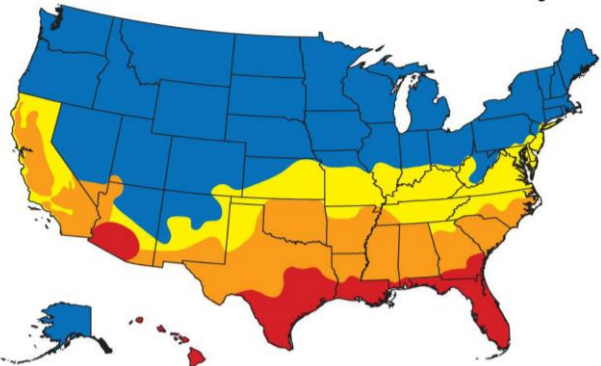


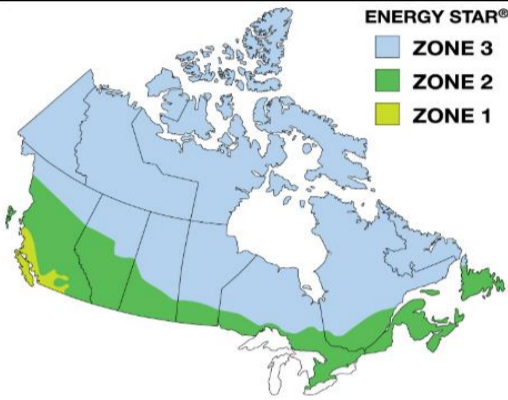
Thermal Performance Data

Contemporary Casement Windows - Operating (8211)

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 | |
| | | $= 0.30$ | ≥ 0.42 | |
| | North-Central | ≤ 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/ft ² | | | |

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/3mm glass lite thicknesses.

| ENERGY PERFORMANCE DATA | | | | | | | | ENERGY STAR | | CANADIAN ENERGY PERFORMANCE DATA | | | | ENERGY STAR | | | | | |
|--------------------------------------------------|-------------------------|--------------------------------------------------|-----------------------|---------|-----------------------------|-----------------------------|--------------------------------|----------------------|----|----------------------------------|---|------------------|----------------------------|---------------------------------------|---------------|----|---|---|--|
| Contemporary Casement Windows - Operating (8211) | | | | | | | | US ENERGY STAR V 6.0 | | | | | | CANADA ENERGY STAR v 4.1 | | | | | |
| Grille Option | Glazing thickness | aNFRC Total Unit Calculations bGlazing Option | CPD # | U-Value | Solar Heat Gain Coefficient | Visible Light Transmittance | Condensation Resistance Rating | N | NC | SC | S | U-Value (metric) | Maximum Air Leakage L/s/m2 | Air Infiltration/Exfiltration Average | Energy Rating | 1 | 2 | 3 | |
| | | | | | | | | | | | | | | | | | | | |
| No GIA or SDL | 3/4" | Clear Insul | WEA-N-286-00943-00001 | 0.45 | 0.54 | 0.56 | 43 | | | | | 2.56 | 0.6 | 0.05 | 15 | | | | |
| | 3/4" | Insul Low-E | WEA-N-286-00944-00001 | 0.33 | 0.29 | 0.49 | 54 | | | | | 1.87 | 0.6 | 0.05 | 16 | | | | |
| | 3/4" | Insul Low E w/Argon | WEA-N-286-00945-00001 | 0.30 | 0.29 | 0.49 | 58 | | Y | | | 1.70 | 0.6 | 0.05 | 19 | | | | |
| | 3/4" | Passive Solar | WEA-N-286-00950-00001 | 0.34 | 0.47 | 0.54 | 54 | | | | | 1.93 | 0.6 | 0.05 | 25 | | | | |
| | 3/4" | Passive Solar w/Argon | WEA-N-286-00951-00001 | 0.31 | 0.48 | 0.54 | 57 | | | | | 1.76 | 0.6 | 0.05 | 29 | Y | Y | | |
| | 3/4" | Passive Solar Extreme | WEA-N-286-00952-00001 | 0.29 | 0.43 | 0.53 | 42 | Y | | | | 1.65 | 0.6 | 0.05 | 29 | Y | | | |
| | 3/4" | Passive Solar Extreme w/Argon | WEA-N-286-00953-00001 | 0.27 | 0.43 | 0.53 | 45 | Y | | | | 1.53 | 0.6 | 0.05 | 31 | Y | Y | | |
| | 3/4" | Zo-e-shield 5 | WEA-N-286-00946-00001 | 0.33 | 0.20 | 0.44 | 55 | | | | Y | | 1.87 | 0.6 | 0.05 | 11 | | | |
| | 3/4" | Zo-e-shield 5 w/ Argon | WEA-N-286-00947-00001 | 0.30 | 0.19 | 0.44 | 58 | | Y | Y | Y | | 1.70 | 0.6 | 0.05 | 14 | | | |
