EC 97911-269 INDEX

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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



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EC 97911-269

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

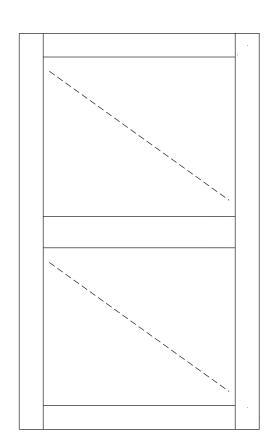
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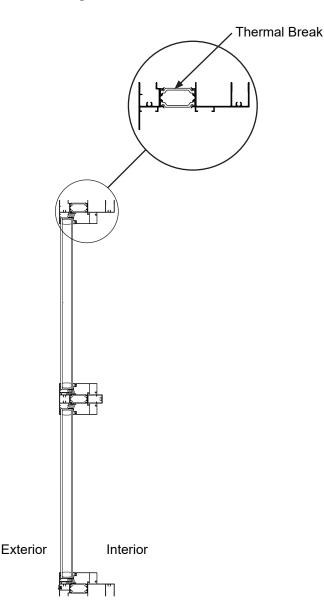


EC 97911-269 FIXED WINDOW

Standard Features

- High Performance Architectural Grade Window
- Tested to U.S. and Canadian Standards
- · Polyamide Thermal Break
- Screw and Spline Frame Corner Joinery
- · Factory Silicone Glazed
- · Interior Applied Glazing Bead
- Architectural Anodized Finishes and Applied Coatings
- Interior and Exterior Dual Finish Options
- Two Year Manufacturer's Warranty
- Optional Bevel Face





Fixed Window

For specific product applications, consult your Kawneer representative.



FIXED WINDOW

EC 97911-269

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CLASS and GRADE	CLASS AW-PG70-FW
TESTING METHOD	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)
FRAME DEPTH	4-5/8" Overall Frame Depth
TYPICAL WALL THICKNESS	.070" Nominal
TYPICAL MAXIMUM WINDOW SIZE	60" x 99"
TYPICAL MINIMUM WINDOW SIZE	17" x 17"
TYPICAL CONFIGURATIONS	
STANDARD INFILL OPTIONS	1" and 1-1/2"
STANDARD HARDWARE	Not Applicable
OPTIONAL HARDWARE	Not Applicable
OTHER OPTIONS	Between the Glass Muntins Historic Beveled Exterior Glazed-in Muntins (1-1/2" max. overall thickness) Exterior and Interior Tape Applied Muntins Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Muntin Structural Mullions H-Mullion for vertical stacking Strap Anchors

Male/Female horizontally stacked

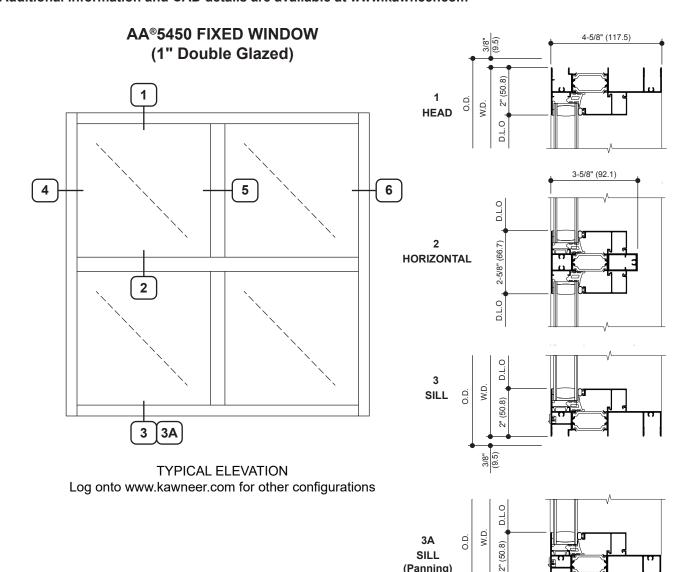


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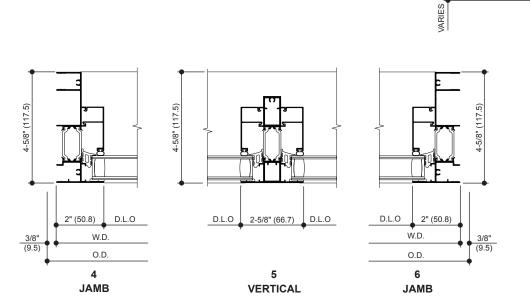
FIXED WINDOW

AA®5450 Ultra Thermal Window

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



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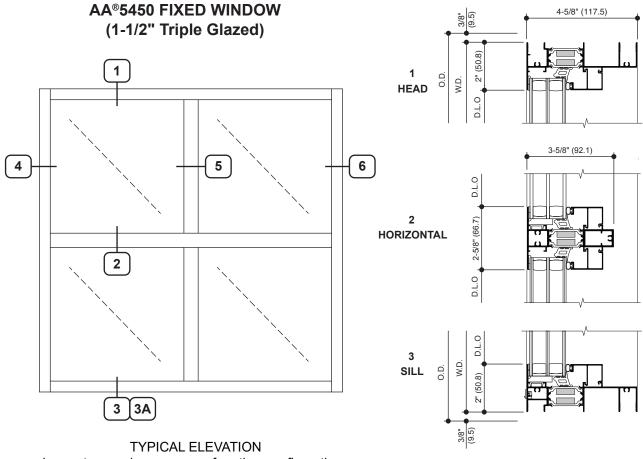


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FIXED WINDOW

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



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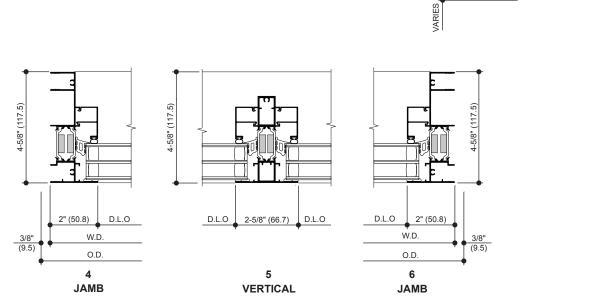
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SILL (Panning)

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EC 97911-269

FIXED WINDOW - BEVEL FACE

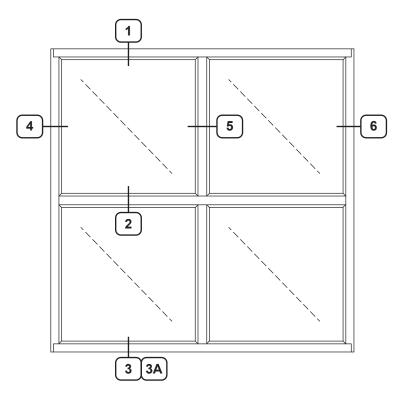
Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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CLASS and GRADE	CLASS AW-PG70-FW
TESTING METHOD	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)
FRAME DEPTH	4-5/8" Overall Frame Depth
TYPICAL WALL THICKNESS	.070" Nominal
TYPICAL MAXIMUM WINDOW SIZE	60" x 99"
TYPICAL MINIMUM WINDOW SIZE	17" x 17"
TYPICAL CONFIGURATIONS	
STANDARD INFILL OPTIONS	1" and 1-1/2"
STANDARD HARDWARE	Not Applicable
OPTIONAL HARDWARE	Not Applicable
OTHER OPTIONS	Between the Glass Muntins Exterior and Interior Tape Applied Muntins Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Muntin Structural Mullions H-Mullion for vertical stacking Strap Anchors Male/Female horizontally stacked

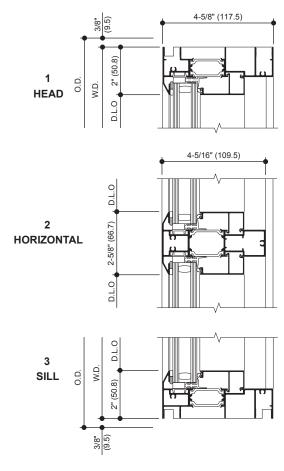


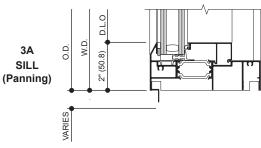
AA®5450 FIXED WINDOW (1" Double Glazed)

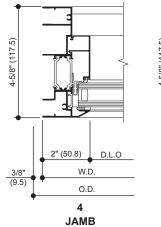


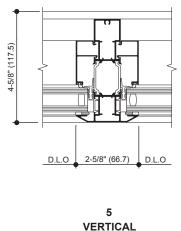
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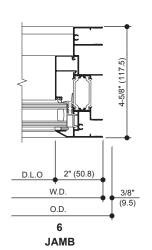
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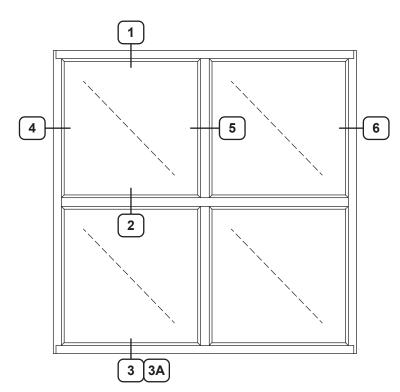
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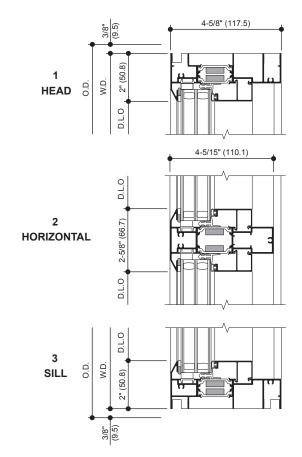
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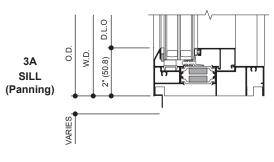
Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

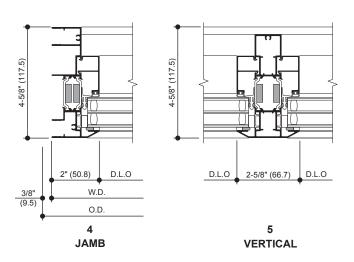
AA®5450 FIXED WINDOW (1-1/2" Triple Glazed)

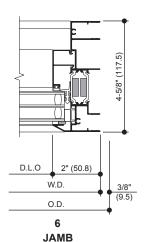


TYPICAL ELEVATION Log onto www.kawneer.com for other configurations





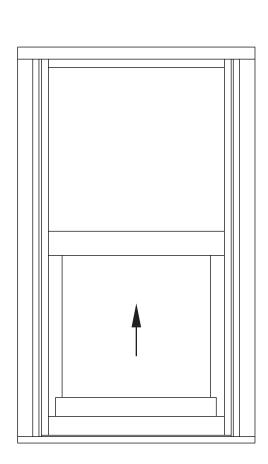




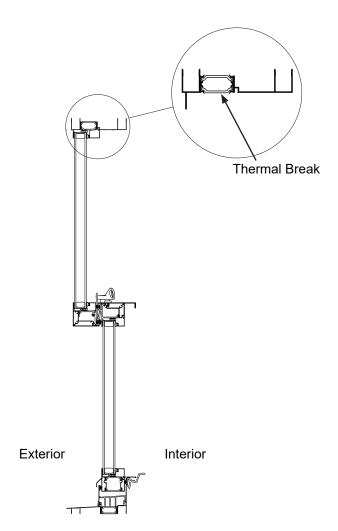


Standard Features

- High Performance Architectural Grade Window
- · Tested to U.S. and Canadian Standards
- Polyamide Thermal Break
- Screw and Spline Frame Corner Joinery
- · Factory Silicone Glazed
- · Interior Applied Glazing Bead
- Architectural Anodized Finishes and Applied Coatings
- Interior and Exterior Dual Finish Options
- Two Year Manufacturer's Warranty
- · Optional Bevel Face







For specific product applications, consult your Kawneer representative.



