0.22	0.50	58			Y	Y		1.59	1.5	0.05	18	
	3/4"	Insul Low-E 240	WEA-N-285-01407-00001	0.32	0.21	0.32	53				Y		1.82	1.5	0.05	12	
	3/4"	Insul Low-E 240 w/Argon	WEA-N-285-01415-00001	0.29	0.20	0.32	56				Y		1.65	1.5	0.05	15	
	3/4"	Insul Low-E 340	WEA-N-285-01408-00001	0.32	0.15	0.31	53				Y		1.82	1.5	0.05	9	
	3/4"	Insul Low-E 340 w/Argon	WEA-N-285-01416-00001	0.28	0.15	0.31	57			Y	Y		1.59	1.5	0.05	14	
	3/4"	Bronze Low E	WEA-N-285-01402-00011	0.32	0.32	0.42	53						1.82	1.5	0.05	19	
3/4"	Bronze Low E w/Argon	WEA-N-285-01410-00011	0.29	0.32	0.42	56						1.65	1.5	0.05	22		
Less Than 1" GIA or SDL	3/4"	Clear Insul	WEA-N-285-01401-00002	0.46	0.56	0.58	47					2.61	1.5	0.05	15		
	3/4"	Insul Low-E	WEA-N-285-01402-00002	0.32	0.30	0.51	53					1.82	1.5	0.05	17		
	3/4"	Insul Low E w/Argon	WEA-N-285-01410-00002	0.29	0.30	0.51	56					1.65	1.5	0.05	21		
	3/4"	Passive Solar	WEA-N-285-01405-00002	0.33	0.49	0.56	53					1.87	1.5	0.05	27		
	3/4"	Passive Solar w/Argon	WEA-N-285-01413-00002	0.29	0.49	0.56	56					1.65	1.5	0.05	32		
	3/4"	Passive Solar Extreme	WEA-N-285-01406-00002	0.27	0.45	0.55	41					1.53	1.5	0.05	32		
	3/4"	Passive Solar Extreme w/Argon	WEA-N-285-01414-00002	0.25	0.45	0.55	44	Y				1.42	1.5	0.05	35	Y	
	3/4"	Zo-e-shield 5	WEA-N-285-01403-00002	0.32	0.20	0.46	54				Y		1.82	1.5	0.05	12	
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-285-01411-00002	0.28	0.20	0.46	57			Y	Y		1.59	1.5	0.05	17	
	3/4"	Zo-e-shield 5 Extreme	WEA-N-285-01404-00002	0.26	0.20	0.45	42			Y	Y		1.48	1.5	0.05	19	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-285-01412-00002	0.24	0.20	0.45	45	Y	Y	Y		1.36	1.5	0.05	22		
	1"	Zo-e-shield 6	WEA-N-285-01483-00002	0.31	0.20	0.45	54				Y		1.76	1.5	0.05	13	
	1"	Zo-e-shield 6 w/ Argon	WEA-N-285-01491-00002	0.28	0.20	0.45	57			Y	Y		1.59	1.5	0.05	17	
	1"	Zo-e SafeGuard Certified	WEA-N-285-01488-00002	0.31	0.20	0.45	55				Y		1.76	1.5	0.05	13	
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-285-01496-00002	0.28	0.20	0.45	58			Y	Y		1.59	1.5	0.05	17	
	3/4"	Insul Low-E 240	WEA-N-285-01407-00002	0.32	0.19	0.28	53				Y		1.82	1.5	0.05	11	
	3/4"	Insul Low-E 240 w/Argon	WEA-N-285-01415-00002	0.29	0.19	0.28	56				Y		1.65	1.5	0.05	15	
	3/4"	Insul Low-E 340	WEA-N-285-01408-00002	0.32	0.14	0.28	53				Y		1.82	1.5	0.05	8	
