EC 97911-281 FEATURES

# **Features**

- Structural silicone glazed captured head and sill cans
- IsoWeb<sup>®</sup> thermal barrier (glass reinforced nylon)
- 1" (25.4) infill system
- · Dual finish capability
- Rain screen
- Screw Spline joinery
- Square cut corners (no miters, no notching)
- · Stock length or factory fabricated
- Pre-glazed / pre-assembled construction
- · Installed from the interior
- +/- 1/2" (12.7) live load deflection
- Permanodic® anodized finishes option
- Painted finishes in standard and custom choices

# **Optional Features**

- · Optional vertical covers
- 1/4" (6.4) infill adaptors

# **Product Applications**

- · Ribbon windows
- Multi-lite punched openings

For specific product applications, consult your Kawneer representative.



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#### EC 97911-281 **INDEX**

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

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END REACTION CHARTS	10
THERMAL CHARTS	

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

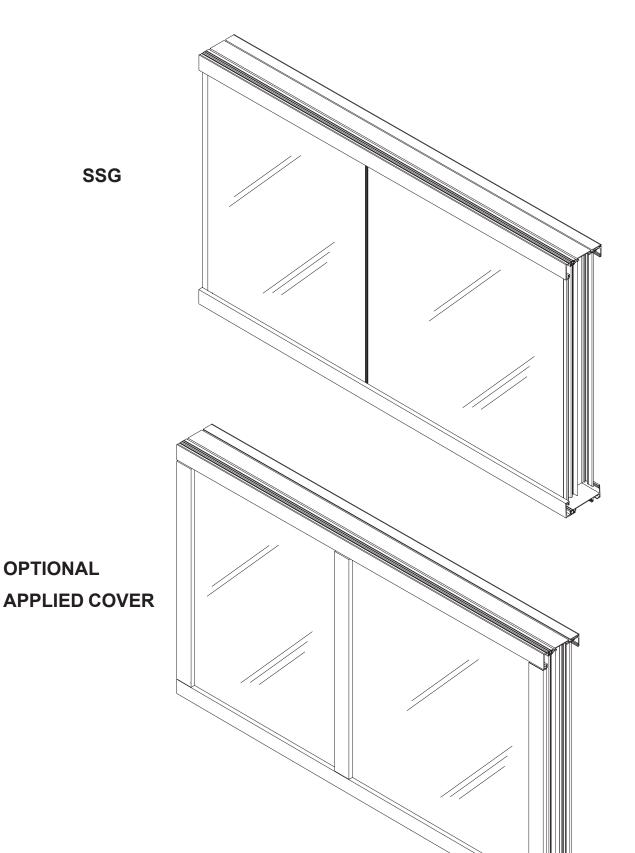
Pa - pascal

MPa - megapascal



PICTORIAL VIEW

EC 97911-281



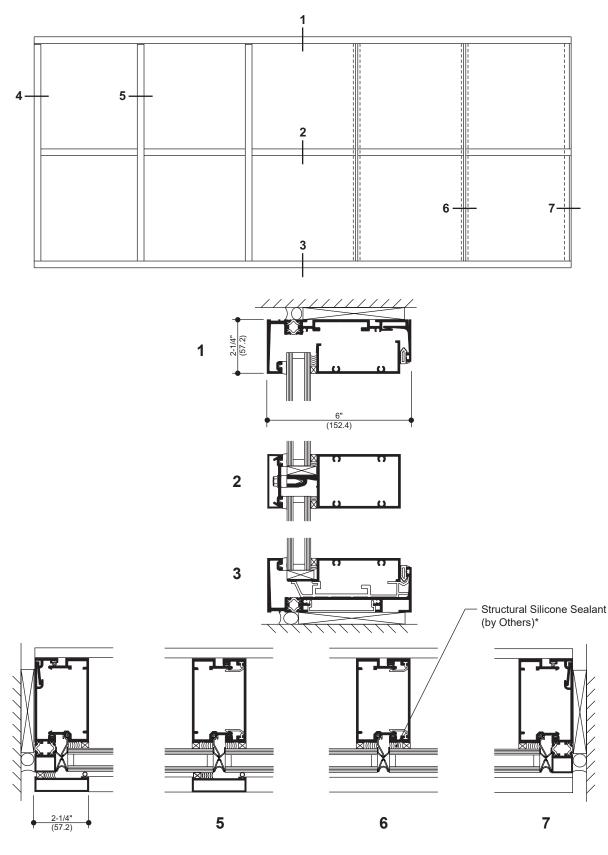
KAWNEER

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



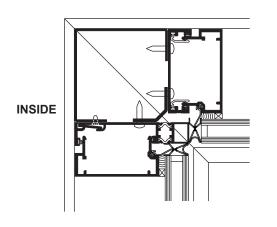
<sup>\*</sup> INSTALLER NOTE: Installer is responsible for all required compatibility review and approvals with the Structural Silicone Manufacturer and the Insulating Glass Unit Manufacturer.

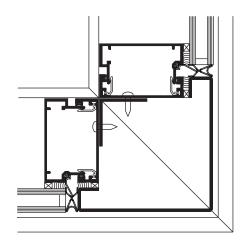


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# Additional information and CAD details are available at www.kawneer.com

