



Thermal Performance Data

Contemporary Casement Windows - Operating (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**.

^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 Casement Windows - Operating (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				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-286-01214-00001	0.45	0.54	0.56	45					2.56	1.5	0.05	15	
	3/4"	Insul Low-E	WEA-N-286-01215-00001	0.33	0.29	0.49	54					1.87	1.5	0.05	16	
	3/4"	Insul Low E w/Argon	WEA-N-286-01223-00001	0.30	0.29	0.49	57					1.70	1.5	0.05	19	
	3/4"	Passive Solar	WEA-N-286-01218-00001	0.34	0.47	0.54	53					1.93	1.5	0.05	25	
	3/4"	Passive Solar w/Argon	WEA-N-286-01226-00001	0.31	0.48	0.54	56					1.76	1.5	0.05	29	
	3/4"	Passive Solar Extreme	WEA-N-286-01219-00001	0.29	0.43	0.53	41					1.65	1.5	0.05	29	
	3/4"	Passive Solar Extreme w/Argon	WEA-N-286-01227-00001	0.27	0.43	0.53	44					1.53	1.5	0.05	31	
	3/4"	Zo-e-shield 5	WEA-N-286-01216-00001	0.33	0.20	0.44	54					1.87	1.5	0.05	11	
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-286-01224-00001	0.30	0.19	0.44	57				Y	1.70	1.5	0.05	14	
	3/4"	Zo-e-shield 5 Extreme	WEA-N-286-01217-00001	0.28	0.19	0.43	42			Y	Y	1.59	1.5	0.05	16	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-286-01225-00001	0.26	0.19	0.43	45			Y	Y	1.48	1.5	0.05	18	
	1"	Zo-e-shield 6	WEA-N-286-01296-00001	0.33	0.19	0.44	54					1.87	1.5	0.05	10	
	1"	Zo-e-shield 6 w/ Argon	WEA-N-286-01304-00001	0.30	0.19	0.44	57				Y	1.70	1.5	0.05	14	
	1"	Zo-e SafeGuard Certified	WEA-N-286-01301-00001	0.32	0.19	0.43	55				Y	1.82	1.5	0.05	11	
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-286-01309-00001	0.29	0.19	0.43	58				Y	1.65	1.5	0.05	15	
	3/4"	Insul Low-E 240	WEA-N-286-01220-00001	0.34	0.18	0.27	53					1.93	1.5	0.05	8	
	3/4"	Insul Low-E 240 w/Argon	WEA-N-286-01228-00001	0.31	0.18	0.27	56				Y	1.76	1.5	0.05	12	
	3/4"	Insul Low-E 340	WEA-N-286-01221-00001	0.33	0.13	0.27	54					1.87	1.5	0.05	6	
	3/4"	Insul Low-E 340 w/Argon	WEA-N-286-01229-00001	0.30	0.13	0.27	57				Y	1.70	1.5	0.05	10	
	3/4"	Bronze Low E	WEA-N-286-01215-00011	0.33	0.28	0.36	54					1.87	1.5	0.05	15	
3/4"	Bronze Low E w/Argon	WEA-N-286-01223-00011	0.30	0.28	0.36	57					1.70	1.5	0.05	19		
Less Than 1" GIA or SDL	3/4"	Clear Insul	WEA-N-286-01214-00002	0.45	0.49	0.51	45					2.56	1.5	0.05	12	
	3/4"	Insul Low-E	WEA-N-286-01215-00002	0.33	0.27	0.44	54					1.87	1.5	0.05	15	
	3/4"	Insul Low E w/Argon	WEA-N-286-01223-00002	0.30	0.26	0.44	57					1.70	1.5	0.05	18	
	3/4"	Passive Solar	WEA-N-286-01218-00002	0.34	0.43	0.49	53					1.93	1.5	0.05	22	
	3/4"	Passive Solar w/Argon	WEA-N-286-01226-00002	0.31	0.43	0.49	56					1.76	1.5	0.05	26	
