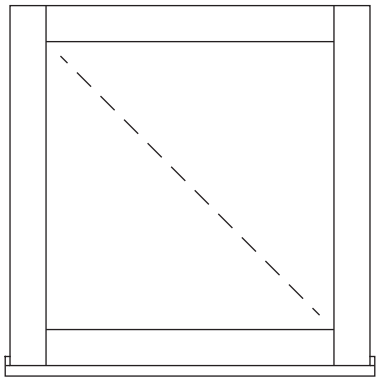
Metric (SI) conversion figures are included throughout these details for reference. Numbers in parentheses ( ) are millimeters unless otherwise noted.

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

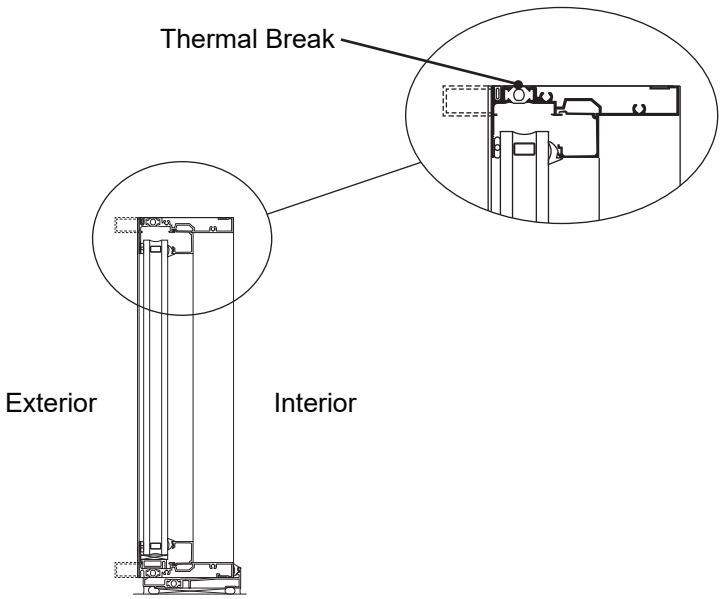
m – meter
cm – centimeter
mm – millimeter
s – second
Pa – pascal
MPa – megapascal

Features

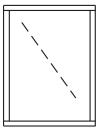
- 19/32" (14.6) IsoPort® glass-reinforced nylon 6/6 thermal break provides:
  - Improved condensation resistance and thermal transmittance performance capability
  - Rigid profile with composite structural performance
  - Exterior / interior finish options
- Meets or exceeds the highest performance levels of CSA standard CAN/CSA-A440 windows
- 516 Thermal Window has seamless coupling mullion features unbroken weather joints on exterior surface
- Provision for thermal movement
- Simple joinery with overlapping flanges for economical construction and good weathering capability
- Optional full rain screen capability
- 518 Thermal Window has distinctive "Top Hat" accent feature
- Accommodates 1" (25.4) sealed glazing units
- Glass installed and replaced from interior
- Exterior pre-shim butyl glazing tapes
- Interior EPDM rubber glazing gaskets
- Lock-in glass stop
- Companion project-out or project-in vent inserts available
- Accepts 512 Ventrow Thermal Ventilator inserts and 526 Thermal Windows operable



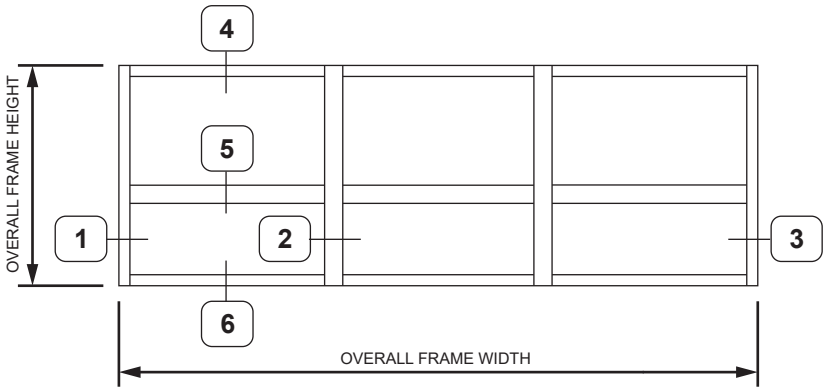
Fixed Window



For specific product applications,
consult your Kawneer representative.

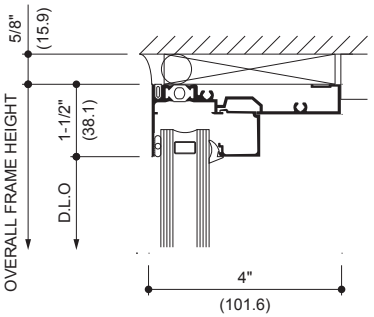
CLASS and GRADE	Fixed, B7, C5 
TESTING STANDARD	CAN / CSA-A440
FRAME DEPTH	4" (516) or 5" (518)
TYPICAL WALL THICKNESS	.070" Nominal Frame
INFILL OPTIONS	1"
STANDARD HARDWARE	Not Applicable
OPTIONAL HARDWARE	Not Applicable
OTHER OPTIONS	Multi-Modular Coupling Mullion

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

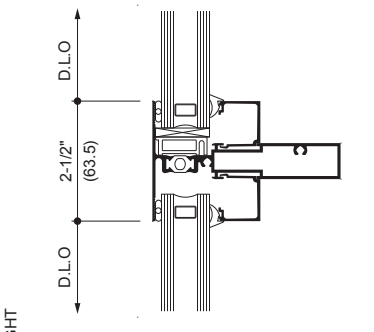


TYPICAL ELEVATION

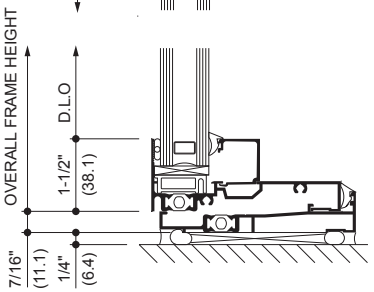
4
HEAD

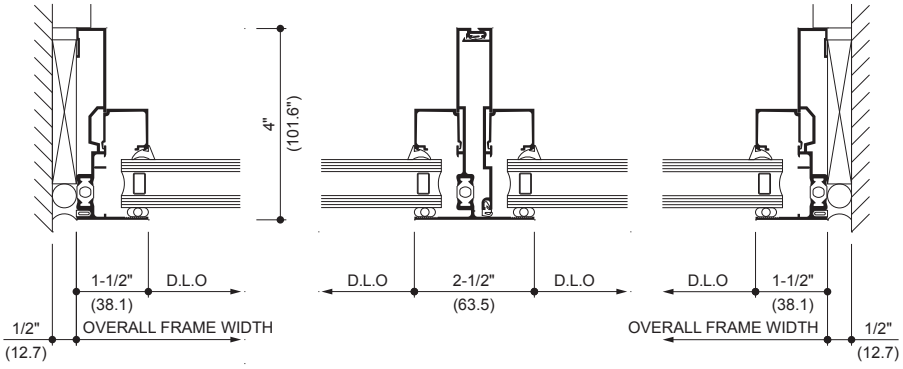


5
INTERMEDIATE
HORIZONTAL



6
SILL



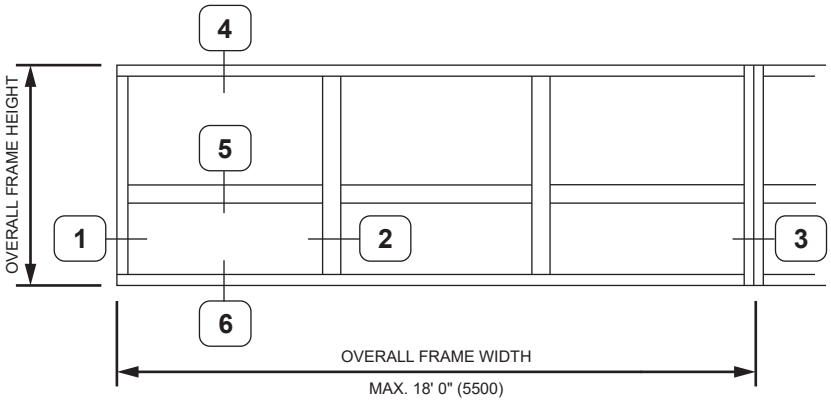


1
JAMB

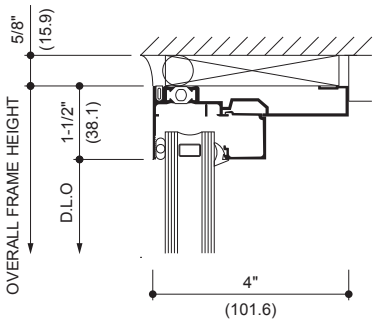
2
COUPLING
MULLION

3
JAMB

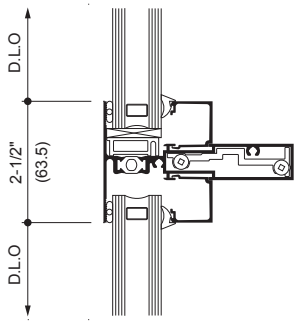
Additional information and CAD details are available at www.kawneer.com



