

Laws and building and safety codes governing the design and use of Kawneer products, such as 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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**FIXED WINDOW ..... 3-4**

**AA®6400 FIXED 4" WINDOW ..... 5-6**

**AA®6500 FIXED 5" WINDOW ..... 7-8**

**AA®6600 FIXED 6" WINDOW ..... 9-10**

**PROJECT-IN WINDOW ..... 11-14**

**PROJECT-OUT WINDOW ..... 15-18**

**INSWING CASEMENT WINDOW ..... 19-22**

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**WIND LOAD CHARTS ..... 28-32**

**DEADLOAD CHARTS ..... 33-34**

**THERMAL CHARTS ..... 35-53**

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:

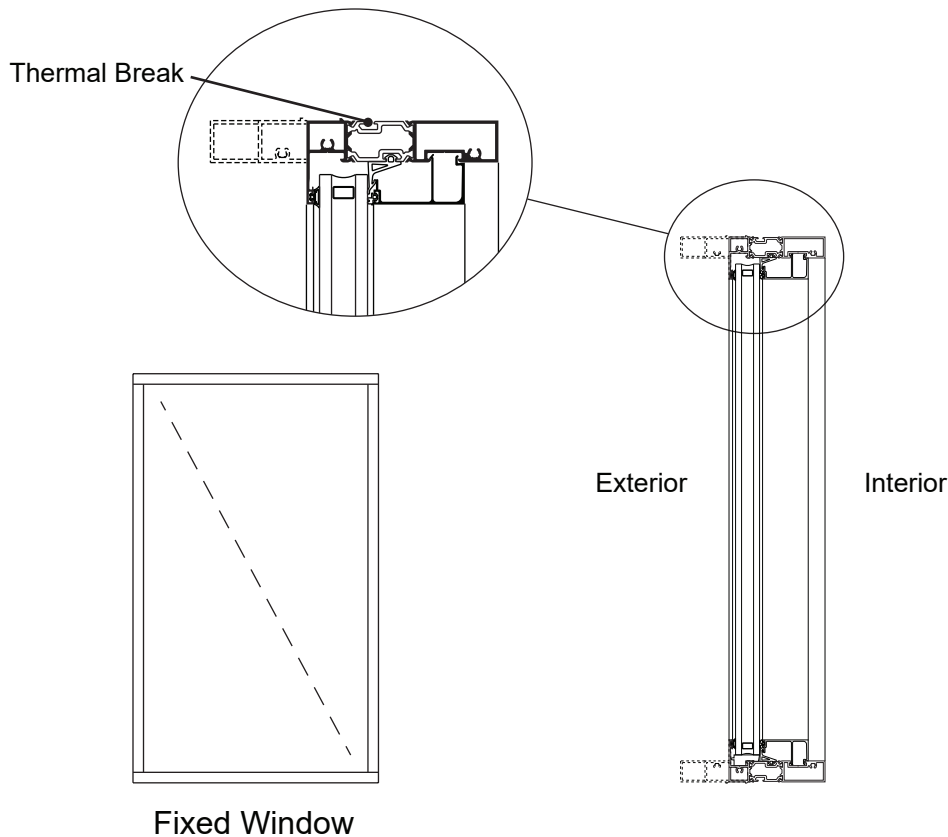
- m – meter
- cm – centimeter
- mm – millimeter
- s – second
- Pa – pascal
- MPa – megapascal

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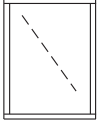
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**Features**

- Architectural Grade Commercial Window
- Tested to US and Canadian Standards
- Polyamide Thermal Break
- Tubular Profiles
- Optional "Top Hat" Accent Feature
- Rain Screen and Pressure Equalized
- Accommodates Air and / or Vapor barrier
- Accommodates Projected and Casement Vents
- Field Dry Glazed
  - 1" dual glazing (RSPE with gasket)
  - 1-3/4" triple glazing (RSPE with gasket or silicone heel bead)
- Interior Applied Glazing Bead
- Architectural Anodized Finishes and Applied Coatings
- Interior and Exterior Dual Finish Options
- Two Year Manufacturer's Warranty



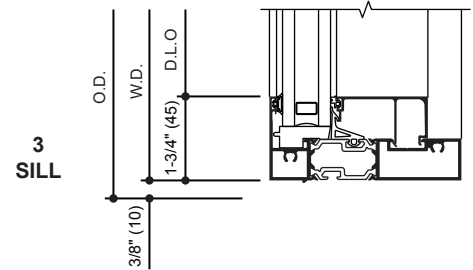
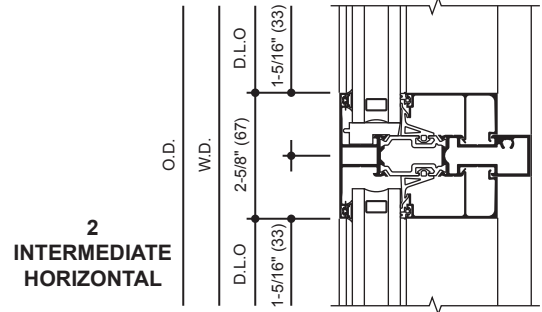
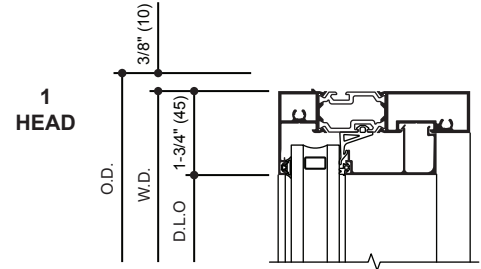
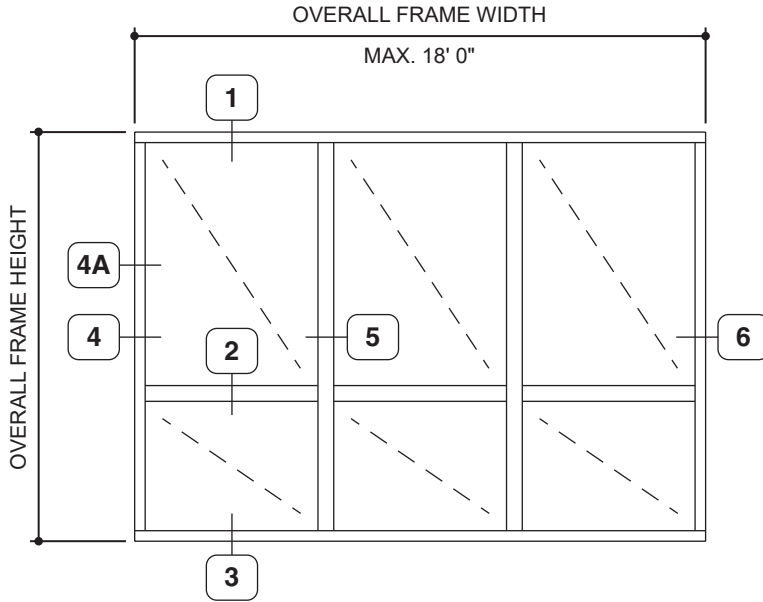
For specific product applications,  
consult your Kawneer representative.

<b>CLASS and GRADE</b>	Architectural Window Grade AW-PG70-FW	
<b>TESTING STANDARD</b>	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)	
<b>FRAME DEPTH</b>	4" (AA®6400), 5" (AA®6500), or 6" (AA®6600)	
<b>TYPICAL WALL THICKNESS</b>	.070" Nominal Frame	
<b>INFILL OPTIONS</b>	1" or 1-3/4"	
<b>STANDARD HARDWARE</b>	Not Applicable	
<b>OPTIONAL HARDWARE</b>	Not Applicable	
<b>OTHER OPTIONS</b>	Expansion Mullions	

