PROJECT-OUT WINDOW (1" INFILL)..... 3-6
PROJECT-OUT WINDOW (1-3/4" INFILL)..... 7-11
OUTSWING CASEMENT WINDOW (1" INFILL) 13-16
OUTSWING CASEMENT WINDOW (1-3/4" INFILL) 17-21
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LAWS AND BUILDING AND SAFETY CODES GOVERNING THE DESIGN AND USE OF GLAZED ENTRANCE, WINDOW, AND CURTAIN WALL PRODUCTS VARY WIDELY. KAWNEER DOES NOT CONTROL THE SELECTION OF PRODUCT CONFIGURATIONS, OPERATING HARDWARE, OR GLAZING MATERIALS, AND ASSUMES NO RESPONSIBILITY THEREFOR.

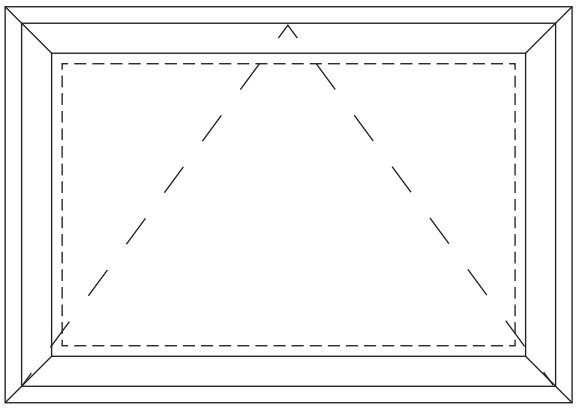
Metric (SI) conversion figures are included throughout these details for reference. Numbers in parentheses ( ) are millimeters unless otherwise noted.

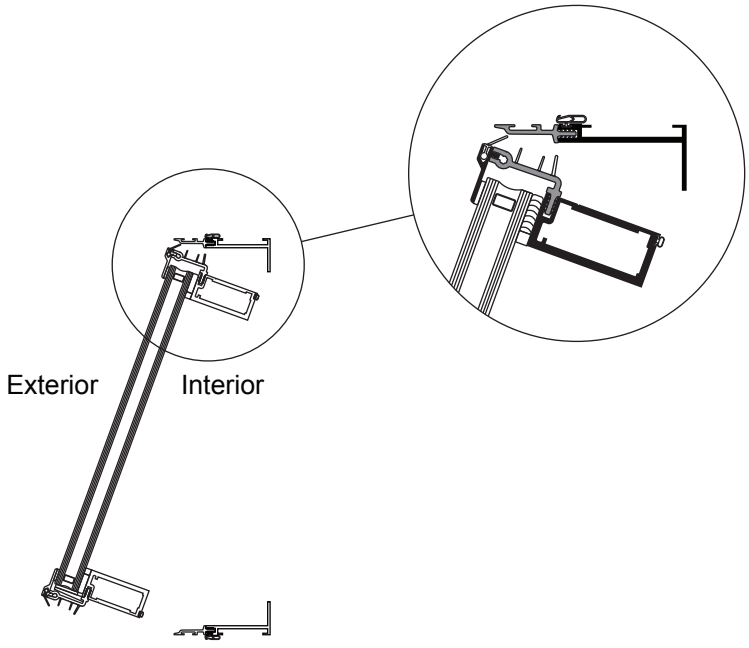
The following metric (SI) units are found in these details:

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

Features

- Commercial Grade Window (CW) and Architectural Grade Window (AW)
- Tested to US and Canadian Standards
- 45° Mitered Vent and Frame Corners
- Staked Corner Joinery
- Architectural Anodized Finishes and Applied Coatings
- Large Missile and Small Missile Hurricane Impact Tested - AW (Deep) only
- Blast Mitigation Tested - AW (Deep) only





Project-out Window
(1" infill)

For specific product applications,
consult your Kawneer representative.

CLASS and GRADE	CLASS CW-PG70-AP / AW-PG90-AP
TESTING STANDARD	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)
SYSTEM DEPTH	CW (Shallow) - 3-1/8" / AW (Deep) - 4-3/8" Overall System Depth
TYPICAL WALL THICKNESS	CW (Shallow) - .125 Nominal Frame / .100" Nominal Vent AW (Deep) -. 125 Nominal Frame / .156" Nominal Vent
TYPICAL MAX. VENT SIZE	CW (Shallow) - 48" x 32" / AW (Deep) - 60" x 36"
TYPICAL MIN. VENT SIZE	17" x 17"
INFILL OPTIONS	1"
STANDARD HARDWARE	Stainless Steel 4-Bar Hinges Cast White Bronze Cam Handles
OPTIONAL HARDWARE	Access Control Locks Hook Bolt Lock Handle Pivot Shoe Roto-Operator Limit Stop Pole and Pole Ring
OTHER OPTIONS	Insect Screens

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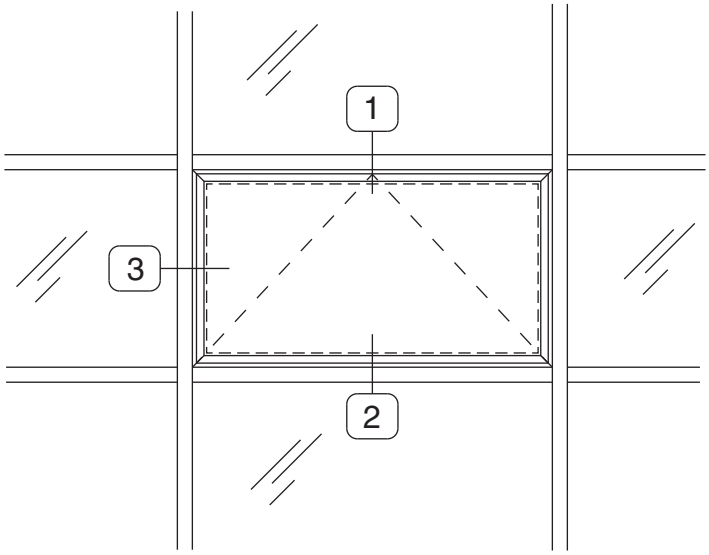

TYPICAL ELEVATION

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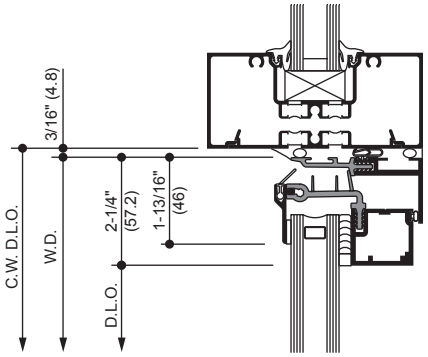

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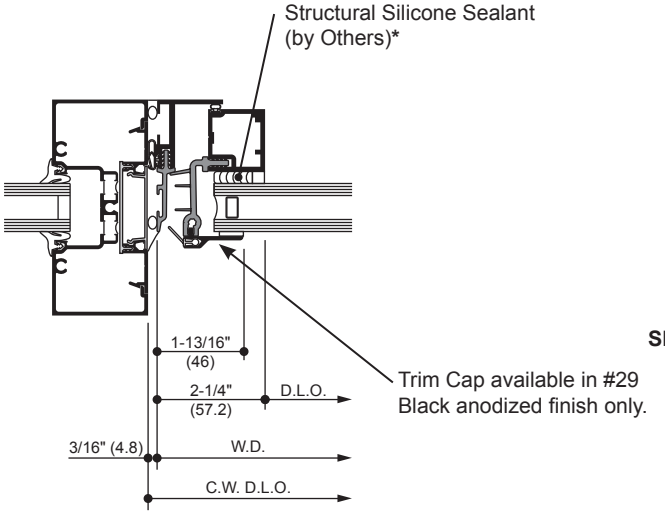

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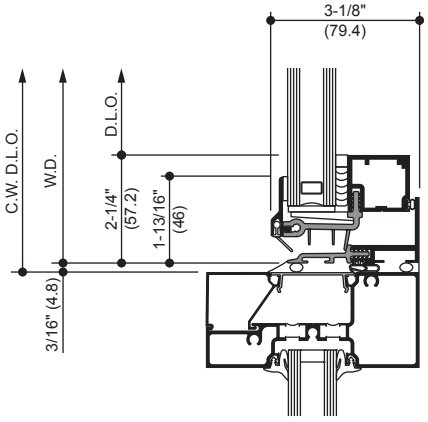
JAMB



2
SILL

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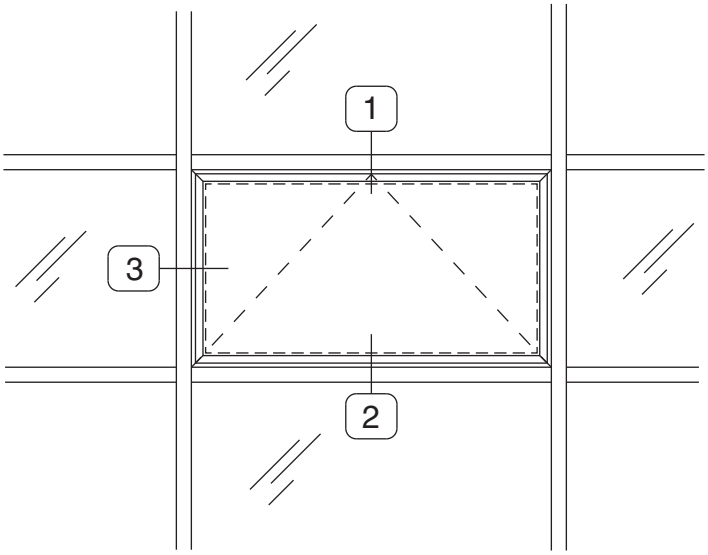

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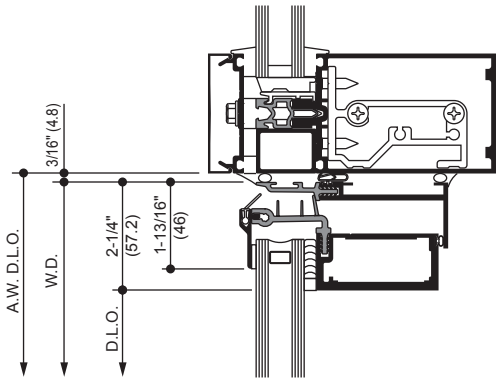

1
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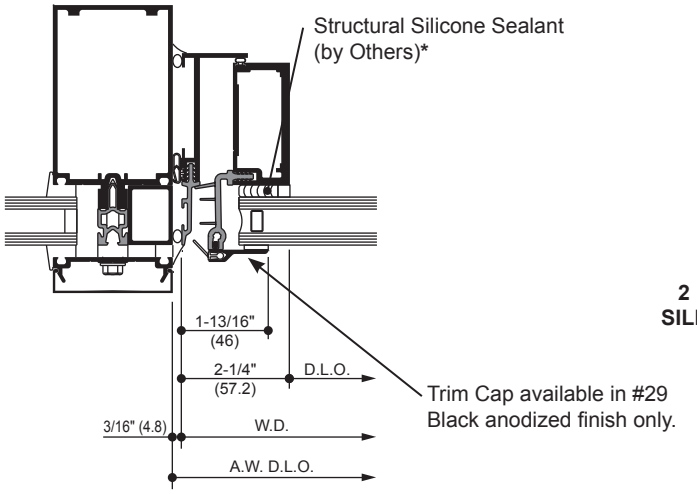

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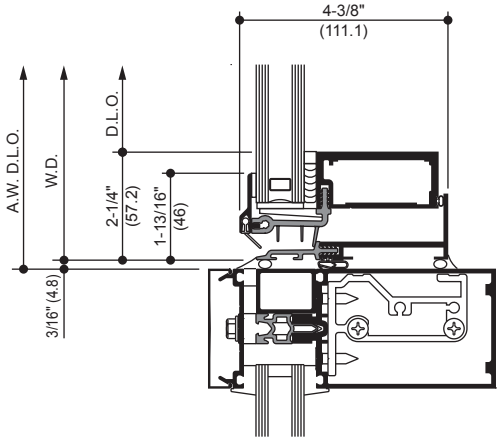

2
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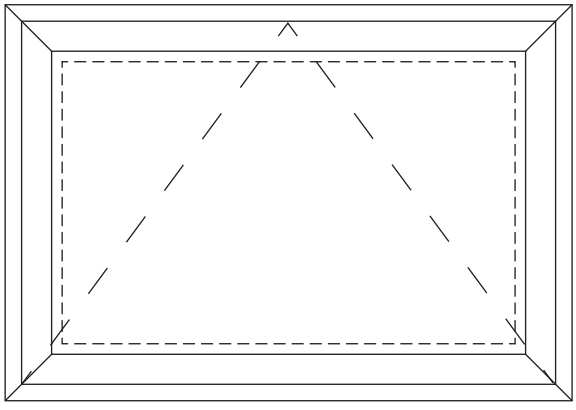

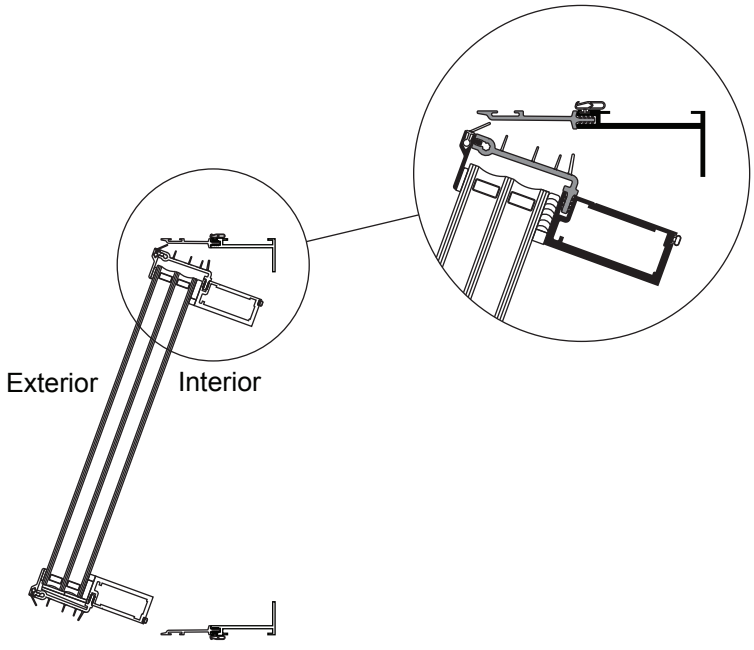

Project-out Window
(1-3/4" infill)

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OTHER OPTIONS	Insect Screens

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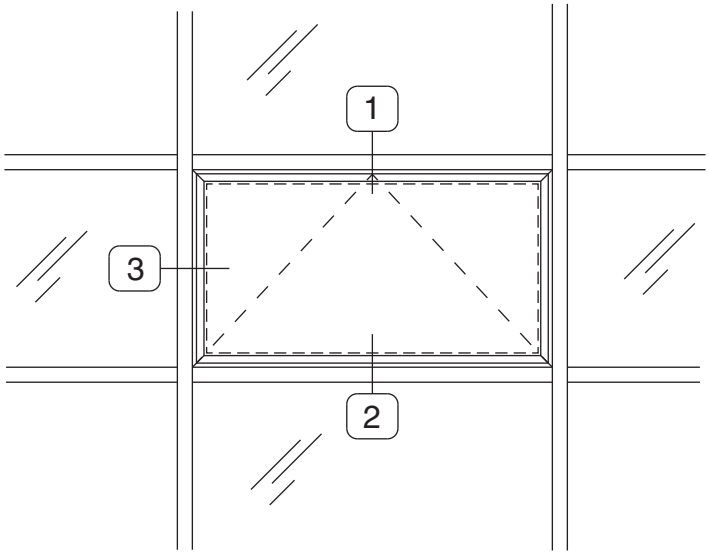

TYPICAL ELEVATION

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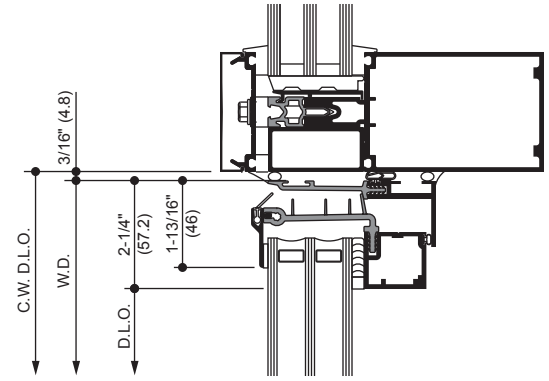

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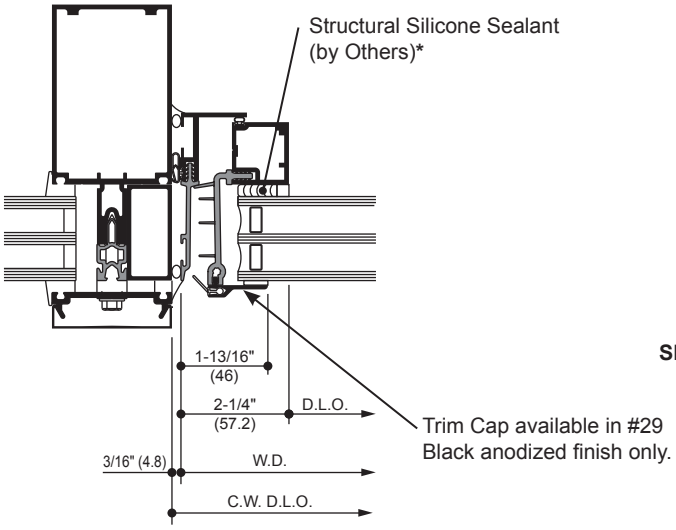

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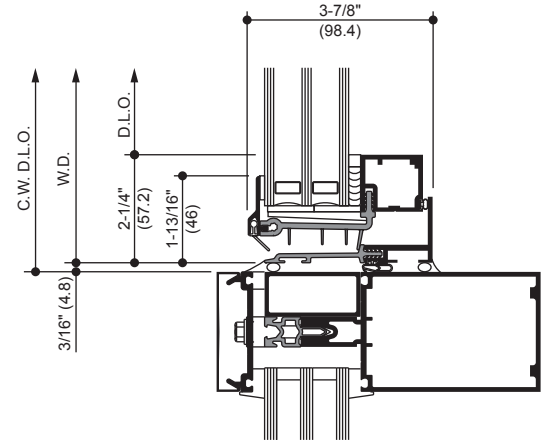

