FIXED WINDOW 3-4
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OUTSWING CASEMENT WINDOW 23-26
MISCELLANEOUS DETAILS 27
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DEADLOAD CHARTS 33-34
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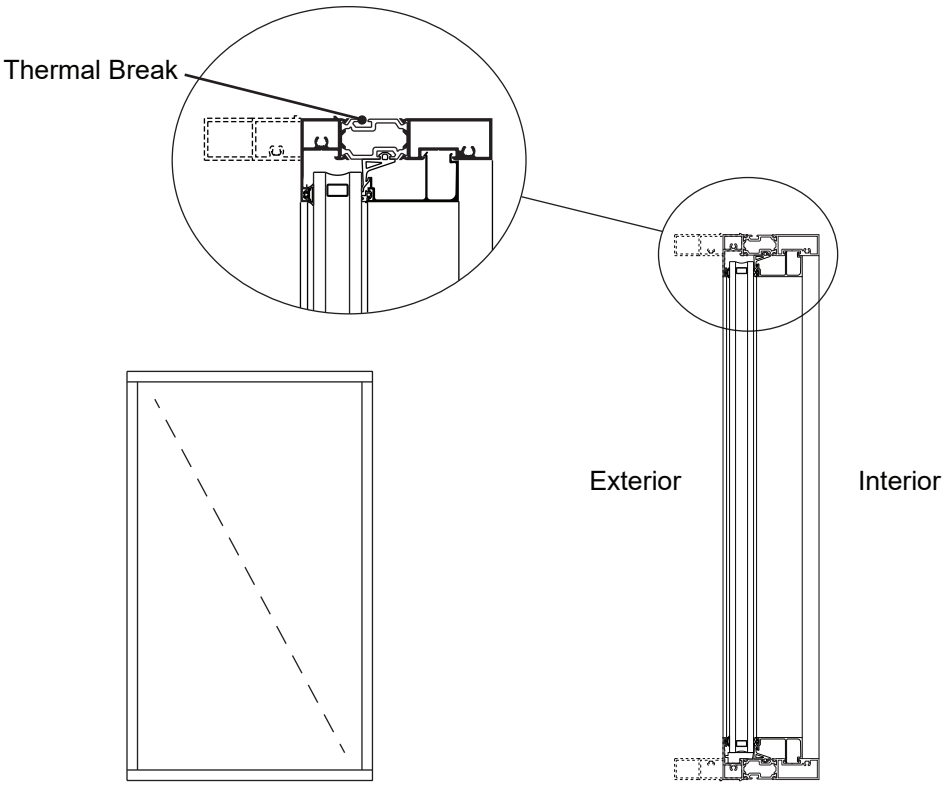
Metric (SI) conversion figures are included throughout these details for reference. Numbers in parentheses ( ) are millimeters unless otherwise noted.

The following metric (SI) units are found in these details:

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

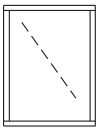
Features

- 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 silicone heel bead)
- Interior Applied Glazing Bead
- Architectural Anodized Finishes and Applied Coatings
- Interior and Exterior Dual Finish Options
- Two Year Manufacturer’s Warranty

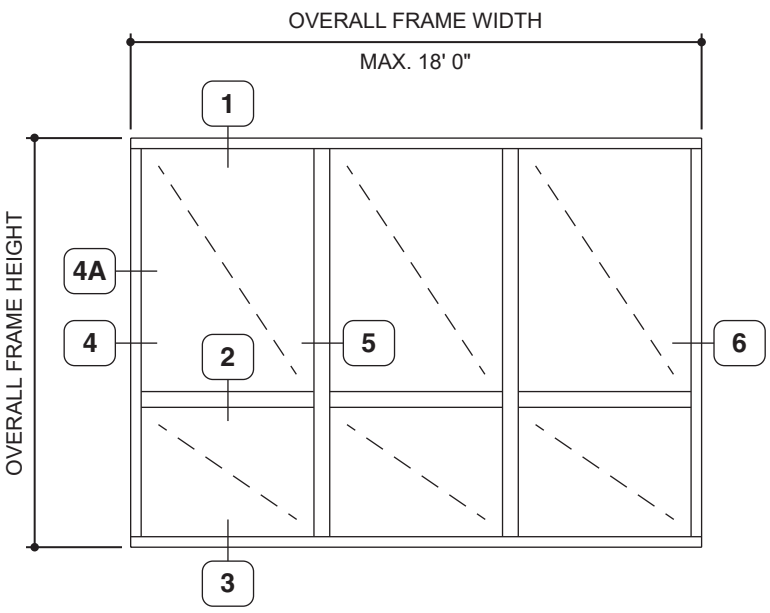


Fixed Window

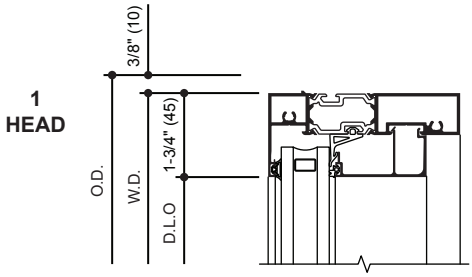
For specific product applications,
consult your Kawneer representative.

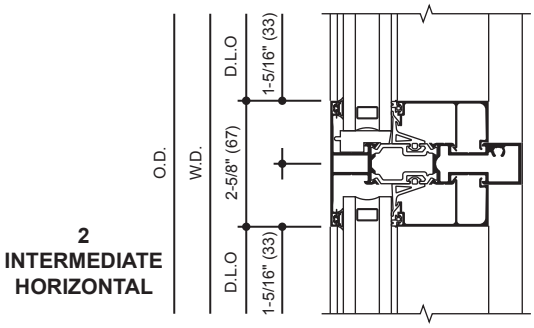
CLASS and GRADE	Architectural Window Grade AW-PG70-FW (1" infill) Architectural Window Grade AW-PG45-FW (1-3/4" infill) 
TESTING STANDARD	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)
FRAME DEPTH	4" (AA®6400), 5" (AA®6500), or 6" (AA®6600)
TYPICAL WALL THICKNESS	.070" Nominal Frame
INFILL OPTIONS	1" or 1-3/4"
STANDARD HARDWARE	Not Applicable
OPTIONAL HARDWARE	Not Applicable
OTHER OPTIONS	Expansion Mullions

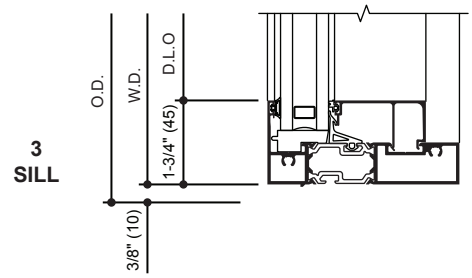
Additional information and CAD details are available at www.kawneer.com

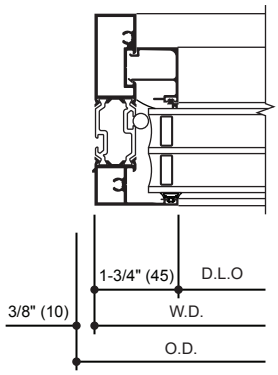


TYPICAL ELEVATION
Log onto www.kawneer.com for other configurations

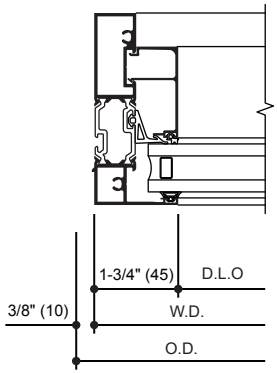




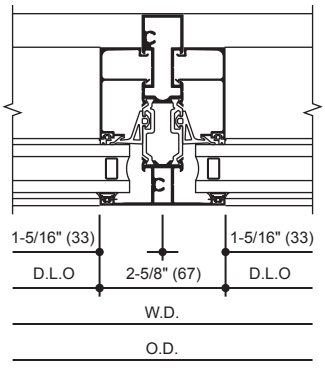




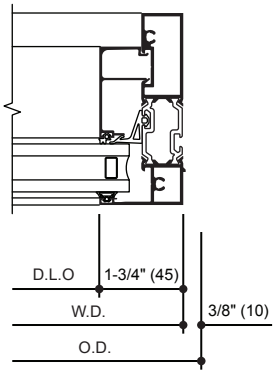
4A JAMB



4 JAMB

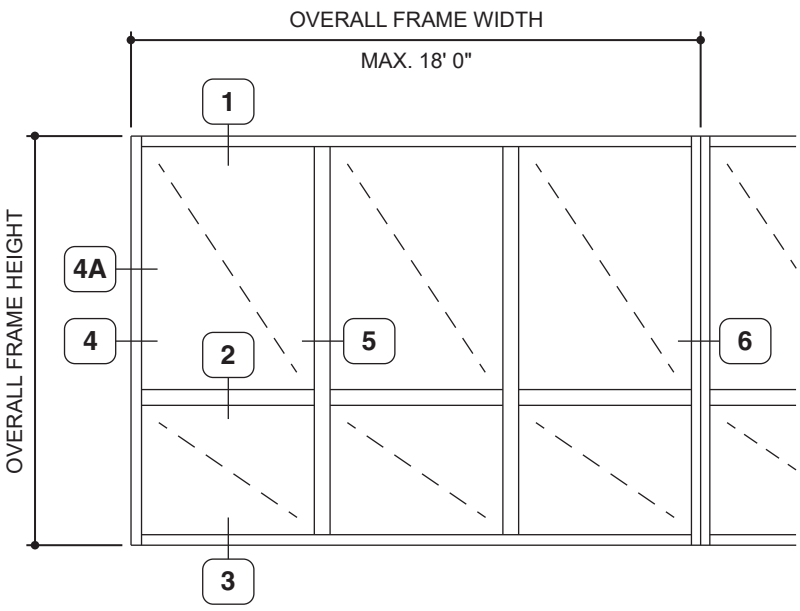


5 TUBULAR MULLION

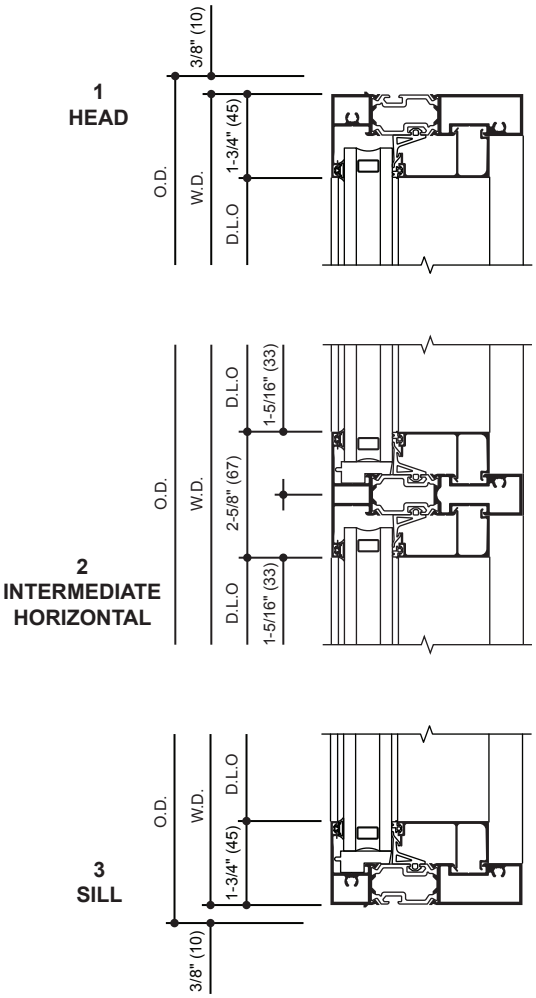


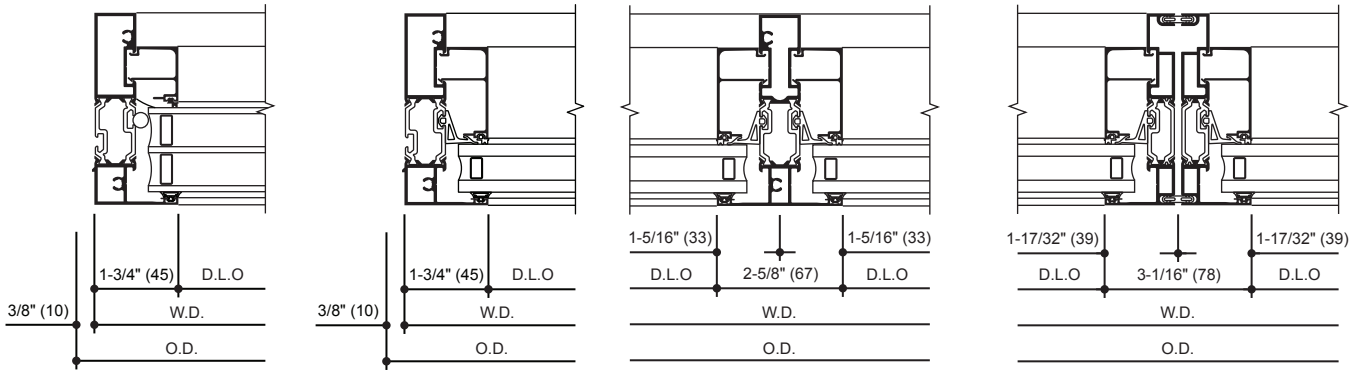
6 JAMB

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

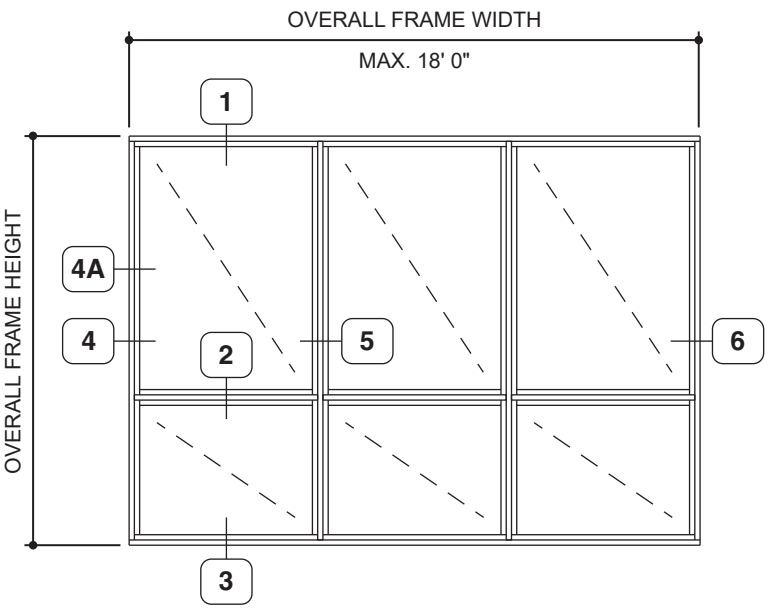


TYPICAL ELEVATION
Log onto www.kawneer.com for other configurations

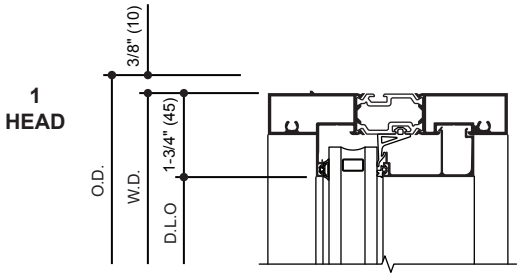


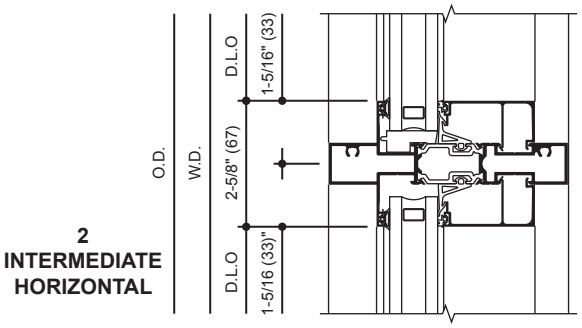


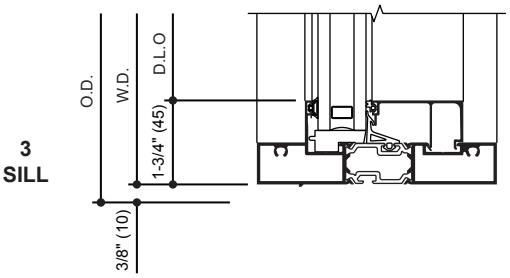
Additional information and CAD details are available at www.kawneer.com

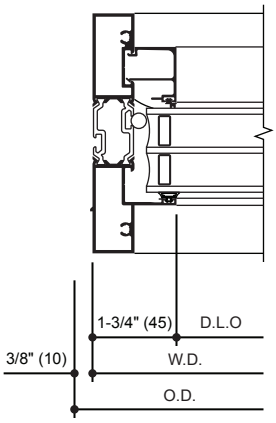


TYPICAL ELEVATION
Log onto www.kawneer.com for other configurations

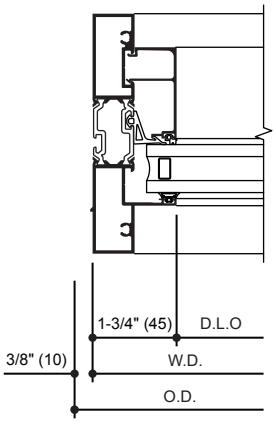








4A
JAMB



4
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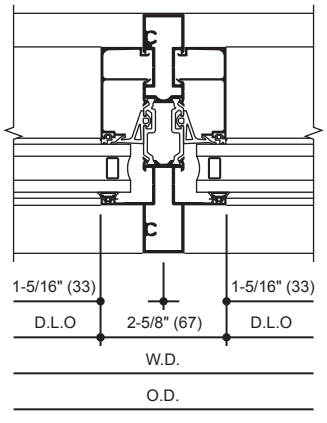
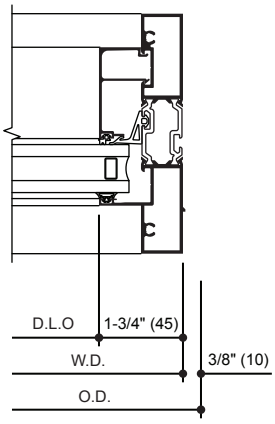
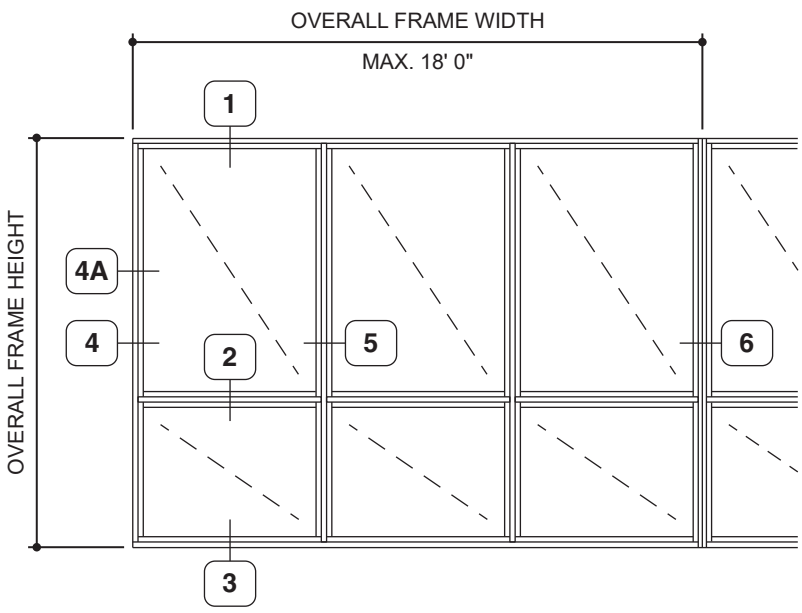


