1630 SS IR Curtain Wall System

Features
- 1630 SS IR is an outside glazed captured curtain wall system
- 1630 SS IR has a 3" (76.2 mm) sight line
- Standard 7-13/16" (198.4 mm) or 8-13/16" (223.8 mm) depth systems
- Infill 1-5/16" (33.3 mm)
- Thermally Broken by means of a continuous 1/4" (6.4 mm) low conductance spacer
- Perimeter seal can be installed at the pressure plate or mullion shoulder
- Frame options available to accommodate design pressures from 70 psf to 130 psf
- 1630 SS IR can be supplied fabricated and KD or in stock lengths
- Dry Glazing and Wet Glazing option
- Interlocking mullion design eliminates need for anti-buckling clips
- Concealed fastener joinery creates smooth, monolithic appearance
- EPDM gaskets and thermal break
- Screw spline joinery method allows shop assembly of ladder sections, reducing field labor
- Corners available with shear block fabrication method
- Offers entrance framing systems
- Silicone compatible glazing materials for long-lasting seals
- Two color option
- Permanodic™ anodized finishes in seven choices
- Painted finishes in standard and custom choices

Additional Features*
- Large Missile and Small Missile Hurricane Impact tested
- Blast Mitigation tested

Product Applications
- Ideal for low-rise applications where high performance is desired
- Most of the product assembly can be done in the shop rather than the field. This allows for better quality control and reduces expensive field labor.

*See NOA product approval for specific features tested and approved for hurricane impact.

For specific product applications, Consult your Kawneer representative.
Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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LAWS AND BUILDING AND SAFETY CODES GOVERNING THE DESIGN AND USE OF GLAZED ENTRANCE, WINDOW, AND CURTAIN WALL PRODUCTS VARY WIDELY. KAWNEER DOES NOT CONTROL THE SELECTION OF PRODUCT CONFIGURATIONS, OPERATING HARDWARE, OR GLAZING MATERIALS, AND ASSUMES NO RESPONSIBILITY THEREFOR.

Metric (SI) conversion figures are included throughout these details for reference. Numbers in parentheses ( ) are millimeters unless otherwise noted.

The following metric (SI) units are found in these details:
- m – meter
- cm – centimeter
- mm – millimeter
- s – second
- Pa – pascal
- MPa – megapascal
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1630 SS IR Curtain Wall System
EC 97911-182

NOVEMBER, 2018

1630 SS IR Curtain Wall System
ADMD180EN

PICTORIAL VIEW

kawneer.com

ADMD180EN
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* INSTALLER NOTE: Installer is responsible for all required compatibility review and approvals with the Structural Silicone Manufacturer and the Insulated Glass Unit Manufacturers.

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NOTE: DOORS SHOWN GLAZED WITH 9/16" INFILL

Structural Silicone Sealant
(by Others)*

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*NOTE: DOORS SHOWN GLAZED WITH 9/16" INFILL*

Structural Silicone Sealant (by Others)*

Structural Silicone Sealant (by Others)*

* HURRICANE IMPACT RESISTANT ENTRANCE FRAMING DETAILS

ENTRANCE ELEVATION

ELEVATION IS NUMBER KEYED TO DETAILS

HURRICANE IMPACT RESISTANT ENTRANCE FRAMING DETAILS

1630 SS IR Curtain Wall System

NOVEMBER, 2018

EC 97911-182

ADMD180EN
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135° INSIDE CORNER
8-13/16" DEEP

135° OUTSIDE CORNER
7-13/16" DEEP

135° OUTSIDE CORNER
8-13/16" DEEP

Additional information and CAD details are available at www.kawneer.com
Additional information and CAD details are available at www.kawneer.com

Shown with AA™ 900 Thermal Window

NOTE: Other vent types can be accommodated. Contact your Kawneer representative for other options.
Actual project conditions will determine specific anchor design. Details on this page are for reference only.
Actual project conditions will determine specific anchor design. Details on this page are for reference only.
WIND LOAD CHARTS