2
SILL

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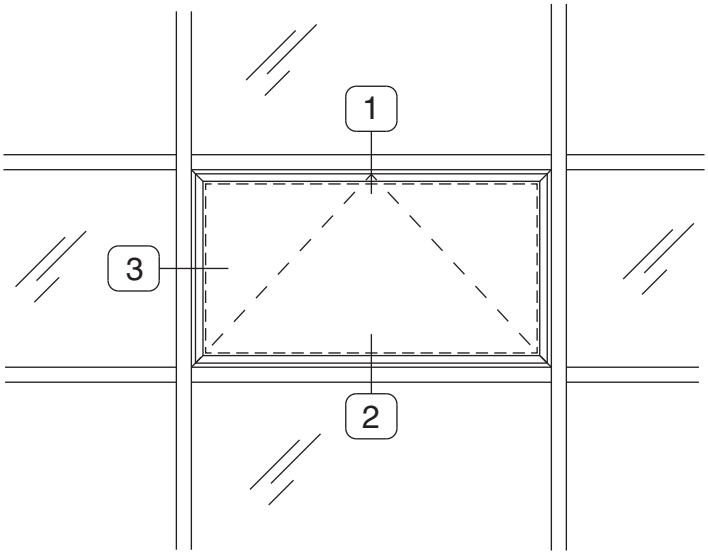

TYPICAL ELEVATION

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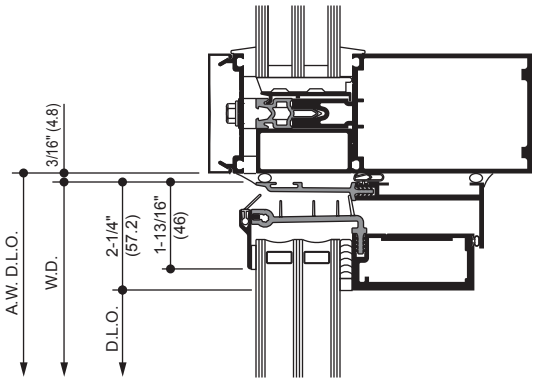

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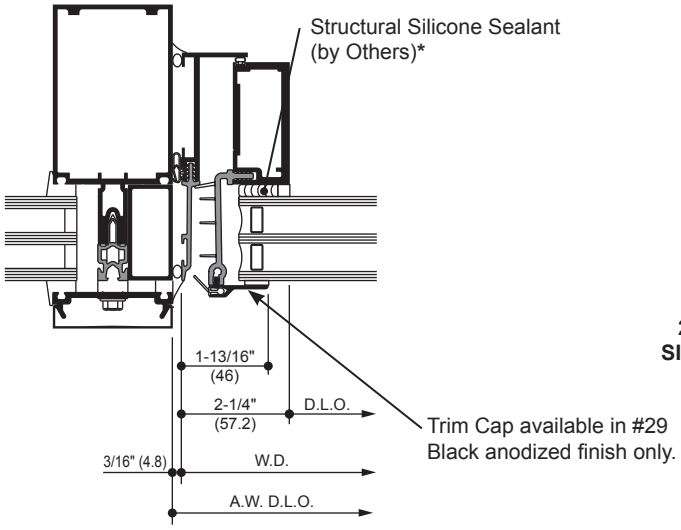
HEAD



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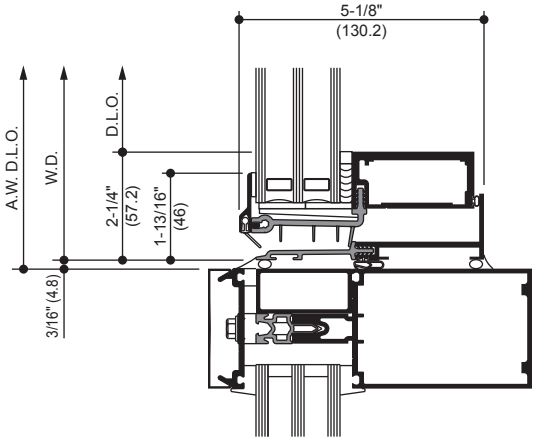

2
SILL

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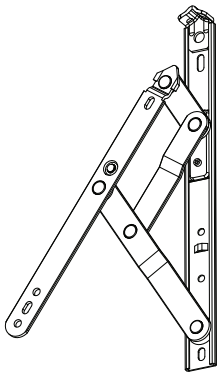
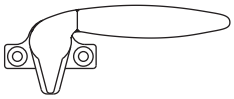
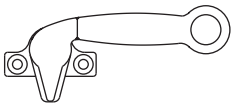
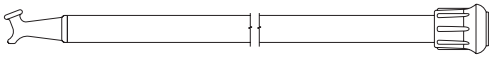
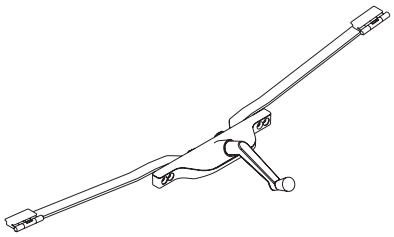
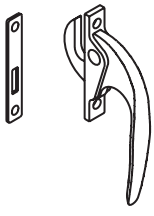
STAINLESS STEEL 4 BAR HINGES		A standard hinge for ventilators providing approximately 45° to 60° openings depending on size. An optional limit stop is available to restrict hinge travel and limit vent opening.
CAM HANDLE		Cast white bronze cam handles are standard for the manual operation and locking 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.
PIVOT-SHOE ROTO-OPERATOR		Optional pivot shoe roto operator is located on the center line of the bottom horizontal frame. Standard finish shall be brushed copper nickel to match US-25-D.
HOOK BOLT LOCK		For use with pivot-shoe roto operator in lieu of cam handles. Standard finish shall be US-25-D clear white bronze.

Features

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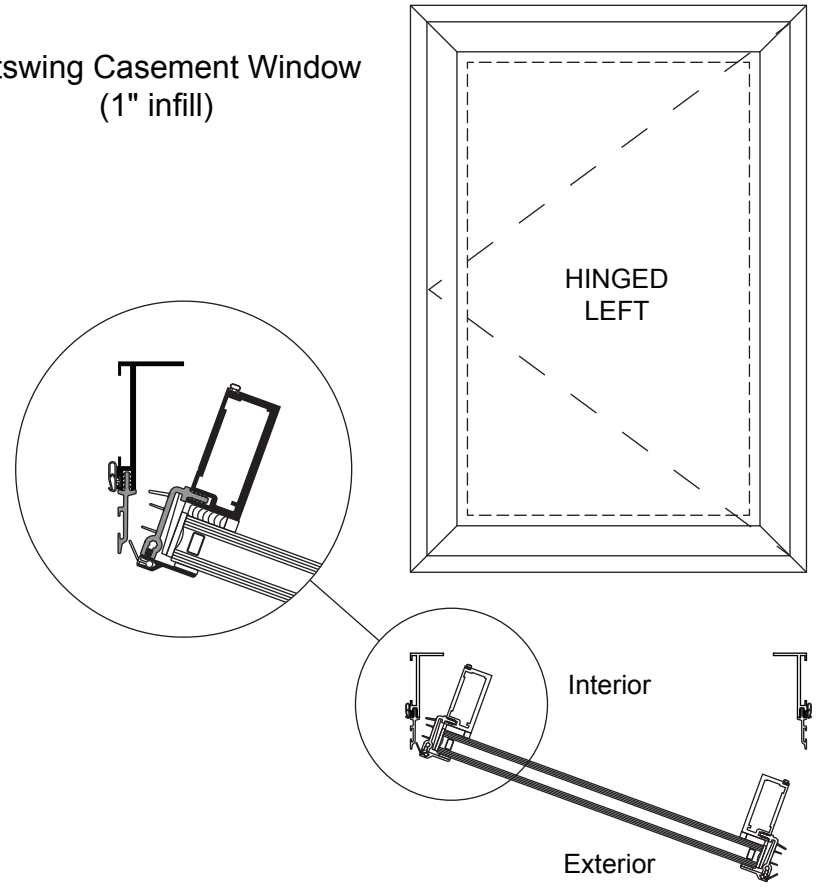
- Large Missile and Small Missile Hurricane Impact Tested - AW (Deep) only
- Blast Mitigation Tested - AW (Deep) only

Outswing Casement Window
(1" infill)



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CLASS and GRADE	CLASS CW-PG70-C / AW-PG90-C
TESTING STANDARD	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)
SYSTEM DEPTH	CW (Shallow) - 3-1/8" / AW (Deep) - 4-3/8" Overall System Depth
TYPICAL WALL THICKNESS	CW (Shallow) - .125 Nominal Frame / .100" Nominal Vent AW (Deep) -. 125 Nominal Frame / .156" Nominal Vent
TYPICAL MAX. VENT SIZE	CW (Shallow) - 32" x 48" / AW (Deep) - 36" x 60"
TYPICAL MIN. VENT SIZE	17" x 24"
INFILL OPTIONS	1"
STANDARD HARDWARE	Stainless Steel 4-Bar Hinges Cast White Bronze Cam Handles
OPTIONAL HARDWARE	Access Control Locks Hook Bolt Lock or Multi-Point Lock Limit Stop Pole and Pole Ring Roto Operator
OTHER OPTIONS	Insect Screens

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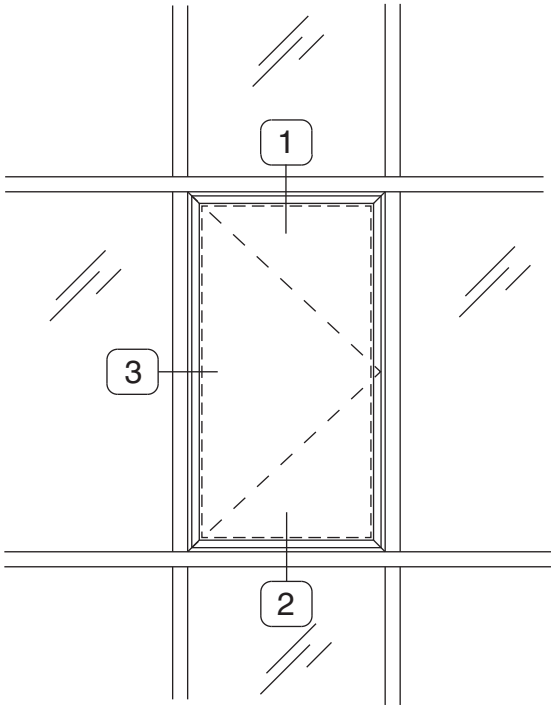

TYPICAL ELEVATION

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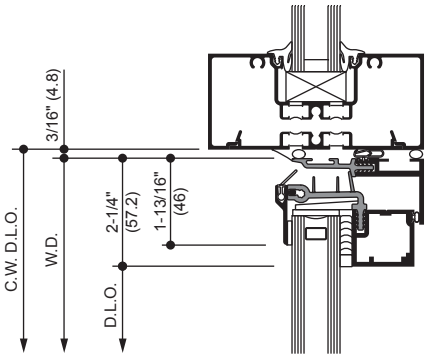

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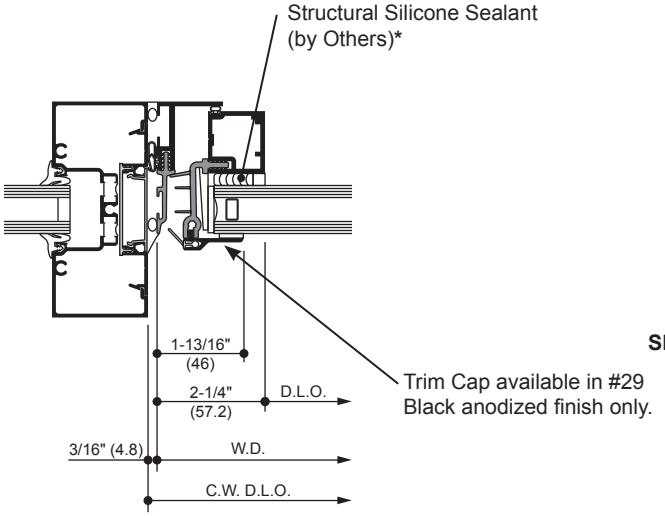

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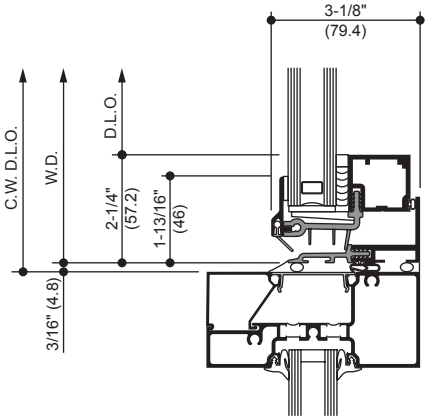
JAMB



2
SILL

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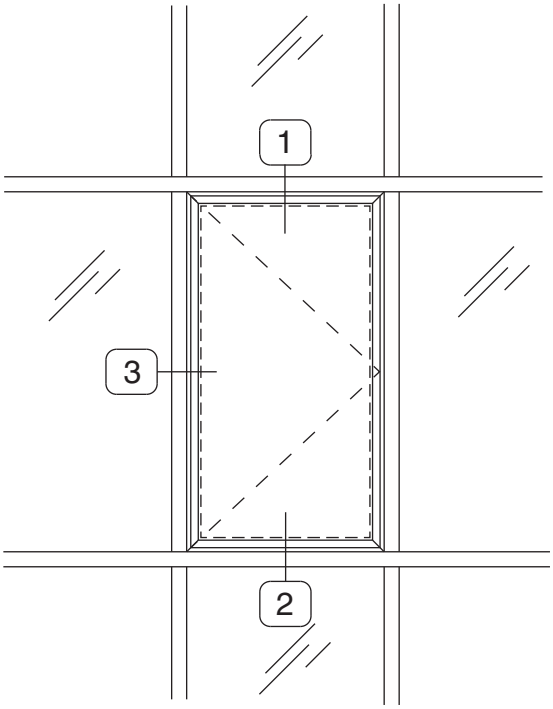

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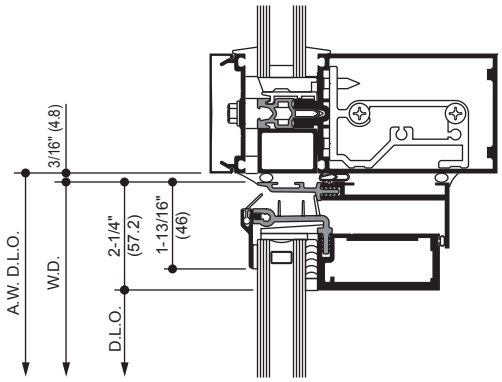
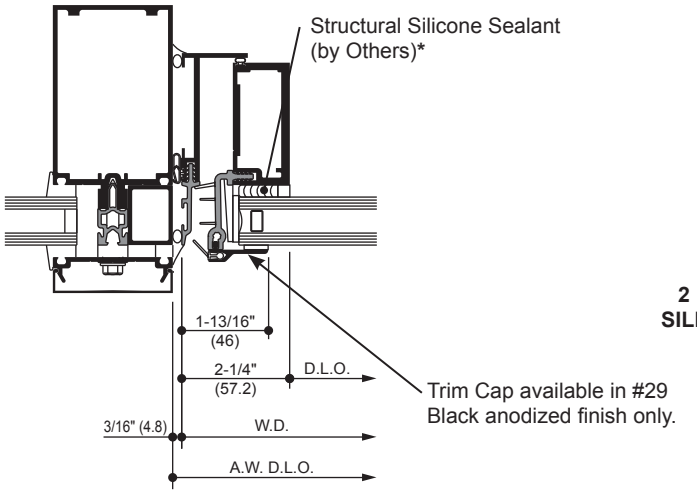


1
HEAD



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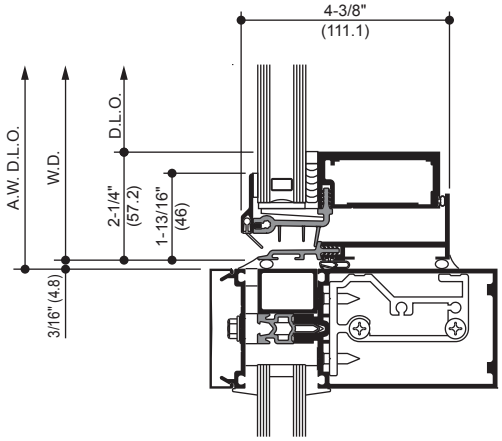

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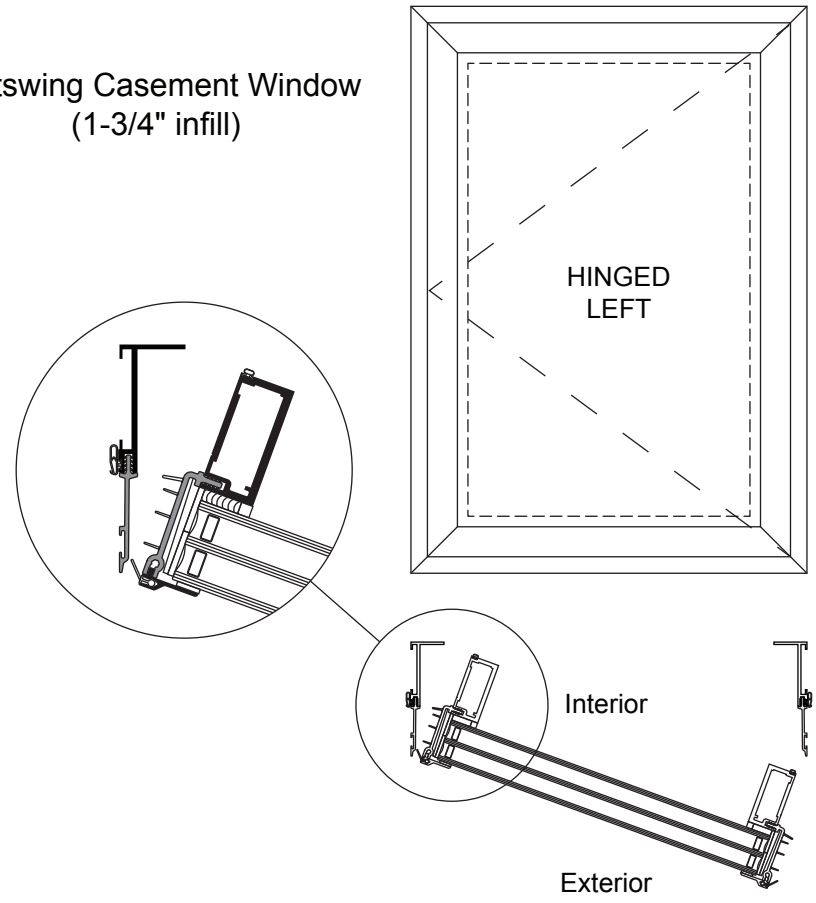
Outswing Casement Window
(1-3/4" infill)



