Features

- Economical
- 1-3/4" sight line with a 3-9/16", 4-1/2" or 6" depth
- Front or Center (4-1/2") glass applications
- Outside glazed
- Screw Spline, Shear Block or Type-B fabrication
- SSG option
- Infill options up to 1-1/8"
- Thermal break via. Polymer glazing clip
- Permanodic™ anodized finishes in seven standard choices
- Painted finishes in standard and custom choices

Optional Features

- Two color capability
- 1-1/4" perimeter sight line
- Project specific U-factors (See Thermal Charts)

Product Applications

- Storefront, Ribbon Window or Punched Openings
- Low to mid-rise
- Single-span
- Curved frames
- Integrated entrance framing allowing Kawneer entrances or other specialty entrances to be included
- Kawneer windows, or GLASSvent™ Windows for Storefront Framing, or GLASSvent™ UT Windows are easily incorporated

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 the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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

NOTE: TYPE-B SYSTEM SIMILAR EXCEPT HEAD & SILL RUN THROUGH.

**ELEVATION IS NUMBER KEYED TO DETAILS**

**1/4" INFILL**

**1 HEAD**

**2 HORIZONTAL**

**3 SILL**

**4 JAMB**

**5 MULLION**

**6 SSG MULLION**

**1" INFILL**

**1 HEAD**

**2 HORIZONTAL**

**3 SILL**

**4 JAMB**

**5 MULLION**

**5A MULLION**

**6 SSG MULLION**

**6A W/ 1/4" ADAPTER**

*INSTALLER NOTE: Installer is responsible for all required compatibility review and approvals with the Structural Silicone Manufacturer and the Insulating Glass Unit Manufacturer.*
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EnCORE™ Framing System
4-1/2" SYSTEM (SHEAR BLOCK)

MARCH, 2019

EC 97911-197

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

NOTE: TYPE-B SYSTEM SIMILAR EXCEPT HEAD & SILL RUN THROUGH.

ELEVATION IS NUMBER KEYED TO DETAILS

1/4" INFILL

1 HEAD

2 HORIZONTAL

3 SILL

1" INFILL

1 HEAD

2 HORIZONTAL

3 SILL

2A HORIZONTAL W/ 1/4" ADAPTER

4 JAMB

5 MULLION

6 SSG MULLION

5A MULLION W/ 1/4" ADAPTER

6 SSG MULLION W/ 1/4" ADAPTER INSIDE SEAL

6A MULLION W/ 1/4" ADAPTER OUTSIDE SEAL

* INSTALLER NOTE: Installer is responsible for all required compatibility review and approvals with the Structural Silicone Manufacturer and the Insulating Glass Unit Manufacturer.
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NOTE: TYPE-B SYSTEM SIMILAR EXCEPT HEAD & SILL RUN THROUGH.

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*INSTALLER NOTE: Installer is responsible for all required compatibility review and approvals with the Structural Silicone Manufacturer and the Insulating Glass Unit Manufacturer.
Additional information and CAD details are available at www.kawneer.com

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

1-1/4” NARROW PERIMETER SCREW SPLINE SYSTEM WITH 1/4” INFILL

3-9/16” SYSTEM

4-1/2” SYSTEM

4-1/2” SYSTEM CENTER GLAZED

6” SYSTEM

1-1/4” NARROW PERIMETER SCREW SPLINE SYSTEM WITH 1” INFILL

HEAD RECEPTORS (EXTERIOR INSTALLED)

3-9/16” NON-THERMAL

3-9/16” THERMAL

4-1/2” NON-THERMAL

4-1/2” THERMAL

6” NON-THERMAL

6” THERMAL

HEAVY MULLIONS

NOTE:
HEAVY MULLIONS CAN BE USED WITH STANDARD FACE COVERS 175155 & 175156
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.