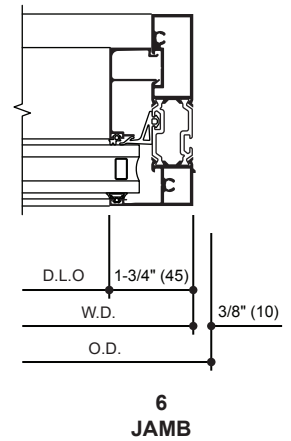
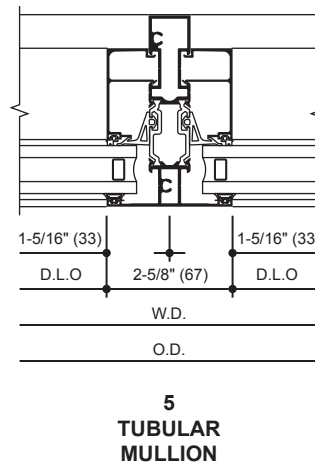
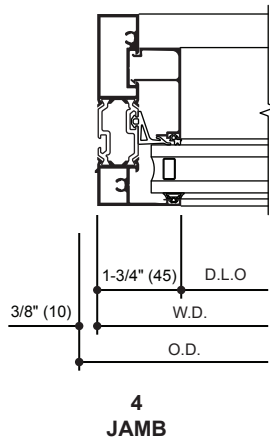
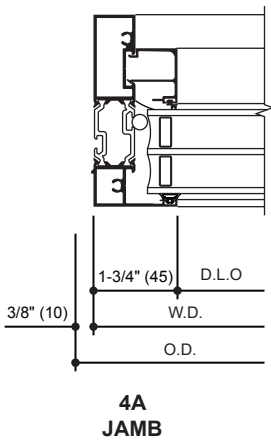
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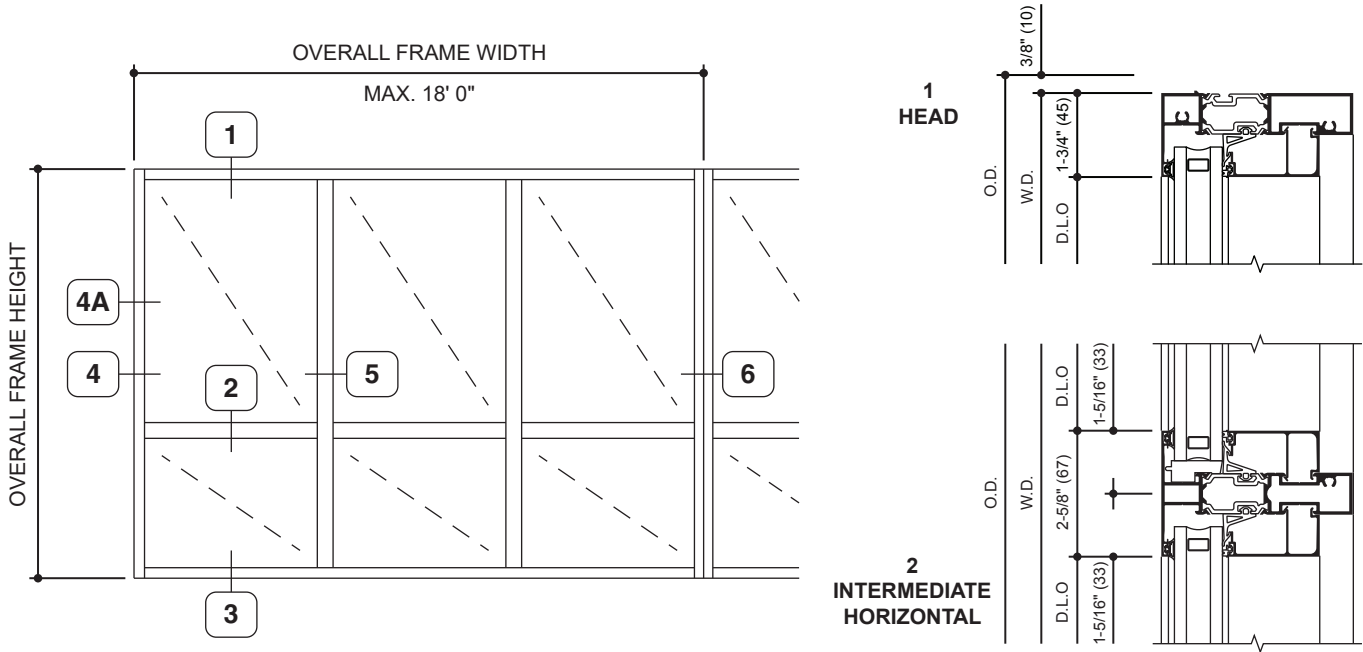
TYPICAL ELEVATION  
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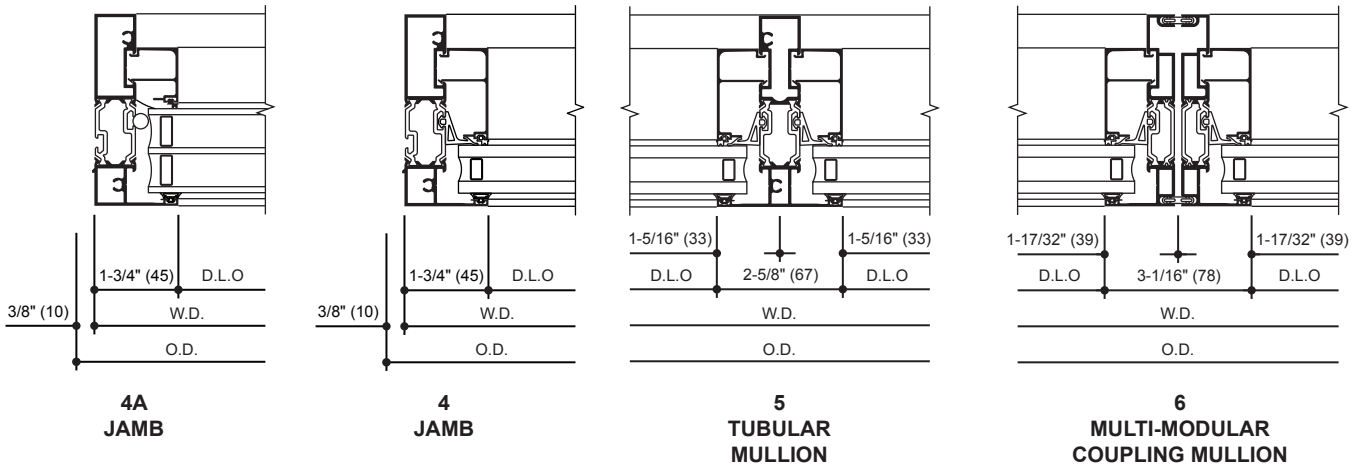
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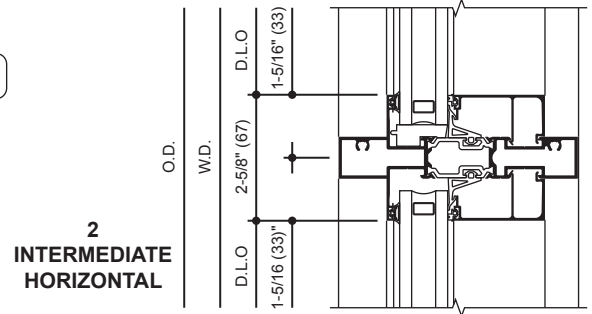
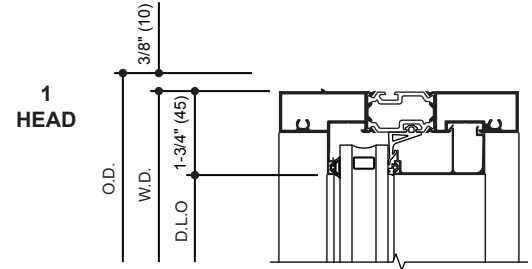
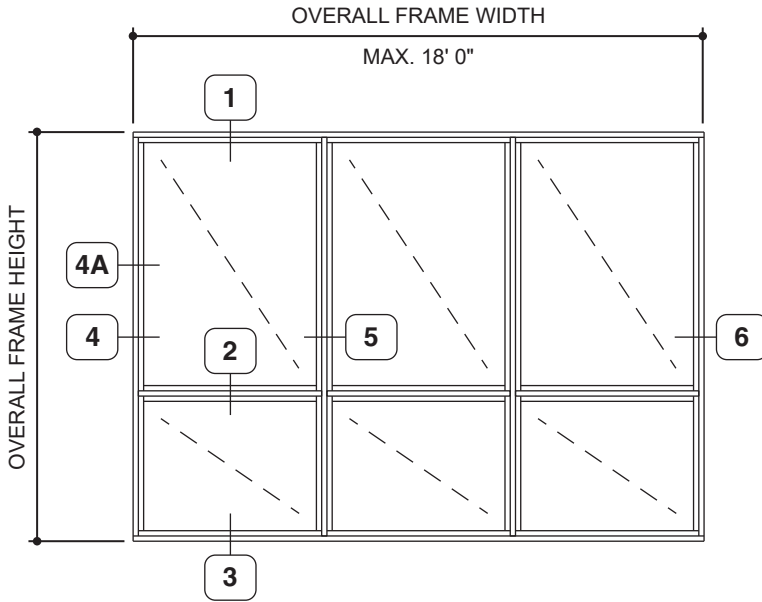
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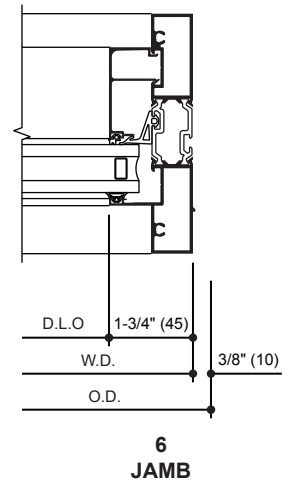
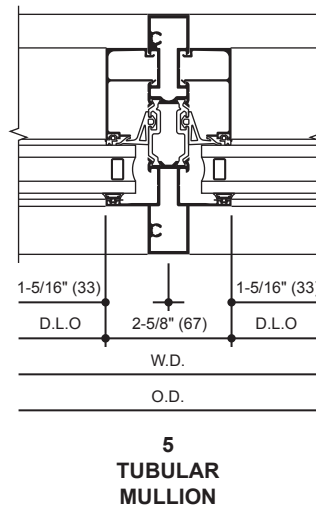
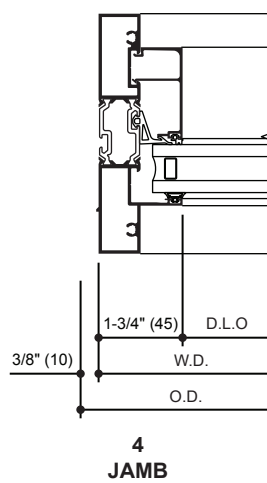
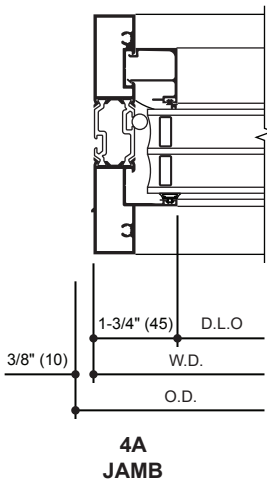
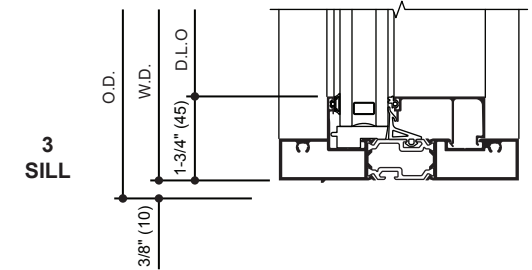
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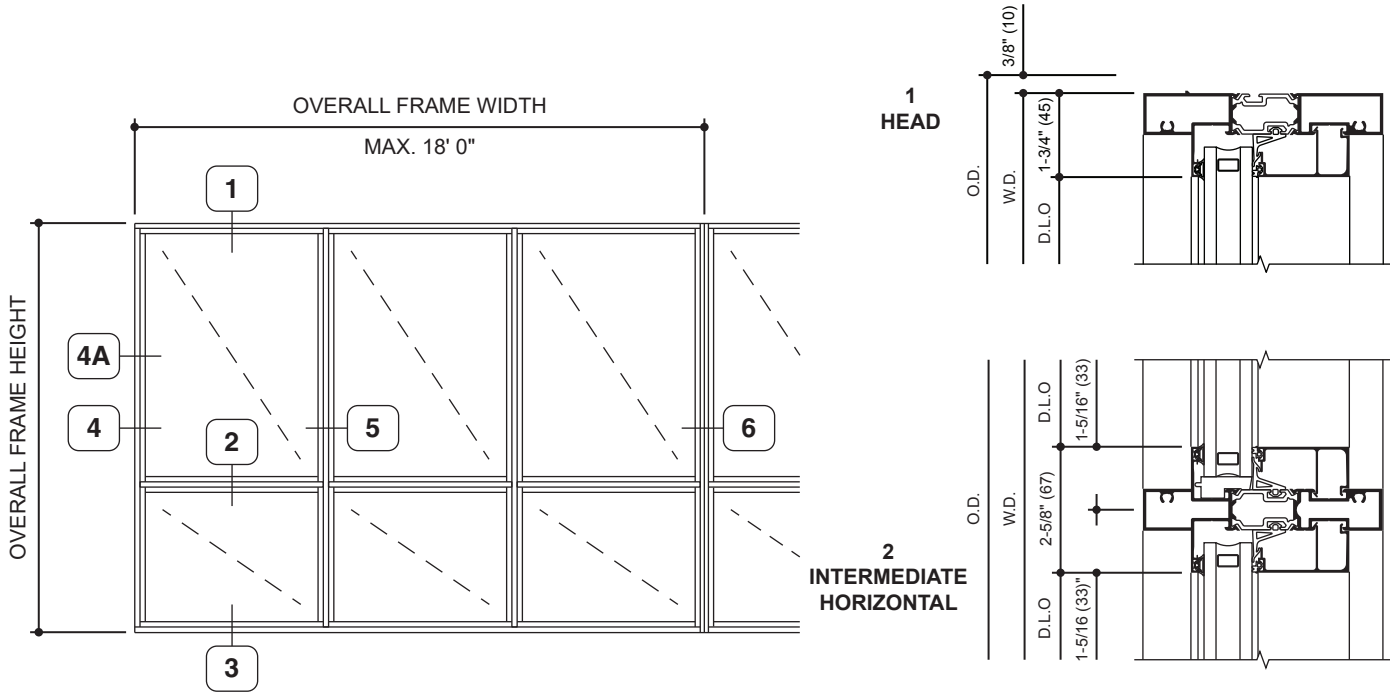
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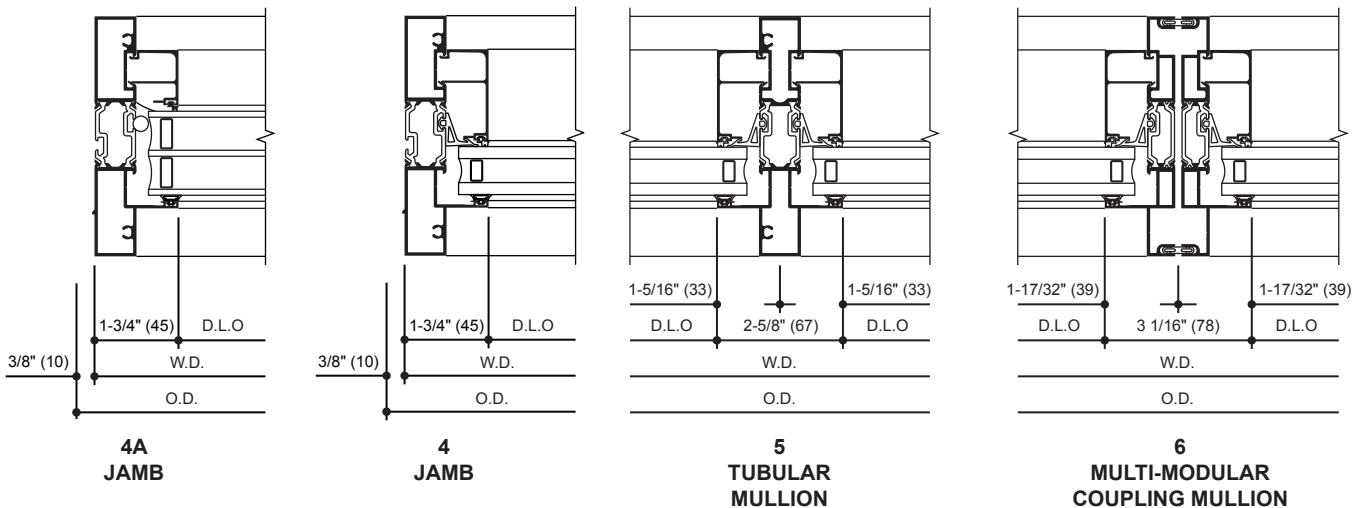
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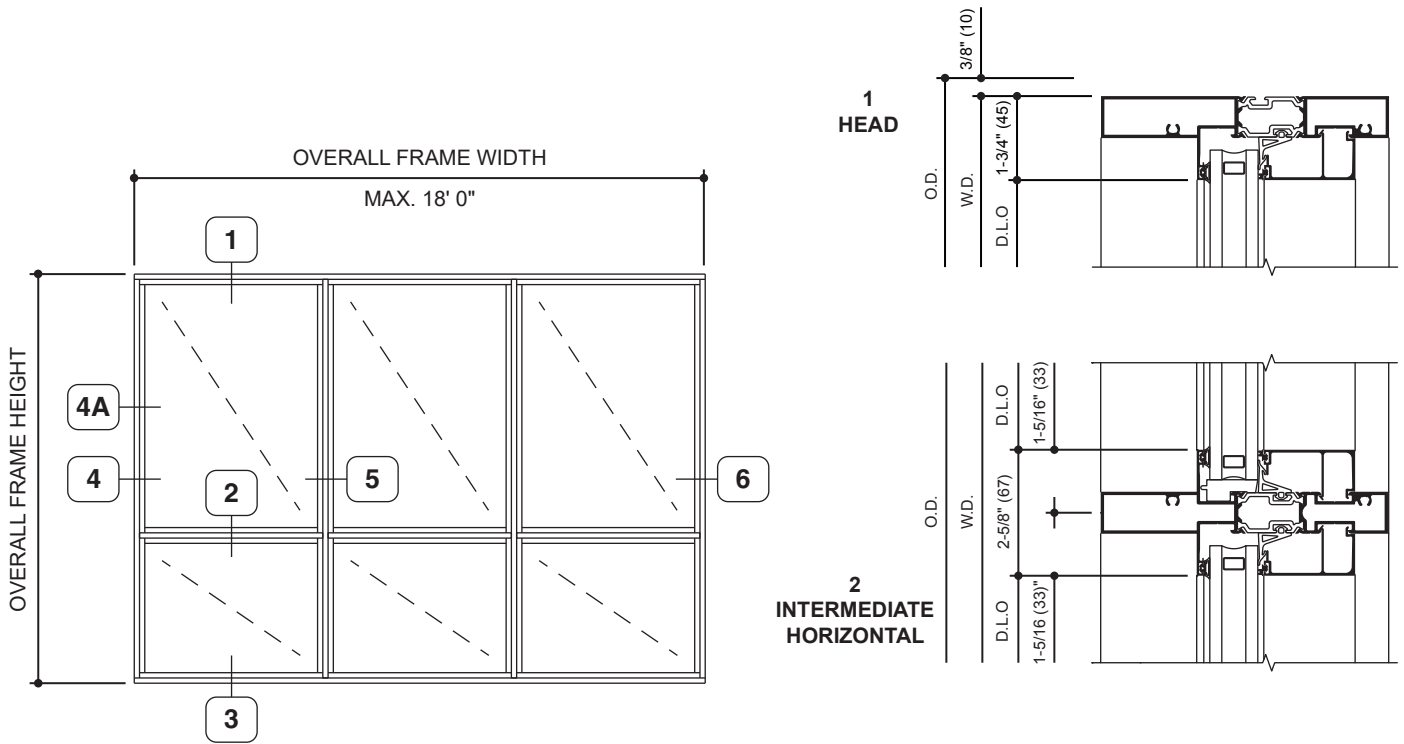
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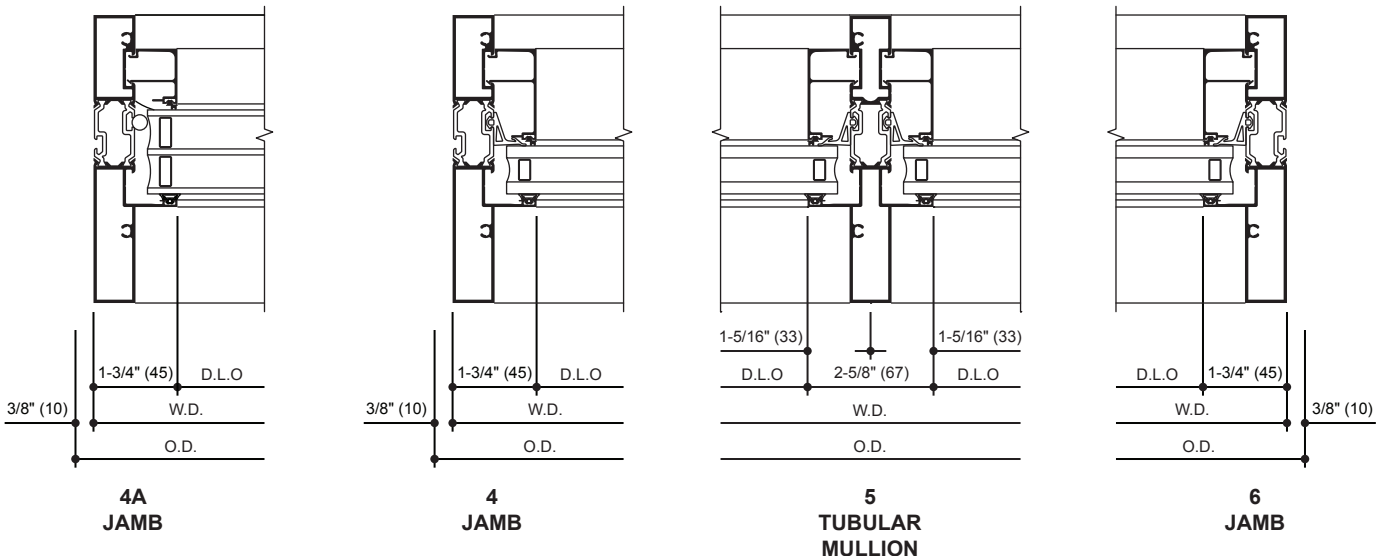
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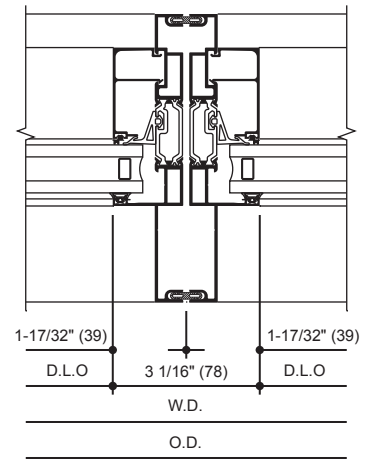
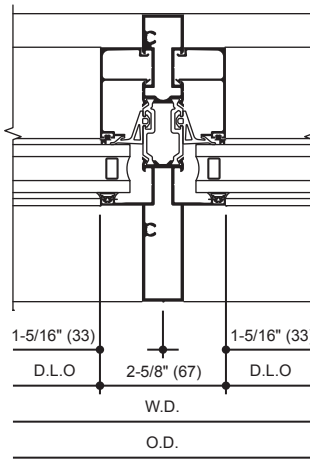
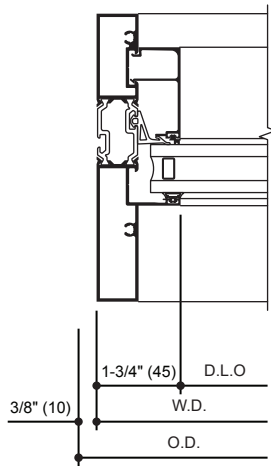
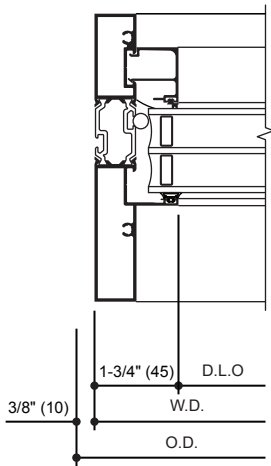
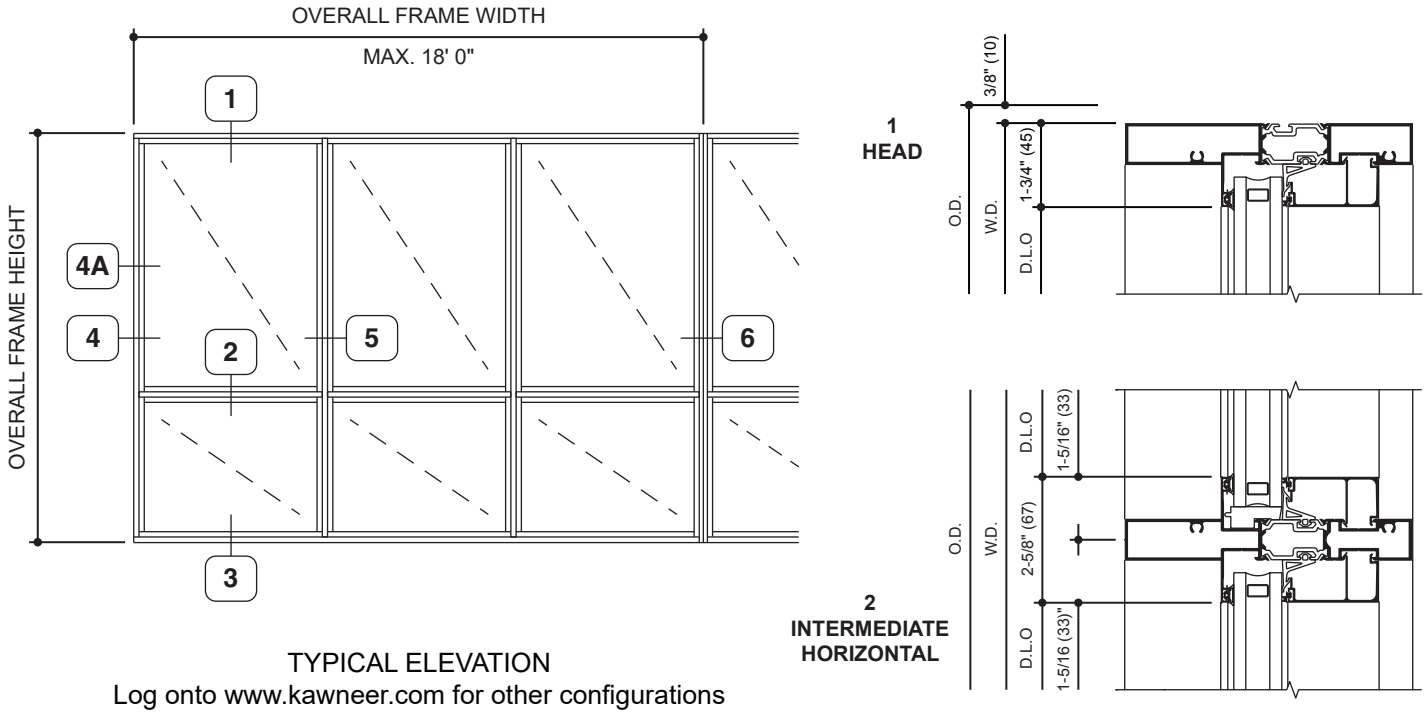
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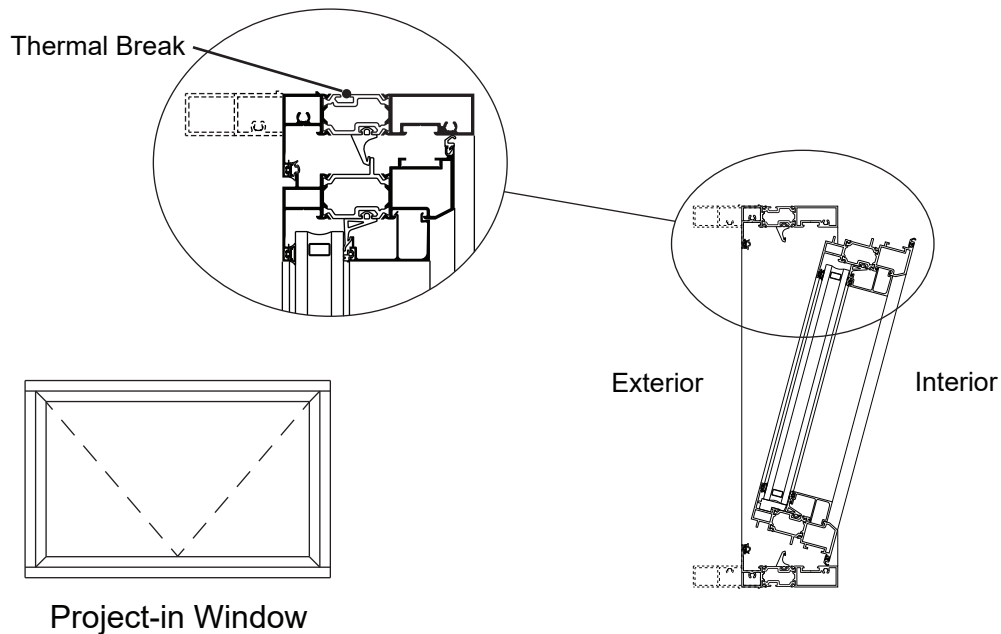
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**Features**


- Architectural Grade Commercial Window
- Tested to US and Canadian Standards
- Polyamide Thermal Break
- Accentuated Tubular Profiles
- Field Dry Glazed
  - 1" dual glazing (RSPE with gasket)
  - 1-3/4" triple glazing (RSPE with silicone heel bead)
- Adjustable EURO-Groove Mounted Hardware
- Single Handle Multi-Point Locking
- Interior Applied Glazing Bead
- Architectural Anodized Finishes and Applied Coatings
- Interior and Exterior Dual Finish Options
- Two Year Manufacturer’s Warranty

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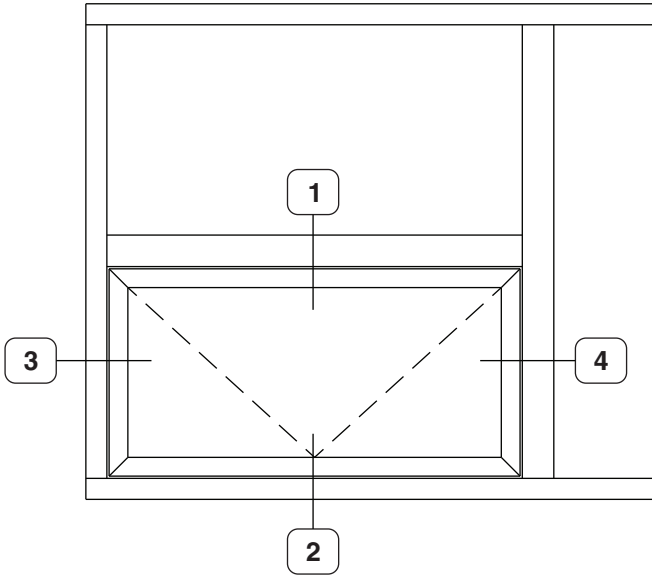
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<b>CLASS and GRADE</b>	Architectural Window Grade AW-PG70-AP	
<b>TESTING STANDARD</b>	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)	
<b>FIXED FRAMING DEPTH</b>	4" (AA®6400), 5" (AA®6500), or 6" (AA®6600)	
<b>VENT DEPTH</b>	3-9/16"	
<b>TYPICAL WALL THICKNESS</b>	.070" Nominal Frame / .070" Nominal Vent	
<b>TYPICAL MAX. SIZE</b> (Sizes are for fixed frame D.L.O.) (Optional hardware may override min./max. size limitations)	60" x 36"	
<b>TYPICAL MIN. SIZE</b> (Sizes are for fixed frame D.L.O.) (Optional hardware may override min./max. size limitations)	18" x 22"	
<b>INFILL OPTIONS</b>	1" or 1-3/4"	
<b>STANDARD HARDWARE</b>	Stainless Steel 4-Bar Hinges Single Handle Multi-Point Locking	
<b>OPTIONAL HARDWARE</b>	Single Keyed Handle Multi-Point Locking Limit Stop Ferco Hardware (AA®6400 only) Single point lock capabilities Dual point lock capabilities (See application engineering for project specific review)	
<b>OTHER OPTIONS</b>	Insect Screens	

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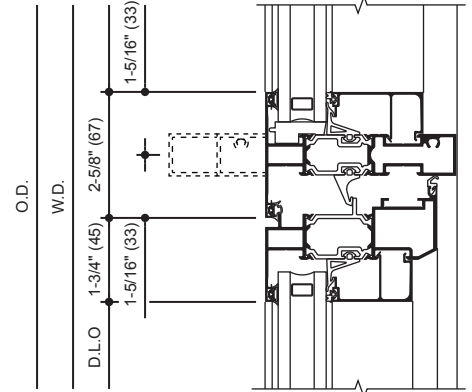


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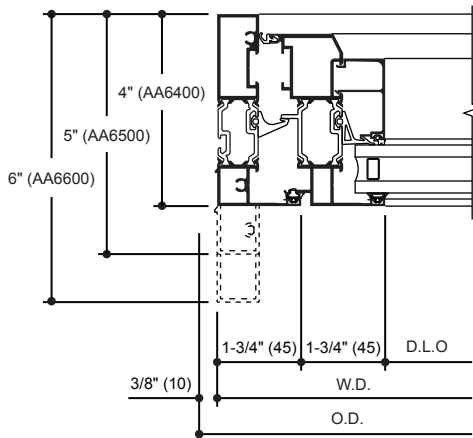
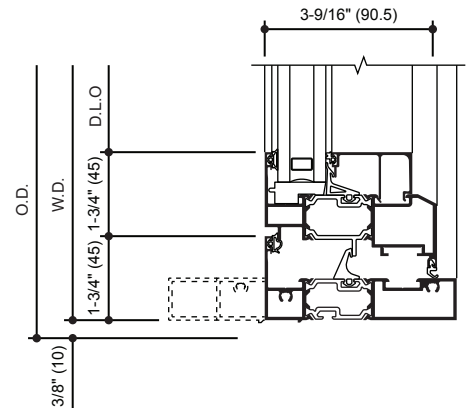
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AA®6400 details shown, AA®6500 and AA®6600 shown dotted in.

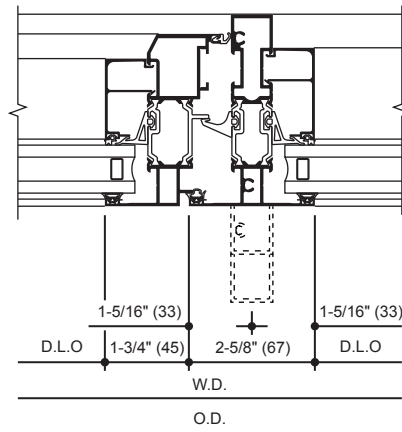
1  
VENT  
HEAD



2  
VENT  
SILL



3  
VENT  
JAMB

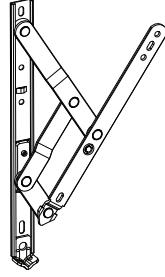


4  
VENT  
JAMB

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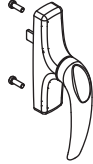
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### STAINLESS STEEL 4 BAR HINGES



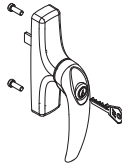
A standard hinge for ventilators providing approximately 45° to 60° openings depending on size. An optional limit stop is available to restrict hinge travel and limit vent opening.