Mullions are designed for deflection limitations in accordance with AAMA TIR-A11 of L/175 up to 13'-6" and L/240 +1/4" above 13'-6". These curves are for mullions WITH HORIZONTALS and are based on engineering calculations for stress and deflection. Allowable wind load stress for ALUMINUM 15,152 psi (104 MPa), STEEL 30,000 psi (207 MPa). Charted curves, in all cases are for the limiting value. Wind load charts contained herein are based upon nominal wind load utilized in allowable stress design. A conversion from Load Resistance Factor Design (LRFD) is provided. To convert ultimate wind loads to nominal loads, multiply ultimate wind loads by a factor of 0.6 per ASCE/SEI 7. A 4/3 increase in allowable stress has not been used to develop these curves. For special situations not covered by these curves, contact your Kawneer representative for additional information.

DEADLOAD CHARTS

Horizontal or deadload limitations are based upon 1/8" (3.2), maximum allowable deflection at the center of an intermediate horizontal member. The accompanying charts are calculated for 1" (25.4) thick insulating glass or 1/4" (6.4) thick glass supported on two setting blocks placed at the loading points shown.
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1630 SS IR Curtain Wall System
WIND LOAD CHARTS (1-5/16" INFILL)

SINGLE SPAN
MULLION CENTERS IN METERS

TWIN SPAN
MULLION CENTERS IN METERS

<table>
<thead>
<tr>
<th>Allowable Stress Design Load</th>
<th>LRFD Ultimate Design Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = 60 PSF (2880)</td>
<td>100 PSF (4790)</td>
</tr>
<tr>
<td>B = 75 PSF (3600)</td>
<td>125 PSF (6000)</td>
</tr>
<tr>
<td>C = 90 PSF (4310)</td>
<td>150 PSF (7200)</td>
</tr>
<tr>
<td>D = 110 PSF (5270)</td>
<td>183 PSF (8770)</td>
</tr>
<tr>
<td>E = 130 PSF (6220)</td>
<td>217 PSF (10370)</td>
</tr>
</tbody>
</table>

SINGLE SPAN
MULLION CENTERS IN FEET

TWIN SPAN
MULLION CENTERS IN FEET

I = 15.354 (639.08 x 10^4)
S = 4.413 (72.32 x 10^3)

I = 24.511 (1020.22 x 10^4)
S = 5.766 (94.49 x 10^3)
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Generic Project Specific U-factor Example Calculation

(Percents of Glass will vary on specific products depending on sitelines)
(Based on single bay of Curtain Wall/Window Wall)

Vision Area

Example Glass U-factor = 0.48 Btu/(ft² · h · °F)
Vision Area = 5(9 + 8 + 4) = 105.0 ft²
Total Area (Vision) = 5' 2-1/2" (9' 3-3/4" + 8' 2-1/2" + 4' 2-1/2") = 113.2 ft²
Percentage of Vision Glass = (Vision Area ÷ Total Area)100
= (105.0 ÷ 113.2)100 = 93%

Spandrel Area

Example Spandrel R-value = 15 (ft² · h · °F)/Btu
Spandrel Area = 5(6 + 3) = 45.0 ft²
Total Area (Spandrel) = 5' 2-1/2" (6' 2-1/2" + 3' 3-3/4") = 49.6 ft²
Percent of Spandrel = (Spandrel Area ÷ Total Area)100
= (49.0 ÷ 49.6)100 = 91%
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**Vision Area Chart**

Based on a single curtain wall bay of 93% vision glass and center of glass U-factor of 0.48, System U-factor is equal to 0.53 Btu/(h·ft²·°F)

**Spandrel Area Chart**

Based on a single curtain wall bay of 91% spandrel and center of spandrel R-value of 15, system U-factor is equal to 0.21 Btu/(h·ft²·°F)
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**System U-Factor for Vision Glass**

