The information published in this document is believed to be accurate at the time of publication. However, because we are constantly working to improve our products, specifications are subject to change without notice. Consult your local Pella representative for up-to-date product information.
Architect Series® Reserve™ Hopper Window
Size and Performance Data

<table>
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<tr>
<th>Sizes</th>
<th>Clad</th>
<th>Wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Vent Sizes</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Special Sizes Available</td>
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<table>
<thead>
<tr>
<th>Performance 1</th>
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<tbody>
<tr>
<td>Meets or Exceeds AAMA/WDMA Ratings</td>
<td>R40 Hallmark Certified</td>
<td>R30 Hallmark Certified</td>
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<tr>
<td>Air Infiltration (cfm/ft² of frame @ 1.57 psf wind pressure)</td>
<td>0.05</td>
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<tr>
<td>Water Resistance</td>
<td>6.24 psf</td>
<td>4.6 psf</td>
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<tr>
<td>Design Pressure</td>
<td>40 psf</td>
<td>30 psf</td>
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<table>
<thead>
<tr>
<th>Other Performance Criteria</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Forced Entry Resistance Level (Minimum Security Grade)</td>
<td>10</td>
<td>10</td>
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</tbody>
</table>

(1) Maximum performance for single unit when glazed with the appropriate glass thickness. See Design Data pages in this section for specific product performance class and grade values. Values shown are for standard and special sizes; Custom sizes may not have the same values. Contact your local sales representative for complete information.

(2) The higher the level, the greater the product’s ability to resist forced entry.
## Architect Series® Reserve™ Hopper Window

### Features and Options

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<th>Options / Upgrades</th>
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<td></td>
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<tr>
<td><strong>Glazing Type</strong></td>
<td></td>
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<tr>
<td>Dual-Pane Insulating Glass</td>
<td>Triple-Pane Insulating Glass</td>
</tr>
<tr>
<td><strong>Insulated Glass Options/Low-E Types</strong></td>
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</tr>
<tr>
<td>Advanced Low-E</td>
<td>SunDefense™ Low-E</td>
</tr>
<tr>
<td></td>
<td>AdvancedComfort Low-E</td>
</tr>
<tr>
<td></td>
<td>NaturalSun Low-E</td>
</tr>
<tr>
<td></td>
<td>Clear (no Low-E coating)</td>
</tr>
<tr>
<td><strong>Additional Glass Options</strong></td>
<td></td>
</tr>
<tr>
<td>Annealed Glass</td>
<td>Tempered Glass</td>
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<td></td>
<td>Obscure Glass 1</td>
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<tr>
<td></td>
<td>Tinted Glass (Bronze, Gray and Green)</td>
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<td></td>
<td>Custom</td>
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<td><strong>Gas Fill/High Altitude</strong></td>
<td></td>
</tr>
<tr>
<td>Argon</td>
<td>High altitude</td>
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<tr>
<td><strong>Wood Types</strong></td>
<td></td>
</tr>
<tr>
<td>Pine</td>
<td>Mahogany, Douglas Fir</td>
</tr>
<tr>
<td><strong>Exterior</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Exterior Sash Profile</strong></td>
<td>Putty - clad</td>
</tr>
<tr>
<td>Ogee - clad, Putty - wood</td>
<td></td>
</tr>
<tr>
<td><strong>Exterior Finish</strong></td>
<td>EnduraClad® protective finish</td>
</tr>
<tr>
<td>EnduraClad Plus protective finish, Factory Primed Pine wood exterior, Unfinished Mahogany wood exterior</td>
<td></td>
</tr>
<tr>
<td><strong>Cladding Colors</strong></td>
<td>Custom Colors</td>
</tr>
<tr>
<td>27 Standard colors</td>
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<tr>
<td><strong>Interior</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Interior Sash Profile</strong></td>
<td></td>
</tr>
<tr>
<td>Ogee</td>
<td>–</td>
</tr>
<tr>
<td><strong>Interior Finish</strong></td>
<td></td>
</tr>
<tr>
<td>Unfinished wood</td>
<td>Factory primed 2, Factory prefinished paint 2, Factory prefinished stain</td>
</tr>
<tr>
<td><strong>Hardware</strong></td>
<td></td>
</tr>
<tr>
<td>Champagne, White or Brown</td>
<td>Bright Brass, Satin Nickel or Oil-Rubbed Bronze</td>
</tr>
<tr>
<td><strong>Sash Locks</strong></td>
<td></td>
</tr>
<tr>
<td>Multi-point® System</td>
<td>–</td>
</tr>
<tr>
<td><strong>Grilles</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Integral Light Technology® Grilles</strong></td>
<td>Traditional, Prairie, Top Row, Cross, New England, Victorian, Simulated French, Custom</td>
</tr>
<tr>
<td><strong>Roomside Removable Grilles</strong></td>
<td>Traditional, Prairie, Top Row, Cross, New England, Victorian, Custom</td>
</tr>
<tr>
<td><strong>Grilles-Between-the-Glass</strong></td>
<td>Traditional, Prairie, Cross, Top Row; Custom-Equally Divided, Factory Primed Pine wood exterior, Unfinished Mahogany wood exterior</td>
</tr>
<tr>
<td><strong>Screens</strong></td>
<td>InView™ or Vivid View® screens</td>
</tr>
</tbody>
</table>

