

## Weather Shield Thermal Performance Criteria

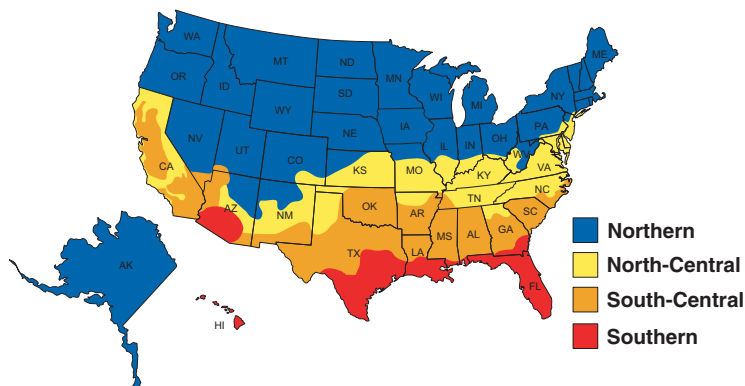


**Weather Shield®**  
Premium Windows & Doors



As a proud ENERGY STAR® partner, we ensure our products are rated, certified and labeled for U-Value and Solar Heat Gain by the National Fenestration Rating Council (NFRC). The 2010 ENERGY STAR criteria for residential windows and doors are tailored to four Climate Zones. A product's energy efficiency for a given climate is based on its impact on heat gain and loss in cold weather and heat gain in warm weather.

### United States ENERGY STAR Criteria



#### Windows

| Climate Zone  | U-Factor <sup>1</sup> | SHGC <sup>2</sup> |                               |
|---------------|-----------------------|-------------------|-------------------------------|
| Northern      | ≤0.30                 | Any               | Prescriptive                  |
|               | = 0.31                | ≥0.35             | Equivalent Energy Performance |
|               | = 0.32                | ≥0.40             |                               |
| North-Central | ≤0.32                 | ≤0.40             |                               |
| South-Central | ≤0.35                 | ≤0.30             |                               |
| Southern      | ≤0.60                 | ≤0.27             |                               |

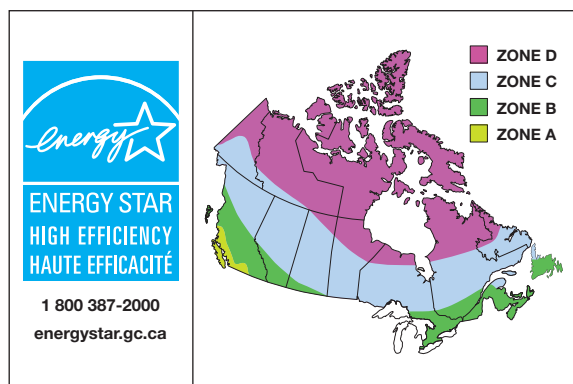
#### Doors

| Glazing Level | U-Factor <sup>1</sup> | SHGC <sup>2</sup> |
|---------------|-----------------------|-------------------|
| Opaque        | ≤0.21                 | No Rating         |
| ≤ 1/2-Lite    | ≤0.27                 | ≤0.30             |
| > 1/2-Lite    | ≤0.32                 | ≤0.30             |