Laws and building and safety codes governing the design and use of Kawne such as glazed entrance, window, and curtain wall products, vary widely. Kay control the selection of product configurations, operating hardware, or glazing

AA®5450 Ultra Thermal Window

EC 97911-269

SINGLE HUNG WINDOW

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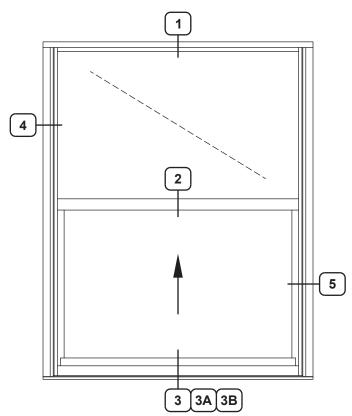
CLASS and GRADE	CLASS AW-PG65-H
TESTING METHOD	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)
FRAME DEPTH	4-5/8" Overall Frame Depth
TYPICAL WALL THICKNESS	.070" Nominal
TYPICAL MAXIMUM WINDOW SIZE	60" x 99"
TYPICAL MINIMUM WINDOW SIZE	24" x 36"
TYPICAL CONFIGURATIONS	
STANDARD INFILL OPTIONS	1" and 1-1/2"
STANDARD HARDWARE	Heavy Duty Balances White Bronze Sweep Locks Sash Stops
OPTIONAL HARDWARE	Sill Auto Locks
OTHER OPTIONS	Between the Glass Muntins Historic Beveled Exterior Glazed-in Muntins (1-1/2" max. overall thickness) Exterior and Interior Tape Applied Muntins Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Muntin Structural Mullions Male /Female horizontally stacked H-Mullion for vertical stacking Tri-lite Configuration Strap Anchors



EC 97911-269

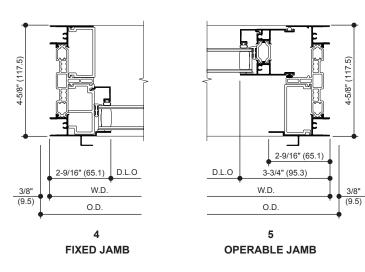
Additional information and CAD details are available at www.kawneer.com

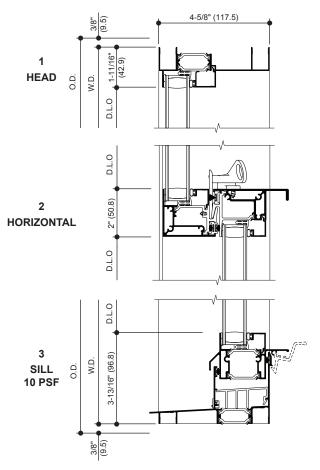
AA®5450 SINGLE HUNG WINDOW (1" Double Glazed)

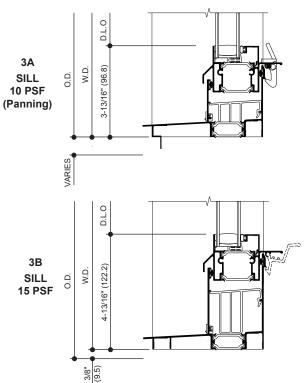


TYPICAL ELEVATION

Log onto www.kawneer.com for other configurations







Note: 15 PSF sill also available for use with panning.

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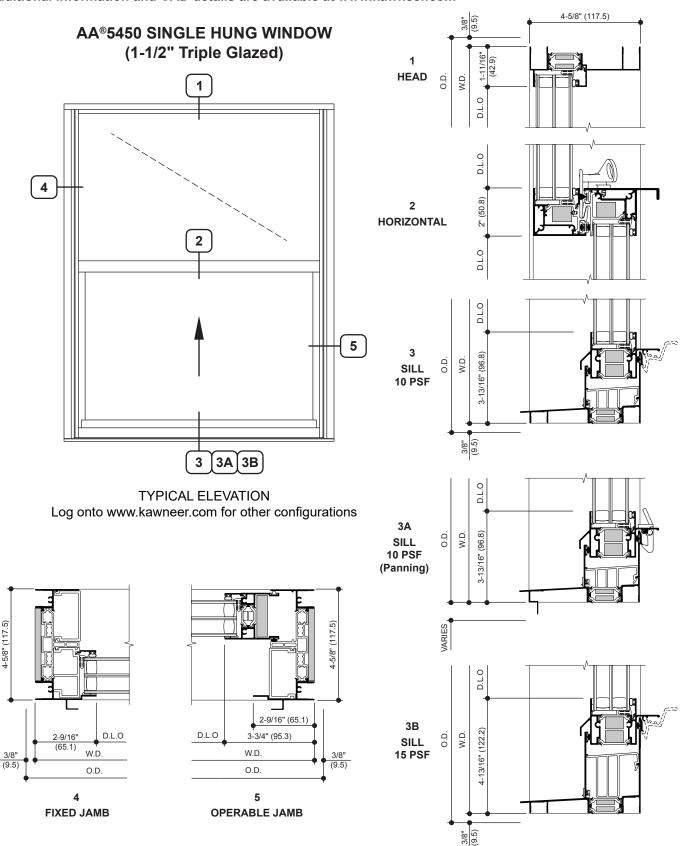
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SINGLE HUNG WINDOW

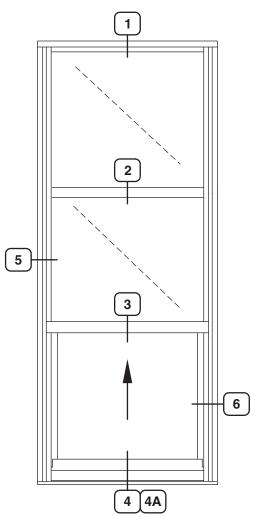
Additional information and CAD details are available at www.kawneer.com



Note: 15 PSF sill also available for use with panning.

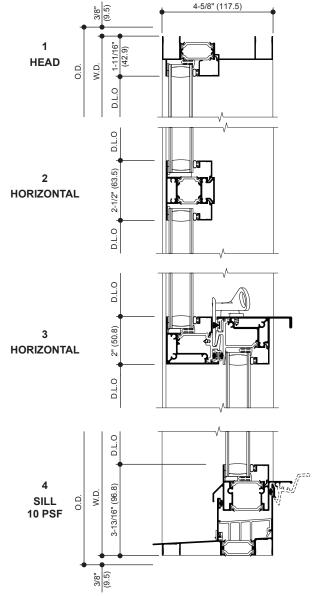


AA®5450 SINGLE HUNG WINDOW (Tri-Lite 1" Double Glazed)

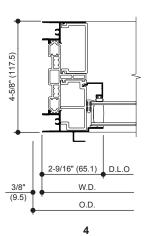


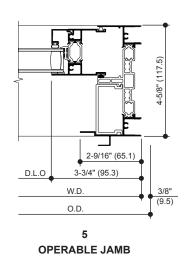
TYPICAL ELEVATION

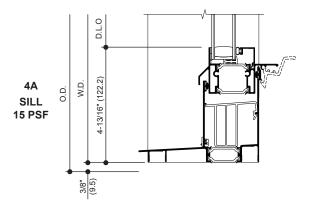
Log onto www.kawneer.com for other configurations



Note: 10 PSF sill also available for use with panning.







Note: 15 PSF sill also available for use with panning.

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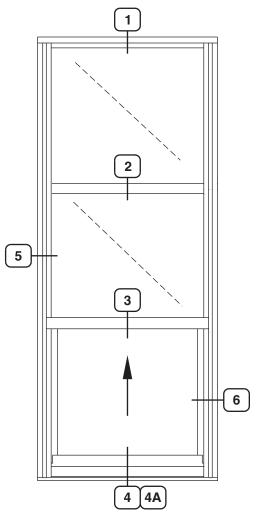
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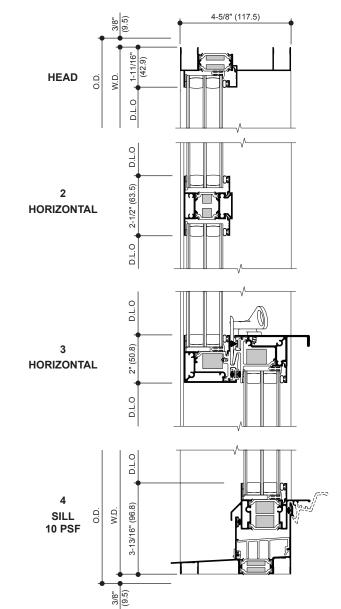
SINGLE HUNG WINDOW

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

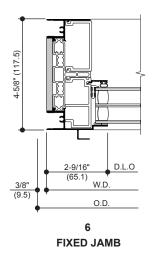
AA®5450 SINGLE HUNG WINDOW (Tri-Lite 1-1/2" Triple Glazed)

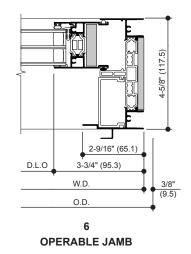


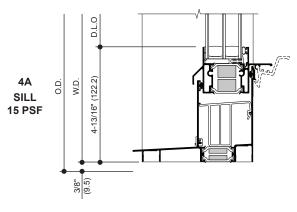
TYPICAL ELEVATION Log onto www.kawneer.com for other configurations



Note: 10 PSF sill also available for use with panning.







Note: 15 PSF sill also available for use with panning.



AA®5450 Ultra Thermal Window

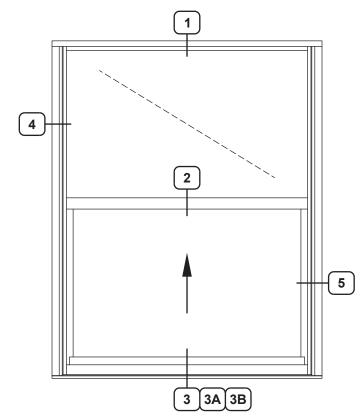
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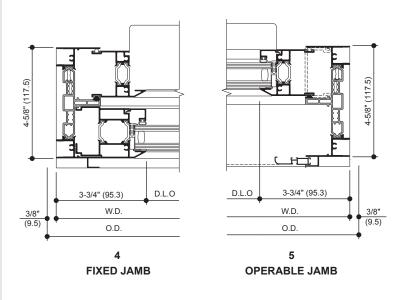
CLASS and GRADE	CLASS AW-PG65-H
TESTING METHOD	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)
FRAME DEPTH	4-5/8" Overall Frame Depth
TYPICAL WALL THICKNESS	.070" Nominal
TYPICAL MAXIMUM WINDOW SIZE	60" x 99"
TYPICAL MINIMUM WINDOW SIZE	24" x 36"
TYPICAL CONFIGURATIONS	1 1 1 1 1 1 1 1 1 1 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 6 6 7 8 <t< th=""></t<>
STANDARD INFILL OPTIONS	1" and 1-1/4"
STANDARD HARDWARE	Heavy Duty Balances White Bronze Sweep Locks Sash Stops
OPTIONAL HARDWARE	Sill Auto Locks
OTHER OPTIONS	Between the Glass Muntins Exterior and Interior Tape Applied Muntins Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Muntin Structural Mullions Male /Female horizontally stacked H-Mullion for vertical stacking Tri-lite Configuration Strap Anchors