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

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**HORIZONTAL / CROSSRAIL ASSEMBLY (SCREW SPLINE SYSTEM)**

1/4" INFILL

1" INFILL

---

**1/2" INFILL ADAPTER**

**(SHOWN WITH 3-9/16" DEEP SYSTEM)**

---

**EnCORE™ GLAZING CHART**

<table>
<thead>
<tr>
<th>INFILL THICKNESS</th>
<th>ADAPTER for 1&quot; Infill Pocket</th>
<th>WEATHERING (Both Sides)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot;</td>
<td>175171</td>
<td>027077 Heavy</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>175171</td>
<td>027074 Standard</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>175171</td>
<td>027076 Light</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>175173</td>
<td>027074 Standard</td>
</tr>
<tr>
<td>5/8&quot;</td>
<td>175173</td>
<td>027076 Light</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>175175</td>
<td>027074 Standard</td>
</tr>
<tr>
<td>7/8&quot;</td>
<td>–</td>
<td>027077 Heavy</td>
</tr>
<tr>
<td>1&quot;</td>
<td>–</td>
<td>027074 Standard</td>
</tr>
<tr>
<td>1-1/8&quot;</td>
<td>–</td>
<td>027076 Light</td>
</tr>
</tbody>
</table>

**NOTE:** For infill thicknesses in 1/16" increments or oversize glass, use a combination of the Std. (027074) with either the Light (27076) or the Heavy (027077) gaskets.

**SSG GLAZING CHART**

<table>
<thead>
<tr>
<th>INFILL THICKNESS</th>
<th>SSG ADAPTER</th>
<th>HORIZONTAL WEATHERING</th>
<th>SSG WEATHERING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>175172</td>
<td>027074 Std.</td>
<td>175302</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>175173</td>
<td>027074 Std.</td>
<td>175302</td>
</tr>
</tbody>
</table>
Additional information and CAD details are available at www.kawneer.com

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

NOTE: Black spacer is recommended when 1" (25.4) insulating glass is used.
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Additional information and CAD details are available at www.kawneer.com
EnCORE™ Framing Incorporating Kawneer "190" Doors.

NOTE: Other types of Kawneer doors may be used with this framing. See the Entrance Section for additional information.

Additional information and CAD details are available at www.kawneer.com
Transom area for both double or single acting doors with glass surround. Jambs above transom area are routed out to accept pocket insert 175253.
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.

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EnCORE™ Framing System

4-1/2" Entrance Framing (Center Glazed)

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

EnCORE™ Framing Incorporating Kawneer "190" Doors.

NOTE: Other types of Kawneer doors may be used with this framing. See the Entrance Section for additional information.

Elevation is number keyed to details.

175501

1 Transom Head

2 Offset Pivot/Butt Hung Transom Bar

3 Offset Pivot/Butt Hung Header

4 C.O.C. Center Pivot Transom Bar

5 Center Pivot Transom Bar

6 Header

NOTE: Other types of Kawneer doors may be used with this framing. See the Entrance Section for additional information.

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

Transom area for both double or single acting doors with glass surround. Jambs above transom area are routed out to accept pocket insert 175253.
EnCORE™ Framing System

6" ENTRANCE FRAMING (FRONT GLAZED)

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

EnCORE™ FRAMING INCORPORATING KAWNEER "190" DOORS.

NOTE: Other types of Kawneer doors may be used with this framing. See the Entrance Section for additional information.
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COMMON DOOR JAMBS

SINGLE ACTING DOOR JAMB
SINGLE ACTING DOOR JAMB

DOUBLE ACTING DOOR JAMB
DOUBLE ACTING DOOR JAMB

SINGLE ACTING DOOR JAMB W/ DOOR ADAPTER
SINGLE ACTING DOOR JAMB W/ DOOR ADAPTER

DOUBLE ACTING DOOR JAMB W/ DOOR ADAPTER

SINGLE ACTING SSG DOOR JAMB W/ DOOR ADAPTER

SINGLE ACTING DOOR JAMB W/ DOOR ADAPTER
DOUBLE ACTING DOOR JAMB W/ DOOR ADAPTER
SINGLE ACTING SSG DOOR JAMB W/ DOOR ADAPTER
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.

If the end reaction of the mullion [mullion spacing (ft.) times height (ft.) times specified wind load (psf) divided by two] is more than 500 lbs., the optional Mullion Anchors must be used. Consult Application Engineering. (Mullion Anchor not used with Lightweight Receptor.)