5
TUBULAR
MULLION

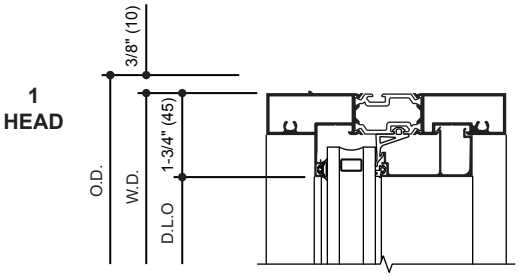


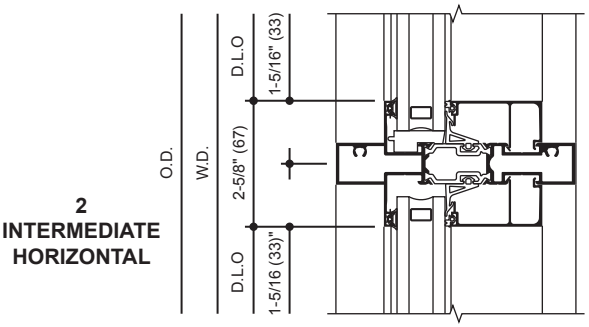
6
JAMB

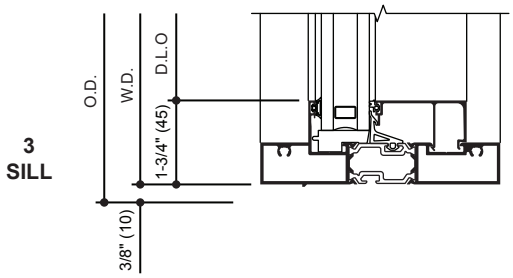
Additional information and CAD details are available at www.kawneer.com

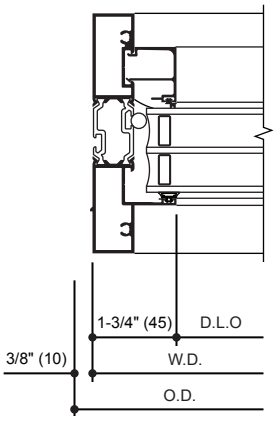


TYPICAL ELEVATION
Log onto www.kawneer.com for other configurations

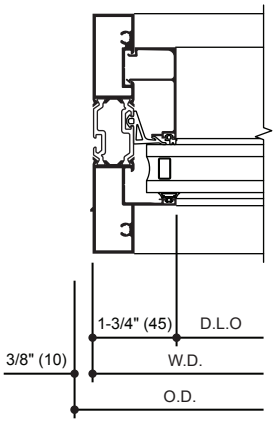








4A
JAMB



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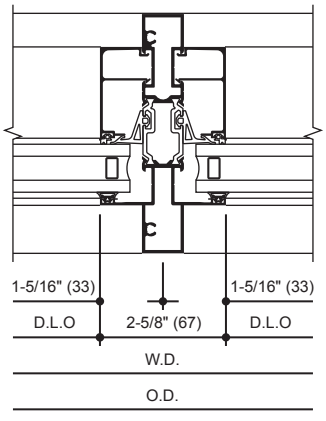
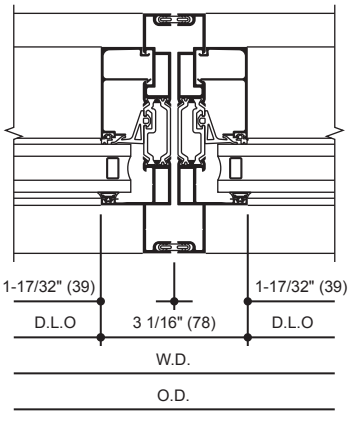
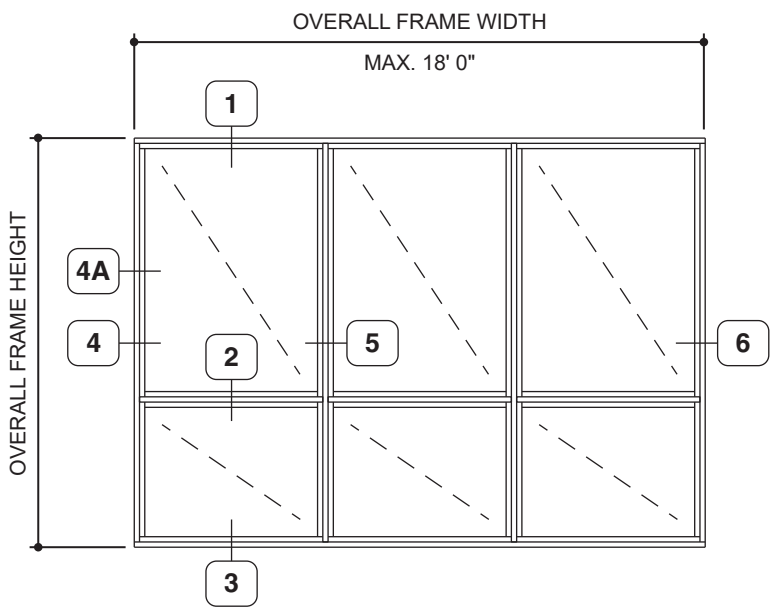


5
TUBULAR
MULLION

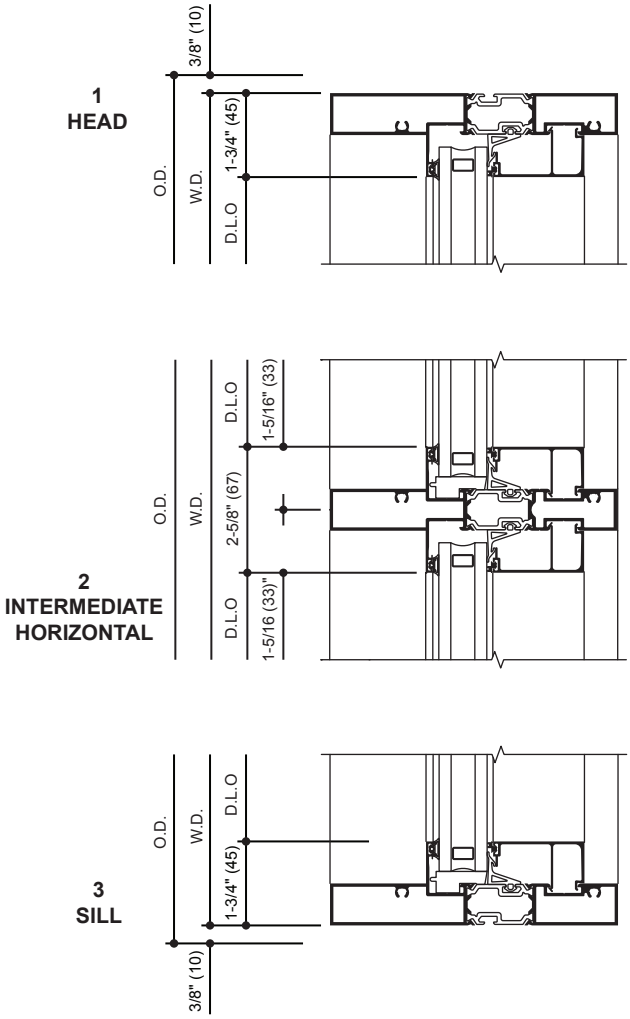


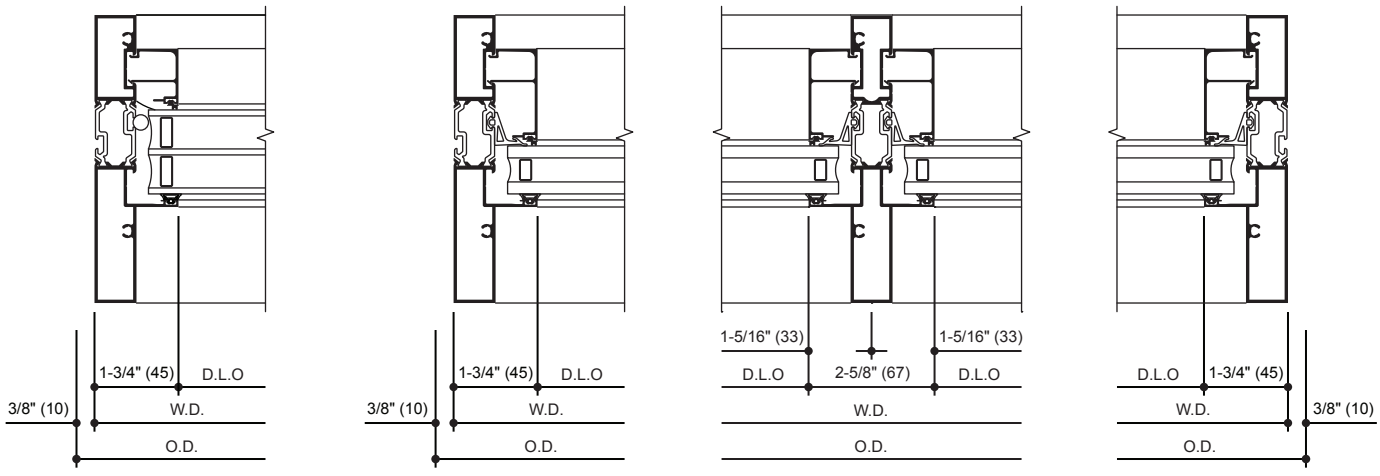
6
MULTI-MODULAR
COUPLING MULLION

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

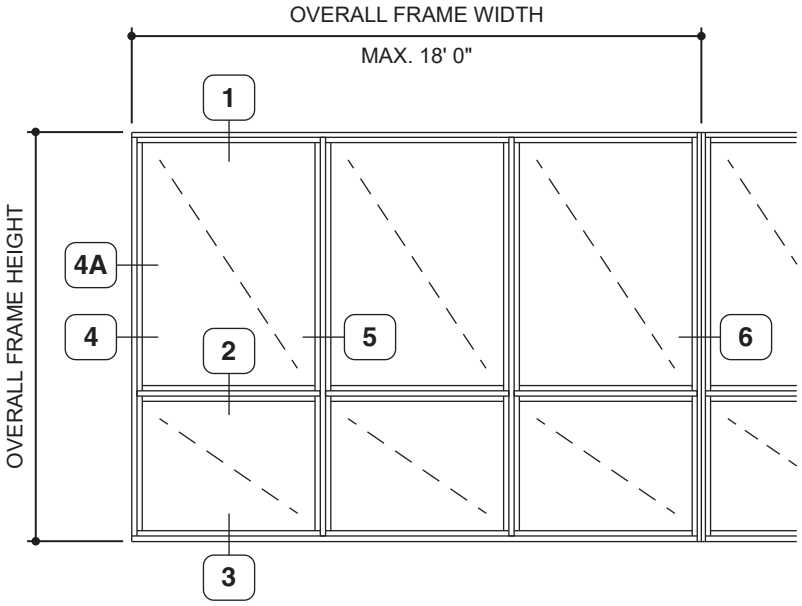


TYPICAL ELEVATION
Log onto www.kawneer.com for other configurations

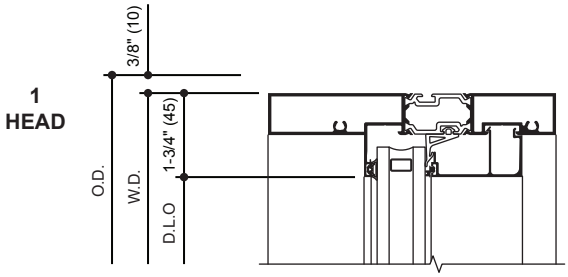


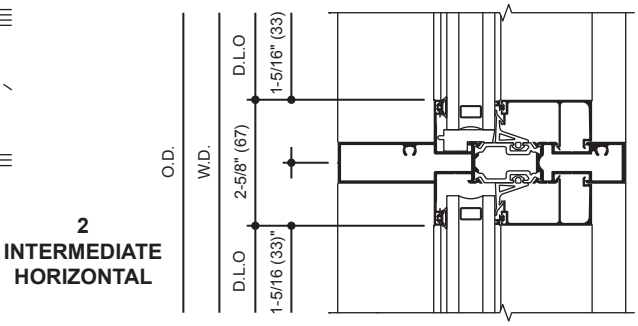


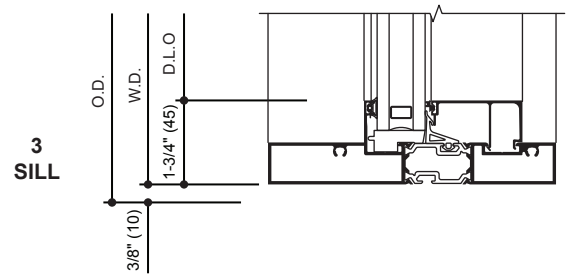
Additional information and CAD details are available at www.kawneer.com

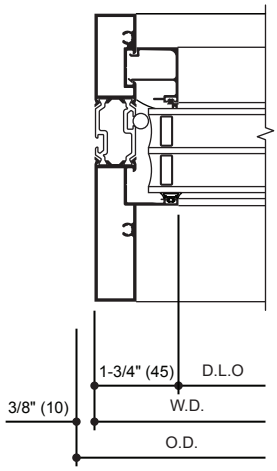


TYPICAL ELEVATION
Log onto www.kawneer.com for other configurations

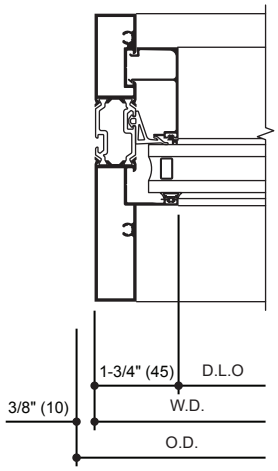




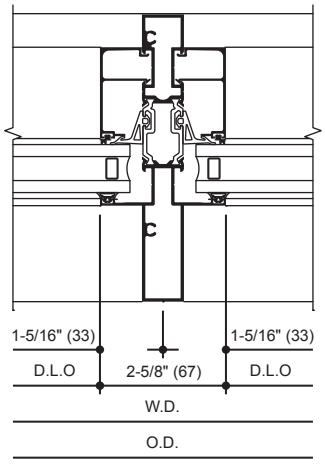




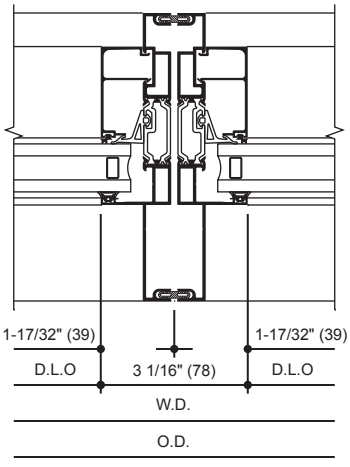
4A JAMB



4 JAMB



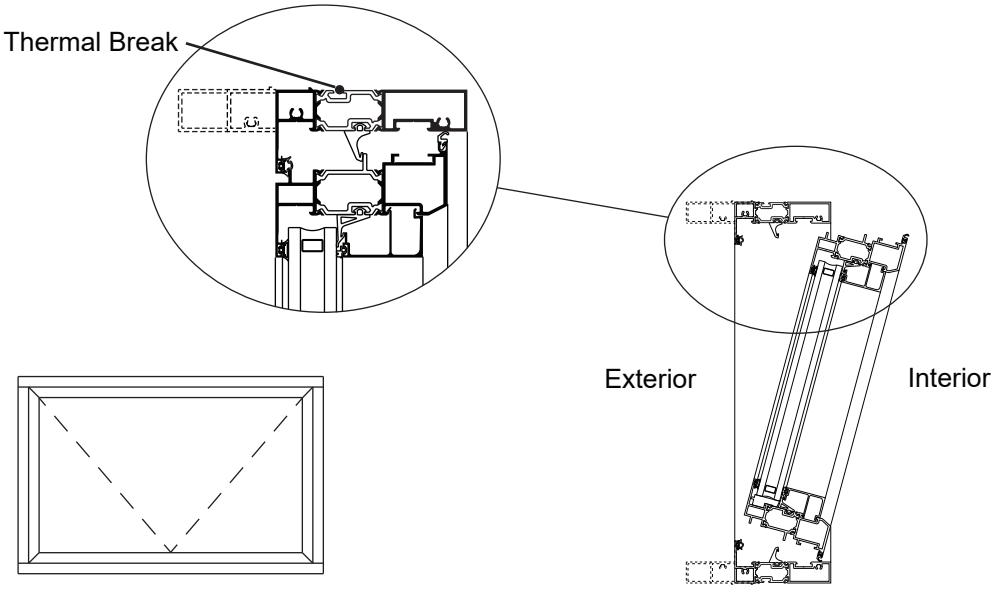
5 TUBULAR MULLION



6 MULTI-MODULAR COUPLING MULLION

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)
- 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

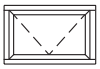


Project-in Window

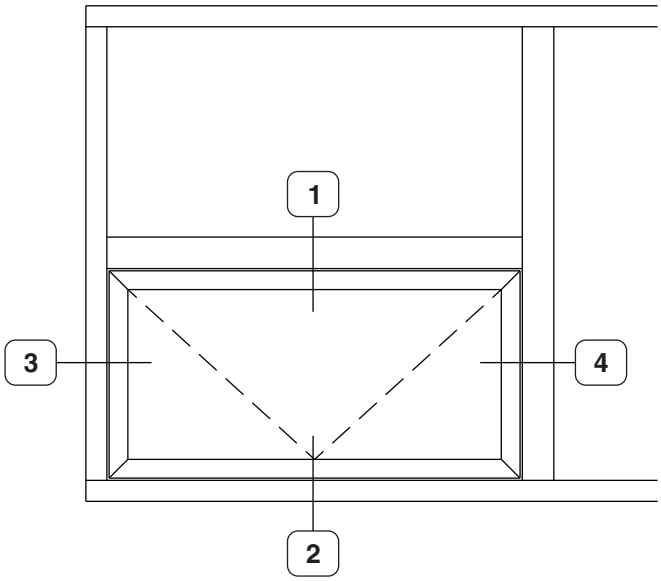
For specific product applications,
consult your Kawneer representative.