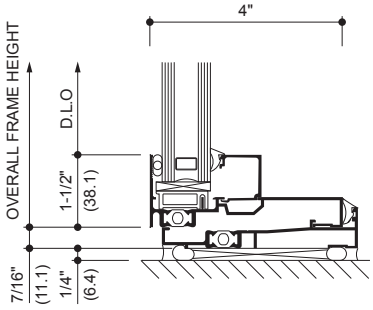
TYPICAL ELEVATION



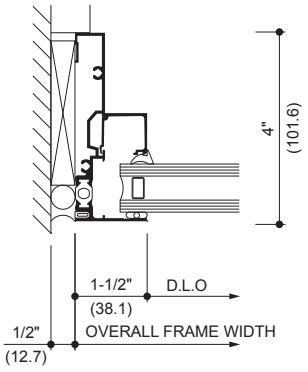
4
HEAD



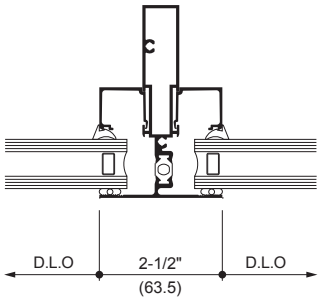
5
INTERMEDIATE
HORIZONTAL



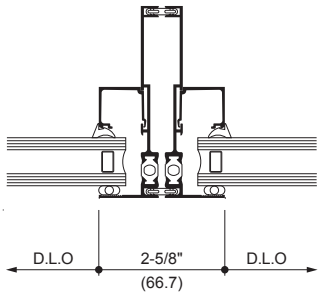
6
SILL



1
JAMB

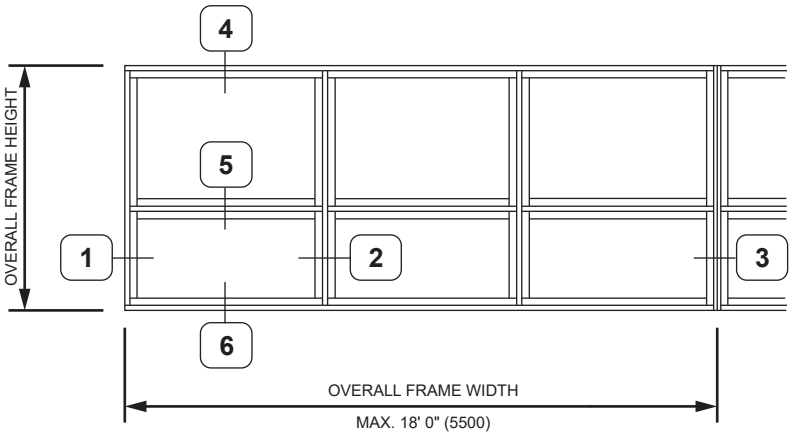


2
TUBULAR
MULLION



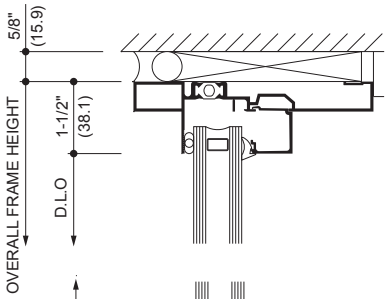
3
MULTI-MODULAR
COUPLING MULLION

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

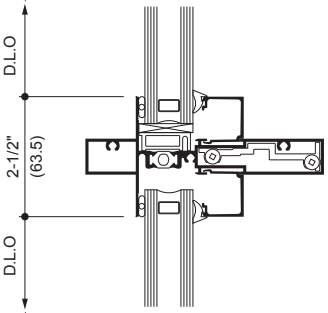


TYPICAL ELEVATION

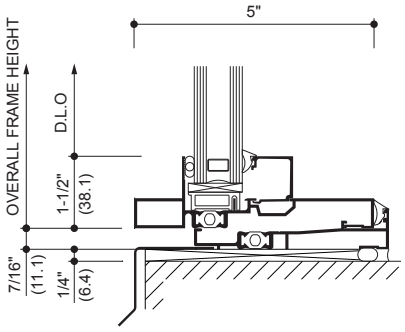
4
HEAD

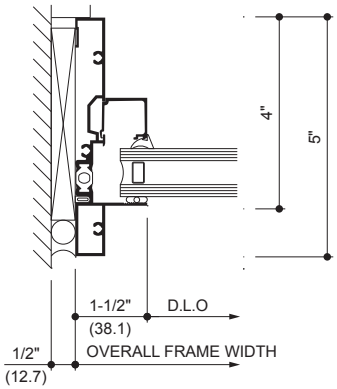


5
INTERMEDIATE
HORIZONTAL

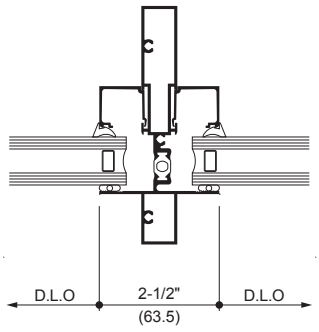


6
SILL

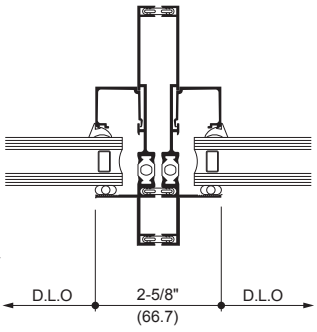




1
JAMB



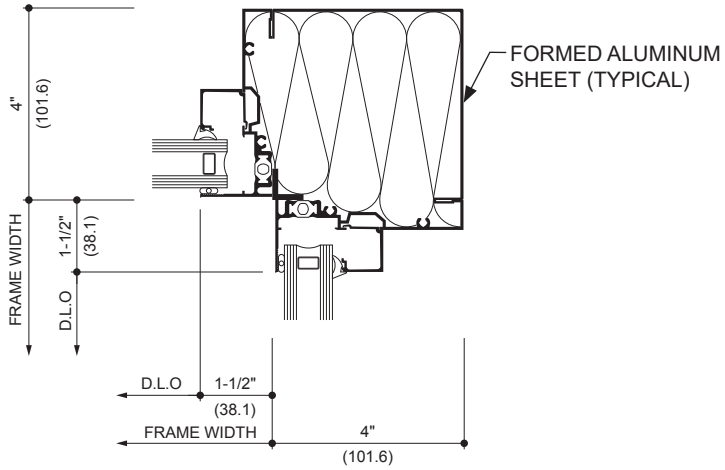
2
TUBULAR
MULLION



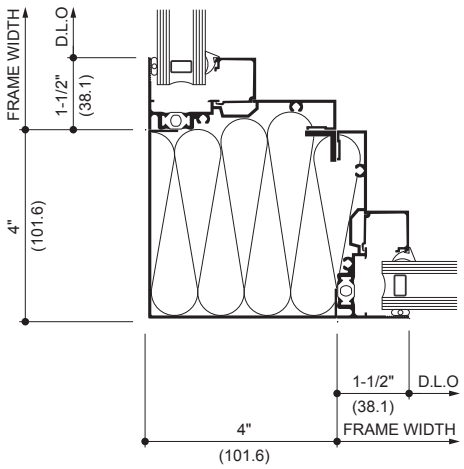
3
MULTI-MODULAR
COUPLING MULLION

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

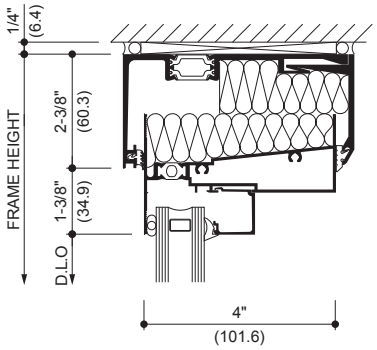
90° INSIDE CORNER



90° OUTSIDE CORNER

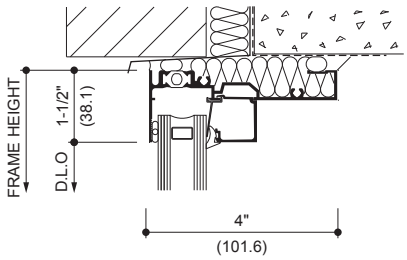


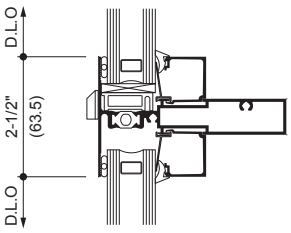
DEFLECTION HEAD
[ALLOWS ± 5/8" (15.9) MOVEMENT]