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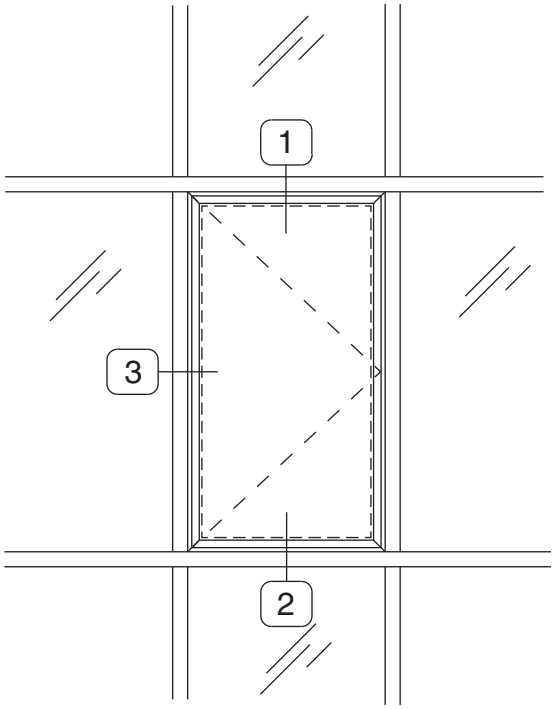
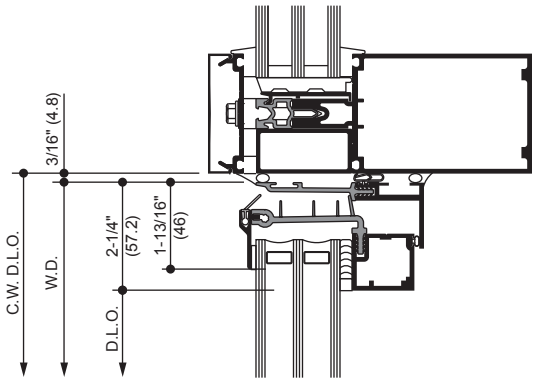
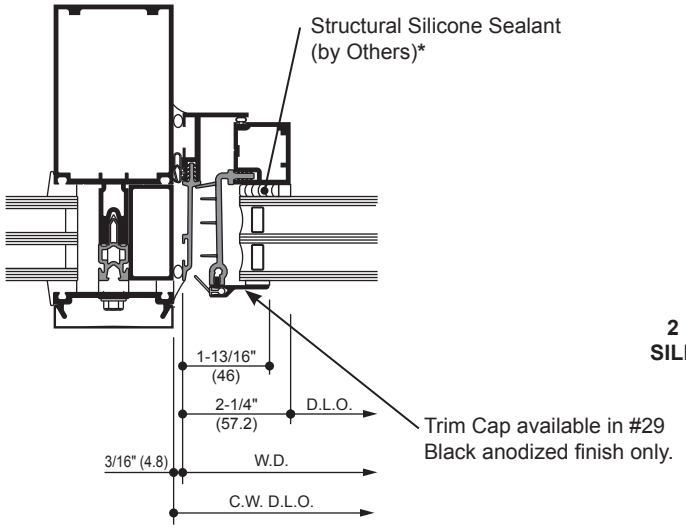


TYPICAL ELEVATION

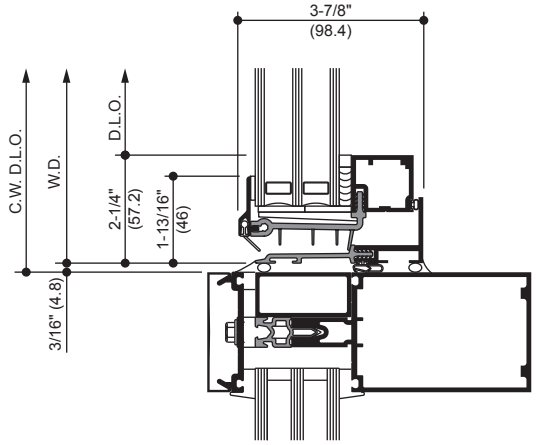
*** INSTALLER NOTE:** Installer is responsible for all required compatibilty review and approvals with the Structural Silicone Manufacturer and the Insulated Glass Unit Manufacturers.



1
HEAD



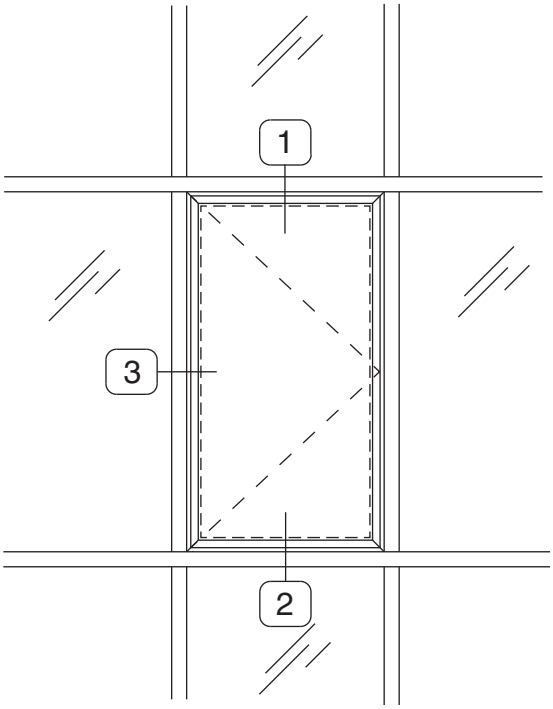
3
JAMB



2
SILL

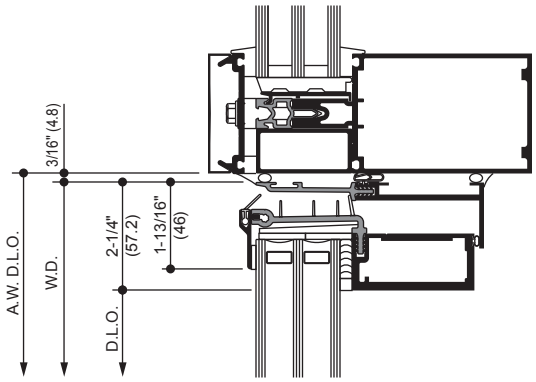
NOTE: THE KAWNEER GLASSvent™ UT WINDOW IS SHOWN WITH 1600UT SYSTEM™1 CURTAIN WALL FOR REFERENCE. OTHER KAWNEER SYSTEMS CAN BE USED. FOR PRODUCT SPECIFIC APPLICATIONS CONSULT YOUR KAWNEER REPRESENTATIVE.

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

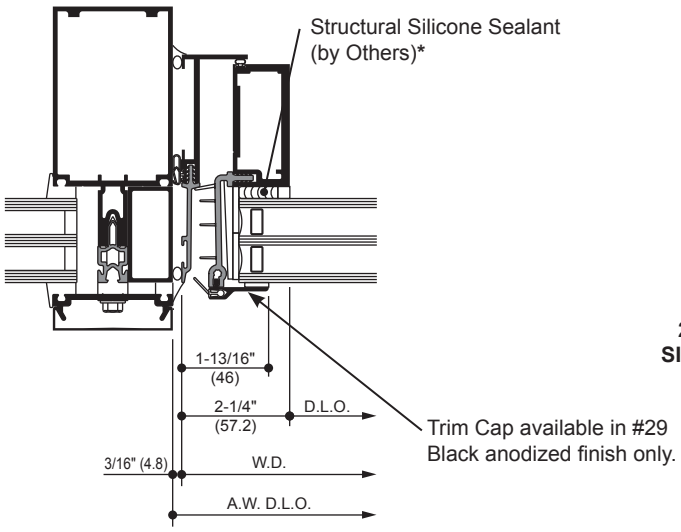


TYPICAL ELEVATION

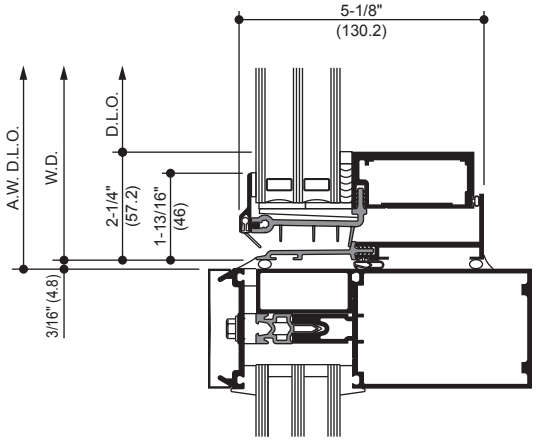
*** INSTALLER NOTE:** Installer is responsible for all required compatibilty review and approvals with the Structural Silicone Manufacturer and the Insulated Glass Unit Manufacturers.



1
HEAD

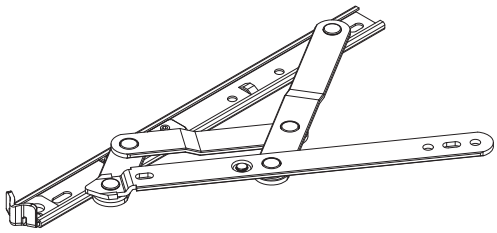
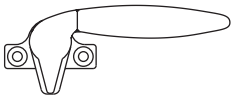
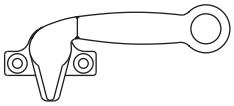
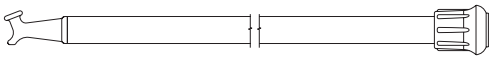
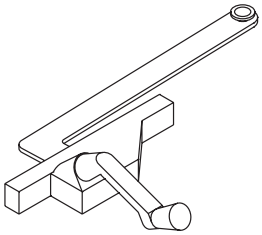
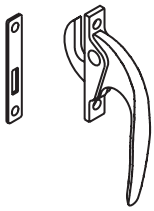


3
JAMB

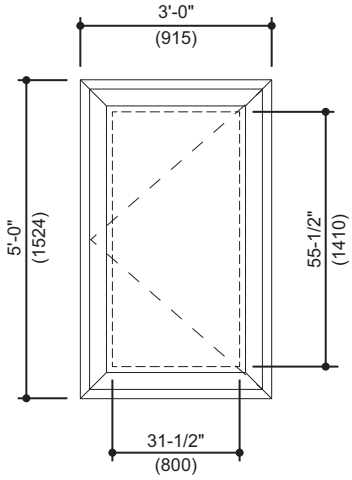


2
SILL

NOTE: THE KAWNEER GLASSvent™ UT WINDOW IS SHOWN WITH 1600UT SYSTEM™1 CURTAIN WALL FOR REFERENCE. OTHER KAWNEER SYSTEMS CAN BE USED. FOR PRODUCT SPECIFIC APPLICATIONS CONSULT YOUR KAWNEER REPRESENTATIVE.

STAINLESS STEEL 4 BAR HINGES		A standard hinge for ventilators providing an opening of up to 45°. An optional limit stop is available to restrict hinge travel and limit vent opening.
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.
ROTO OPERATOR		Roto operators are used with butt hinges only and located at the bottom horizontal frame. Standard finish shall be brushed copper nickel to match US-25-D.
HOOK BOLT LOCK		Optional hook bolt lock in lieu of cam handle. Standard finish shall be US-25-D clear white bronze.
MULTI-POINT LOCK		Optional single locking handle for concealed multi-point locks located on the vertical frame. Standard finish shall be US-25-D clear white bronze.

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



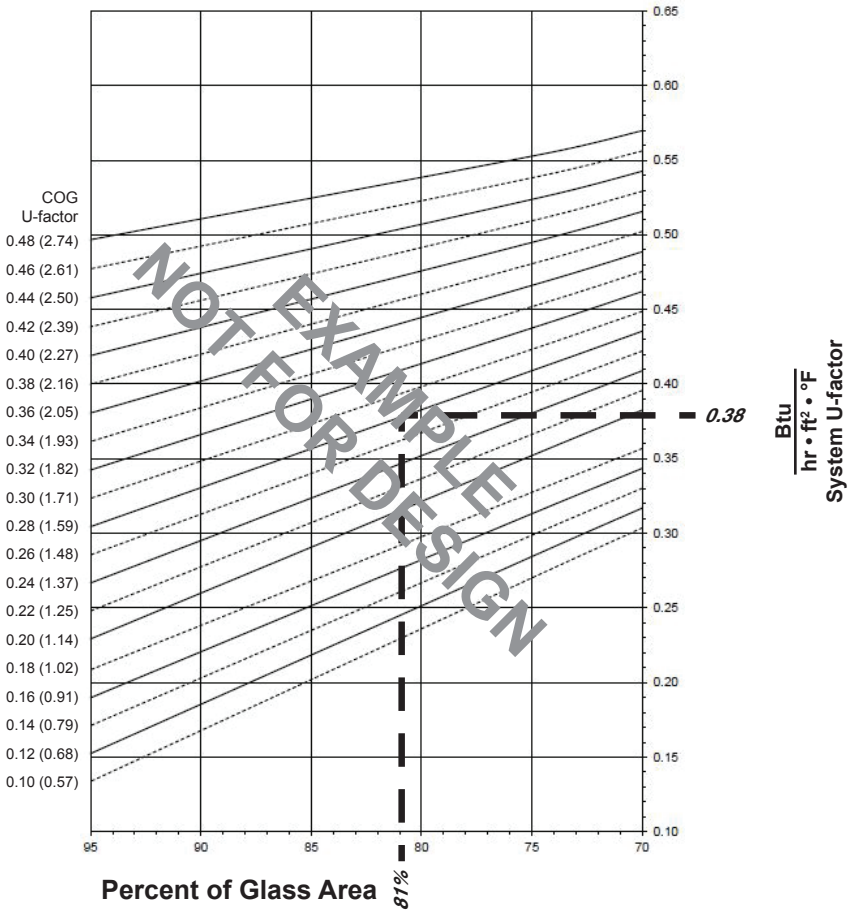
Example Glass U-Factor = 0.28 Btu/hr • ft² • °F

Total Daylight Opening = 31-1/2" • 55-1/2" = 12.14ft²

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

Percent of Glass = (Total Daylight Opening ÷ Total Projected Area)100
= (12.14 ÷ 15)100 = 81%

System U-factor vs Percent of Glass Area

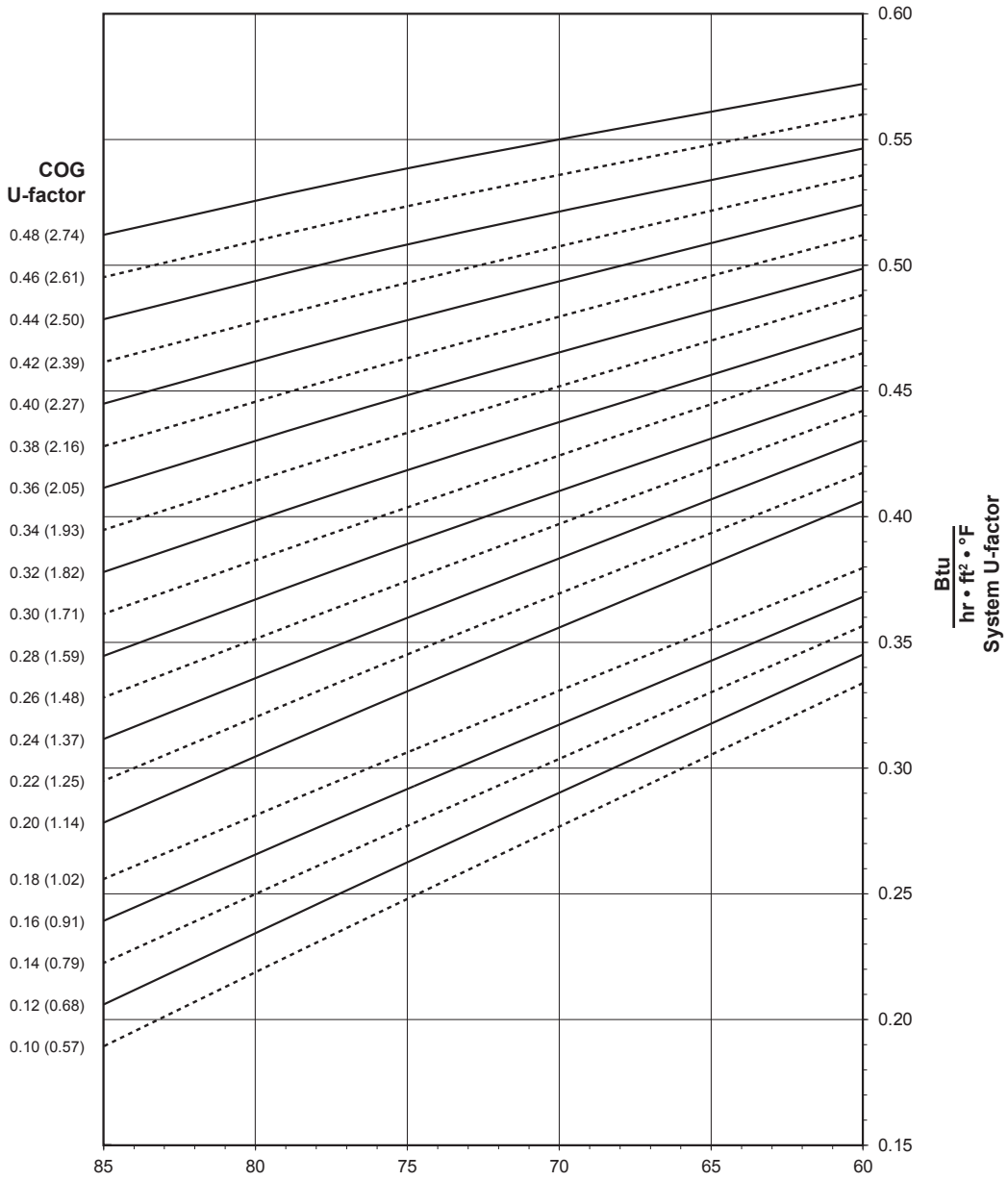


Based on 81% glass and center of glass (COG) U-factor of 0.28
System U-factor is equal to 0.38 Btu/hr • ft² • °F