AA®6400/6500/6600 Thermal Window

PROJECT-IN WINDOW

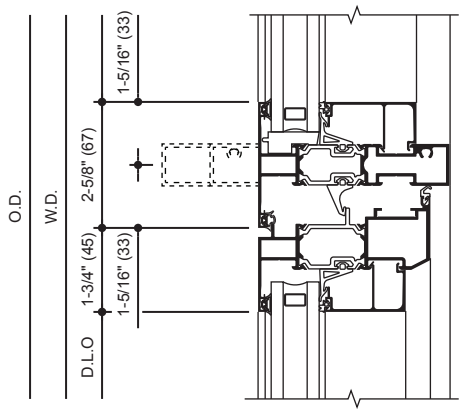
CLASS and GRADE	Architectural Window Grade AW-PG70-AP (1" infill) 
TESTING STANDARD	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)
FIXED FRAMING DEPTH	4" (AA®6400), 5" (AA®6500), or 6" (AA®6600)
VENT DEPTH	3-9/16"
TYPICAL WALL THICKNESS	.070" Nominal Frame / .070" Nominal Vent
TYPICAL MAX. SIZE (Sizes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

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

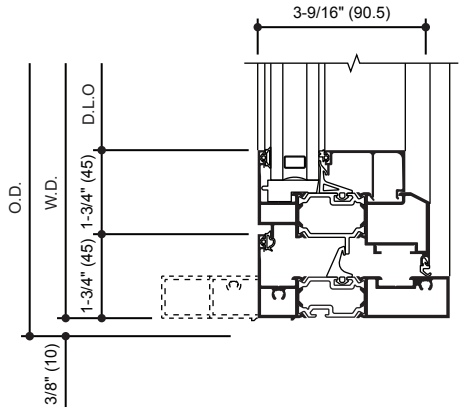


TYPICAL ELEVATION
Log onto www.kawneer.com for other configurations

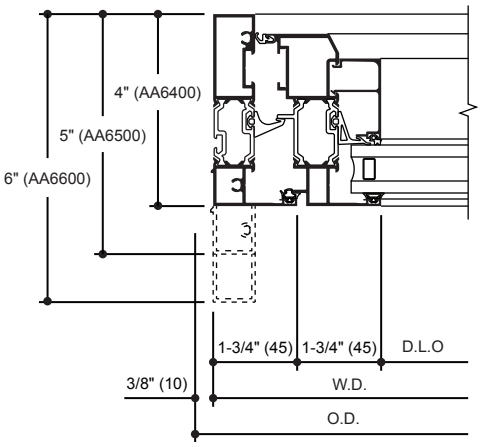
AA®6400 details shown, AA®6500 and AA®6600 shown dotted in.



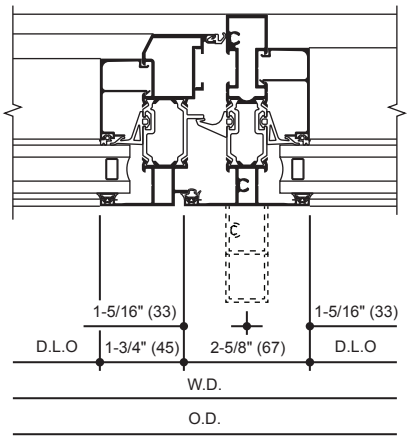
1
VENT
HEAD



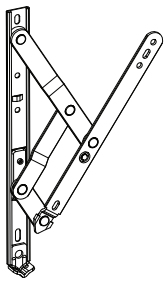
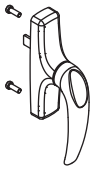
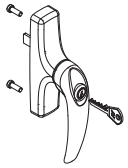
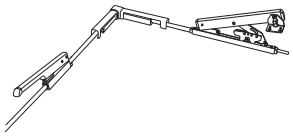
2
VENT
SILL



3
VENT
JAMB

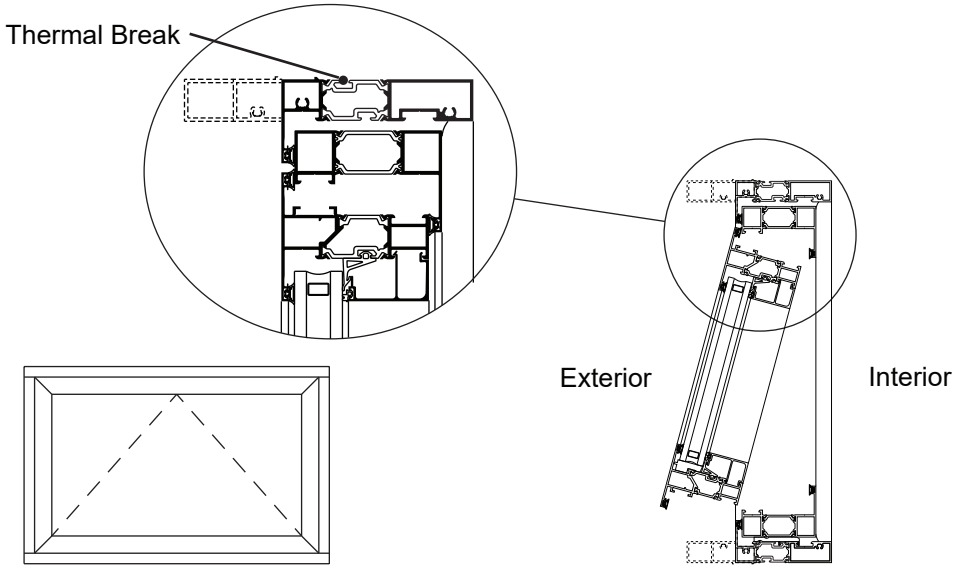


4
VENT
JAMB

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. Verify with application engineering project specific limit stop requirements based on window size.
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.

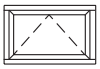
Features

- 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)
- 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

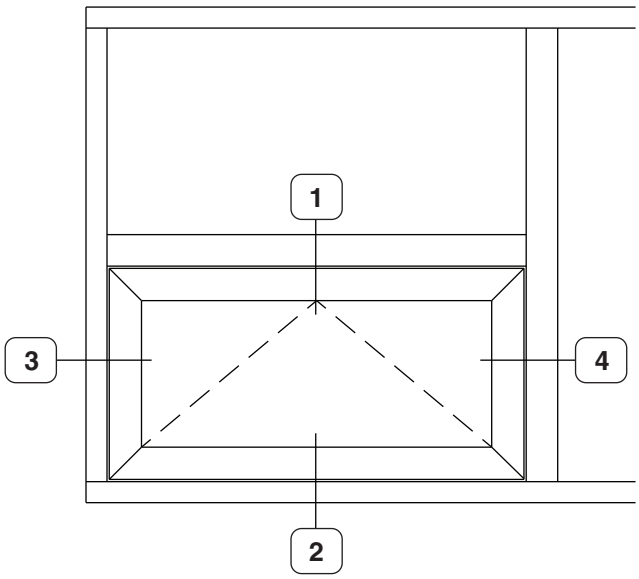


Project-out Window

For specific product applications,
consult your Kawneer representative.

CLASS and GRADE	Architectural Window Grade AW-PG70-AP (1" infill) 
TESTING STANDARD	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)
FIXED FRAMING DEPTH	4" (AA®6400), 5" (AA®6500), or 6" (AA®6600)
VENT / VENT FRAME DEPTH	3-3/8"
TYPICAL WALL THICKNESS	.070" Nominal Frame / .070" Nominal Vent
TYPICAL MAX. SIZE (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*
TYPICAL MIN. SIZE (Sizes are for fixed frame D.L.O.)	28" x 20"
INFILL OPTIONS	1"
STANDARD HARDWARE	Stainless Steel 4-Bar Hinges Dual Handle Multi-Point Locking Pivot Shoe Roto (Verify with application engineering project specific limit stop requirements based on window size)
OPTIONAL HARDWARE	Dual Handle Multi-Point Locking - Keyed Cam Handles* Access Control Locks* Limit Stop (Verify with application engineering project specific limit stop requirements based on window size) Pole and Hanger
OTHER OPTIONS	Insect Screens (*Not available with Cam Handles or Access Control Locks)

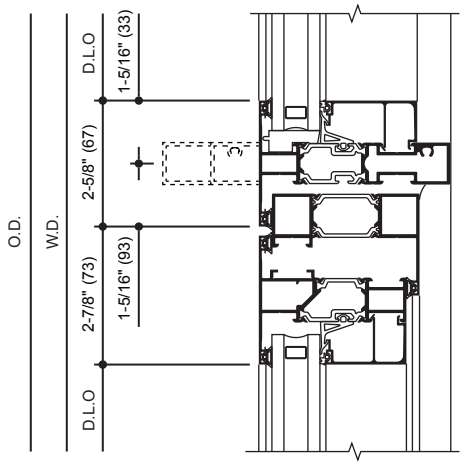
Additional information and CAD details are available at www.kawneer.com



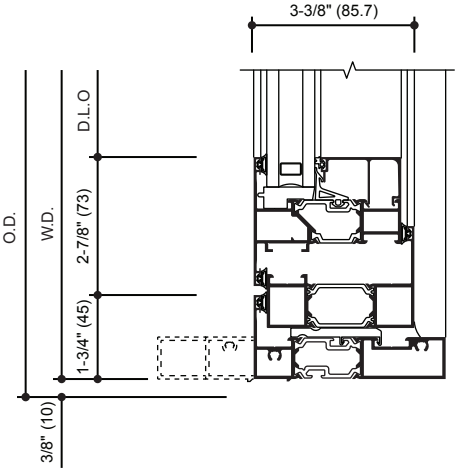
TYPICAL ELEVATION
Log onto www.kawneer.com for other configurations

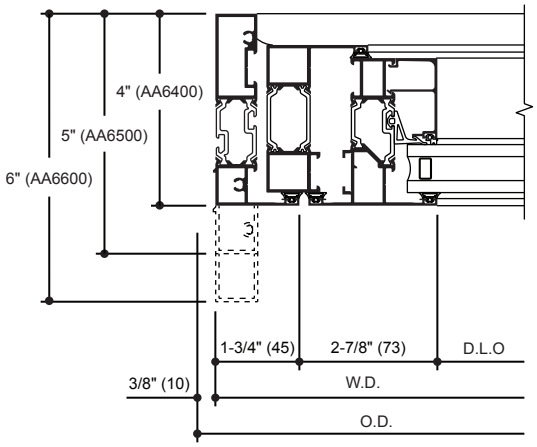
AA®6400 details shown, AA®6500 and AA®6600 shown dotted in.

1 VENT HEAD

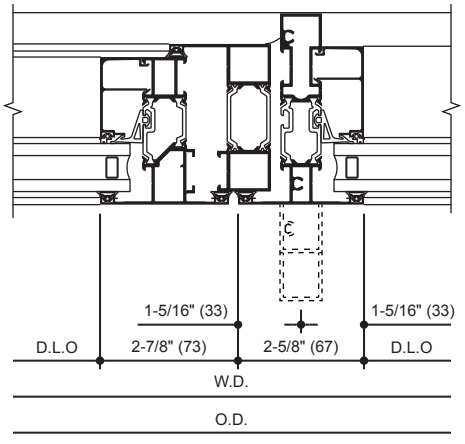


2 VENT SILL



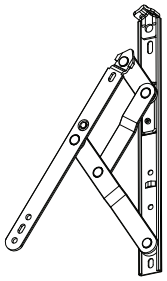


3 VENT JAMB



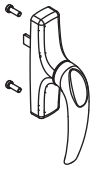
4 VENT JAMB

STAINLESS STEEL 4 BAR HINGES



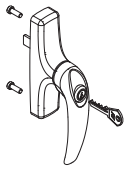
A standard hinge for ventilators providing a 4" opening to comply with child safety requirements. Verify with application engineering project specific limit stop requirements based on window size.

MULTI-POINT LOCKING



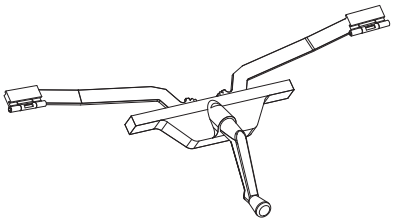
Single handle multi-point locking is standard providing any number of concealed EURO-Groove mounted locking points around the ventilator perimeter. Stylish handles are available in a silver painted finish.

MULTI-POINT LOCKING - KEYED



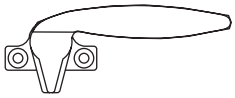
Single keyed handle multi-point locking providing any number of concealed EURO-Groove mounted locking points around the ventilator perimeter. Stylish handles are available in a silver painted finish.

PIVOT-SHOE ROTO-OPERATOR



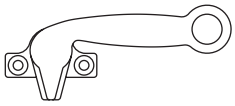
Pivot shoe roto operator is located on the center line of the bottom horizontal frame. Standard finish shall be painted silver. Verify with application engineering project specific limit stop requirements based on window size.

STANDARD CAM HANDLE



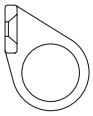
Cast white bronze cam handles are standard for the manual operation and locking of ventilators.

CAM HANDLE WITH POLE RING



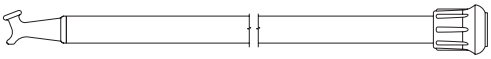
Cast white bronze cam handles with pole ring provide manual operation of ventilators located above reach. These handles are operated with a sash pole.

POLE RING



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

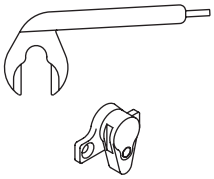
SASH POLE



HANGER FOR 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.

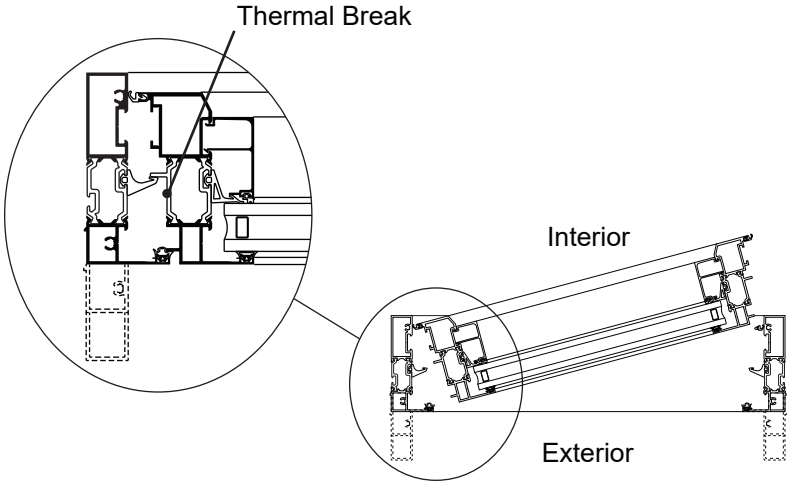
ACCESS CONTROL LOCK

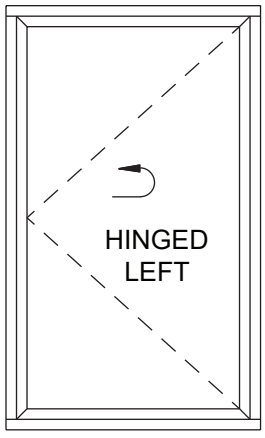


In lieu of cam handles cast white bronze access control locks are offered for managed control of vent operations. Lock is operated with a manganese bronze removable handle.

Features

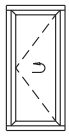
- Architectural Grade Commercial Window
- Tested to US and Canadian Standards
- Polyamide Thermal Break
- Accentuated Tubular Profiles
- Field Dry Glazed
  - 1" dual glazing (RSPE with gasket)
  - 1-3/4" triple glazing (RSPE with silicone heel bead)
- Adjustable EURO-Groove Mounted Hardware
- Single 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



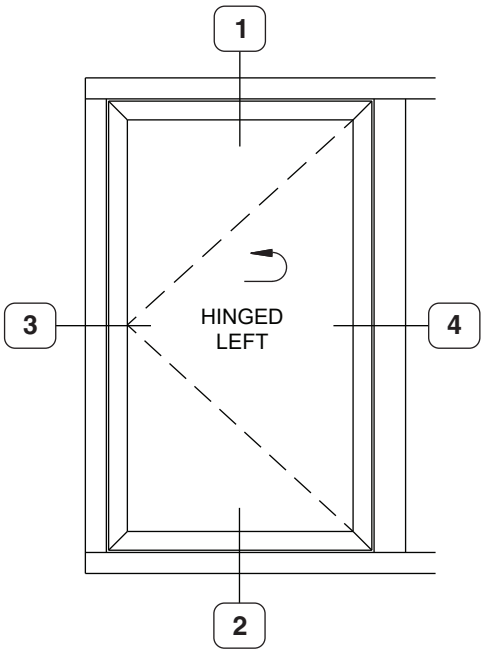


Inswing Casement Window

For specific product applications,
consult your Kawneer representative.

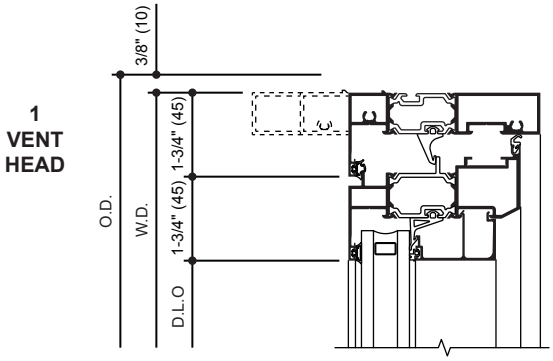
CLASS and GRADE	Architectural Window Grade AW-PG70-C (1" infill) Architectural Window Grade AW-PG45-C (1-3/4" infill) 
TESTING STANDARD	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)
FRAME DEPTH	4" (AA®6400), 5" (AA®6500), or 6" (AA®6600)
VENT DEPTH	3-9/16"
TYPICAL WALL THICKNESS	.070" Nominal Frame / .070" Nominal Vent
TYPICAL MAX. SIZE (Sizes are for fixed frame D.L.O.)	36" x 60"
TYPICAL MIN. SIZE (Sizes are for fixed frame D.L.O.)	22" x 22"
INFILL OPTIONS	1" or 1-3/4"
STANDARD HARDWARE	Stainless Steel 4-Bar Hinges Single Handle Multi-Point Locking
OPTIONAL HARDWARE	Single Keyed Handle Multi-Point Locking Limit Stop (Verify with application engineering project specific limit stop requirements based on window size)
OTHER OPTIONS	Insect Screens

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

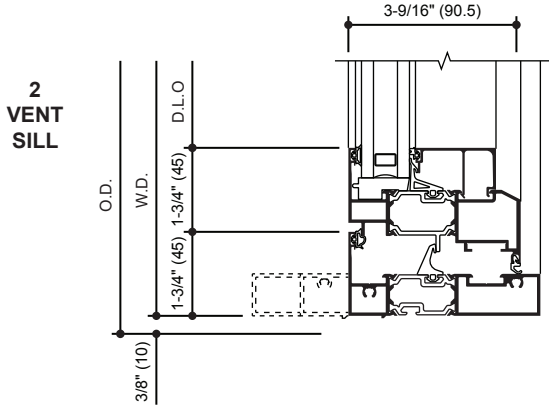


TYPICAL ELEVATION
Log onto www.kawneer.com for other configurations

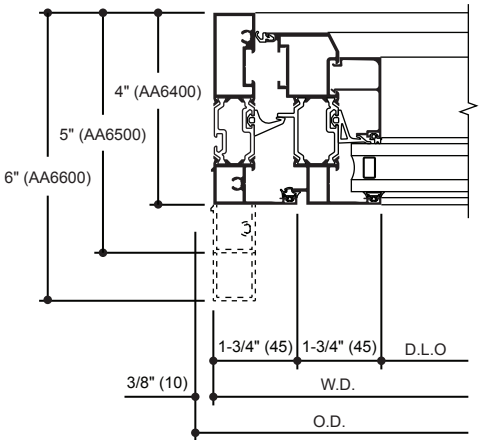
AA®6400 details shown, AA®6500 and AA®6600 shown dotted in.