(1) Contact your local Pella sales representative for current designs and color options.

(2) Not available on Mahogany and Douglas Fir interiors.
Architect Series® Reserve™ Hopper Window

Grille Profiles

**Integral Light Technology®**

**Putty and Ogee Glaze Grilles**

**Clad Exterior - Wood Interior**

- 5/8" ILT
- 7/8" ILT
- 1 1/4" ILT

**Wood Exterior - Wood Interior**

- 5/8" ILT
- 7/8" ILT
- 1 1/4" ILT

**Ogee Glaze Grilles**

**Clad Exterior - Wood Interior**

- 7/8" ILT
- 1 1/4" ILT
- 2" ILT

**Contoured Aluminum - Grilles-Between-the-Glass**

- 3/4" Contoured GBG

**Removable Interior Pine Grilles**

- 3/4" Traditional RMB
- 1 1/4" Traditional RMB
- 2" Traditional RMB
- 1 1/4" Colonial RMB
- 2" Colonial RMB

Interior ILT grilles available in Pine, Mahogany or Douglas Fir to match complete unit.

Wood exterior ILT grilles available in Pine or Mahogany to match complete unit.
Architect Series® Reserve™ Hopper Window

Grille Patterns

Integral Light Technology® Grille Patterns

Prairie Lite Patterns

Standard corner lite dimension for Prairie patterns = 2-1/2" VG.

9-Lite
- Available in all standard and special sizes.

12-Lite
- Available in units ≥ 1’9” and ≤ 2’11” in width, and ≥ 1’9” in height.

14-Lite
- Available in units ≥ 1’9” in width and ≥ 2’11” in height.

Other Available ILT Grille Patterns

New England
- Standard visible glass to separator bar dimension = half of total visible glass height.

Top Row
- Standard visible glass to separator bar dimension = 14” or half of total visible glass height if frame height is < 2’11”.

Cross
- Standard visible glass to separator bar dimension = one-quarter of total visible glass height.

Grilles-Between-the-Glass Patterns

Prairie Lite Patterns

Top Row
- Standard visible glass to separator bar = 14” for frame heights > 35”.
- Standard visible glass to separator bar = 12” for 35” frame heights and optional for 41” frame height.
- Separator bar at 12” or 16” optional for frames heights > 41”.

Cross
- Available for units with frame heights ≥ 17”.
- Standard visible glass to separator bar = 1/4 of total visible glass height.

For traditional patterns, see size tables.