CW (SHALLOW) - PROJECT-OUT WINDOW WITH 1" GLAZING

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

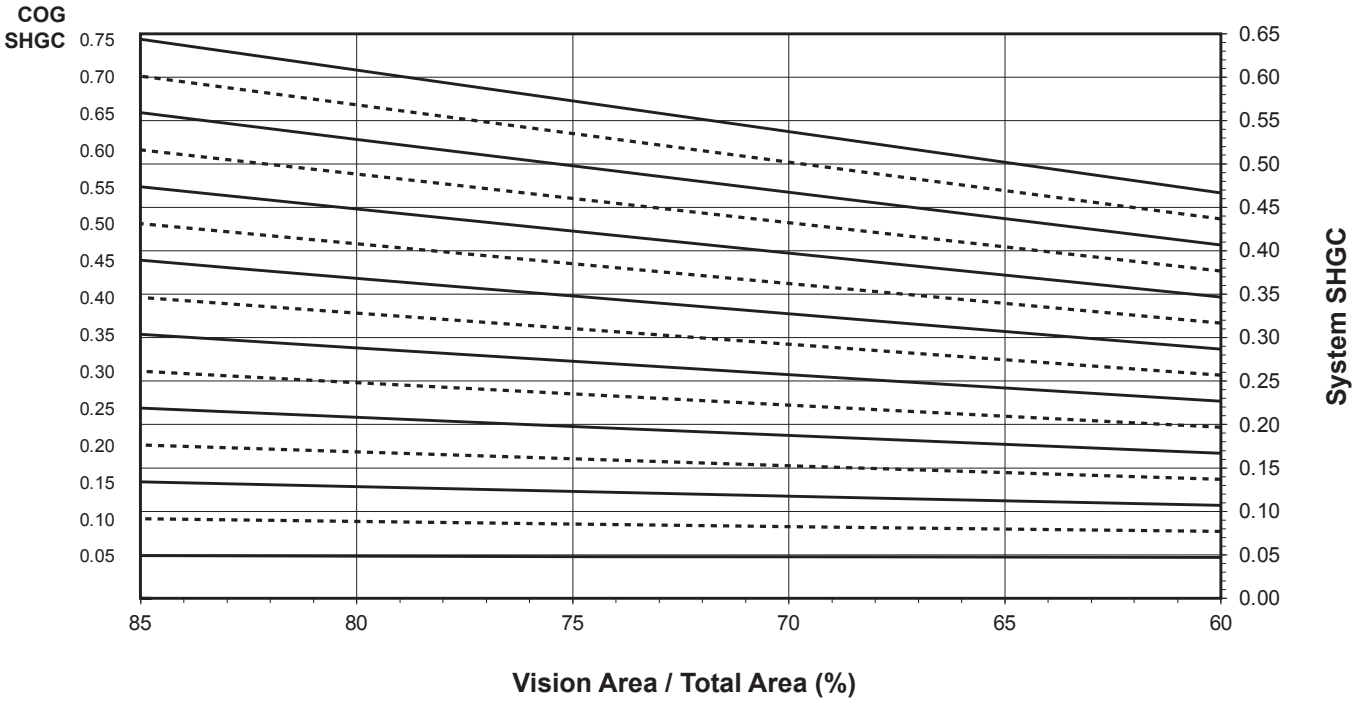
System U-factor vs Percent of Glass Area



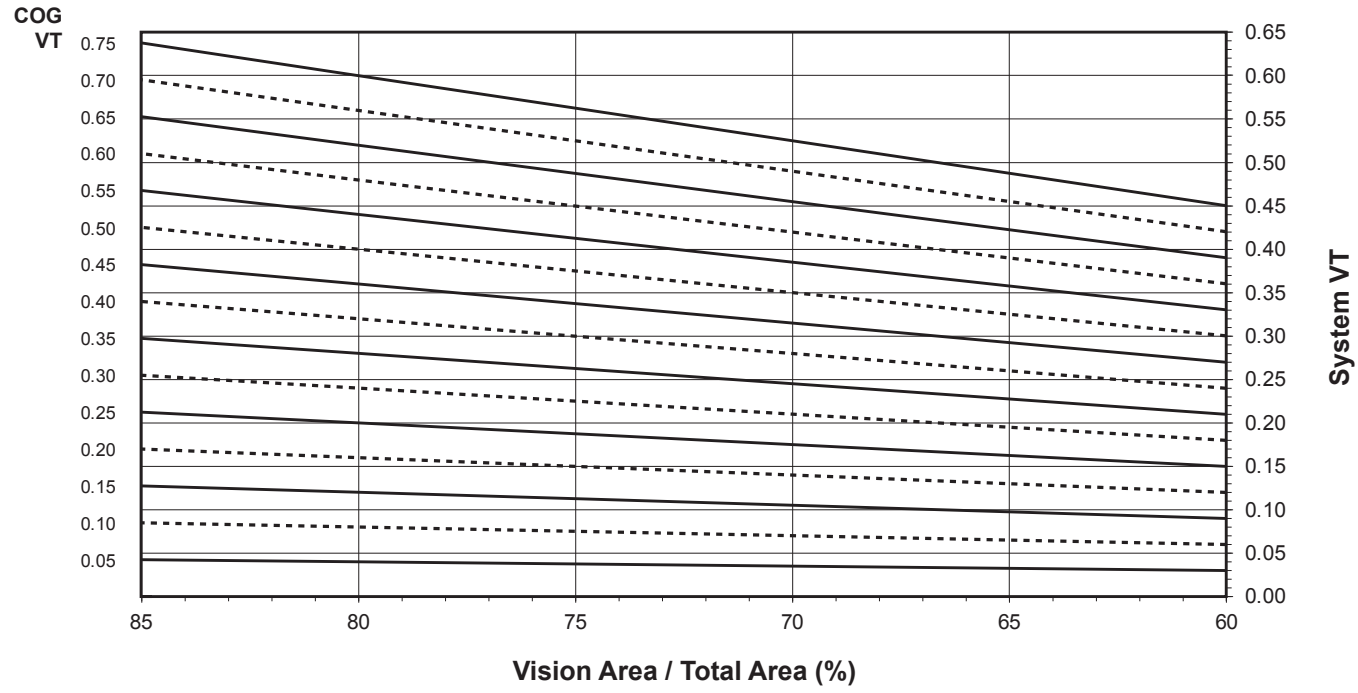
Notes for System U-factor, SHGC and VT charts:
For glass values that are not listed, linear interpolation is permitted.
Glass properties are based on center of glass values and are obtained from your glass supplier.

CW (SHALLOW) - 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



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

Glass U-Factor [3]	Overall U-Factor [4]
0.48	0.54
0.46	0.52
0.44	0.51
0.42	0.49
0.40	0.48
0.38	0.46
0.36	0.45
0.34	0.43
0.32	0.42
0.30	0.40
0.28	0.39
0.26	0.38
0.24	0.36
0.22	0.35
0.20	0.33
0.18	0.31
0.16	0.29
0.14	0.28
0.12	0.26
0.10	0.25

CW (SHALLOW) - 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 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	0.57
0.70	0.53
0.65	0.50
0.60	0.46
0.55	0.42
0.50	0.38
0.45	0.35
0.40	0.31
0.35	0.27
0.30	0.23
0.25	0.20
0.20	0.16
0.15	0.12
0.10	0.09
0.05	0.05

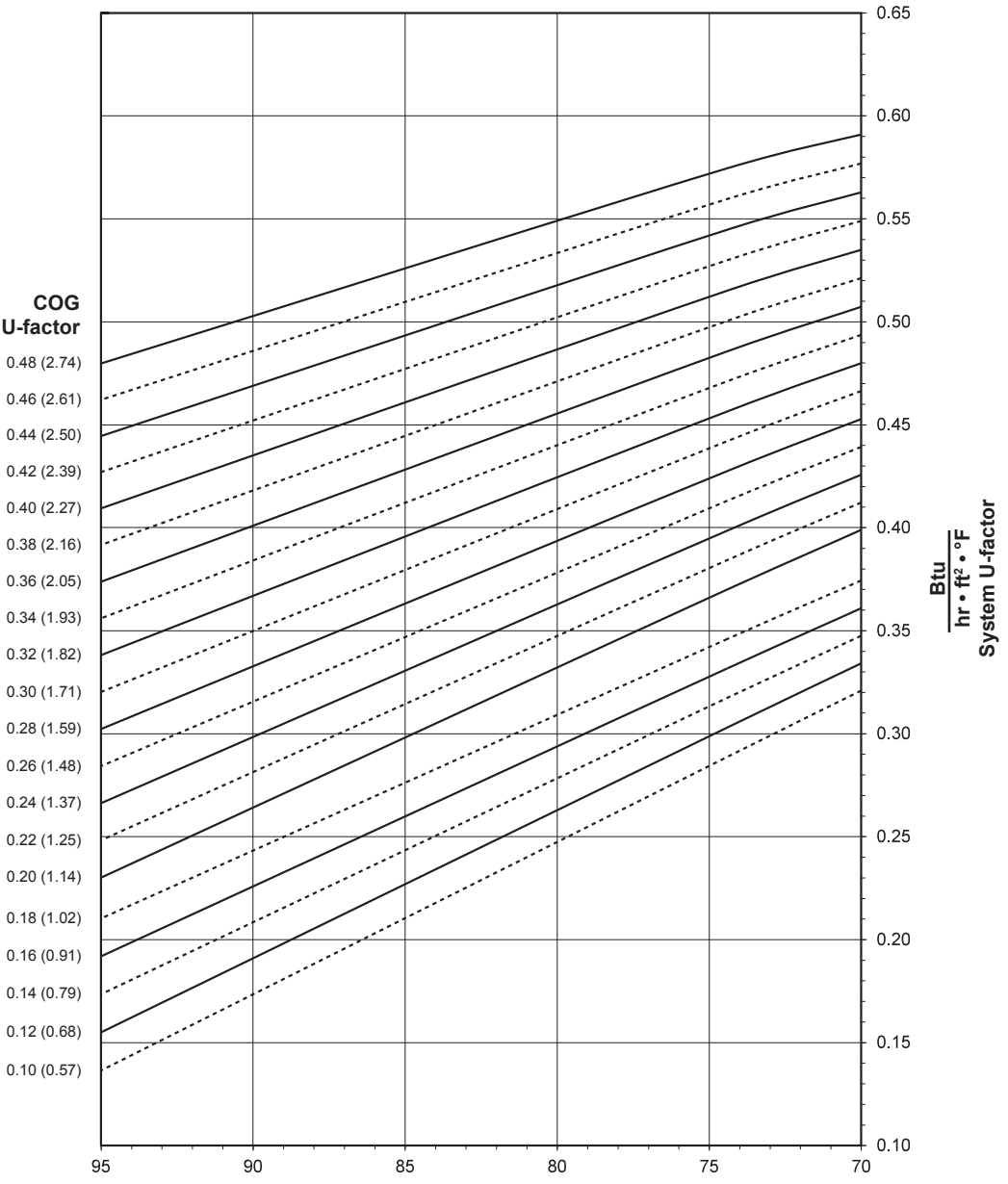
Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
0.75	0.56
0.70	0.52
0.65	0.49
0.60	0.45
0.55	0.41
0.50	0.37
0.45	0.34
0.40	0.30
0.35	0.26
0.30	0.22
0.25	0.19
0.20	0.15
0.15	0.11
0.10	0.07
0.05	0.04

AW (DEEP) - 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

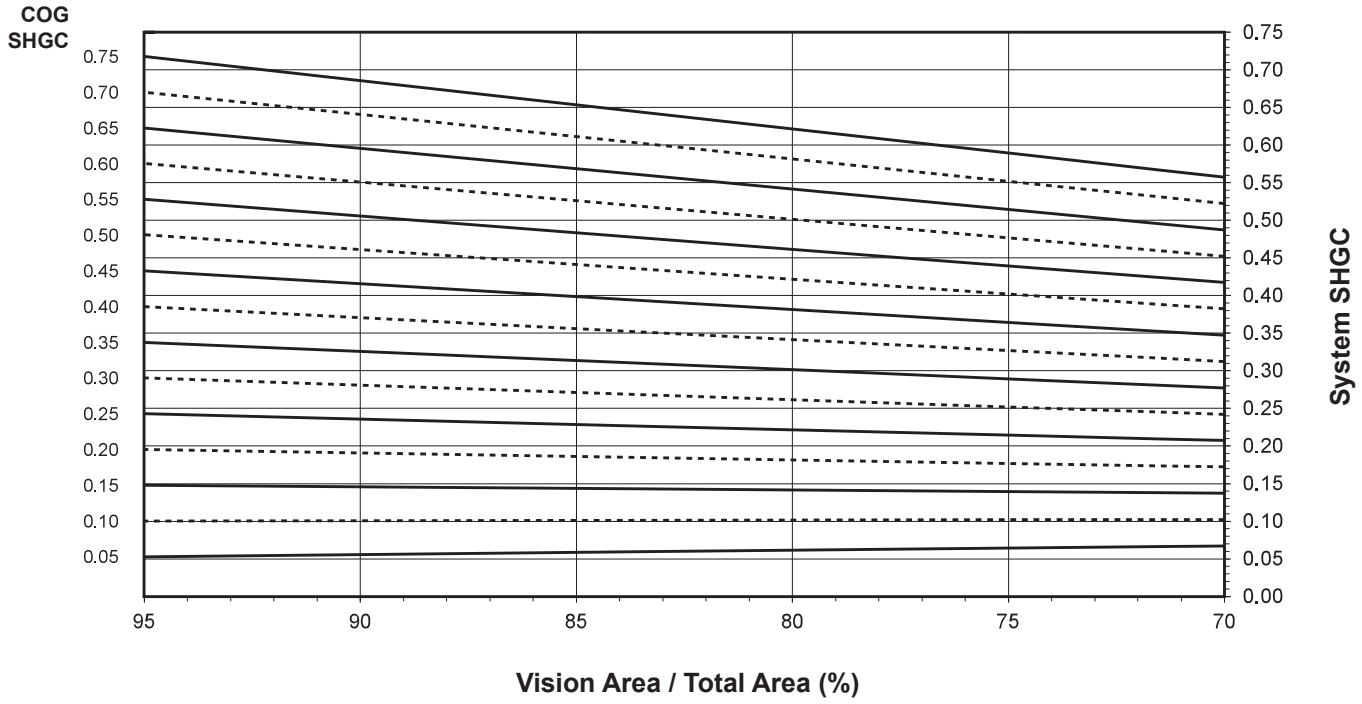


Percent of Glass Area = Vision Area/Total Area
Daylight Opening / Projected Area

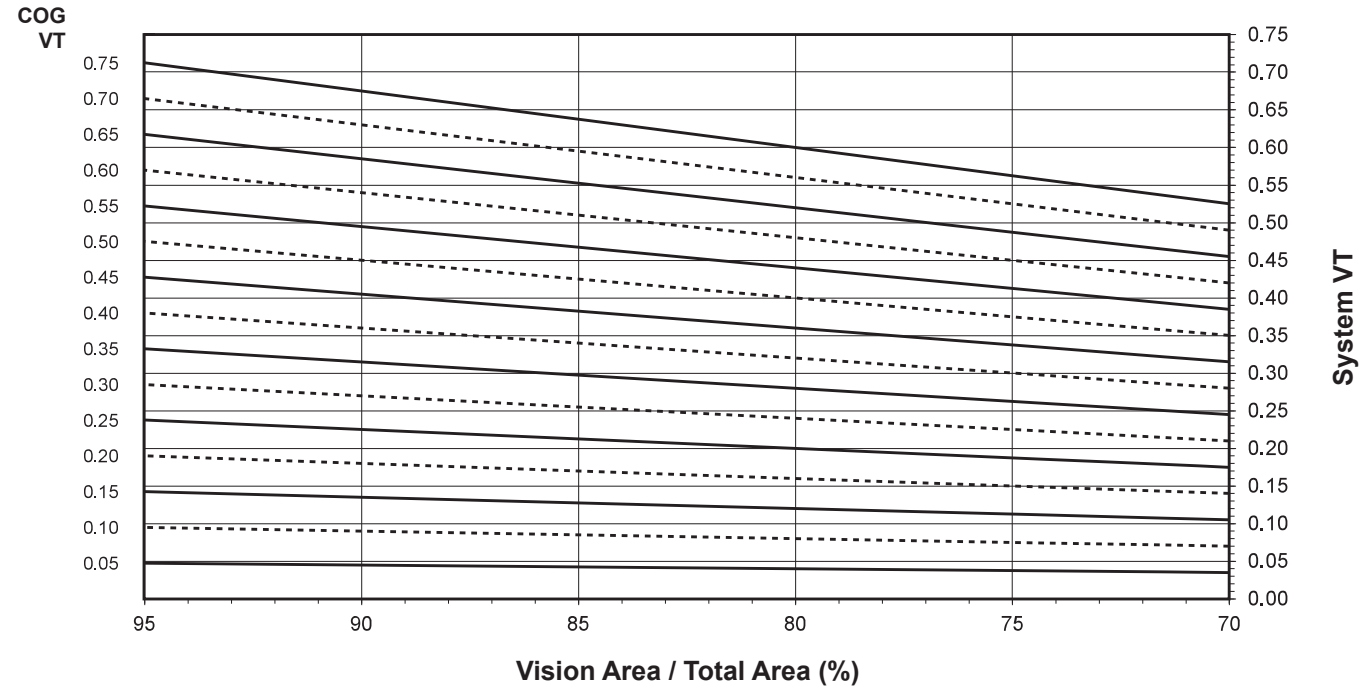
Notes for System U-factor, SHGC and VT charts:
For glass values that are not listed, linear interpolation is permitted.
Glass properties are based on center of glass values and are obtained from your glass supplier.