### MULTI-POINT LOCKING



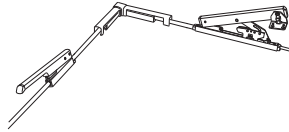
Single handle multi-point locking is standard providing any number of concealed EURO-Groove mounted locking points around the ventilator perimeter. Stylish handles are available in a silver painted finish.

### MULTI-POINT LOCKING - KEYED



Single keyed handle multi-point locking providing any number of concealed EURO-Groove mounted locking points around the ventilator perimeter. Stylish handles are available in a silver painted finish.

### FERCO HARDWARE



Ferco openers face applied for stick built or curtain wall framing.

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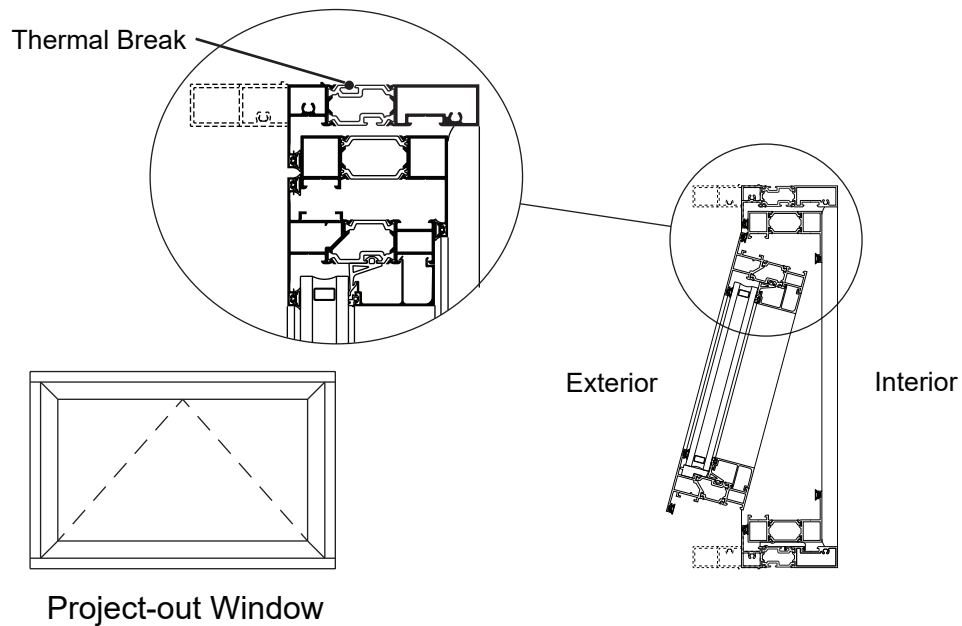
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**Features**


- Architectural Grade Commercial Window
- Tested to US and Canadian Standards
- Polyamide Thermal Break
- Accentuated Tubular Profiles
- Field Dry Glazed
  - 1" dual glazing (RSPE with gasket)
  - 1-3/4" triple glazing (RSPE with silicone heel bead)
- Adjustable EURO-Groove Mounted Hardware
- Dual Handle Multi-Point Locking
- Interior Applied Glazing Bead
- Architectural Anodized Finishes and Applied Coatings
- Interior and Exterior Dual Finish Options
- Two Year Manufacturer’s Warranty
- Compatible with Curtain Wall Systems

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<b>TESTING STANDARD</b>	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)	
<b>FIXED FRAMING DEPTH</b>	4" (AA®6400), 5" (AA®6500), or 6" (AA®6600)	
<b>VENT / VENT FRAME DEPTH</b>	3-3/8"	
<b>TYPICAL WALL THICKNESS</b>	.070" Nominal Frame / .070" Nominal Vent	
<b>TYPICAL MAX. SIZE</b> (Sizes are for fixed frame D.L.O.)	60" x 42" 4-Bar Hinges / Multi-Point Locking / Pivot Shoe Roto 72" x 48" 4-Bar Hinges / Cam Handles*	
<b>TYPICAL MIN. SIZE</b> (Sizes are for fixed frame D.L.O.)	28" x 20"	
<b>INFILL OPTIONS</b>	1" or 1-3/4"	
<b>STANDARD HARDWARE</b>	Stainless Steel 4-Bar Hinges Dual Handle Multi-Point Locking Pivot Shoe Roto	
<b>OPTIONAL HARDWARE</b>	Dual Handle Multi-Point Locking - Keyed Cam Handles* Access Control Locks* Pole and Hanger	
<b>OTHER OPTIONS</b>	Insect Screens (*Not available with Cam Handles or Access Control Locks)	

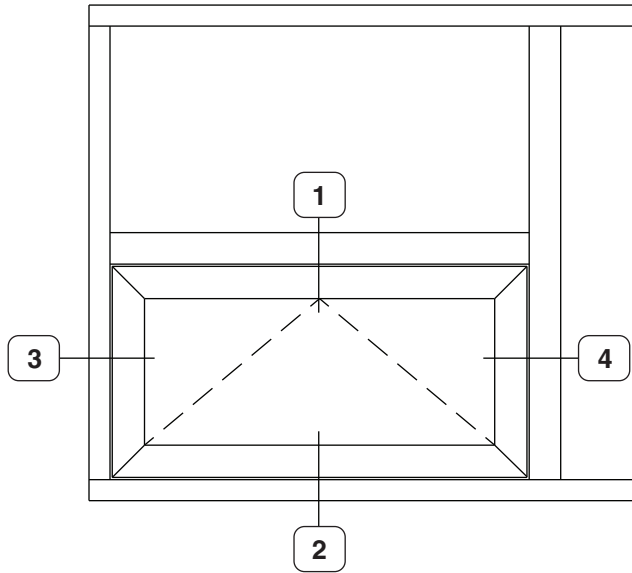
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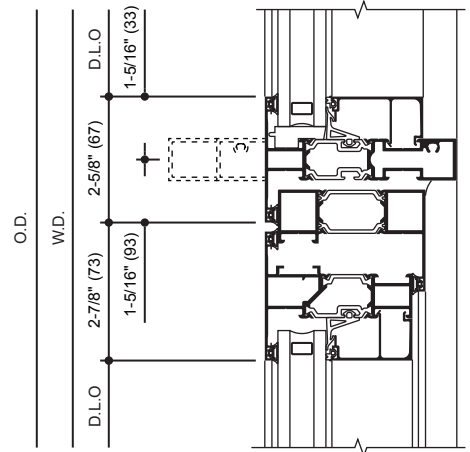


TYPICAL ELEVATION

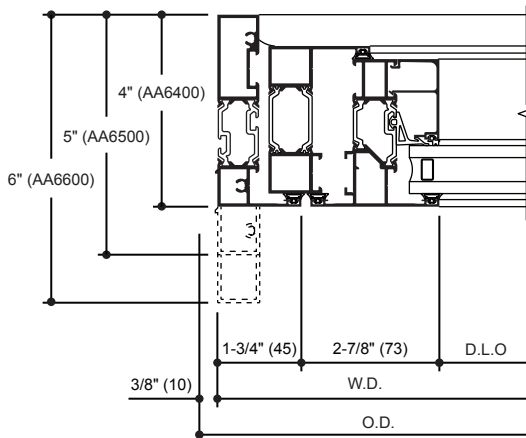
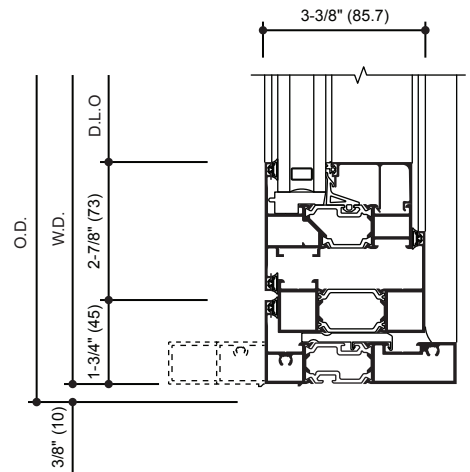
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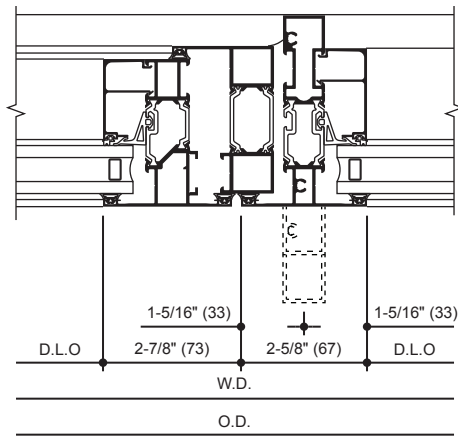
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VENT  
HEAD



2  
VENT  
SILL



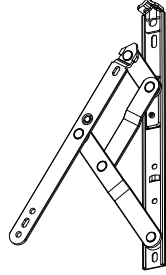
3  
VENT  
JAMB



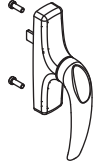
4  
VENT  
JAMB

Laws and building and safety codes governing the design and use of Kawneer products, such as 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.

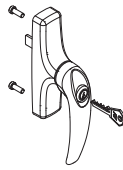
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**STAINLESS STEEL  
4 BAR HINGES**

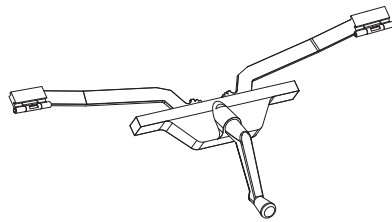
A standard hinge for ventilators providing a 4" opening to comply with child safety requirements.

**MULTI-POINT LOCKING**

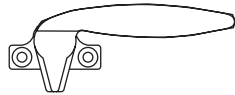
Single handle multi-point locking is standard providing any number of concealed EURO-Groove mounted locking points around the ventilator perimeter. Stylish handles are available in a silver painted finish.

**MULTI-POINT LOCKING  
- KEYED**

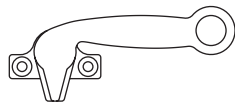
Single keyed handle multi-point locking providing any number of concealed EURO-Groove mounted locking points around the ventilator perimeter. Stylish handles are available in a silver painted finish.

**PIVOT-SHOE  
ROTO-OPERATOR**

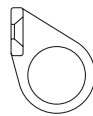
Pivot shoe roto operator is located on the center line of the bottom horizontal frame. Standard finish shall be painted silver.

**STANDARD  
CAM HANDLE**

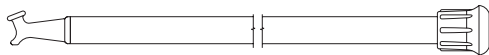
Cast white bronze cam handles are standard for the manual operation and locking of ventilators.

**CAM HANDLE  
WITH POLE RING**

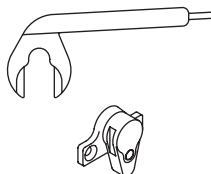
Cast white bronze cam handles with pole ring provide manual operation of ventilators located above reach. These handles are operated with a sash pole.

**POLE RING**

Cast white bronze pole ring is used in conjunction with locking hardware for sash pole operation of ventilators.

**SASH POLE**

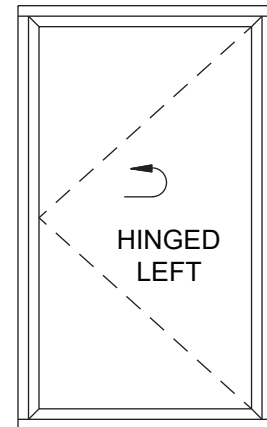
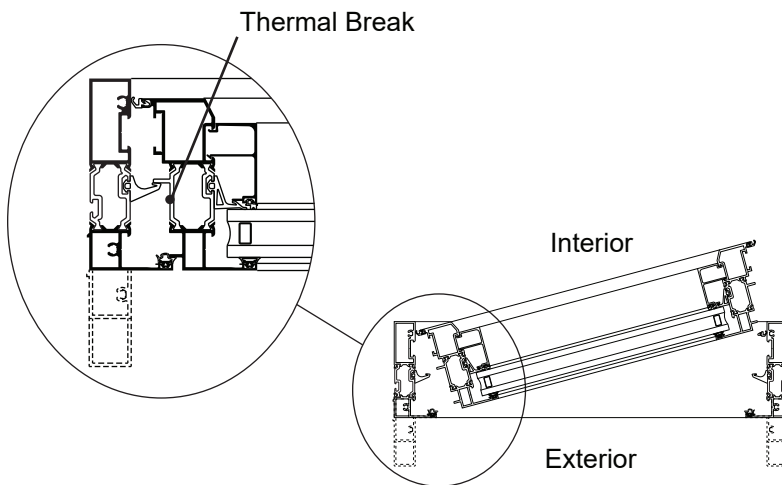
A 3/4" diameter aluminum sash pole with a cast white bronze pull down hook and black rubber tip. Available in 6 ft. and 12 ft. lengths with optional cast white bronze Pole Hanger.

**HANGER  
FOR SASH POLE****ACCESS CONTROL  
LOCK**

In lieu of cam handles cast white bronze access control locks are offered for managed control of vent operations. Lock is operated with a manganese bronze removable handle.

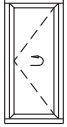
**Features**

- Architectural Grade Commercial Window
- Tested to US and Canadian Standards
- Polyamide Thermal Break
- Accentuated Tubular Profiles
- Field Dry Glazed
  - 1" dual glazing (RSPE with gasket)
  - 1-3/4" triple glazing (RSPE with silicone heel bead)
- Adjustable EURO-Groove Mounted Hardware
- Single Handle Multi-Point Locking
- Interior Applied Glazing Bead
- Architectural Anodized Finishes and Applied Coatings
- Interior and Exterior Dual Finish Options
- Two Year Manufacturer's Warranty



Inswing Casement Window

For specific product applications,  
consult your Kawneer representative.

<b>CLASS and GRADE</b>	Architectural Window Grade AW-PG70-C	
<b>TESTING STANDARD</b>	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)	
<b>FRAME DEPTH</b>	4" (AA®6400), 5" (AA®6500), or 6" (AA®6600)	
<b>VENT DEPTH</b>	3-9/16"	
<b>TYPICAL WALL THICKNESS</b>	.070" Nominal Frame / .070" Nominal Vent	
<b>TYPICAL MAX. SIZE</b> (Sizes are for fixed frame D.L.O.)	36" x 60"	
<b>TYPICAL MIN. SIZE</b> (Sizes are for fixed frame D.L.O.)	22" x 22"	
<b>INFILL OPTIONS</b>	1" or 1-3/4"	
<b>STANDARD HARDWARE</b>	Stainless Steel 4-Bar Hinges Single Handle Multi-Point Locking	
<b>OPTIONAL HARDWARE</b>	Single Keyed Handle Multi-Point Locking Limit Stop	
<b>OTHER OPTIONS</b>	Insect Screens	

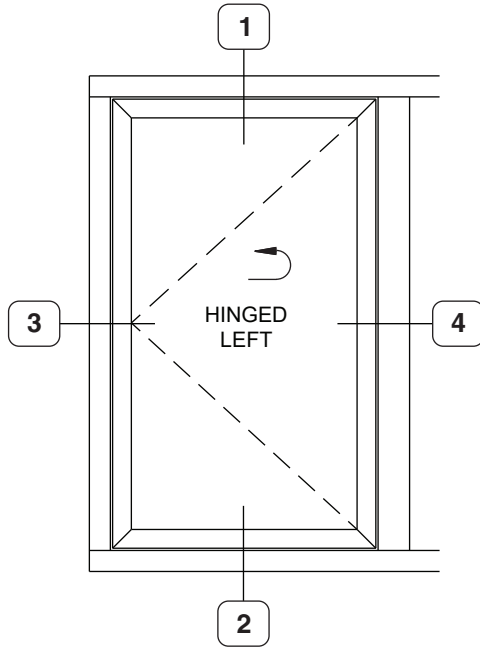
Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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Additional information and CAD details are available at [www.kawneer.com](http://www.kawneer.com)

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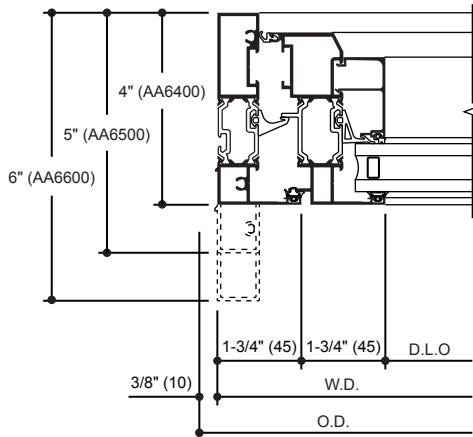
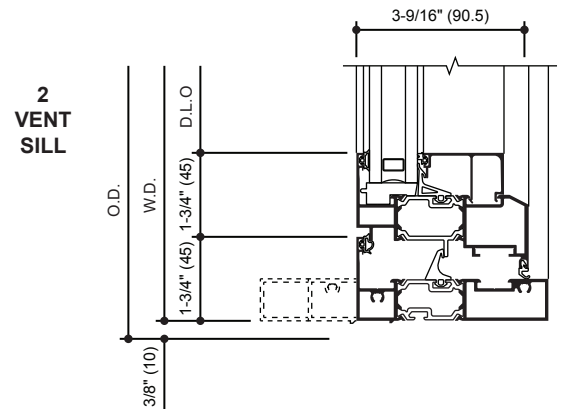
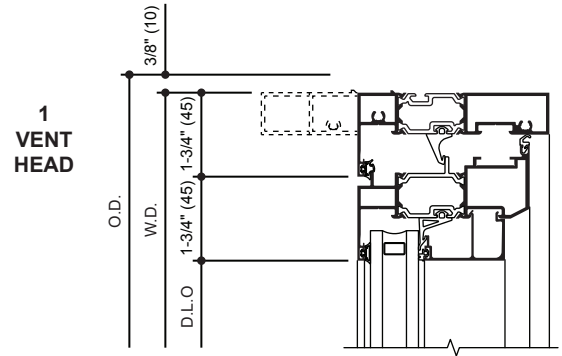
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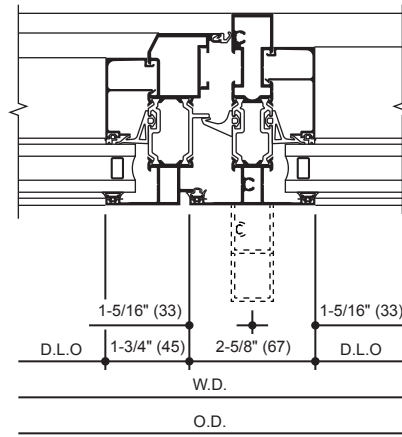
TYPICAL ELEVATION

Log onto [www.kawneer.com](http://www.kawneer.com) for other configurations

AA®6400 details shown, AA®6500 and AA®6600 shown dotted in.

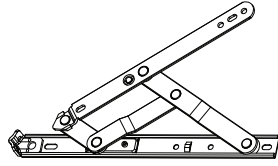


3  
VENT  
JAMB



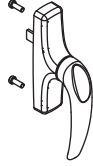
4  
VENT  
JAMB

### STAINLESS STEEL 4 BAR HINGES



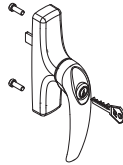
A standard hinge for ventilators providing up to 45° of open. An optional limit stop is available to restrict hinge travel and limit vent opening.

### MULTI-POINT LOCKING



Single handle multi-point locking is standard providing any number of concealed EURO-Groove mounted locking points around the ventilator perimeter. Stylish handles are available in a silver painted finish.

### MULTI-POINT LOCKING - KEYED



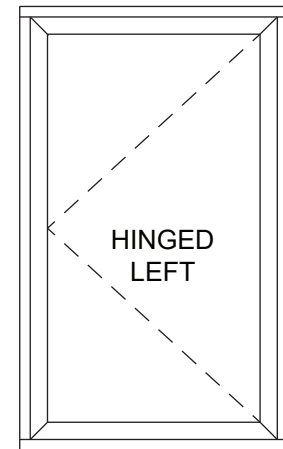
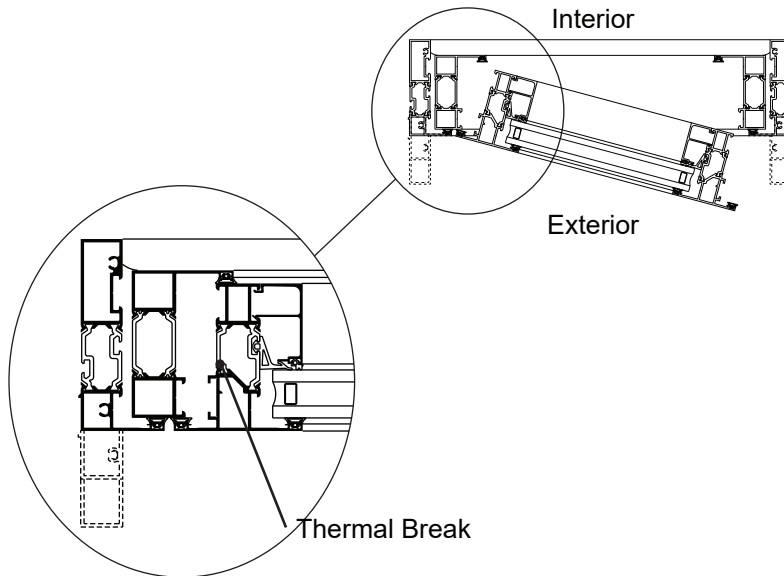
Single keyed handle multi-point locking providing any number of concealed EURO-Groove mounted locking points around the ventilator perimeter. Stylish handles are available in a silver painted finish.