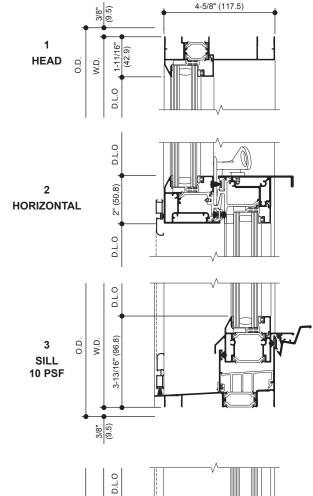


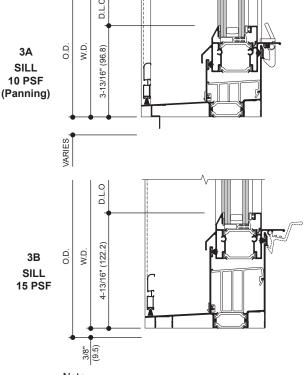
AA®5450 SINGLE HUNG WINDOW (1" Double Glazed)



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



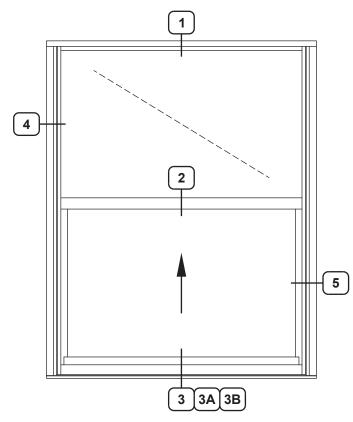




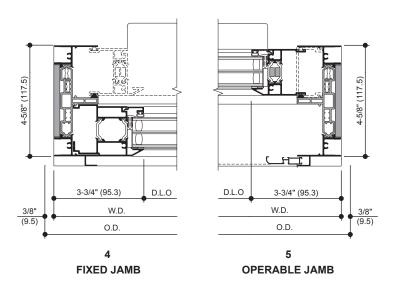
15 PSF sill also available for use with panning.

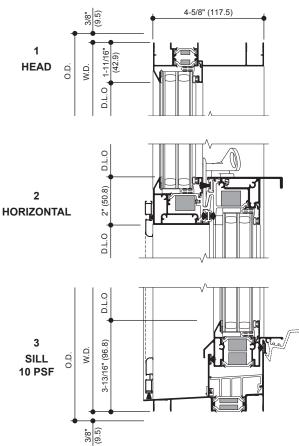


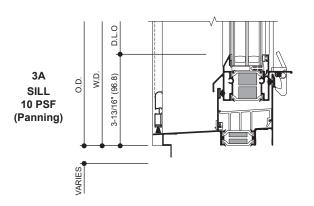
AA®5450 SINGLE HUNG WINDOW (1-1/4" Triple Glazed)

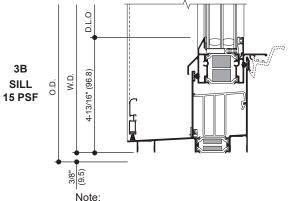


TYPICAL ELEVATION Log onto www.kawneer.com for other configurations









15 PSF sill also available for use with panning.

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HEAVY DUTY BALANCES



A class 5 adjustable spiral balance with excellent operating forces capable of balancing heavier sash weights. The balance utilizes stainless steel components and is cycle tested for longevity.

Class 6 is optional.

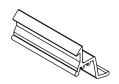
SWEEP LOCK AND KEEPER





White Bronze sweep locks and keepers with a durable brushed nickel finish and cycle tested for longevity.

AUTO LOCK



An optional spring operated auto lock conveniently located under the sash lift handle or an optional white bronze spring operated autolock located on the handle. The lock automatically engages the integral sill keeper upon closing the sash.

COVERED WEEPS



Weep with an integral hinged cover to allow maximum drainage of infiltrating water with a positive closing cover to block drafts and insects. The weep is available in black and white finishes.

SASH CAMS



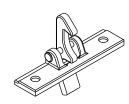
Adjustable glass filled nylon cams located left and right on the sash ensure proper alignment and smooth operation.

SASH STOPS



Black rigid vinyl sash stops are inserted into the vertical jambs without exposed fasteners to prevent excessive sash travel.

WHITE BRONZE SILL AUTO LOCK



A White Bronze spring operated auto lock located on the lower sash. The lock automatically engages the integral keeper securing the lower sash in the closed position. The auto lock is an option for the lower sash.



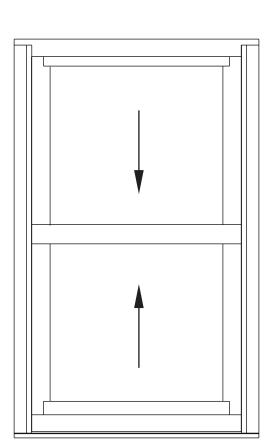
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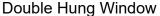
Standard Features

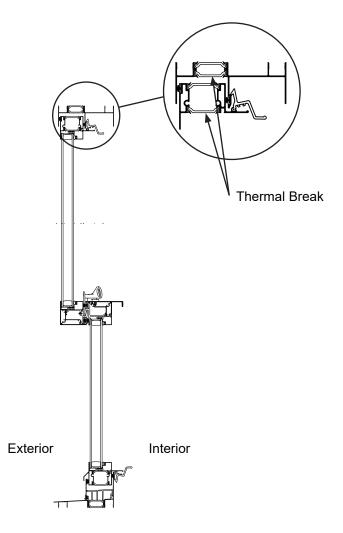
- High Performance Architectural Grade Window
- Tested to U.S. and Canadian Standards
- Polyamide Thermal Break

DOUBLE HUNG WINDOW

- Screw and Spline Frame Corner Joinery
- · Factory Silicone Glazed
- · Interior Applied Glazing Bead
- · Architectural Anodized Finishes and Applied Coatings
- Interior and Exterior Dual Finish Options
- Two Year Manufacturer's Warranty
- Optional Bevel Face







For specific product applications, consult your Kawneer representative.



DOUBLE HUNG WINDOW

AA®5450 Ultra Thermal Window

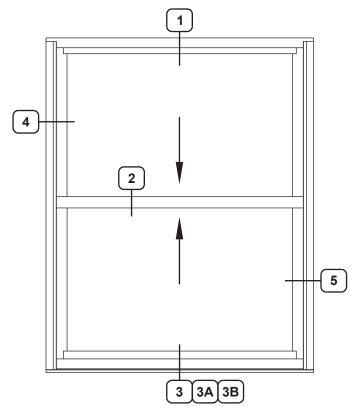
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CLASS and GRADE	CLASS AW-PG65-H
TESTING METHOD	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)
FRAME DEPTH	4-5/8" Overall Frame Depth
TYPICAL WALL THICKNESS	.070" Nominal
TYPICAL MAXIMUM WINDOW SIZE	60" x 99"
TYPICAL MINIMUM WINDOW SIZE	24" x 36"
TYPICAL CONFIGURATIONS	+ + + + + + + + + + + + + + + + + + + +
STANDARD INFILL OPTIONS	1" and 1-1/2"
STANDARD HARDWARE	Heavy Duty Balances Zinc Die Cast Sweep Locks Sash Stops Aluminum Upper Sash Auto Lock
OPTIONAL HARDWARE	Aluminum or White Bronze Sill Auto Locks
OTHER OPTIONS	Between the Glass Muntins Historic Beveled Exterior Glazed-in Muntins (1-1/2" max. overall thickness) Exterior and Interior Tape Applied Muntins Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Muntin Structural Mullions Male/Female horizontally stacked H-Mullion for vertical stacking Strap Anchors

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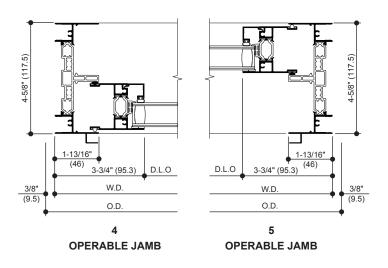


AA®5450 DOUBLE HUNG WINDOW (1" Double Glazed)

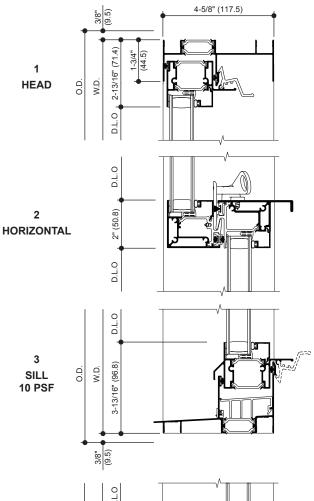


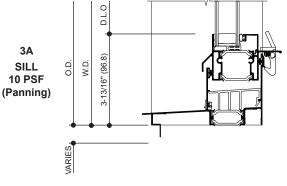
TYPICAL ELEVATION

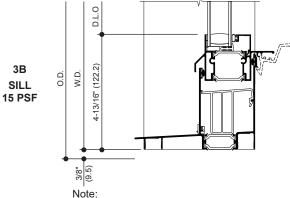
Log onto www.kawneer.com for other configurations



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15 PSF sill also available for use with panning.

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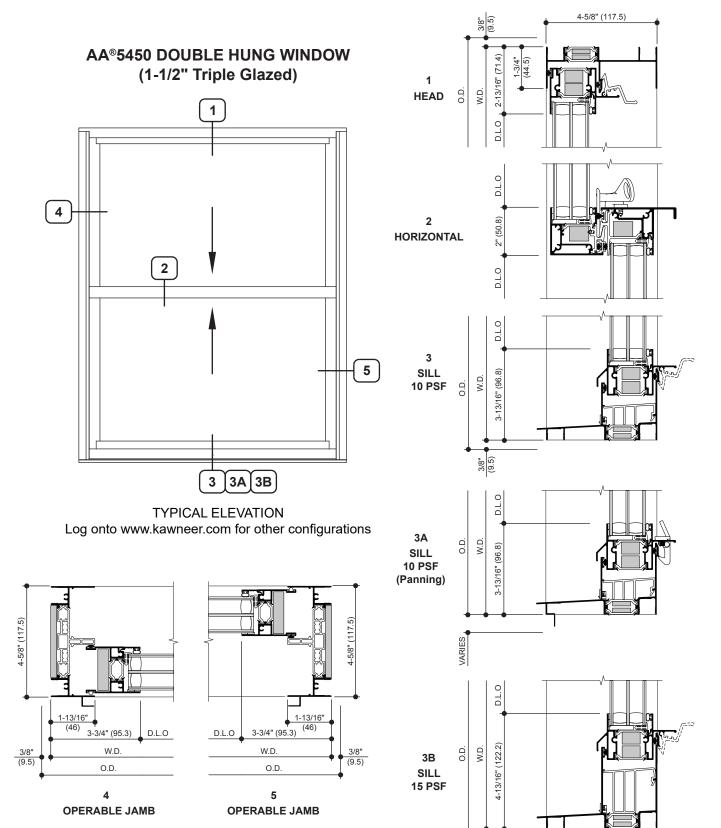
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DOUBLE HUNG WINDOW

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

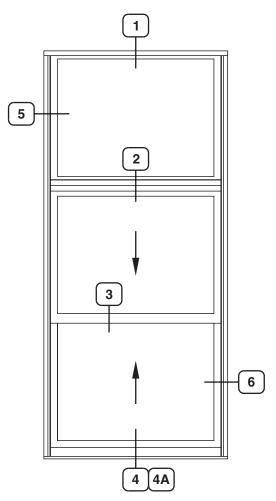


15 PSF sill also available for use with panning.

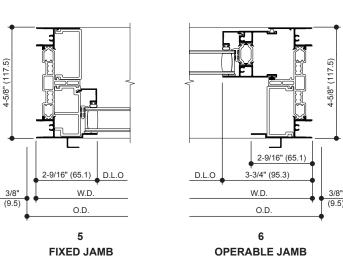
3/8" Note:

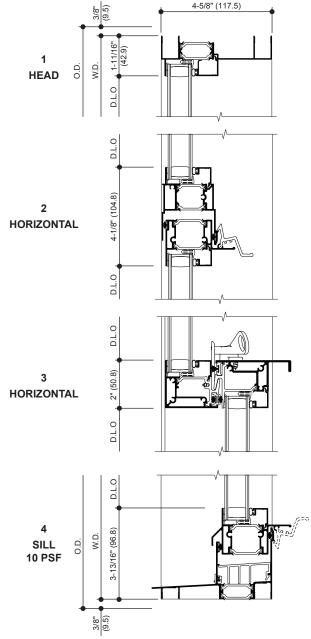


AA®5450 DOUBLE HUNG WINDOW (Tri-Lite 1" Double Glazed)

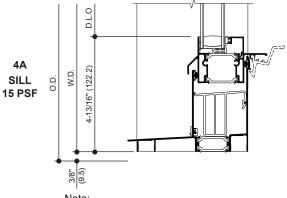


TYPICAL ELEVATION Log onto www.kawneer.com for other configurations





Note: 10 PSF sill also available for use with panning.