AW (DEEP) - 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



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

Glass U-Factor [3]	Overall U-Factor [4]
0.48	0.57
0.46	0.56
0.44	0.54
0.42	0.53
0.40	0.52
0.38	0.50
0.36	0.49
0.34	0.47
0.32	0.46
0.30	0.44
0.28	0.43
0.26	0.41
0.24	0.40
0.22	0.38
0.20	0.37

AW (DEEP) - 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 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	0.59
0.70	0.55
0.65	0.51
0.60	0.47
0.55	0.44
0.50	0.40
0.45	0.36
0.40	0.33
0.35	0.29
0.30	0.25
0.25	0.21
0.20	0.18
0.15	0.14
0.10	0.10
0.05	0.06

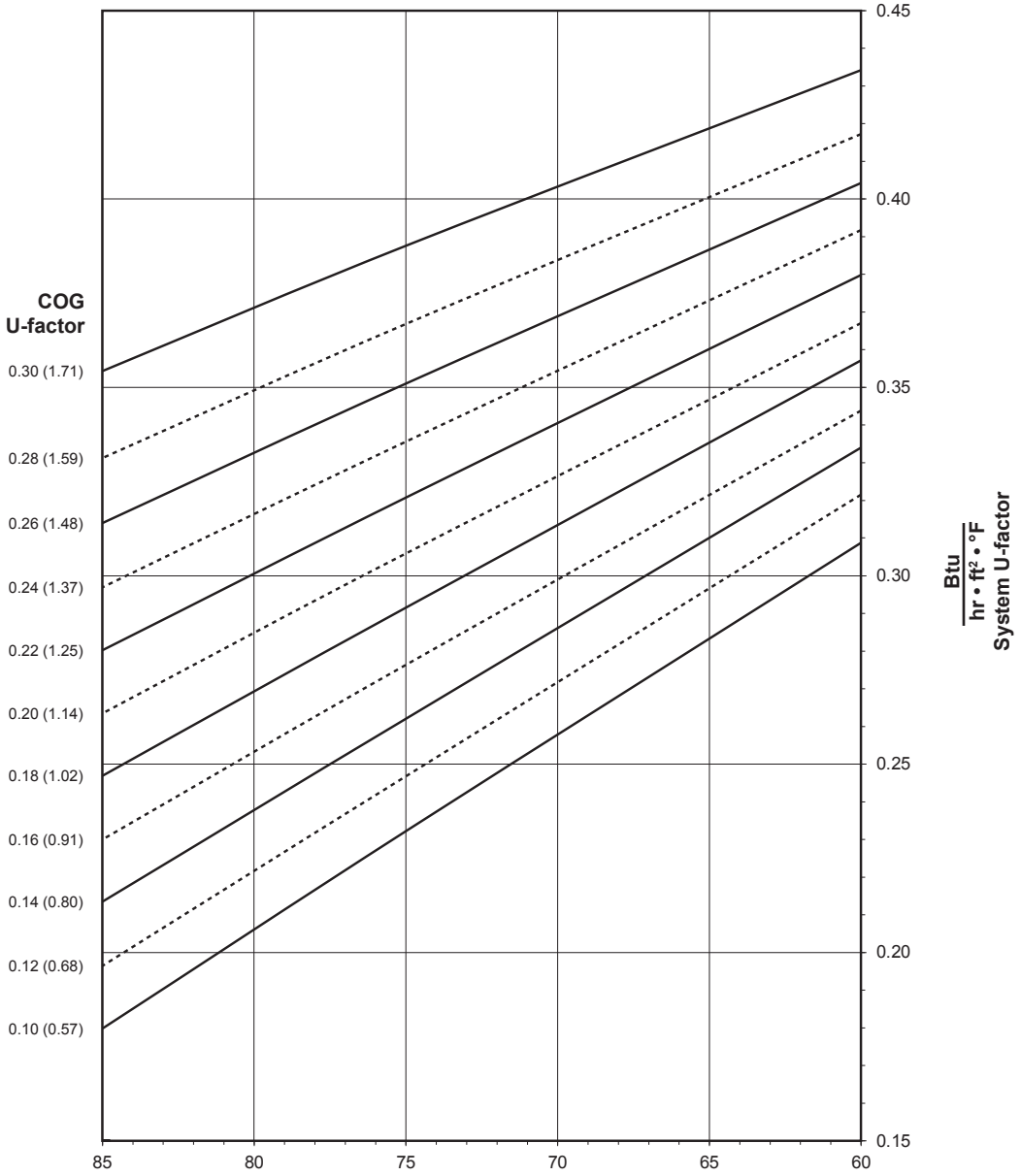
Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
0.75	0.56
0.70	0.52
0.65	0.48
0.60	0.45
0.55	0.41
0.50	0.37
0.45	0.33
0.40	0.30
0.35	0.26
0.30	0.22
0.25	0.19
0.20	0.15
0.15	0.11
0.10	0.07
0.05	0.04

CW (SHALLOW) - PROJECT-OUT WINDOW WITH 1-3/4" 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

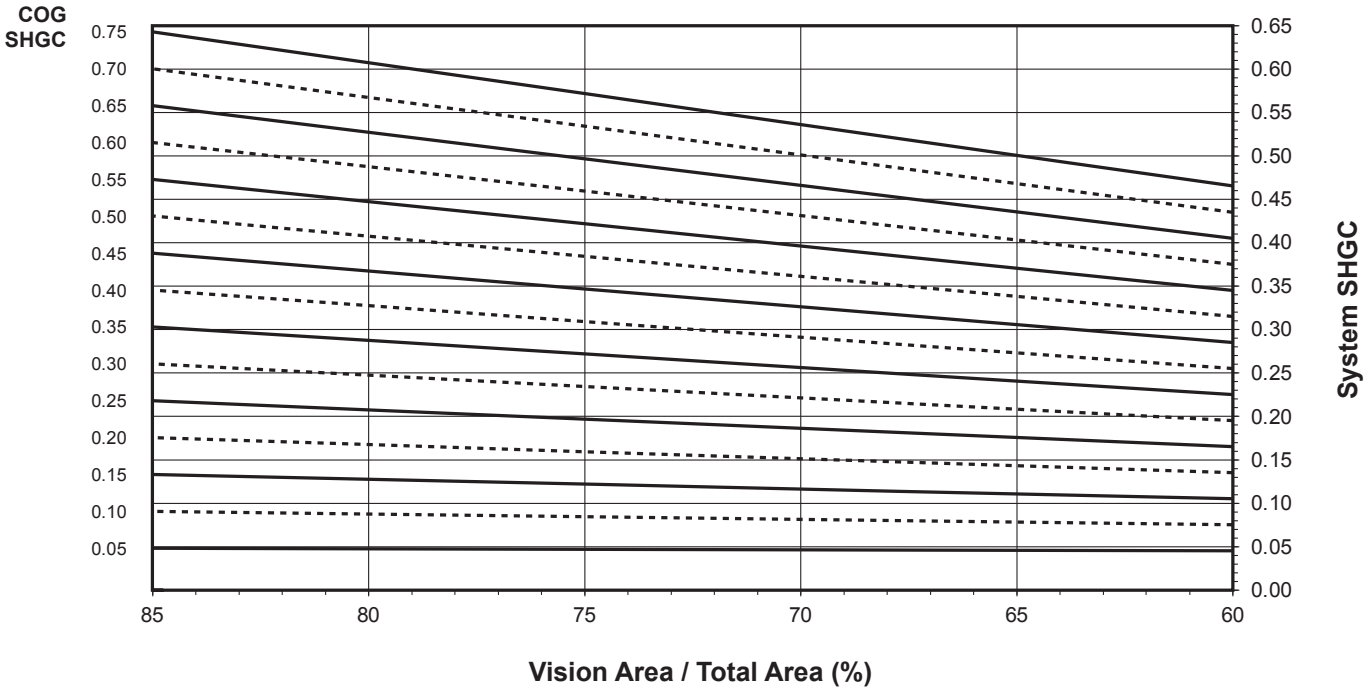


Percent of Glass Area = Vision Area/Total Area
Daylight Opening / Projected Area

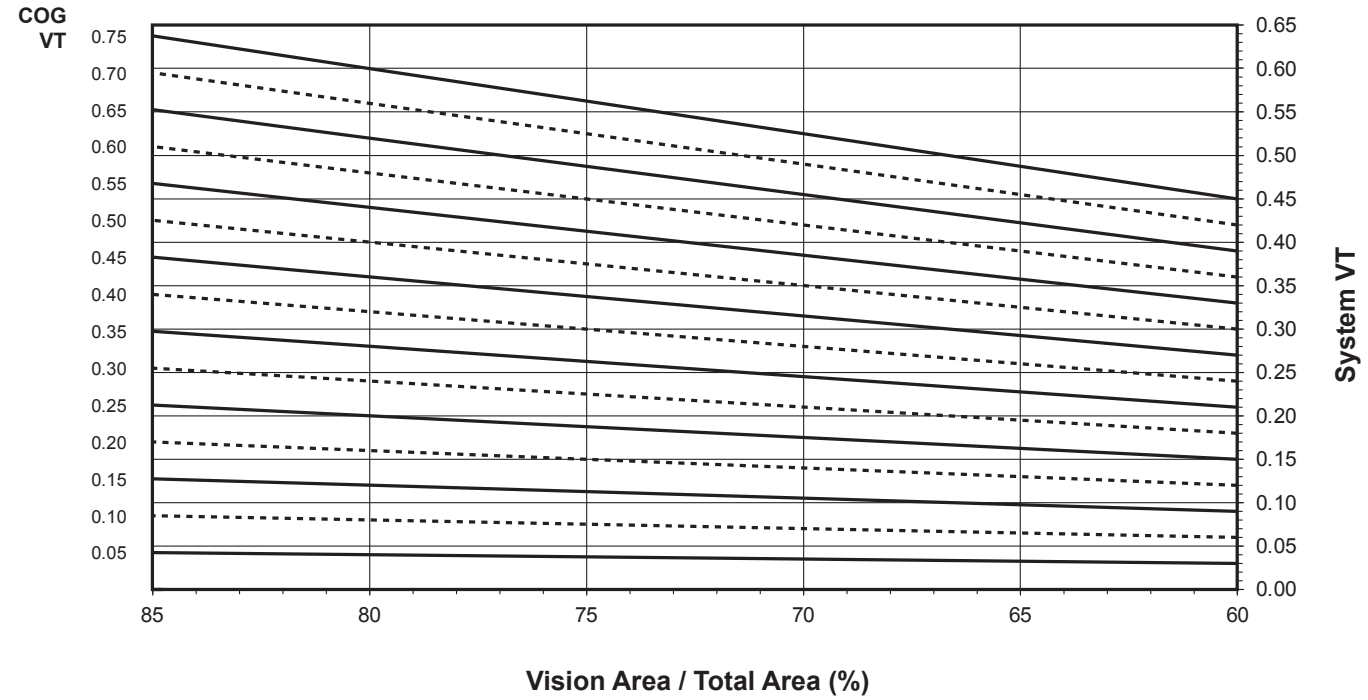
Notes for System U-factor, SHGC and VT charts:
For glass values that are not listed, linear interpolation is permitted.
Glass properties are based on center of glass values and are obtained from your glass supplier.

CW (SHALLOW) - PROJECT-OUT WINDOW WITH 1-3/4" GLAZING

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



System Visible Transmittance (VT) vs Percent of Vision Area



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

Glass U-Factor [3]	Overall U-Factor [4]
0.31	0.39
0.28	0.37
0.26	0.35
0.24	0.34
0.22	0.32
0.20	0.31
0.18	0.29
0.16	0.28
0.14	0.26
0.12	0.25
0.10	0.23

CW (SHALLOW) - PROJECT-OUT WINDOW WITH 1-3/4" 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 [2]

Glass SHGC [3]	Overall SHGC [4]
0.75	0.57
0.70	0.53
0.65	0.50
0.60	0.46
0.55	0.42
0.50	0.38
0.45	0.35
0.40	0.31
0.35	0.27
0.30	0.23
0.25	0.20
0.20	0.16
0.15	0.12
0.10	0.08
0.05	0.05

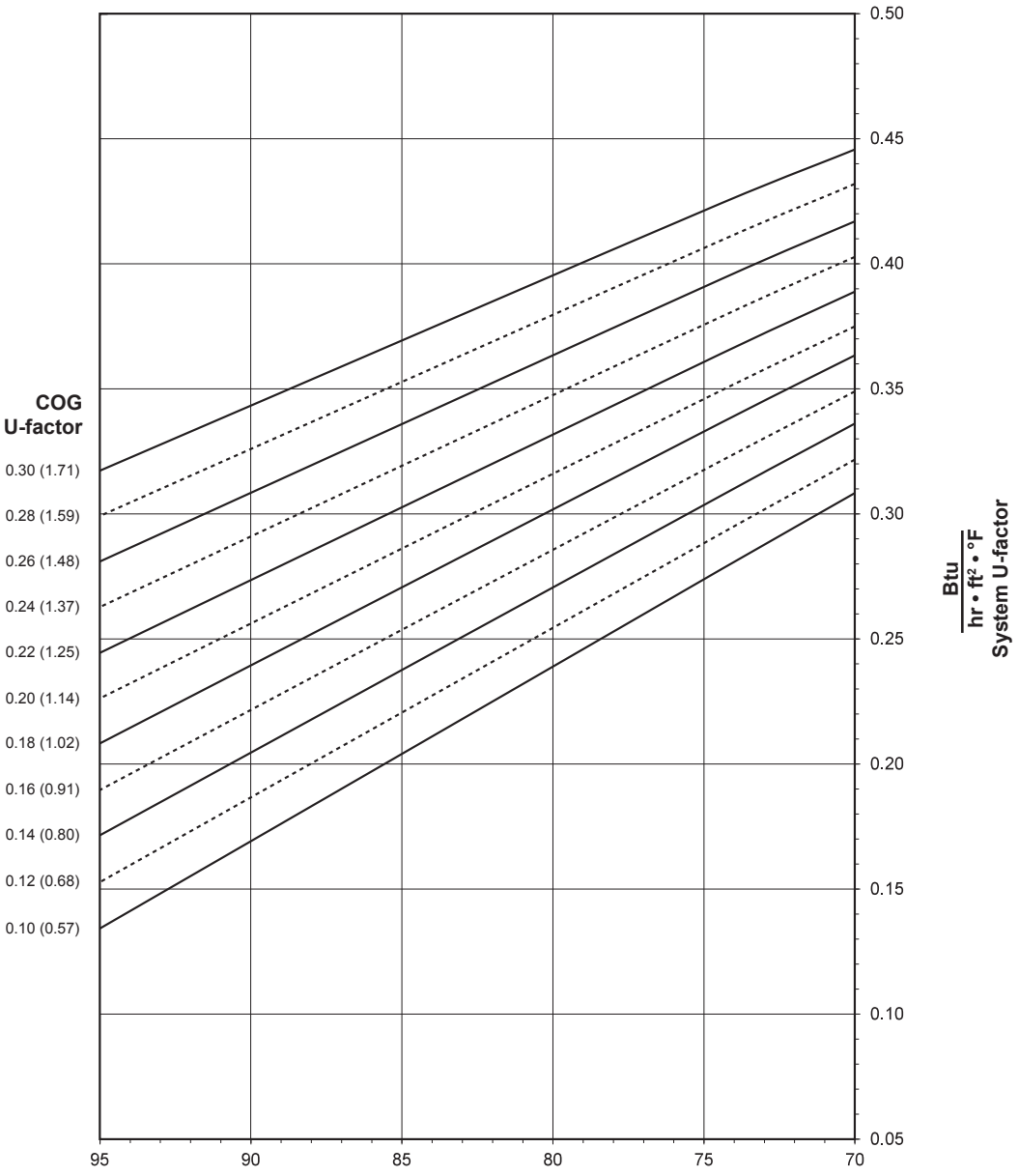
Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
0.75	0.56
0.70	0.52
0.65	0.49
0.60	0.45
0.55	0.41
0.50	0.37
0.45	0.34
0.40	0.30
0.35	0.26
0.30	0.22
0.25	0.19
0.20	0.15
0.15	0.11
0.10	0.07
0.05	0.04

AW (DEEP) - PROJECT-OUT WINDOW WITH 1-3/4" 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