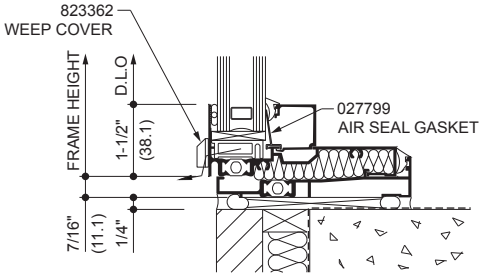


RAIN SCREEN WINDOW

NOTE:
SIMPLIFIED HERE FOR CLARITY. VARY WIDELY AND ARE BUILDING INTERFACE DETAILS

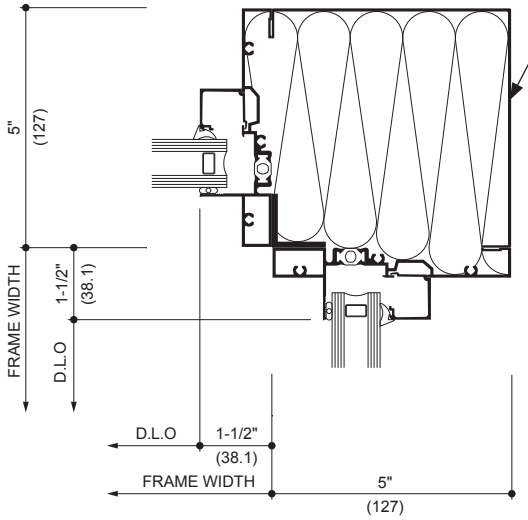




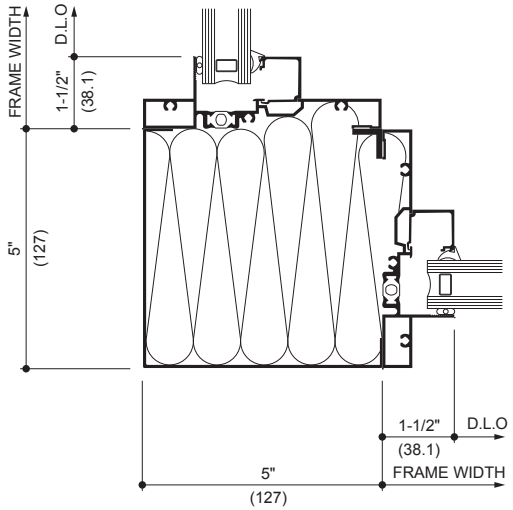


Additional information and CAD details are available at www.kawneer.com

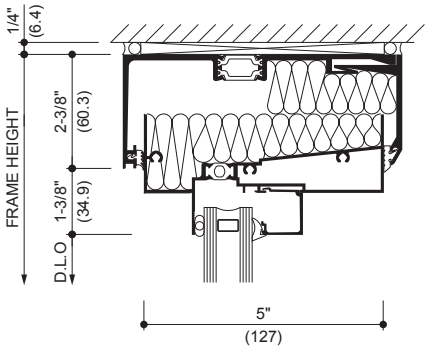
90° INSIDE CORNER



90° OUTSIDE CORNER

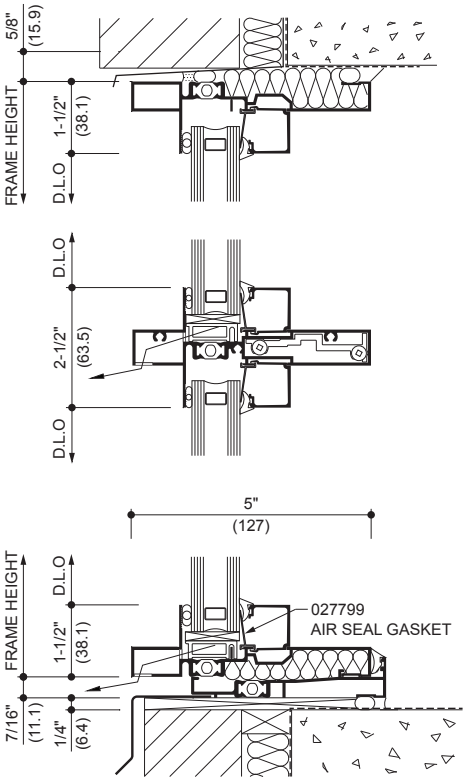


DEFLECTION HEAD
[ALLOWS ± 5/8" (15.9) MOVEMENT]



RAIN SCREEN WINDOW

NOTE:
SIMPLIFIED HERE FOR CLARITY. VARY WIDELY AND ARE BUILDING INTERFACE DETAILS



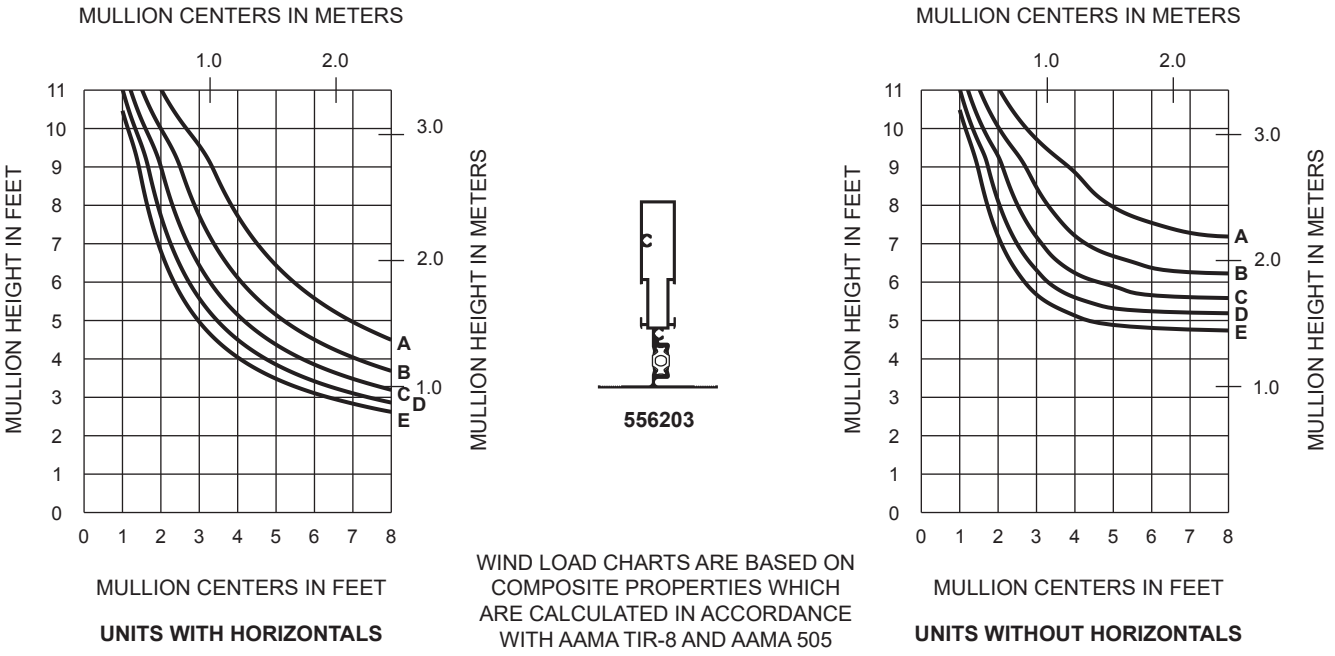
WIND LOAD CHARTS

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.

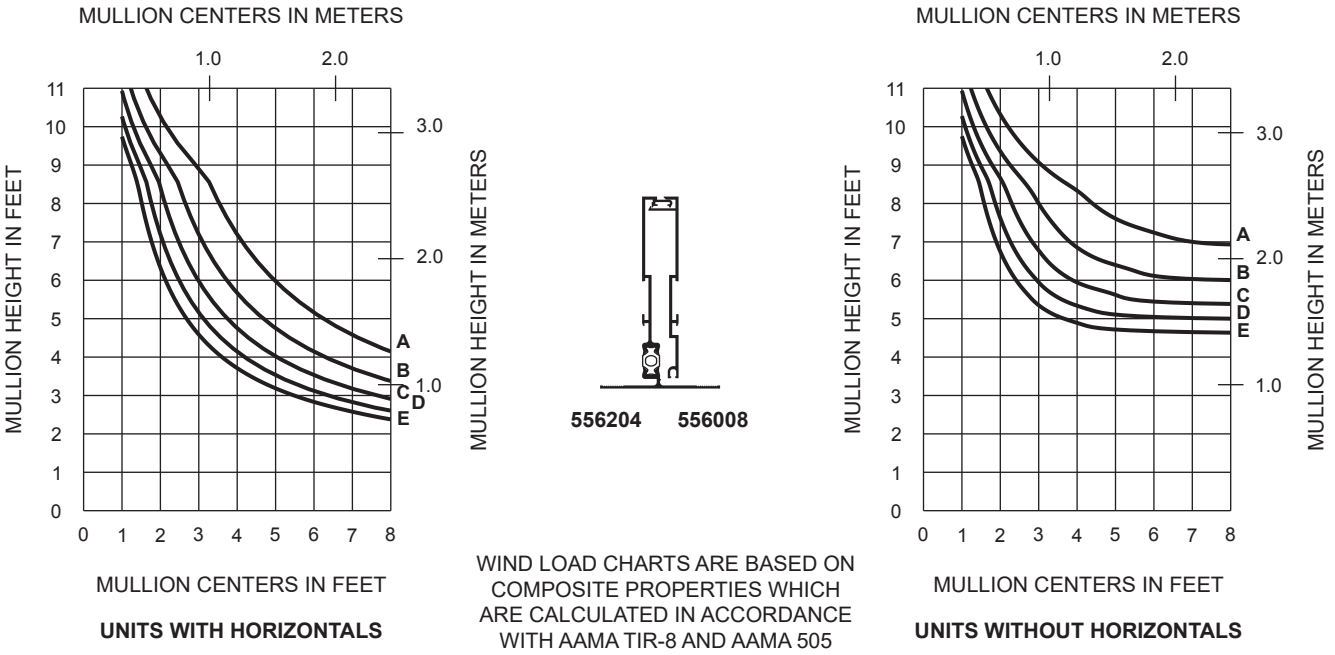
	Allowable Stress Design Load	LRFD Ultimate Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	35 PSF (1680)	58 PSF (2780)