Note: 15 PSF sill also available for use with panning.

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ADME120EN

Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not

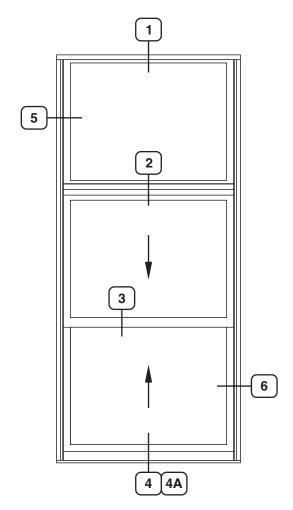
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DOUBLE HUNG WINDOW

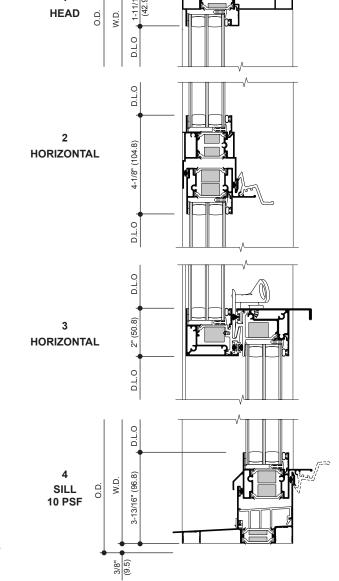
4-5/8" (117.5)

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

AA®5450 DOUBLE HUNG WINDOW (Tri-Lite 1-1/2" Triple Glazed)

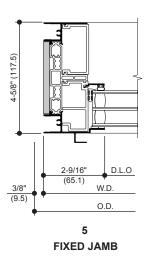


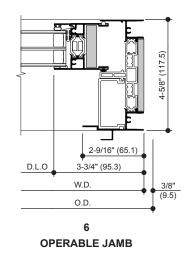
TYPICAL ELEVATION
Log onto www.kawneer.com for other configurations

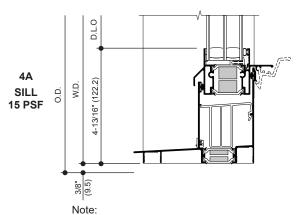




10 PSF sill also available for use with panning.







15 PSF sill also available for use with panning.

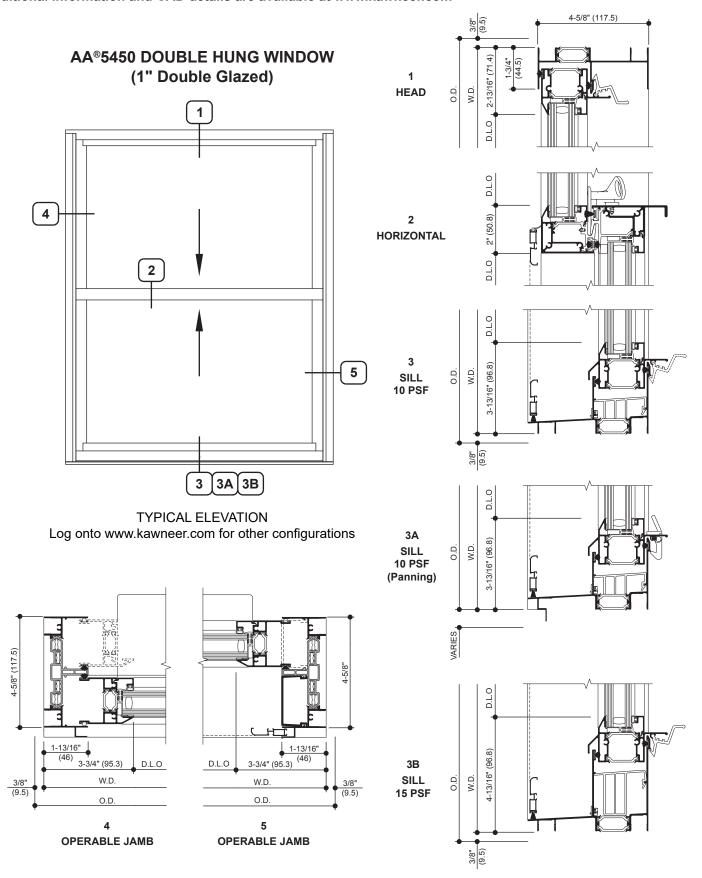
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kawneer.com ADME120EN

AA®5450 Ultra Thermal Window

CLASS and GRADE	CLASS AW-PG65-H
TESTING METHOD	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)
FRAME DEPTH	4-5/8" Overall Frame Depth
TYPICAL WALL THICKNESS	.070" Nominal
TYPICAL MAXIMUM WINDOW SIZE	60" x 99"
TYPICAL MINIMUM WINDOW SIZE	24" x 36"
TYPICAL CONFIGURATIONS	+ + + + + + + + + + + + + + + + + + +
STANDARD INFILL OPTIONS	1" and 1-1/4"
STANDARD HARDWARE	Heavy Duty Balances Zinc Die Cast Sweep Locks Sash Stops Aluminum Upper Sash Auto Lock
OPTIONAL HARDWARE	Aluminum or White Bronze Sill Auto Locks
OTHER OPTIONS	Between the Glass Muntins Exterior and Interior Tape Applied Muntins Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Muntin Structural Mullions Male/Female horizontally stacked H-Mullion for vertical stacking Strap Anchors

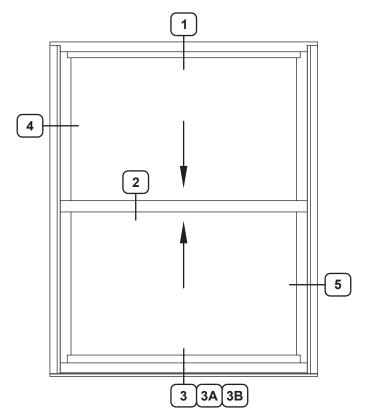




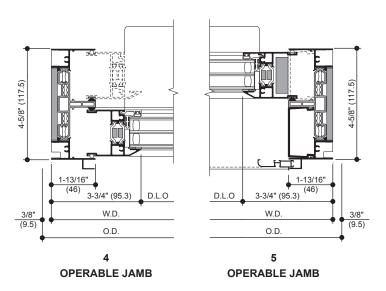
15 PSF sill also available for use with panning.

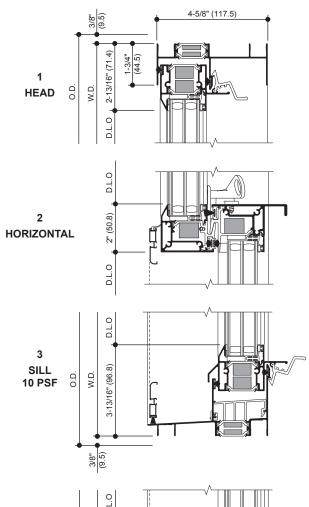


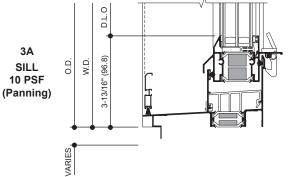
AA®5450 DOUBLE HUNG WINDOW (1-1/4" Triple Glazed)

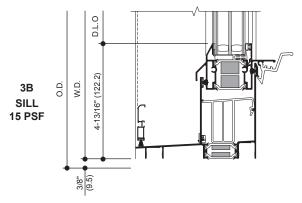


TYPICAL ELEVATION
Log onto www.kawneer.com for other configurations









Note:

15 PSF sill also available for use with panning.

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DOUBLE HUNG WINDOW

HEAVY DUTY BALANCES



A class 5 adjustable spiral balance with excellent operating forces capable of balancing heavier sash weights. The balance utilizes stainless steel components and is cycle tested for longevity.

Class 6 is optional.

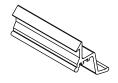
SWEEP LOCK AND KEEPER





White Bronze sweep locks and keepers with a durable brushed nickel finish and cycle tested for longevity.

AUTO LOCK AND KEEPER



An aluminum spring operated auto lock located on the upper sash. The lock automatically engages the integral keeper securing the sash in the closed position. The auto lock is an option for the lower sash, but is standard for the upper sash.

COVERED WEEPS



A weep with an integral hinged cover to allow maximum drainage of infiltrating water with a positive closing cover to block drafts and insects. The weep is available in black and white finishes.

SASH CAMS



Adjustable glass filled nylon cams located left and right on the sash ensure proper alignment and smooth operation.

SASH STOPS



Black rigid vinyl sash stops are inserted into the vertical jambs without exposed fasteners to prevent excessive sash travel.

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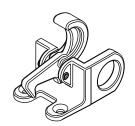
Laws and building and safety codes governing such as glazed entrannee, window, and curtain control the selection of product configurations, and assumes no responsibility therefor.



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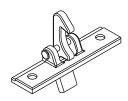
ADME120EN kawneer.com

UPPER SASH SNAP LOCK



A White Bronze spring operated auto lock located on the upper sash. The lock automatically engages the integral keeper securing the upper sash in the closed position. The snap lock is an option for the upper sash.

WHITE BRONZE SILL AUTO LOCK



A White Bronze spring operated auto lock located on the lower sash. The lock automatically engages the integral keeper securing the lower sash in the closed position. The auto lock is an option for the lower sash.

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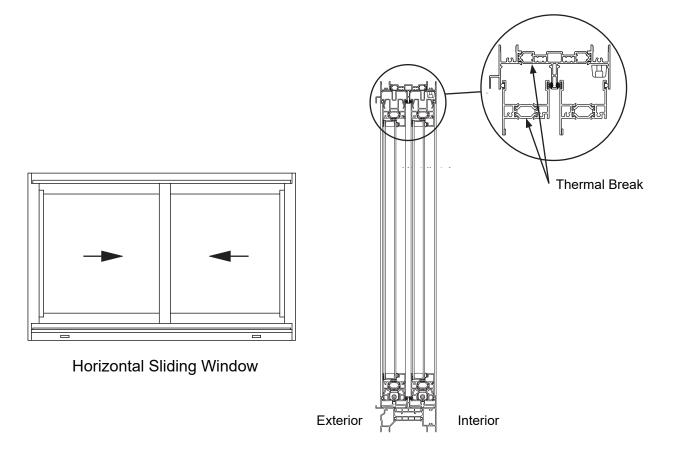


EC 97911-269

HORIZONTAL SLIDING WINDOW

Standard Features

- High Performance Architectural Grade Window
- Tested to U.S. and Canadian Standards
- Polyamide Thermal Break
- Screw and Spline Frame Corner Joinery
- · Factory Silicone Glazed
- · Interior Applied Glazing Bead
- Architectural Anodized Finishes and Applied Coatings
- Interior and Exterior Dual Finish Options
- Two Year Manufacturer's Warranty



For specific product applications, consult your Kawneer representative.