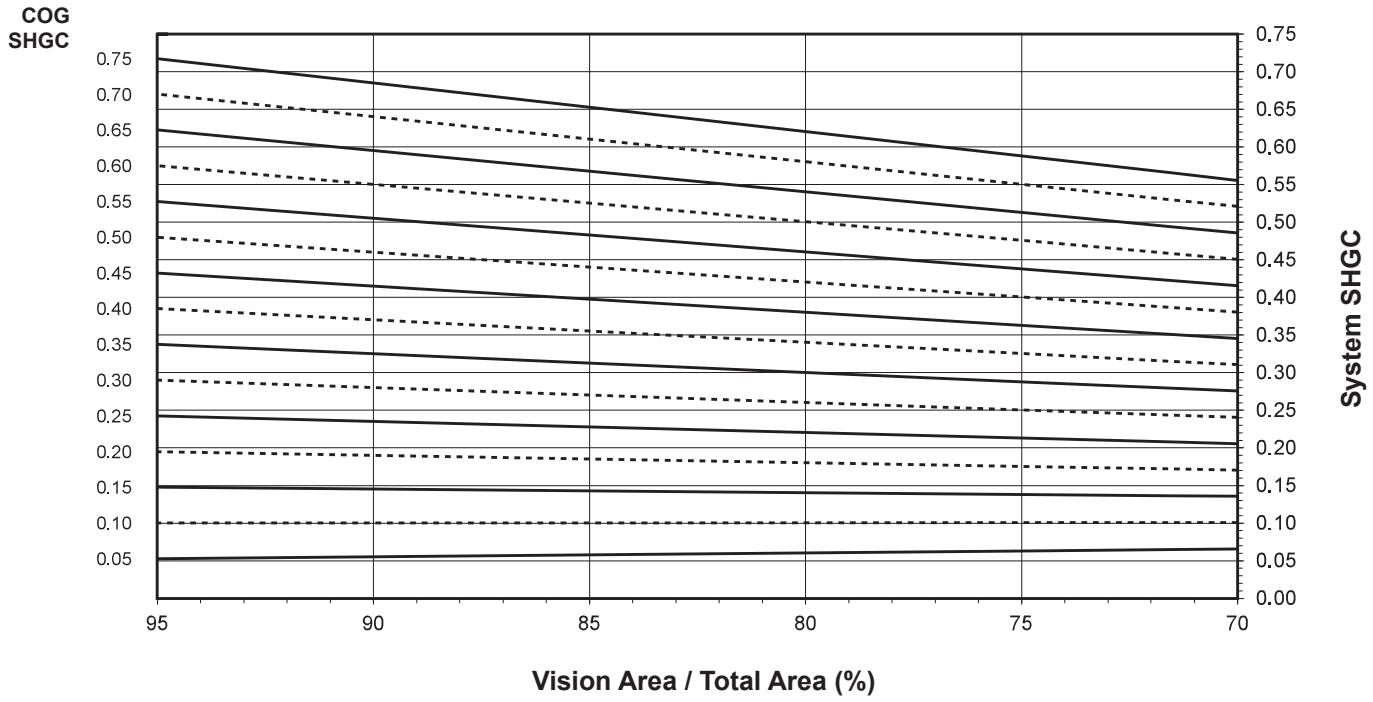


Percent of Glass Area = Vision Area/Total Area
Daylight Opening / Projected Area

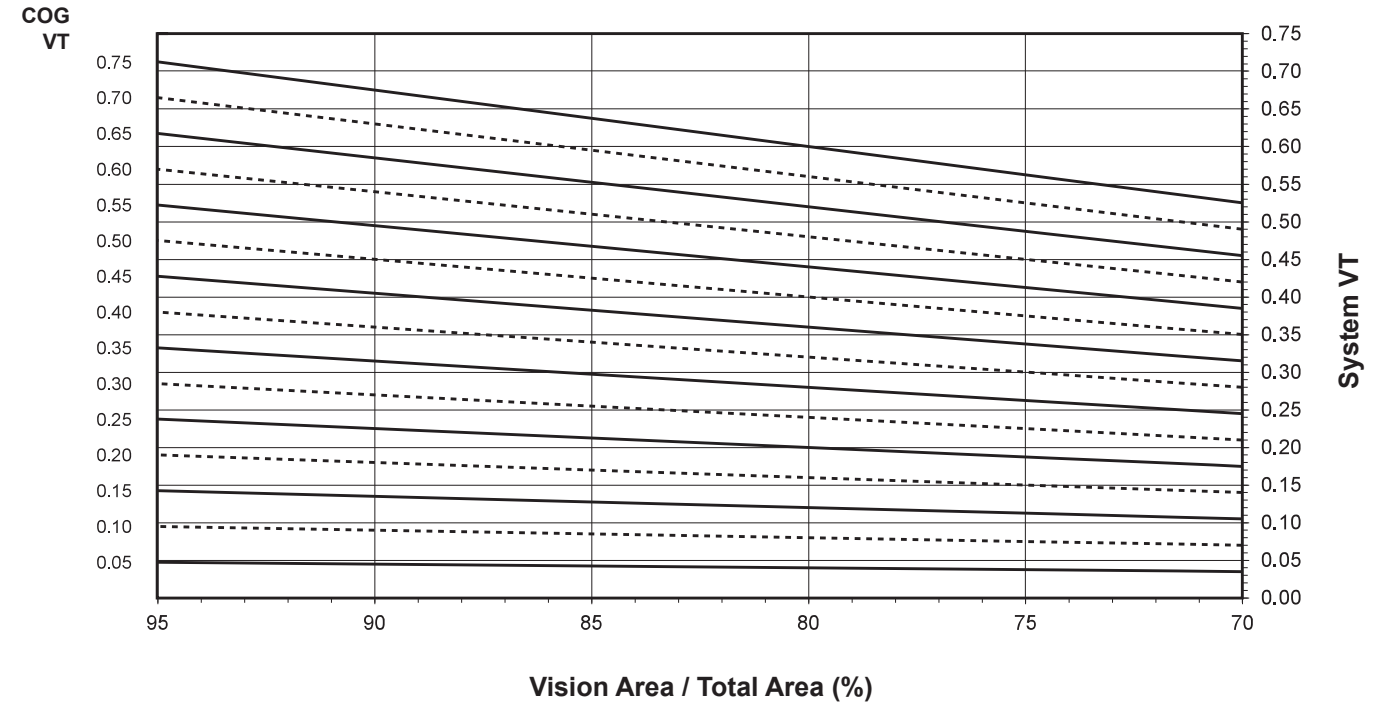
Notes for System U-factor, SHGC and VT charts:
For glass values that are not listed, linear interpolation is permitted.
Glass properties are based on center of glass values and are obtained from your glass supplier.

AW (DEEP) - PROJECT-OUT WINDOW WITH 1-3/4" GLAZING

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



System Visible Transmittance (VT) vs Percent of Vision Area



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

Glass U-Factor [3]	Overall U-Factor [4]	
	Aluminum Spacer	Warm Edge Spacer
0.30	0.42	0.39
0.28	0.41	0.38
0.26	0.39	0.36
0.24	0.38	0.35
0.22	0.36	0.33
0.20	0.35	0.31
0.18	0.34	0.30
0.16	0.32	0.29
0.14	0.31	0.27
0.12	0.29	0.26
0.10	0.28	0.24

AW (DEEP) - PROJECT-OUT WINDOW WITH 1-3/4" 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 [2]

Glass SHGC [3]	Overall SHGC [4]	
	Aluminum Spacer	Warm Edge Spacer
0.75	0.58	0.58
0.70	0.55	0.54
0.65	0.51	0.51
0.60	0.47	0.47
0.55	0.44	0.43
0.50	0.40	0.39
0.45	0.36	0.36
0.40	0.32	0.32
0.35	0.29	0.28
0.30	0.25	0.24
0.25	0.21	0.21
0.20	0.17	0.17
0.15	0.14	0.13
0.10	0.10	0.10
0.05	0.06	0.06

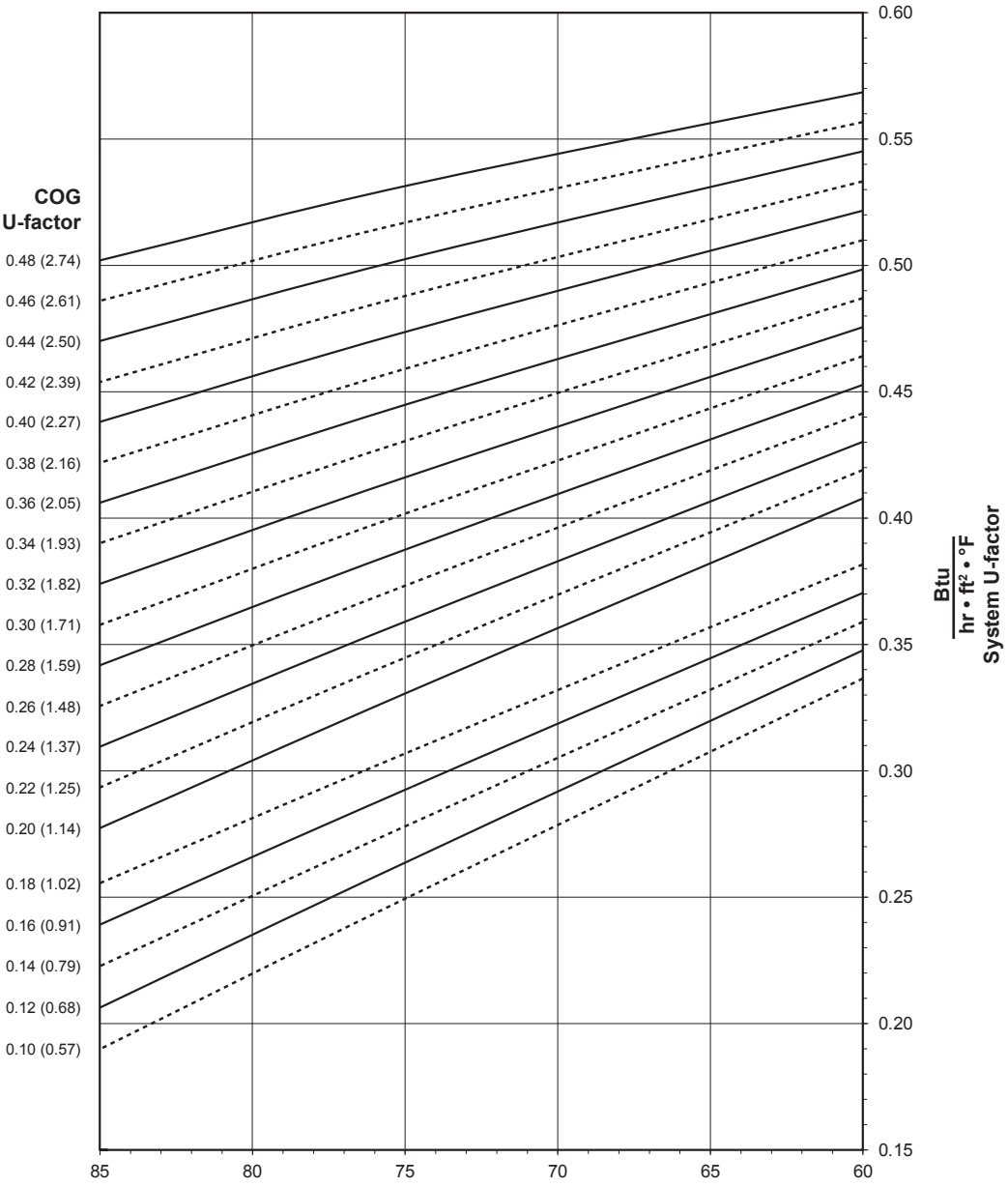
Visible Transmittance [2]

Glass VT [3]	Overall VT [4]	
	Aluminum Spacer	Warm Edge Spacer
0.75	0.56	0.56
0.70	0.52	0.52
0.65	0.48	0.48
0.60	0.45	0.45
0.55	0.41	0.41
0.50	0.37	0.37
0.45	0.33	0.33
0.40	0.30	0.30
0.35	0.26	0.26
0.30	0.22	0.22
0.25	0.19	0.19
0.20	0.15	0.15
0.15	0.11	0.11
0.10	0.07	0.07
0.05	0.04	0.04

CW (SHALLOW) - OUTSWING CASEMENT 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

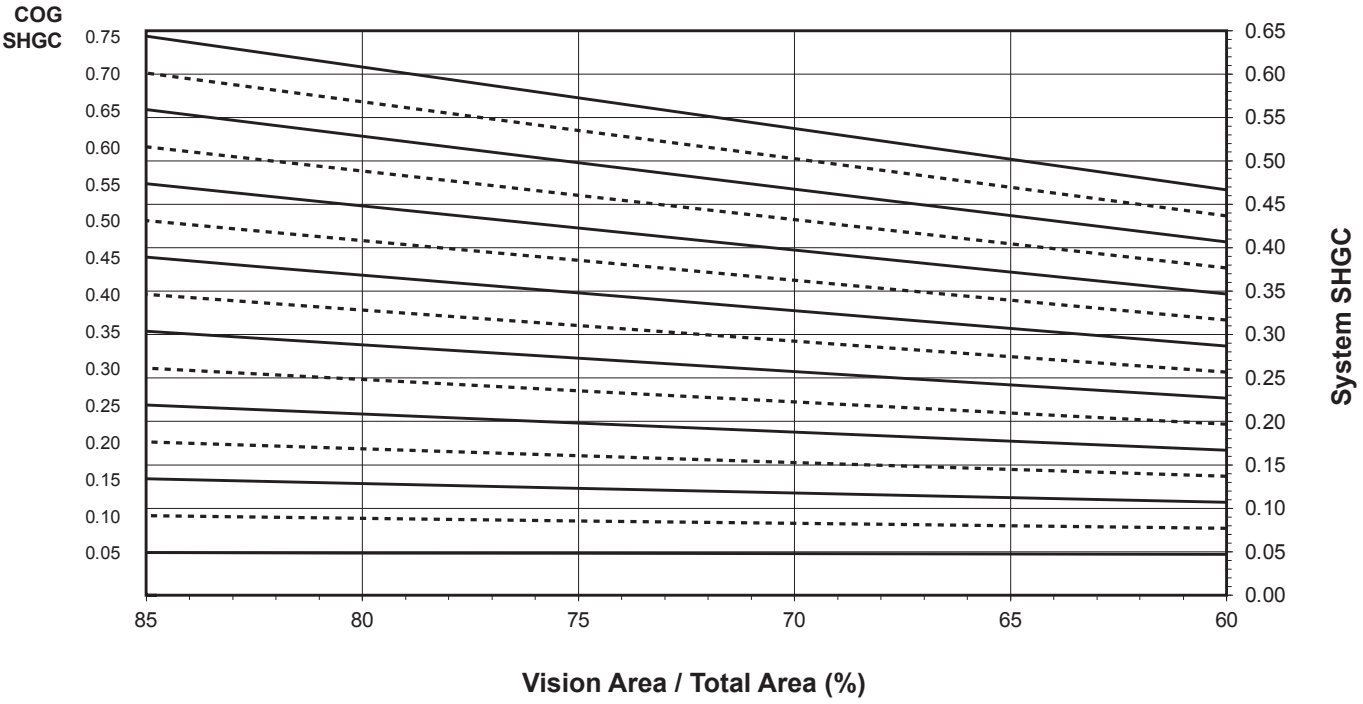


Percent of Glass Area = Vision Area/Total Area
Daylight Opening / Projected Area

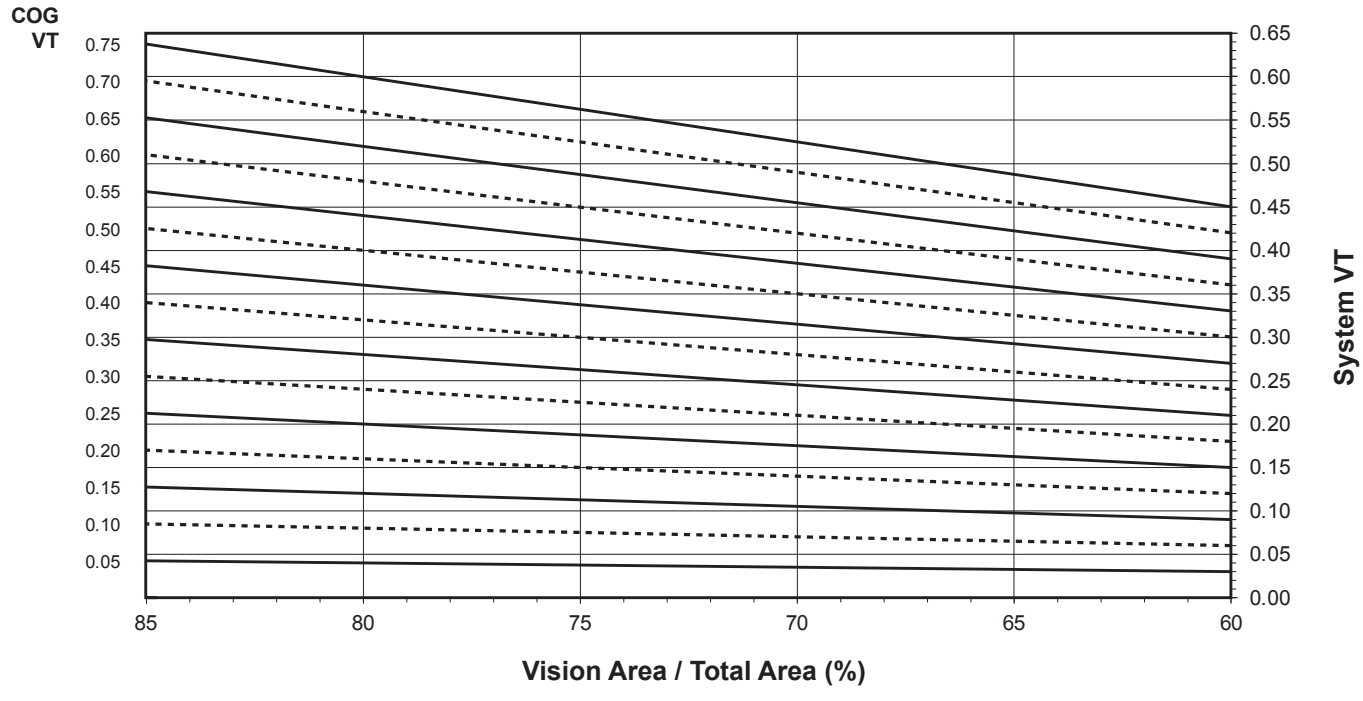
Notes for System U-factor, SHGC and VT charts:
For glass values that are not listed, linear interpolation is permitted.
Glass properties are based on center of glass values and are obtained from your glass supplier.