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" (6.35) thick glass supported on two setting blocks placed at the loading points shown.
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EnCORE™ Framing System

WIND LOAD CHARTS

EC 97911-197

WITH HORIZONTALS
WIDTH IN METERS

WITH HORIZONTALS
WIDTH IN FEET

WITHOUT HORIZONTALS
WIDTH IN METERS

WITHOUT HORIZONTALS
WIDTH IN FEET

Allowable Stress Design Load | LRFD Ultimate Design Load
---|---
A = 15 PSF (720) | 25 PSF (1200)
B = 20 PSF (960) | 33 PSF (1580)
C = 25 PSF (1200) | 42 PSF (2000)
D = 30 PSF (1440) | 50 PSF (2400)
E = 40 PSF (1920) | 67 PSF (3200)

I = 1.511 (62.89 x 10⁴)
S = 0.745 (12.21 x 10³)

I = 1.747 (72.72 x 10⁴)
S = 0.877 (14.37 x 10³)
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---

**Wind Load Charts**

**With Horizontals**

**Width in Meters**

**Height in Feet**

**Height in Meters**

**Width in Feet**

**With Horizontals**

**Without Horizontals**

**Width in Meters**

**Height in Feet**

**Height in Meters**

**Width in Feet**

**Allowable Stress Design Load**

<table>
<thead>
<tr>
<th>Category</th>
<th>Allowable Stress Design Load</th>
<th>LRFD Ultimate Design Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>15 PSF (720)</td>
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<td>50 PSF (2400)</td>
</tr>
<tr>
<td>E</td>
<td>40 PSF (1920)</td>
<td>67 PSF (3200)</td>
</tr>
</tbody>
</table>

**Calculation**

\[
I = 3.229 \times 10^4 \\
S = 1.094 \times 10^3
\]

**Calculation**

\[
I = 4.325 \times 10^4 \\
S = 1.626 \times 10^3
\]
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.

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</thead>
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</tr>
<tr>
<td>D = 30 PSF (1440)</td>
<td>50 PSF (2400)</td>
</tr>
<tr>
<td>E = 40 PSF (1920)</td>
<td>67 PSF (3200)</td>
</tr>
</tbody>
</table>

**I = 4.005 \times 10^4**

**S = 1.533 \times 10^3**

**I = 2.919 \times 121.50 \times 10^4**

**S = 1.297 \times 21.25 \times 10^3**
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.

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Allowable Stress Design Load  LRFD Ultimate Design Load

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<tr>
<th></th>
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<td>50 PSF (2400)</td>
</tr>
<tr>
<td>D</td>
<td>40 PSF (1920)</td>
<td>67 PSF (3200)</td>
</tr>
</tbody>
</table>

\[ I = 2.799 \times 10^4 \]
\[ S = 1.233 \times 10^3 \]
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WIND LOAD CHARTS

EnCORE™ Framing System

Allowable Stress Design Load  LRFD Ultimate Design Load
A = 15 PSF (720)  25 PSF (1200)
B = 20 PSF (960)  33 PSF (1580)
C = 25 PSF (1200)  42 PSF (2000)
D = 30 PSF (1440)  50 PSF (2400)
E = 40 PSF (1920)  67 PSF (3200)

WITH HORIZONTALS
WIDTH IN METERS

WIDTH IN FEET

HEIGHT IN FEET

WIDTH IN FEET

HEIGHT IN FEET

WITH 1/2” x 3-1/4” STEEL BAR
I = 4.325 (180.02 x 10⁴)
S = 1.626 (26.65 x 10³)

I = 1.430 (59.49 x 10⁴)
S = 0.880 (14.43 x 10³)
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.