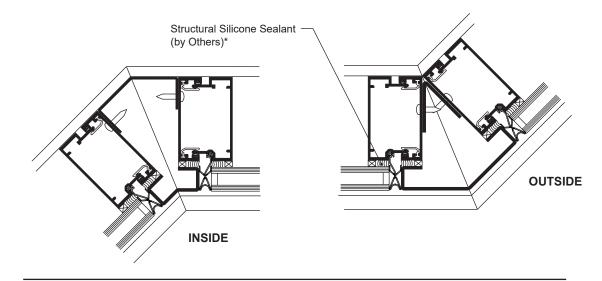
# 90° CORNERS



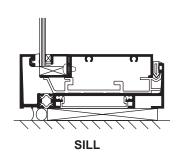


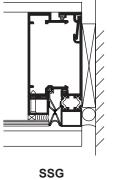
**OUTSIDE** 

# 135° CORNERS



# 1/4" ADAPTOR AT SPANDREL AREA





**JAMB** 

<sup>\*</sup> INSTALLER NOTE: Installer is responsible for all required compatibility review and approvals with the Structural Silicone Manufacturer and the Insulating Glass Unit Manufacturer.



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#### WIND LOAD CHARTS

Mullions are designed for deflection limitations in accordance with AAMA TIR-A11 of L/175 up to 13' 6" and L/240 +1/4" above 13' 6". These curves are for mullions WITH HORIZONTALS and are based on engineering calculations for stress and deflection. Allowable wind load stress for ALUMINUM 15,152 psi (104 MPa), STEEL 30,000 psi (207 MPa). 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 1/8" (3.2) maximum allowable deflection at the center of an intermediate horizontal member. The accompanying chart is calculated for 1" (25.4) thick glass supported on two setting blocks placed at the loading points shown.



WIND LOAD CHARTS

These charts are based on lateral support no more than 24" apart. Lateral support can be horizontal mullions or lateral buckling clips\*. Mullions are designed for L/175 deflection limitation. These curves are for mullions WITH or WITHOUT HORIZONTALS and are based on engineering calculations for stress and deflection. Allowable wind load stress for ALUMINUM 15,152 psi (104 MPa), STEEL 30,000 psi (207 MPa). Charted curves, in all cases are for the limiting value. Wind load charts contained herein are based upon normal 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.