	3/4"	Insul Low-E 340 w/Argon	WEA-N-285-01416-00002	0.28	0.13	0.28	57			Y	Y		1.59	1.5	0.05	13	
	3/4"	Bronze Low E	WEA-N-285-01402-00012	0.32	0.29	0.38	53						1.82	1.5	0.05	17	
3/4"	Bronze Low E w/Argon	WEA-N-285-01410-00012	0.29	0.29	0.38	56						1.65	1.5	0.05	21		
1" Or Over GIA or SDL	3/4"	Clear Insul	WEA-N-285-01401-00003	0.46	0.50	0.52	47					2.61	1.5	0.05	12		
	3/4"	Insul Low-E	WEA-N-285-01402-00003	0.32	0.27	0.45	53					1.82	1.5	0.05	16		
	3/4"	Insul Low E w/Argon	WEA-N-285-01410-00003	0.29	0.27	0.45	56					1.65	1.5	0.05	19		
	3/4"	Passive Solar	WEA-N-285-01405-00003	0.33	0.44	0.50	53					1.87	1.5	0.05	24		
	3/4"	Passive Solar w/Argon	WEA-N-285-01413-00003	0.29	0.44	0.50	56					1.65	1.5	0.05	29		
	3/4"	Passive Solar Extreme	WEA-N-285-01406-00003	0.27	0.40	0.49	41					1.53	1.5	0.05	29		
	3/4"	Passive Solar Extreme w/Argon	WEA-N-285-01414-00003	0.25	0.40	0.49	44	Y	Y			1.42	1.5	0.05	32		
	3/4"	Zo-e-shield 5	WEA-N-285-01403-00003	0.32	0.18	0.41	54				Y		1.82	1.5	0.05	10	
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-285-01411-00003	0.28	0.18	0.41	57			Y	Y		1.59	1.5	0.05	15	
	3/4"	Zo-e-shield 5 Extreme	WEA-N-285-01404-00003	0.26	0.18	0.40	42			Y	Y		1.48	1.5	0.05	18	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-285-01412-00003	0.24	0.18	0.40	45	Y	Y	Y		1.36	1.5	0.05	21		
	1"	Zo-e-shield 6	WEA-N-285-01483-00003	0.31	0.18	0.40	54				Y		1.76	1.5	0.05	12	
	1"	Zo-e-shield 6 w/ Argon	WEA-N-285-01491-00003	0.28	0.18	0.40	57			Y	Y		1.59	1.5	0.05	15	
	1"	Zo-e SafeGuard Certified	WEA-N-285-01488-00003	0.31	0.18	0.40	55				Y		1.76	1.5	0.05	12	
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-285-01496-00003	0.28	0.18	0.40	58			Y	Y		1.59	1.5	0.05	15	
	3/4"	Insul Low-E 240	WEA-N-285-01407-00003	0.32	0.17	0.25	53				Y		1.82	1.5	0.05	10	
	3/4"	Insul Low-E 240 w/Argon	WEA-N-285-01415-00003	0.29	0.17	0.25	56				Y		1.65	1.5	0.05	14	
	3/4"	Insul Low-E 340	WEA-N-285-01408-00003	0.32	0.13	0.24	53				Y		1.82	1.5	0.05	8	
	3/4"	Insul Low-E 340 w/Argon	WEA-N-285-01416-00003	0.28	0.12	0.24	57			Y	Y		1.59	1.5	0.05	12	
	3/4"	Bronze Low E	WEA-N-285-01402-00013	0.32	0.26	0.33	53						1.82	1.5	0.05	15	
3/4"	Bronze Low E w/Argon	WEA-N-285-01410-00013	0.29	0.26	0.33	56						1.65	1.5	0.05	19		