	3/4"	Passive Solar Extreme	WEA-N-286-01219-00002	0.29	0.39	0.48	41					1.65	1.5	0.05	26	
	3/4"	Passive Solar Extreme w/Argon	WEA-N-286-01227-00002	0.27	0.39	0.48	44					1.53	1.5	0.05	29	
	3/4"	Zo-e-shield 5	WEA-N-286-01216-00002	0.33	0.18	0.40	54					1.87	1.5	0.05	9	
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-286-01224-00002	0.30	0.18	0.40	57				Y	1.70	1.5	0.05	13	
	3/4"	Zo-e-shield 5 Extreme	WEA-N-286-01217-00002	0.28	0.18	0.39	42			Y	Y	1.59	1.5	0.05	15	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-286-01225-00002	0.26	0.17	0.39	45			Y	Y	1.48	1.5	0.05	17	
	1"	Zo-e-shield 6	WEA-N-286-01296-00002	0.33	0.18	0.39	54					1.87	1.5	0.05	9	
	1"	Zo-e-shield 6 w/ Argon	WEA-N-286-01304-00002	0.30	0.18	0.39	57				Y	1.70	1.5	0.05	13	
	1"	Zo-e SafeGuard Certified	WEA-N-286-01301-00002	0.32	0.18	0.39	55				Y	1.82	1.5	0.05	10	
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-286-01309-00002	0.29	0.17	0.39	58				Y	1.65	1.5	0.05	14	
	3/4"	Insul Low-E 240	WEA-N-286-01220-00002	0.34	0.17	0.25	53					1.93	1.5	0.05	7	
	3/4"	Insul Low-E 240 w/Argon	WEA-N-286-01228-00002	0.31	0.16	0.25	56				Y	1.76	1.5	0.05	11	
	3/4"	Insul Low-E 340	WEA-N-286-01221-00002	0.33	0.12	0.24	54					1.87	1.5	0.05	6	
	3/4"	Insul Low-E 340 w/Argon	WEA-N-286-01229-00002	0.30	0.12	0.24	57				Y	1.70	1.5	0.05	10	
	3/4"	Bronze Low E	WEA-N-286-01215-00012	0.33	0.25	0.33	54					1.87	1.5	0.05	13	
3/4"	Bronze Low E w/Argon	WEA-N-286-01223-00012	0.30	0.25	0.33	57					1.70	1.5	0.05	17		
1" Or Over GIA or SDL	3/4"	Clear Insul	WEA-N-286-01214-00003	0.45	0.44	0.46	45					2.56	1.5	0.05	9	
	3/4"	Insul Low-E	WEA-N-286-01215-00003	0.33	0.24	0.40	54					1.87	1.5	0.05	13	
	3/4"	Insul Low E w/Argon	WEA-N-286-01223-00003	0.30	0.24	0.40	57					1.70	1.5	0.05	17	
	3/4"	Passive Solar	WEA-N-286-01218-00003	0.34	0.39	0.44	53					1.93	1.5	0.05	20	
	3/4"	Passive Solar w/Argon	WEA-N-286-01226-00003	0.31	0.39	0.44	56					1.76	1.5	0.05	24	
	3/4"	Passive Solar Extreme	WEA-N-286-01219-00003	0.29	0.36	0.43	41					1.65	1.5	0.05	25	
	3/4"	Passive Solar Extreme w/Argon	WEA-N-286-01227-00003	0.27	0.36	0.43	44					1.53	1.5	0.05	27	
	3/4"	Zo-e-shield 5	WEA-N-286-01216-00003	0.33	0.16	0.36	54					1.87	1.5	0.05	8	
	3/4"	Zo-e-shield 5 w/ Argon	WEA-N-286-01224-00003	0.30	0.16	0.36	57				Y	1.70	1.5	0.05	12	
	3/4"	Zo-e-shield 5 Extreme	WEA-N-286-01217-00003	0.28	0.16	0.35	42			Y	Y	1.59	1.5	0.05	14	
	3/4"	Zo-e-shield 5 Extreme w/ Argon	WEA-N-286-01225-00003	0.26	0.16	0.35	45			Y	Y	1.48	1.5	0.05	17	
	1"	Zo-e-shield 6	WEA-N-286-01296-00003	0.33	0.16	0.36	54					1.87	1.5	0.05	8	
	1"	Zo-e-shield 6 w/ Argon	WEA-N-286-01304-00003	0.30	0.16	0.36	57				Y	1.70	1.5	0.05	12	