# WITH HORIZONTALS WIDTH IN METERS IN METERS HEIGHT IN FEET 8 6 HEIGHT C 5 4 1.0 3

5 6

WIDTH IN FEET

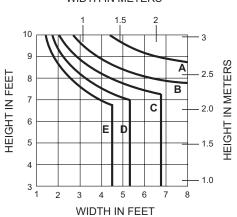
8

3



850001 850002 (with 850302 Mullion Clips)

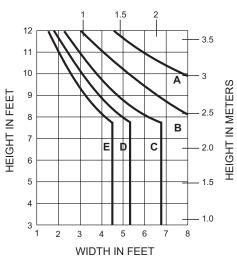
# WITHOUT HORIZONTALS WIDTH IN METERS



	Allowable Stress	LRFD Ultimate
	Design Load	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 =	60 PSF (2880)	100 PSF (4790)

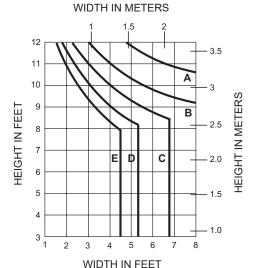
#### WITH HORIZONTALS

WIDTH IN METERS





850001 850002 (with 3/8" x 3" STEEL BAR and 850302 Mullion Clips)



WITHOUT HORIZONTALS

\*Engineering interpretation of lateral brace points may vary

Verify the acceptance of lateral buckling clips with project specifications, applicable building codes or consulting engineer, if applicable.

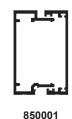


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WIND LOAD CHARTS

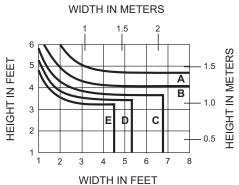
Mullions are designed for L/175 deflection limitations. These curves are for mullions WITHOUT HORIZONTALS and WITHOUT LATERAL BUCKLING CLIPS and are based on engineering calculations for stress and deflection. Charted curves, in all cases are for the limiting value. Wind load charts contained herein are based upon normal 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.

	Allowable Stress	LRFD Ultimate	
	Design Load	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 =	60 PSF (2880)	100 PSF (4790)	



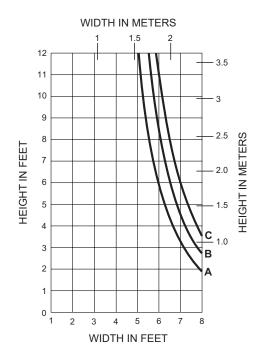
850002 (With "No" Lateral Buckling Clips)

# WITHOUT HORIZONTALS

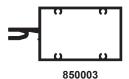


#### **DEADLOAD CHARTS**

Horizontal or deadload limitations are based upon 1/8" (3.2) maximum allowable deflection at the center of an intermediate horizontal member. The accompanying chart is calculated for 1" (25.4) thick glass supported on two setting blocks placed at the loading points shown.



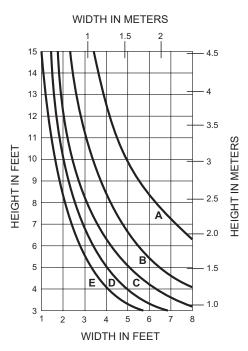
A = 1/4 POINT LOADING B = 1/6 POINT LOADING C = 1/8 POINT LOADING

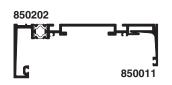




	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	20 PSF (960)	33 PSF (1580)
B =	30 PSF (1440)	50 PSF (2400)
C =	40 PSF (1920)	67 PSF (3200)
D =	50 PSF (2400)	83 PSF (4000)
E=	60 PSF (2880)	100 PSF (4790)

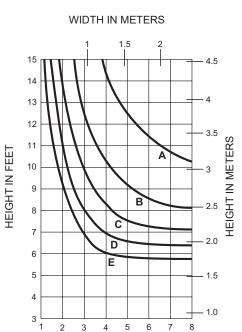
#### WITH HORIZONTALS



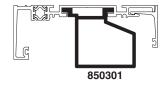


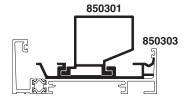


#### WITHOUT HORIZONTALS



For applications beyond limitations of the above charts, Anchor Clips (850301) are required.