UNITS WITH HORIZONTALS

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

UNITS WITHOUT HORIZONTALS

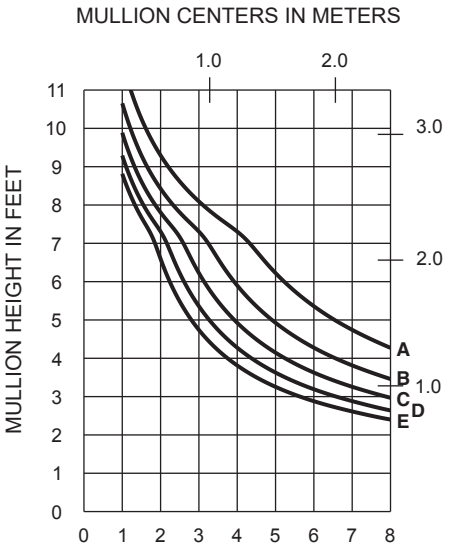


UNITS WITH HORIZONTALS

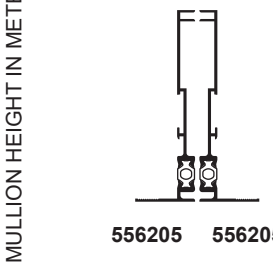
WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505

UNITS WITHOUT HORIZONTALS

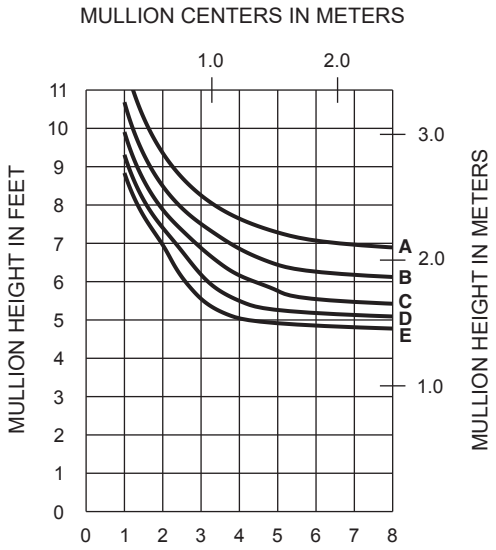
	Allowable Stress Design Load	LRFD Ultimate Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	35 PSF (1680)	58 PSF (2780)



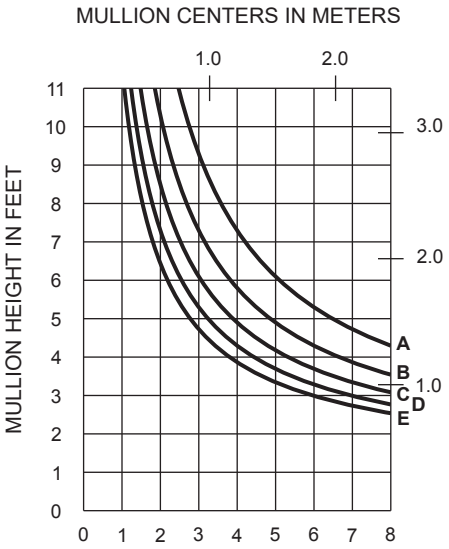
UNITS WITH HORIZONTALS



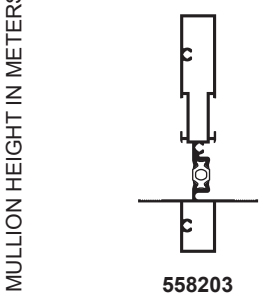
WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505



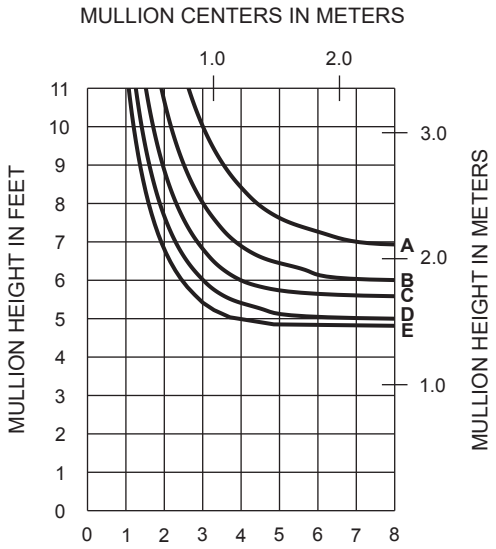
UNITS WITHOUT HORIZONTALS



UNITS WITH HORIZONTALS

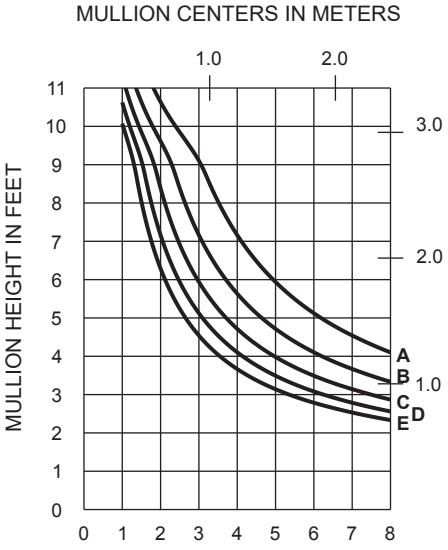


WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505

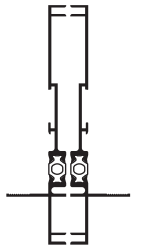


UNITS WITHOUT HORIZONTALS

	Allowable Stress Design Load	LRFD Ultimate Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	35 PSF (1680)	58 PSF (2780)

