

Features

- 1600 Wall System™3 is an inside / outside glazed captured curtain wall
- 1600 Wall System™3 has a 2-1/2" (63.5) sight line
- Standard 6" (152.4) or 7-1/2" (190.5) depth systems are compatible with System™1 and System™2
- Inside glazed verticals utilize the IsoStrut™ thermal barrier to provide superior structural and thermal performance
- Integral vertical exterior cover and thermal barrier reduce installed cost
- Horizontals utilize a thermal separator and pressure plate to allow for glazing or re-glazing from the exterior
- Standard infill options are 1/8" (3.2), 1/4" (6.4) and 1" (25.4)
- Thermally Broken by means of a continuous 1/4" (6.4) low conductance spacer
- Concealed fastener joinery creates smooth, monolithic appearance
- Shear block fabrication method
- Standard 90 and 135 degree inside and outside corners available
- Offers integrated entrance framing systems
- Peroxide-cure high performance EPDM silicone compatible glazing materials for long-lasting seals
- Two color option
- Permanodic™ anodized finishes in seven choices
- Painted finishes in standard and custom choices

Optional Features

- Steel reinforcing available
- Integrates with Kawneer windows and concealed GLASSvent™ for curtain wall
- 1600 PowerWall™ solar photovoltaic (PV) infill in lieu of glass

Product Applications

- Ideal for low-rise to high-rise curtain wall applications where inside glazing and high performance is desired

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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Architects – Most extrusion and window types illustrated in this catalog are standard products for Kawneer. These concepts have been expanded and modified to afford you design freedom. Some miscellaneous details are non-standard and are intended to demonstrate how the system can be modified to expand design flexibility. Please contact your Kawneer representative for further assistance.

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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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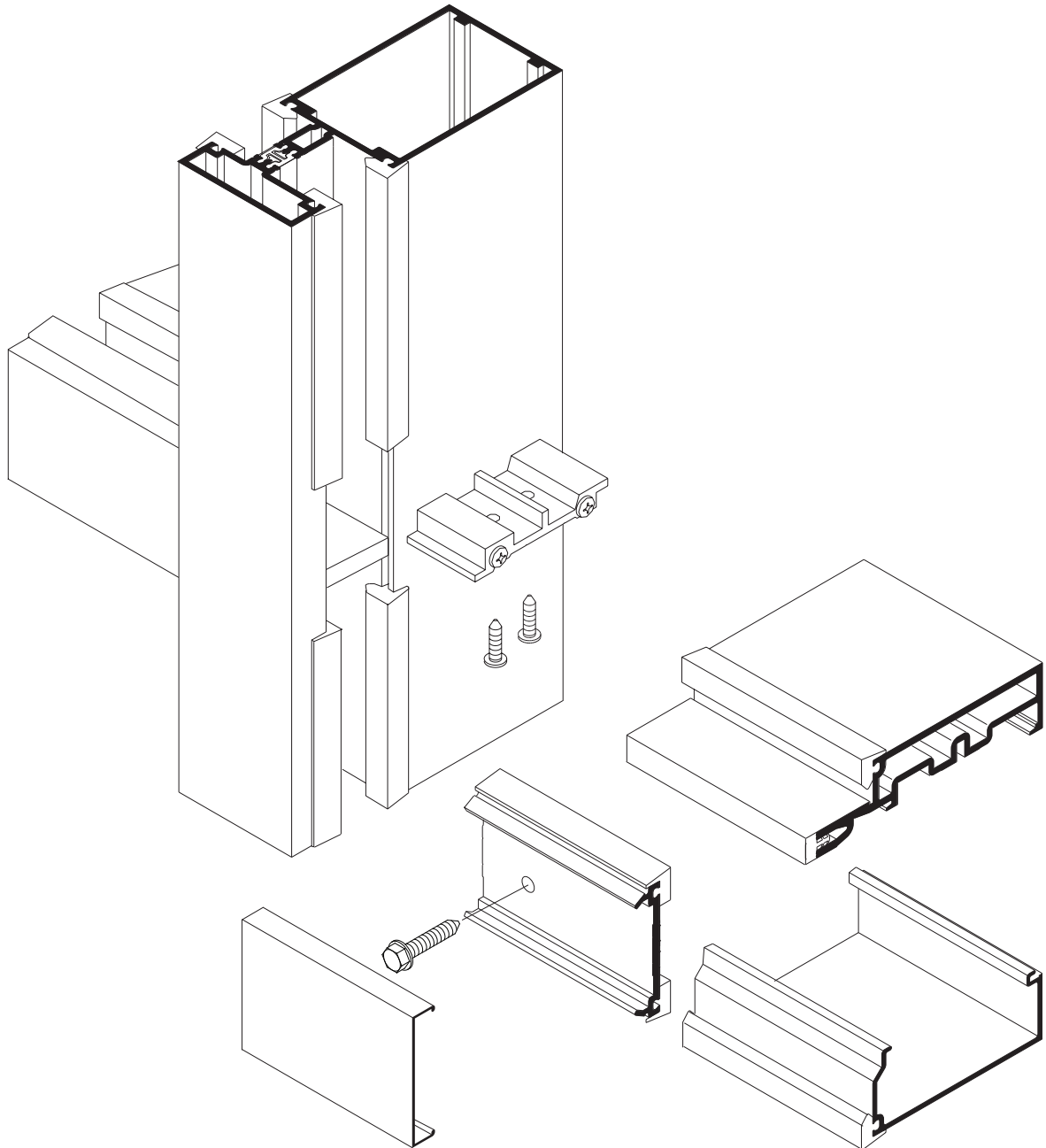
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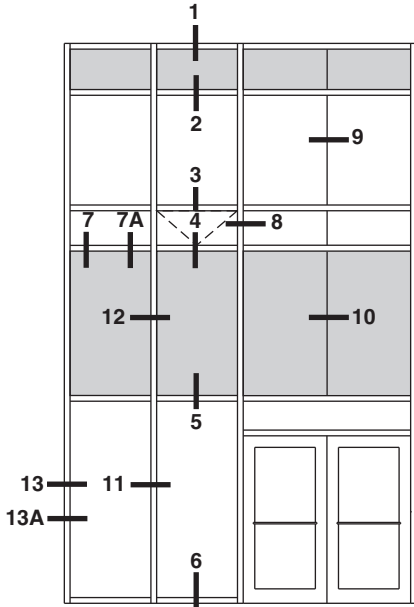
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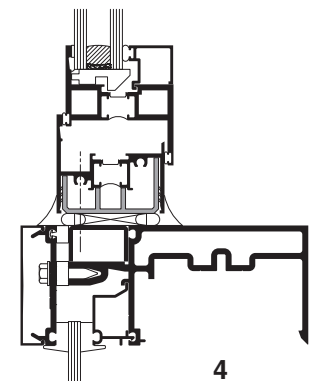
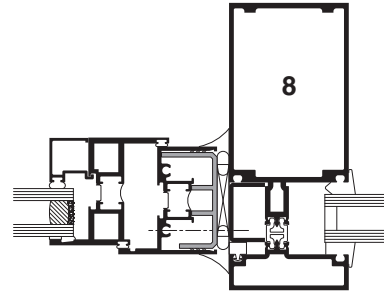
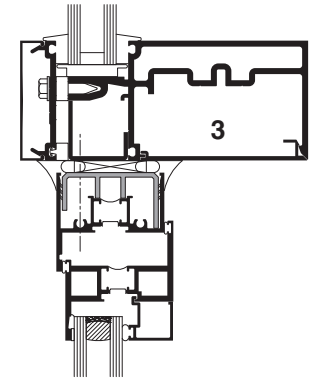
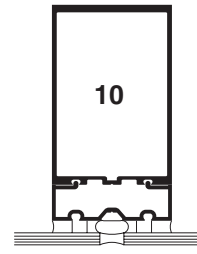
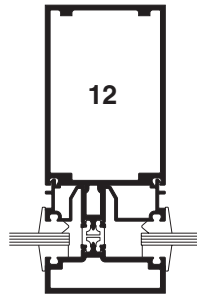
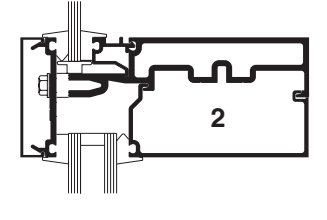
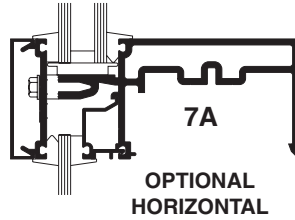
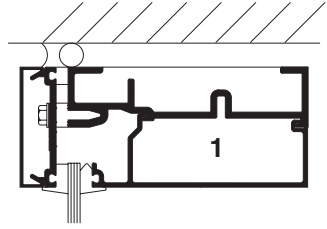
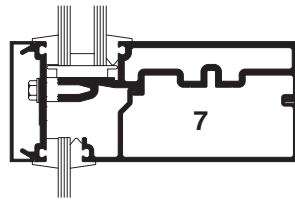
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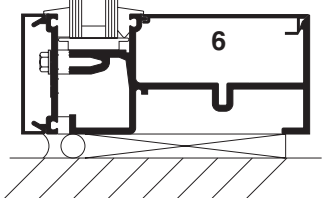
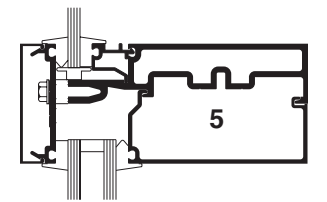
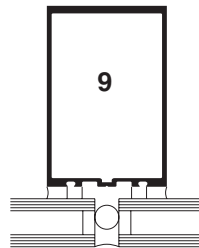
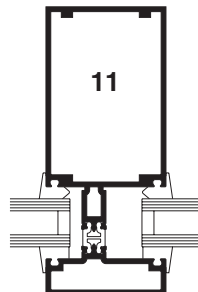
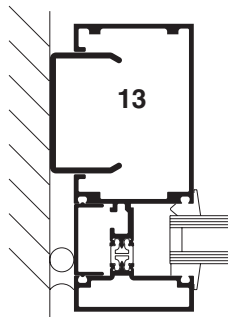
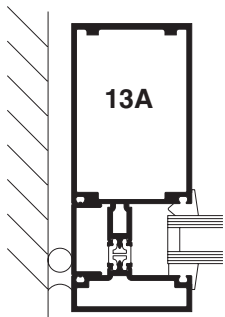
ELEVATION IS NUMBER KEYED TO DETAILS