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

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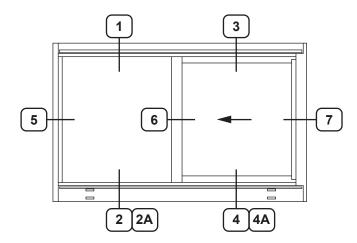
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CLASS and GRADE	CLASS AW-PG40-HS (OX / XO / XOX), AW-PG50-HS (XX)	
TESTING METHOD	AAMA / WDMA / CSA / 101 / I.S.2 / A440 (NAFS)	
FRAME DEPTH	4-5/8" Overall Frame Depth	
TYPICAL WALL THICKNESS	0.070" Nominal	
TYPICAL MAXIMUM WINDOW SIZE	99" x 79" OX / XO / XX 120" x 79" XOX	
TYPICAL MINIMUM WINDOW SIZE	36" x 24"	
TYPICAL CONFIGURATIONS		
STANDARD INFILL OPTIONS	1" and 1-1/2"	
STANDARD HARDWARE	White Bronze Sweep Locks Sash Stops Aluminum Sash Auto Lock (At XX Inactive Sash)	
OPTIONAL HARDWARE	Aluminum Auto Locks	
OTHER OPTIONS	Between the Glass Muntins Historic Beveled Exterior Glazed-in Muntins (1-1/2" max. overall thickness) Exterior and Interior Tape Applied Muntins Perimeters and Sills Exterior Pannings and Interior Trims 3 Piece Structural Mullions Male/Female vertically or horizontally stacked H-Mullion for vertical or horizontal stacking Strap Anchors	



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OX HORIZONTAL SLIDING WINDOW (Keyed to details on pages 34 and 35)

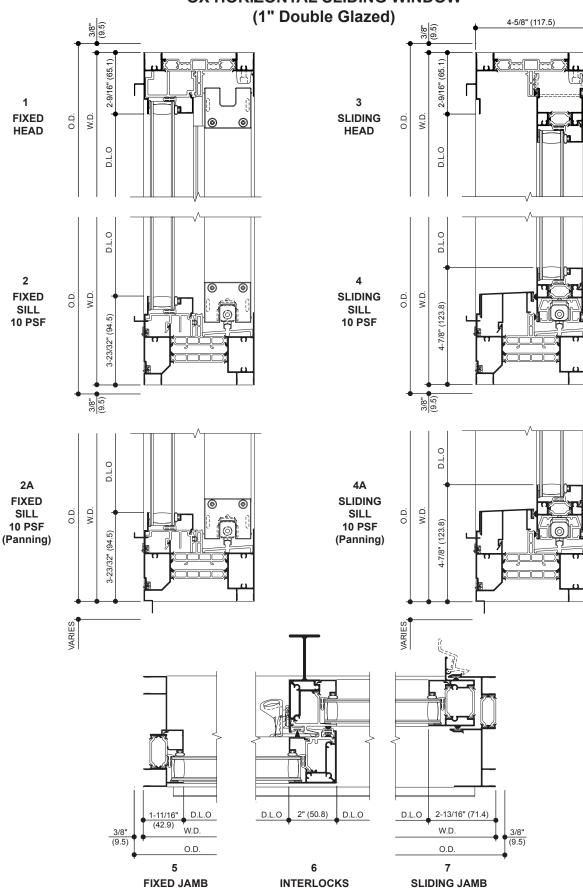


TYPICAL ELEVATION



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OX HORIZONTAL SLIDING WINDOW





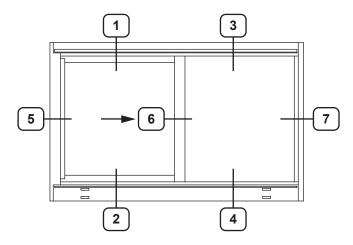
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OX HORIZONTAL SLIDING WINDOW (1-1/2" Triple Glazed) (65.1)(65.1)2-9/16" 2-9/16" 1 3 **FIXED SLIDING** O.D. O.D. **HEAD HEAD** D.L.0 D.L.0 D.L.0 D.L.0 2 **FIXED SLIDING** O.D. W.D. 0.0 W.D. SILL SILL 4-7/8" (123.8) (94.5)**10 PSF** 10 PSF 3-23/32" (3/8" 3/8" D.L.0 D.L.O 2A 4A **SLIDING FIXED** W.D. W.D. SILL O.D. SILL 0.D. **10 PSF** 10 PSF 4-7/8" (123.8) (94.5)(Panning) (Panning) 3-23/32" 1-11/16" 2" (50.8) D.L.O 2-13/16" (71.4) (42.9) W.D. W.D O.D. O.D 5 6 7 **FIXED JAMB INTERLOCKS SLIDING JAMB**

XO HORIZONTAL SLIDING WINDOW (Keyed to details on pages 37 and 38)



TYPICAL ELEVATION

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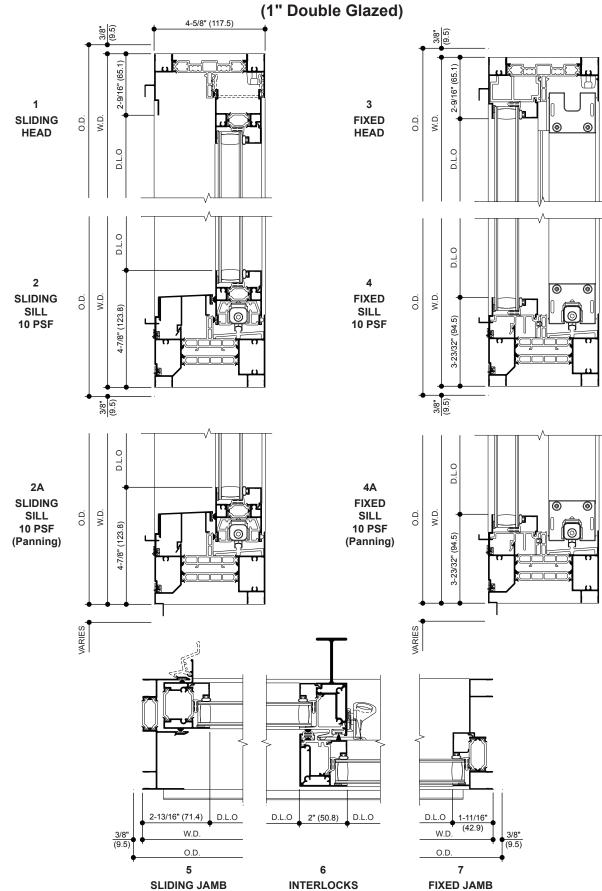


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HORIZONTAL SLIDING WINDOW

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

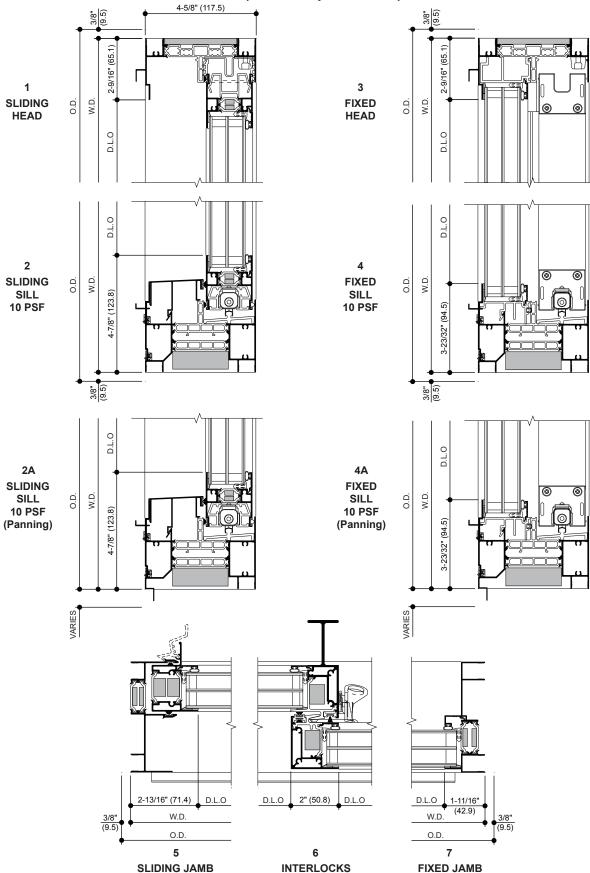
XO HORIZONTAL SLIDING WINDOW



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

XO HORIZONTAL SLIDING WINDOW

(1-1/2" Triple Glazed)





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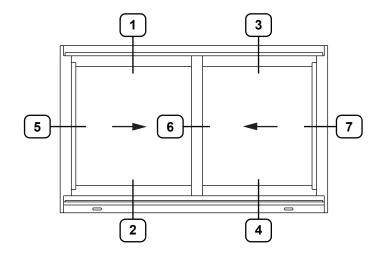
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HORIZONTAL SLIDING WINDOW

XX HORIZONTAL SLIDING WINDOW (Keyed to details on pages 40 and 41)

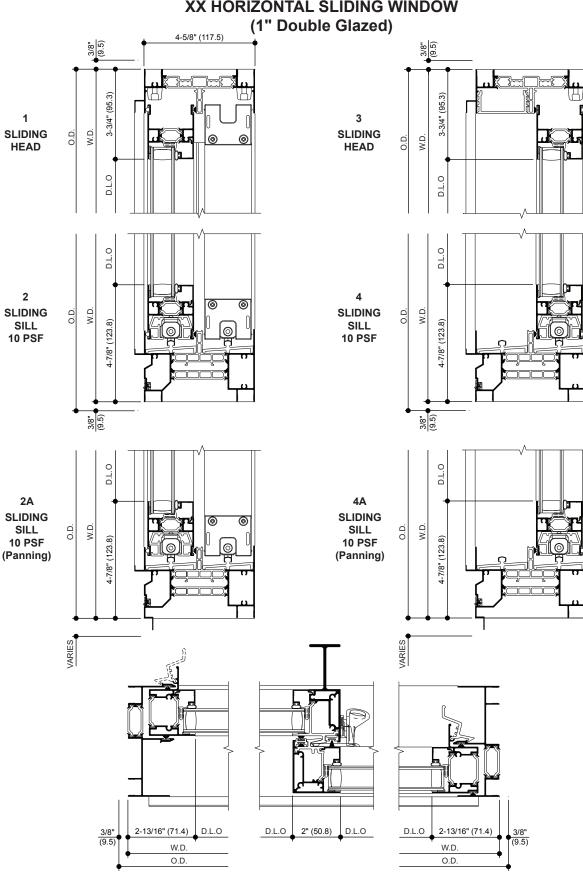


TYPICAL ELEVATION



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

XX HORIZONTAL SLIDING WINDOW





5

SLIDING JAMB

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SLIDING JAMB

6

INTERLOCKS

HORIZONTAL SLIDING WINDOW

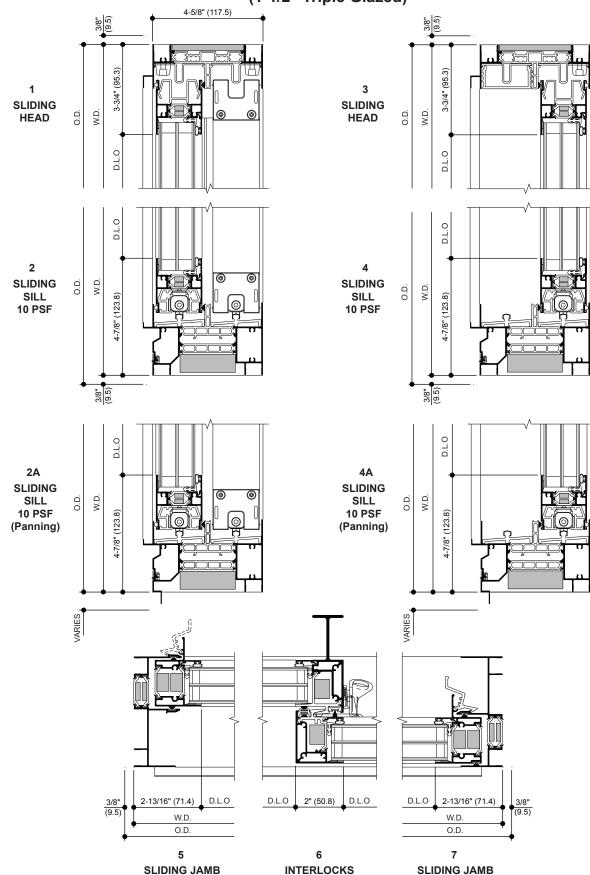
EC 97911-269

Laws and building and safety codes governing the design and use of Kawneer products, vary and safed 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.