<table>
<thead>
<tr>
<th>COG U-factor</th>
<th>System U-Factor (Btu/h·ft²·°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.46 (2.61)</td>
<td>0.70</td>
</tr>
<tr>
<td>0.44 (2.50)</td>
<td>0.65</td>
</tr>
<tr>
<td>0.42 (2.39)</td>
<td>0.60</td>
</tr>
<tr>
<td>0.40 (2.27)</td>
<td>0.55</td>
</tr>
<tr>
<td>0.38 (2.16)</td>
<td>0.50</td>
</tr>
<tr>
<td>0.36 (2.05)</td>
<td>0.45</td>
</tr>
<tr>
<td>0.34 (1.93)</td>
<td>0.40</td>
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<td>0.32 (1.82)</td>
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<tr>
<td>0.30 (1.71)</td>
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<tr>
<td>0.28 (1.59)</td>
<td>0.25</td>
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<tr>
<td>0.26 (1.48)</td>
<td>0.20</td>
</tr>
<tr>
<td>0.24 (1.37)</td>
<td>0.15</td>
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<tr>
<td>0.22 (1.25)</td>
<td>0.10</td>
</tr>
<tr>
<td>0.20 (1.14)</td>
<td>0.05</td>
</tr>
</tbody>
</table>

**Notes for System U-Factor, SHGC and VT charts:**
For glass values that are not listed, linear interpolation is permitted.
Glass properties are based on center of glass values (winter conditions) and are obtained from your glass supplier.

---

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Charts are generated per AAMA 507.
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### Thermal Transmittance ¹ (BTU/hr • ft² • °F)

<table>
<thead>
<tr>
<th>Glass U-Factor ³</th>
<th>Overall U-Factor ⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.48</td>
<td>0.57</td>
</tr>
<tr>
<td>0.46</td>
<td>0.55</td>
</tr>
<tr>
<td>0.44</td>
<td>0.53</td>
</tr>
<tr>
<td>0.42</td>
<td>0.52</td>
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<tr>
<td>0.40</td>
<td>0.50</td>
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<tr>
<td>0.38</td>
<td>0.48</td>
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<tr>
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<td>0.47</td>
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<tr>
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<tr>
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<tr>
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<td>0.37</td>
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<tr>
<td>0.22</td>
<td>0.35</td>
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<tr>
<td>0.20</td>
<td>0.33</td>
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</tbody>
</table>

**NOTE:** For glass values that are not listed, linear interpolation is permitted.

1. U-Factors are determined in accordance with NFRC 100.
2. SHGC and VT values are determined in accordance with NFRC 200.
3. Glass properties are based on center of glass values and are obtained from your glass supplier.
4. Overall U-Factor, SHGC, and VT Matrices are based on the standard NFRC specimen size of 2,000 mm wide by 2,000 mm high (78-3/4" by 78-3/4").

### SHGC Matrix ²

<table>
<thead>
<tr>
<th>Glass SHGC ³</th>
<th>Overall SHGC ⁴</th>
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</thead>
<tbody>
<tr>
<td>0.75</td>
<td>0.67</td>
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<tr>
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<td>0.63</td>
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<tr>
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<td>0.58</td>
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<tr>
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<tr>
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<tr>
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<td>0.32</td>
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<tr>
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<td>0.28</td>
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<tr>
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<td>0.14</td>
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<tr>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>0.05</td>
<td>0.06</td>
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</tbody>
</table>

### Visible Transmittance ²

<table>
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<tr>
<th>Glass VT ³</th>
<th>Overall VT ⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.75</td>
<td>0.66</td>
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<tr>
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<tr>
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<tr>
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<tr>
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<td>0.09</td>
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<tr>
<td>0.05</td>
<td>0.04</td>
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</tbody>
</table>

**NOTE:** For glass values that are not listed, linear interpolation is permitted.

1. U-Factors are determined in accordance with NFRC 100.
2. SHGC and VT values are determined in accordance with NFRC 200.
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