NOTE:

6" SYSTEM SHOWN, 7-1/2" SIMILAR.
INSIDE GLAZED IsoStrut™ VERTICALS SHOWN.



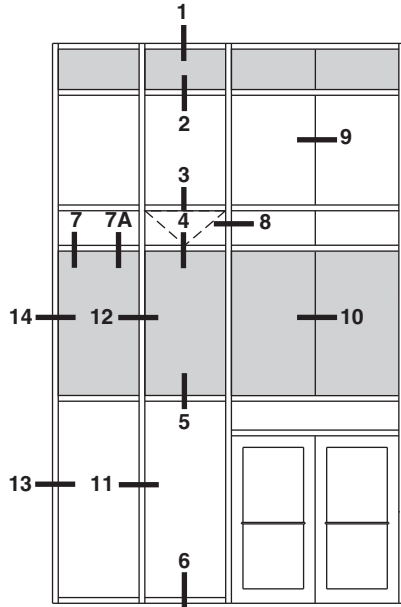
ALTERNATE JAMB



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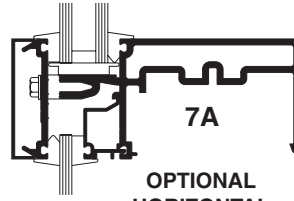
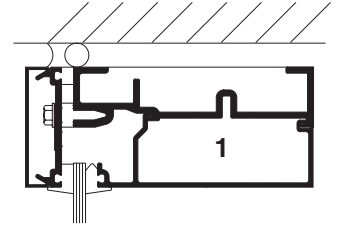
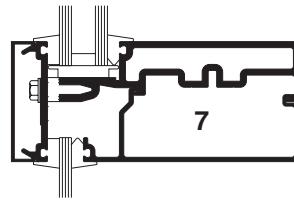
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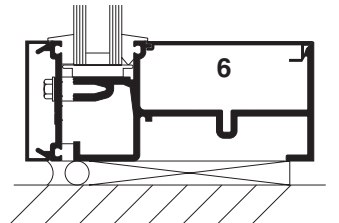
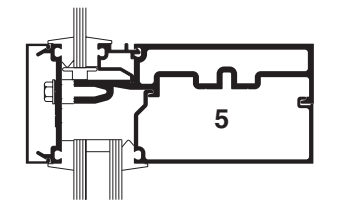
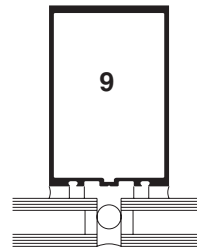
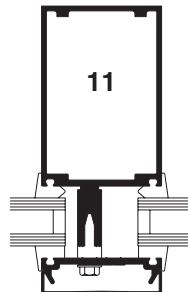
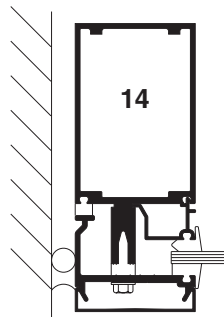
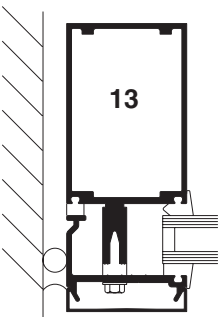
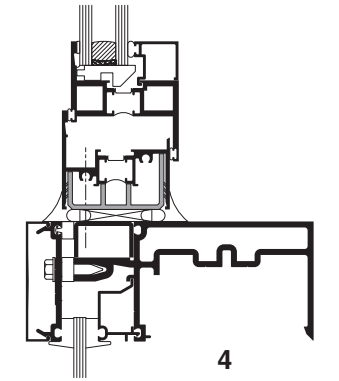
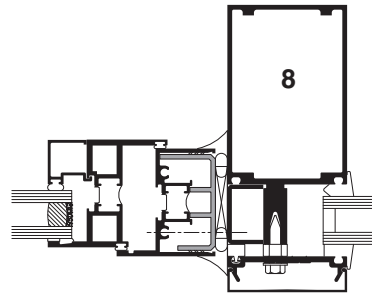
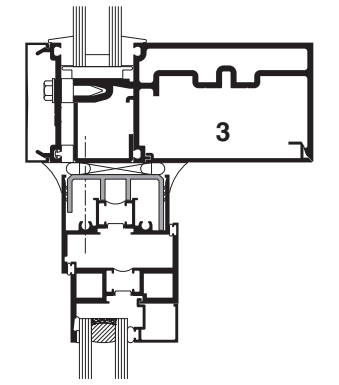
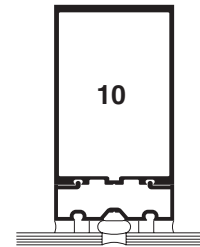
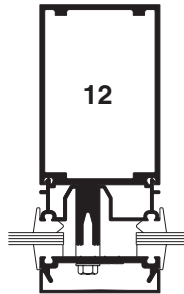
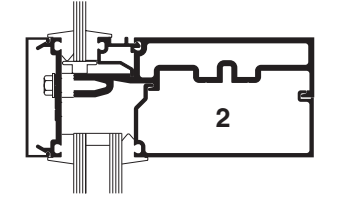
ELEVATION IS NUMBER KEYED TO DETAILS

NOTES:

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APPLIED PRESSURE PLATE OPTION SHOWN.



OPTIONAL HORIZONTAL

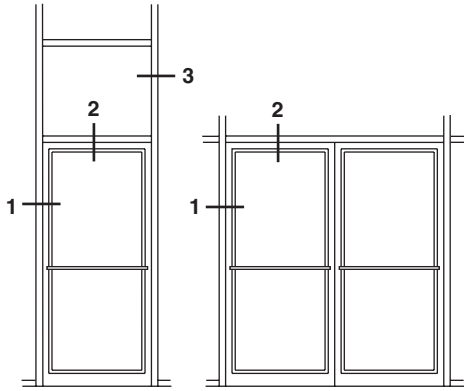


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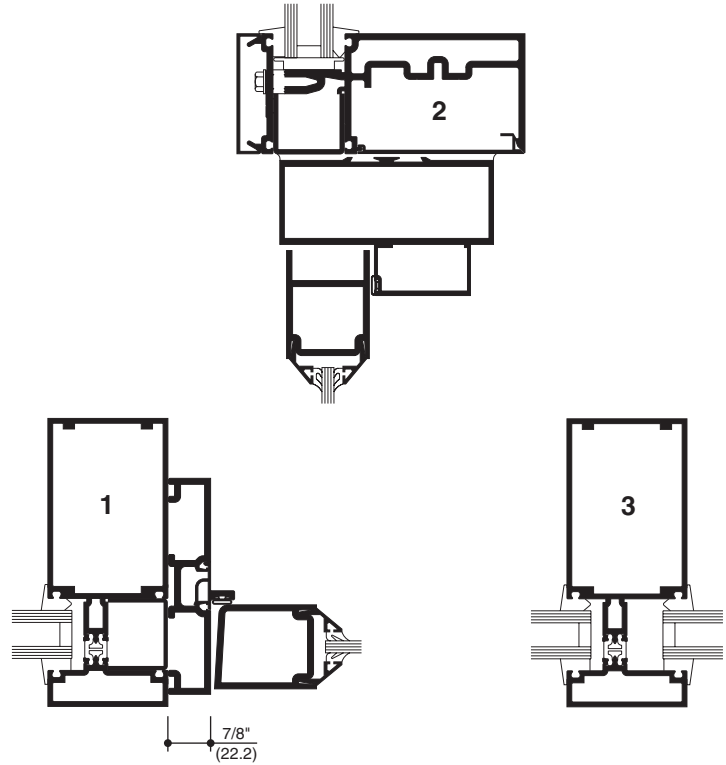
SCALE 3" = 1'-0"