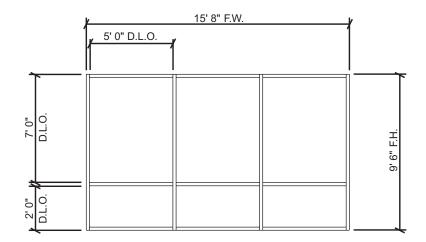




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THERMAL CHARTS EC 97911-281

# **Generic Project Specific U-factor Example Calculation** (Percent of Glass will vary on specific products depending on sitelines) (Based on single bay of Window Wall)



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

Total Daylight Opening =  $3(5' \times 7') + 3(5' \times 2') = 135 \text{ ft}^2$ 

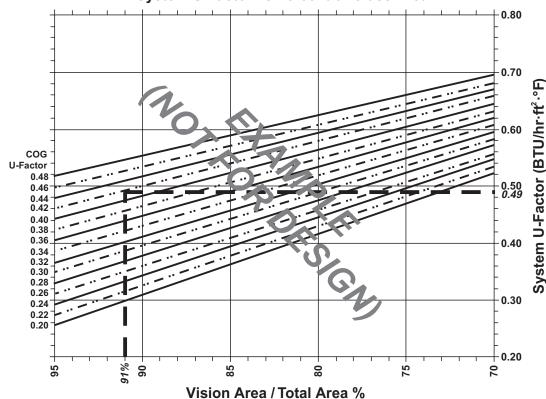
Total Projected Area = (Total Daylight Opening + Total Area of Framing System)

= 15' 8" x 9' 6" = 148.83 ft<sup>2</sup>

Percent of Glass = (Total Daylight Opening ÷ Total Projected Area)

 $= (135 \div 148.83)100 = 91\%$ 

# System U-Factor vs Percent of Glass Area



Based on 91% glass and center of glass U-Factor of 0.42 System U-Factor is equal to 0.49 Btu/hr-ft2-F



PG 123<sup>®</sup> Framing

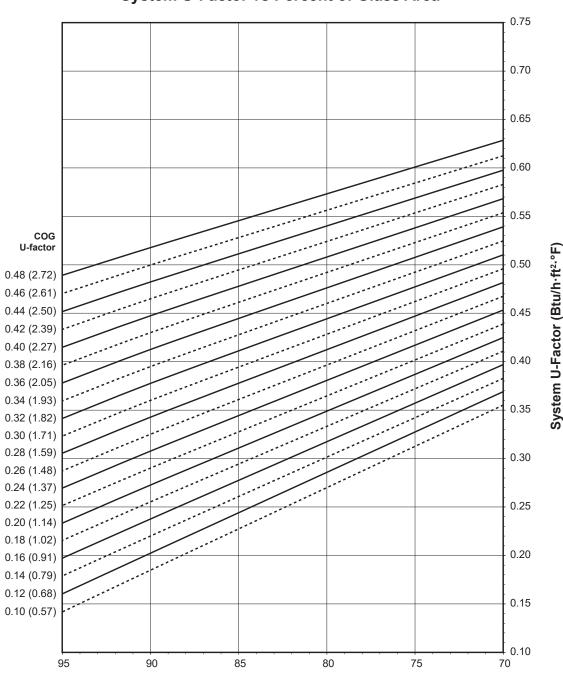
# EC 97911-281

# PG 123<sup>®</sup> Framing **Aluminum Pressure Plate: Warm-Edge 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



Vision Area / Total Area (%)

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

For glass values that are not listed, linear interpolation is permitted.

Glass properties are based on center of glass values and are obtained from your glass supplier.