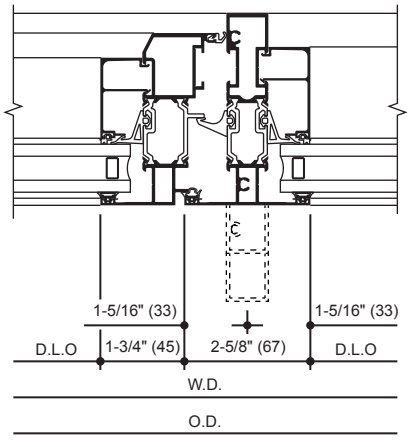
1 VENT HEAD



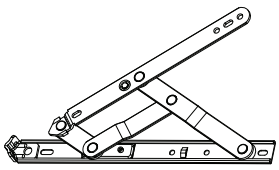
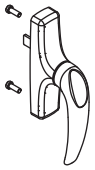
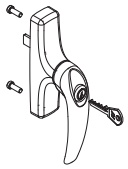
2 VENT SILL



3 VENT JAMB

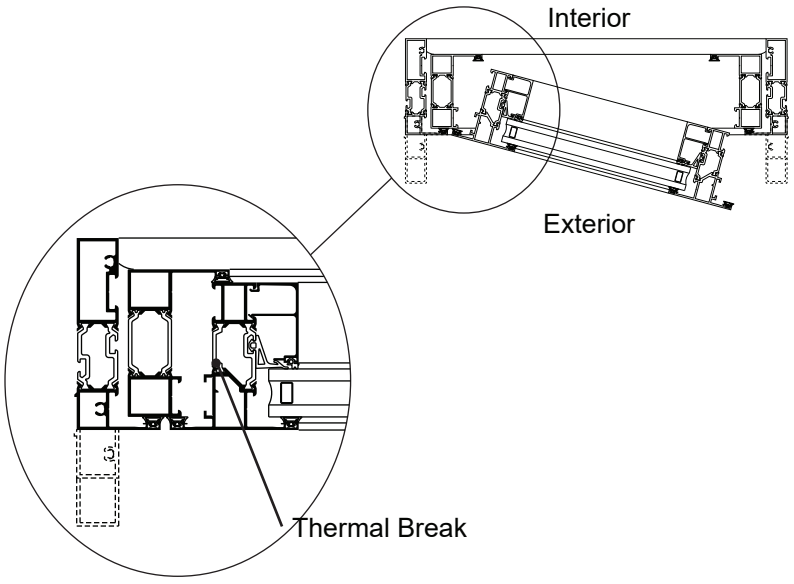


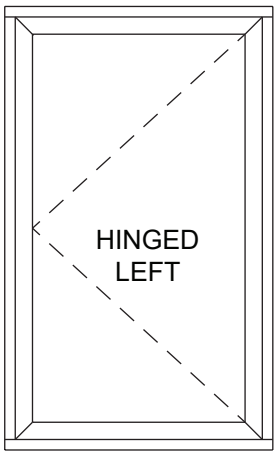
4 VENT JAMB

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. Verify with application engineering project specific limit stop requirements based on window size.
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.

Features

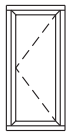
- Architectural Grade Commercial Window
- Tested to US and Canadian Standards
- Polyamide Thermal Break
- Accentuated Tubular Profiles
- Field Dry Glazed
  - 1" dual glazing (RSPE with gasket)
- Adjustable EURO-Groove Mounted Hardware
- Single Handle Multi-Point Locking
- Interior Applied Glazing Bead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



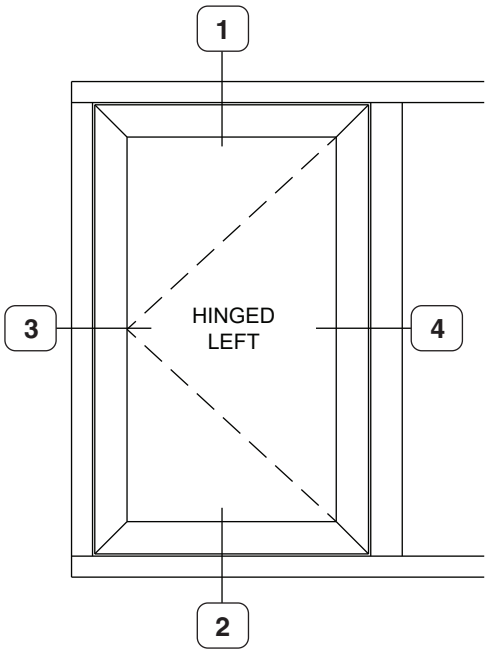


Outswing Casement Window

For specific product applications,
consult your Kawneer representative.

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

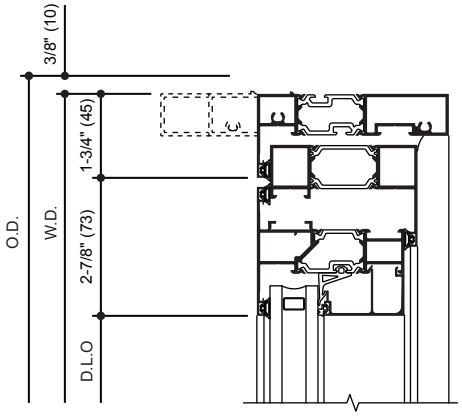
Additional information and CAD details are available at www.kawneer.com



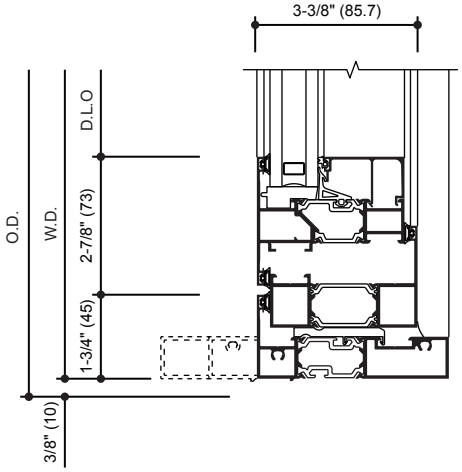
TYPICAL ELEVATION
Log onto www.kawneer.com for other configurations

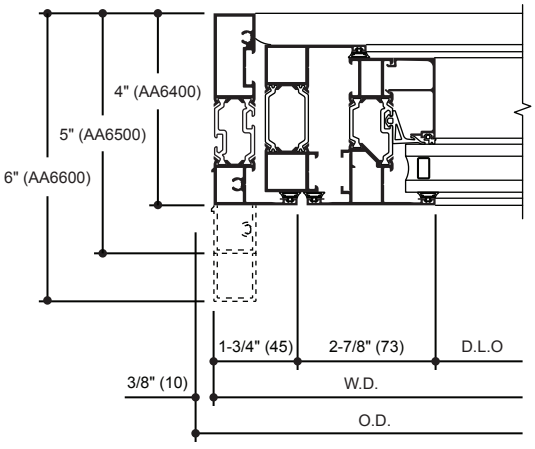
AA®6400 details shown, AA®6500 and AA®6600 shown dotted in.

1 VENT HEAD

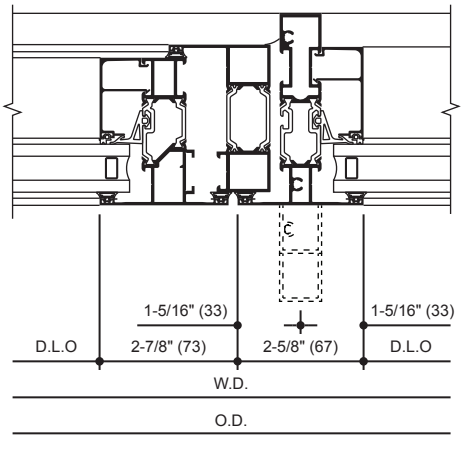


2 VENT SILL

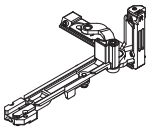
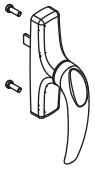
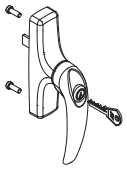
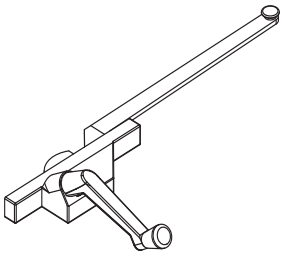
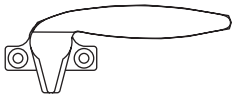
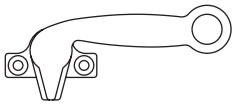
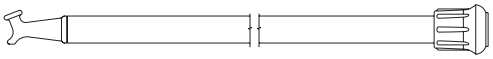
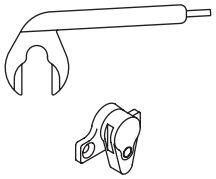
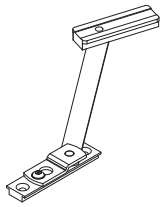




3 VENT JAMB

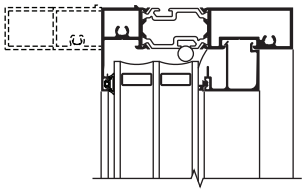


4 VENT JAMB

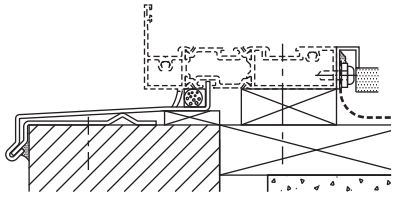
CONCEALED HINGES		A standard hinge for outswing ventilators.
MULTI-POINT LOCKING		Single handle multi-point locking is standard providing any number of concealed EURO-Groove mounted locking points around the ventilator perimeter. Stylish handles are available in a silver painted finish.
MULTI-POINT LOCKING - 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. Verify with application engineering project specific limit stop requirements based on window size.
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. Verify with application engineering project specific limit stop requirements based on window size.

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

TRIPLE GLAZED HEAD

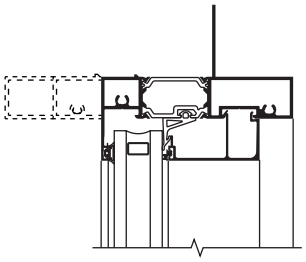


ANCHORS

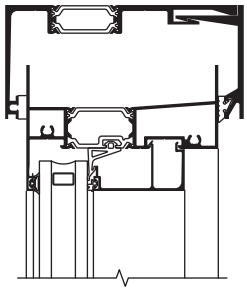


TYPICAL SILL EXTENSION

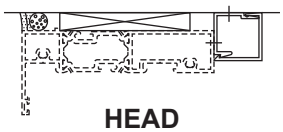
FLANGE LEG FRAME



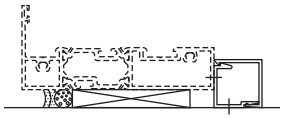
HEAD RECEPTOR
(INTERIOR INSTALLED)



TRIM DETAILS

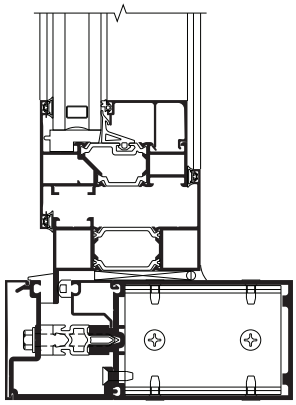


HEAD

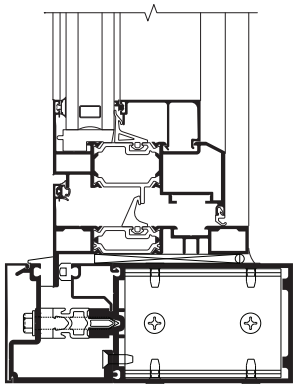


SILL

CURTAIN WALL ADAPTERS



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



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

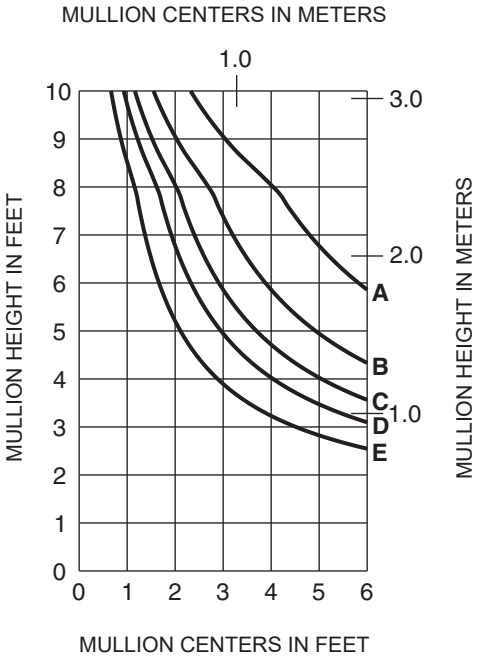
WIND LOAD CHARTS

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.

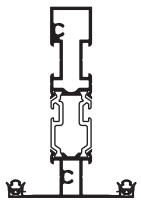
DEADLOAD CHARTS

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.

	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 (3360)	117 PSF (5600)

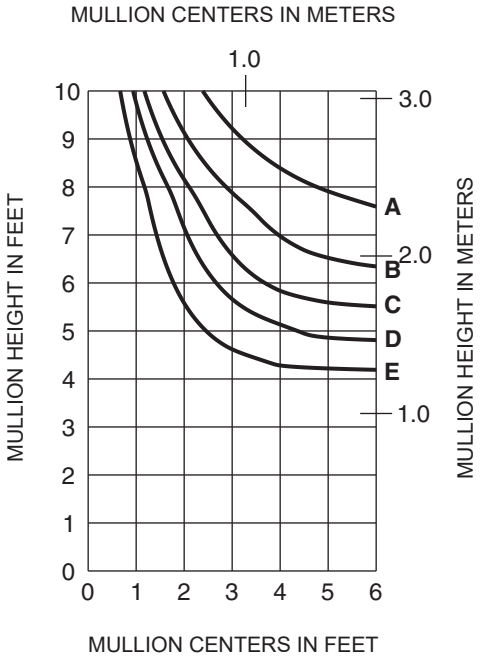


UNITS WITH HORIZONTALS

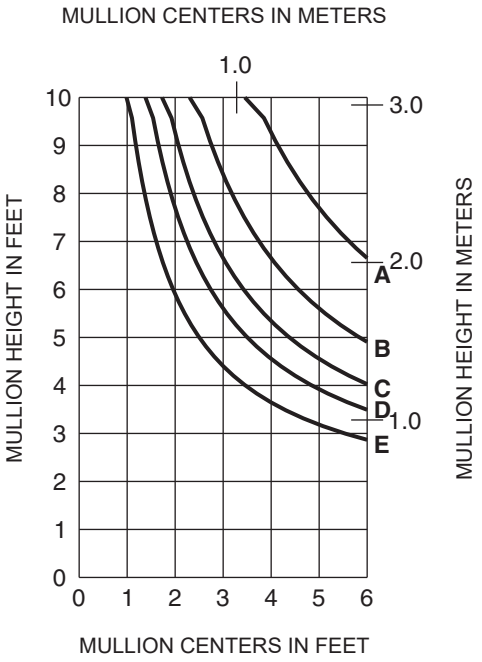


423505

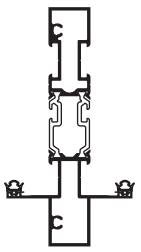
WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505



UNITS WITHOUT HORIZONTALS

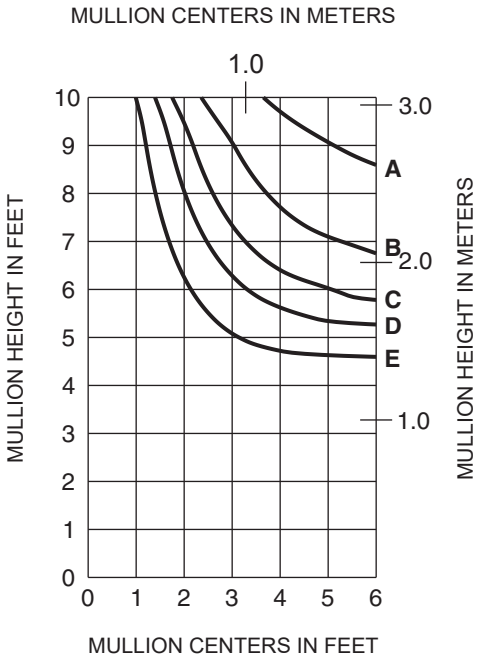


UNITS WITH HORIZONTALS



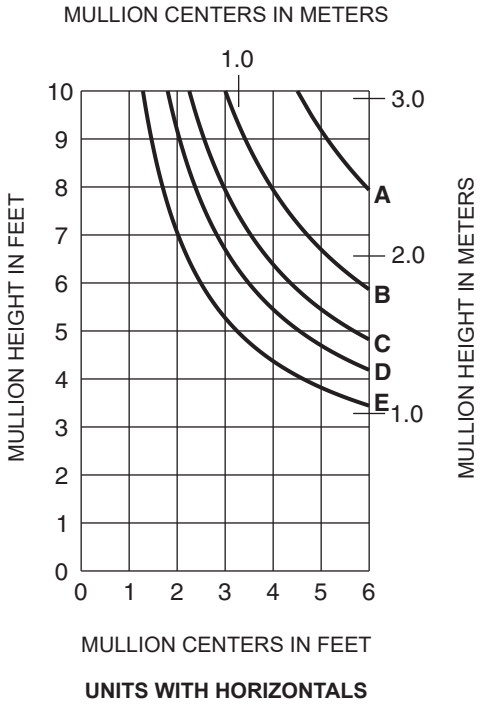
423513

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

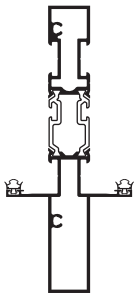


UNITS WITHOUT HORIZONTALS

	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 (3360)	117 PSF (5600)

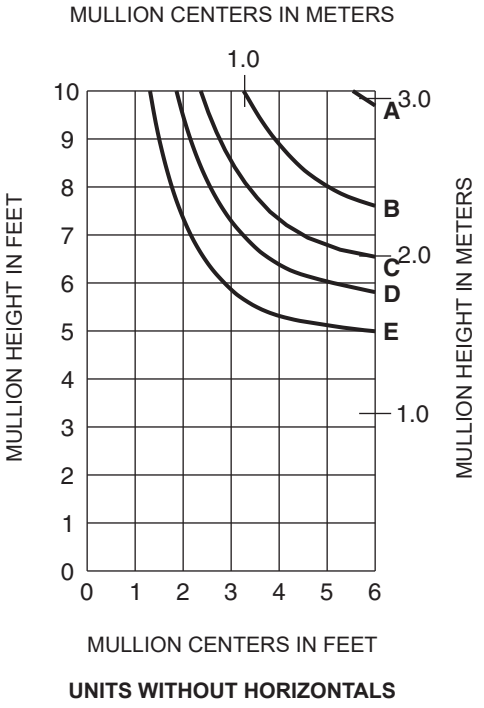


UNITS WITH HORIZONTALS



423522

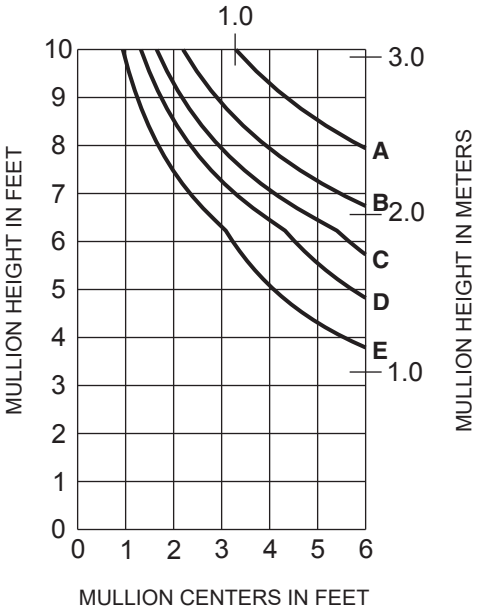
WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505