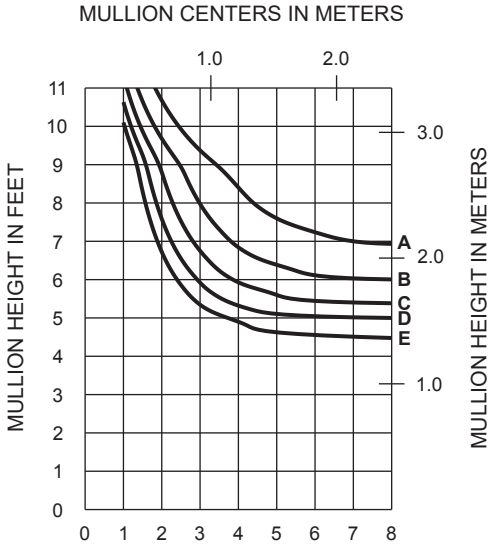


UNITS WITH HORIZONTALS

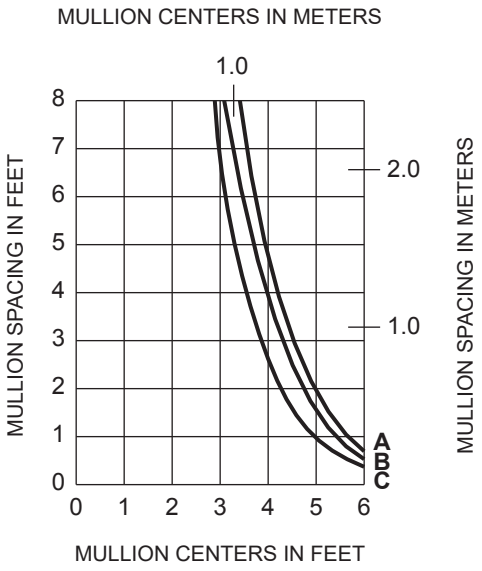


558205 558205

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

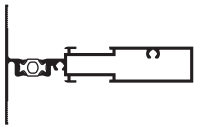


UNITS WITHOUT HORIZONTALS

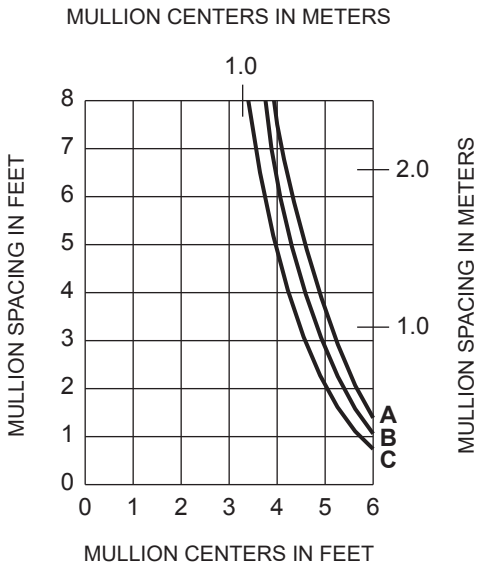


1/16" DEFLECTION

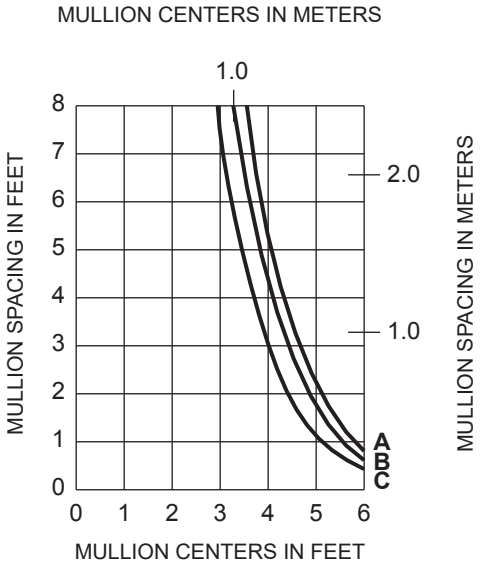
A = 1/8 POINT LOADING
B = 1/6 POINT LOADING
C = 1/4 POINT LOADING



556203

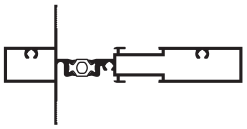


1/8" DEFLECTION

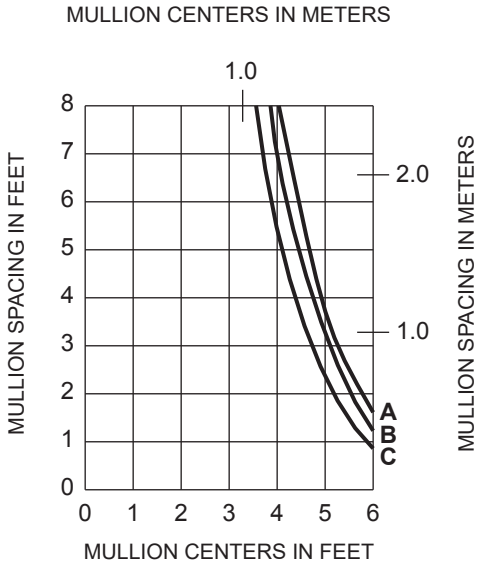


1/16" DEFLECTION

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

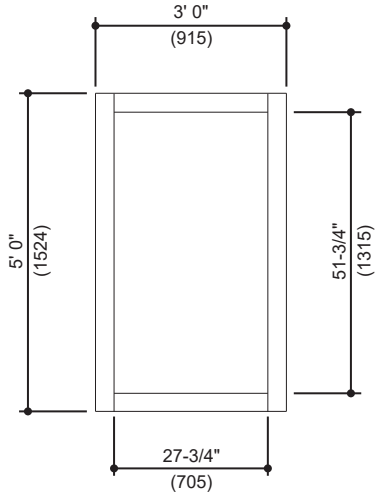


558203



1/8" DEFLECTION

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



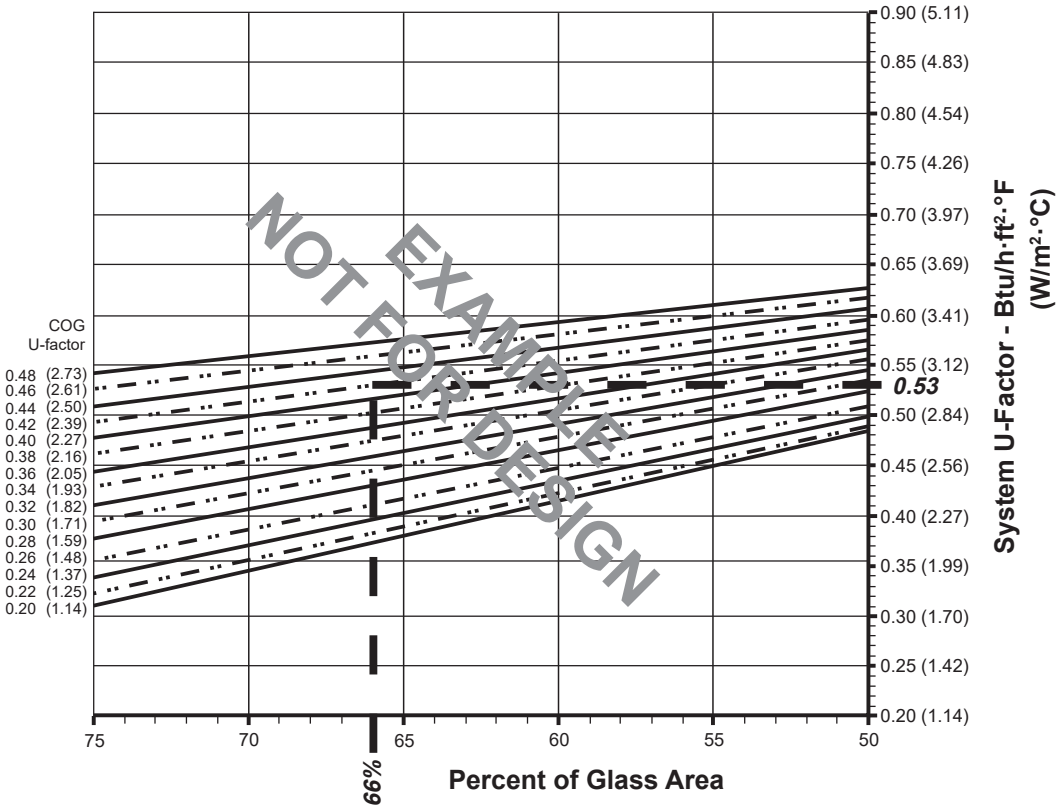
Example Glass U-Factor = 0.42 Btu/hr • ft² • °F

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%

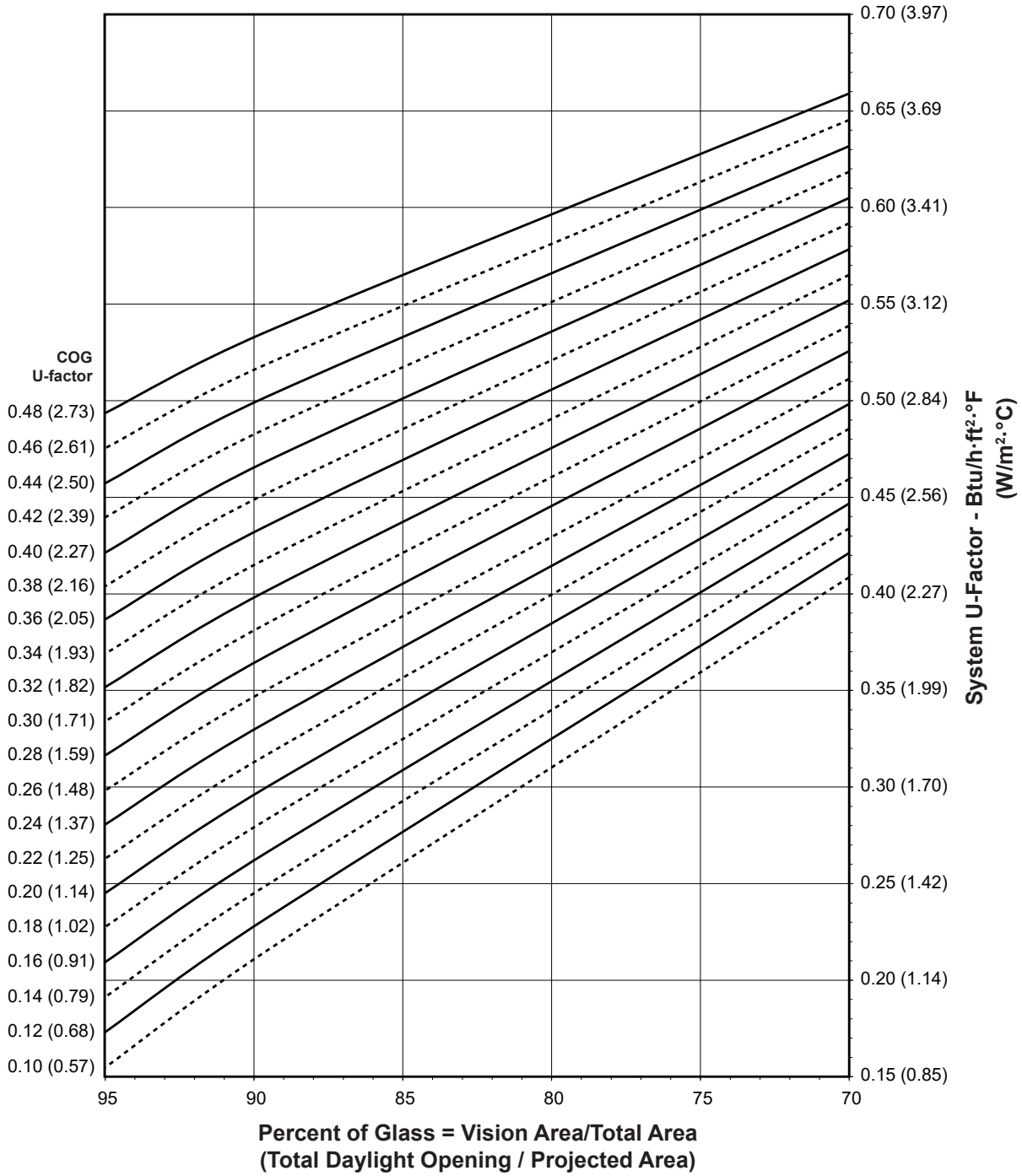
System U-factor vs Percent of Glass Area