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EnCORE™ Framing System

WIND LOAD CHARTS

EC 97911-197

<table>
<thead>
<tr>
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<th>LRFD Ultimate Design Load</th>
</tr>
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<tbody>
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<td>A</td>
<td>15 PSF (720)</td>
</tr>
<tr>
<td>B</td>
<td>20 PSF (960)</td>
</tr>
<tr>
<td>C</td>
<td>25 PSF (1200)</td>
</tr>
<tr>
<td>D</td>
<td>30 PSF (1440)</td>
</tr>
<tr>
<td>E</td>
<td>40 PSF (1920)</td>
</tr>
</tbody>
</table>

WITH HORIZONTALS
WIDTH IN METERS

WITH 1/2" x 3-1/4" STEEL BAR

\[ I = 4.005 \times 10^4 \]
\[ S = 1.533 \times 10^3 \]

WITHOUT HORIZONTALS
WIDTH IN METERS

Allowable Stress
Design Load

LRFD Ultimate
Design Load

A  | 15 PSF (720)  | 25 PSF (1200) |
B  | 20 PSF (960)  | 33 PSF (1580) |
C  | 25 PSF (1200) | 42 PSF (2000) |
D  | 30 PSF (1440) | 50 PSF (2400) |
E  | 40 PSF (1920) | 67 PSF (3200) |

| A  | 15 PSF (720)  | 25 PSF (1200) |
| B  | 20 PSF (960)  | 33 PSF (1580) |
| C  | 25 PSF (1200) | 42 PSF (2000) |
| D  | 30 PSF (1440) | 50 PSF (2400) |
| E  | 40 PSF (1920) | 67 PSF (3200) |

| A  | 15 PSF (720)  | 25 PSF (1200) |
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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 1/4" (6.4) and 1" (25.4) thick glass supported on two setting blocks placed at the loading points shown.

A = 1/4 POINT LOADING
B = 1/6 POINT LOADING
C = 1/8 POINT LOADING
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 1/4" (6.4) and 1" (25.4) thick glass supported on two setting blocks placed at the loading points shown.

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DEADLOADS ON ENTRANCE TRANSOM BARS

Height limitations for transom glass over a doorway are based on a maximum 1/16" (1.6) mid-point deflection of a transom bar supporting glass bearing on two setting blocks placed at the loading points shown.

**WITH 1" GLASS**

**A** = 1/4 POINT LOADING  
**B** = 1/6 POINT LOADING  
**C** = 1/8 POINT LOADING

**WITH 1/4" GLASS**

DEADLOAD CHARTS
DEADLOADS ON ENTRANCE TRANSOM BARS
Height limitations for transom glass over a doorway are based on a maximum 1/16” (1.6) mid-point deflection of a transom bar supporting glass bearing on two setting blocks placed at the loading points shown.

WITH 1” GLASS

A = 1/4 POINT LOADING
B = 1/6 POINT LOADING
C = 1/8 POINT LOADING

WITH 1/4” GLASS

DEADLOAD CHARTS
Generic Project Specific U-factor Example Calculation
(Percent of Glass will vary on specific products depending on sitelines)

Example Glass U-value = 0.42 Btu/hr·ft²·°F
Total Daylight Opening = 3(5' x 7') + 3(5'x2') = 135 ft²
Total Projected Area = (Total Daylight Opening + Total Area of Framing System) = 15'-8" x 9'-6" = 148.83 ft²
Percent of Glass = (Total Daylight Opening + Total Projected Area) = (135 + 148.83)/100 = 91%

System U-factor vs Percent of Glass Area

Based on 91% glass and center of glass U-factor of 0.42, System U-factor is equal to 0.49 Btu/hr·ft²·°F
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Note:
Values in parentheses are metric.
COG=Center of Glass.
Charts are generated per AAMA 507.
System Solar Heat Gain Coefficient (SHGC) vs Percent of Vision Area

Charts are generated per AAMA 507.