| | 3/4" | Zo-e-shield 5 Extreme | WEA-N-286-00948-00001 | 0.28 | 0.19 | 0.43 | 43 | | Y | Y | Y | | 1.59 | 0.6 | 0.05 | 16 | Y | | |
| | 3/4" | Zo-e-shield 5 Extreme w/ Argon | WEA-N-286-00949-00001 | 0.26 | 0.19 | 0.43 | 46 | Y | Y | Y | Y | | 1.48 | 0.6 | 0.05 | 18 | Y | | |
| | 3/4" | Zo-e-shield 6 | WEA-N-286-00964-00001 | 0.34 | 0.20 | 0.43 | 52 | | | | Y | | 1.93 | 0.6 | 0.05 | 9 | | | |
| | 3/4" | Zo-e-shield 6 w/ Argon | WEA-N-286-00966-00001 | 0.30 | 0.19 | 0.43 | 56 | | Y | Y | Y | | 1.70 | 0.6 | 0.05 | 14 | | | |
| | 3/4" | Zo-e SafeGuard Certified | WEA-N-286-00980-00001 | 0.34 | 0.20 | 0.43 | 50 | | | | Y | | 1.93 | 0.6 | 0.05 | 9 | | | |
| | 3/4" | Zo-e SafeGuard Certified w/ Argon | WEA-N-286-00982-00001 | 0.30 | 0.19 | 0.43 | 56 | | Y | Y | Y | | 1.70 | 0.6 | 0.05 | 14 | | | |
| | 1" | Zo-e-shield 7 | WEA-N-286-00984-00001 | 0.27 | 0.18 | 0.35 | 63 | Y | Y | Y | Y | | 1.53 | 0.6 | 0.05 | 17 | Y | | |
| | 1" | Zo-e-shield 7 w/ Argon | WEA-N-286-00986-00001 | 0.24 | 0.18 | 0.35 | 67 | Y | Y | Y | Y | | 1.36 | 0.6 | 0.05 | 21 | Y | Y | |
| | 3/4" | Insul Low-E 240 | WEA-N-286-00954-00001 | 0.34 | 0.18 | 0.27 | 54 | | | | Y | | 1.93 | 0.6 | 0.05 | 8 | | | |
| | 3/4" | Insul Low-E 240 w/Argon | WEA-N-286-00955-00001 | 0.31 | 0.18 | 0.27 | 57 | | | | Y | | 1.76 | 0.6 | 0.05 | 12 | | | |
| | 3/4" | Insul Low-E 340 | WEA-N-286-00956-00001 | 0.33 | 0.13 | 0.27 | 55 | | | | Y | | 1.87 | 0.6 | 0.05 | 6 | | | |
| 3/4" | Insul Low-E 340 w/Argon | WEA-N-286-00957-00001 | 0.30 | 0.13 | 0.27 | 58 | | Y | Y | Y | | 1.70 | 0.6 | 0.05 | 10 | | | | |
| 3/4" | Bronze Low E | WEA-N-286-00944-00011 | 0.33 | 0.28 | 0.37 | 54 | | | | | | 1.87 | 0.6 | 0.05 | 15 | | | | |
| 3/4" | Bronze Low E w/Argon | WEA-N-286-00945-00011 | 0.30 | 0.28 | 0.37 | 58 | | Y | | | | 1.70 | 0.6 | 0.05 | 19 | | | | |
| Less Than 1" GIA or SDL | 3/4" | Clear Insul | WEA-N-286-00943-00002 | 0.45 | 0.49 | 0.51 | 43 | | | | | 2.56 | 0.6 | 0.05 | 12 | | | | |
| | 3/4" | Insul Low-E | WEA-N-286-00944-00002 | 0.33 | 0.27 | 0.44 | 54 | | | | | 1.87 | 0.6 | 0.05 | 15 | | | | |
| | 3/4" | Insul Low E w/Argon | WEA-N-286-00945-00002 | 0.30 | 0.26 | 0.44 | 58 | | Y | | | 1.70 | 0.6 | 0.05 | 18 | | | | |
| | 3/4" | Passive Solar | WEA-N-286-00950-00002 | 0.34 | 0.43 | 0.49 | 54 | | | | | 1.93 | 0.6 | 0.05 | 22 | | | | |
| | 3/4" | Passive Solar w/Argon | WEA-N-286-00951-00002 | 0.31 | 0.43 | 0.49 | 57 | | | | | 1.76 | 0.6 | 0.05 | 26 | Y | | | |
| | 3/4" | Passive Solar Extreme | WEA-N-286-00952-00002 | 0.29 | 0.39 | 0.48 | 42 | Y | Y | | | 1.65 | 0.6 | 0.05 | 26 | Y | | | |