ENERGY PERFORMANCE DATA											CANADIAN ENERGY PERFORMANCE DATA				
Premium Casement Windows - Picture/Transom (8211)											CANADA ENERGY STAR v5.0				
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	US ENERGY STAR V 7.0				U-Value (metric)	Maximum Air Leakage L/s/m2	Air Infiltration/Exfiltration Average	Energy Rating
								N	NC	SC	S				
No GIA or SDL	1"	Triple Low-E	WEA-N-285-01433-00001	0.29	0.31	0.52	59					1.65	1.5	0.05	22
	1"	Triple Low-E w/ Argon	WEA-N-285-01445-00001	0.26	0.31	0.52	62					1.48	1.5	0.05	25
	1"	Zo-e-shield 7	WEA-N-285-01439-00001	0.25	0.20	0.41	63		Y	Y	Y	1.42	1.5	0.05	20
	1"	Zo-e-shield 7 w/ Argon	WEA-N-285-01451-00001	0.21	0.20	0.41	67	Y	Y	Y	Y	1.19	1.5	0.05	25
	1-3/8"	ES Zo-e-shield 7	WEA-N-285-01568-00001	0.20	0.20	0.41	68	Y	Y	Y	Y	1.14	1.5	0.05	26
	1-3/8"	ES Zo-e-shield 7 w/ Argon	WEA-N-285-01575-00001	0.17	0.20	0.41	71	Y	Y	Y	Y	0.97	1.5	0.05	30
	1-3/8"	ES Triple Insul Low-E	WEA-N-285-01569-00001	0.25	0.31	0.52	62		Y			1.42	1.5	0.05	27
	1-3/8"	ES Triple Insul Low-E w/ Argon	WEA-N-285-01576-00001	0.23	0.31	0.52	64		Y			1.31	1.5	0.05	29
	1-3/8"	ES Triple Insul LE 272/CL/LE180	WEA-N-285-01570-00001	0.20	0.30	0.50	67	Y	Y			1.14	1.5	0.05	32
	1-3/8"	ES Triple Insul LE 272/CL/LE180 w/Argon	WEA-N-285-01577-00001	0.18	0.30	0.50	70	Y	Y			1.02	1.5	0.05	35
	1-3/8"	ES Triple Insul LE 366/CL/LEi89	WEA-N-285-01567-00001	0.21	0.20	0.46	50	Y	Y	Y	Y	1.19	1.5	0.05	25
	1-3/8"	ES Triple Insul LE 366/CL/LEi89 w/Argon	WEA-N-285-01574-00001	0.20	0.20	0.46	53	Y	Y	Y	Y	1.14	1.5	0.05	26
	1-3/8"	ES Triple Insul LE 366/CL/LE180	WEA-N-285-01566-00001	0.20	0.20	0.45	68	Y	Y	Y	Y	1.14	1.5	0.05	26
	1-3/8"	ES Triple Insul LE 366/CL/LE180 w/Argon	WEA-N-285-01573-00001	0.18	0.20	0.45	70	Y	Y	Y	Y	1.02	1.5	0.05	29
Less Than 1" GIA or SDL	1"	Triple Low-E	WEA-N-285-01434-00001	0.30	0.28	0.47	59					1.70	1.5	0.05	19
	1"	Triple Low-E w/ Argon	WEA-N-285-01446-00001	0.26	0.28	0.47	62					1.48	1.5	0.05	24
	1"	Zo-e-shield 7	WEA-N-285-01440-00001	0.25	0.19	0.37	63		Y	Y	Y	1.42	1.5	0.05	20
	1"	Zo-e-shield 7 w/ Argon	WEA-N-285-01452-00001	0.22	0.18	0.37	67	Y	Y	Y	Y	1.25	1.5	0.05	23
	1-3/8"	ES Zo-e-shield 7	WEA-N-285-01568-00002	0.20	0.18	0.37	68	Y	Y	Y	Y	1.14	1.5	0.05	25
	1-3/8"	ES Zo-e-shield 7 w/ Argon	WEA-N-285-01575-00002	0.17	0.18	0.37	71	Y	Y	Y	Y	0.97	1.5	0.05	29