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

XX HORIZONTAL SLIDING WINDOW

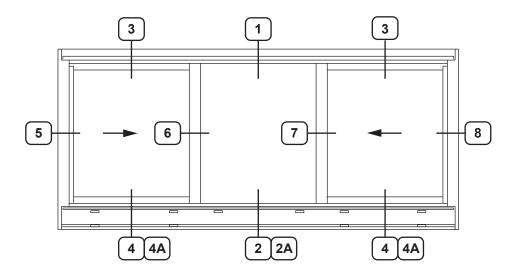
(1-1/2" Triple Glazed)



HORIZONTAL SLIDING WINDOW

EC 97911-269

XOX HORIZONTAL SLIDING WINDOW (Keyed to details on pages 43 and 44)



TYPICAL ELEVATION

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



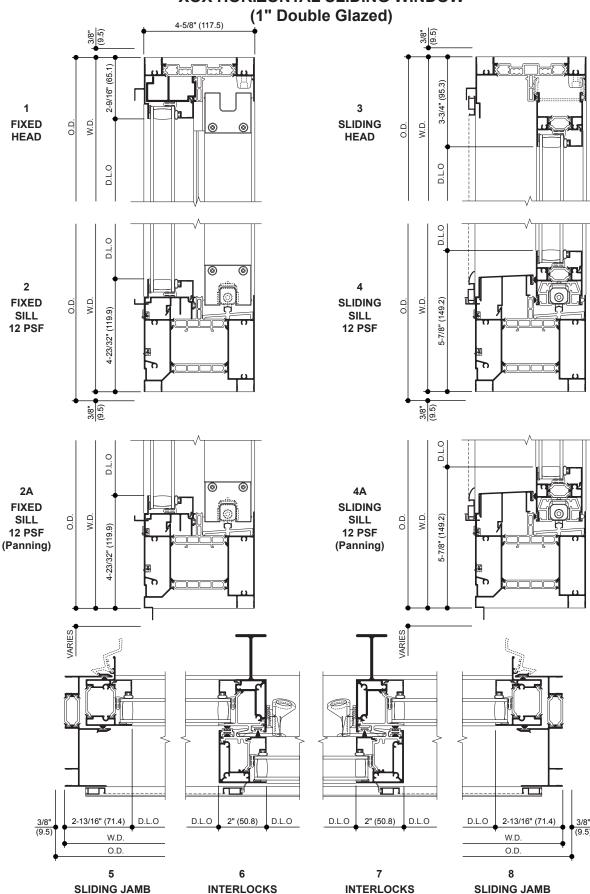
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HORIZONTAL SLIDING WINDOW

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

XOX HORIZONTAL SLIDING WINDOW



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

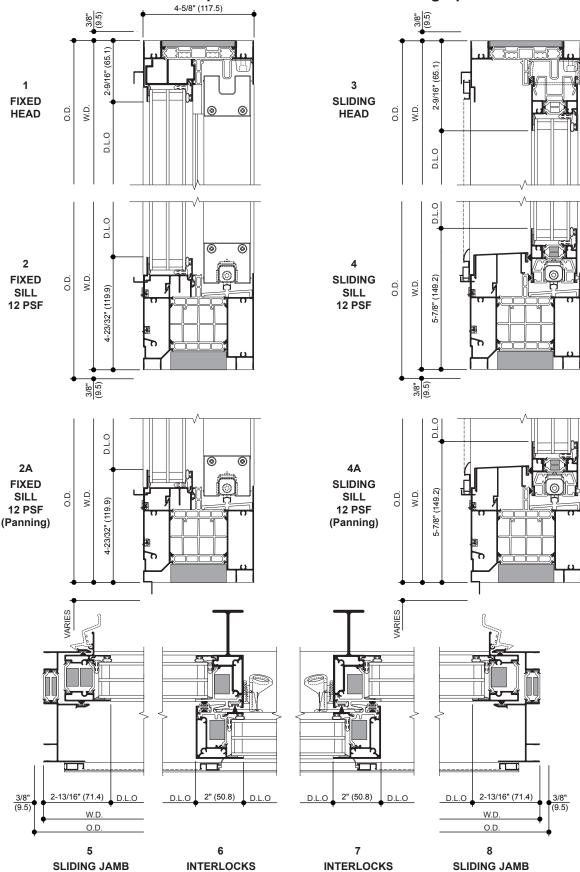
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Additional information and CAD details are available at www.kawneer.com

XOX HORIZONTAL SLIDING WINDOW

1-1/2" Triple Glazed - Aluminum Glazing Spacer



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AA®5450 Ultra Thermal Window

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HORIZONTAL SLIDING WINDOW

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COMPOSITE ADJUSTABLE TANDEM ROLLER

Glass filled nylon housing, die cast zamak roller support, precision sealed ball bearing rollers with nylon tires.

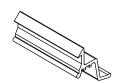
SWEEP LOCK AND KEEPER





White Bronze sweep locks and keepers with a durable brushed nickel finish and cycle tested for longevity.

AUTO LOCK AND KEEPER



An aluminum spring operated auto lock. The lock automatically engages the integral keeper securing the sash in the closed position. The auto lock is an option for the jamb sash.

COVERED WEEPS



A weep with an integral hinged cover to allow maximum drainage of infiltrating water with a positive closing cover to block drafts and insects. The weep is available in black and white finishes.

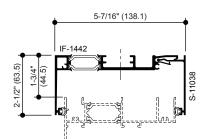


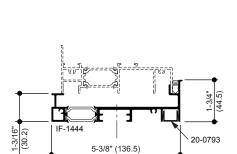
RECEPTORS

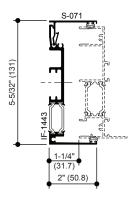
EC 97911-269

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

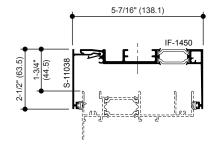
RECEPTOR DETAILS

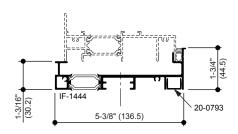


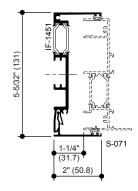




INTERIOR INSTALLED







EXTERIOR INSTALLED

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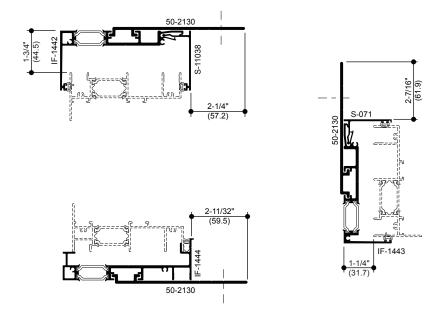
EC 97911-269 **ANCHORS**

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

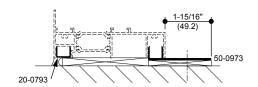
ANCHOR DETAILS

NOTE:

Interior glazed shown, exterior glazed similar.



STRAP ANCHOR WITH RECEPTOR (INTERIOR INSTALLED)



STRAP ANCHOR WITHOUT RECEPTOR

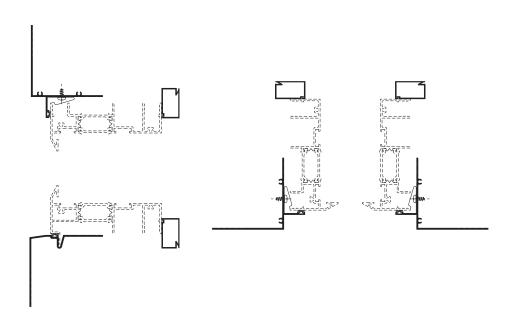


PANNINGS

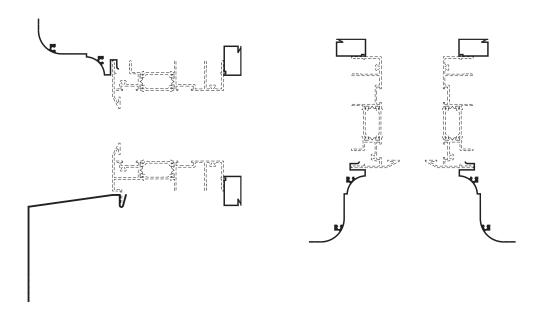
EC 97911-269

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

PRE-SET PANNING



WRAP AROUND PANNING



Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials,



WIND LOAD / DEADLOAD CHARTS

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.

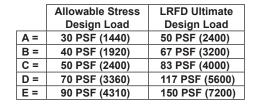
DEADLOAD CHARTS

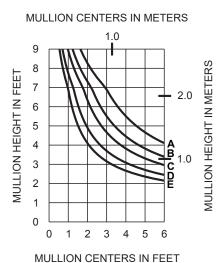
Horizontal or deadload limitations are based upon 1/16" (1.6) at operable vents or 1/8" (3.2) at fixed openings, maximum allowable deflection at the center of an intermediate horizontal member. The accompanying charts are calculated for 1" (25.4) thick insulating glass supported on two setting blocks placed at the loading points shown.