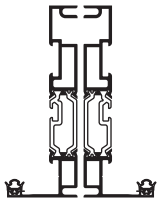
UNITS WITHOUT HORIZONTALS

	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 (3360)	117 PSF (5600)

MULLION CENTERS IN METERS



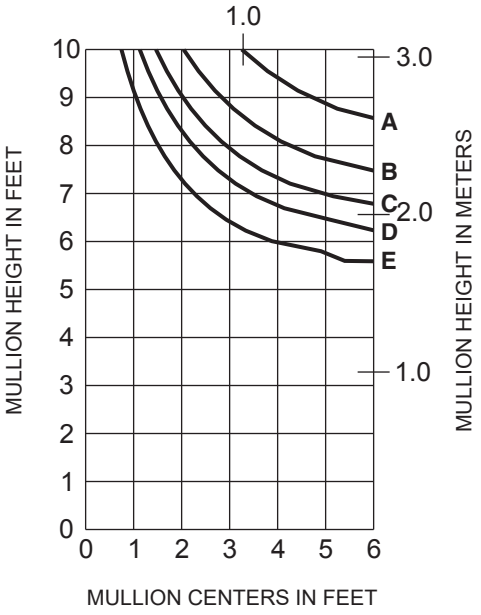
UNITS WITH HORIZONTALS



423504

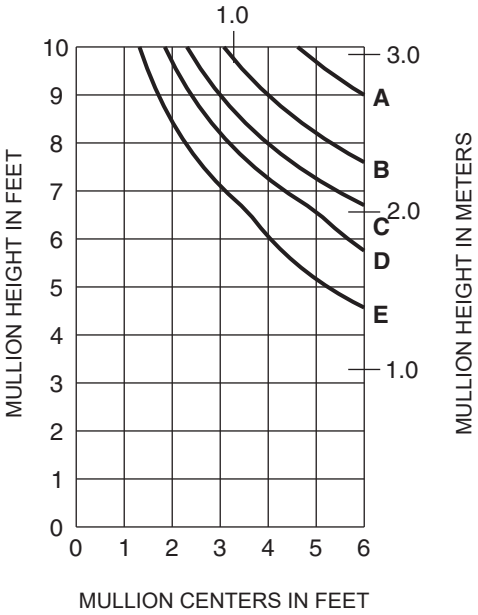
WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505

MULLION CENTERS IN METERS

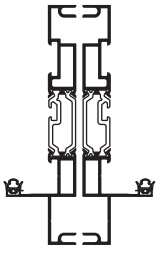


UNITS WITHOUT HORIZONTALS

MULLION CENTERS IN METERS



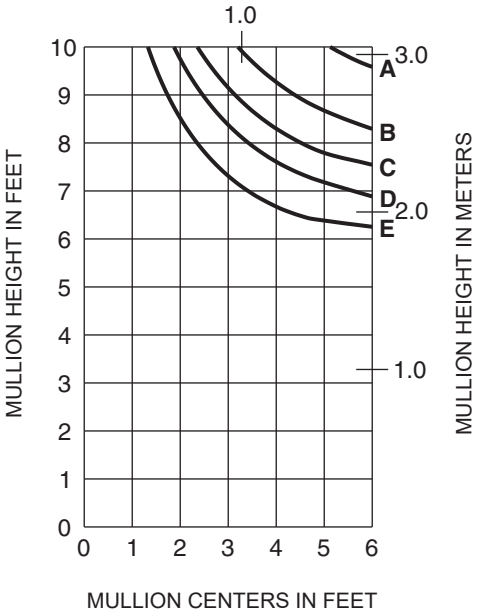
UNITS WITH HORIZONTALS



423514

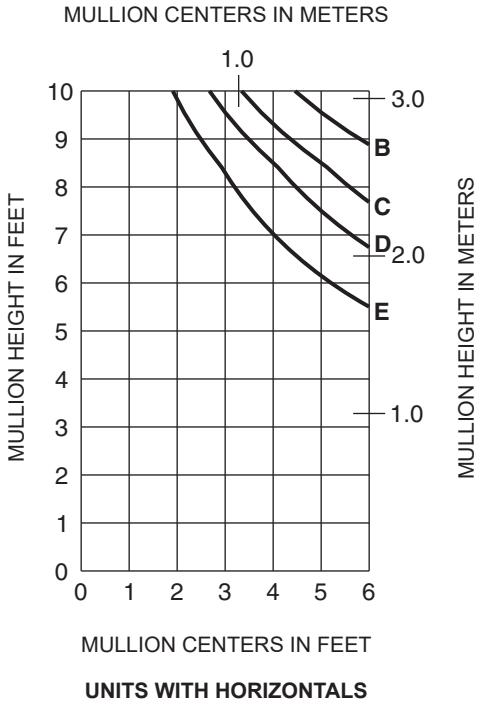
WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505

MULLION CENTERS IN METERS

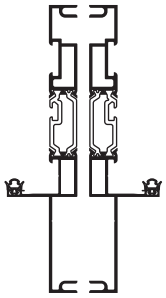


UNITS WITHOUT HORIZONTALS

	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 (3360)	117 PSF (5600)

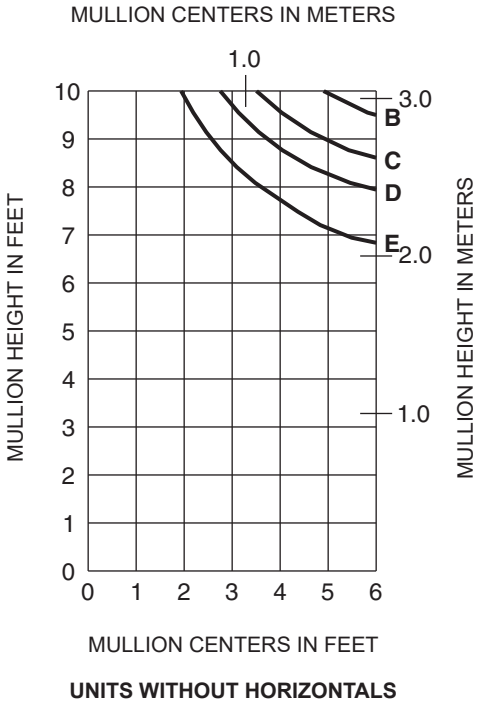


UNITS WITH HORIZONTALS

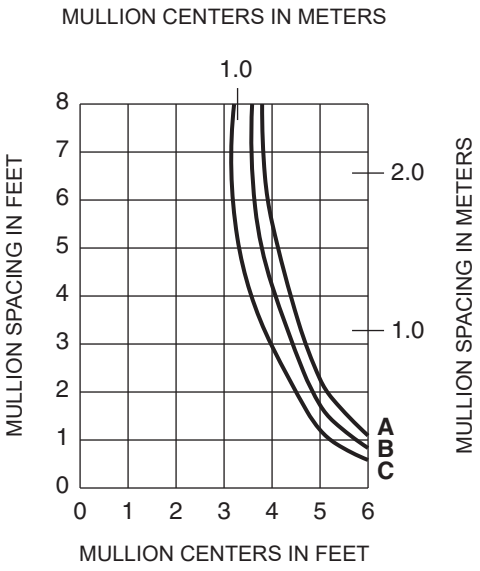


423523

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

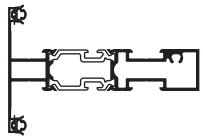


UNITS WITHOUT HORIZONTALS

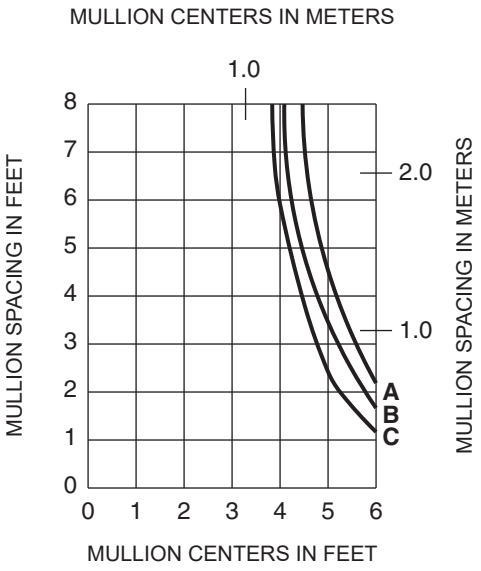


1/16" DEFLECTION (VENT)

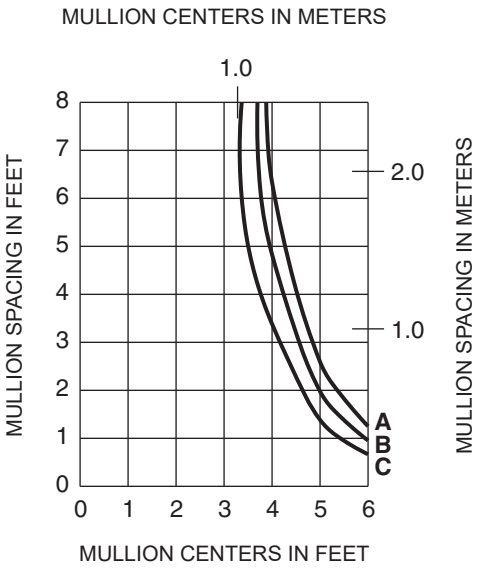
A = 1/8 POINT LOADING
B = 1/6 POINT LOADING
C = 1/4 POINT LOADING



423503

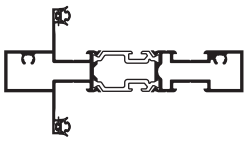


1/8" DEFLECTION (FIXED)

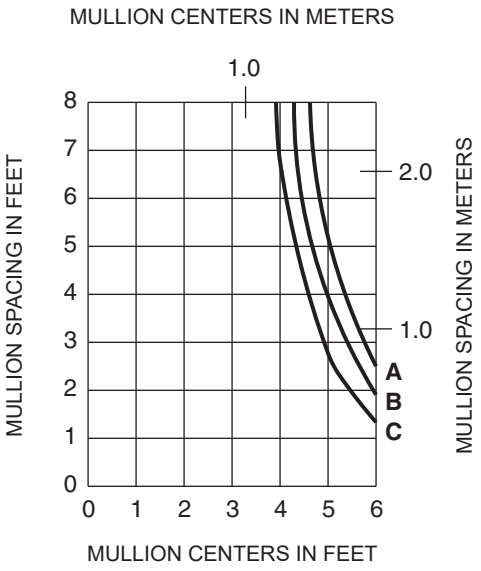


1/16" DEFLECTION (VENT)

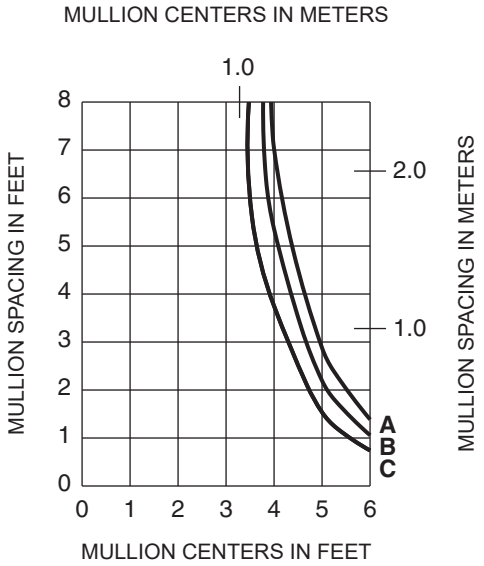
A = 1/8 POINT LOADING
B = 1/6 POINT LOADING
C = 1/4 POINT LOADING



423513

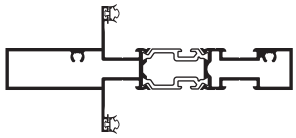


1/8" DEFLECTION (FIXED)

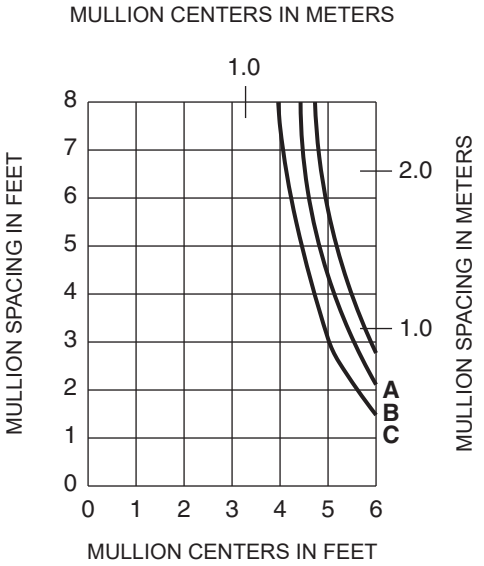


1/16" DEFLECTION (VENT)

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

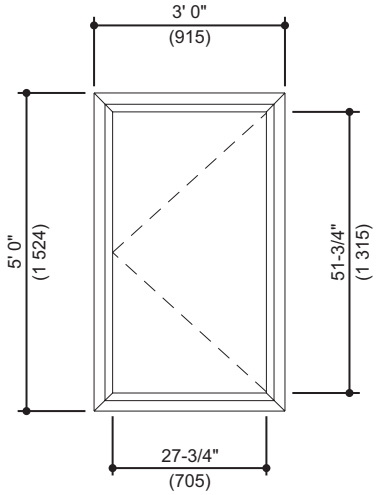


423522



1/8" DEFLECTION (FIXED)

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



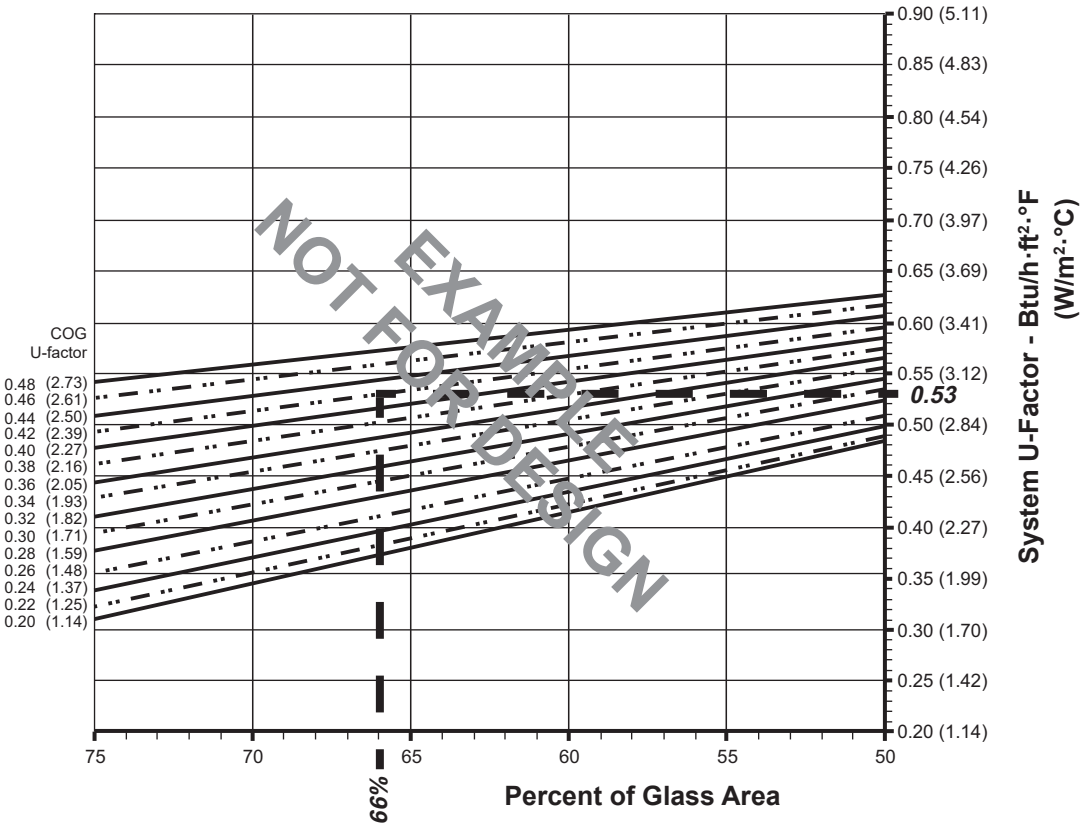
Example Glass U-Factor = 0.42 Btu/hr • ft² • °F

Total Daylight Opening = 27-3/4" • 51-3/4" = 9.97ft²

Total Projected Area = 3'-0" • 5'-0" = 15 ft²

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

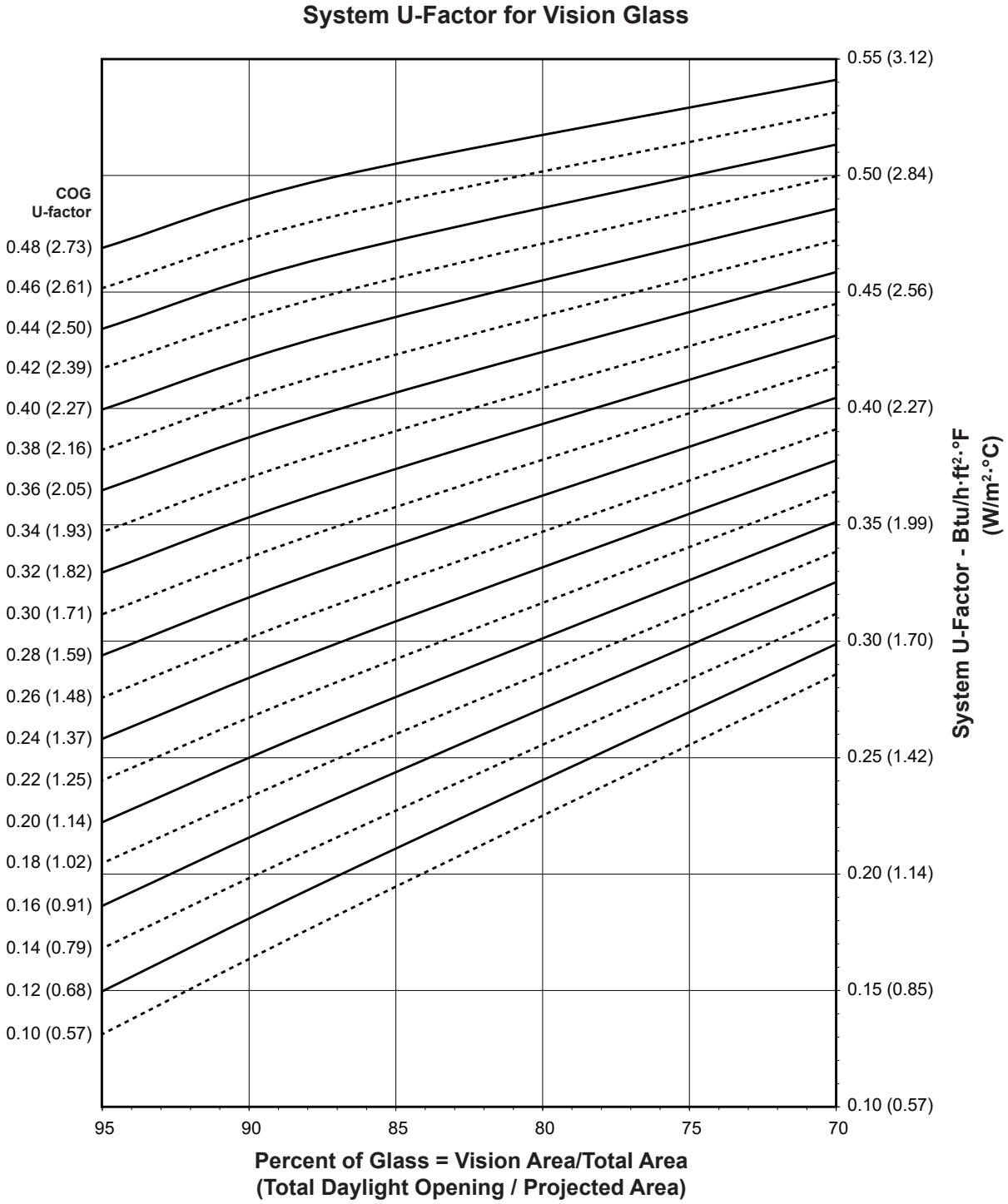
System U-factor vs Percent of Glass Area