<sup>1</sup> Btu/h • ft<sup>2</sup> • °F

<sup>2</sup> Fraction of Incident solar radiation

### Canadian ENERGY STAR Criteria



#### ENERGY STAR Requirements for Windows (Effective October 1, 2010)

| Zone | Heating Degree-Day Range | Compliance Paths                                                                                              |    |                                                                                                     |
|------|--------------------------|---------------------------------------------------------------------------------------------------------------|----|-----------------------------------------------------------------------------------------------------|
|      |                          | Energy Rating (ER)                                                                                            | or | U-Factor                                                                                            |
|      |                          | Minimum ER (unitless)<br>Maximum U-Factor 2.00<br>W/m <sup>2</sup> • K<br>(0.35 Btu/h • ft <sup>2</sup> • °F) |    | Maximum U-Factor<br>W/m <sup>2</sup> • K<br>(Btu/h • ft <sup>2</sup> • °F)<br>Minimum ER (unitless) |
| A    | ≤ 3500                   | 21                                                                                                            | or | 1.80 (0.32) 13                                                                                      |
| B    | > 3500 to ≤ 5500         | 25                                                                                                            | or | 1.60 (0.28) 17                                                                                      |
| C    | > 5500 to ≤ 8000         | 29                                                                                                            | or | 1.40 (0.25) 21                                                                                      |
| D    | > 8000                   | 34                                                                                                            | or | 1.20 (0.21) 25                                                                                      |

#### ENERGY STAR Requirements for Doors (Effective October 1, 2010)

| Zone | Heating Degree-Day Range | Compliance Paths                                                                                              |    |                                                                                                     |
|------|--------------------------|---------------------------------------------------------------------------------------------------------------|----|-----------------------------------------------------------------------------------------------------|
|      |                          | Energy Rating (ER)                                                                                            | or | U-Factor                                                                                            |
|      |                          | Minimum ER (unitless)<br>Maximum U-Factor 2.00<br>W/m <sup>2</sup> • K<br>(0.35 Btu/h • ft <sup>2</sup> • °F) |    | Maximum U-Factor<br>W/m <sup>2</sup> • K<br>(Btu/h • ft <sup>2</sup> • °F)<br>Minimum ER (unitless) |
| A    | ≤ 3500                   | 21                                                                                                            | or | 1.80 (0.32) 13                                                                                      |
| B    | > 3500 to ≤ 5500         | 25                                                                                                            | or | 1.60 (0.28) 17                                                                                      |
| C    | > 5500 to ≤ 8000         | 29                                                                                                            | or | 1.40 (0.25) 21                                                                                      |
| D    | > 8000                   | 34                                                                                                            | or | 1.20 (0.21) 25                                                                                      |

<sup>1</sup> The U-factor measures how well a window/door prevents hot or cold from transferring through the product. The lower the U-factor, the more energy efficient the material.

<sup>2</sup> The Solar Heat Gain Coefficient (SHGC) measures how well a window or door prevents heat from passing through it. The lower the window or door SHGC, the less heat it allows to pass through it.

Patio Doors are tested to the specification of > 1/2 lite panel.

All units are tested in accordance to National Fenestration Rating Council (NFRC) procedures. U-Factors are derived from computer simulations using WINDOW 5.2 and THERM 5.2 programs. Simulations are then verified by testing in accordance with NFRC 100-04.

The performance of windows and doors may be affected by factors beyond Weather Shield's control, such as handling and installation, construction details of the building, exposure conditions, maintenance, normal wear and tear, migration of an inert gas from the insulated glass unit and the like. Ratings (for example, R or U-factors, infiltration tests, etc.) are for comparison purposes only. While Weather Shield products are manufactured to meet or exceed published ratings, it is not possible to guarantee that they will meet or exceed those ratings after they have been installed, and this is specifically excluded from any warranty.

Weather Shield reserves the right to change its products without prior notification. Please verify with labels on products to confirm ratings and test dates. Ratings vary based on glazing, grilles, etc. This information is accurate based on the date specified on the test date referred to in the document.