Laws and building and safety codes governing the design and use of Kawneer products, such as 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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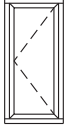
**Features**

- Architectural Grade Commercial Window
- Tested to US and Canadian Standards
- Polyamide Thermal Break
- Accentuated Tubular Profiles
- Field Dry Glazed
  - 1" dual glazing (RSPE with gasket)
  - 1-3/4" triple glazing (RSPE with silicone heel bead)
- Adjustable EURO-Groove Mounted Hardware
- Single Handle Multi-Point Locking
- Interior Applied Glazing Bead
- Architectural Anodized Finishes and Applied Coatings
- Interior and Exterior Dual Finish Options
- Two Year Manufacturer's Warranty
- Compatible with Curtain Wall Systems



Outswing Casement Window

For specific product applications,  
consult your Kawneer representative.

<b>CLASS and GRADE</b>	Architectural Window Grade AW-PG70-C	
<b>TESTING STANDARD</b>	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)	
<b>FIXED FRAMING DEPTH</b>	4" (AA®6400), 5" (AA®6500), or 6" (AA®6600)	
<b>VENT / VENT FRAME DEPTH</b>	3-3/8"	
<b>TYPICAL WALL THICKNESS</b>	.070" Nominal Frame / .070" Nominal Vent	
<b>TYPICAL MAX. SIZE</b> (Sizes are for fixed frame D.L.O.)	36" x 60" All Standard or Optional Hardware available 48" x 72" Concealed Hinges / Cam Handles*	
<b>TYPICAL MIN. SIZE</b> (Sizes are for fixed frame D.L.O.)	18" x 18"	
<b>INFILL OPTIONS</b>	1" or 1-3/4"	
<b>STANDARD HARDWARE</b>	Concealed Hinge Single Handle Multi-Point Locking Roto Operator	
<b>OPTIONAL HARDWARE</b>	Single Keyed Handle Multi-Point Locking Cam Handles* Access Control Locks* 4-bar Hinges Pole and Hanger	
<b>OTHER OPTIONS</b>	Insect Screens (*Not available with Cam Handles or Access Control Locks)	

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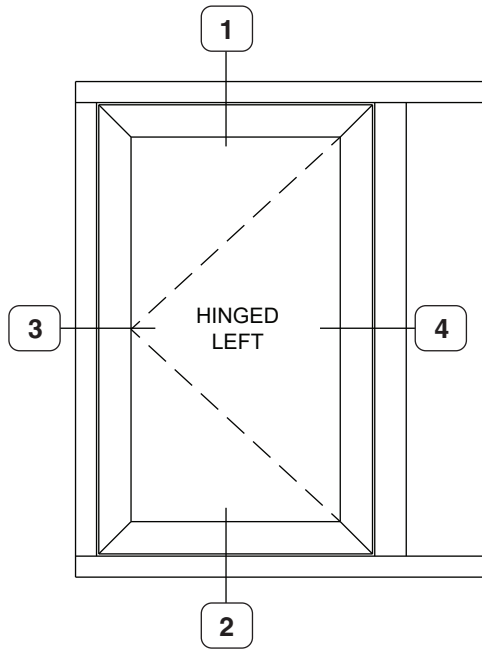


Additional information and CAD details are available at [www.kawneer.com](http://www.kawneer.com)

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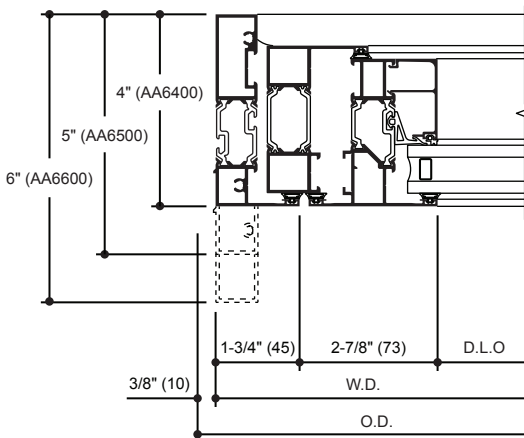
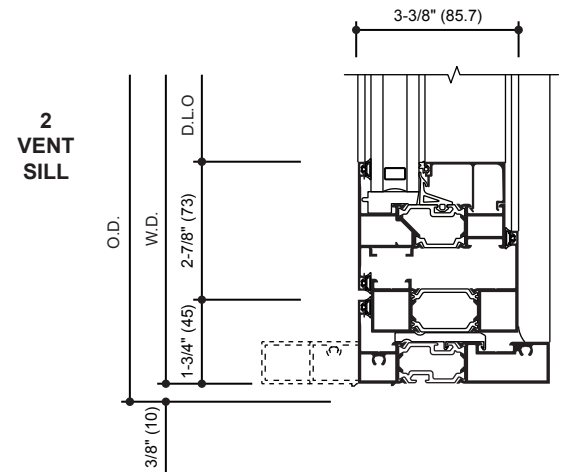
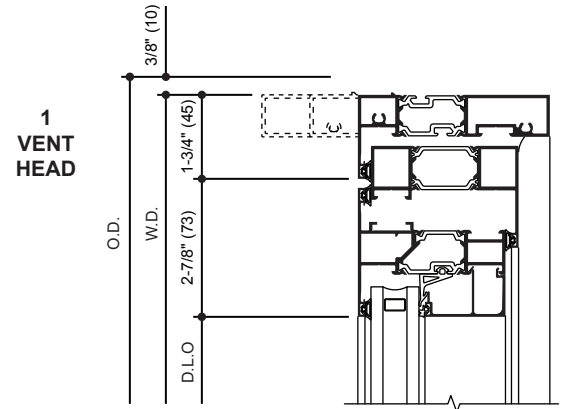
© 2014, Kawneer Company, Inc.



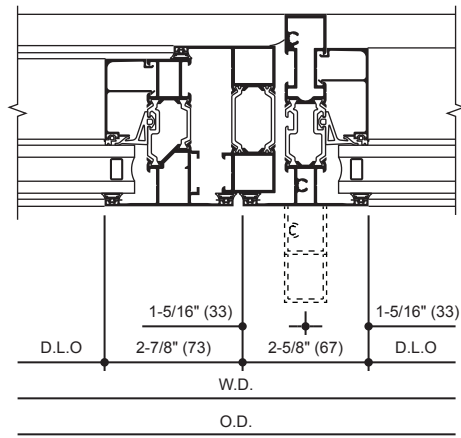
TYPICAL ELEVATION

Log onto [www.kawneer.com](http://www.kawneer.com) for other configurations

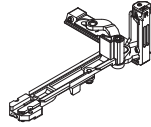
AA®6400 details shown, AA®6500 and AA®6600 shown dotted in.



3 VENT JAMB



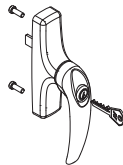
4 VENT JAMB

**CONCEALED HINGES**

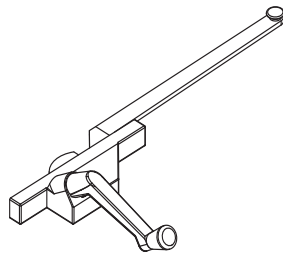
A standard hinge for outswing ventilators.

**MULTI-POINT LOCKING**

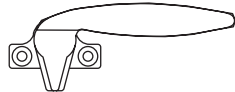
Single handle multi-point locking is standard providing any number of concealed EURO-Groove mounted locking points around the ventilator perimeter. Stylish handles are available in a silver painted finish.

**MULTI-POINT LOCKING - KEYED**

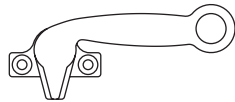
Single keyed handle multi-point locking providing any number of concealed EURO-Groove mounted locking points around the ventilator perimeter. Stylish handles are available in a silver painted finish.

**ROTO-OPERATOR**

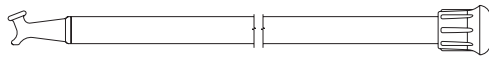
Roto operator is located on the bottom horizontal vent-frame. Standard finish shall be painted silver.

**STANDARD CAM HANDLE**

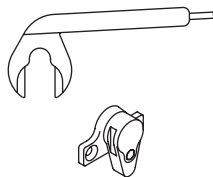
Cast white bronze cam handles are standard for the manual operation and locking of ventilators.

**CAM HANDLE WITH POLE RING**

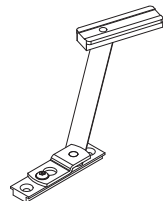
Cast white bronze cam handles with pole ring provide manual operation of ventilators located above reach. These handles are operated with a sash pole.

**SASH POLE**

A 3/4" diameter aluminum sash pole with a cast white bronze pull down hook and black rubber tip. Available in 6 ft. and 12 ft. lengths with optional cast white bronze Pole Hanger.

**HANGER FOR SASH POLE****ACCESS CONTROL LOCK**

In lieu of cam handles cast white bronze access control locks are offered for managed control of vent operations. Lock is operated with a manganese bronze removable handle.

**KEYED LIMIT ARM**

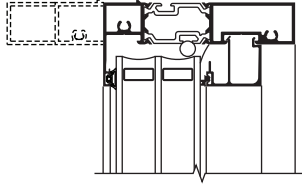
Key released limit arms may be used to restrict ventilator opening when used with cam handles or access control locks.

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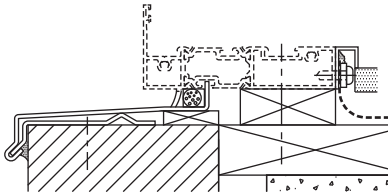
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**TRIPLE GLAZED HEAD**

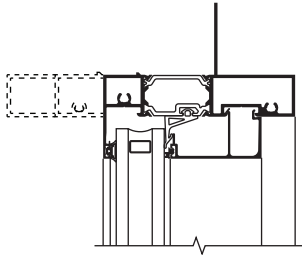


**ANCHORS**

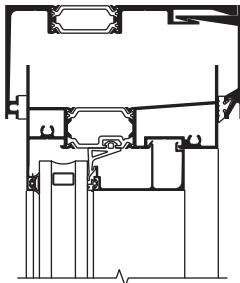


**TYPICAL SILL EXTENSION**

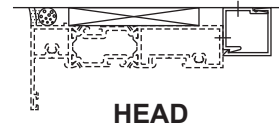
**FLANGE LEG FRAME**



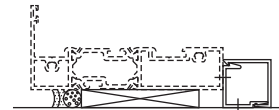
**HEAD RECEPTOR**  
(INTERIOR INSTALLED)



**TRIM DETAILS**

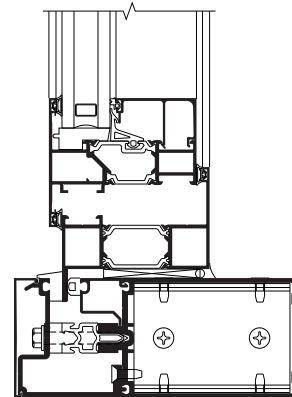


HEAD

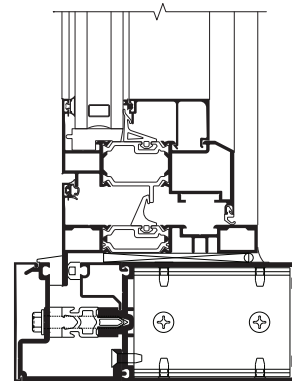


SILL

**CURTAIN WALL ADAPTERS**



**1600UT SYSTEM®1 CURTAIN WALL**  
(Project-Out/Outswing Casement)



**1600UT SYSTEM®1 CURTAIN WALL**  
(Project-In/Inswing Casement)

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## 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 (104MPa), STEEL 30,000 psi (207MPa). 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 1/16" (1.6) at operable vents or 1/8" (3.2) at fixed openings, maximum allowable deflection at the center of an intermediate horizontal member. The accompanying charts are calculated for 1" (25.4) thick insulating glass supported on two setting blocks placed at the loading points shown.

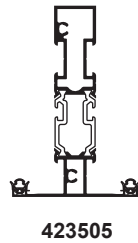
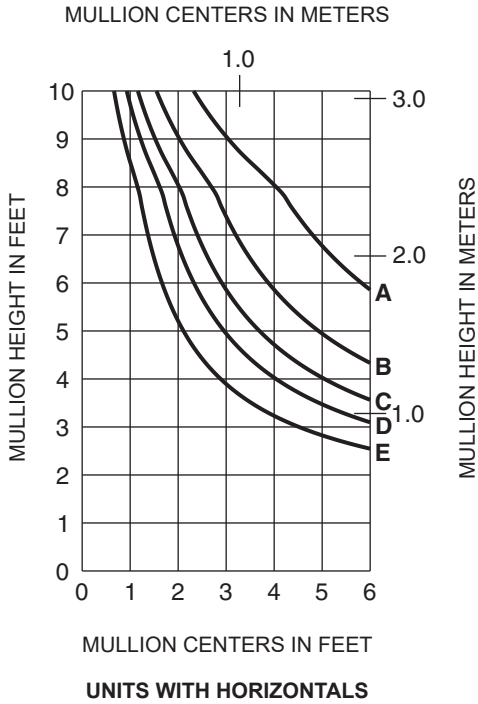
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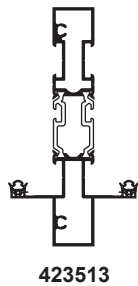
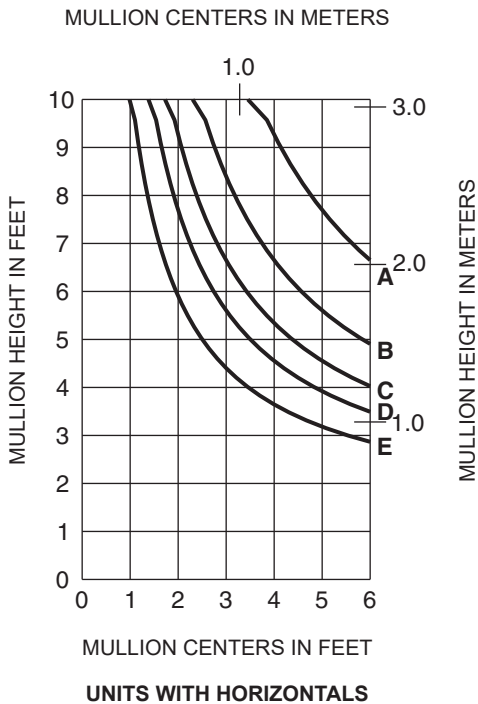
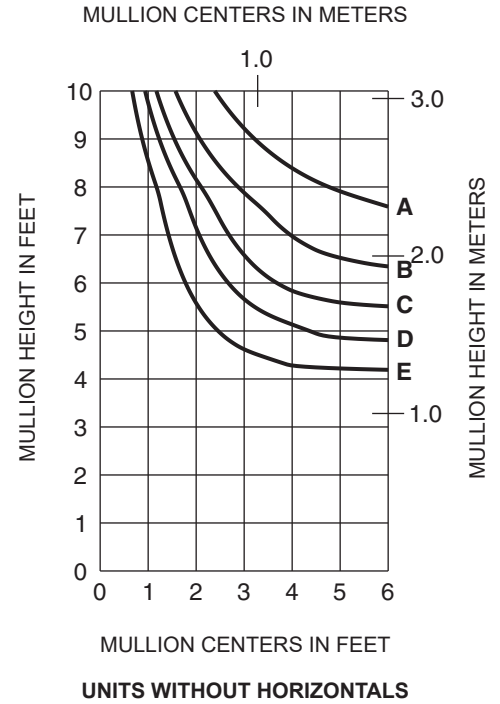
	Allowable Stress Design Load	LRFD Ultimate Design Load
A =	20 PSF (960)	33 PSF (1580)
B =	30 PSF (1440)	50 PSF (2400)
C =	40 PSF (1920)	67 PSF (3200)
D =	50 PSF (2400)	83 PSF (4000)
E =	70 PSF (3350)	117 PSF (5580)

Laws and building and safety codes governing the design and use of Kawneer products, such as 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.

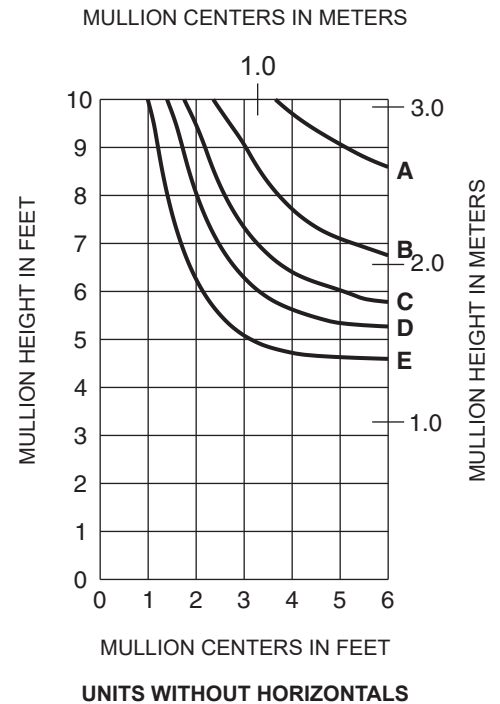
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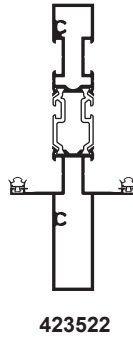
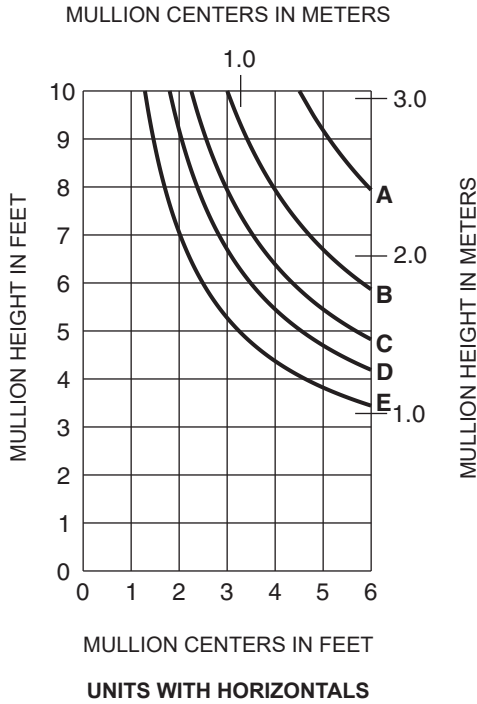
WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505



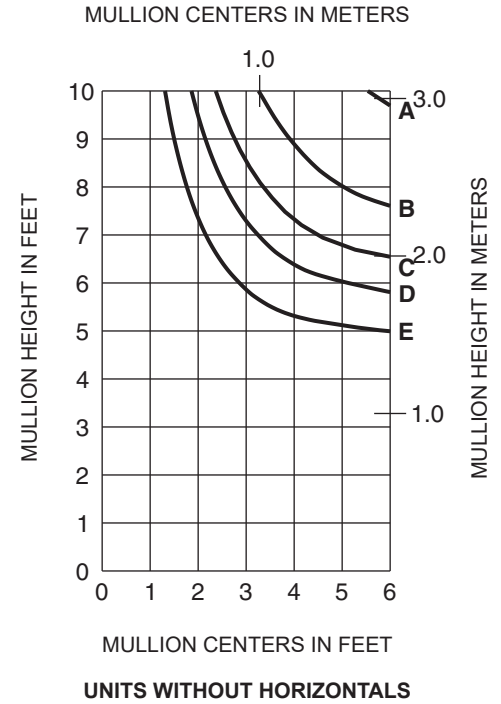
WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505



	Allowable Stress Design Load	LRFD Ultimate Design Load
A =	20 PSF (960)	33 PSF (1580)
B =	30 PSF (1440)	50 PSF (2400)
C =	40 PSF (1920)	67 PSF (3200)
D =	50 PSF (2400)	83 PSF (4000)
E =	70 PSF (3350)	117 PSF (5580)



WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505

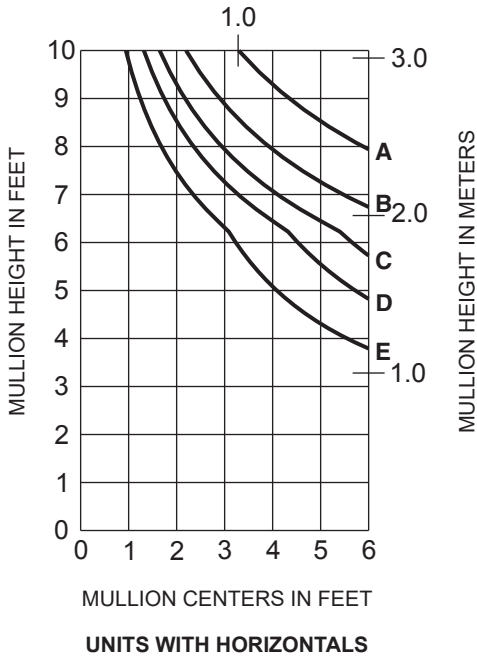


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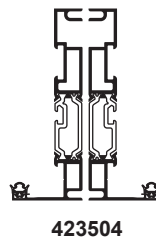
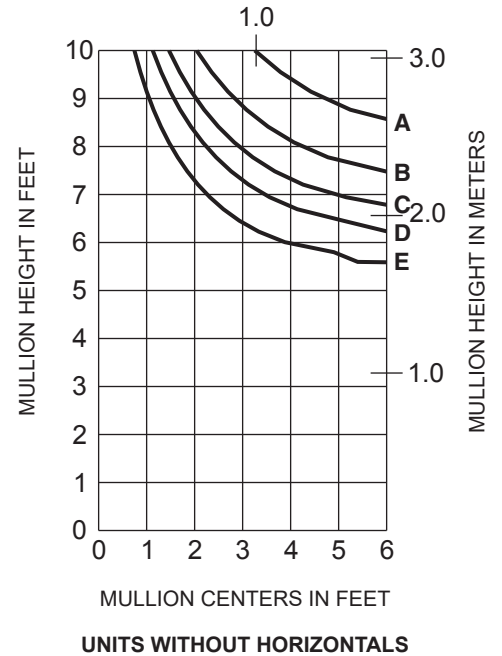
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MULLION CENTERS IN METERS