Based on 66% glass and center of glass (COG) U-factor of 0.42
System U-factor is equal to 0.53 Btu/hr • ft² • °F

Fixed Window
1" Double Glazed - Warm-Edge Glazing Spacer

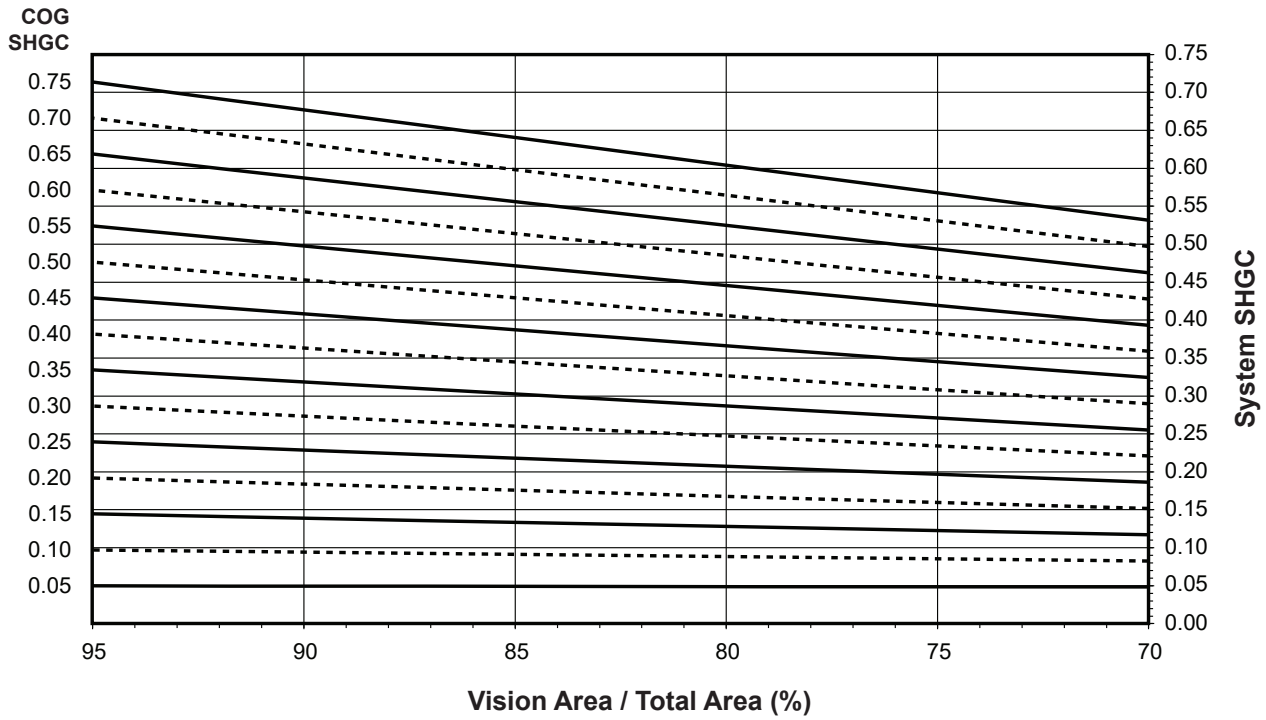
Note:
Values in parentheses are metric.
COG=Center of Glass.
Charts are generated per AAMA 507.



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.

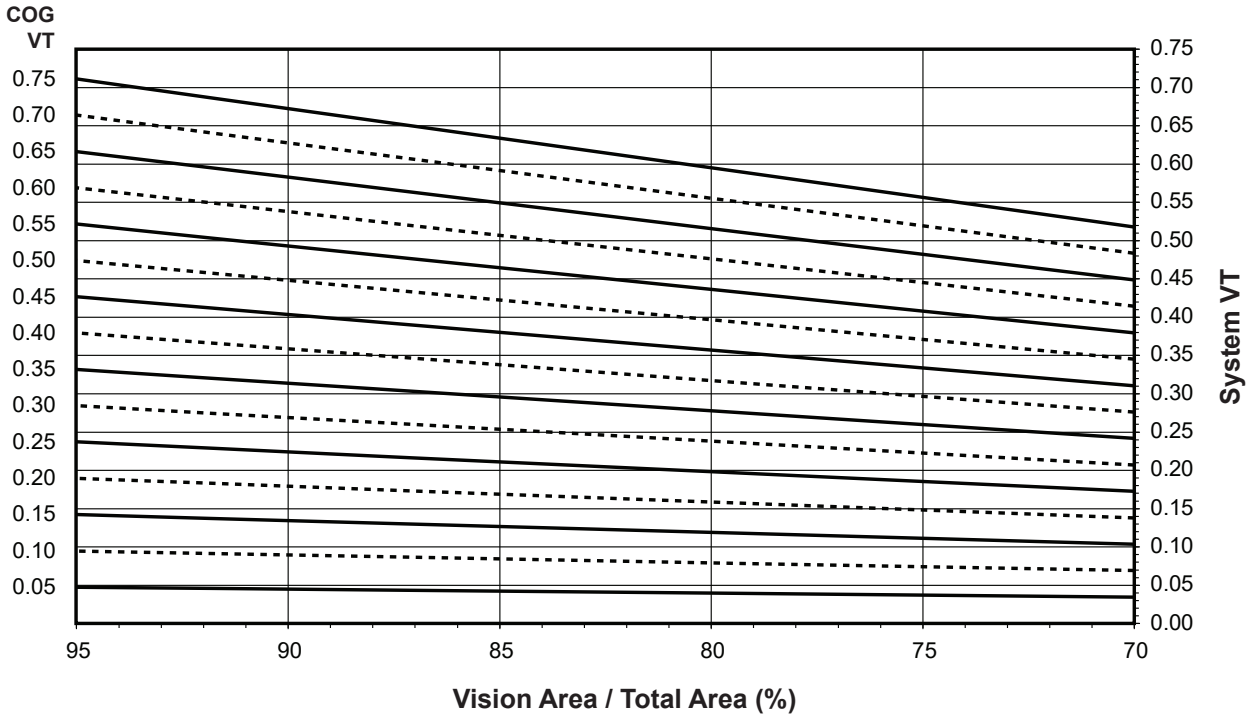
Fixed Window
1" Double Glazed - Warm-Edge Glazing Spacer

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.

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

Glass U-Factor [3]	Overall U-Factor [4]
0.48	0.50
0.46	0.48
0.44	0.47
0.42	0.45
0.40	0.43
0.38	0.42
0.36	0.40
0.34	0.38
0.32	0.37
0.30	0.35
0.28	0.33
0.26	0.32
0.24	0.30
0.22	0.28
0.20	0.27
0.18	0.25
0.16	0.23
0.14	0.22
0.12	0.20
0.10	0.18

Fixed Window
1" Double Glazed
Warm-Edge Glazing Spacer

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 [2]

Glass SHGC [3]	Overall SHGC [4]
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	0.14
0.10	0.09
0.05	0.05

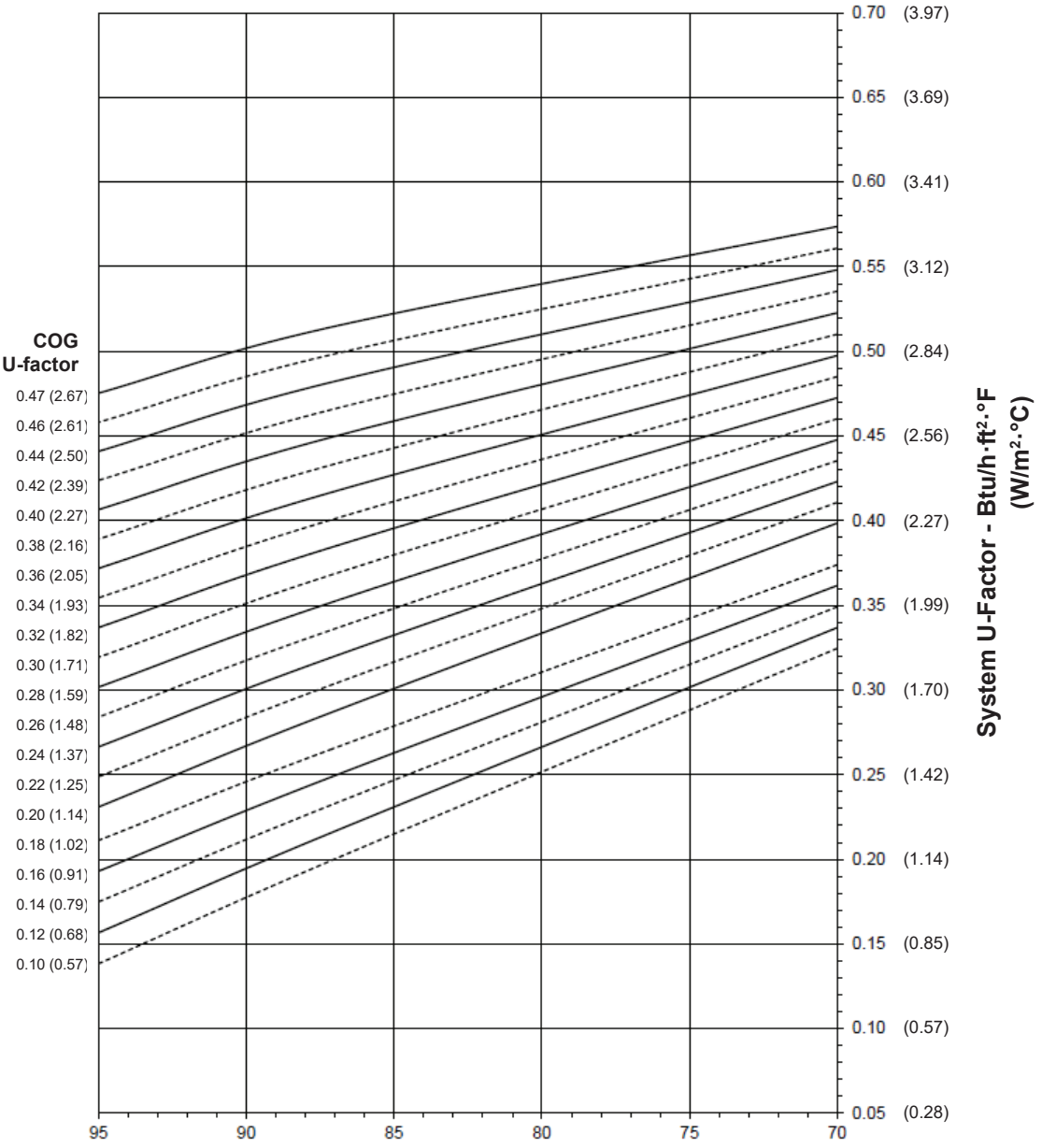
Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
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

Fixed Window
1" Double Glazed - Aluminum Glazing Spacer

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

System U-factor vs Percent of Glass Area

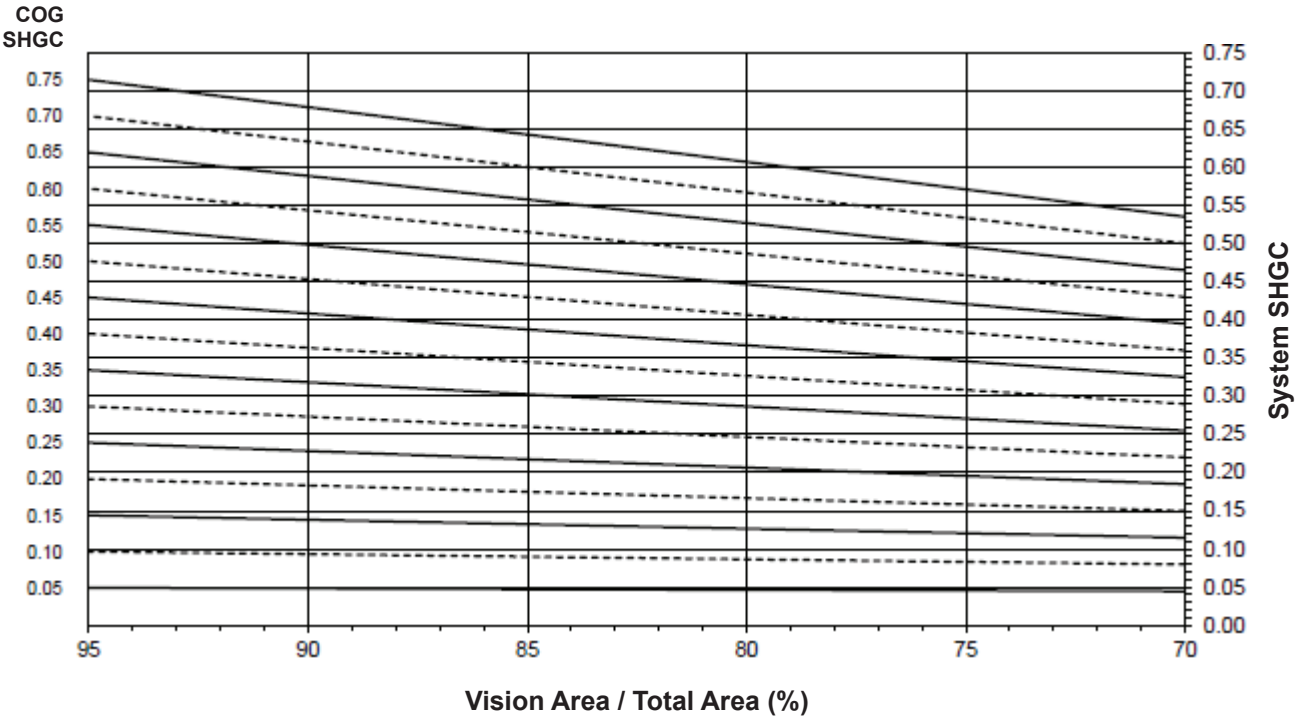


Percent of Glass Area = Vision Area/Total Area
Daylight Opening / Projected Area

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.

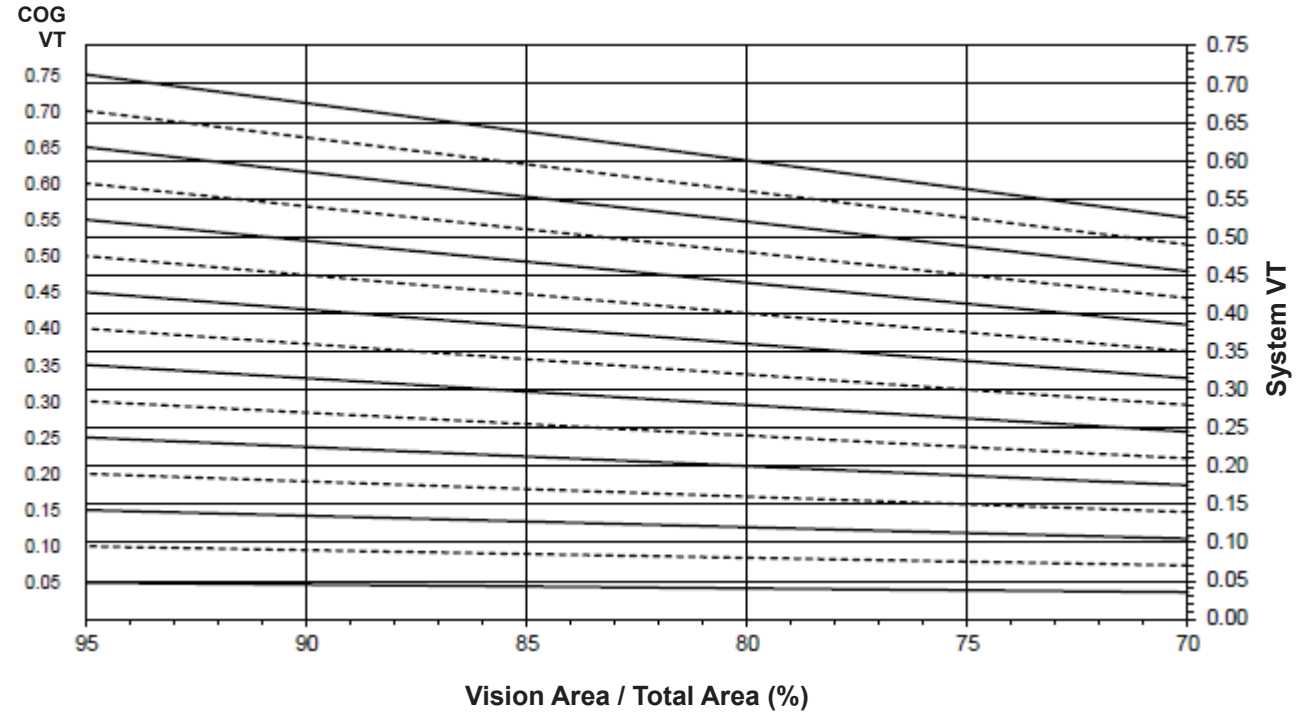
Fixed Window
1" Double Glazed - Aluminum Glazing Spacer

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.