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

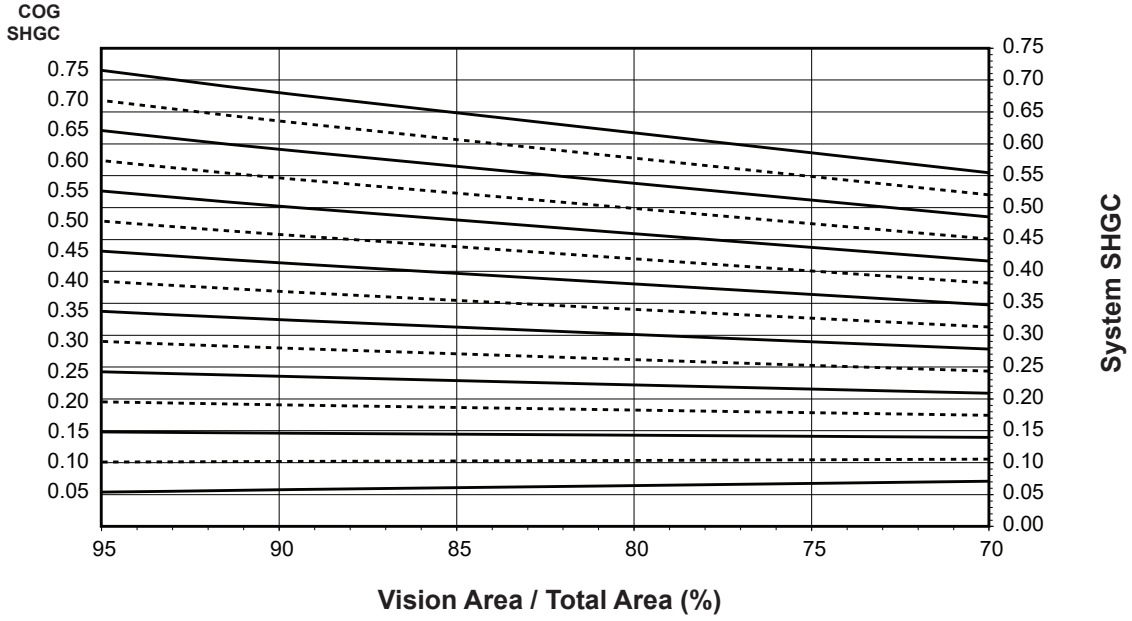
Note:
Values in parentheses are metric.
COG=Center of Glass.
Charts are generated per AAMA 507.

516 Fixed Window
1" Double Glazed - Warm-Edge Glazing Spacer
System U-Factor for Vision Glass



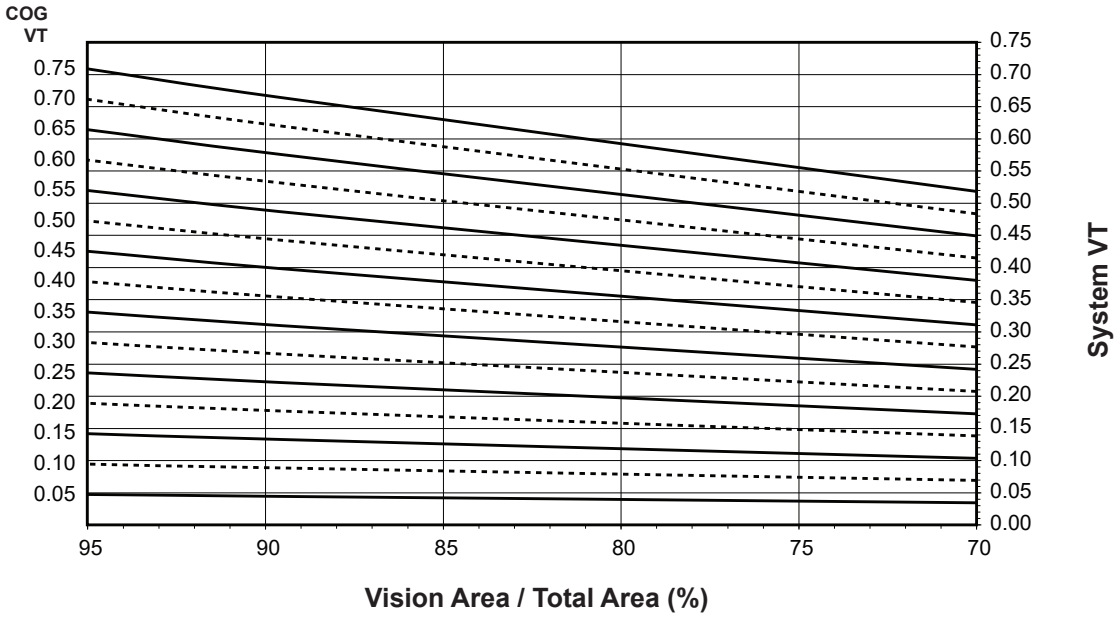
Notes for System U-factor, SHGC and VT charts:
For glass values that are not listed, linear interpolation is permitted.
Glass properties are based on center of glass values and are obtained from your glass supplier.

516 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	0.54
0.46	0.52
0.44	0.50
0.42	0.49
0.40	0.47
0.38	0.45
0.36	0.44
0.34	0.42
0.32	0.40
0.30	0.38
0.28	0.37
0.26	0.35
0.24	0.33
0.22	0.32
0.20	0.30
0.18	0.28
0.16	0.27
0.14	0.25
0.12	0.23
0.10	0.22

516 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 2,000 mm wide by 2,000 mm high (78-3/4" by 78-3/4").

SHGC Matrix [2]