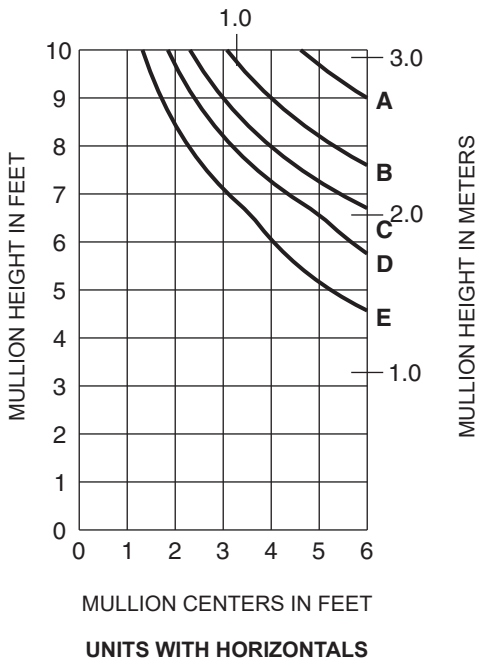


MULLION CENTERS IN METERS

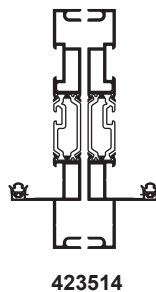
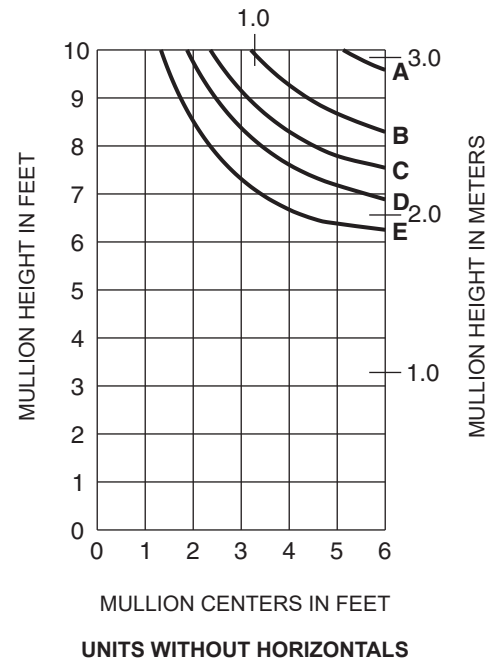


WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505

MULLION CENTERS IN METERS



MULLION CENTERS IN METERS

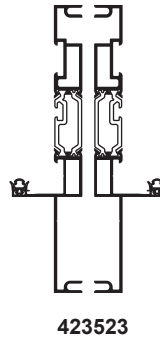
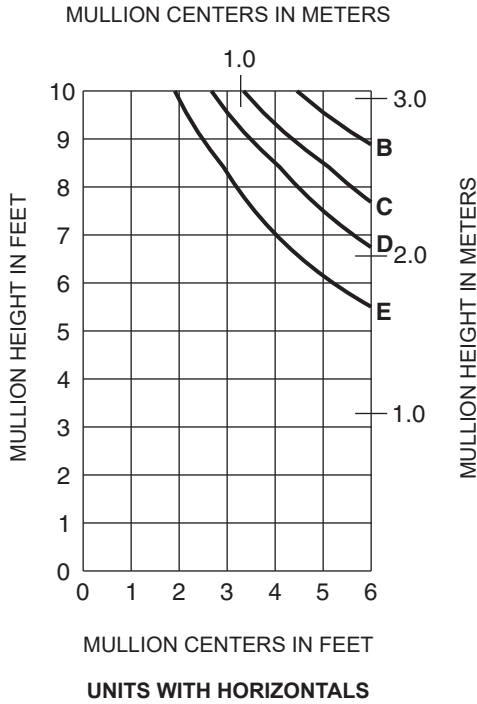


WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505

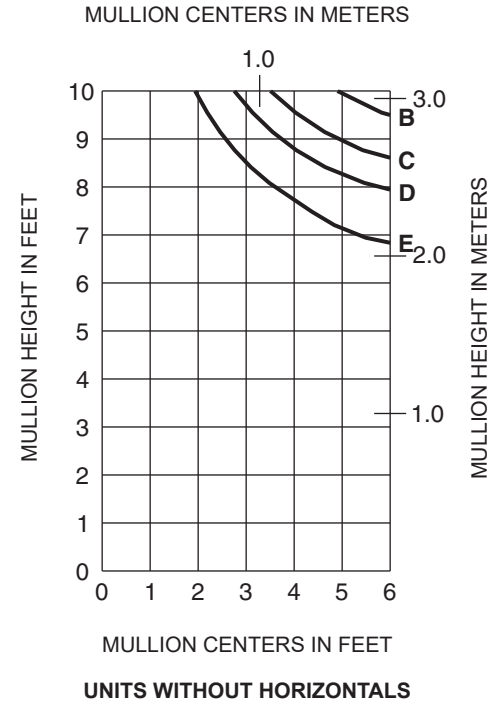
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WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505



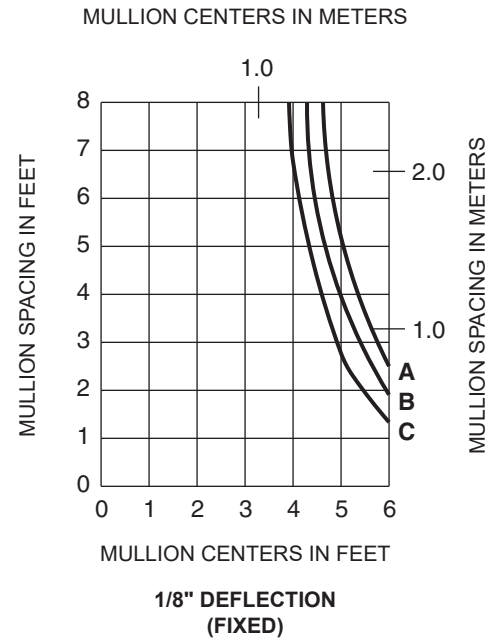
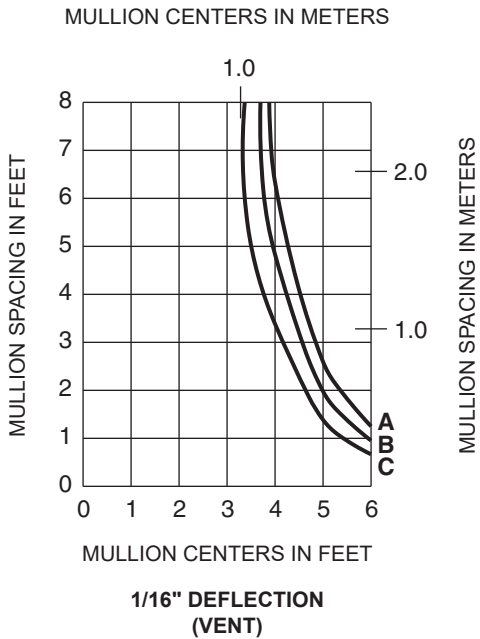
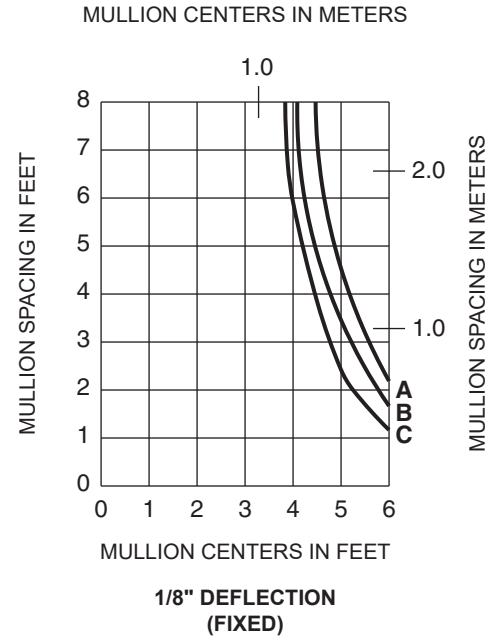
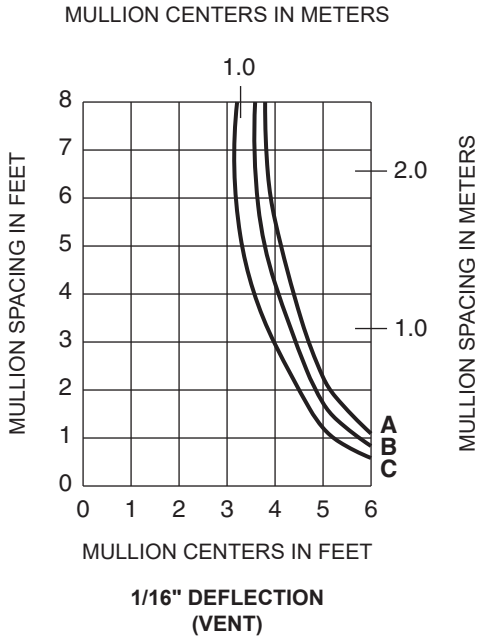
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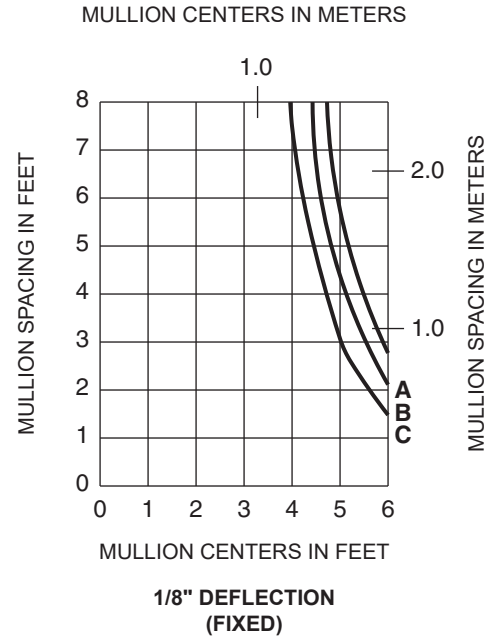
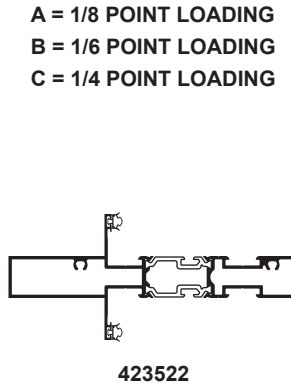
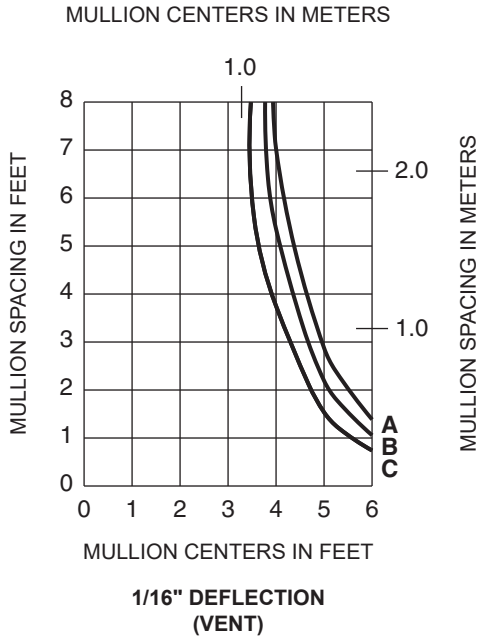
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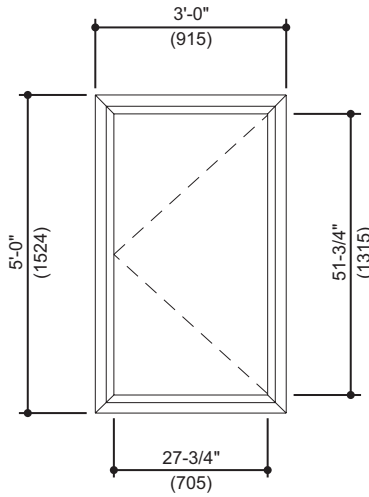




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**Generic Project Specific U-factor Example Calculation**  
 (Percent of Glass will vary on specific products depending on sitelines)



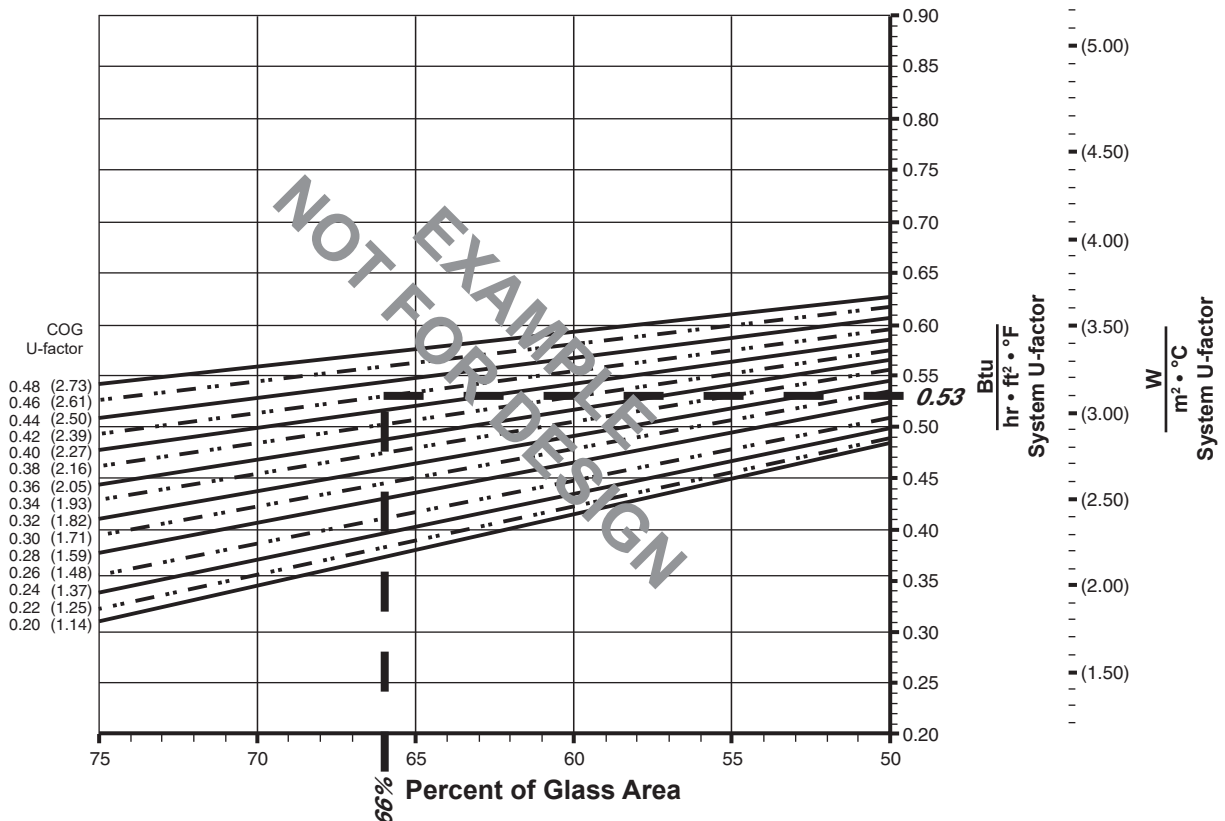
Example Glass U-Factor = 0.42 Btu/hr • ft<sup>2</sup> • °F

Total Daylight Opening = 27-3/4" • 51-3/4" = 9.97ft<sup>2</sup>

Total Projected Area = 3'-0" • 5'-0" = 15 ft<sup>2</sup>

Percent of Glass = (Total Daylight Opening ÷ Total Projected Area)100  
 = (9.97 ÷ 15)100 = 66%

**System U-factor vs Percent of Glass Area**



Based on 66% glass and center of glass (COG) U-factor of 0.42  
 System U-factor is equal to 0.53 Btu/hr • ft<sup>2</sup> • °F

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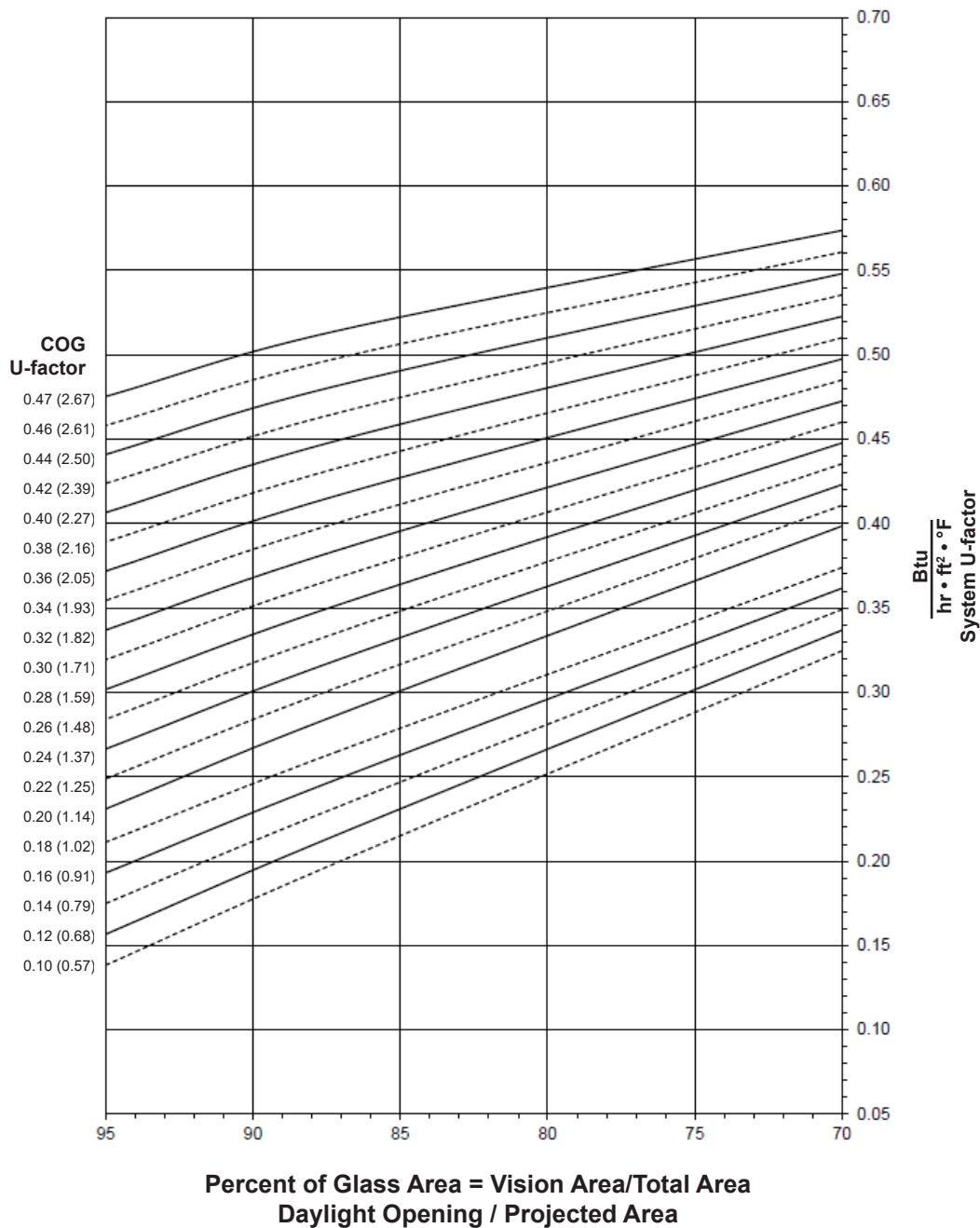
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FIXED WINDOW WITH 1" GLAZING

**Note:**

Values in parentheses are metric.  
 COG = Center of Glass.  
 Charts are generated per AAMA 507