ENTRANCE ADAPTERS

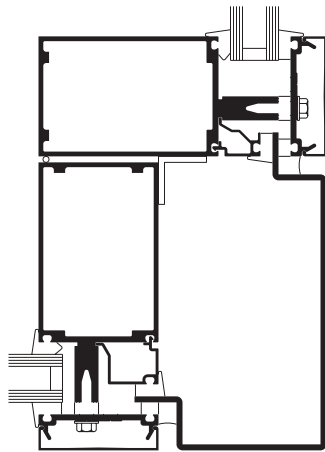


ELEVATION IS NUMBER KEYED TO DETAILS

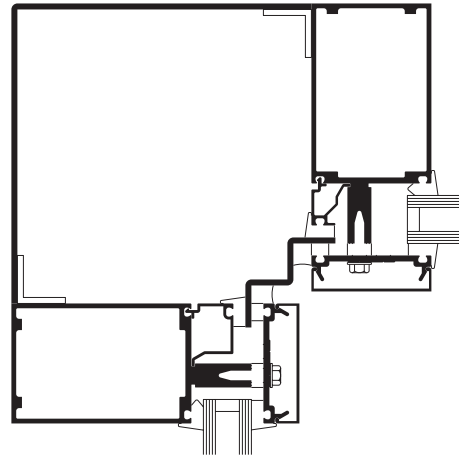
NOTE:
OFFSET PIVOT/BUTT HUNG ENTRANCE SHOWN.
ALSO AVAILABLE FOR CENTER HUNG



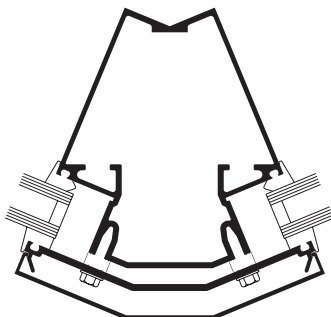
CORNERS



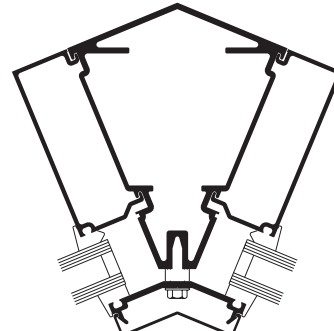
OUTSIDE 90° CORNER



INSIDE 90° CORNER



OUTSIDE 135° CORNER



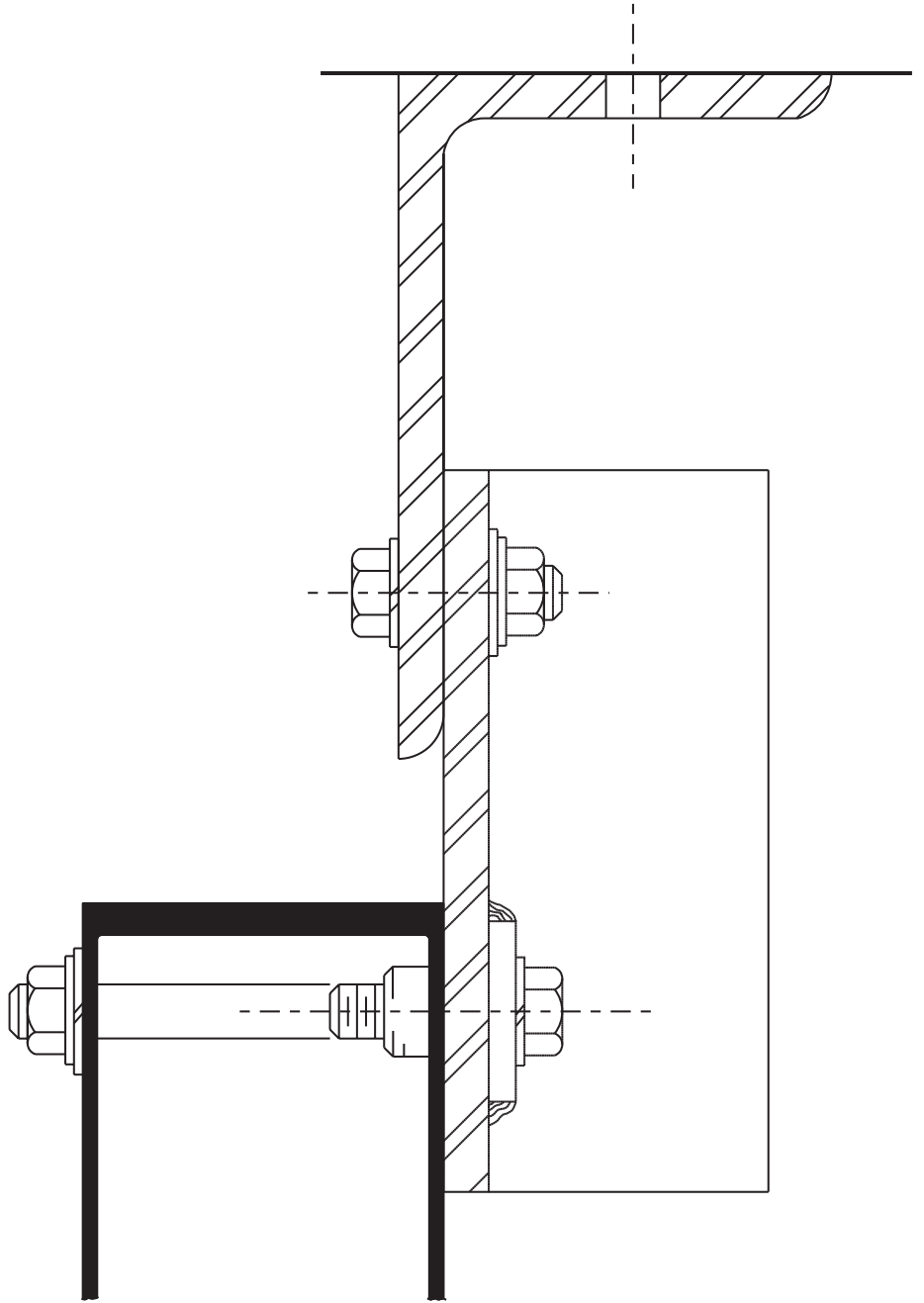
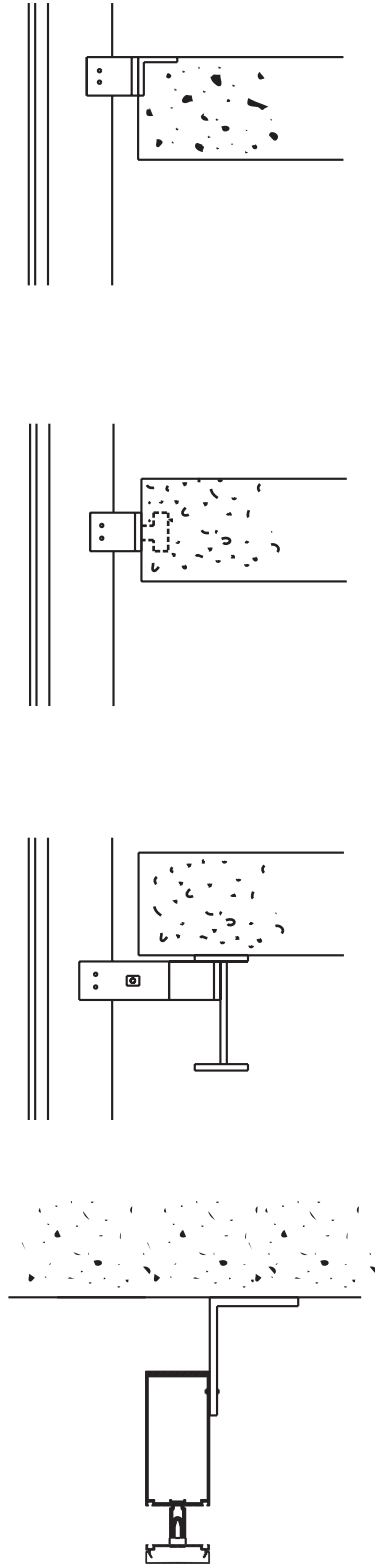
INSIDE 135° CORNER

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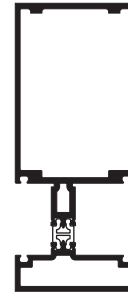
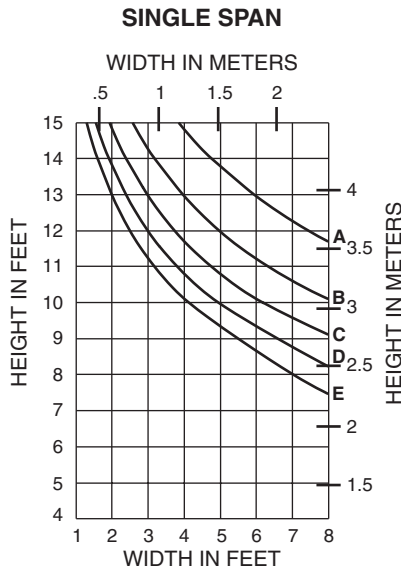
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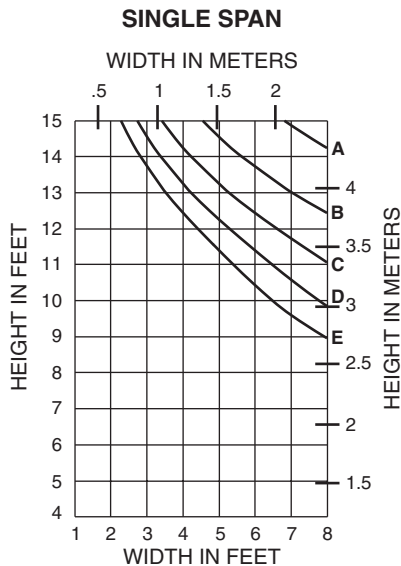