	1"	Zo-e SafeGuard Certified	WEA-N-286-01301-00003	0.32	0.16	0.35	55				Y	1.82	1.5	0.05	9	
	1"	Zo-e SafeGuard Certified w/ Argon	WEA-N-286-01309-00003	0.29	0.16	0.35	58				Y	1.65	1.5	0.05	13	
	3/4"	Insul Low-E 240	WEA-N-286-01220-00003	0.34	0.15	0.22	53					1.93	1.5	0.05	6	
	3/4"	Insul Low-E 240 w/Argon	WEA-N-286-01228-00003	0.31	0.15	0.22	56				Y	1.76	1.5	0.05	10	
	3/4"	Insul Low-E 340	WEA-N-286-01221-00003	0.33	0.11	0.22	54					1.87	1.5	0.05	5	
	3/4"	Insul Low-E 340 w/Argon	WEA-N-286-01229-00003	0.30	0.11	0.22	57				Y	1.70	1.5	0.05	9	
	3/4"	Bronze Low E	WEA-N-286-01215-00013	0.33	0.23	0.30	54					1.87	1.5	0.05	12	
3/4"	Bronze Low E w/Argon	WEA-N-286-01223-00013	0.30	0.23	0.30	57				Y	1.70	1.5	0.05	16		

ENERGY PERFORMANCE DATA											CANADIAN ENERGY PERFORMANCE DATA				
Contemporary Casement Windows - Operating (8211)											CANADA ENERGY STAR v5.0				
Grille Option	Glazing thickness	^a NFRC Total Unit Calculations ^b 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/m ²	Air Infiltration/Exfiltration Average	Energy Rating
								N	NC	SC	S				
No GIA or SDL	1"	Triple Low-E	WEA-N-286-01246-00001	0.31	0.27	0.45	58					1.76	1.5	0.05	17
	1"	Triple Low-E w/ Argon	WEA-N-286-01258-00001	0.28	0.27	0.45	61					1.59	1.5	0.05	21
	1"	Zo-e-shield 7	WEA-N-286-01252-00001	0.27	0.18	0.35	63			Y	Y	1.53	1.5	0.05	17
	1"	Zo-e-shield 7 w/ Argon	WEA-N-286-01264-00001	0.24	0.18	0.35	66			Y	Y	1.36	1.5	0.05	21
	1 3/8"	ES Zo-e-shield 7	WEA-N-286-01381-00001	0.22	0.18	0.35	68	Y	Y	Y	Y	1.25	1.5	0.05	23
	1 3/8"	ES Zo-e-shield 7 w/ Argon	WEA-N-286-01388-00001	0.20	0.18	0.35	71	Y	Y	Y	Y	1.14	1.5	0.05	25
	1 3/8"	ES Triple Insul Low-E	WEA-N-286-01382-00001	0.27	0.27	0.45	62					1.53	1.5	0.05	22
	1 3/8"	ES Triple Insul Low-E w/ Argon	WEA-N-286-01389-00001	0.25	0.27	0.45	64			Y		1.42	1.5	0.05	24
	1 3/8"	ES Triple Insul LE 272/CL/LE180	WEA-N-286-01383-00001	0.23	0.26	0.43	67			Y		1.31	1.5	0.05	26
	1 3/8"	ES Triple Insul LE 272/CL/LE180 w/Argon	WEA-N-286-01390-00001	0.21	0.26	0.43	70	Y	Y			1.19	1.5	0.05	29
	1 3/8"	ES Triple Insul LE 366/CL/LEi89	WEA-N-286-01380-00001	0.24	0.18	0.40	50			Y	Y	1.36	1.5	0.05	21
	1 3/8"	ES Triple Insul LE 366/CL/LEi89 w/Argon	WEA-N-286-01387-00001	0.22	0.18	0.40	52	Y	Y	Y	Y	1.25	1.5	0.05	23
	1 3/8"	ES Triple Insul LE 366/CL/LE180	WEA-N-286-01379-00001	0.23	0.18	0.39	67			Y	Y	1.31	1.5	0.05	22
	1 3/8"	ES Triple Insul LE 366/CL/LE180 w/Argon	WEA-N-286-01386-00001	0.20	0.17	0.39	70	Y	Y	Y	Y	1.14	1.5	0.05	25
Less Than 1" GIA or SDL	1"	Triple Low-E	WEA-N-286-01247-00001	0.31	0.25	0.41	58					1.76	1.5	0.05	16