**System U-factor vs Percent of Glass Area**



**Notes for System U-factor, SHGC and VT charts:**

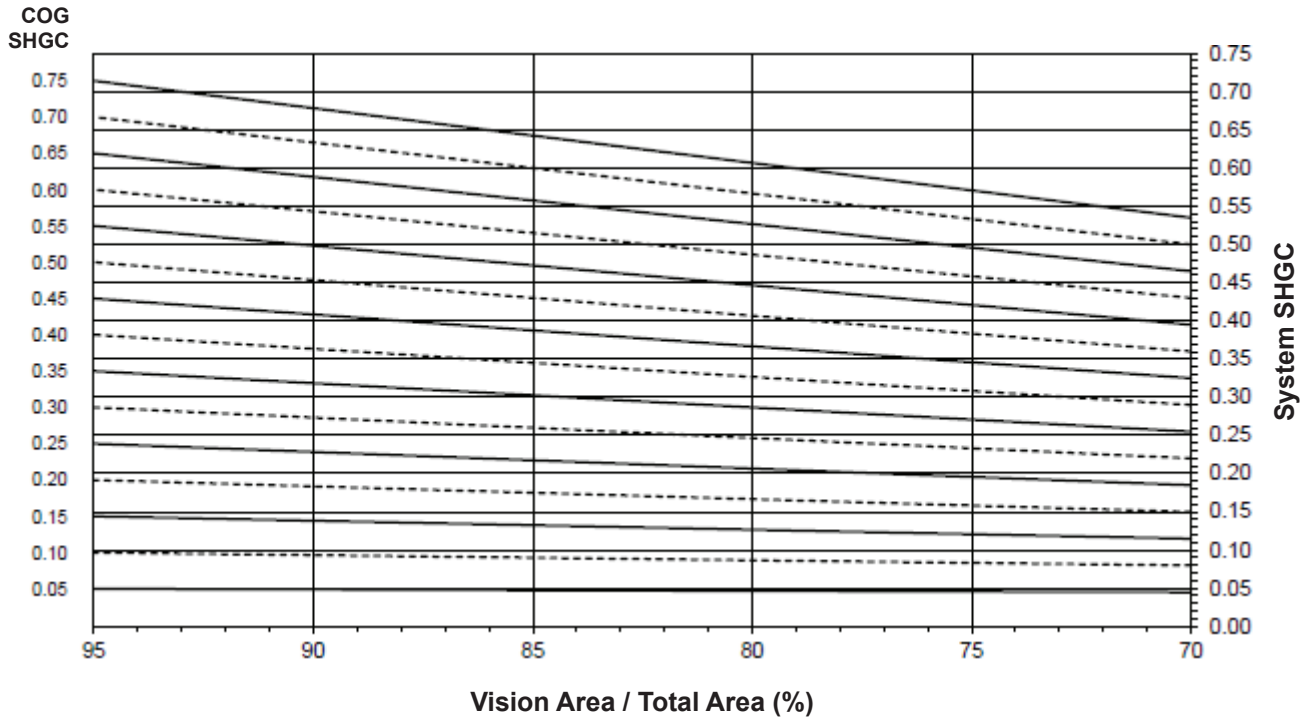
For glass values that are not listed, linear interpolation is permitted.  
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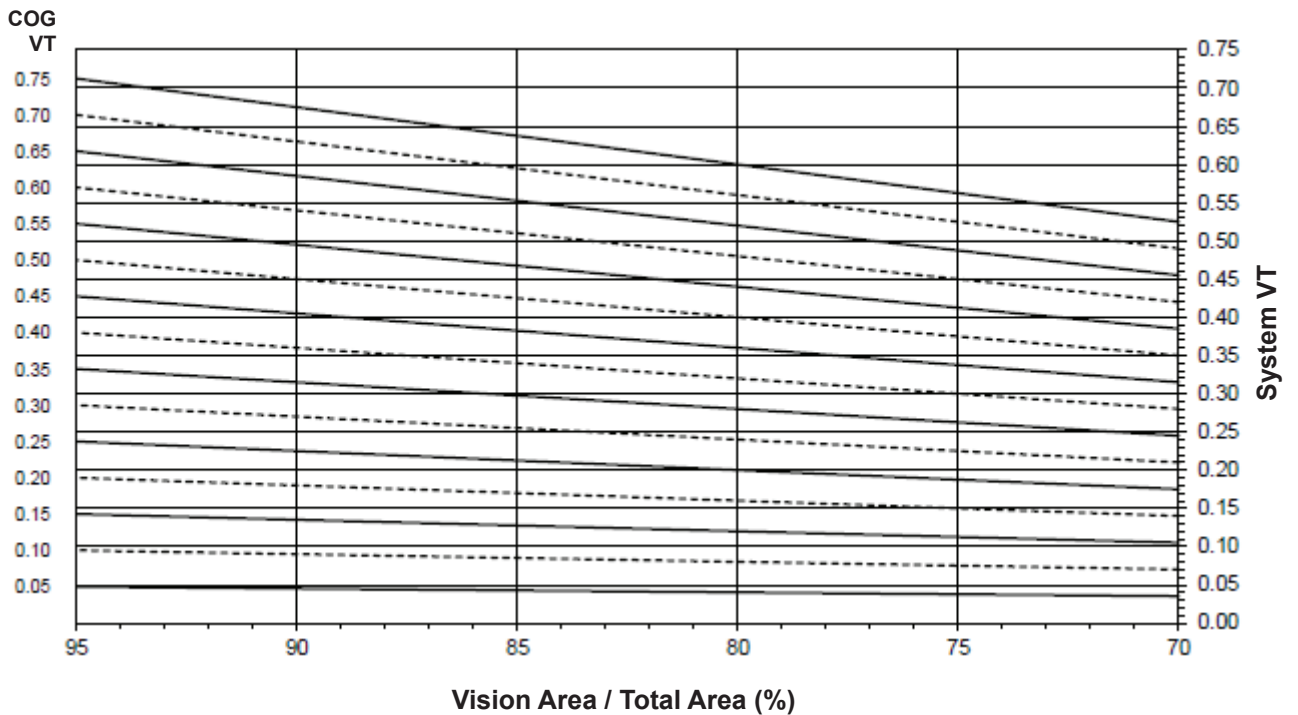
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**FIXED WINDOW WITH 1" GLAZING**

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



**System Visible Transmittance (VT) vs Percent of Vision Area**



Laws and building and safety codes governing the design and use of Kawneer products, such as 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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**Thermal Transmittance**<sup>1</sup> (BTU/hr • ft<sup>2</sup> • °F)

Glass U-Factor <sup>3</sup>	Overall U-Factor <sup>4</sup>
0.48	0.51
0.46	0.50
0.44	0.48
0.42	0.47
0.40	0.45
0.38	0.43
0.36	0.42
0.34	0.40
0.32	0.38
0.30	0.37
0.28	0.35
0.26	0.34
0.24	0.32
0.22	0.30
0.20	0.29
0.18	0.27
0.16	0.25
0.14	0.23
0.12	0.22
0.10	0.20

**FIXED WINDOW WITH 1" GLAZING**

**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 1,200 mm wide by 1,500 mm high (47-1/4" by 59-1/16").

**SHGC Matrix**<sup>2</sup>

Glass SHGC <sup>3</sup>	Overall SHGC <sup>4</sup>
0.75	0.66
0.70	0.61
0.65	0.57
0.60	0.53
0.55	0.48
0.50	0.44
0.45	0.40
0.40	0.35
0.35	0.31
0.30	0.27
0.25	0.22
0.20	0.18
0.15	0.13
0.10	0.09
0.05	0.05

**Visible Transmittance**<sup>2</sup>

Glass VT <sup>3</sup>	Overall VT <sup>4</sup>
0.75	0.65
0.70	0.61
0.65	0.57
0.60	0.52
0.55	0.48
0.50	0.44
0.45	0.39
0.40	0.35
0.35	0.30
0.30	0.26
0.25	0.22
0.20	0.17
0.15	0.13
0.10	0.09
0.05	0.04

Laws and building and safety codes governing the design and use of Kawneer products, such as 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.

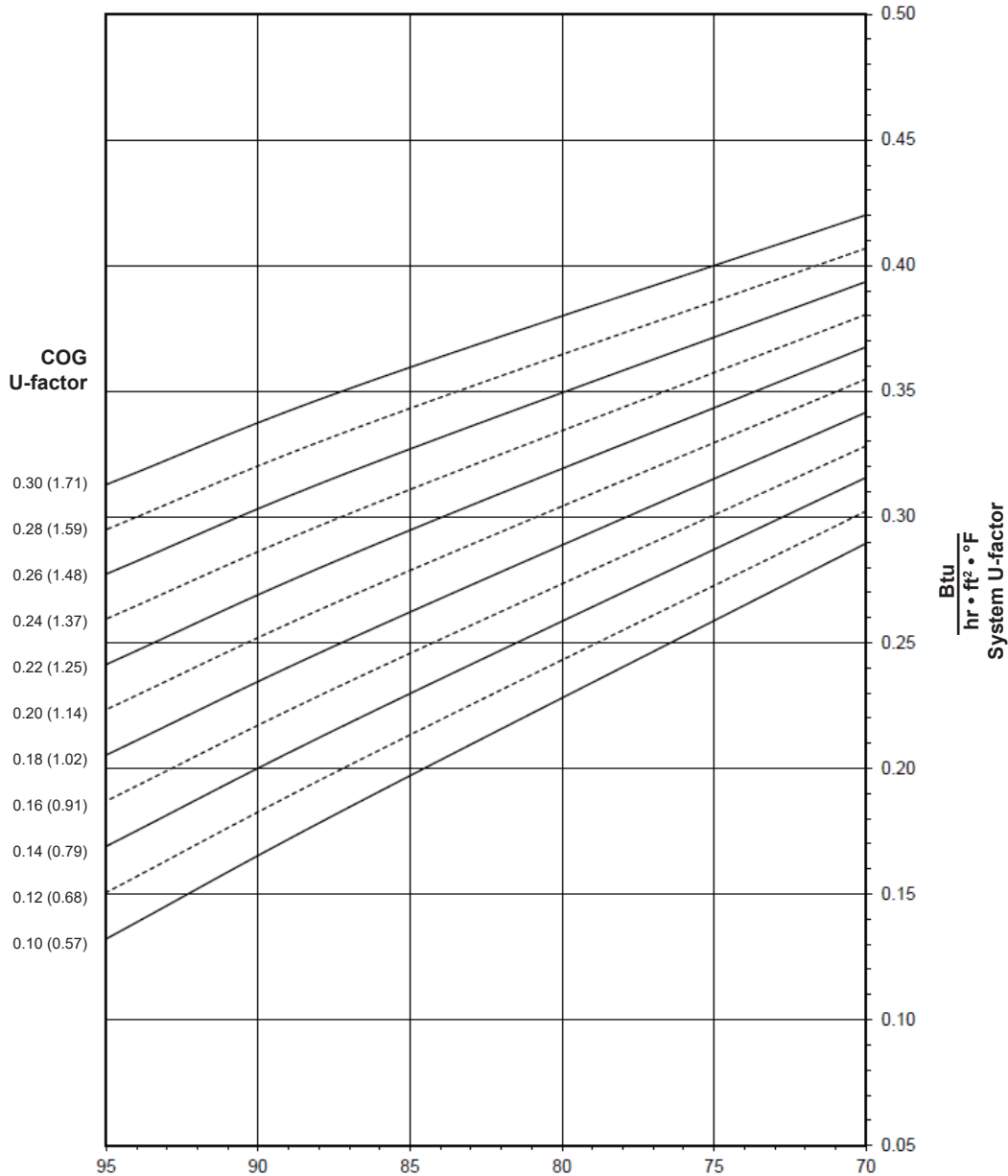
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**FIXED WINDOW WITH 1-3/4" TRIPLE GLAZING**

**Note:**

Values in parentheses are metric.  
 COG = Center of Glass.  
 Charts are generated per AAMA 507

**System U-factor vs Percent of Glass Area**



**Percent of Glass Area = Vision Area/Total Area  
 Daylight Opening / Projected Area**

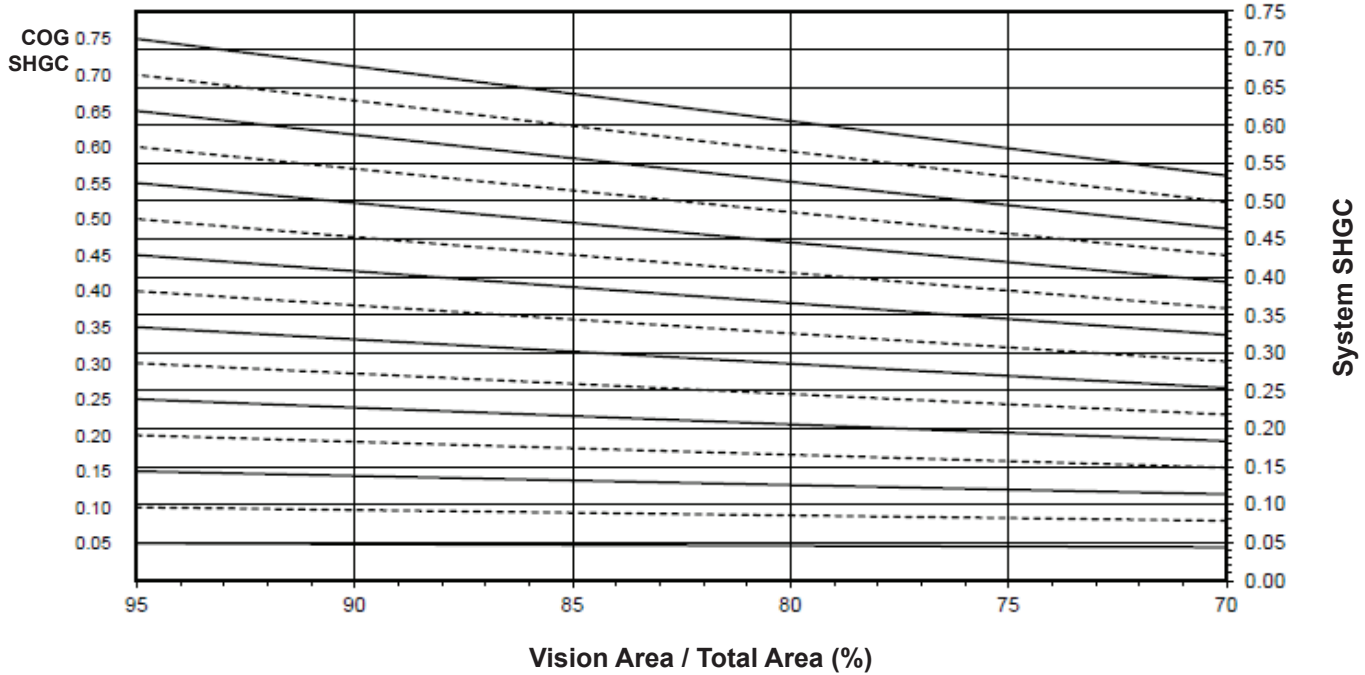
**Notes for System U-factor, SHGC and VT charts:**

For glass values that are not listed, linear interpolation is permitted.  
 Glass properties are based on center of glass values and are obtained from your glass supplier.

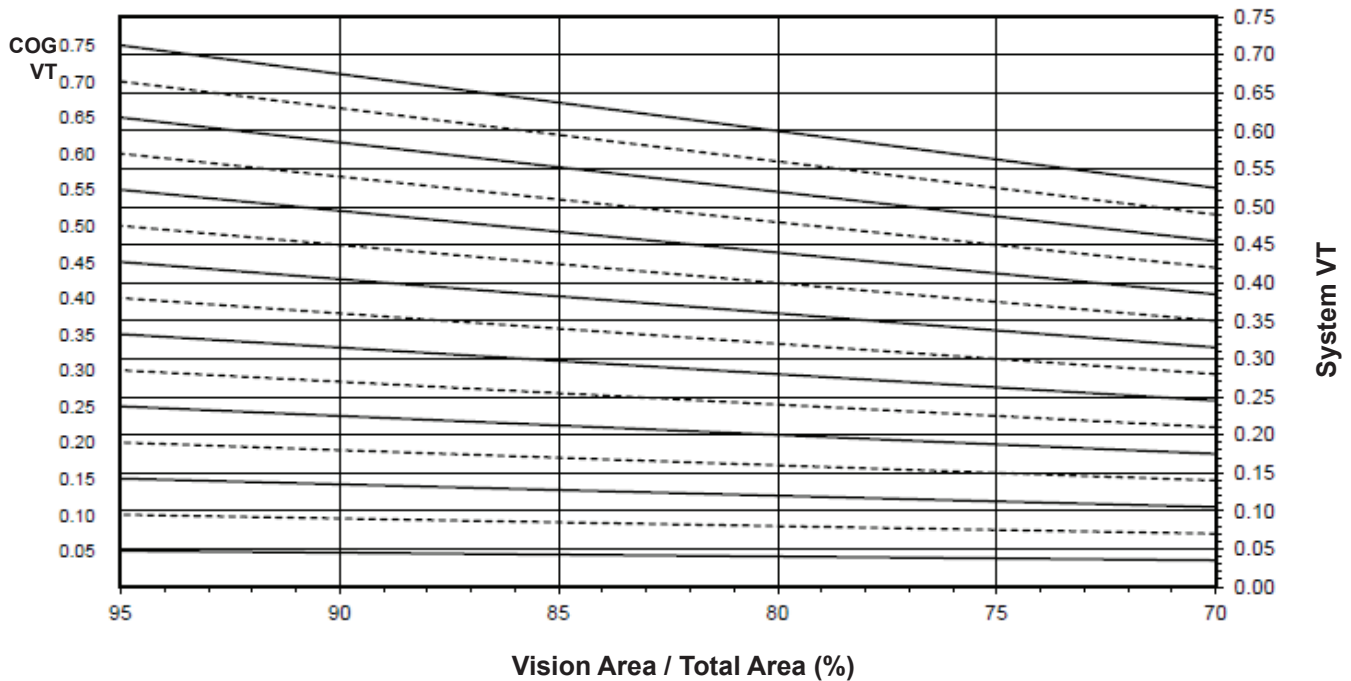
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**FIXED WINDOW WITH 1-3/4" TRIPLE GLAZING**  
**System Solar Heat Gain Coefficient (SHGC) vs Percent of Vision Area**



**System Visible Transmittance (VT) vs Percent of Vision Area**



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**Thermal Transmittance <sup>1</sup> (BTU/hr • ft<sup>2</sup> • °F)**

Glass U-Factor <sup>3</sup>	Overall U-Factor <sup>4</sup>
0.30	0.35
0.28	0.34
0.26	0.32
0.24	0.30
0.22	0.29
0.20	0.27
0.18	0.25
0.16	0.24
0.14	0.22
0.12	0.20
0.10	0.19

**FIXED WINDOW WITH 1-3/4" TRIPLE GLAZING**

**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 1,200 mm wide by 1,500 mm high (47-1/4" by 59-1/16").

**SHGC Matrix <sup>2</sup>**

Glass SHGC <sup>3</sup>	Overall SHGC <sup>4</sup>
0.75	0.65
0.70	0.61
0.65	0.57
0.60	0.52
0.55	0.48
0.50	0.44
0.45	0.39
0.40	0.35
0.35	0.31
0.30	0.26
0.25	0.22
0.20	0.18
0.15	0.13
0.10	0.09
0.05	0.05

**Visible Transmittance <sup>2</sup>**

Glass VT <sup>3</sup>	Overall VT <sup>4</sup>
0.75	0.65
0.70	0.61
0.65	0.56
0.60	0.52
0.55	0.48
0.50	0.43
0.45	0.39
0.40	0.35
0.35	0.30
0.30	0.26
0.25	0.22
0.20	0.17
0.15	0.13
0.10	0.09
0.05	0.04

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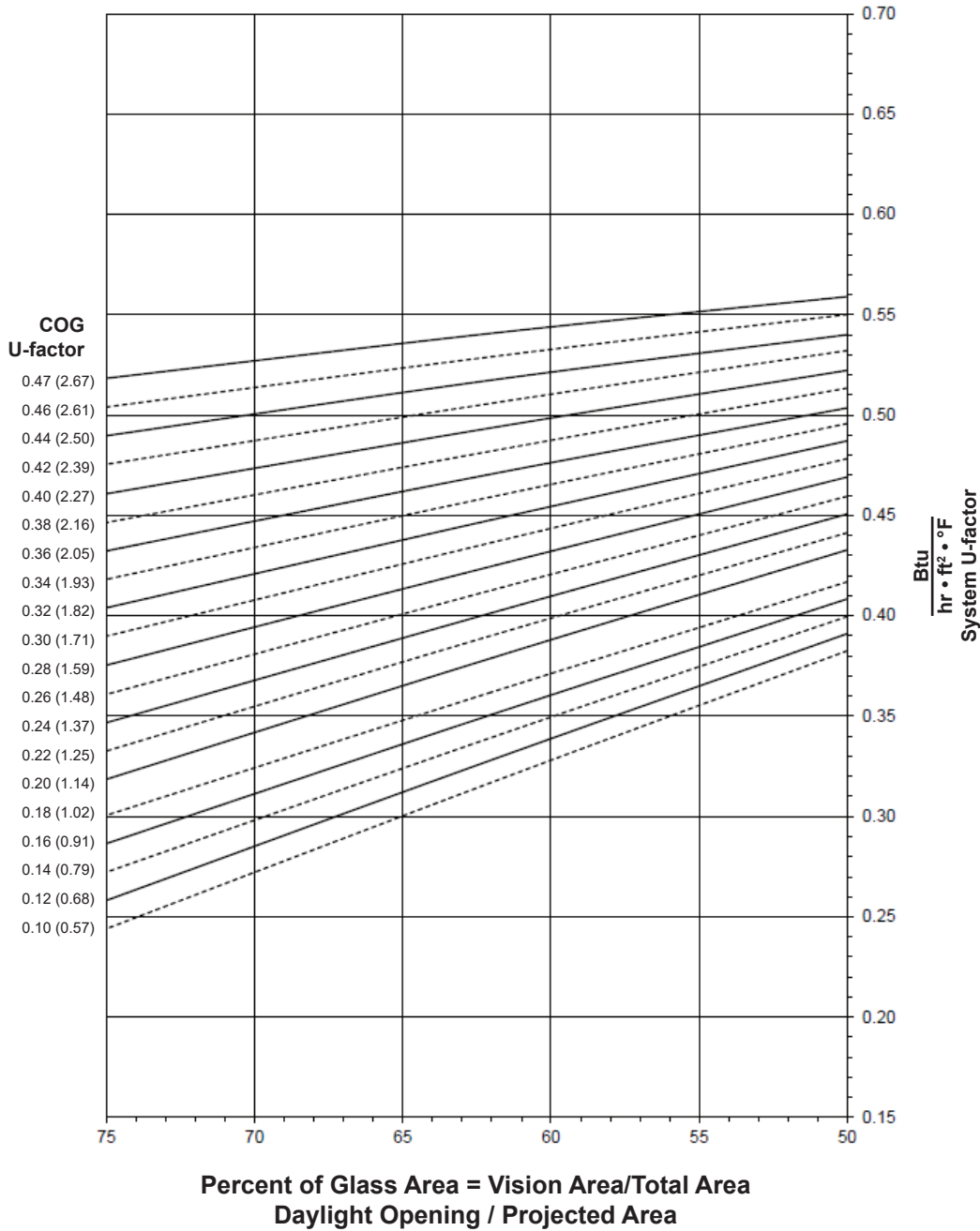
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CASEMENT/PROJECT-IN WINDOW WITH 1" GLAZING