Mullions are designed for deflection limitations in accordance with AAMA TIR-A11 of L/175 up to 13'-6" and L/240 +1/4" above 13'-6". These curves are for mullions WITH HORIZONTALS and are based on engineering calculations for stress and deflection. Allowable wind load stress for ALUMINUM 15,152 psi (104MPa), STEEL 30,000 psi (207MPa.). Charted curves, in all cases are for the limiting value. If the design wind load is determined through the analytical procedures of ASCE/SEI 7-10 or earlier editions, the load shall be based on the nominal loads used in allowable stress design. 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.

- A = 20 PSF (960 Pa)
- B = 30 PSF (1440 Pa)
- C = 40 PSF (1920 Pa)
- D = 50 PSF (2400 Pa)
- E = 60 PSF (2880 Pa)



163200



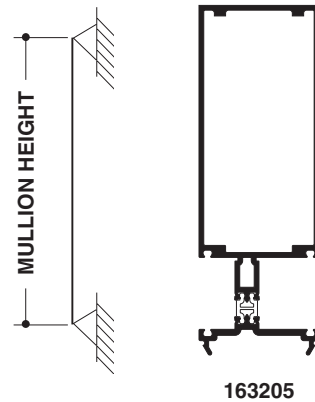
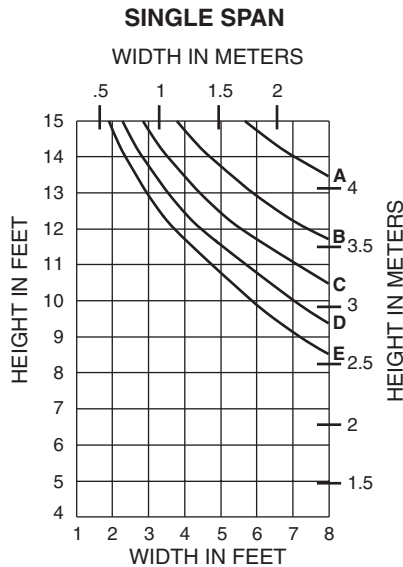
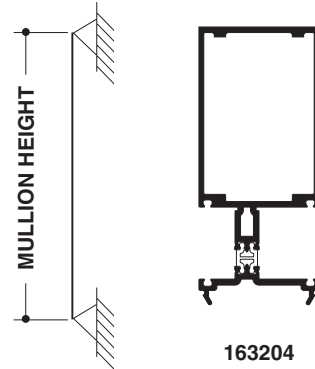
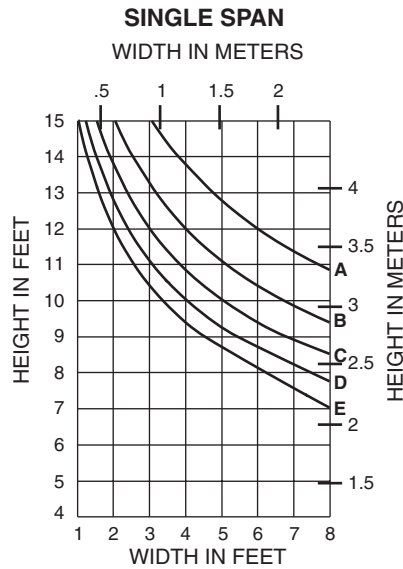
163201

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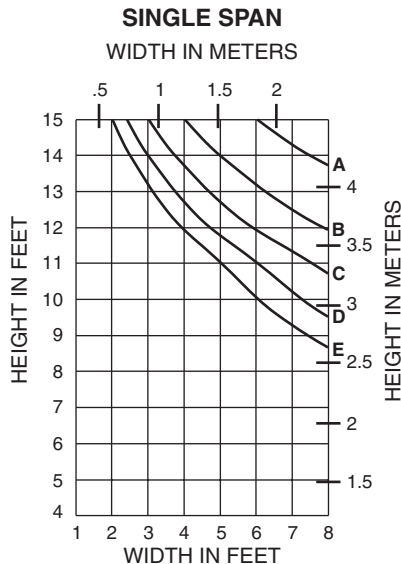
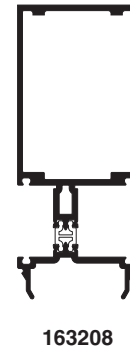
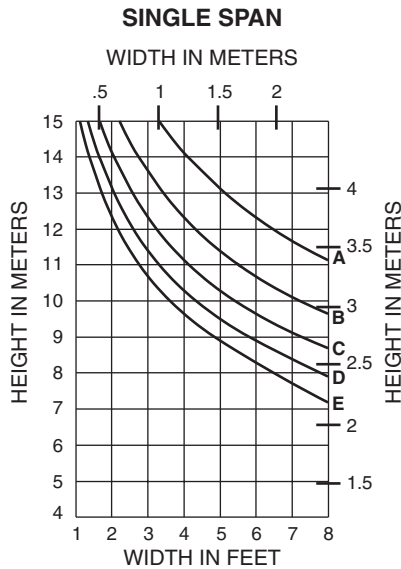