# Thermal Performance Data

Signature Slider (8401)



**Weather Shield®**  
Windows & Doors

| ENERGY PERFORMANCE DATA                   |                   |                                |         |                             |                             |                                | ENERGY STAR    |    |    |   | CANADIAN ENERGY PERFORMANCE DATA |                         |                 | ENERGY STAR        |   |   |   |
|-------------------------------------------|-------------------|--------------------------------|---------|-----------------------------|-----------------------------|--------------------------------|----------------|----|----|---|----------------------------------|-------------------------|-----------------|--------------------|---|---|---|
| NFRC Total Unit Calculations <sup>a</sup> |                   |                                |         |                             |                             |                                | US Energy Star |    |    |   |                                  |                         |                 | CANADA Energy Star |   |   |   |
| Grille Option                             | Glazing thickness | Glazing Option                 | U Value | Solar Heat Gain Coefficient | Visible Light Transmittance | Condensation Resistance Rating | N              | NC | SC | S | U-Value (metric)                 | Air Infiltration L/s/m2 | Energy R rating | A                  | B | C | D |
| No Grilles                                | 3/4"              | Clear Insul                    | 0.46    | 0.59                        | 0.61                        | 44                             |                |    |    |   | 2.61                             | 0.46                    | 17              |                    |   |   |   |
|                                           | 3/4"              | Insul Low-E                    | 0.33    | 0.31                        | 0.53                        | 55                             |                |    |    |   | 1.87                             | 0.46                    | 17              |                    |   |   |   |
|                                           | 3/4"              | Insul Low E w/Argon            | 0.44    | 0.58                        | 0.61                        | 46                             |                |    |    |   | 2.50                             | 0.46                    | 19              |                    |   |   |   |
|                                           | 3/4"              | Zo-e-shield 5                  | 0.33    | 0.21                        | 0.48                        | 54                             |                |    | Y  | Y | 1.87                             | 0.46                    | 11              |                    |   |   |   |
|                                           | 3/4"              | Zo-e-shield 5 w/ Argon         | 0.30    | 0.21                        | 0.48                        | 57                             | Y              | Y  | Y  | Y | 1.70                             | 0.46                    | 15              | Y                  |   |   |   |
|                                           | 3/4"              | Zo-e-shield 5 Extreme          | 0.28    | 0.19                        | 0.43                        | 44                             | Y              | Y  | Y  | Y | 1.59                             | 0.46                    | 16              | Y                  | Y |   |   |
|                                           | 3/4"              | Zo-e-shield 5 Extreme w/ Argon | 0.26    | 0.19                        | 0.43                        | 48                             | Y              | Y  | Y  | Y | 1.48                             | 0.46                    | 18              | Y                  | Y |   |   |
|                                           | 3/4"              | Zo-e-shield 6                  | 0.34    | 0.21                        | 0.47                        | 53                             |                |    | Y  | Y | 1.93                             | 0.46                    | 10              |                    |   |   |   |
|                                           | 3/4"              | Zo-e-shield 6 w/ Argon         | 0.30    | 0.21                        | 0.47                        | 57                             | Y              | Y  | Y  | Y | 1.70                             | 0.46                    | 15              | Y                  |   |   |   |
| 5/8" - 13/16" GIA                         | 3/4"              | Clear Insul                    | 0.46    | 0.52                        | 0.54                        | 44                             |                |    |    |   | 2.61                             | 0.46                    | 13              |                    |   |   |   |
|                                           | 3/4"              | Insul Low-E                    | 0.33    | 0.28                        | 0.47                        | 55                             |                |    | Y  |   | 1.87                             | 0.46                    | 15              |                    |   |   |   |
|                                           | 3/4"              | Insul Low E w/Argon            | 0.44    | 0.52                        | 0.54                        | 46                             |                |    |    |   | 2.50                             | 0.46                    | 15              |                    |   |   |   |
|                                           | 3/4"              | Zo-e-shield 5                  | 0.33    | 0.19                        | 0.42                        | 54                             |                |    | Y  | Y | 1.87                             | 0.46                    | 10              |                    |   |   |   |