**Note:**

Values in parentheses are metric.  
 COG = Center of Glass.  
 Charts are generated per AAMA 507

**System U-factor vs Percent of Glass Area**



**Notes for System U-factor, SHGC and VT charts:**

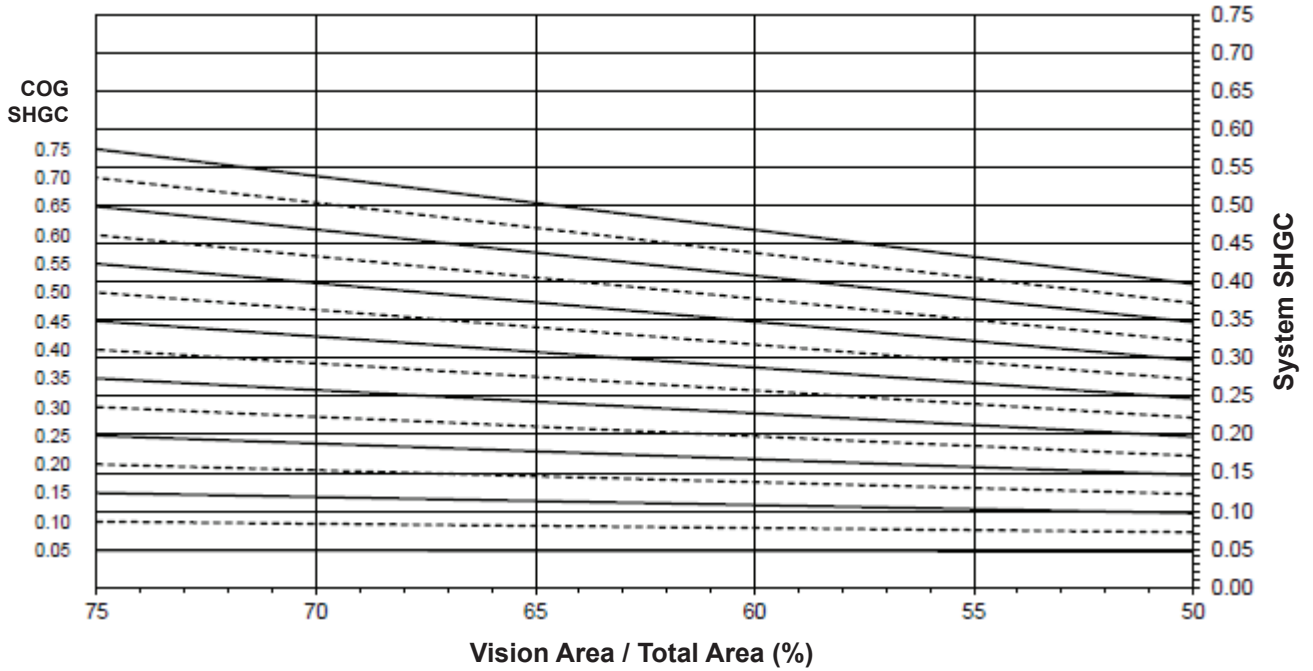
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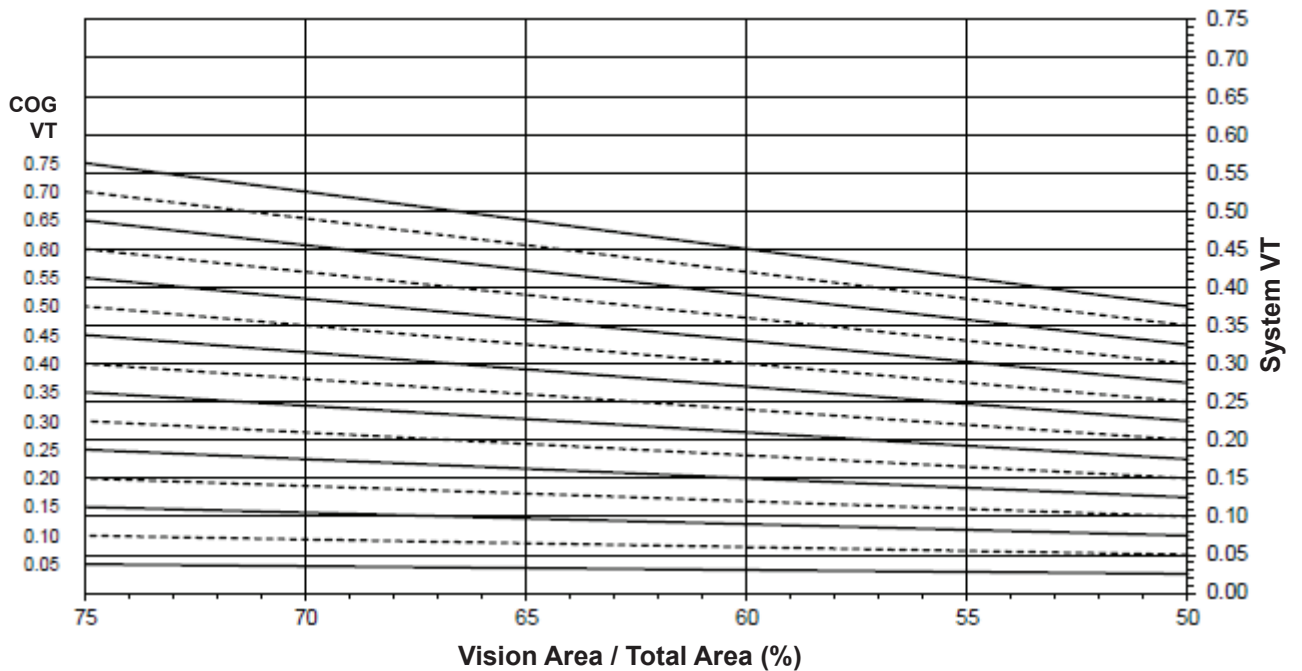
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**CASEMENT/PROJECT-IN WINDOW WITH 1" GLAZING**

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



**System Visible Transmittance (VT) vs Percent of Vision Area**



Laws and building and safety codes governing the design and use of Kawneer products, such as 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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**Thermal Transmittance**<sup>1</sup> (BTU/hr • ft<sup>2</sup> • °F)

Glass U-Factor <sup>3</sup>	Overall U-Factor <sup>4</sup>
0.48	0.54
0.46	0.53
0.44	0.52
0.42	0.51
0.40	0.49
0.38	0.48
0.36	0.47
0.34	0.46
0.32	0.45
0.30	0.44
0.28	0.42
0.26	0.41
0.24	0.40
0.22	0.39
0.20	0.38
0.18	0.36
0.16	0.35
0.14	0.34
0.12	0.33
0.10	0.32

**CASEMENT/PROJECT-IN WINDOW  
WITH 1" GLAZING**

**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 1,500 mm wide by 600 mm high (59-1/16" by 23-5/8").

**SHGC Matrix**<sup>2</sup>

Glass SHGC <sup>3</sup>	Overall SHGC <sup>4</sup>
0.75	0.48
0.70	0.45
0.65	0.42
0.60	0.39
0.55	0.36
0.50	0.33
0.45	0.30
0.40	0.26
0.35	0.23
0.30	0.20
0.25	0.17
0.20	0.14
0.15	0.11
0.10	0.08
0.05	0.05

**Visible Transmittance**<sup>2</sup>

Glass VT <sup>3</sup>	Overall VT <sup>4</sup>
0.75	0.47
0.70	0.43
0.65	0.40
0.60	0.37
0.55	0.34
0.50	0.31
0.45	0.28
0.40	0.25
0.35	0.22
0.30	0.19
0.25	0.16
0.20	0.12
0.15	0.09
0.10	0.06
0.05	0.03

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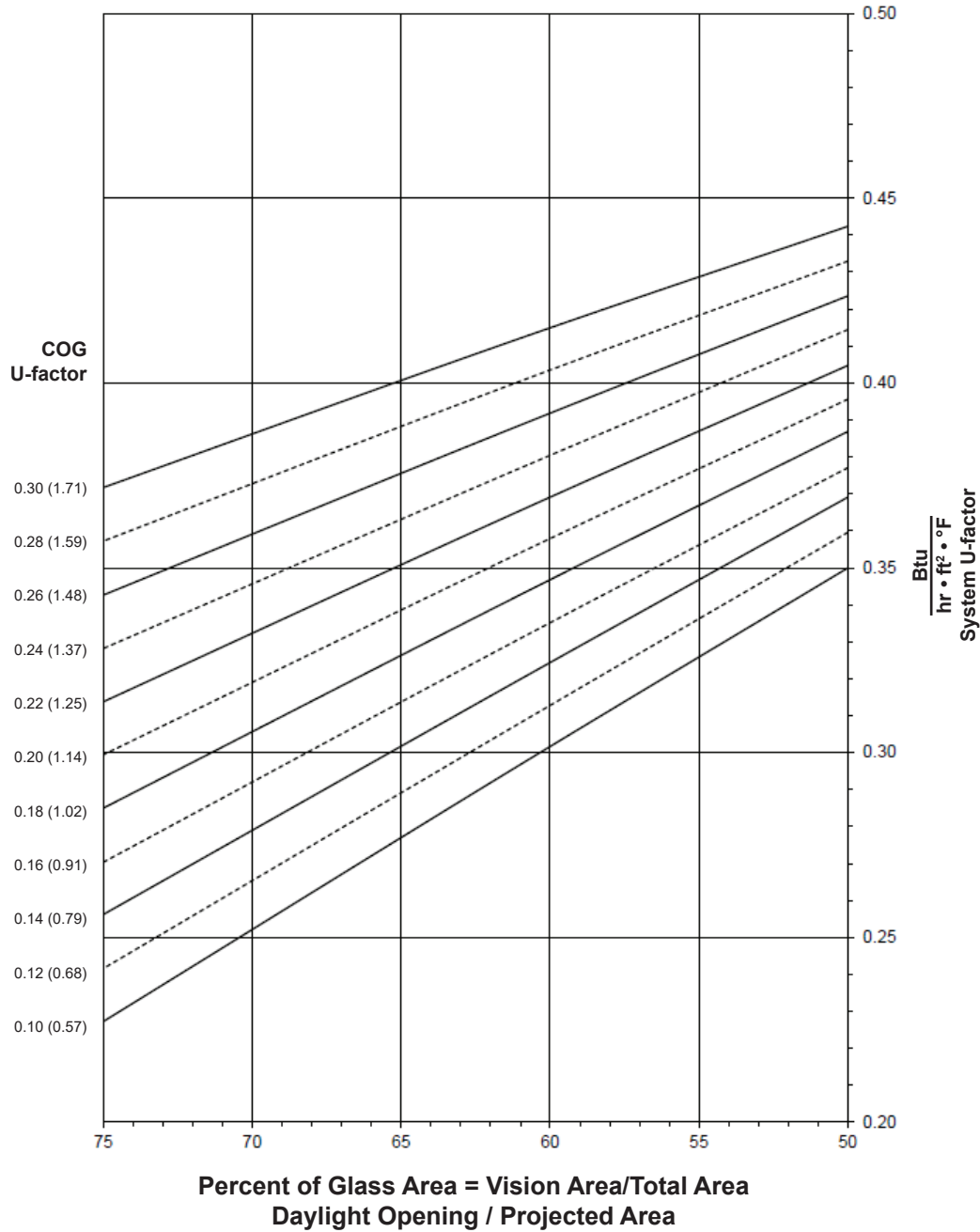
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**CASEMENT/PROJECT-IN WINDOW WITH 1-3/4" TRIPLE GLAZING**

**Note:**

Values in parentheses are metric.  
 COG = Center of Glass.  
 Charts are generated per AAMA 507

**System U-factor vs Percent of Glass Area**



**Notes for System U-factor, SHGC and VT charts:**

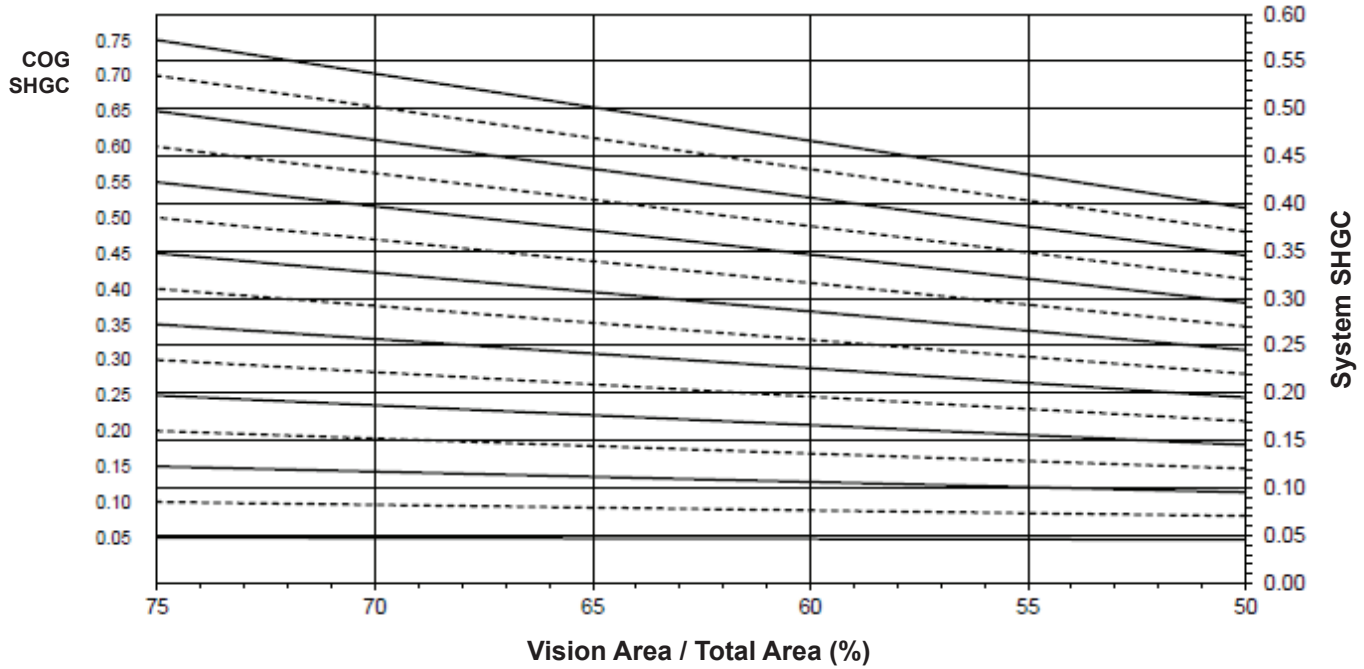
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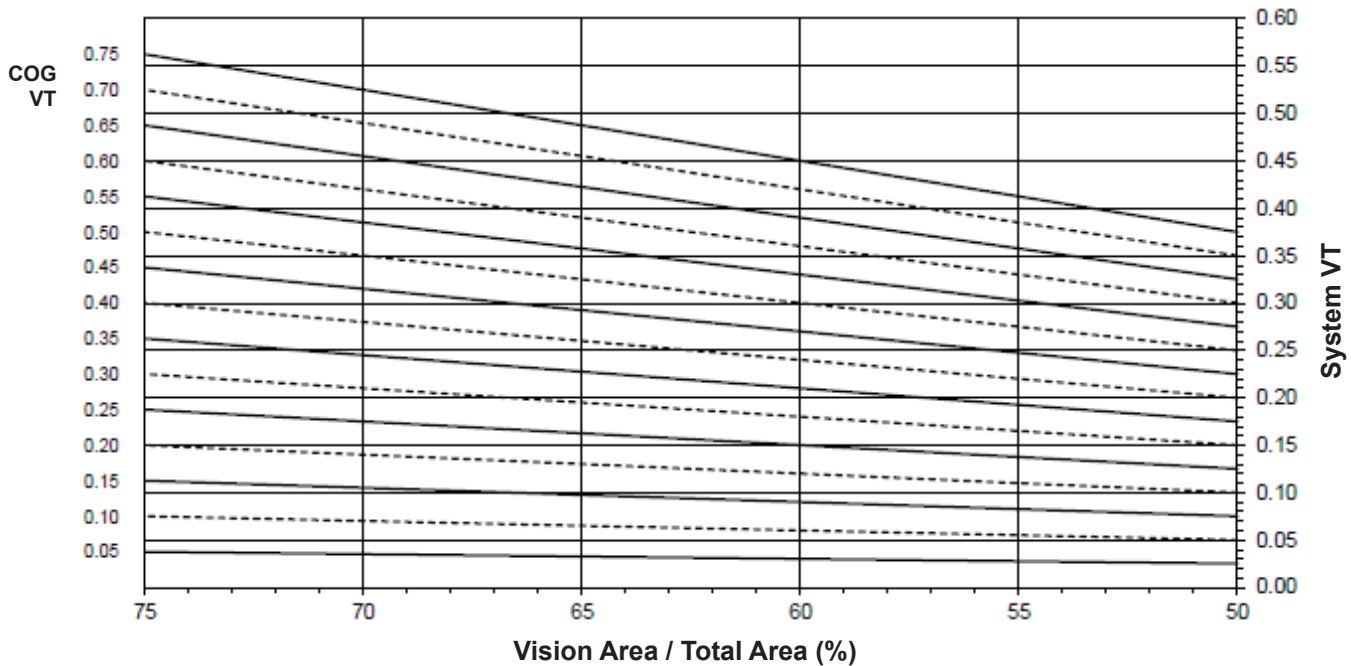
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**CASEMENT/PROJECT-IN WINDOW WITH 1-3/4" TRIPLE GLAZING**

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



**System Visible Transmittance (VT) vs Percent of Vision Area**



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**Thermal Transmittance <sup>1</sup> (BTU/hr • ft <sup>2</sup> • °F)**

Glass U-Factor <sup>3</sup>	Overall U-Factor <sup>4</sup>
0.30	0.41
0.28	0.40
0.26	0.39
0.24	0.38
0.22	0.36
0.20	0.35
0.18	0.34
0.16	0.33
0.14	0.32
0.12	0.31
0.10	0.29

**CASEMENT/PROJECT-IN WINDOW WITH 1-3/4" TRIPLE GLAZING**

**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 1,500 mm wide by 600 mm high (59-1/16" by 23-5/8").

**SHGC Matrix <sup>2</sup>**

Glass SHGC <sup>3</sup>	Overall SHGC <sup>4</sup>
0.75	0.48
0.70	0.45
0.65	0.41
0.60	0.38
0.55	0.35
0.50	0.32
0.45	0.29
0.40	0.26
0.35	0.23
0.30	0.20
0.25	0.17
0.20	0.14
0.15	0.11
0.10	0.08
0.05	0.05

**Visible Transmittance <sup>2</sup>**

Glass VT <sup>3</sup>	Overall VT <sup>4</sup>
0.75	0.46
0.70	0.43
0.65	0.40
0.60	0.37
0.55	0.34
0.50	0.31
0.45	0.28
0.40	0.25
0.35	0.21
0.30	0.18
0.25	0.15
0.20	0.12
0.15	0.09
0.10	0.06
0.05	0.03

Laws and building and safety codes governing the design and use of Kawneer products, such as 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.