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System Visible Transmittance (VT) vs Percent of Vision Area

Charts are generated per AAMA 507.
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### Thermal Transmittance

<table>
<thead>
<tr>
<th>Glass U-Factor</th>
<th>Overall U-Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.48</td>
<td>0.61</td>
</tr>
<tr>
<td>0.46</td>
<td>0.59</td>
</tr>
<tr>
<td>0.44</td>
<td>0.58</td>
</tr>
<tr>
<td>0.42</td>
<td>0.56</td>
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<tr>
<td>0.40</td>
<td>0.55</td>
</tr>
<tr>
<td>0.38</td>
<td>0.53</td>
</tr>
<tr>
<td>0.36</td>
<td>0.51</td>
</tr>
<tr>
<td>0.34</td>
<td>0.50</td>
</tr>
<tr>
<td>0.32</td>
<td>0.48</td>
</tr>
<tr>
<td>0.30</td>
<td>0.46</td>
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<tr>
<td>0.28</td>
<td>0.45</td>
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<tr>
<td>0.26</td>
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<td>0.24</td>
<td>0.42</td>
</tr>
<tr>
<td>0.22</td>
<td>0.40</td>
</tr>
<tr>
<td>0.20</td>
<td>0.38</td>
</tr>
</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

<table>
<thead>
<tr>
<th>Glass SHGC</th>
<th>Overall SHGC</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.75</td>
<td>0.68</td>
</tr>
<tr>
<td>0.70</td>
<td>0.64</td>
</tr>
<tr>
<td>0.65</td>
<td>0.59</td>
</tr>
<tr>
<td>0.60</td>
<td>0.55</td>
</tr>
<tr>
<td>0.55</td>
<td>0.50</td>
</tr>
<tr>
<td>0.50</td>
<td>0.46</td>
</tr>
<tr>
<td>0.45</td>
<td>0.41</td>
</tr>
<tr>
<td>0.40</td>
<td>0.37</td>
</tr>
<tr>
<td>0.35</td>
<td>0.33</td>
</tr>
<tr>
<td>0.30</td>
<td>0.28</td>
</tr>
<tr>
<td>0.25</td>
<td>0.24</td>
</tr>
<tr>
<td>0.20</td>
<td>0.19</td>
</tr>
<tr>
<td>0.15</td>
<td>0.15</td>
</tr>
<tr>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>0.05</td>
<td>0.06</td>
</tr>
</tbody>
</table>

### Visible Transmittance

<table>
<thead>
<tr>
<th>Glass VT</th>
<th>Overall VT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.75</td>
<td>0.67</td>
</tr>
<tr>
<td>0.70</td>
<td>0.63</td>
</tr>
<tr>
<td>0.65</td>
<td>0.58</td>
</tr>
<tr>
<td>0.60</td>
<td>0.54</td>
</tr>
<tr>
<td>0.55</td>
<td>0.49</td>
</tr>
<tr>
<td>0.50</td>
<td>0.45</td>
</tr>
<tr>
<td>0.45</td>
<td>0.40</td>
</tr>
<tr>
<td>0.40</td>
<td>0.36</td>
</tr>
<tr>
<td>0.35</td>
<td>0.31</td>
</tr>
<tr>
<td>0.30</td>
<td>0.27</td>
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<tr>
<td>0.25</td>
<td>0.22</td>
</tr>
<tr>
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<td>0.18</td>
</tr>
<tr>
<td>0.15</td>
<td>0.13</td>
</tr>
<tr>
<td>0.10</td>
<td>0.09</td>
</tr>
<tr>
<td>0.05</td>
<td>0.04</td>
</tr>
</tbody>
</table>
Clip spacing of each elevation must be checked to meet wind load requirements. Glazing clips should be located 3" from each end of member and subsequently spaced per formula below:

**STEP 1:** Locate the largest lite of glass on each ELEVATION.

**STEP 2:** Determine the width and height for the largest glass lite.

**STEP 3:** Use the smallest of the two dimensions for the MODULE (FT) spacing.

**STEP 4:** Match that Module (ft) spacing with the required wind load on the chart below.

### SAMPLE CALCULATION

<table>
<thead>
<tr>
<th>Lite “W”</th>
<th>3'-0&quot; x 5'-3-1/2&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>3'-0&quot;</td>
<td>12&quot; O.C. for 30 PSF</td>
</tr>
<tr>
<td>3'-0&quot;</td>
<td>10&quot; O.C. for 35 PSF</td>
</tr>
</tbody>
</table>

**SAMPLE ELEVATION**

![Sample Elevation Diagram]
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