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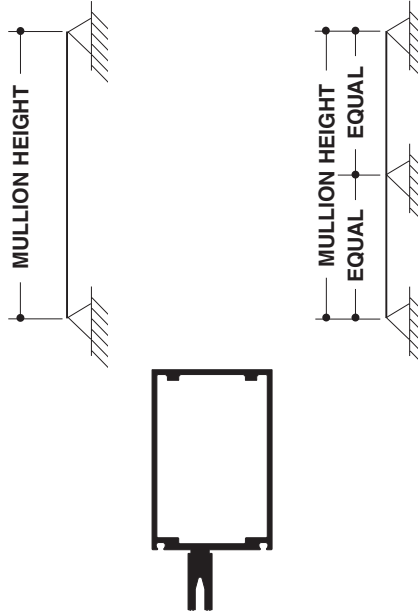
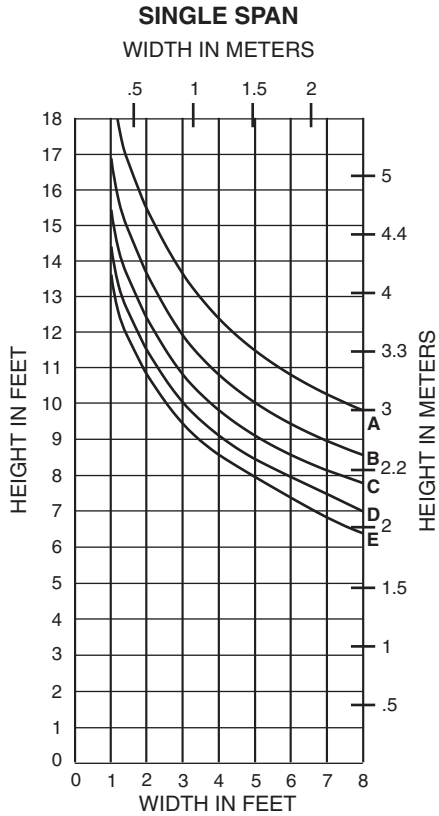
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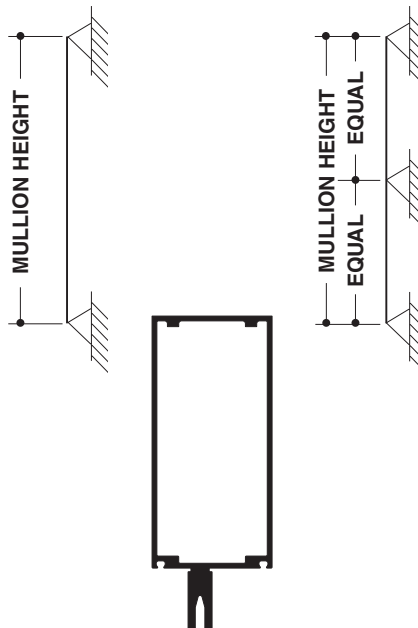
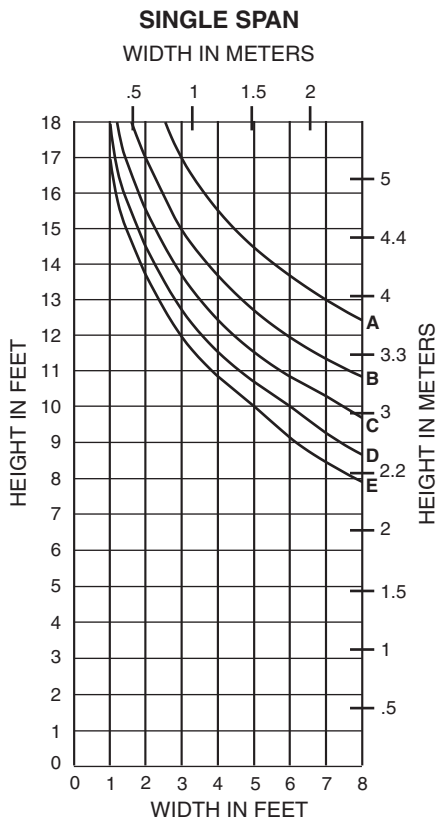
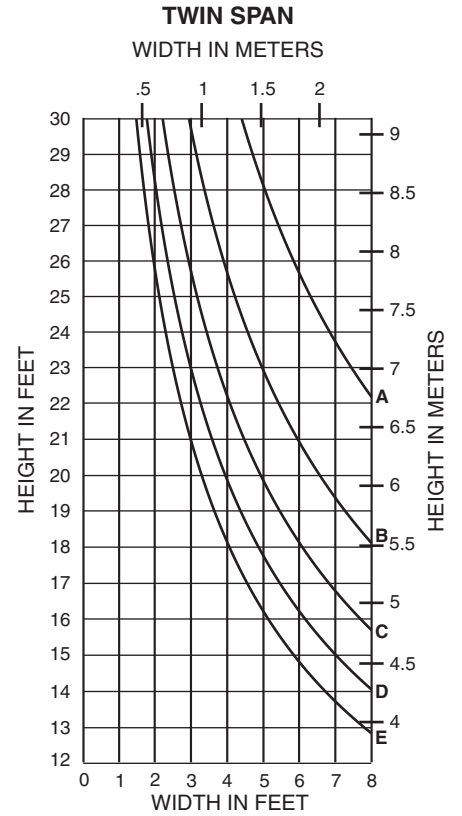
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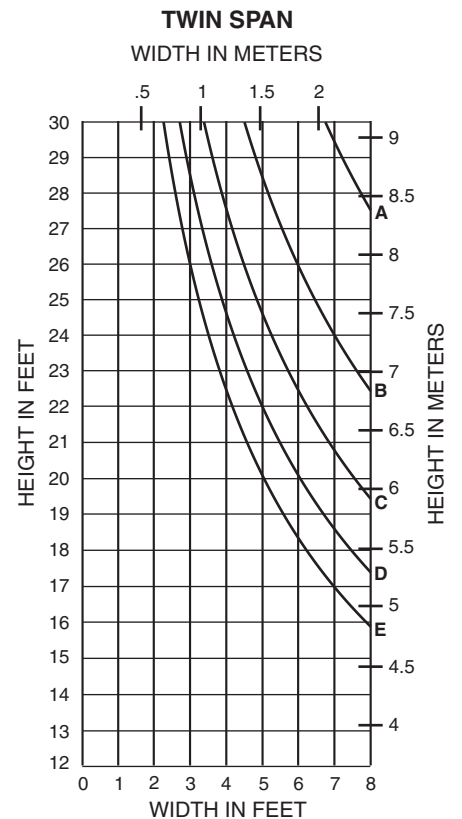


163038

- A = 20 PSF (960 Pa)
- B = 30 PSF (1440 Pa)
- C = 40 PSF (1920 Pa)
- D = 50 PSF (2400 Pa)
- E = 60 PSF (2880 Pa)

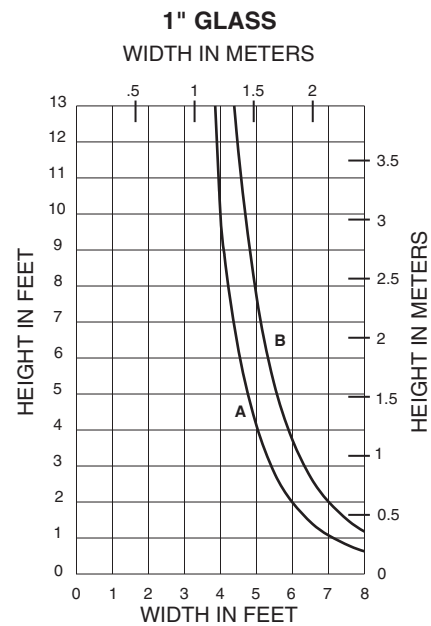
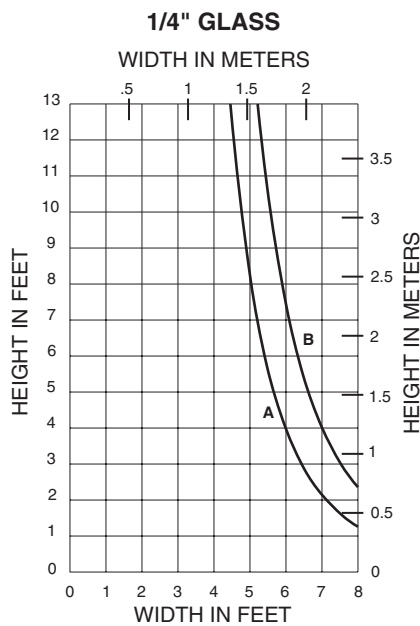
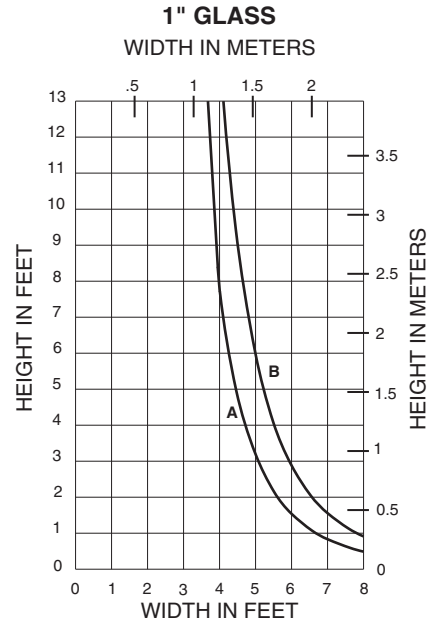
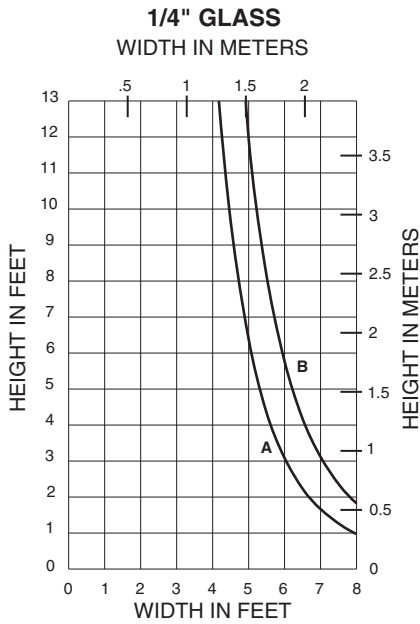


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Horizontal or deadload limitations are based upon 1/8" maximum deflection at the center of an intermediate horizontal member. The accompanying charts are calculated for 1/4" and 1" thick glass supported on two setting blocks placed at the loading points shown.