|                                           | 3/4"              | Zo-e-shield 5 w/ Argon         | 0.30    | 0.19                        | 0.42                        | 57                             | Y              | Y  | Y  | Y | 1.70                             | 0.46                    | 13              | Y                  |   |   |   |
|                                           | 3/4"              | Zo-e-shield 5 Extreme          | 0.28    | 0.18                        | 0.38                        | 44                             | Y              | Y  | Y  | Y | 1.59                             | 0.46                    | 15              | Y                  | Y |   |   |
|                                           | 3/4"              | Zo-e-shield 5 Extreme w/ Argon | 0.26    | 0.17                        | 0.38                        | 48                             | Y              | Y  | Y  | Y | 1.48                             | 0.46                    | 17              | Y                  | Y |   |   |
|                                           | 3/4"              | Zo-e-shield 6                  | 0.36    | 0.19                        | 0.42                        | 53                             |                |    |    | Y | 2.04                             | 0.46                    | 6               |                    |   |   |   |
|                                           | 3/4"              | Zo-e-shield 6 w/ Argon         | 0.32    | 0.19                        | 0.42                        | 57                             |                | Y  | Y  | Y | 1.82                             | 0.46                    | 11              | Y                  |   |   |   |
| Over 7/8" GIA or SDL                      | 3/4"              | Clear Insul                    | 0.46    | 0.46                        | 0.48                        | 44                             |                |    |    |   | 2.61                             | 0.46                    | 9               |                    |   |   |   |
|                                           | 3/4"              | Insul Low-E                    | 0.33    | 0.25                        | 0.42                        | 55                             |                |    | Y  | Y | 1.87                             | 0.46                    | 13              |                    |   |   |   |
|                                           | 3/4"              | Insul Low E w/Argon            | 0.44    | 0.46                        | 0.48                        | 46                             |                |    |    |   | 2.50                             | 0.46                    | 12              |                    |   |   |   |
|                                           | 3/4"              | Zo-e-shield 5                  | 0.33    | 0.17                        | 0.37                        | 54                             |                |    | Y  | Y | 1.87                             | 0.46                    | 9               |                    |   |   |   |
|                                           | 3/4"              | Zo-e-shield 5 w/ Argon         | 0.30    | 0.17                        | 0.37                        | 57                             | Y              | Y  | Y  | Y | 1.70                             | 0.46                    | 12              | Y                  |   |   |   |
|                                           | 3/4"              | Zo-e-shield 5 Extreme          | 0.28    | 0.16                        | 0.34                        | 44                             | Y              | Y  | Y  | Y | 1.59                             | 0.46                    | 14              | Y                  | Y |   |   |
|                                           | 3/4"              | Zo-e-shield 5 Extreme w/ Argon | 0.26    | 0.16                        | 0.34                        | 48                             | Y              | Y  | Y  | Y | 1.48                             | 0.46                    | 17              | Y                  | Y |   |   |
|                                           | 3/4"              | Zo-e-shield 6                  | 0.36    | 0.17                        | 0.37                        | 53                             |                |    |    | Y | 2.04                             | 0.46                    | 5               |                    |   |   |   |
|                                           | 3/4"              | Zo-e-shield 6 w/ Argon         | 0.32    | 0.17                        | 0.37                        | 57                             |                | Y  | Y  | Y | 1.82                             | 0.46                    | 10              | Y                  |   |   |   |

<sup>a</sup> Total Unit calculations are derived from computer simulations that are then verified by 3rd party testing in accordance with NFRC 100-04.

| US Qualification Criteria                                                                                 | Climate Zone  | U-Factor | *SHGC  |
|-----------------------------------------------------------------------------------------------------------|---------------|----------|--------|
| <br>As of January 2010 | Northern      | <=0.30   | Any    |
|                                                                                                           |               | <=0.31   | >=0.35 |
|                                                                                                           |               | <=0.32   | >=0.40 |
|                                                                                                           | North-Central | <=0.32   | <=0.40 |
|                                                                                                           | South-Central | <=0.35   | <=0.30 |
|                                                                                                           | Southern      | <=0.60   | <=0.27 |

\* SHGC = Solar Heat Gain Coefficient