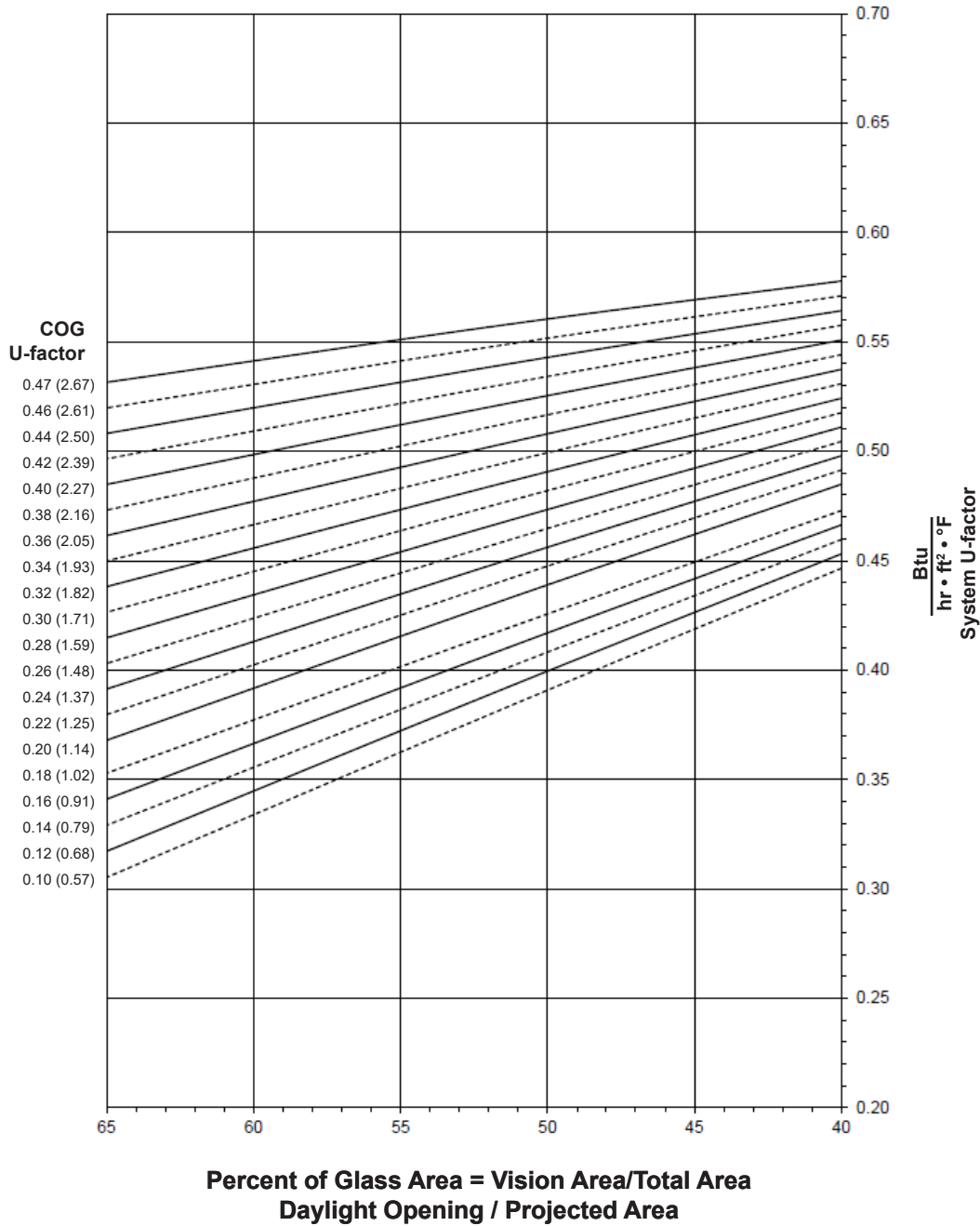
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CASEMENT/PROJECT-OUT WINDOW WITH 1" GLAZING

**Note:**

Values in parentheses are metric.  
 COG = Center of Glass.  
 Charts are generated per AAMA 507

**System U-factor vs Percent of Glass Area**



**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 and are obtained from your glass supplier.

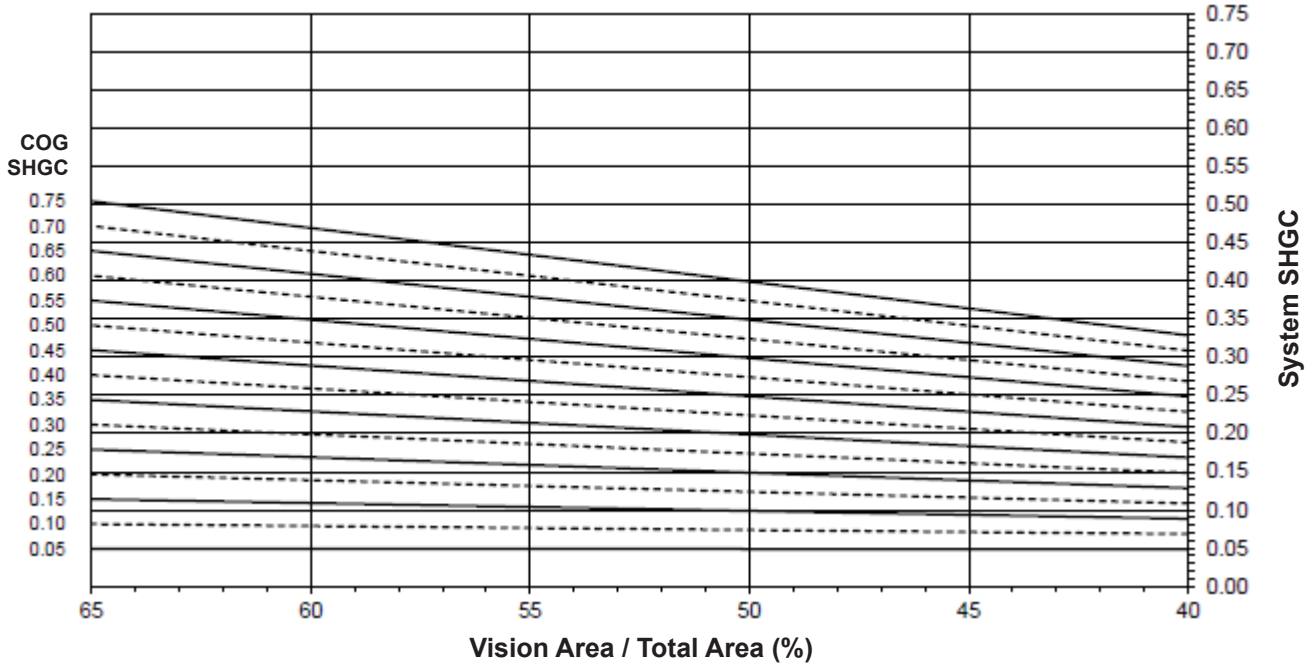
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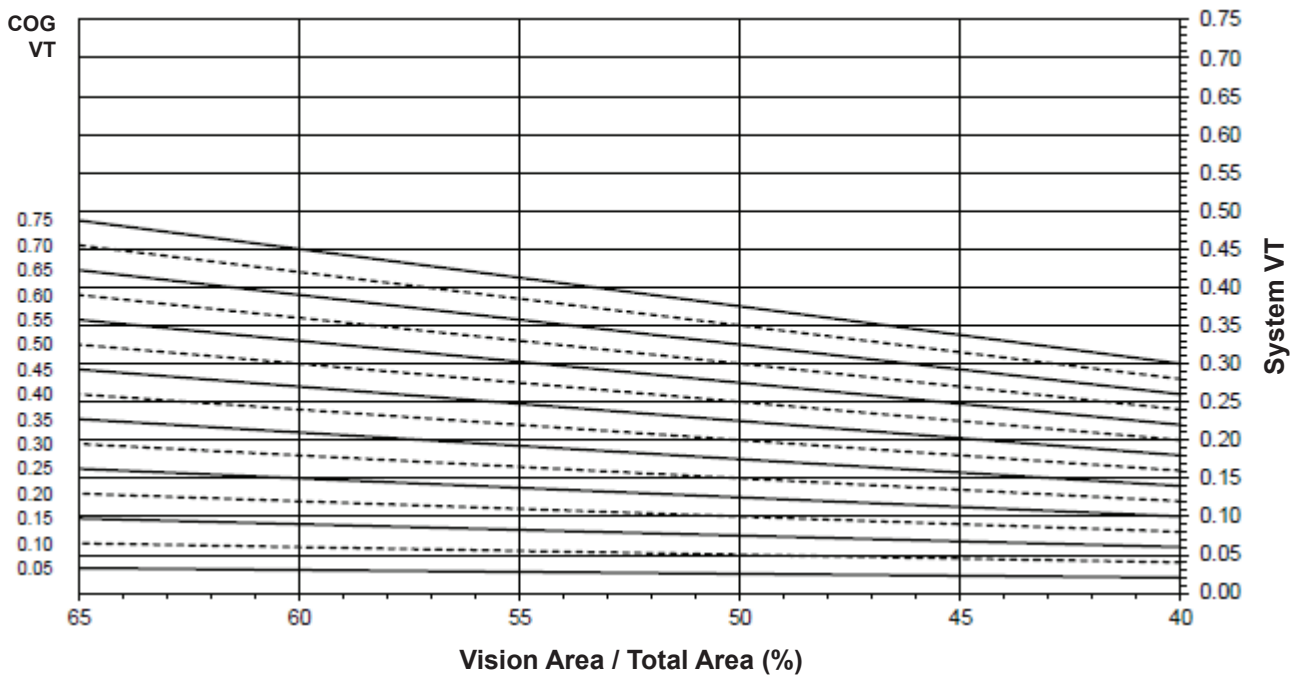


### CASEMENT/PROJECT-OUT WINDOW WITH 1" GLAZING

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



#### System Visible Transmittance (VT) vs Percent of Vision Area



Laws and building and safety codes governing the design and use of Kawneer products, such as 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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**Thermal Transmittance**<sup>1</sup> (BTU/hr • ft<sup>2</sup> • °F)

Glass U-Factor <sup>3</sup>	Overall U-Factor <sup>4</sup>
0.48	0.56
0.46	0.55
0.44	0.54
0.42	0.53
0.40	0.52
0.38	0.51
0.36	0.50
0.34	0.50
0.32	0.49
0.30	0.48
0.28	0.47
0.26	0.46
0.24	0.45
0.22	0.44
0.20	0.43
0.18	0.42
0.16	0.41
0.14	0.40
0.12	0.39
0.10	0.38

**CASEMENT/PROJECT-OUT WINDOW  
WITH 1" GLAZING**

**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 600 mm wide by 1,500 mm high (23-5/8" by 59-1/16").

**SHGC Matrix**<sup>2</sup>

Glass SHGC <sup>3</sup>	Overall SHGC <sup>4</sup>
0.75	0.41
0.70	0.38
0.65	0.36
0.60	0.33
0.55	0.31
0.50	0.28
0.45	0.25
0.40	0.23
0.35	0.20
0.30	0.18
0.25	0.15
0.20	0.13
0.15	0.10
0.10	0.07
0.05	0.05

**Visible Transmittance**<sup>2</sup>

Glass VT <sup>3</sup>	Overall VT <sup>4</sup>
0.75	0.38
0.70	0.36
0.65	0.33
0.60	0.31
0.55	0.28
0.50	0.26
0.45	0.23
0.40	0.21
0.35	0.18
0.30	0.15
0.25	0.13
0.20	0.10
0.15	0.08
0.10	0.05
0.05	0.03

Laws and building and safety codes governing the design and use of Kawneer products, such as 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.

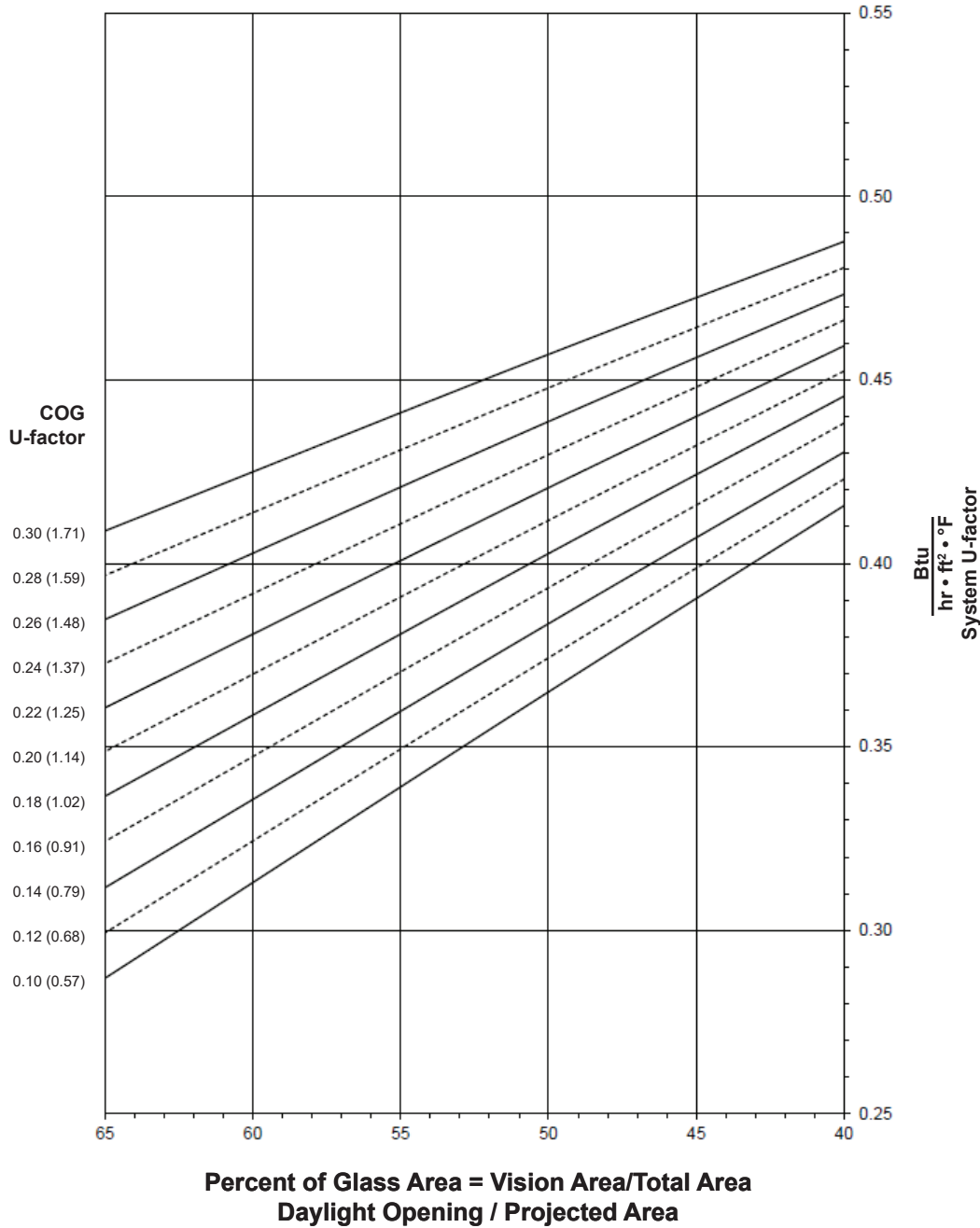
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**CASEMENT/PROJECT-OUT WINDOW WITH 1-3/4" TRIPLE GLAZING**

**Note:**

Values in parentheses are metric.  
 COG = Center of Glass.  
 Charts are generated per AAMA 507

**System U-factor vs Percent of Glass Area**



**Notes for System U-factor, SHGC and VT charts:**

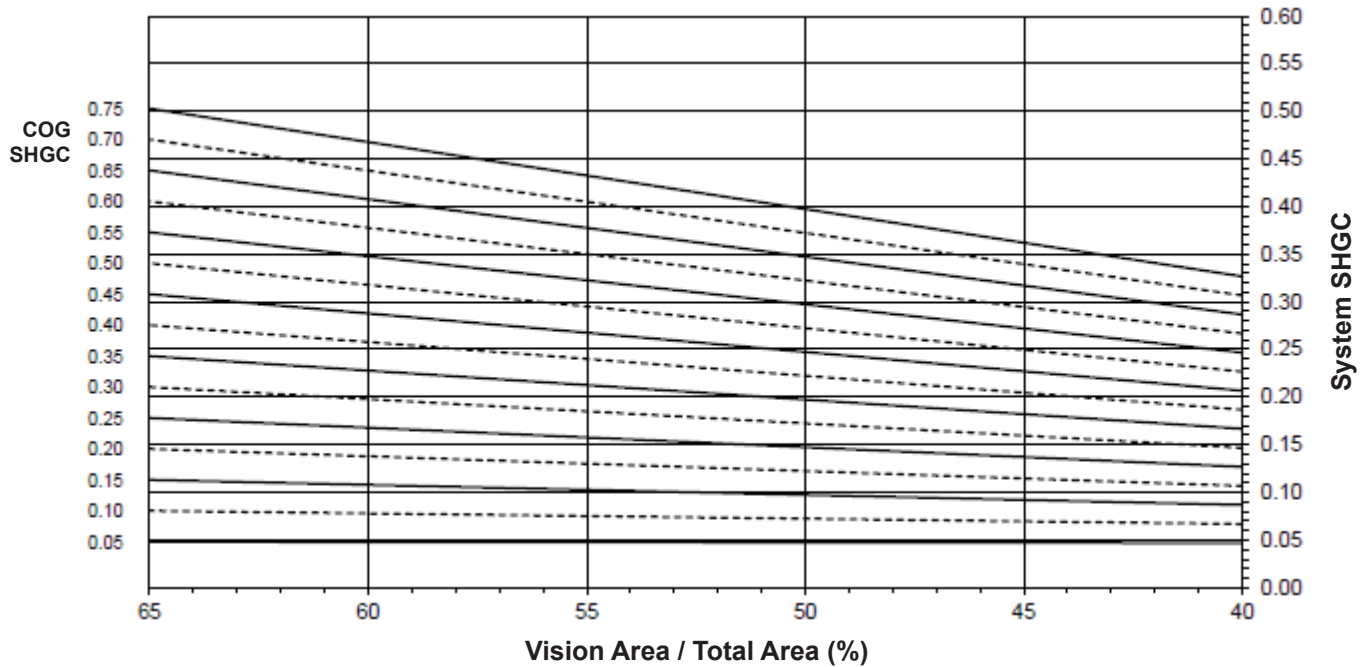
For glass values that are not listed, linear interpolation is permitted.  
 Glass properties are based on center of glass values and are obtained from your glass supplier.

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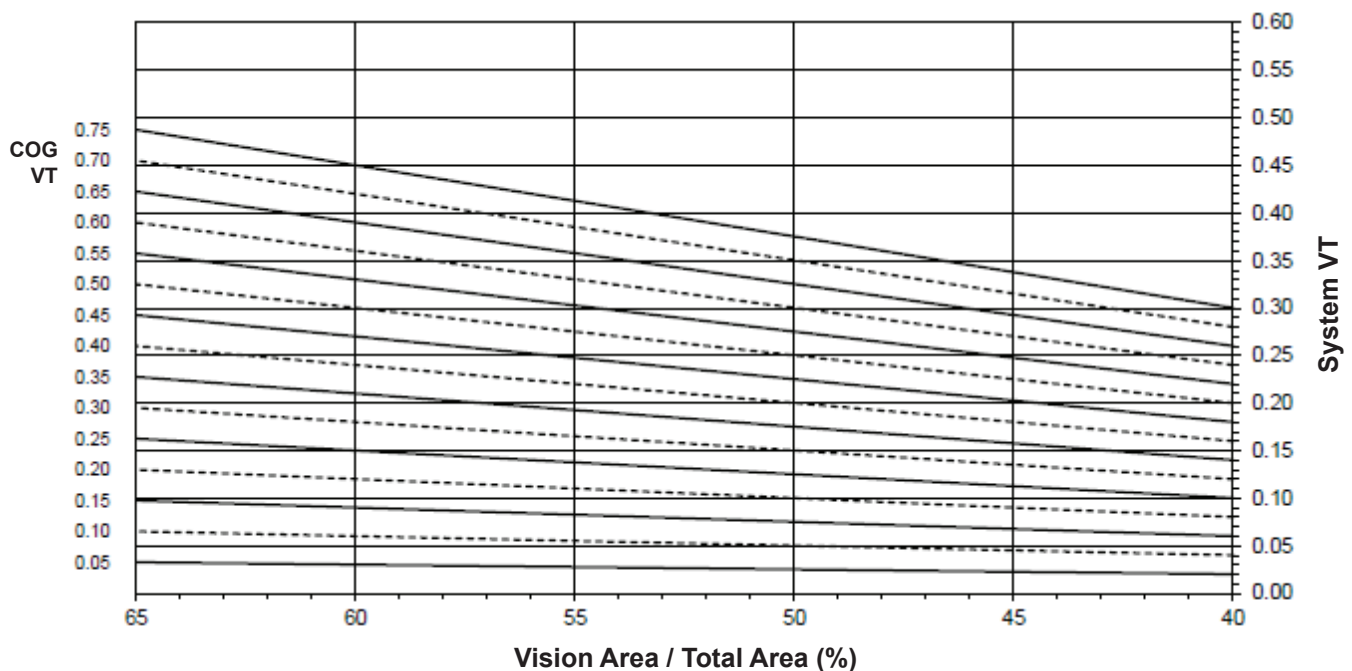
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**CASEMENT/PROJECT-OUT WINDOW WITH 1-3/4" TRIPLE GLAZING**

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



**System Visible Transmittance (VT) vs Percent of Vision Area**



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**Thermal Transmittance <sup>1</sup> (BTU/hr • ft<sup>2</sup> • °F)**

Glass U-Factor <sup>3</sup>	Overall U-Factor <sup>4</sup>
0.30	0.45
0.28	0.45
0.26	0.44
0.24	0.43
0.22	0.42
0.20	0.41
0.18	0.40
0.16	0.39
0.14	0.38
0.12	0.37
0.10	0.36

**CASEMENT/PROJECT-OUT WINDOW WITH 1-3/4" TRIPLE GLAZING**

**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 600 mm wide by 1,500 mm high (23-5/8" by 59-1/16").

**SHGC Matrix <sup>2</sup>**

Glass SHGC <sup>3</sup>	Overall SHGC <sup>4</sup>
0.75	0.40
0.70	0.38
0.65	0.35
0.60	0.33
0.55	0.30
0.50	0.28
0.45	0.25
0.40	0.22
0.35	0.20
0.30	0.17
0.25	0.15
0.20	0.12
0.15	0.10
0.10	0.07
0.05	0.05

**Visible Transmittance <sup>2</sup>**

Glass VT <sup>3</sup>	Overall VT <sup>4</sup>
0.75	0.38
0.70	0.36
0.65	0.33
0.60	0.30
0.55	0.28
0.50	0.25
0.45	0.23
0.40	0.20
0.35	0.18
0.30	0.15
0.25	0.13
0.20	0.10
0.15	0.08
0.10	0.05
0.05	0.03

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