	1"	Triple Low-E w/ Argon	WEA-N-286-01259-00001	0.28	0.25	0.41	61					1.59	1.5	0.05	20
	1"	Zo-e-shield 7	WEA-N-286-01253-00001	0.27	0.16	0.32	63			Y	Y	1.53	1.5	0.05	16
	1"	Zo-e-shield 7 w/ Argon	WEA-N-286-01265-00001	0.24	0.16	0.32	66			Y	Y	1.36	1.5	0.05	19
	1 3/8"	ES Zo-e-shield 7	WEA-N-286-01381-00002	0.22	0.16	0.32	68			Y	Y	1.25	1.5	0.05	22
	1 3/8"	ES Zo-e-shield 7 w/ Argon	WEA-N-286-01388-00002	0.20	0.16	0.32	71			Y	Y	1.14	1.5	0.05	24
	1 3/8"	ES Triple Insul Low-E	WEA-N-286-01382-00002	0.27	0.25	0.41	62					1.53	1.5	0.05	21
	1 3/8"	ES Triple Insul Low-E w/ Argon	WEA-N-286-01389-00002	0.25	0.25	0.41	64			Y		1.42	1.5	0.05	23
	1 3/8"	ES Triple Insul LE 272/CL/LE180	WEA-N-286-01383-00002	0.23	0.24	0.39	67			Y		1.31	1.5	0.05	25
	1 3/8"	ES Triple Insul LE 272/CL/LE180 w/Argon	WEA-N-286-01390-00002	0.21	0.24	0.39	70	Y	Y			1.19	1.5	0.05	28
	1 3/8"	ES Triple Insul LE 366/CL/LEi89	WEA-N-286-01380-00002	0.24	0.16	0.36	50			Y	Y	1.36	1.5	0.05	19
	1 3/8"	ES Triple Insul LE 366/CL/LEi89 w/Argon	WEA-N-286-01387-00002	0.22	0.16	0.36	52			Y	Y	1.25	1.5	0.05	22
	1 3/8"	ES Triple Insul LE 366/CL/LE180	WEA-N-286-01379-00002	0.23	0.16	0.35	67			Y	Y	1.31	1.5	0.05	20
	1 3/8"	ES Triple Insul LE 366/CL/LE180 w/Argon	WEA-N-286-01386-00002	0.20	0.16	0.35	70			Y	Y	1.14	1.5	0.05	24
1" Or Over GIA or SDL	1"	Triple Low-E	WEA-N-286-01247-00002	0.31	0.23	0.37	58					1.76	1.5	0.05	15
	1"	Triple Low-E w/ Argon	WEA-N-286-01259-00002	0.28	0.22	0.37	61			Y	Y	1.59	1.5	0.05	18
	1"	Zo-e-shield 7	WEA-N-286-01253-00002	0.27	0.15	0.29	63			Y	Y	1.53	1.5	0.05	15
	1"	Zo-e-shield 7 w/ Argon	WEA-N-286-01265-00002	0.24	0.15	0.29	66			Y	Y	1.36	1.5	0.05	19
	1 3/8"	ES Zo-e-shield 7	WEA-N-286-01381-00003	0.22	0.15	0.29	68			Y	Y	1.25	1.5	0.05	21
	1 3/8"	ES Zo-e-shield 7 w/ Argon	WEA-N-286-01388-00003	0.20	0.15	0.29	71			Y	Y	1.14	1.5	0.05	24
	1 3/8"	ES Triple Insul Low-E	WEA-N-286-01382-00003	0.27	0.22	0.37	62			Y	Y	1.53	1.5	0.05	19
	1 3/8"	ES Triple Insul Low-E w/ Argon	WEA-N-286-01389-00003	0.25	0.22	0.37	64			Y	Y	1.42	1.5	0.05	22
	1 3/8"	ES Triple Insul LE 272/CL/LE180	WEA-N-286-01383-00003	0.23	0.22	0.35	67			Y	Y	1.31	1.5	0.05	24
	1 3/8"	ES Triple Insul LE 272/CL/LE180 w/Argon	WEA-N-286-01390-00003	0.21	0.22	0.35	70	Y	Y	Y	Y	1.19	1.5	0.05	27
	1 3/8"	ES Triple Insul LE 366/CL/LEi89	WEA-N-286-01380-00003	0.24	0.15	0.32	50			Y	Y	1.36	1.5	0.05	19
	1 3/8"	ES Triple Insul LE 366/CL/LEi89 w/Argon	WEA-N-286-01387-00003	0.22	0.15	0.32	52			Y	Y	1.25	1.5	0.05	21
	1 3/8"	ES Triple Insul LE 366/CL/LE180	WEA-N-286-01379-00003	0.23	0.15	0.32	67			Y	Y	1.31	1.5	0.05	20
	1 3/8"	ES Triple Insul LE 366/CL/LE180 w/Argon	WEA-N-286-01386-00003	0.20	0.15	0.32	70			Y	Y	1.14	1.5	0.05	24