| | 3/4" | Passive Solar Extreme w/Argon | WEA-N-286-00953-00002 | 0.27 | 0.39 | 0.48 | 45 | Y | Y | | | 1.53 | 0.6 | 0.05 | 29 | Y | | | |
| | 3/4" | Zo-e-shield 5 | WEA-N-286-00946-00002 | 0.33 | 0.18 | 0.40 | 55 | | | | Y | | 1.87 | 0.6 | 0.05 | 9 | | | |
| | 3/4" | Zo-e-shield 5 w/ Argon | WEA-N-286-00947-00002 | 0.30 | 0.18 | 0.40 | 58 | | Y | Y | Y | | 1.70 | 0.6 | 0.05 | 13 | | | |
| | 3/4" | Zo-e-shield 5 Extreme | WEA-N-286-00948-00002 | 0.28 | 0.18 | 0.39 | 43 | | Y | Y | Y | | 1.59 | 0.6 | 0.05 | 15 | | | |
| | 3/4" | Zo-e-shield 5 Extreme w/ Argon | WEA-N-286-00949-00002 | 0.26 | 0.17 | 0.39 | 46 | Y | Y | Y | Y | | 1.48 | 0.6 | 0.05 | 17 | Y | | |
| | 3/4" | Zo-e-shield 6 | WEA-N-286-00965-00001 | 0.35 | 0.18 | 0.39 | 52 | | | | Y | | 1.99 | 0.6 | 0.05 | 7 | | | |
| | 3/4" | Zo-e-shield 6 w/ Argon | WEA-N-286-00967-00001 | 0.31 | 0.18 | 0.39 | 56 | | | | Y | | 1.76 | 0.6 | 0.05 | 12 | | | |
| | 3/4" | Zo-e SafeGuard Certified | WEA-N-286-00981-00001 | 0.35 | 0.18 | 0.39 | 50 | | | | Y | | 1.99 | 0.6 | 0.05 | 7 | | | |
| | 3/4" | Zo-e SafeGuard Certified w/ Argon | WEA-N-286-00983-00001 | 0.31 | 0.18 | 0.39 | 56 | | | | Y | | 1.76 | 0.6 | 0.05 | 12 | | | |
| | 1" | Zo-e-shield 7 | WEA-N-286-00985-00001 | 0.27 | 0.16 | 0.32 | 63 | Y | Y | Y | Y | | 1.53 | 0.6 | 0.05 | 16 | | | |
| | 1" | Zo-e-shield 7 w/ Argon | WEA-N-286-00987-00001 | 0.24 | 0.16 | 0.32 | 67 | Y | Y | Y | Y | | 1.36 | 0.6 | 0.05 | 19 | Y | | |
| | 3/4" | Insul Low-E 240 | WEA-N-286-00954-00002 | 0.34 | 0.17 | 0.25 | 54 | | | | Y | | 1.93 | 0.6 | 0.05 | 7 | | | |
| | 3/4" | Insul Low-E 240 w/Argon | WEA-N-286-00955-00002 | 0.31 | 0.16 | 0.25 | 57 | | | | Y | | 1.76 | 0.6 | 0.05 | 11 | | | |
| | 3/4" | Insul Low-E 340 | WEA-N-286-00956-00002 | 0.33 | 0.12 | 0.24 | 55 | | | | Y | | 1.87 | 0.6 | 0.05 | 6 | | | |
| 3/4" | Insul Low-E 340 w/Argon | WEA-N-286-00957-00002 | 0.30 | 0.12 | 0.24 | 58 | | Y | Y | Y | | 1.70 | 0.6 | 0.05 | 10 | | | | |
| 3/4" | Bronze Low E | WEA-N-286-00944-00012 | 0.33 | 0.26 | 0.33 | 54 | | | | | | 1.87 | 0.6 | 0.05 | 14 | | | | |
| 3/4" | Bronze Low E w/Argon | WEA-N-286-00945-00012 | 0.30 | 0.25 | 0.33 | 58 | | Y | Y | Y | | 1.70 | 0.6 | 0.05 | 17 | | | | |
| 1" Or Over GIA or SDL | 3/4" | Clear Insul | WEA-N-286-00943-00003 | 0.45 | 0.44 | 0.46 | 43 | | | | | 2.56 | 0.6 | 0.05 | 9 | | | | |
| | 3/4" | Insul Low-E | WEA-N-286-00944-00003 | 0.33 | 0.24 | 0.40 | 54 | | | | Y | | 1.87 | 0.6 | 0.05 | 13 | | | |
| | 3/4" | Insul Low E w/Argon | WEA-N-286-00945-00003 | 0.30 | 0.24 | 0.40 | 58 | | Y | Y | Y | | 1.70 | 0.6 | 0.05 | 17 | | | |