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

Glass U-Factor [3]	Overall U-Factor [4]
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
1" Double Glazed
Aluminum Glazing Spacer

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 [2]

Glass SHGC [3]	Overall SHGC [4]
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

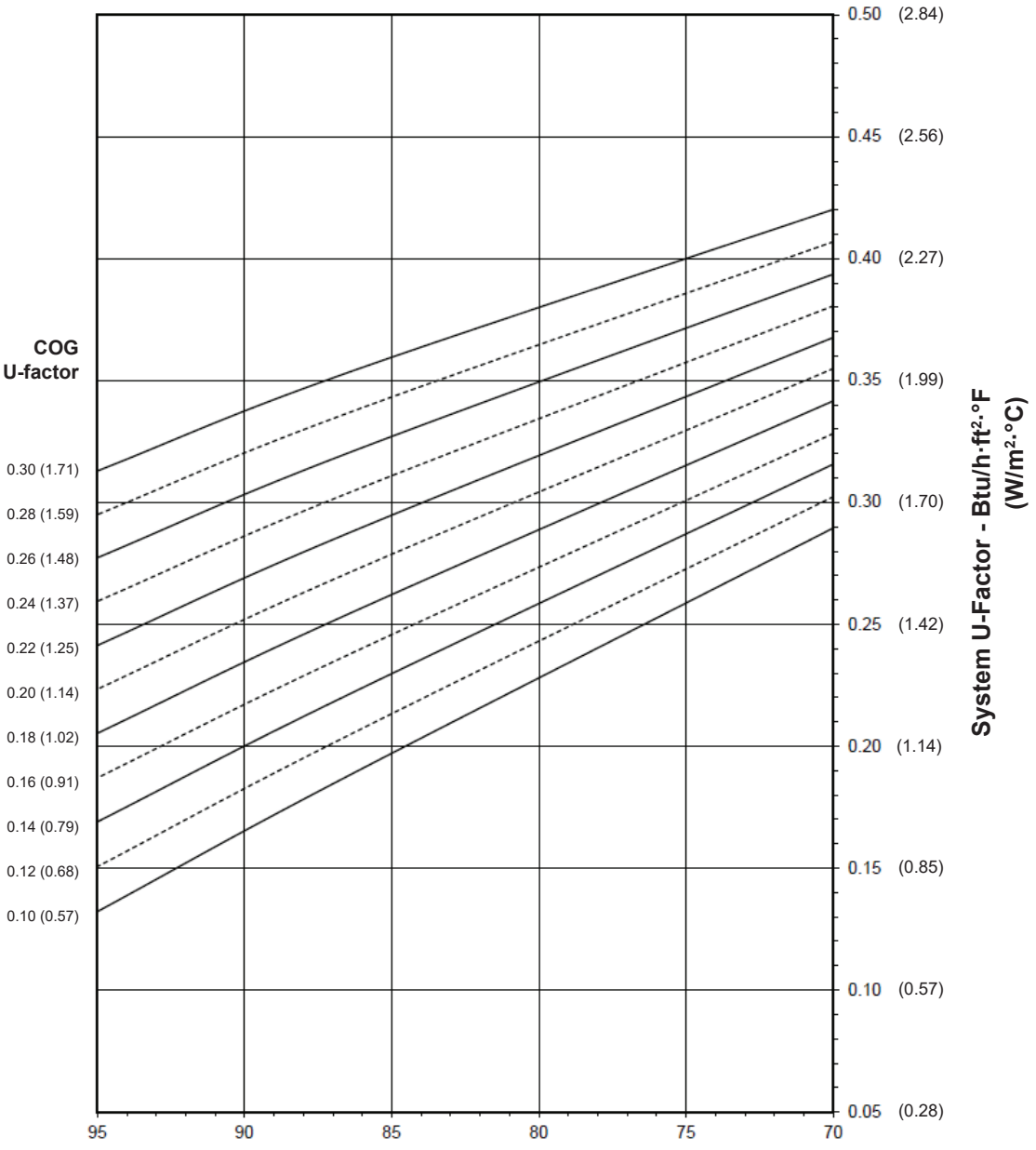
Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
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

Fixed Window
1-3/4" Triple Glazed - Aluminum Glazing Spacer

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

System U-factor vs Percent of Glass Area

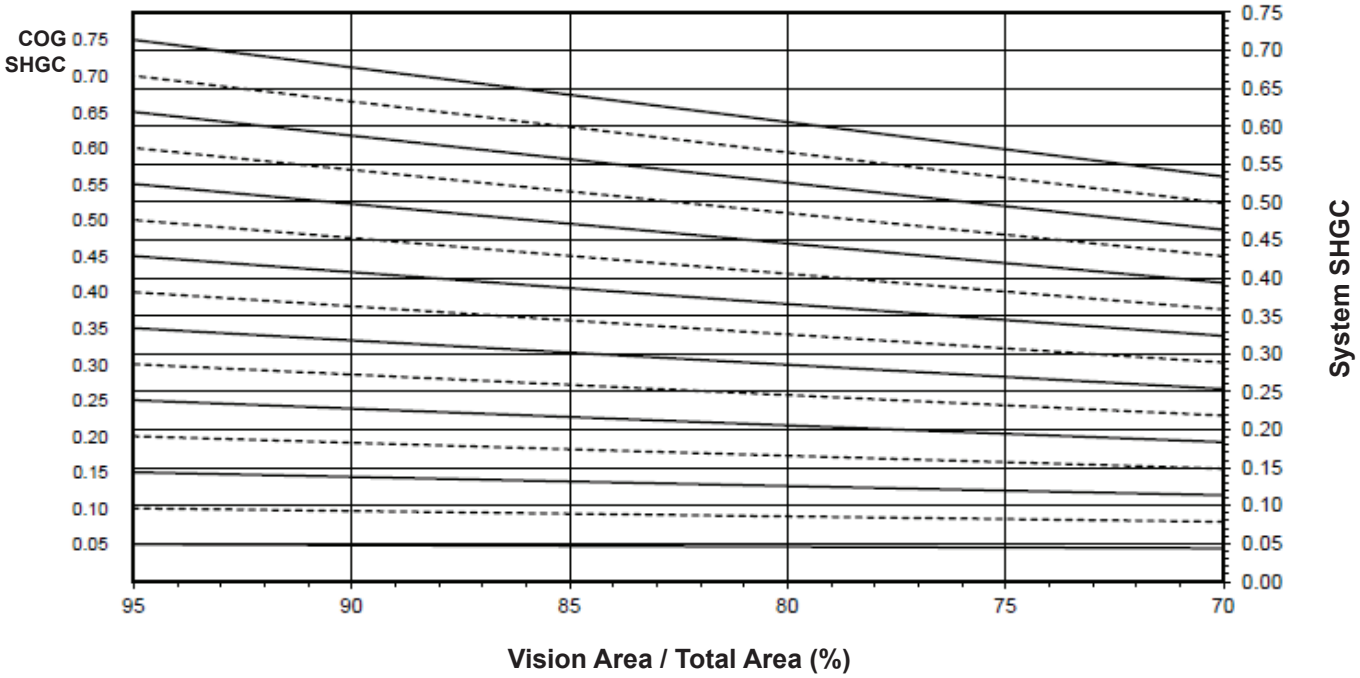


Percent of Glass Area = Vision Area/Total Area
Daylight Opening / Projected Area

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.

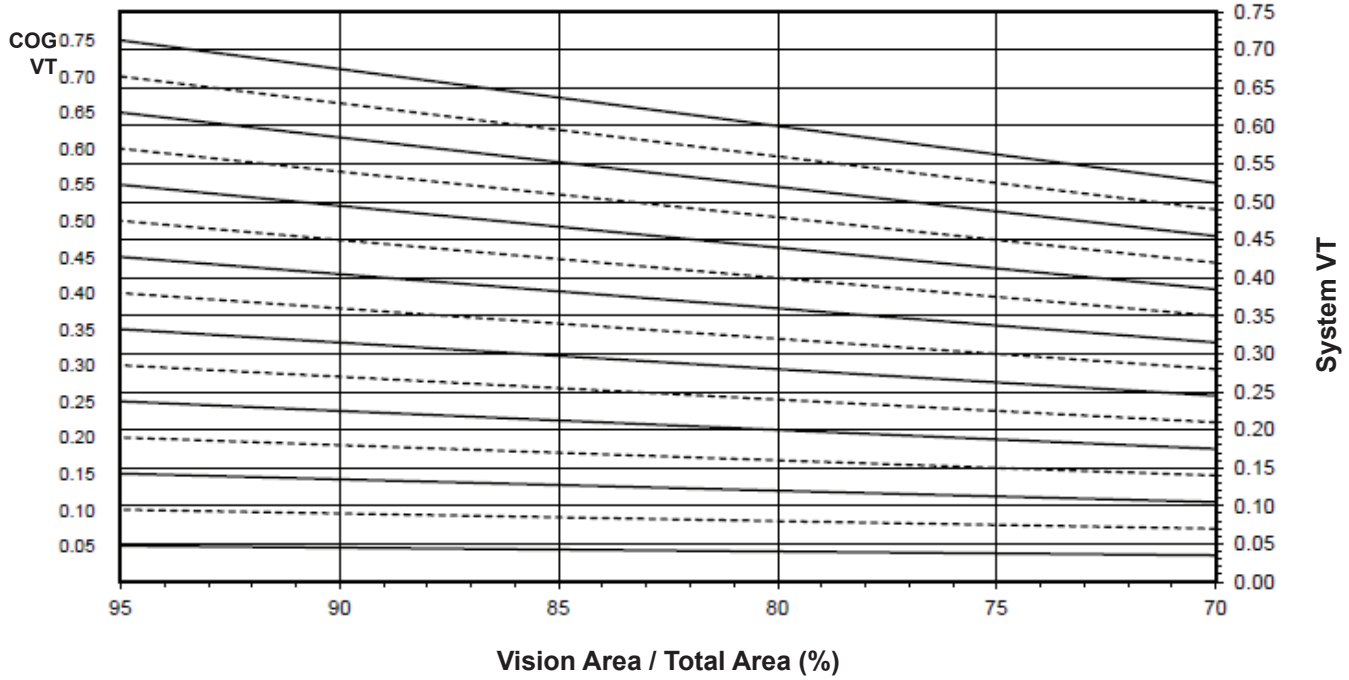
Fixed Window
1-3/4" Triple Glazed - Aluminum Glazing Spacer

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.

Fixed Window
1-3/4" Triple Glazed
Aluminum Glazing Spacer

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

Glass U-Factor [3]	Overall U-Factor [4]
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

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 [2]

Glass SHGC [3]	Overall SHGC [4]
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

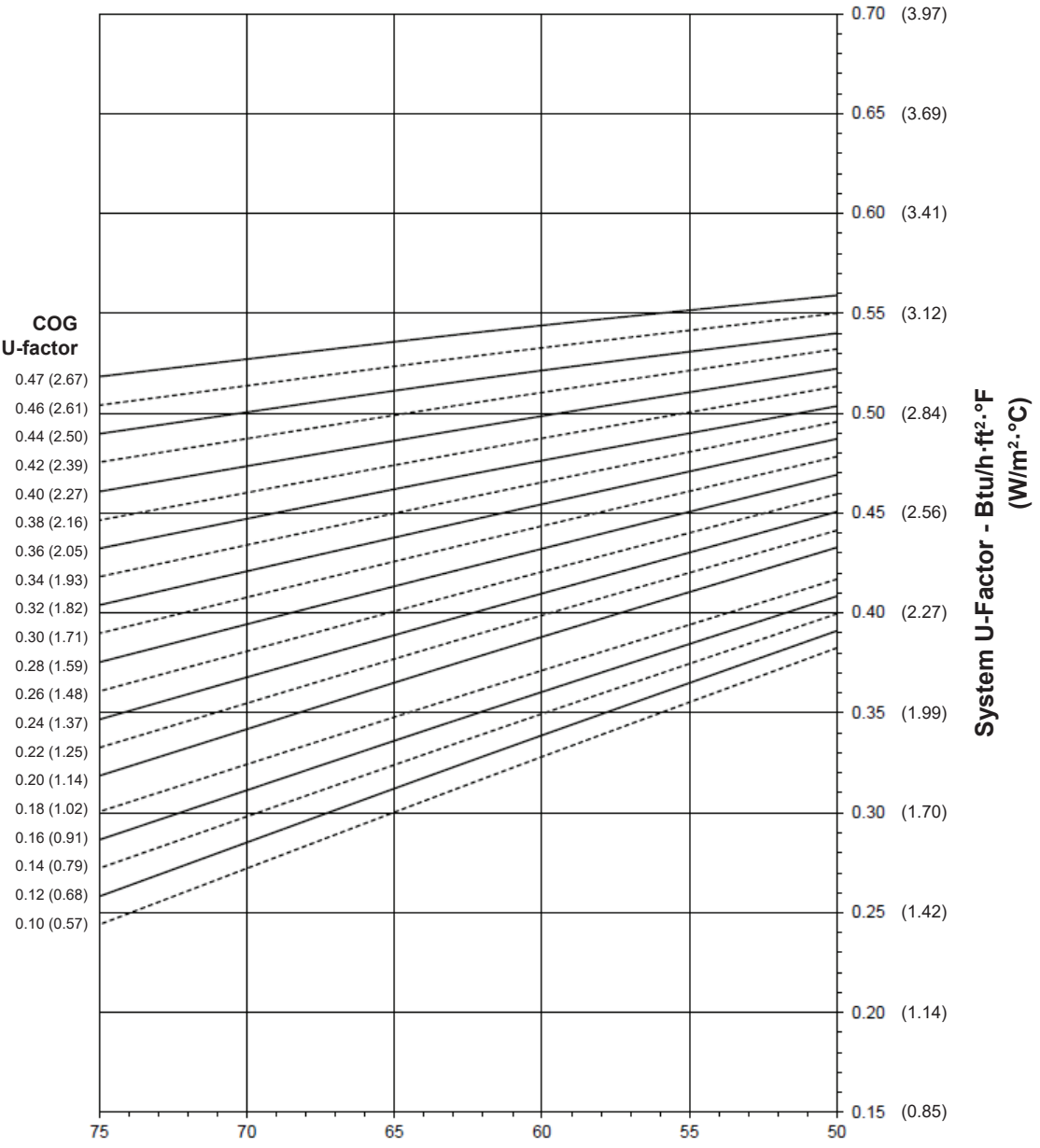
Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
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

Casement/Project-In Window
1" Double Glazed - Aluminum Glazing Spacer

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

System U-factor vs Percent of Glass Area

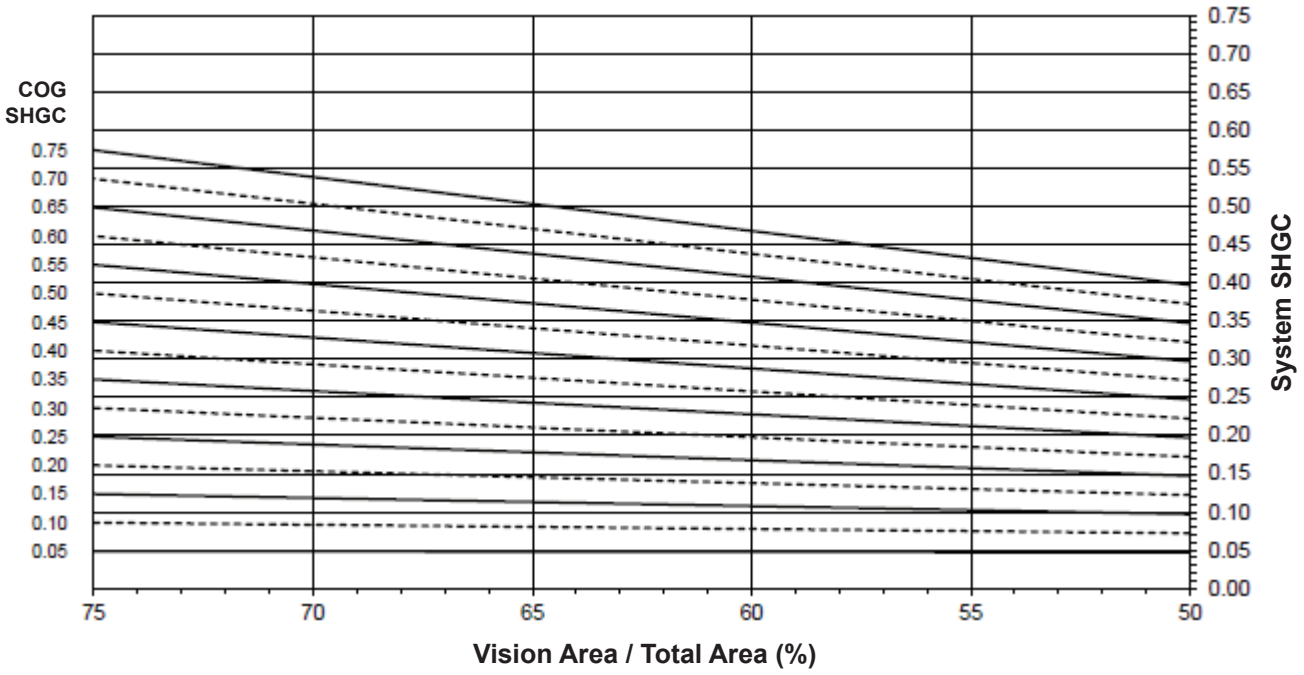


Percent of Glass Area = Vision Area/Total Area
Daylight Opening / Projected Area

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.

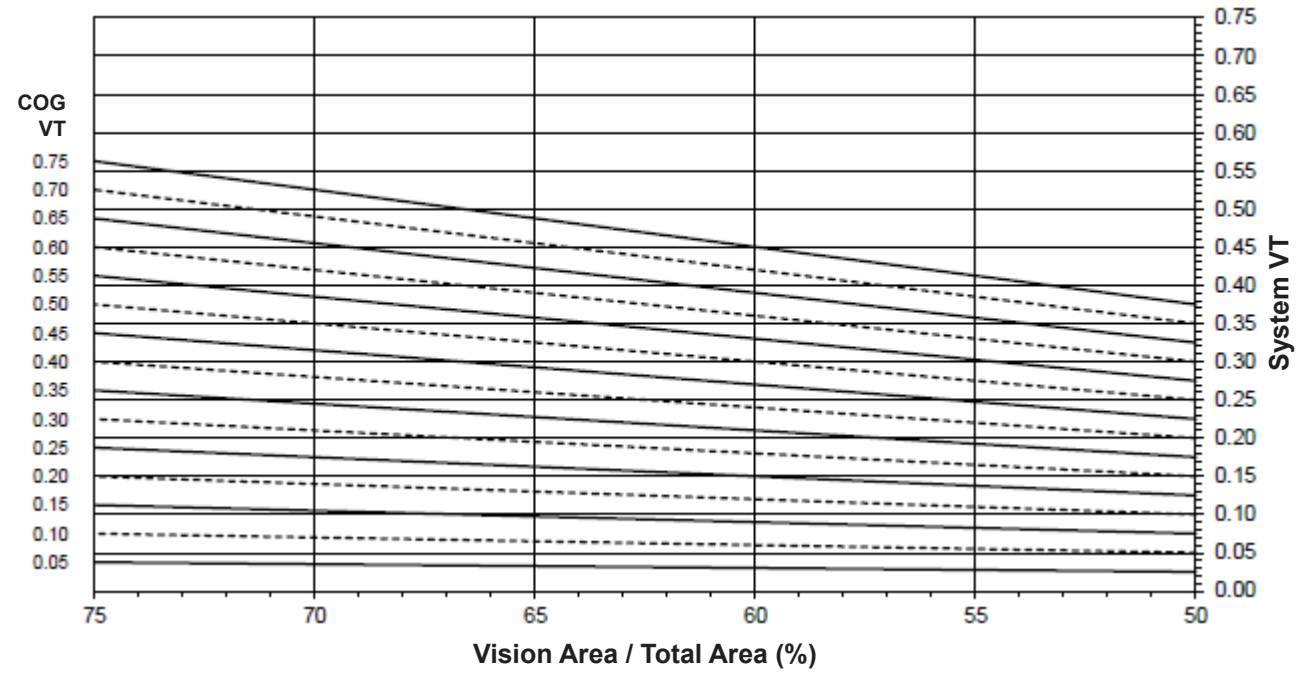
Casement/Project-In Window
1" Double Glazed - Aluminum Glazing Spacer

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.