CW (SHALLOW) - OUTSWING CASEMENT WINDOW WITH 1" GLAZING

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



System Visible Transmittance (VT) vs Percent of Vision Area



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

Glass U-Factor [3]	Overall U-Factor [4]
0.48	0.53
0.46	0.52
0.44	0.50
0.42	0.49
0.40	0.47
0.38	0.46
0.36	0.45
0.34	0.43
0.32	0.42
0.30	0.40
0.28	0.39
0.26	0.37
0.24	0.36
0.22	0.35
0.20	0.33
0.18	0.31
0.16	0.29
0.14	0.28
0.12	0.27
0.10	0.25

CW (SHALLOW) - OUTSWING CASEMENT 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 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	0.57
0.70	0.53
0.65	0.50
0.60	0.46
0.55	0.42
0.50	0.38
0.45	0.35
0.40	0.31
0.35	0.27
0.30	0.23
0.25	0.20
0.20	0.16
0.15	0.12
0.10	0.09
0.05	0.05

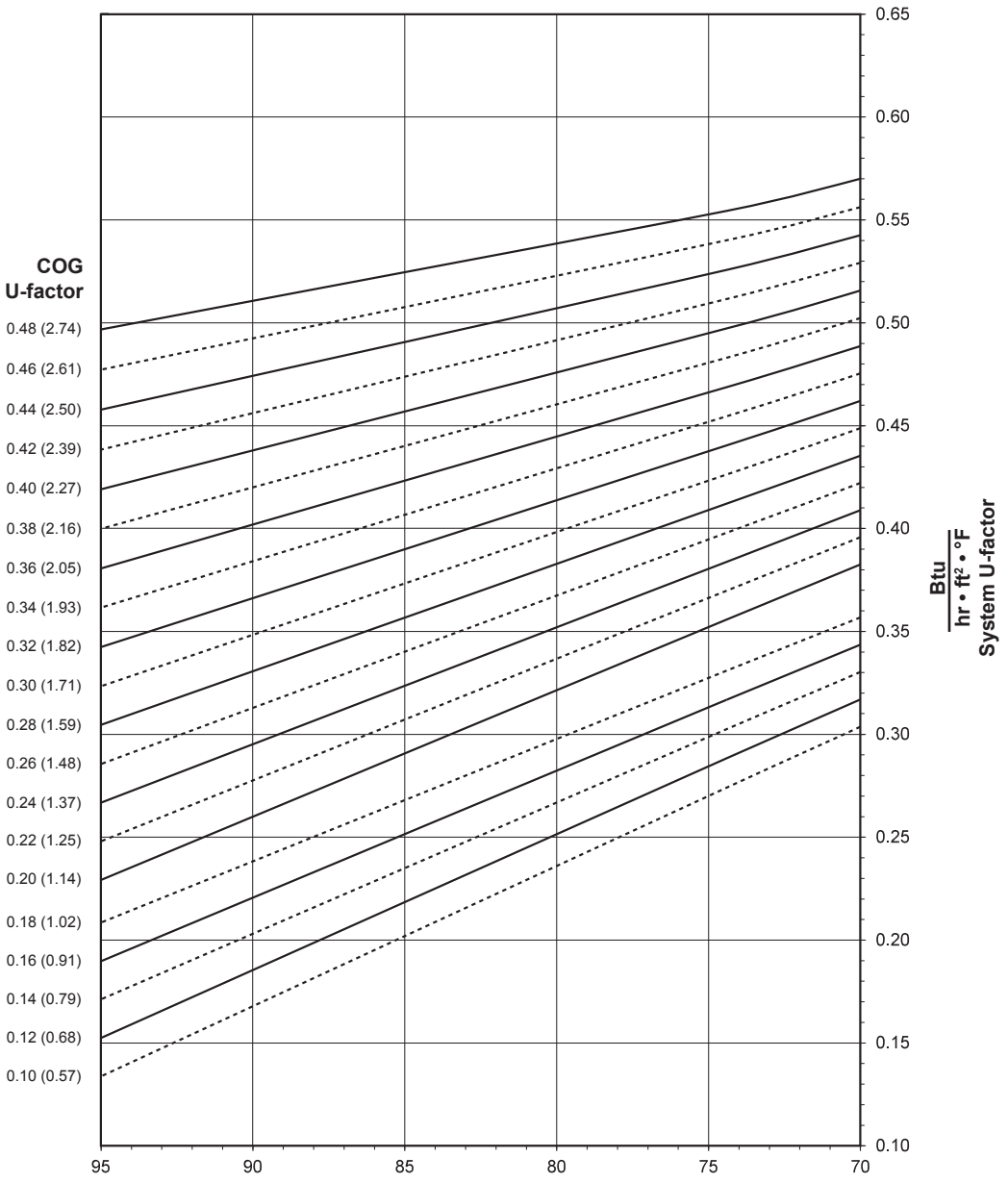
Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
0.75	0.56
0.70	0.52
0.65	0.49
0.60	0.45
0.55	0.41
0.50	0.37
0.45	0.34
0.40	0.30
0.35	0.26
0.30	0.22
0.25	0.19
0.20	0.15
0.15	0.11
0.10	0.07
0.05	0.04

AW (DEEP) - OUTSWING CASEMENT 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

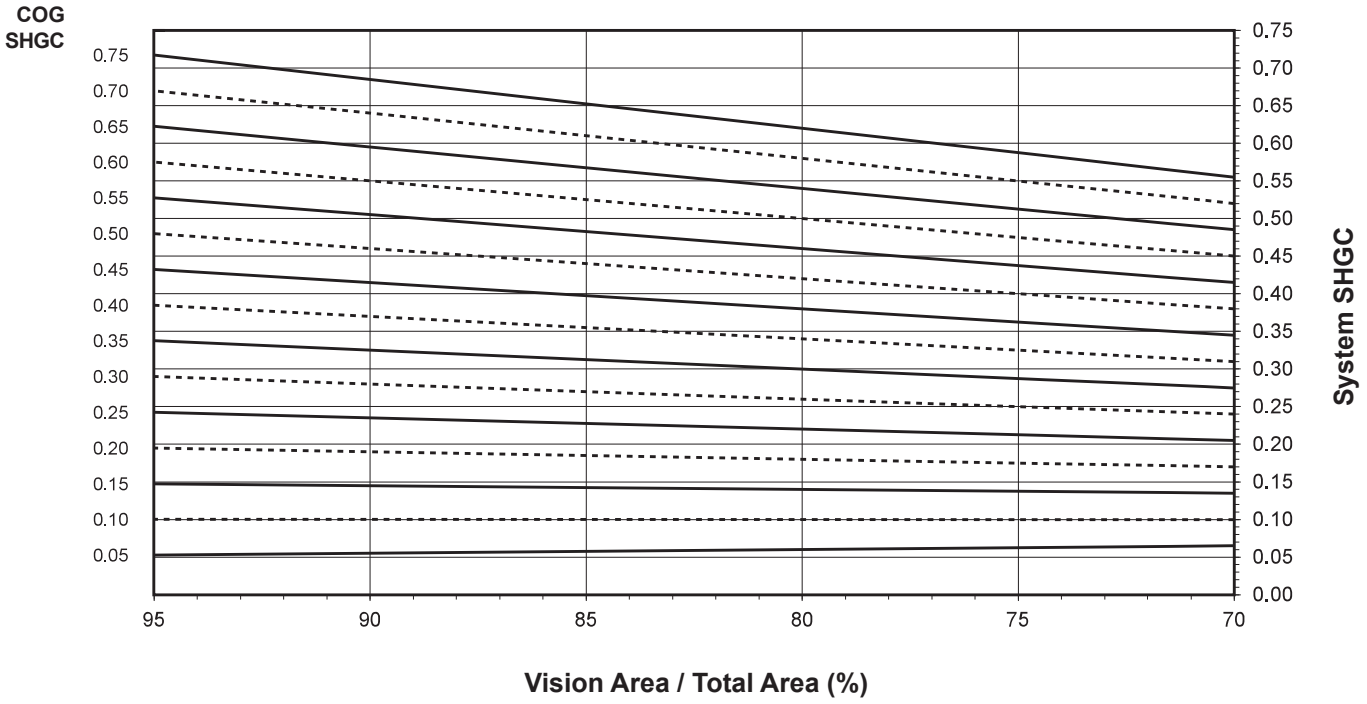


Percent of Glass Area = Vision Area/Total Area
Daylight Opening / Projected Area

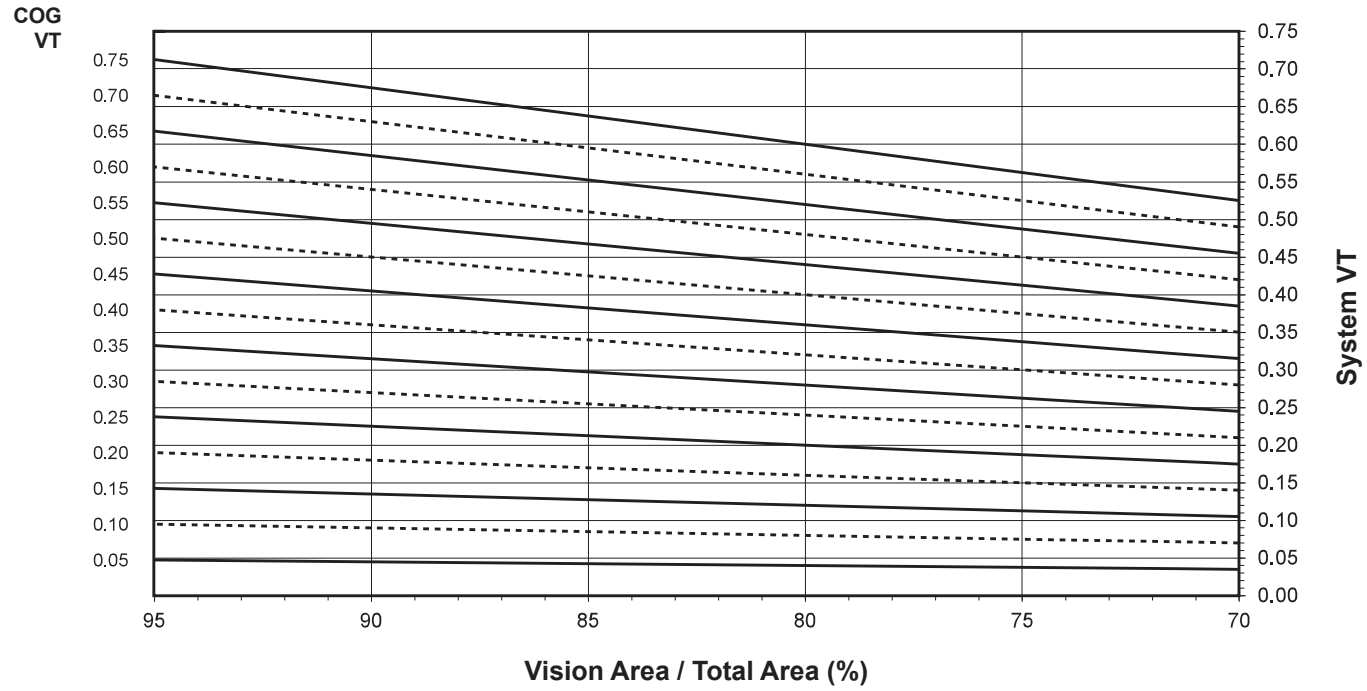
Notes for System U-factor, SHGC and VT charts:
For glass values that are not listed, linear interpolation is permitted.
Glass properties are based on center of glass values and are obtained from your glass supplier.

AW (DEEP) - OUTSWING CASEMENT WINDOW WITH 1" GLAZING

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



System Visible Transmittance (VT) vs Percent of Vision Area



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

Glass U-Factor [3]	Overall U-Factor [4]	
	Aluminum Spacer	Warm Edge Spacer
0.48	0.55	0.52
0.46	0.54	0.51
0.44	0.53	0.49
0.42	0.51	0.48
0.40	0.50	0.46
0.38	0.48	0.45
0.36	0.47	0.44
0.34	0.45	0.42
0.32	0.44	0.41
0.30	0.43	0.39
0.28	0.41	0.38
0.26	0.40	0.36
0.24	0.38	0.35
0.22	0.37	0.33
0.20	0.36	0.32
0.18	0.33	0.30
0.16	0.32	0.29
0.14	0.30	0.27
0.12	0.29	0.26
0.10	0.27	0.24

AW (DEEP) - OUTSWING CASEMENT 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 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]	
	Aluminum Spacer	Warm Edge Spacer
0.75	0.58	0.58
0.70	0.55	0.54
0.65	0.51	0.51
0.60	0.47	0.47
0.55	0.43	0.43
0.50	0.40	0.39
0.45	0.36	0.36
0.40	0.32	0.32
0.35	0.29	0.29
0.30	0.25	0.25
0.25	0.21	0.21
0.20	0.17	0.17
0.15	0.14	0.13
0.10	0.10	0.10
0.05	0.06	0.06

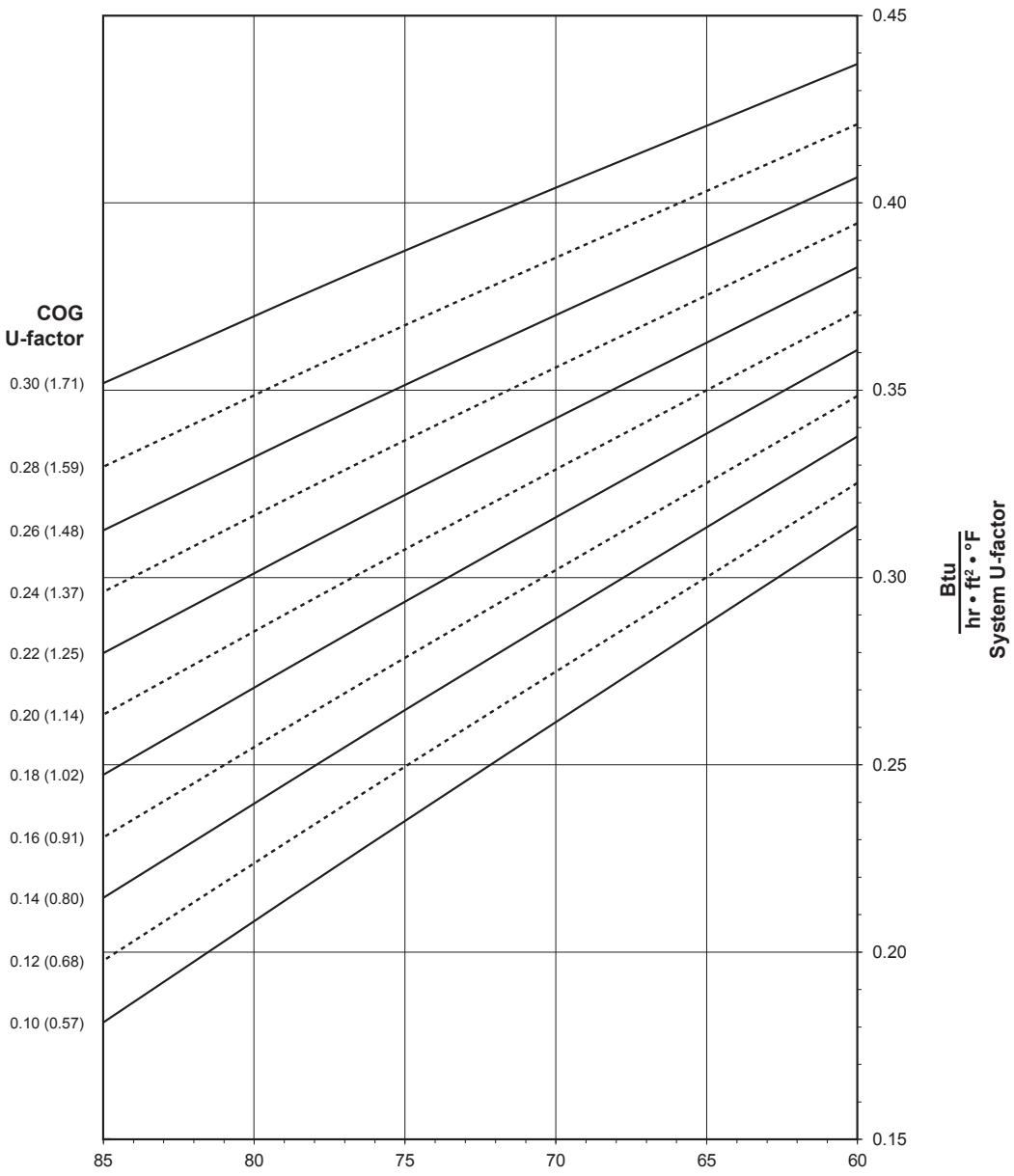
Visible Transmittance [2]

Glass VT [3]	Overall VT [4]	
	Aluminum Spacer	Warm Edge Spacer
0.75	0.56	0.56
0.70	0.52	0.52
0.65	0.48	0.48
0.60	0.45	0.45
0.55	0.41	0.41
0.50	0.37	0.37
0.45	0.33	0.33
0.40	0.30	0.30
0.35	0.26	0.26
0.30	0.22	0.22
0.25	0.19	0.19
0.20	0.15	0.15
0.15	0.11	0.11
0.10	0.07	0.07
0.05	0.04	0.04

CW (SHALLOW) - OUTSWING CASEMENT WINDOW WITH 1-3/4" 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