	1-3/8"	ES Triple Insul Low-E	WEA-N-285-01569-00002	0.25	0.28	0.47	62		Y			1.42	1.5	0.05	25
	1-3/8"	ES Triple Insul Low-E w/ Argon	WEA-N-285-01576-00002	0.23	0.28	0.47	64		Y			1.31	1.5	0.05	27
	1-3/8"	ES Triple Insul LE 272/CL/LE180	WEA-N-285-01570-00002	0.20	0.27	0.45	67	Y	Y			1.14	1.5	0.05	31
	1-3/8"	ES Triple Insul LE 272/CL/LE180 w/Argon	WEA-N-285-01577-00002	0.18	0.27	0.45	70	Y	Y			1.02	1.5	0.05	33
	1-3/8"	ES Triple Insul LE 366/CL/LEi89	WEA-N-285-01567-00002	0.21	0.18	0.41	50	Y	Y	Y	Y	1.19	1.5	0.05	24
	1-3/8"	ES Triple Insul LE 366/CL/LEi89 w/Argon	WEA-N-285-01574-00002	0.20	0.18	0.41	53	Y	Y	Y	Y	1.14	1.5	0.05	25
	1-3/8"	ES Triple Insul LE 366/CL/LE180	WEA-N-285-01566-00002	0.20	0.18	0.40	68	Y	Y	Y	Y	1.14	1.5	0.05	25
	1-3/8"	ES Triple Insul LE 366/CL/LE180 w/Argon	WEA-N-285-01573-00002	0.18	0.18	0.40	70	Y	Y	Y	Y	1.02	1.5	0.05	28
1" Or Over GIA or SDL	1"	Triple Low-E	WEA-N-285-01434-00002	0.30	0.25	0.41	59					1.70	1.5	0.05	17
	1"	Triple Low-E w/ Argon	WEA-N-285-01446-00002	0.26	0.25	0.41	62					1.48	1.5	0.05	22
	1"	Zo-e-shield 7	WEA-N-285-01440-00002	0.25	0.17	0.32	63		Y	Y	Y	1.42	1.5	0.05	19
	1"	Zo-e-shield 7 w/ Argon	WEA-N-285-01452-00002	0.22	0.17	0.32	67	Y	Y	Y	Y	1.25	1.5	0.05	22
	1-3/8"	ES Zo-e-shield 7	WEA-N-285-01568-00003	0.20	0.17	0.32	68	Y	Y	Y	Y	1.14	1.5	0.05	25
	1-3/8"	ES Zo-e-shield 7 w/ Argon	WEA-N-285-01575-00003	0.17	0.16	0.32	71		Y	Y	Y	0.97	1.5	0.05	28
	1-3/8"	ES Triple Insul Low-E	WEA-N-285-01569-00003	0.25	0.25	0.41	62		Y			1.42	1.5	0.05	23
	1-3/8"	ES Triple Insul Low-E w/ Argon	WEA-N-285-01576-00003	0.23	0.25	0.41	64		Y			1.31	1.5	0.05	26
	1-3/8"	ES Triple Insul LE 272/CL/LE180	WEA-N-285-01570-00003	0.20	0.24	0.40	67	Y	Y			1.14	1.5	0.05	29
	1-3/8"	ES Triple Insul LE 272/CL/LE180 w/Argon	WEA-N-285-01577-00003	0.18	0.24	0.40	70	Y	Y			1.02	1.5	0.05	31
	1-3/8"	ES Triple Insul LE 366/CL/LEi89	WEA-N-285-01567-00003	0.21	0.17	0.36	50	Y	Y	Y	Y	1.19	1.5	0.05	24
	1-3/8"	ES Triple Insul LE 366/CL/LEi89 w/Argon	WEA-N-285-01574-00003	0.20	0.16	0.36	53		Y	Y	Y	1.14	1.5	0.05	24
	1-3/8"	ES Triple Insul LE 366/CL/LE180	WEA-N-285-01566-00003	0.20	0.16	0.36	68		Y	Y	Y	1.14	1.5	0.05	24
	1-3/8"	ES Triple Insul LE 366/CL/LE180 w/Argon	WEA-N-285-01573-00003	0.18	0.16	0.36	70		Y	Y	Y	1.02	1.5	0.05	27