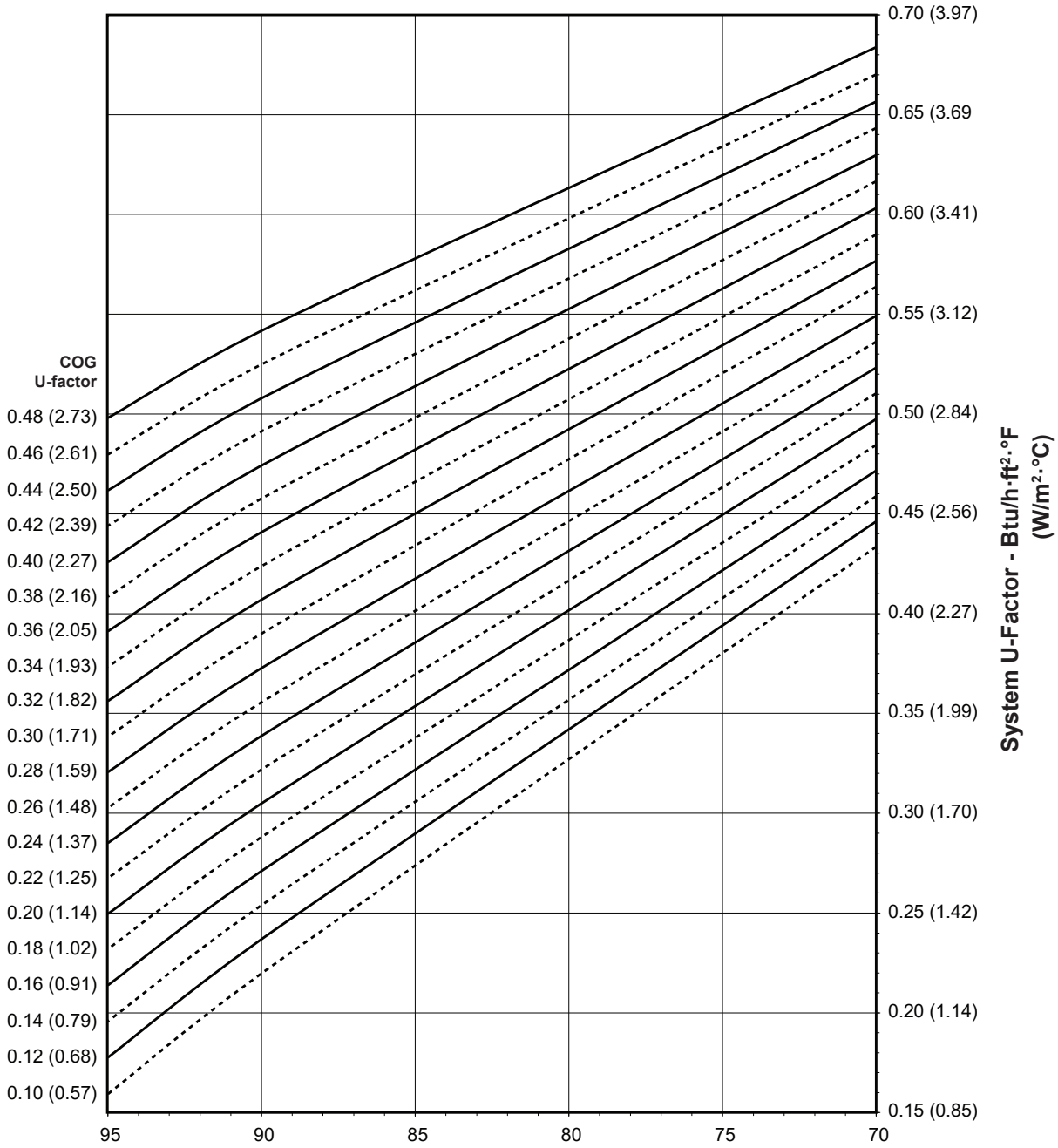
Glass SHGC [3]	Overall SHGC [4]
0.75	0.68
0.70	0.63
0.65	0.59
0.60	0.54
0.55	0.50
0.50	0.46
0.45	0.41
0.40	0.37
0.35	0.32
0.30	0.28
0.25	0.23
0.20	0.19
0.15	0.15
0.10	0.10
0.05	0.06

Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
0.75	0.66
0.70	0.62
0.65	0.58
0.60	0.53
0.55	0.49
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	0.04

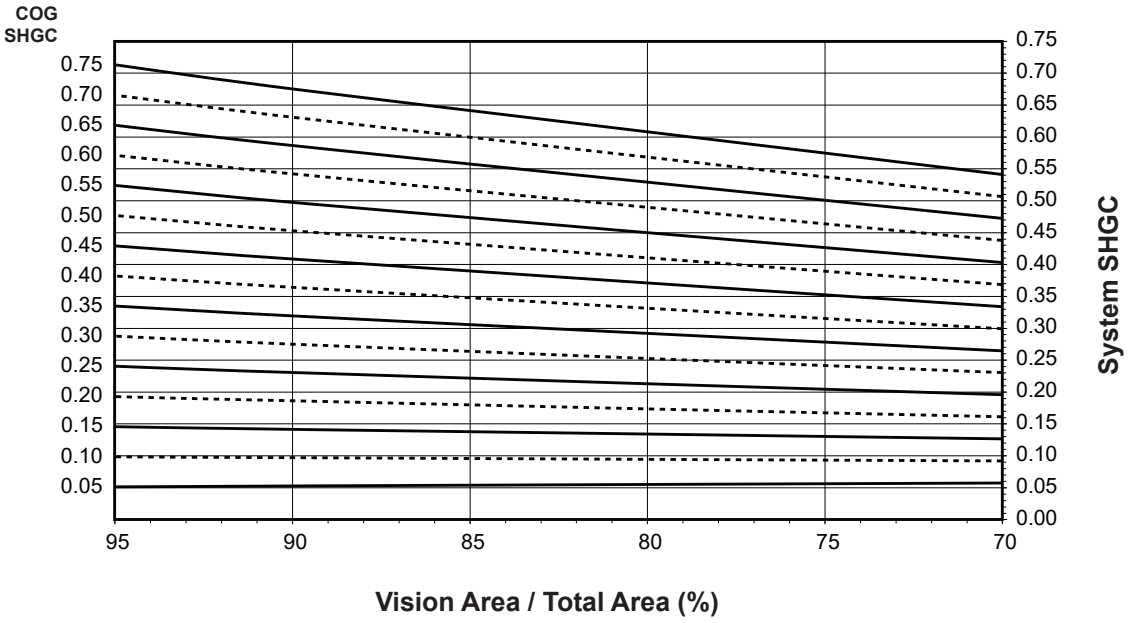
Note:
Values in parentheses are metric.
COG=Center of Glass.
Charts are generated per AAMA 507.

518 Fixed Window
1" Double Glazed - Warm-Edge Glazing Spacer
System U-Factor for Vision Glass



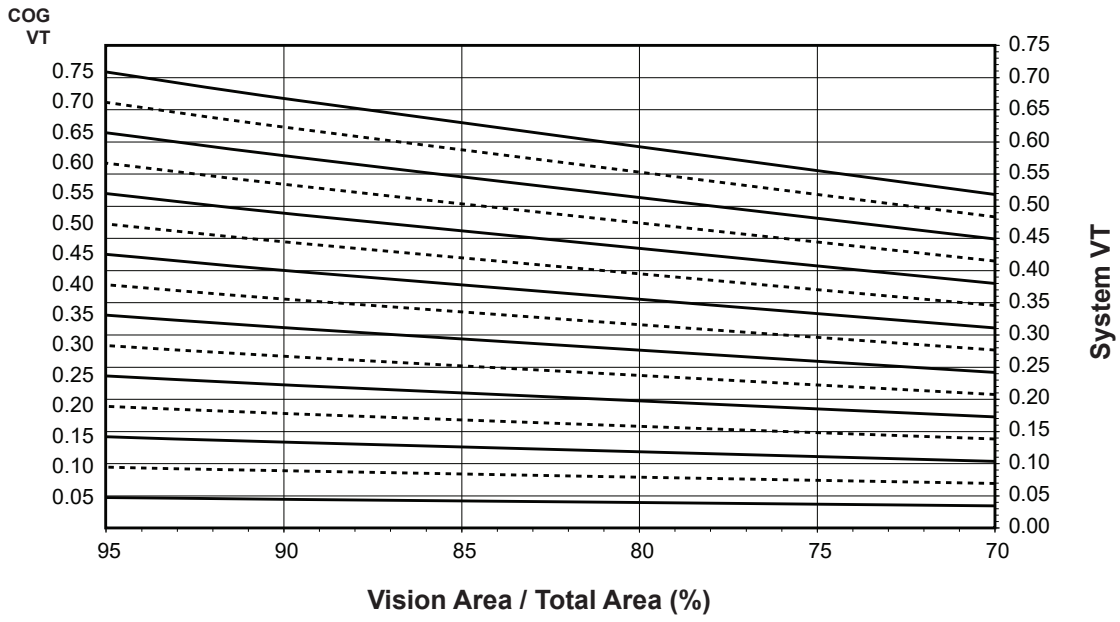
Notes for System U-factor, SHGC and VT charts:
For glass values that are not listed, linear interpolation is permitted.
Glass properties are based on center of glass values and are obtained from your glass supplier.

518 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	0.54
0.46	0.53
0.44	0.51
0.42	0.49
0.40	0.48
0.38	0.46
0.36	0.44
0.34	0.43
0.32	0.41
0.30	0.39
0.28	0.38
0.26	0.36
0.24	0.34
0.22	0.33
0.20	0.31
0.18	0.29
0.16	0.28
0.14	0.26
0.12	0.24
0.10	0.22

518 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 2,000 mm wide by 2,000 mm high (78-3/4" by 78-3/4").