VG = Visible Glass
Lite dimensions noted can vary.
Custom configurations are also available, for details contact your local Pella sales representative.
### Architect Series® Reserve™ Hopper Window

**Size Tables and Design Data**

#### Vent Units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Vent Area Ft²</th>
<th>Visible Glass Ft²</th>
<th>Frame Area Ft²</th>
<th>Performance Class &amp; Grade,</th>
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</thead>
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<tr>
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<td>1.5</td>
<td>1.0</td>
<td>3.1</td>
<td>R40</td>
</tr>
<tr>
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<td>R40</td>
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<td>2929</td>
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<td>10.7</td>
<td>R40</td>
</tr>
</tbody>
</table>

Not to scale.

Traditional grille patterns shown. Refer to grille section for additional patterns and profiles.

Contact your local Pella representative for the availability of custom sizes smaller or larger than the parameters shown.

Dimensions shown in tables are rough opening dimensions.

(1) Maximum performance when glazed with the appropriate glass thickness. Refer to the Product Performance section for more information.

To convert area to square meters (m²), multiply square feet by 0.0929.
Frame

- Select woods, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [pine] [mahogany] [Douglas fir].
- Exterior surfaces are clad with aluminum.
- Overall frame depth is 5" (127 mm) for a wall depth of 3-11/16" (94 mm).
- Optional factory-applied jamb extensions available between 4-9/16" (116 mm) and 7-3/16" (183 mm) wall depths.

Sash

- Select woods, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [pine] [mahogany] [Douglas fir].
- Exterior surfaces are clad with aluminum and sealed.
- Corners mortised and tenoned, glued and secured with metal fasteners.
- Sash thickness is 2-3/4" (69 17/20 mm) for [11/16"] or [1"] glazing.
- Exterior sash profile is [ogee] [putty glaze], interior sash profile is ogee.

Weatherstripping

- Dual weatherstripping.
  - A foam filled close cell sheathed weather-strip on the full frame perimeter is compressed between frame and sash for positive seal on all four sides.
  - Secondary leaf-type weather strip between edge of sash and frame.

Glazing System

- Quality float glass complying with ASTM C 1036.
- Silicone-glazed 11/16" dual-seal insulating glass [annealed] [tempered].
- Custom and high altitude glazing available for 11/16" glazing only. - or -
- Silicone-glazed triple-pane 1-1/16" dual-seal insulating glass [[annealed] [tempered]] [AdvancedLow-E with argon] [SunDefence™ Low-E with Argon] [AdvancedComfort Low-E] [NaturalSun Low-E] [bronze] [gray] [green] air-filled Advanced Low-E coated.

Exterior

- Exterior aluminum surfaces are finished with EnduraClad® multi-stage finish system.
  - Color is [Standard] [Custom].
- Exterior aluminum surfaces are finished with EnduraClad Plus 70% fluoropolymer-based multi-stage finish system.
  - Color is [Standard] [Custom].
- Aluminum clad exteriors shall be finished with an anodized protective finish.
  - Color is [Clear] [Light Bronze] [Dark Bronze] [Black] [Custom].

Interior

- [Unfinished, ready for site finishing] [Factory-primed with one coat acrylic latex] [Pine: [factory prefinished] [paint] [stain].]

Hardware

- Multi-point lock system—A single handle locking system engages multiple locking points around the sash.
- Finish of handle is [baked enamel] [Champagne] [White] [Brown] [Bright Brass] [Satin Nickel] [Oil-Rubbed Bronze].