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

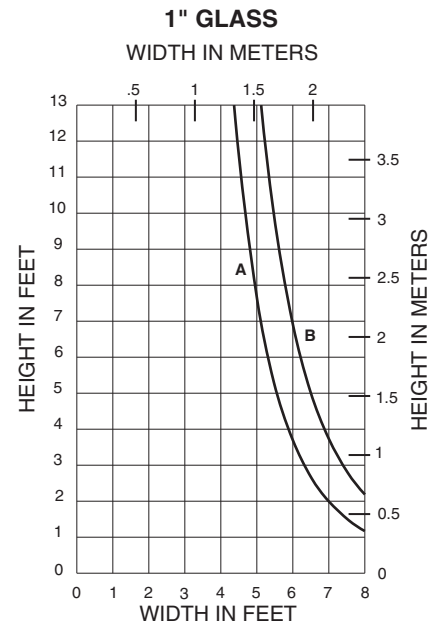
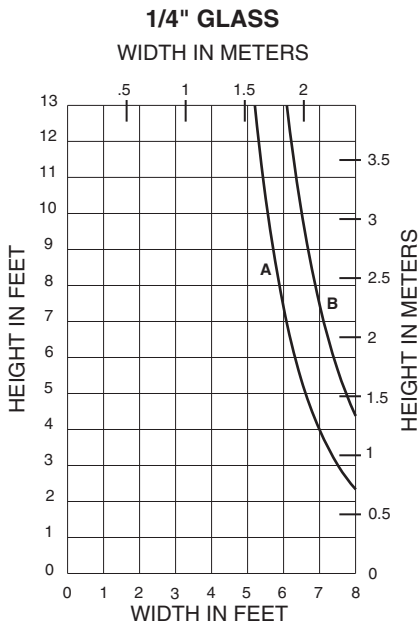
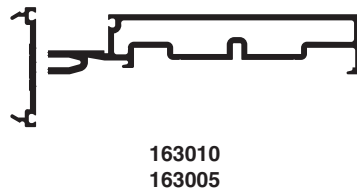
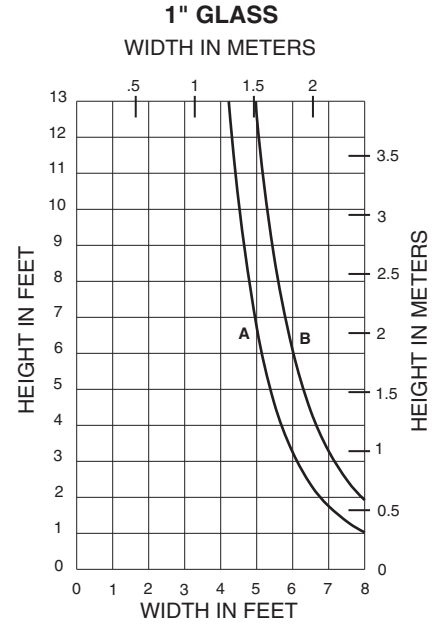
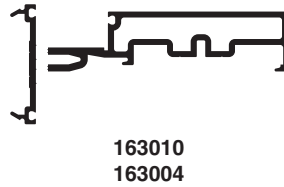
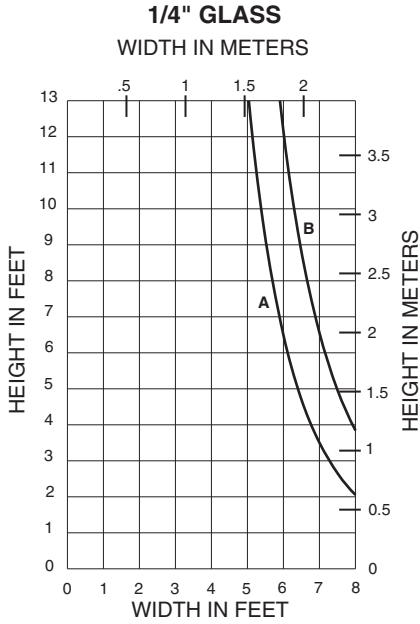


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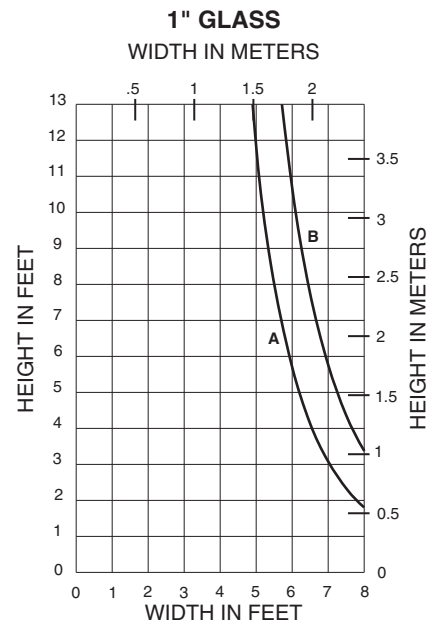
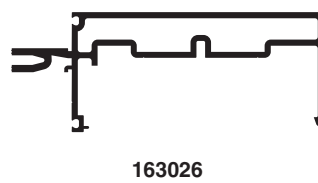
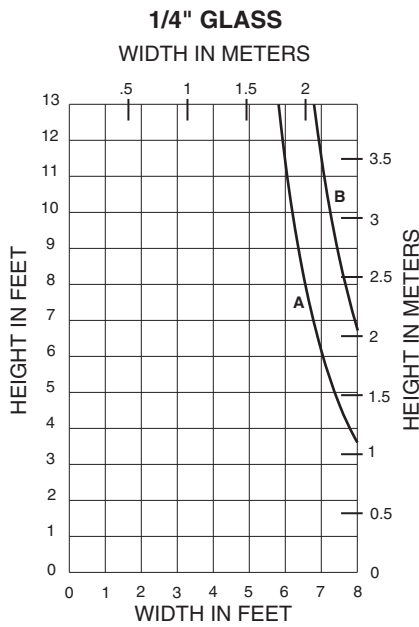
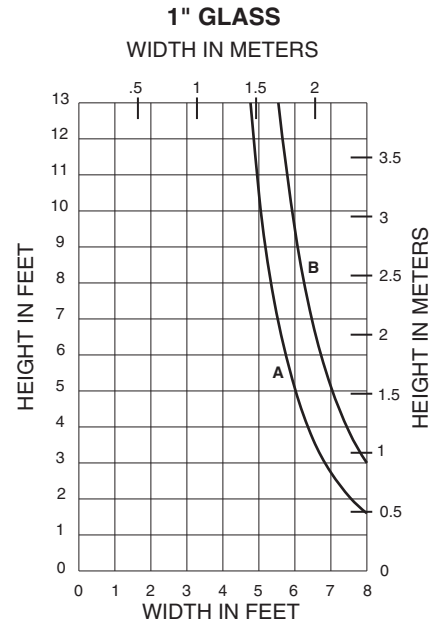
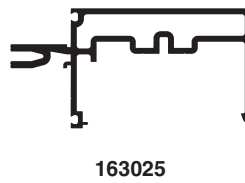
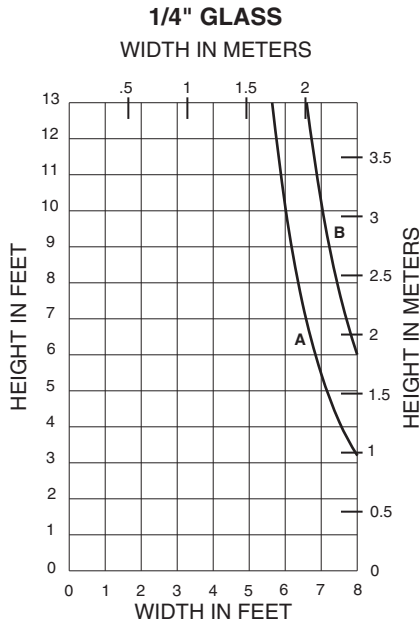


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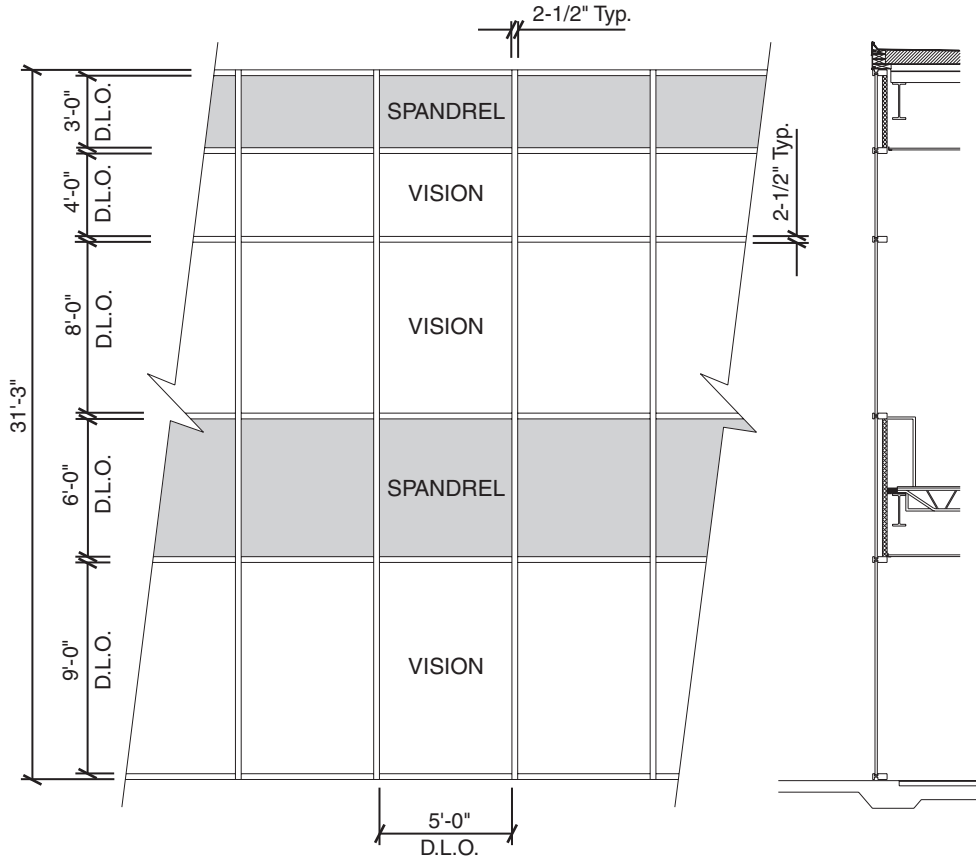
A = 1/4 POINT LOADING
 B = 1/8 POINT LOADING



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Generic Project Specific U-factor Example Calculation
(Percent 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