SHGC Matrix [2]

Glass SHGC [3]	Overall SHGC [4]
0.75	0.67
0.70	0.63
0.65	0.58
0.60	0.54
0.55	0.50
0.50	0.45
0.45	0.41
0.40	0.36
0.35	0.32
0.30	0.27
0.25	0.23
0.20	0.19
0.15	0.14
0.10	0.10
0.05	0.05

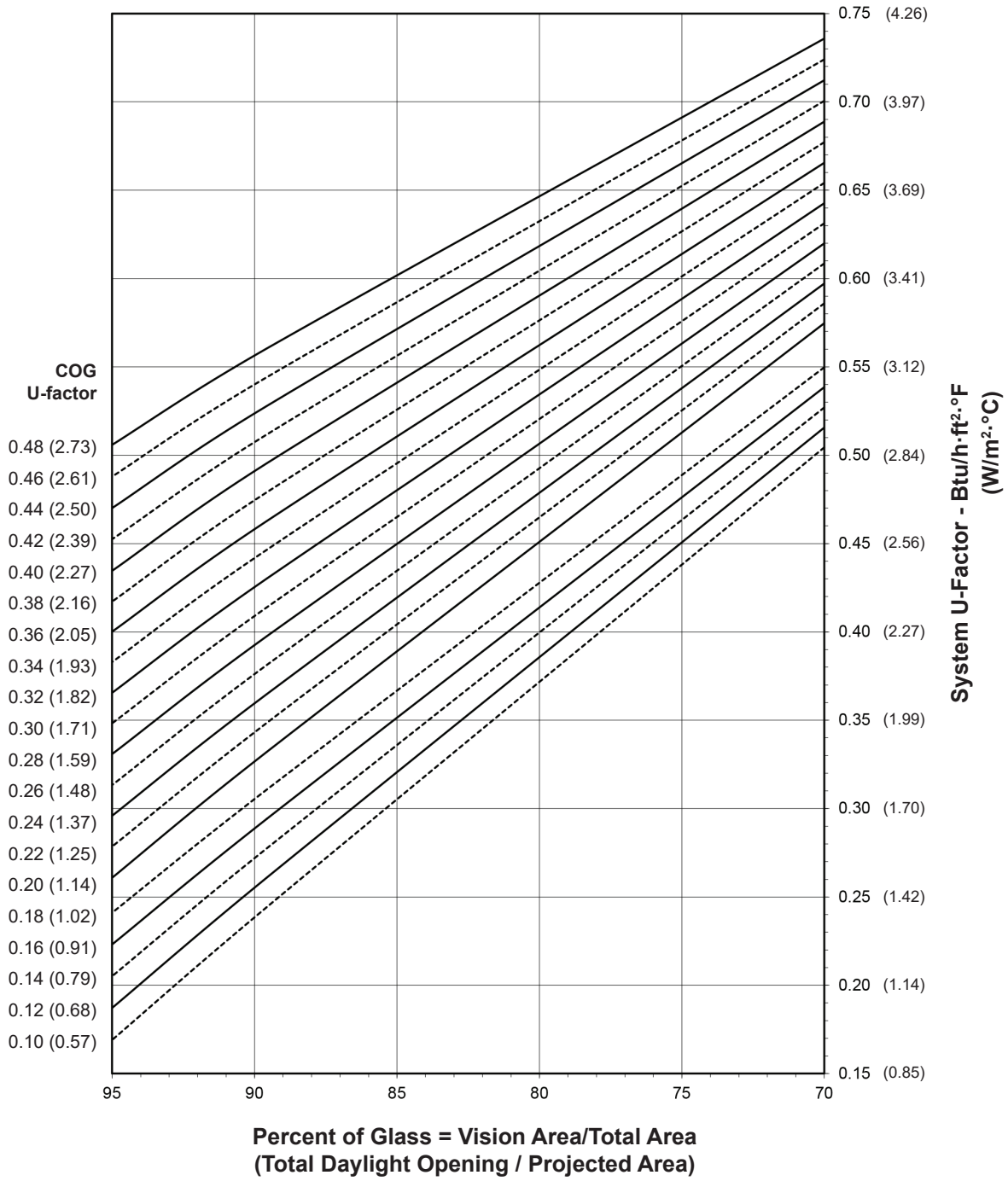
Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
0.75	0.66
0.70	0.62
0.65	0.58
0.60	0.53
0.55	0.49
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	0.04

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

516/518 Fixed Window
1" Double Glazed - Aluminum Glazing Spacer

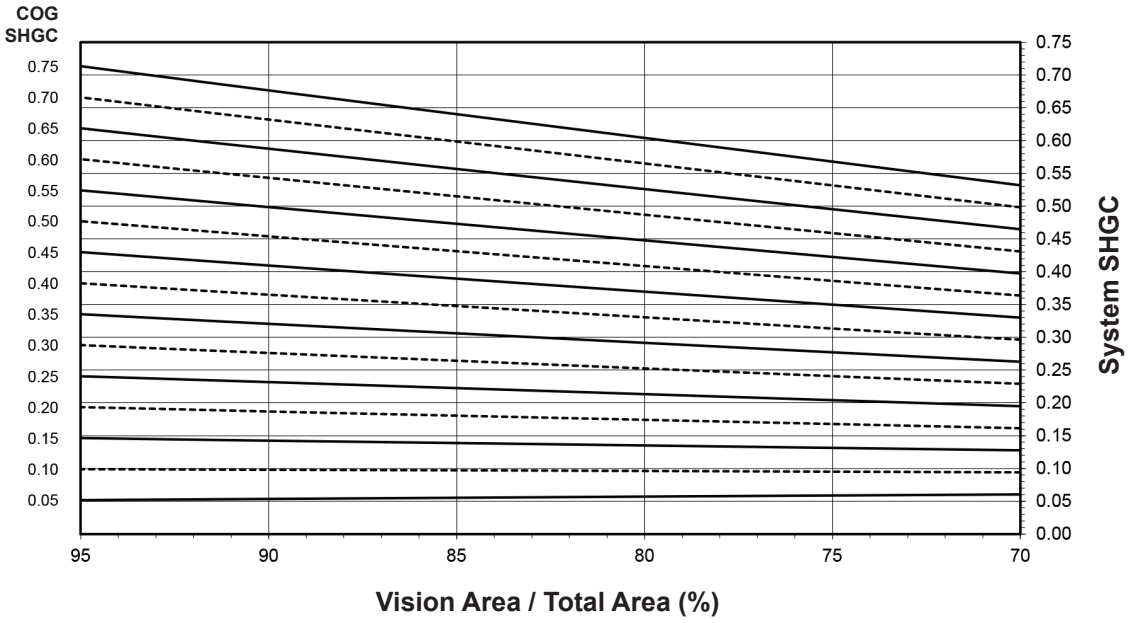
System U-Factor for Vision Glass



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.

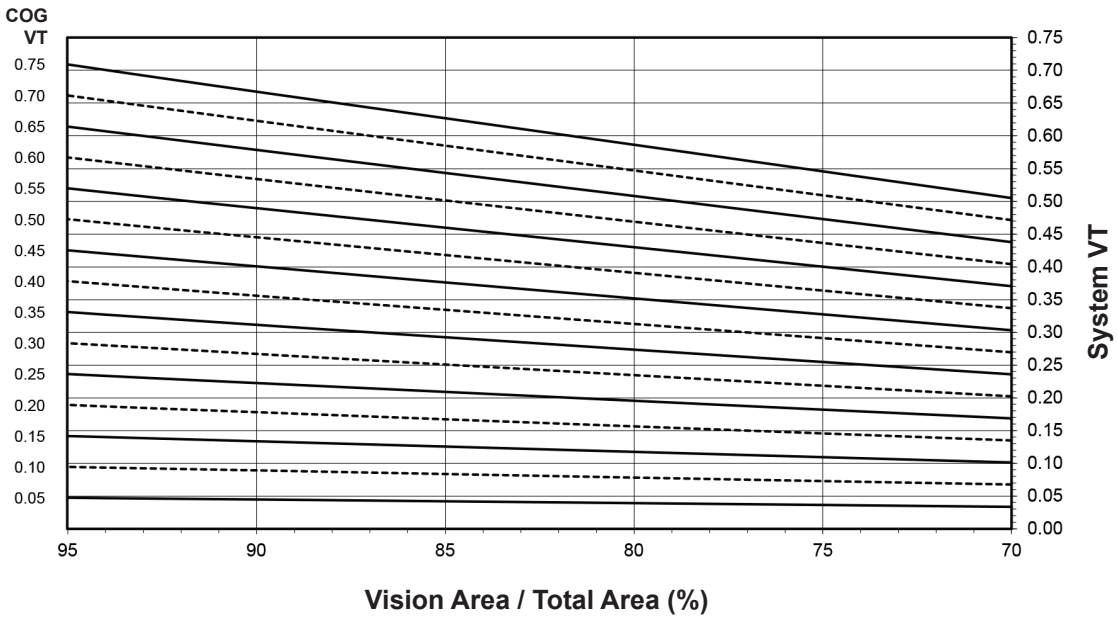
516/518 Fixed Window
1" Double Glazed - Aluminum Glazing Spacer

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	0.56
0.46	0.54
0.44	0.53
0.42	0.51
0.40	0.50
0.38	0.48
0.36	0.46
0.34	0.45
0.32	0.43
0.30	0.41
0.28	0.40
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	0.24

516/518 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 2,000 mm wide by 2,000 mm high (78-3/4" by 78-3/4").

SHGC Matrix [2]

Glass SHGC [3]	Overall SHGC [4]
0.75	0.67
0.70	0.63
0.65	0.59
0.60	0.54
0.55	0.50
0.50	0.45
0.45	0.41
0.40	0.36
0.35	0.32
0.30	0.28
0.25	0.23
0.20	0.19
0.15	0.14
0.10	0.10
0.05	0.05

Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
0.75	0.66
0.70	0.62
0.65	0.58
0.60	0.53
0.55	0.49
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	0.04