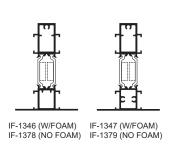
WIND LOAD CHARTS

EC 97911-269

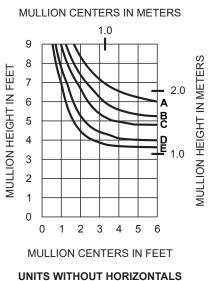




UNITS WITH HORIZONTALS

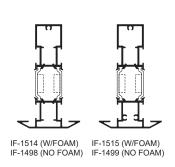


WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505

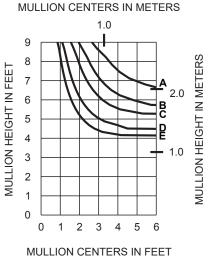


MULLION CENTERS IN METERS 9 **MULLION HEIGHT IN METERS** 8 **MULLION HEIGHT IN FEET** 7 2.0 6 5 4 3 2 1 1 2 3 4 5 6

MULLION CENTERS IN FEET **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

KAWNEER

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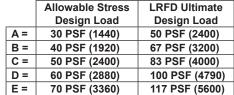
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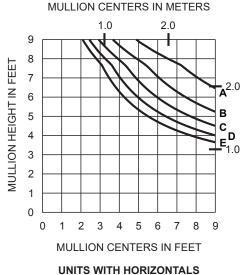
Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

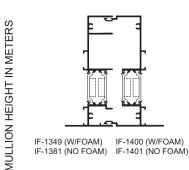
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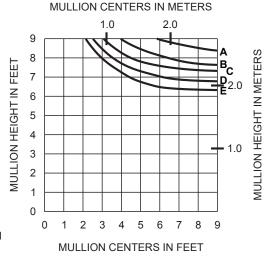
	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	30 PSF (1440)	50 PSF (2400)
B =	40 PSF (1920)	67 PSF (3200)
C =	50 PSF (2400)	83 PSF (4000)
D =	60 PSF (2880)	100 PSF (4790)
E -	70 DSE (2260)	117 DCE (ECOO)





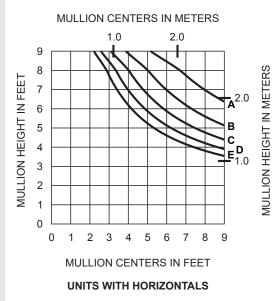


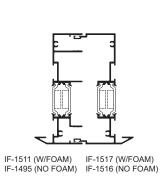
WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505



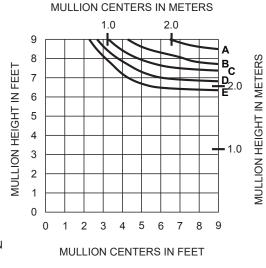
UNITS WITHOUT HORIZONTALS

WIND LOAD CHARTS





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



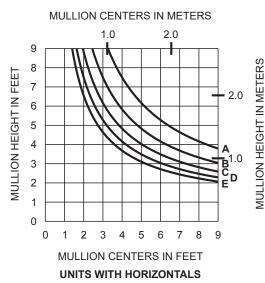
UNITS WITHOUT HORIZONTALS

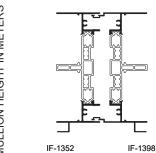


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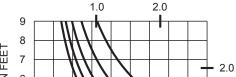
WIND LOAD CHARTS EC 97911-269

	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	30 PSF (1440)	50 PSF (2400)
B =	40 PSF (1920)	67 PSF (3200)
C =	50 PSF (2400)	83 PSF (4000)
D =	60 PSF (2880)	100 PSF (4790)
E =	70 PSF (3360)	117 PSF (5600)

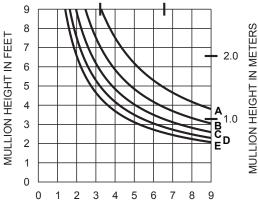


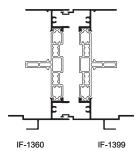


WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505



MULLION CENTERS IN METERS





MULLION CENTERS IN FEET

UNITS WITH HORIZONTALS

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

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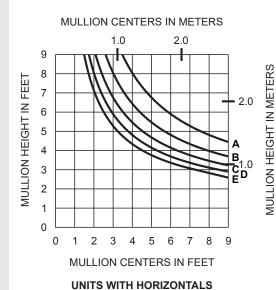
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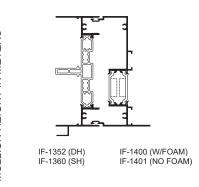
EC 97911-269

WIND LOAD CHARTS

AA®5450 Ultra Thermal Window

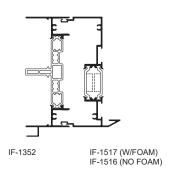
	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	30 PSF (1440)	50 PSF (2400)
B =	40 PSF (1920)	67 PSF (3200)
C =	50 PSF (2400)	83 PSF (4000)
D =	60 PSF (2880)	100 PSF (4790)
E =	70 PSF (3360)	117 PSF (5600)





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

MULLION CENTERS IN METERS 2.0 9 8 MULLION HEIGHT IN FEET 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 MULLION CENTERS IN FEET **UNITS WITH HORIZONTALS**



MULLION HEIGHT IN METERS

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

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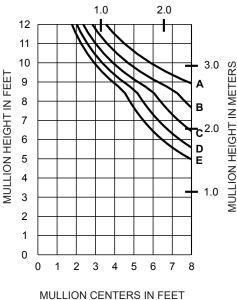
WIND LOAD CHARTS

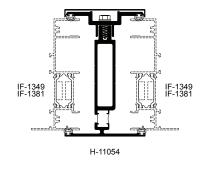
EC 97911-269

	Allowable Stress	LRFD Ultimate
	Design Load	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)

MULLION CENTERS IN METERS

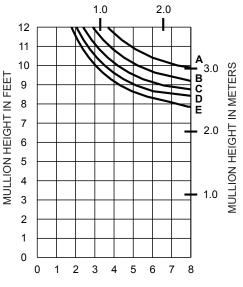






WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505

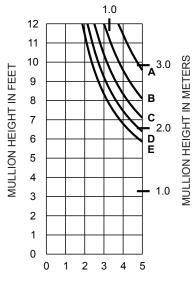
MULLION CENTERS IN METERS



MULLION CENTERS IN FEET **UNITS WITHOUT HORIZONTALS**

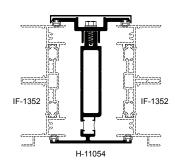
UNITS WITH HORIZONTALS

MULLION CENTERS IN METERS



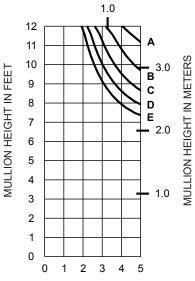
MULLION CENTERS IN FEET

UNITS WITH HORIZONTALS



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

MULLION CENTERS IN METERS



MULLION CENTERS IN FEET

UNITS WITHOUT HORIZONTALS

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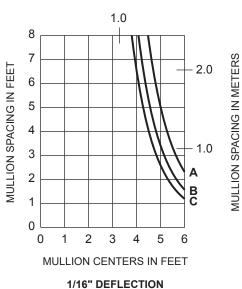
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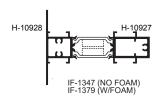
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DEADLOAD CHARTS

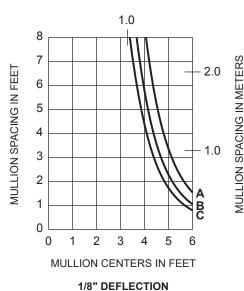
MULLION CENTERS IN METERS



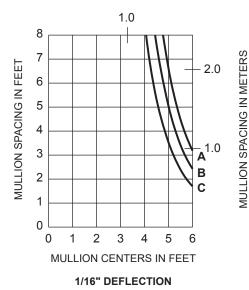
A = 1/8 POINT LOADING B = 3/16 POINT LOADING C = 1/4 POINT LOADING



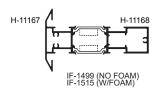
MULLION CENTERS IN METERS



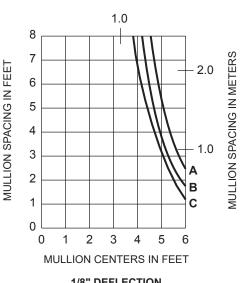
MULLION CENTERS IN METERS



A = 1/8 POINT LOADING **B = 3/16 POINT LOADING** C = 1/4 POINT LOADING



MULLION CENTERS IN METERS

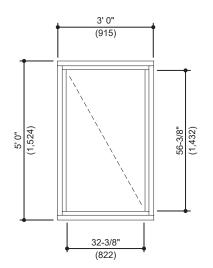






FIXED THERMAL CHARTS

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

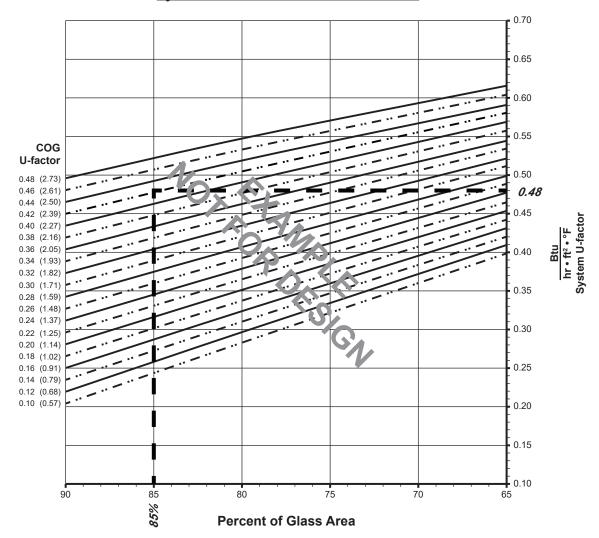
Total Daylight Opening = 32-3/8" • 56-3/8" = 12.67ft²

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

Percent of Glass = (Total Daylight Opening ÷ Total Projected Area)100

 $= (12.67 \div 15)100 = 85\%$

System U-factor vs Percent of Glass Area



Based on 85% glass and center of glass (COG) U-factor of 0.42 System U-factor is equal to 0.48 Btu/hr • ft2 • °F



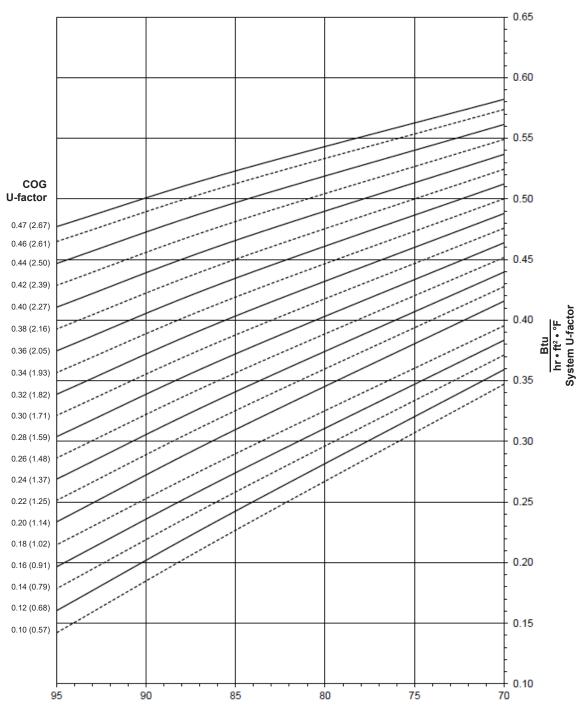
FIXED THERMAL CHARTS EC 97911-269

AA®5450 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**

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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.