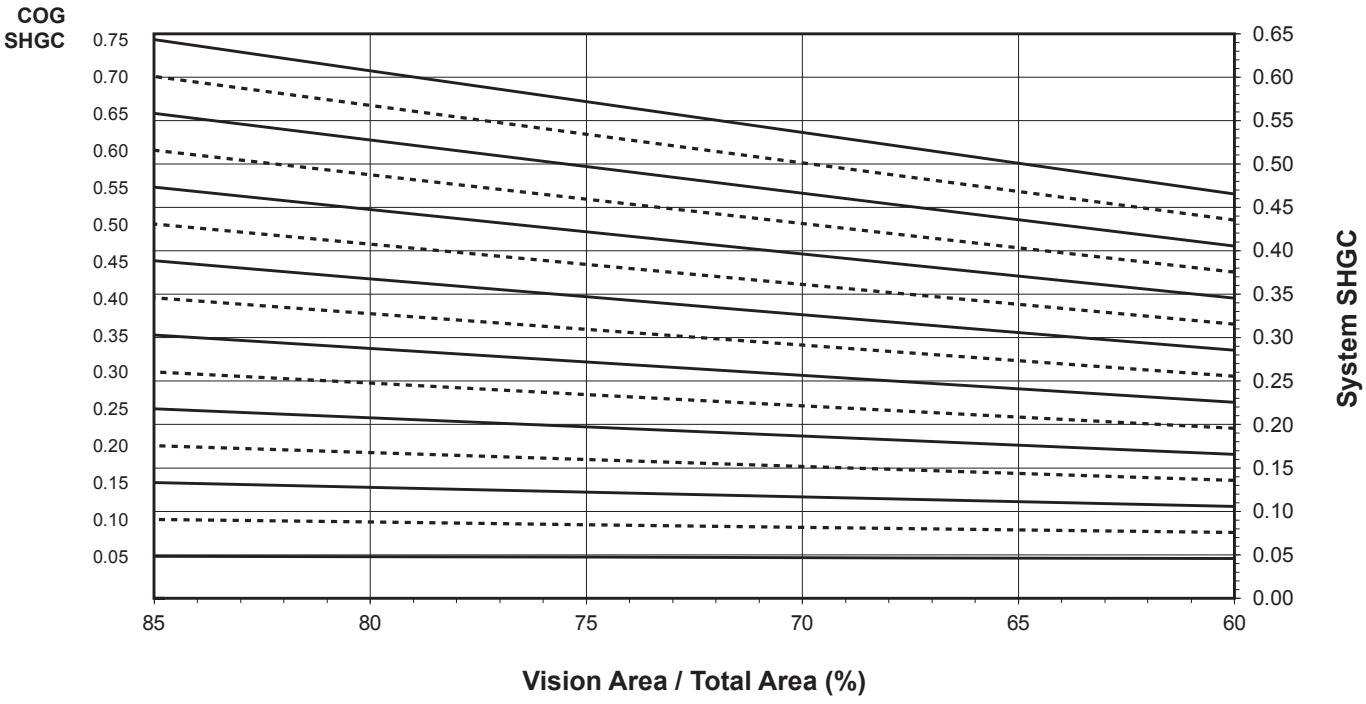


Percent of Glass Area = Vision Area/Total Area
Daylight Opening / Projected Area

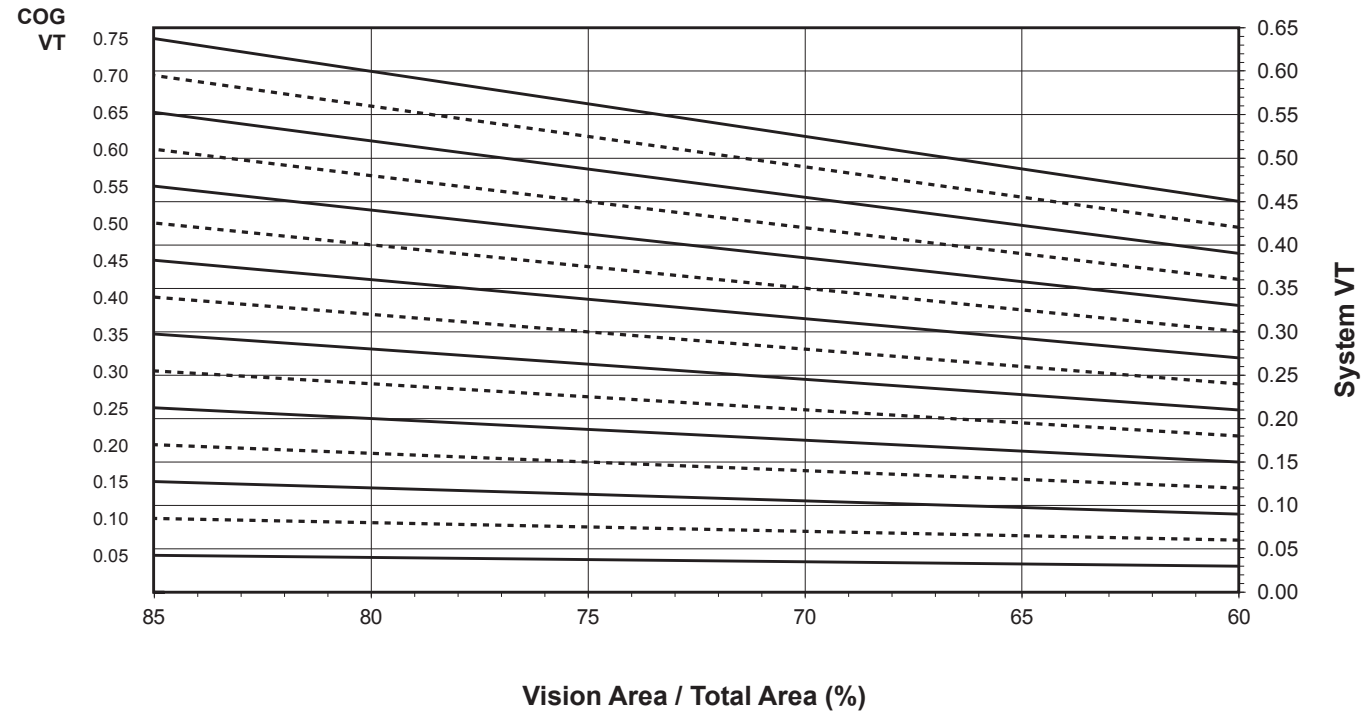
Notes for System U-factor, SHGC and VT charts:
For glass values that are not listed, linear interpolation is permitted.
Glass properties are based on center of glass values and are obtained from your glass supplier.

CW (SHALLOW) - OUTSWING CASEMENT WINDOW WITH 1-3/4" GLAZING

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



System Visible Transmittance (VT) vs Percent of Vision Area



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

Glass U-Factor [3]	Overall U-Factor [4]
0.31	0.39
0.28	0.37
0.26	0.35
0.24	0.34
0.22	0.32
0.20	0.31
0.18	0.29
0.16	0.28
0.14	0.27
0.12	0.25
0.10	0.24

CW (SHALLOW) - OUTSWING CASEMENT WINDOW WITH 1-3/4" 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 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	0.57
0.70	0.53
0.65	0.50
0.60	0.46
0.55	0.42
0.50	0.38
0.45	0.35
0.40	0.31
0.35	0.27
0.30	0.23
0.25	0.20
0.20	0.16
0.15	0.12
0.10	0.08
0.05	0.05

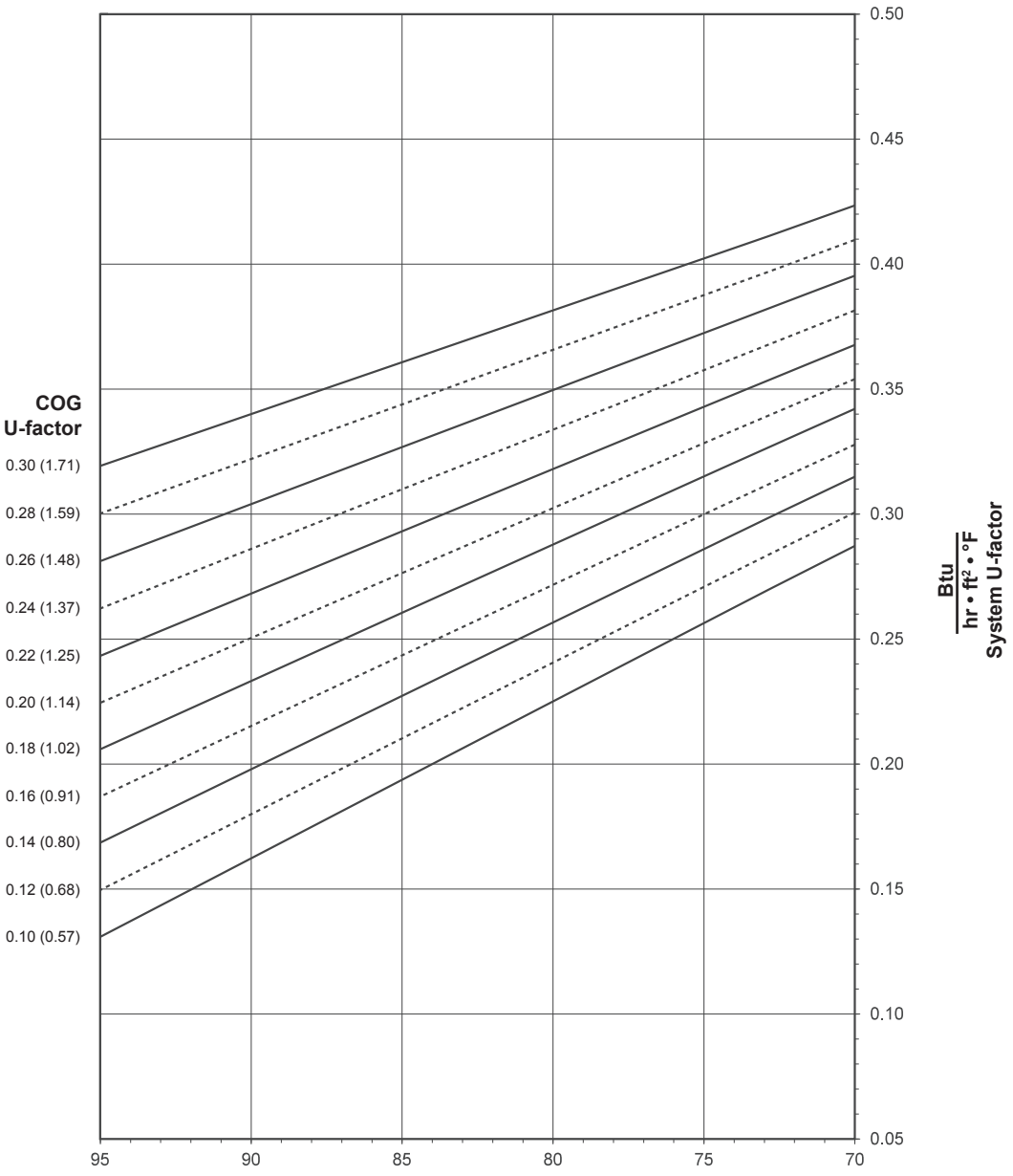
Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
0.75	0.56
0.70	0.52
0.65	0.49
0.60	0.45
0.55	0.41
0.50	0.37
0.45	0.34
0.40	0.30
0.35	0.26
0.30	0.22
0.25	0.19
0.20	0.15
0.15	0.11
0.10	0.07
0.05	0.04

AW (DEEP) - OUTSWING CASEMENT WINDOW WITH 1-3/4" 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

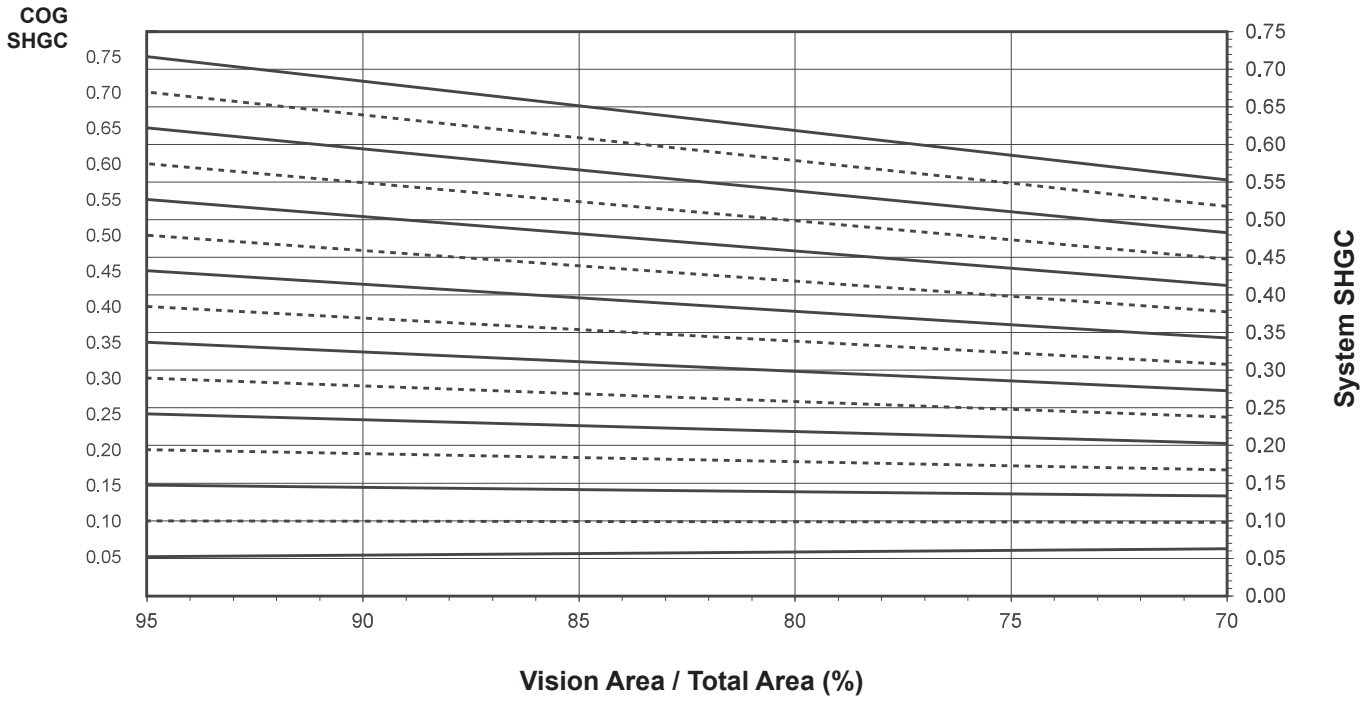


Percent of Glass Area = Vision Area/Total Area
Daylight Opening / Projected Area

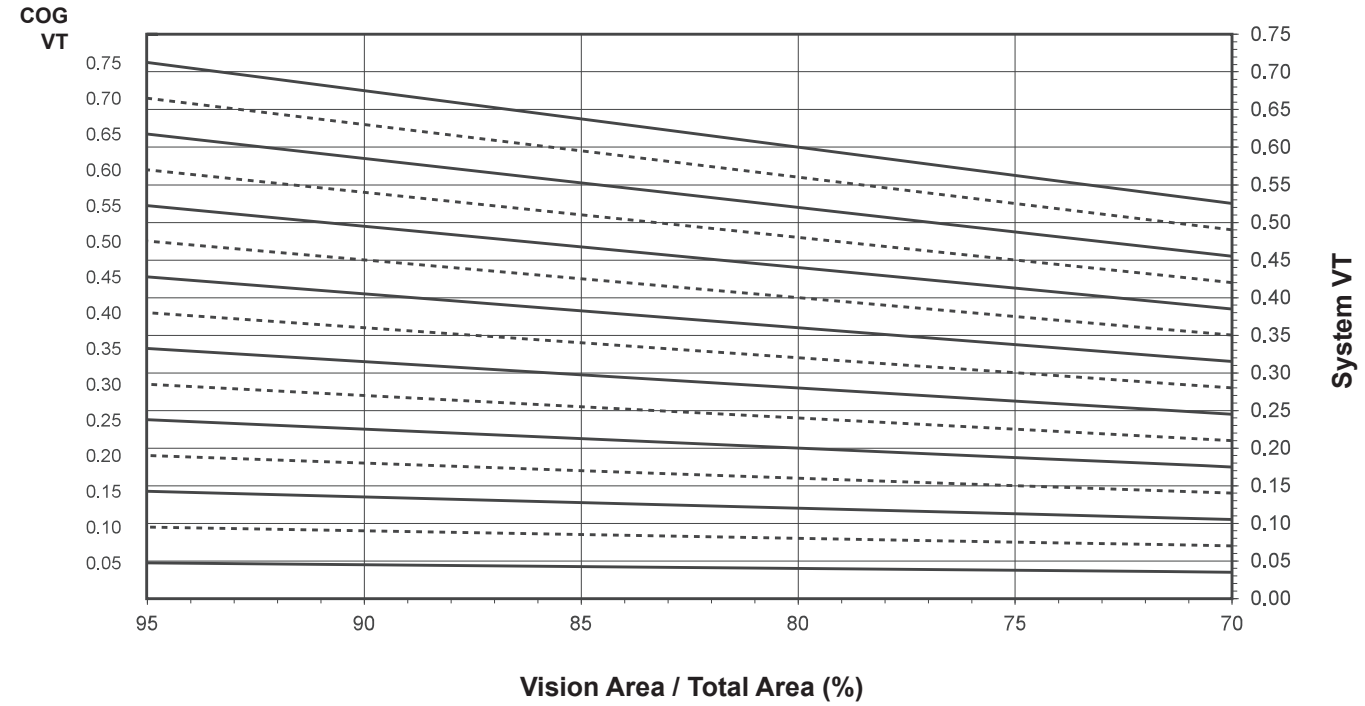
Notes for System U-factor, SHGC and VT charts:
For glass values that are not listed, linear interpolation is permitted.
Glass properties are based on center of glass values and are obtained from your glass supplier.

AW (DEEP) - OUTSWING CASEMENT WINDOW WITH 1-3/4" GLAZING

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



System Visible Transmittance (VT) vs Percent of Vision Area



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

Glass U-Factor [3]	Overall U-Factor [4]	
	Aluminum Spacer	Warm Edge Spacer
0.30	0.40	0.37
0.28	0.39	0.35
0.26	0.38	0.34
0.24	0.36	0.32
0.22	0.35	0.31
0.20	0.33	0.29
0.18	0.32	0.28
0.16	0.30	0.26
0.14	0.29	0.25
0.12	0.27	0.23
0.10	0.26	0.22

AW (DEEP) - OUTSWING CASEMENT WINDOW WITH 1-3/4" 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 600 mm wide by 1,500 mm high (23-5/8" by 59-1/16").

SHGC Matrix [2]

Glass SHGC [3]	Overall SHGC [4]	
	Aluminum Spacer	Warm Edge Spacer
0.75	0.58	0.58
0.70	0.54	0.54
0.65	0.51	0.50
0.60	0.47	0.47
0.55	0.43	0.43
0.50	0.40	0.39
0.45	0.36	0.35
0.40	0.32	0.32
0.35	0.28	0.28
0.30	0.25	0.24
0.25	0.21	0.20
0.20	0.17	0.17
0.15	0.14	0.13
0.10	0.10	0.09
0.05	0.06	0.06

Visible Transmittance [2]

Glass VT [3]	Overall VT [4]	
	Aluminum Spacer	Warm Edge Spacer
0.75	0.56	0.56
0.70	0.52	0.52
0.65	0.48	0.48
0.60	0.45	0.45
0.55	0.41	0.41
0.50	0.37	0.37
0.45	0.33	0.33
0.40	0.30	0.30
0.35	0.26	0.26
0.30	0.22	0.22
0.25	0.19	0.19
0.20	0.15	0.15
0.15	0.11	0.11
0.10	0.07	0.07
0.05	0.04	0.04