Percent 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

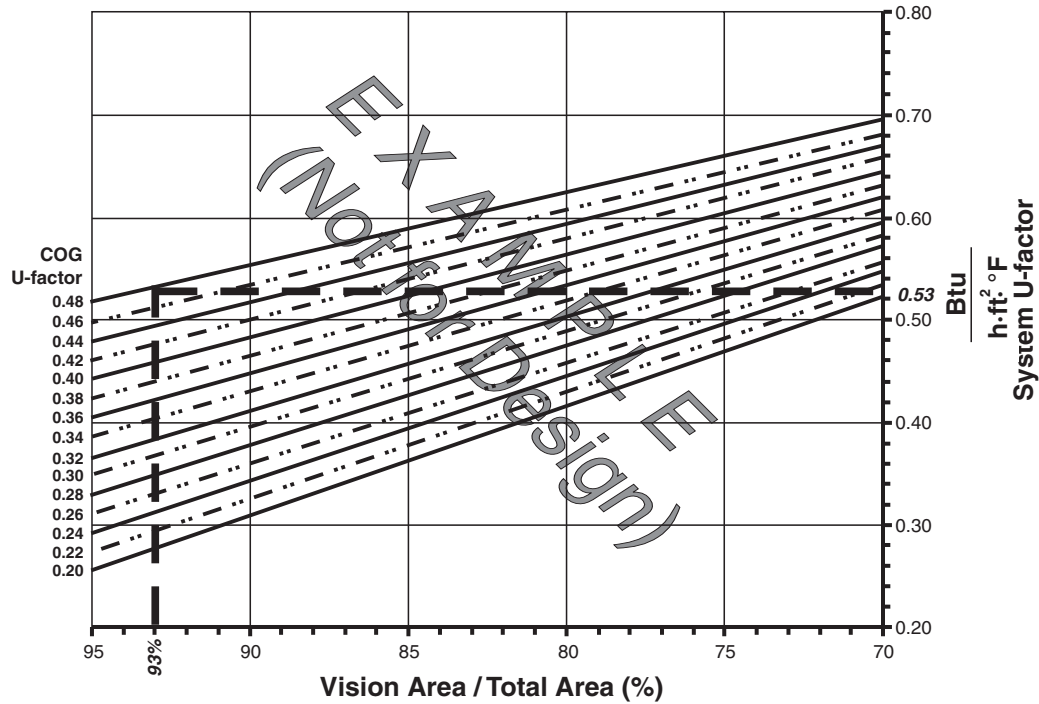
Percent of Spandrel = (Spandrel Area ÷ Total Area)100
 = (45.0 ÷ 49.6)100 = 91%

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Vision Area Chart

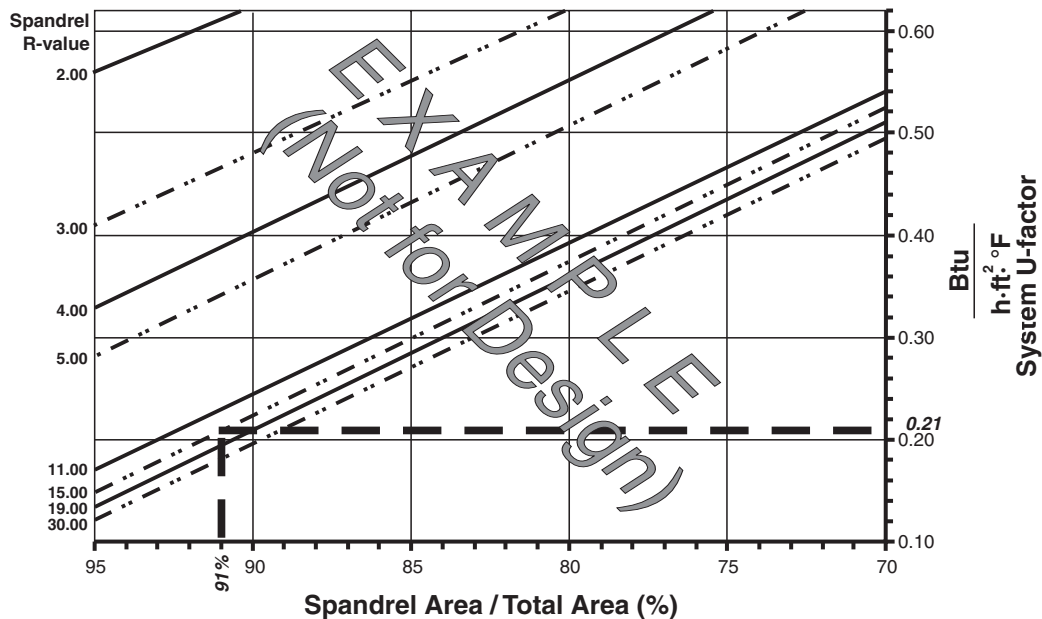
System U-factor vs Percent of Vision Area



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

System U-factor vs Percent of Spandrel Area



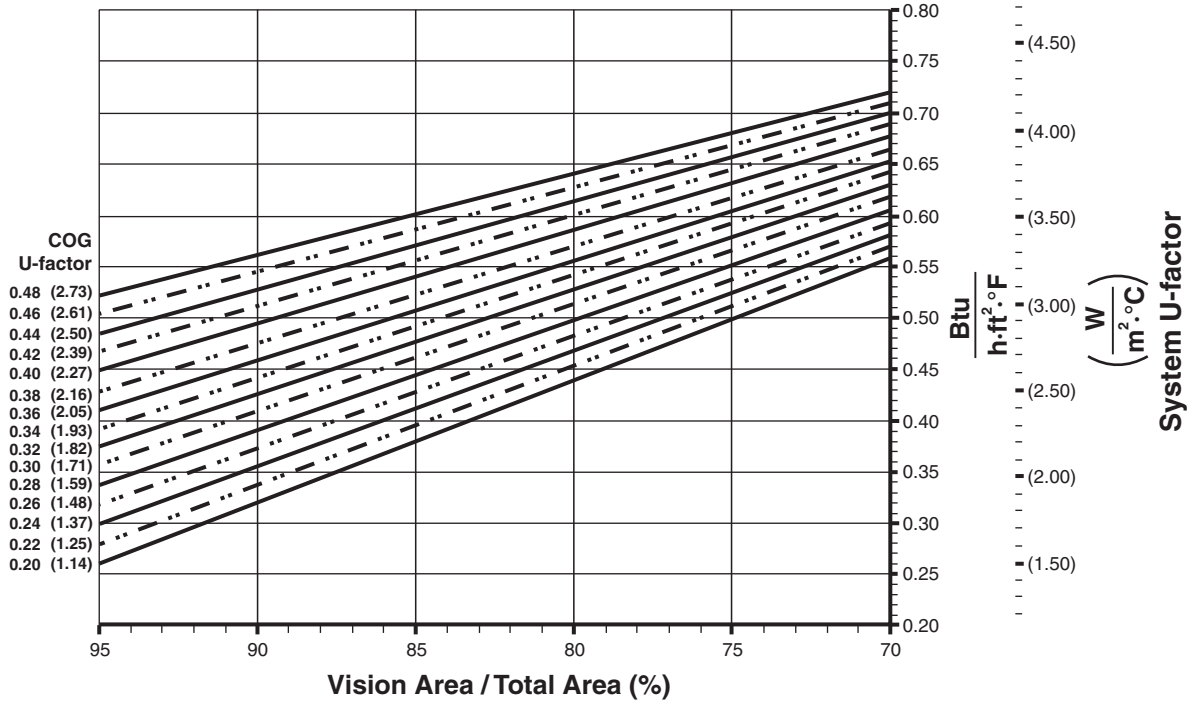
Based on a single curtain wall bay of 91% spandrel and center of spandrel R-value of 15, system U-factor is equal to 0.21 Btu/(h-ft²·°F)

