Introducing ClimaGuard 80/71
Low-E Glass for Northern Climates

Meeting ENERGY STAR® and ER Scores with Low-E glass.

In chilly climates like the northern U.S. and Canada where winter temperatures regularly plummet below the freezing point, low-E glass in your windows is the first line of defense. New Guardian ClimaGuard 80/71 low-E coated glass is designed to maximize solar heat gain and retain indoor heat—and this helps windows, doors and skylights meet new ENERGY STAR® standards and ER scores in northern homes.

*When it’s sunny and cold outside, keep it sunny and warm inside.*

With a U-factor of 0.26 in an argon-filled double-glazed unit, ClimaGuard 80/71 minimizes heat loss through windows and helps maintain warmer room-side glass temperatures. Coupled with a solar heat gain coefficient of 0.71, the light and heat combine to brighten and warm a home naturally, resulting in greater comfort and lower energy bills.

Performance data and typical low-E coating applications:

<table>
<thead>
<tr>
<th>Visible Light</th>
<th>U-Factor</th>
<th>1/2” Gap</th>
<th>5/16” Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SHGC</td>
<td>Argon</td>
<td>Krypton</td>
</tr>
<tr>
<td>Double Glazed</td>
<td>Trans</td>
<td>Reflect In</td>
<td>Reflect Out</td>
</tr>
<tr>
<td>80/71 #3 surface</td>
<td>80%</td>
<td>14%</td>
<td>43%</td>
</tr>
<tr>
<td>80/71 #2 + IS #4 surface</td>
<td>78%</td>
<td>15%</td>
<td>41%</td>
</tr>
<tr>
<td>Triple Glazed</td>
<td>73%</td>
<td>20%</td>
<td>19%</td>
</tr>
<tr>
<td>80/71 #5 surface</td>
<td>71%</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td>80/71 #2 &amp; #5 surface</td>
<td>71%</td>
<td>18%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Configuration: 3.0mm clear glass, 90% Argon/10% Air filled and 90% Krypton/10% air filled. Performance data calculated for center-of-glass only (no spacer or framing) using LBNL Window 7.6, IGDB 71.
ENERGY STAR® Canada — Version 5.0

Natural Resources Canada (NRCan) has finalized ENERGY STAR® Version 5.0, effective January 1, 2020. Guardian Glass has developed ClimaGuard 80/71 low-E glass to help meet the new standard for windows, doors and skylights sold in Canada.

Version 5.0 requires a maximum U-factor of 1.22 (W/m²·K) or 0.21 (Btu/h ft²·F). As an alternative to the maximum U-factor, window manufacturers can calculate the Energy Rating (ER) score to achieve certification. The charts below illustrate the calculation to meet the minimum ER score of 34 needed for ENERGY STAR® window and door certification.

**ER Window Guide — Metric**

![ER Window Guide — Metric](image)

Example: Metric

A window with a ~1.4 U-factor and ~1.5 L/s/m² air leakage would need an SHGC of ~0.49 or higher to achieve the minimum ER score of 34.

A window with a ~0.55 SHGC and air leakage of ~0.5 L/s/m² would need a U-factor below ~1.64 to achieve a minimum ER score of 34.

**ER Window Guide — U.S. Standard**

![ER Window Guide — U.S. Standard](image)

Example: U.S. Standard

A window with a ~0.26 U-factor and ~0.1 cfm/ft² air leakage would need an SHGC of ~0.49 or higher to achieve the minimum ER score of 34.

A window with a ~0.47 SHGC and air leakage of ~0.1 cfm/ft² would need a U-factor below ~0.246 to achieve a minimum ER score of 34.

All values are at the WINDOW level. This guide is intended to provide a quick reference for window performance in achieving a minimum ER of 34. These guides provide a rough estimate of total window performance relative to resulting ER score based on the Energy Star® ER calculation methodology. Provided for informational use only.