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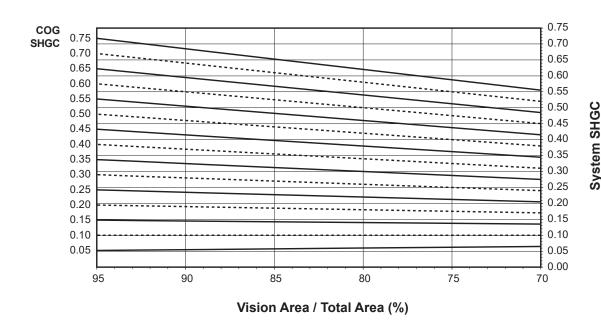
Laws and building and safety codes governing such as glazed entrannee, window, and curtain we control the selection of product configurations, and assumes no responsibility therefor.

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THERMAL CHARTS EC 97911-281

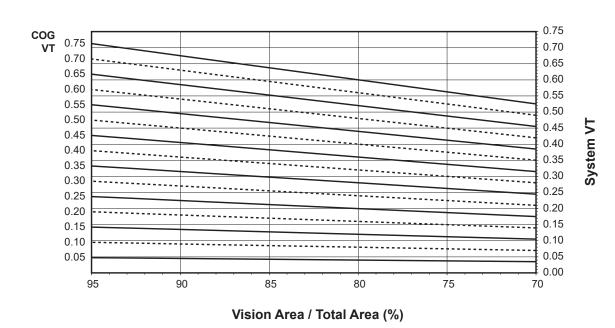
# PG 123<sup>®</sup> Framing **Aluminum Pressure Plate: Warm Edge Glazing Spacer**

#### 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





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

Thermal management (Brown it		
Glass U-Factor <sup>3</sup>	Overall U-Factor <sup>4</sup>	
0.48	0.52	
0.46	0.51	
0.44	0.49	
0.42	0.47	
0.40	0.45	
0.38	0.44	
0.36	0.42	
0.34	0.40	
0.32	0.39	
0.30	0.37	
0.28	0.35	
0.26	0.33	
0.24	0.32	
0.22	0.30	
0.20	0.28	
0.18	0.26	
0.16	0.25	
0.14	0.23	
0.12	0.21	
0.10	0.19	

# PG 123<sup>®</sup> Framing **Aluminum Pressure Plate** (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 <sup>2</sup>

Glass SHGC <sup>3</sup>	Overall SHGC <sup>4</sup>
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	0.14
0.10	0.10
0.05	0.06

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

Glass VT <sup>3</sup> Overall VT <sup>4</sup>	
0.75	0.67
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	0.36
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



ADMD160EN

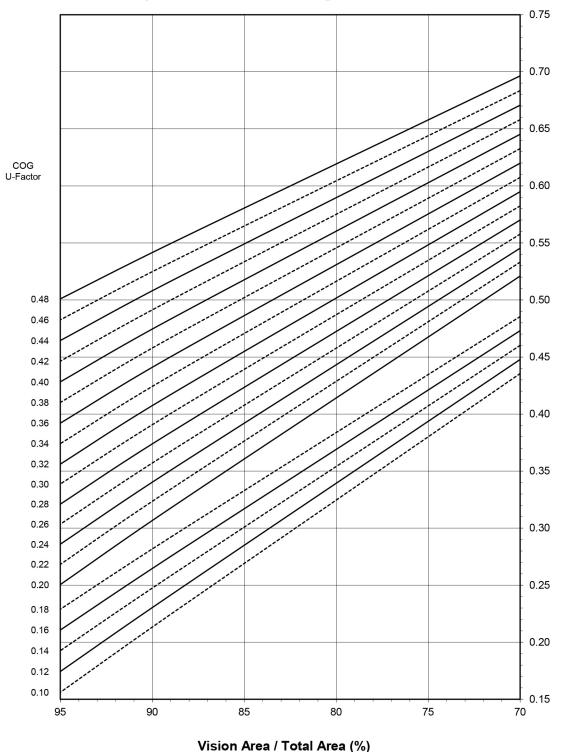
THERMAL CHARTS

# PG 123<sup>®</sup> Framing **Aluminum Pressure Plate: Aluminum Glazing Spacer**

Note:

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

#### System U-Factor vs. Percentage of Vision Area



Note: 1 inch Overall - Dual Glazed Glass (0.48-0.20 COG) with Aluminum Spacer, Dual Glazed Glass with Heat Mirror (0.18-0.10 COG) with Aluminum Spacer



System U-Factor (Btu/h-ft<sup>2.</sup>ºF)

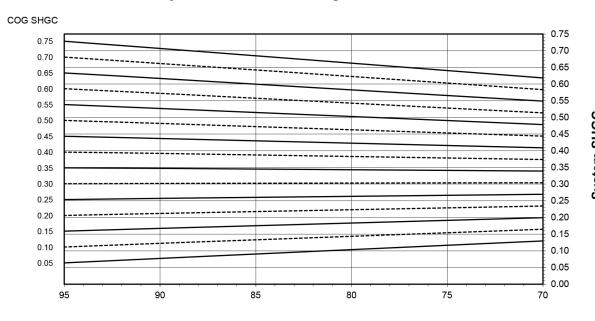
kawneer.com

PG 123<sup>®</sup> Framing

EC 97911-281

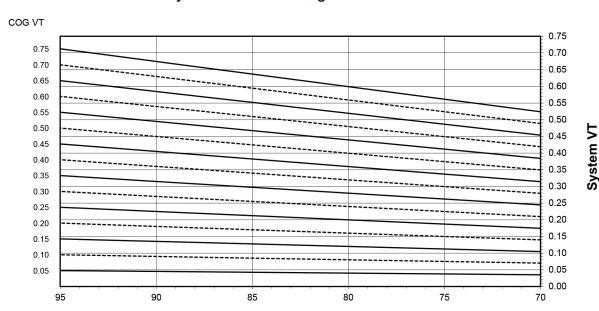
# PG 123<sup>®</sup> Framing **Aluminum Pressure Plate: Aluminum Glazing Spacer**

# System SHGC vs. Percentage of Vision Area



Vision Area / Total Area (%)

#### System VT vs. Percentage of Vision Area



Vision Area / Total Area (%)



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

Glass U-Factor <sup>3</sup>	Overall U-Factor <sup>4</sup>	
0.48	0.55	
0.46	0.53	
0.44	0.52	
0.42	0.50	
0.40	0.48	
0.38	0.47	
0.36	0.45	
0.34	0.43	
0.32	0.42	
0.30	0.40	
0.28	0.38	
0.26	0.37	
0.24	0.35	
0.22	0.34	
0.20	0.32	
0.18	0.29	
0.16	0.28	
0.14	0.26	
0.12	0.24	
0.10	0.23	

# PG 123® Framing Aluminum Pressure Plate (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.
- 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 <sup>2</sup>

Glass SHGC <sup>3</sup>	Overall SHGC <sup>4</sup>	
0.75	0.70	
0.70	0.66	
0.65	0.61	
0.60	0.57	
0.55	0.52	
0.50	0.48	
0.45	0.44	
0.40	0.39	
0.35	0.35	
0.30	0.30	
0.25	0.26	
0.20	0.21	
0.15	0.17	
0.10	0.12	
0.05	0.08	

#### Visible Transmittance <sup>2</sup>

Glass VT <sup>3</sup>	Overall VT 4
0.75	0.67
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	0.36
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



THERMAL CHARTS

EC 97911-281

#### **CONDENSATION RESISTANCE**

Glazing Infill	Condensation Resistance Factor (CRF) AAMA 1503		Temperature Index (TI) CSA A440-0	
_	Frame	Glass	Frame	Glass
1" Double	69	60	59	49