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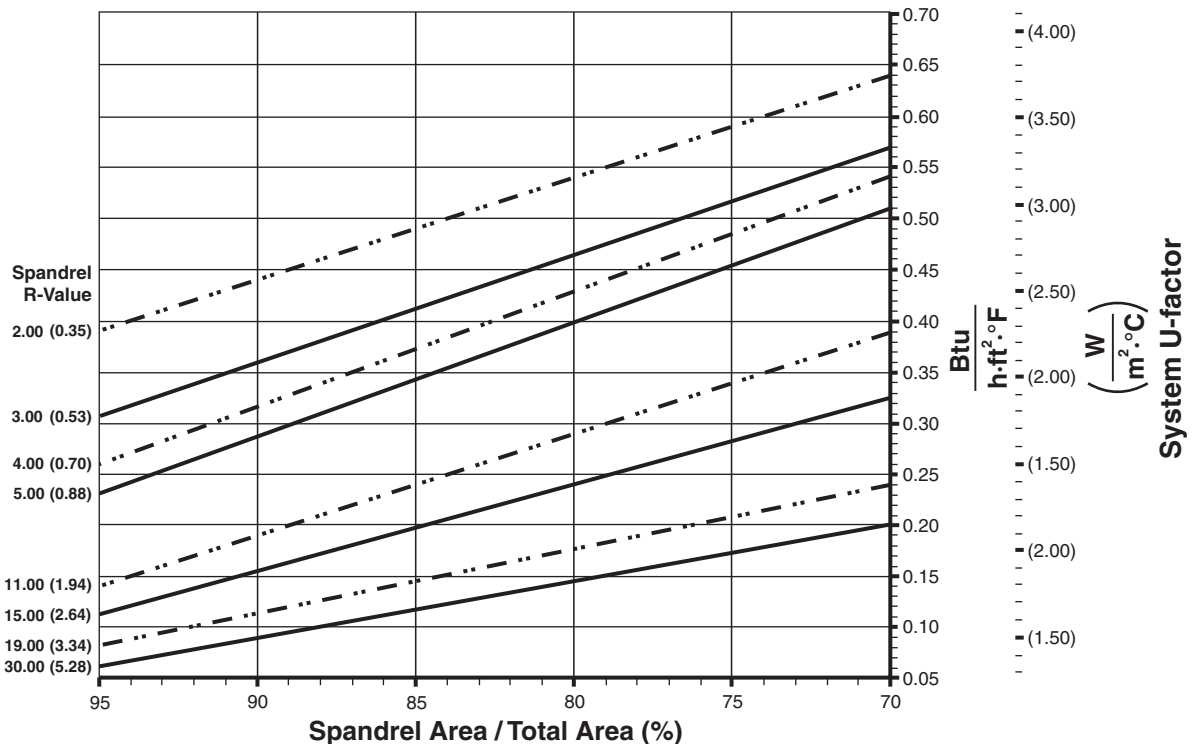
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Note:
 Values in parentheses are metric.
 COG = Center Of Glass.
 Charts are generated per AAMA 507.

System U-Factors for Vision Glass



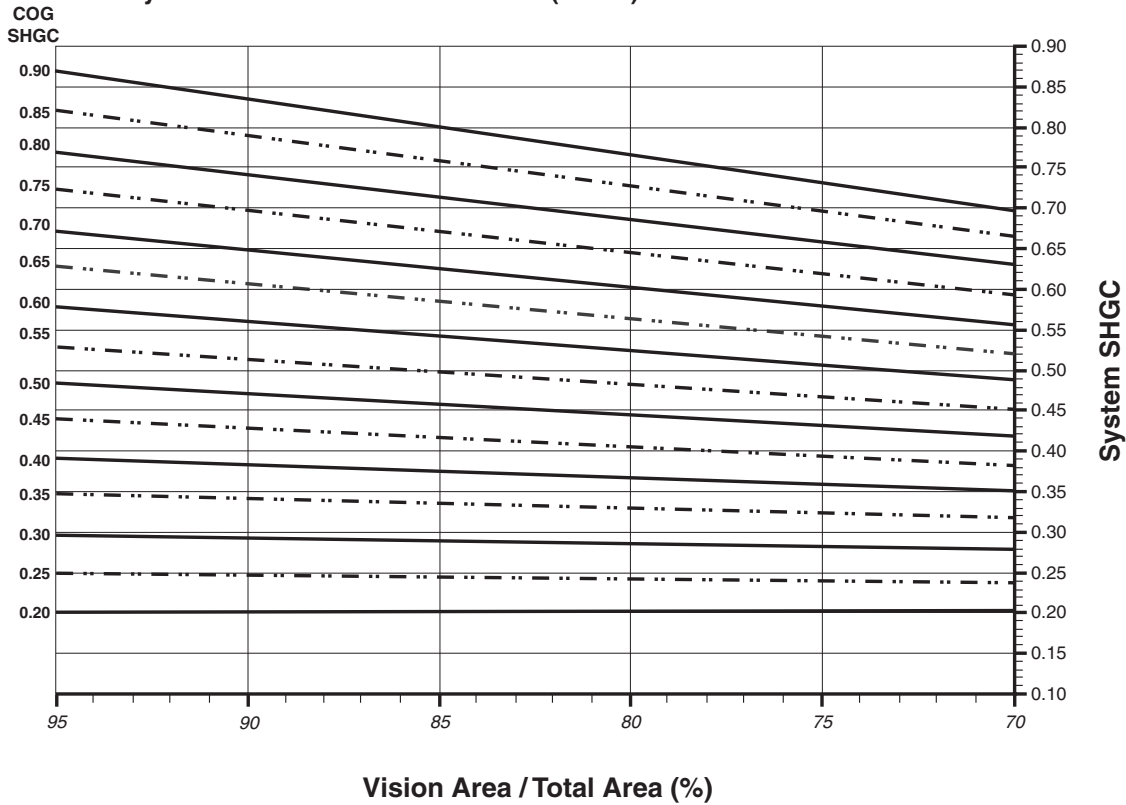
System U-Factors for Spandrel Glass



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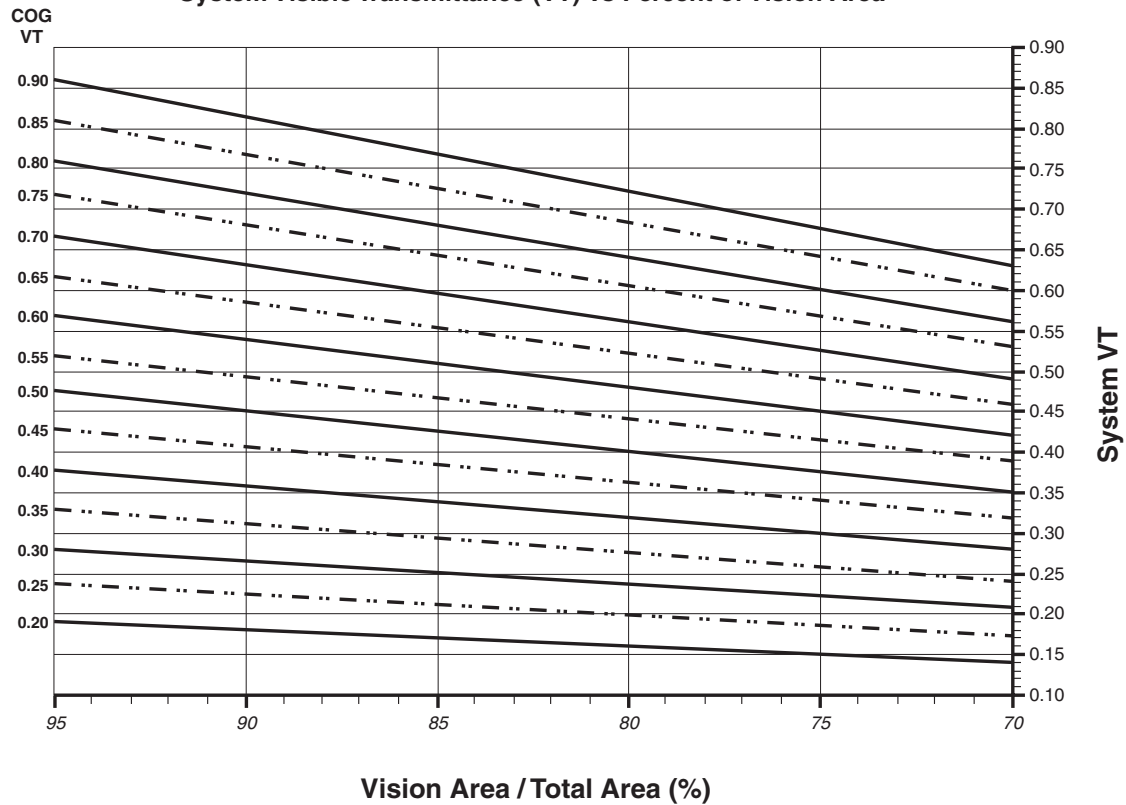
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System Solar Heat Gain Coefficient (SHGC) vs Percent of Vision Area



Charts are generated per AAMA 507.

System Visible Transmittance (VT) vs Percent of Vision Area



Charts are generated per AAMA 507.

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Thermal Transmittance ¹ (BTU/hr • ft ² • °F)

Glass U-Factor ³	Overall U-Factor ⁴
0.48	0.56
0.46	0.55
0.44	0.53
0.42	0.51
0.40	0.49
0.38	0.48
0.36	0.46
0.34	0.44
0.32	0.43
0.30	0.41
0.28	0.39
0.26	0.37
0.24	0.36
0.22	0.34
0.20	0.32

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 Matricies are based on the standard NFRC specimen size of 2000mm wide by 2000mm high (78-3/4" by 78-3/4").

SHGC Matrix ²

Glass SHGC ³	Overall SHGC ⁴
0.75	0.69
0.70	0.65
0.65	0.60
0.60	0.56
0.55	0.51
0.50	0.47
0.45	0.43
0.40	0.38
0.35	0.34
0.30	0.29
0.25	0.25
0.20	0.20
0.15	0.16
0.10	0.11
0.05	0.07

Visible Transmittance ²

Glass VT ³	Overall VT ⁴
0.90	0.81
0.85	0.76
0.80	0.72
0.75	0.67
0.70	0.63
0.65	0.58
0.60	0.54
0.55	0.49
0.50	0.45
0.45	0.40
0.40	0.36
0.35	0.31
0.30	0.27
0.25	0.22
0.20	0.18

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