Optional Products

Grilles

- Integral Light Technology® Grilles
  - Interior grilles are [5/8"] [7/8"] [1-1/4"] [2"] ogee profile that are solid [Pine] [Mahogany] [Douglas Fir]. Interior surfaces are [unfinished, ready for site finishing] [factory primed] [Paint] [stain].
  - Exterior grilles are [5/8” putty glaze profile] [7/8” putty glaze] [ogee] [profile] [1-1/4” putty glaze] [ogee] [profile] [2” ogee profile] that are extruded aluminum.
  - Patterns are [Traditional] [Prairie] [Top Row] [Cross] [New England] [Victorian] [Simulated French].
  - Insulating glass contains non-glare spacer between the panes of glass.
  - Bars are adhered to both sides of the insulating glass with VHB acrylic adhesive tape and aligned with the non-glare spacer.
- - or -
- Grilles-Between-the-Glass
  - Insulating glass contains 3/4” contoured aluminum grilles permanently installed between two panes of glass (exterior air-space on triple-pane insulating glass).
  - Patterns are [Traditional] [Prairie] [Cross] [Top Row] [Custom – Equally Divided].
  - Interior color is [White] [Tan] [Brown] [Putty] [Black] [Morning Sky Gray] [Ivory] [Sand Dune] [Harvest] [Cordovan] [Brickstone].
  - Exterior color is [standard].
- - or -
- Roomside Removable Grilles
  - 3/4" [1-1/4"] [2"] Regular [1-1/4"] [2"] Colonial profiles, with [Traditional] [Prairie] patterns that are removable solid pine wood bars fitted to sash with steel clips and tacks.
  - Interior [unfinished, ready for site finishing] [factory-primed] [Pine: [factory prefinished] [paint] [stain]].
  - Exterior [unfinished, ready for site finishing] [factory-primed] [finish color matched to exterior cladding].

Flat Insect Screen

- InView™ Fiberglass
  - Black vinyl-coated 18/18 mesh fiberglass screen cloth complying with SMA 1201, set in aluminum frame fitted to outside of window, supplied complete with all necessary hardware.
  - Screen frame finish is [baked enamel] [anodized], color to match window cladding.
- - or -
- Vivid View®
  - PVDF 21 / 17 mesh, minimum 78 percent light transmissivity screen, set in aluminum frame fitted to outside of window, supplied complete with all necessary hardware.
  - Screen frame finish is [baked enamel] [anodized], color to match window cladding.

(1) Insulating glass with argon is Low-E coated (except high altitude). All other insulating glass (including high altitude Low-E) is air-filled.
(2) Contact your local Pella sales representative for current color options.
(3) Available in clear or Low-E and obscure insulating glass.
(4) Tan, Brown and Putty Interior GBG colors are available in single-tone (Brown/Brown, Tan/Tan or Putty/Putty). Other interior colors are also available with Tan or Brown exterior.
(5) Appearance of exterior grille color will vary depending on Low-E coating on glass.
Frame

• Select woods, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
• Interior exposed surfaces are [Pine] [Mahogany].
• Exterior surfaces are [Pine: primed] [Mahogany: [primed] [ready-to-stain]].
• Overall frame depth is 4-3/8" (111 mm) for a wall depth of 4-3/16" (106 mm).
• Optional factory-applied jamb extensions available between 4-9/16" (116 mm) and 7-3/16" (183 mm) wall depths, with Pella’s standard wood exterior trim.

Sash

• Select woods, immersion treated with Pella’s EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
• Interior exposed surfaces are [Pine] [Mahogany].
• Exterior surfaces are [Pine: primed] [Mahogany: [primed] [ready-to-stain]].
• Corners mortised and tenoned, glued and secured with metal fasteners.
• Sash thickness is 2-3/4" (69 17/20 mm) for [11/16"] or [1"] glazings.
• Exterior sash profile is putty glaze, interior sash profile is ogee.

Weatherstripping

• Dual weatherstripping.
• A foam filled close cell sheeted weather-strip on the full frame perimeter is compressed between frame and sash for positive seal on all four sides.
• Secondary leaf-type weather strip between edge of sash and frame.

Glazing System

• Quality float glass complying with ASTM C 1036.
• Silicone-glazed 11/16" dual-seal insulating glass [annealed] [tempered] [clear] [Advanced Low-E coated with argon] [SunDefense™ Low-E with Argon] [AdvancedComfort Low-E] [NaturalSun Low-E] [bronze] [gray] [green] air-filled Advanced Low-E coated.
• Custom and high altitude [with argon] glazing available.
• Silicone-glazed triple-pane 1-1/16" dual-seal insulating glass [annealed] [tempered] [Advanced Low-E with argon] [Advanced Low-E with krypton] [SunDefense™ Low-E with argon] [SunDefense™ Low-E with krypton] [NaturalSun Low-E with krypton] [Obscure [standard] [fvern]].