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

Glass U-Factor [3]	Overall U-Factor [4]
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
1" Double Glazed
Aluminum Glazing Spacer

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 [2]

Glass SHGC [3]	Overall SHGC [4]
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

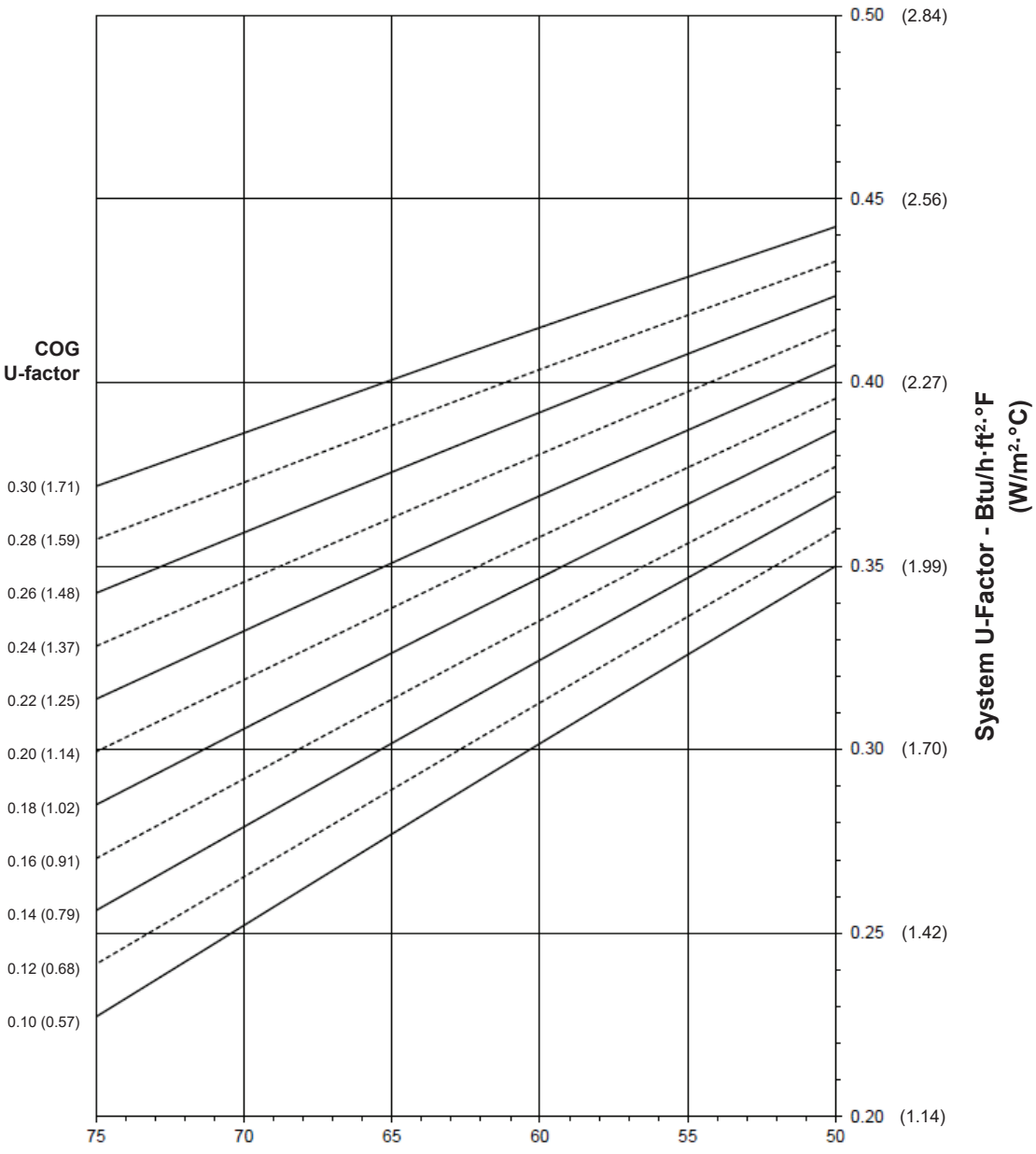
Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
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

Casement/Project-In Window
1-3/4" Triple Glazed - Aluminum Glazing Spacer

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

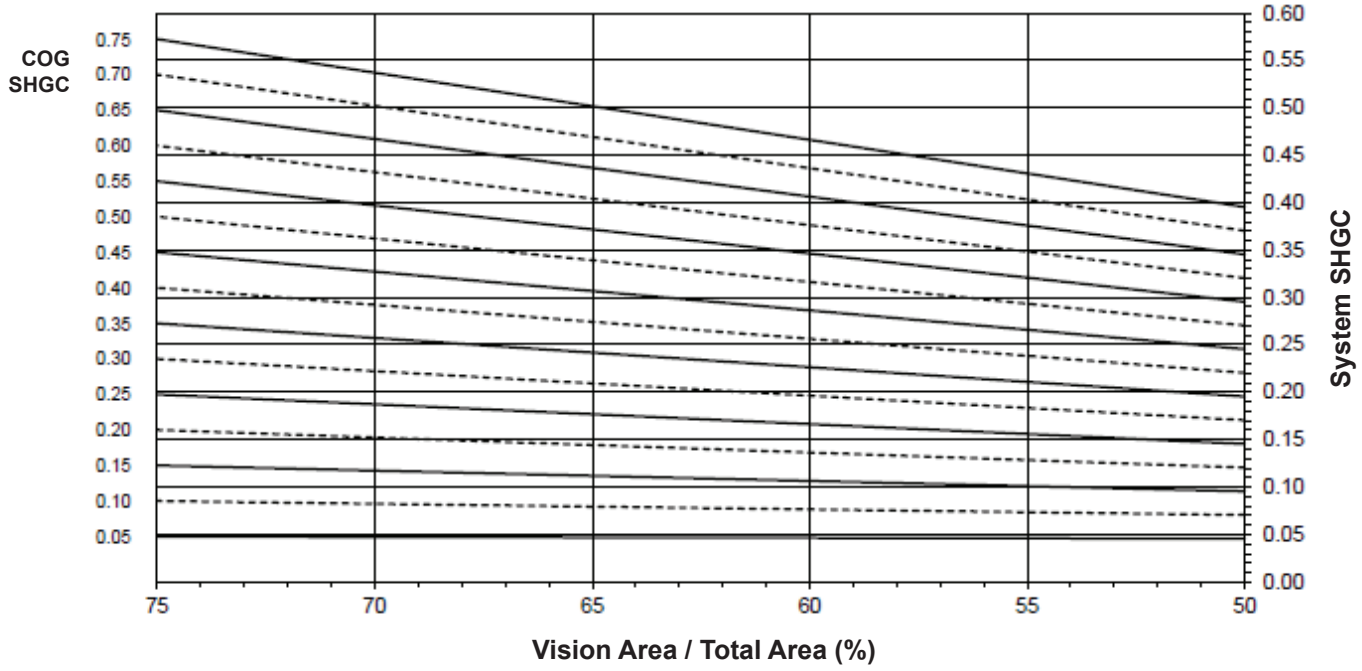
System U-factor vs Percent of Glass Area



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.

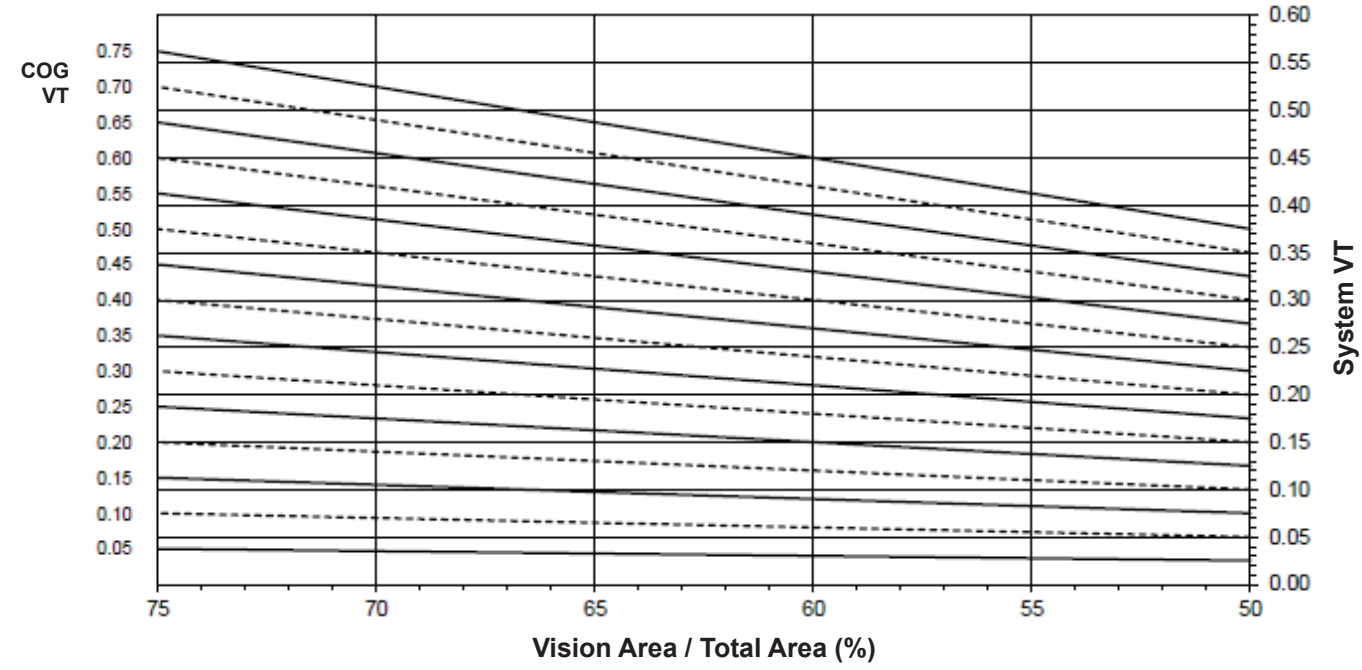
Casement/Project-In Window
1-3/4" Triple Glazed - Aluminum Glazing Spacer

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.

Casement/Project-In Window
1-3/4" Triple Glazed
Aluminum Glazing Spacer

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

Glass U-Factor [3]	Overall U-Factor [4]
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

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 [2]

Glass SHGC [3]	Overall SHGC [4]
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

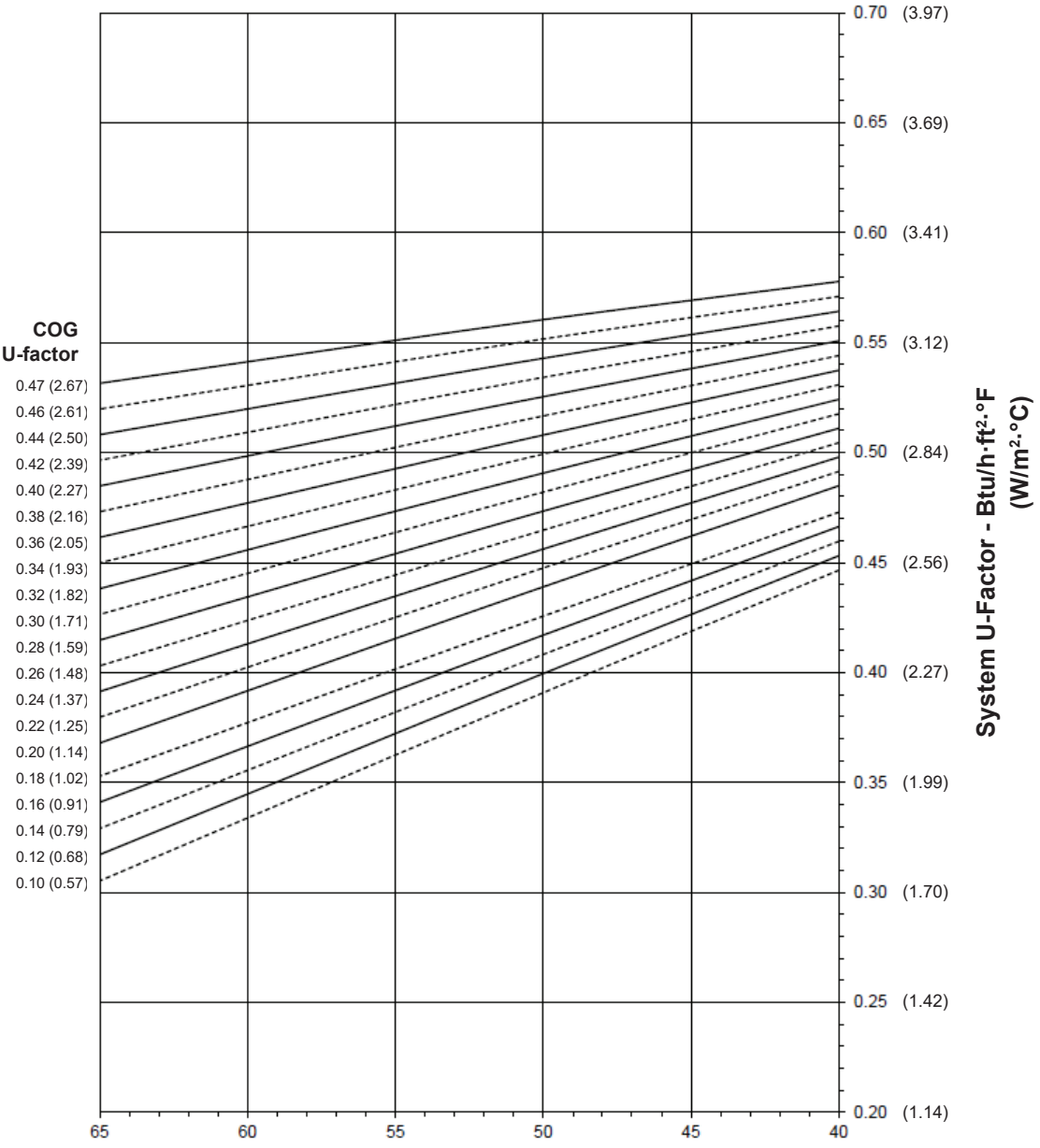
Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
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

Casement/Project-Out Window
1" Double Glazed - Aluminum Glazing Spacer

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

System U-factor vs Percent of Glass Area

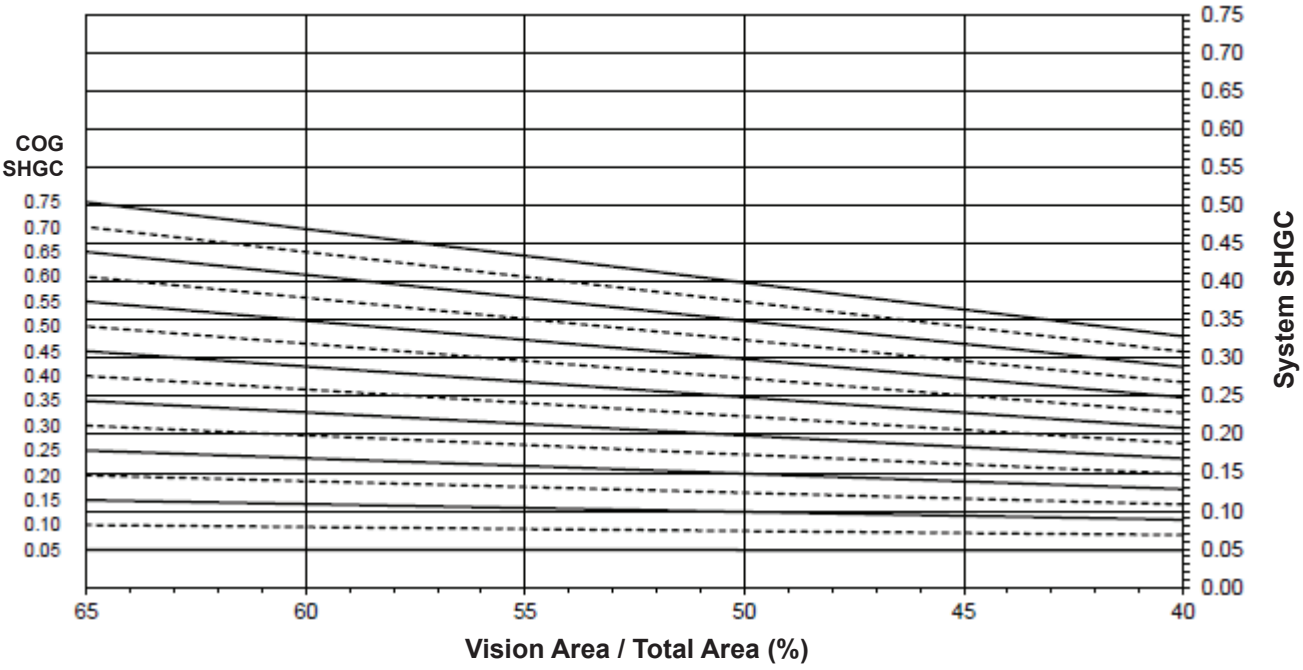


Percent of Glass Area = Vision Area/Total Area
Daylight Opening / Projected Area

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.

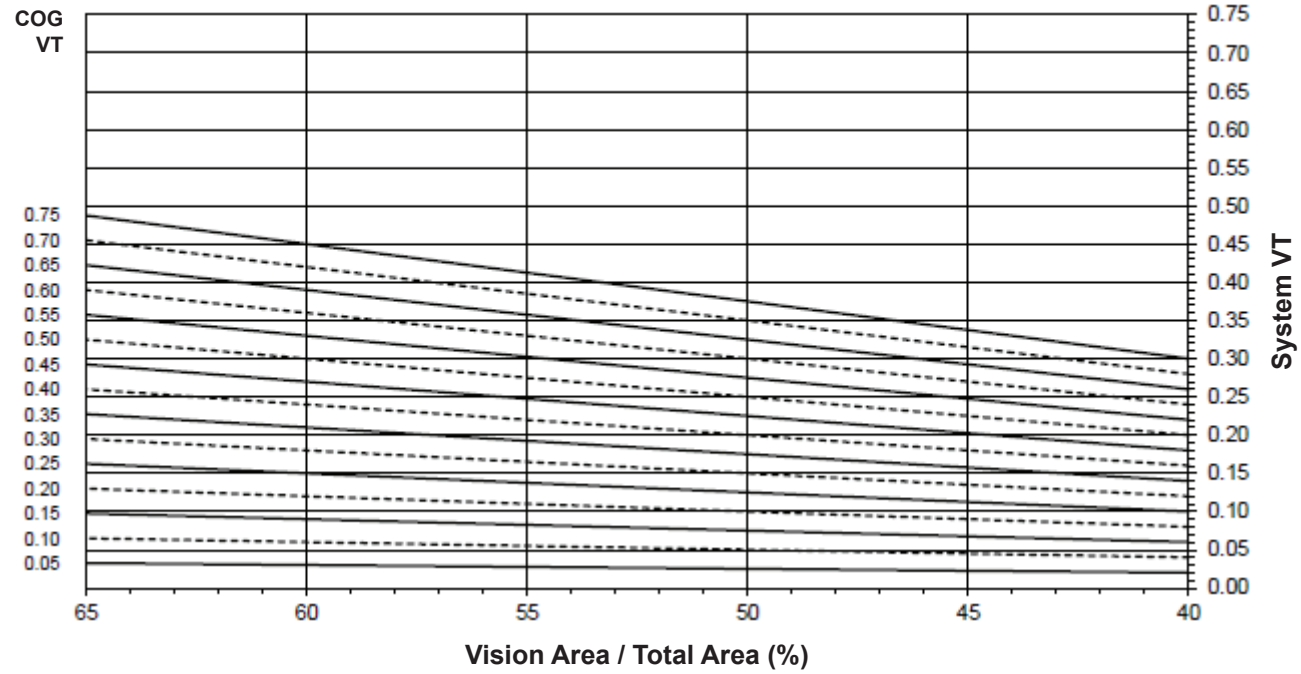
Casement/Project-Out Window
1" Double Glazed - Aluminum Glazing Spacer

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.

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	0.54
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
1" Double Glazed
Aluminum Glazing Spacer

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

SHGC Matrix [2]

Glass SHGC [3]	Overall SHGC [4]
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 [2]

Glass VT [3]	Overall VT [4]
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