

Endurance Horizontal and Vertical Sliding Window Performance Data

Endurance Thermal / Optical Performance*

| | Glazing Type | "U" Factor | Solar Heat Gain Coefficient | Visible Light Transmittance | CPD # | Glass Thickness | OA |
|-------------|--------------------------|------------|-----------------------------|-----------------------------|----------------------|-----------------|--------|
| 530 | Horizontal Slider | | | | | | |
| Dual Pane | 366 / Clear | 0.29 | 0.22 | 0.52 | VPI-A-29-00710-00003 | 3mm/3mm | 3/4" |
| Dual Pane | 272 / Clear | 0.29 | 0.33 | 0.57 | VPI-A-29-00686-00003 | 3mm/3mm | 3/4" |
| Triple Pane | 272/180/Clear | 0.22 | 0.29 | 0.5 | VPI-A-29-00872-00002 | 3mm/3mm/3mm | 1 3/8" |

| | | | | | | | |
|-------------|------------------------|------|------|------|----------------------|-------------|--------|
| 590 | Vertical Slider | | | | | | |
| Dual Pane | 366 / Clear | 0.28 | 0.22 | 0.52 | VPI-A-26-00710-00003 | 3mm/3mm | 3/4" |
| Dual Pane | 272 / Clear | 0.29 | 0.33 | 0.57 | VPI-A-26-00686-00003 | 3mm/3mm | 3/4" |
| Triple Pane | 272/180/Clear | 0.22 | 0.29 | 0.5 | VPI-A-26-00872-00003 | 3mm/3mm/3mm | 1 3/8" |

| | | | | | | | |
|-------------|-----------------------|------|------|------|----------------------|-------------|--------|
| 510 | Picture Window | | | | | | |
| Dual Pane | 366 / Clear | 0.26 | 0.22 | 0.53 | VPI-A-18-00904-00003 | 3mm/3mm | 3/4" |
| Dual Pane | 272 / Clear | 0.27 | 0.34 | 0.59 | VPI-A-18-00880-00003 | 3mm/3mm | 3/4" |
| Triple Pane | 272/180/Clear | 0.16 | 0.3 | 0.51 | VPI-A-18-01053-00003 | 3mm/3mm/3mm | 1 3/8" |

* Cardinal Endur Dual Seal Insulated Glass Units With Argon Gas Fill Airspace Without Internal Grids

"U" Factor: The rate of heat flow through a given glazing. The lower the number, the better the insulating quality.

Solar Heat Gain Coefficient: The fraction of direct solar radiation that enters a building thru the glass as heat. Lower numbers means the glazing lets less heat in.

Visible Light Transmittance: Measures the amount of light transmitted through the glass. VLT is expressed as a number between 0 and 1. The higher the VLT, the more light is transmitted.

Endurance AAMA Certified Window Performance Ratings

| | Performance Grade | Uniform Structural Load | Water Resistance | Air Infiltration |
|--------------------------------------|-------------------|-------------------------|-------------------|-------------------------|
| Horizontal Slider | LC-PG40 | 60.0 PSF 153.09 MPH | 8.3 PSF 57 MPH | .35 cfm/ft ² |
| Vertical Silder (Single Hung) | CW-PG55 | 82.5 PSF 182 MPH | 8.3 PSF 57 MPH | .55 cfm/ft ² |
| Picture Window | FW-CW50 | 75.0 PSF 171 MPH | 15 PSF 76 MPH | .01 cfm/ft ² |

Endurance Projected and Fixed Performance Data

Endurance Thermal / Optical Performance*

| | Glazing Type | "U" Factor | Solar Heat Gain Coefficient | Visible Light Transmittance | CPD # | Glass Thickness | OA |
|-------------|-----------------------|------------|-----------------------------|-----------------------------|----------------------|-----------------|--------|
| 510 | Casement | | | | | | |
| Dual Pane | 366 / Clear | 0.27 | 0.18 | 0.42 | VPI-A-19-00904-00003 | 3mm/3mm | 3/4" |
| Dual Pane | 272 / Clear | 0.27 | 0.27 | 0.46 | VPI-A-19-00880-00003 | 3mm/3mm | 3/4" |
| Triple Pane | 272/180/Clear | 0.19 | 0.24 | 0.41 | VPI-A-19-01133-00003 | 3mm/3mm/3mm | 1 3/8" |
| 510 | Awning | | | | | | |
| Dual Pane | 366 / Clear | 0.27 | 0.18 | 0.42 | VPI-A-20-00904-00003 | 3mm/3mm | 3/4" |
| Dual Pane | 272 / Clear | 0.27 | 0.18 | 0.42 | VPI-A-20-00880-00003 | 3mm/3mm | 3/4" |
| Triple Pane | 272/180/Clear | 0.19 | 0.24 | 0.41 | VPI-A-20-01133-00003 | 3mm/3mm/3mm | 1 3/8" |
| 510 | Picture Window | | | | | | |
| Dual Pane | 366 / Clear | 0.26 | 0.22 | 0.53 | VPI-A-18-00904-00003 | 3mm/3mm | 3/4" |
| Dual Pane | 272 / Clear | 0.27 | 0.34 | 0.59 | VPI-A-18-00880-00003 | 3mm/3mm | 3/4" |
| Triple Pane | 272/180/Clear | 0.16 | 0.3 | 0.51 | VPI-A-18-01053-00003 | 3mm/3mm/3mm | 1 3/8" |

* Cardinal Endur Dual Seal Insulated Glass Units With Argon Gas Fill Airspace Without Internal Grids

"U" Factor: The rate of heat flow through a given glazing. The lower the number, the better the insulating quality.

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Endurance AAMA Certified Window Performance Ratings

| | Performance Grade | Uniform Structural Load | Water Resistance | Air Infiltration |
|-----------------------------|-------------------|-------------------------|---------------------|-------------------------|
| Casement Single Vent | CW-PG70 | 105.0 PSF 202.52 MPH | 15 PSF 76.55 MPH | .01 cfm/ft ² |
| Vent-Fixed-Vent | CW-PG70 | 105.0 PSF 202.52 MPH | 15 PSF 76.55 MPH | .03 cfm/ft ² |
| Awning Window | CW-PG35 | 52.5 PSF 143 MPH | 15 PSF 76.55 MPH | .01 cfm/ft ² |
| Picture Window | FW-CW50 | 75.0 PSF 171 MPH | 15 PSF 76.55 MPH | .01 cfm/ft ² |