Interior

• [Unfinished, ready for site finishing] [primed with one coat acrylic latex] [Pine: [factory prefinished [paint] [stain]].

Hardware

• Multi-point lock system-A single handle locking system engages multiple locking points around the sash.
• Finish of handle is [baked enamel, Champagne] [baked enamel, White] [baked enamel, Brown] [Bright Brass] [Stain Nickel] [Oil-Rubbed Bronze]. All vent units are available with left- or right-hand hinging.

Optional Products

Grilles

• Integral Light Technology®
  • Interior grilles are [5/8"] [7/8"] [1-1/4"] [2"] ogee profile that are solid [pine] [mahogany]. Interior surfaces are [unfinished, ready for site finishing] [factory primed] [pine: factory prefinished [paint] [stain]].
  • Exterior grilles are solid [5/8" putty profile] [7/8" [putty] [ogee] profile] [1-1/4" [putty] [ogee] profile] [2" ogee profile] that are [pine] [mahogany]. Exterior surfaces are water repellent, preservative-treated in accordance with WDMA I.S.-4, and are [unfinished, ready for site finishing] [factory primed].
  • Patterns are [Traditional] [Prairie] [Top Row] [Cross] [New England] [Victorian] [Simulated French].
  • Insulating glass contains non-glare spacer between the panes of glass.
  • Grilles are adhered to both sides of the insulating glass with VHB acrylic adhesive tape and aligned with the non-glare spacer.
  - or -
  • Grilles-Between-the-Glass:
    • Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass (exterior air-space on triple-pane insulating glass).
    • Patterns are [Traditional] [Prairie] [Cross] [Top Row] Custom - Equally Divided.
    • Interior color is [White] [Tan] [Brown] [Putty] [Black] [Mountain Sky Gray] [Ivory] [Sand Dune] [Harvest] [Cordovan] [Brickstone].
    • Exterior colors is [standard].
    - or -
    • Roomside Removable Grilles
      • [[3/4"] [1-1/4"] [2"] Regular] [1-1/4"] [2"] profile, with [Traditional] [Prairie] patterns that are removable solid pine wood bars steel-pinned at joints and fitted to sash with steel clips and tacks.
      • Removable Grilles are not an option with Mahogany units.
      • Interior [unfinished, ready for site finishing] [factory-primed] [factory prefinished [paint] [stain]].
      • When the frame interior is unfinished then the interior RMB grille is unfinished or prefinished white. If the interior finish is stained then grille is stained to match.
      • Exterior, Pine: [unfinished, ready for site finishing] [factory-primed] [finish color matched to exterior].

Insect Screen

• InView™ Fiberglass
  • Black vinyl-coated 18/18 mesh fiberglass screen cloth complying with SMA 1201, set in aluminum frame fitted to outside of window, supplied complete with all necessary hardware.
  • Screen frame finish is [baked enamel, white] [feature].
  • Vivid View®
    • PVDF 21 / 17 mesh, minimum 78 percent light transmissivity screen, set in aluminum frame fitted to outside of window, supplied complete with all necessary hardware.
    • Screen frame finish is [baked enamel, white] [feature].

(1) Insulating glass with argon is Low-E coated. All other insulating glass is air-filled.
(2) Available in clear, Low-E and obscure insulating glass.
(3) Contact your local Pella sales representative for current color options.
(4) Tan, brown and putty Interior GBG colors are available in single-tone (brown/brown, tan/tan or putty/putty). Other interior colors are also available with tan or brown exterior.
(5) Appearance of exterior grille color will vary depending on Low-E coating on glass.
Architect Series® Reserve™ Hopper Window

Unit Sections - Aluminum-Clad Exterior

Scale 3" = 1' 0"
All dimensions are approximate.
Architect Series® Reserve™ Hopper Window

Unit Sections - Wood Exterior

Scale 3" = 1' 0"

All dimensions are approximate.