| | 3/4" | Passive Solar | WEA-N-286-00950-00003 | 0.34 | 0.39 | 0.44 | 54 | | | | | 1.93 | 0.6 | 0.05 | 20 | | | | |
| | 3/4" | Passive Solar w/Argon | WEA-N-286-00951-00003 | 0.31 | 0.39 | 0.44 | 57 | | | | | 1.76 | 0.6 | 0.05 | 24 | | | | |
| | 3/4" | Passive Solar Extreme | WEA-N-286-00952-00003 | 0.29 | 0.36 | 0.43 | 42 | | Y | | | 1.65 | 0.6 | 0.05 | 25 | | | | |
| | 3/4" | Passive Solar Extreme w/Argon | WEA-N-286-00953-00003 | 0.27 | 0.36 | 0.43 | 45 | Y | Y | | | 1.53 | 0.6 | 0.05 | 27 | Y | | | |
| | 3/4" | Zo-e-shield 5 | WEA-N-286-00946-00003 | 0.33 | 0.17 | 0.36 | 55 | | | | Y | | 1.87 | 0.6 | 0.05 | 9 | | | |
| | 3/4" | Zo-e-shield 5 w/ Argon | WEA-N-286-00947-00003 | 0.30 | 0.16 | 0.36 | 58 | | Y | Y | Y | | 1.70 | 0.6 | 0.05 | 12 | | | |
| | 3/4" | Zo-e-shield 5 Extreme | WEA-N-286-00948-00003 | 0.28 | 0.16 | 0.35 | 43 | | Y | Y | Y | | 1.59 | 0.6 | 0.05 | 14 | | | |
| | 3/4" | Zo-e-shield 5 Extreme w/ Argon | WEA-N-286-00949-00003 | 0.26 | 0.16 | 0.35 | 46 | Y | Y | Y | Y | | 1.48 | 0.6 | 0.05 | 17 | Y | | |
| | 3/4" | Zo-e-shield 6 | WEA-N-286-00965-00002 | 0.35 | 0.17 | 0.35 | 52 | | | | Y | | 1.99 | 0.6 | 0.05 | 6 | | | |
| | 3/4" | Zo-e-shield 6 w/ Argon | WEA-N-286-00967-00002 | 0.31 | 0.16 | 0.35 | 56 | | | | Y | | 1.76 | 0.6 | 0.05 | 11 | | | |
| | 3/4" | Zo-e SafeGuard Certified | WEA-N-286-00981-00002 | 0.35 | 0.16 | 0.35 | 50 | | | | Y | | 1.99 | 0.6 | 0.05 | 6 | | | |
| | 3/4" | Zo-e SafeGuard Certified w/ Argon | WEA-N-286-00983-00002 | 0.31 | 0.16 | 0.35 | 56 | | | | Y | | 1.76 | 0.6 | 0.05 | 11 | | | |
| | 1" | Zo-e-shield 7 | WEA-N-286-00985-00002 | 0.27 | 0.15 | 0.29 | 63 | Y | Y | Y | Y | | 1.53 | 0.6 | 0.05 | 15 | | | |
| | 1" | Zo-e-shield 7 w/ Argon | WEA-N-286-00987-00002 | 0.24 | 0.15 | 0.29 | 67 | Y | Y | Y | Y | | 1.36 | 0.6 | 0.05 | 19 | Y | | |
| | 3/4" | Insul Low-E 240 | WEA-N-286-00954-00003 | 0.34 | 0.15 | 0.22 | 54 | | | | Y | | 1.93 | 0.6 | 0.05 | 6 | | | |
| | 3/4" | Insul Low-E 240 w/Argon | WEA-N-286-00955-00003 | 0.31 | 0.15 | 0.22 | 57 | | | | Y | | 1.76 | 0.6 | 0.05 | 10 | | | |
| | 3/4" | Insul Low-E 340 | WEA-N-286-00956-00003 | 0.33 | 0.11 | 0.22 | 55 | | | | Y | | 1.87 | 0.6 | 0.05 | 5 | | | |
| 3/4" | Insul Low-E 340 w/Argon | WEA-N-286-00957-00003 | 0.30 | 0.11 | 0.22 | 58 | | Y | Y | Y | | 1.70 | 0.6 | 0.05 | 9 | | | | |
| 3/4" | Bronze Low E | WEA-N-286-00944-00013 | 0.33 | 0.23 | 0.30 | 54 | | | | Y | | 1.87 | 0.6 | 0.05 | 12 | | | | |
| 3/4" | Bronze Low E w/Argon | WEA-N-286-00945-00013 | 0.30 | 0.23 | 0.30 | 58 | | Y | Y | Y | | 1.70 | 0.6 | 0.05 | 16 | | | | |