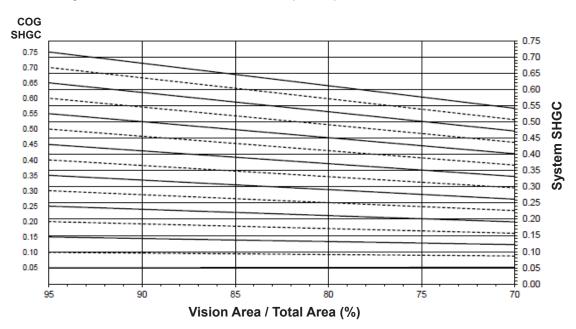


FIXED THERMAL CHARTS

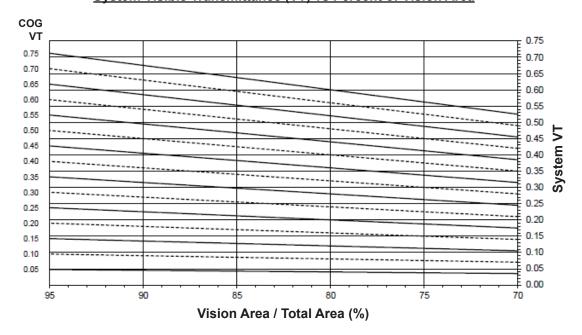
EC 97911-269

AA®5450 FIXED WINDOW 1" Double Glazed - Aluminum Glazing Spacer

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



System Visible Transmittance (VT) vs Percent of Vision Area



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FIXED THERMAL PERFORMANCE MATRIX (NFRC SIZE)

EC 97911-269

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

Glass U-Factor ³	Overall U-Factor 4
0.48	0.52
0.46	0.51
0.44	0.50
0.42	0.48
0.40	0.46
0.38	0.45
0.36	0.43
0.34	0.42
0.32	0.40
0.30	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	0.27
0.14	0.26
0.12	0.24
0.10	0.22

AA®5450 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	0.65
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	0.31
0.30	0.26
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	0.64
0.70	0.60
0.65	0.55
0.60	0.51
0.55	0.47
0.50	0.43
0.45	0.38
0.40	0.34
0.35	0.30
0.30	0.26
0.25	0.21
0.20	0.17
0.15	0.13
0.10	0.09
0.05	0.04



FIXED THERMAL CHARTS

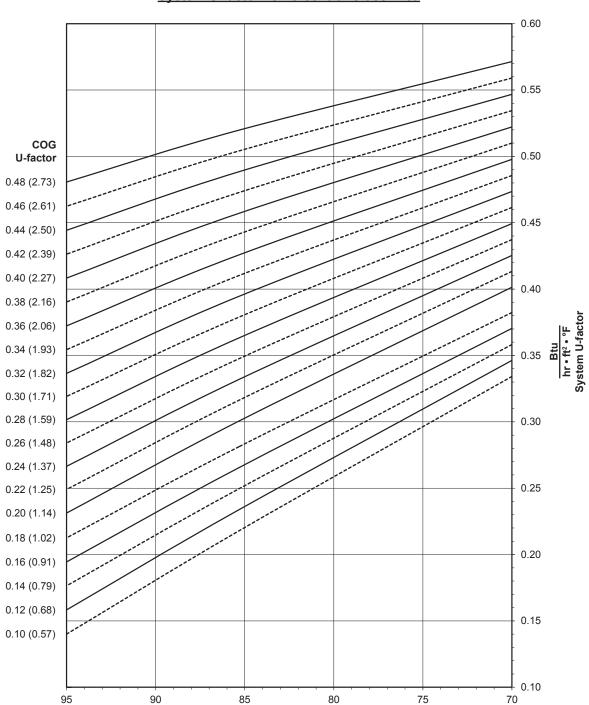
EC 97911-269

AA®5450 FIXED WINDOW - BEVEL FACE 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.



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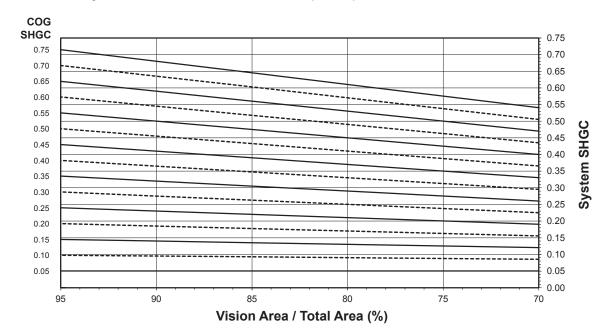
Laws and building and safety codes governing such as glazed entrannee, window, and curtain we control the selection of product configurations, and assumes no responsibility therefor.

FIXED THERMAL CHARTS

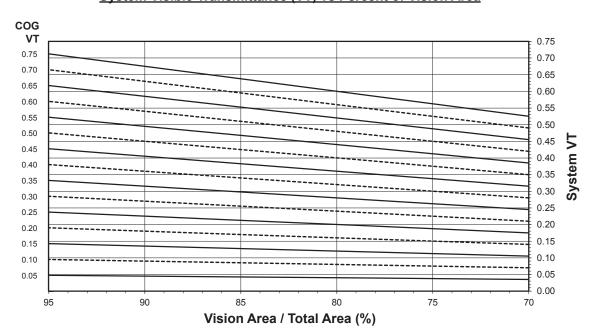
AA®5450 Ultra Thermal Window

AA®5450 FIXED WINDOW - BEVEL FACE 1" Double Glazed - Aluminum Glazing Spacer

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



System Visible Transmittance (VT) vs Percent of Vision Area





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

62

Thermal transmittance (BTO/III TR TF)		
Glass U-Factor ³	Overall U-Factor 4	
0.48	0.52	
0.46	0.50	
0.44	0.49	
0.42	0.47	
0.40	0.46	
0.38	0.44	
0.36	0.43	
0.34	0.41	
0.32	0.39	
0.30	0.38	
0.28	0.36	
0.26	0.36	
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	

AA®5450 FIXED WINDOW - BEVEL FACE 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 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	0.60
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	0.31
0.30	0.26
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	0.64
0.70	0.60
0.65	0.55
0.60	0.51
0.55	0.47
0.50	0.43
0.45	0.38
0.40	0.34
0.35	0.30
0.30	0.26
0.25	0.21
0.20	0.17
0.15	0.13
0.10	0.09
0.05	0.04



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EC 97911-269 FIXED THERMAL CHARTS

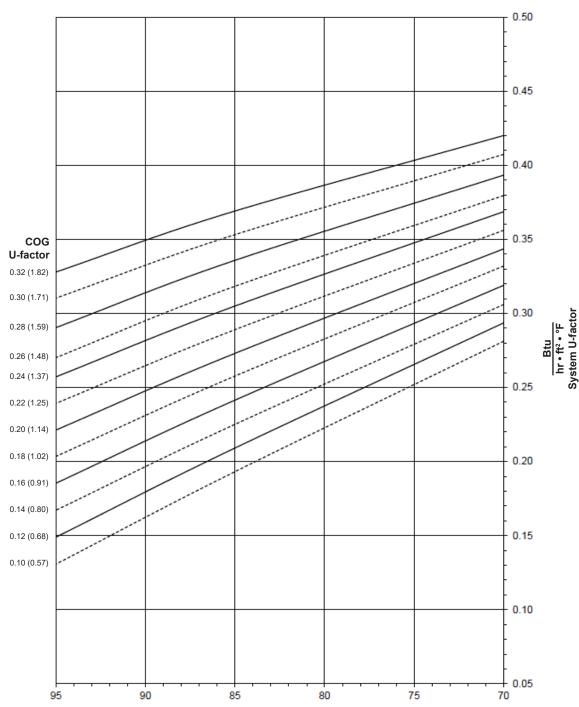
AA®5450 FIXED WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer

AA®5450 Ultra Thermal Window

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.



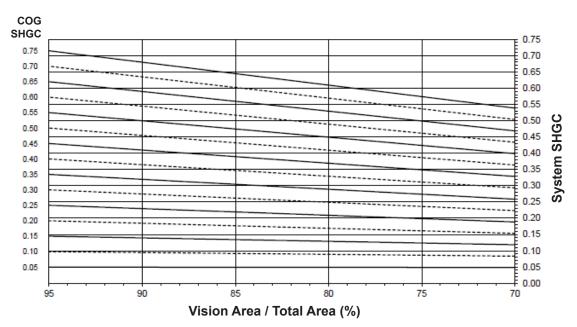
EC 97911-269

design and use of Kawneer products, products, vary widely. Kawneer does not rrating hardware, or glazing materials,

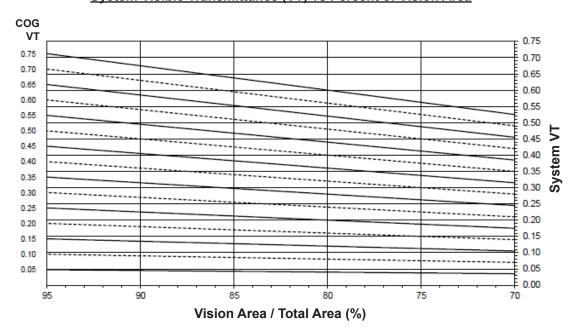
FIXED THERMAL CHARTS

AA®5450 FIXED WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer

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



System Visible Transmittance (VT) vs Percent of Vision Area



FIXED THERMAL PERFORMANCE MATRIX (NFRC SIZE)

Thermal Transmittance¹ (BTU/hr • ft ² • °F)

Glass U-Factor ³	Overall U-Factor 4
0.32	0.37
0.30	0.35
0.28	0.33
0.26	0.32
0.24	0.30
0.22	0.29
0.20	0.27
0.18	0.26
0.16	0.24
0.14	0.22
0.12	0.21
0.10	0.19

AA®5450 FIXED WINDOW 1-1/2" Triple 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 1,200 mm wide by 1,500 mm high (47-1/4" by 59-1/16").

SHGC Matrix ²

Glass SHGC ³	Overall Glass U-Factor 4
0.75	0.65
0.70	0.60
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	0.31
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

- Violoic Transmittance	
Glass VT ³	Overall VT 4
0.75	0.64
0.70	0.60
0.65	0.55
0.60	0.51
0.55	0.47
0.50	0.43
0.45	0.38
0.40	0.34
0.35	0.30
0.30	0.26
0.25	0.21
0.20	0.17
0.15	0.13
0.10	0.09
0.05	0.04



FIXED THERMAL CHARTS

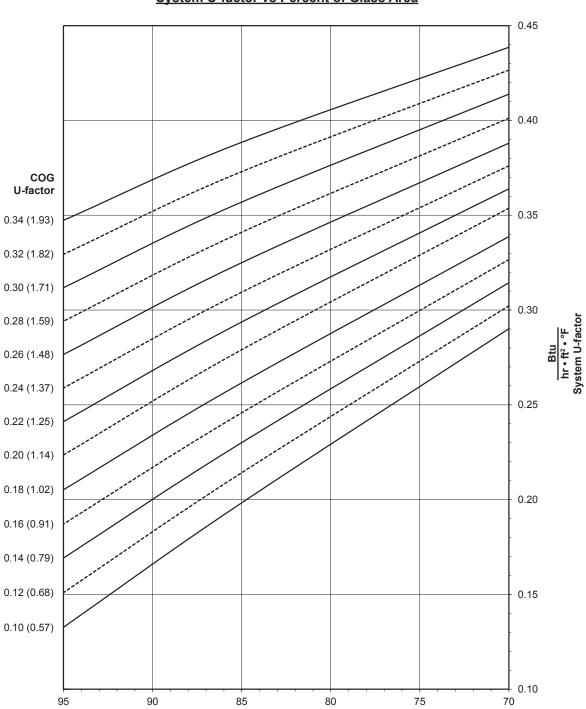
EC 97911-269

AA®5450 FIXED WINDOW - BEVEL FACE 1-1/2" 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.



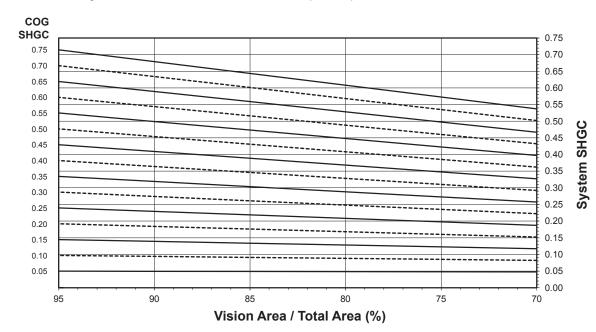
Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

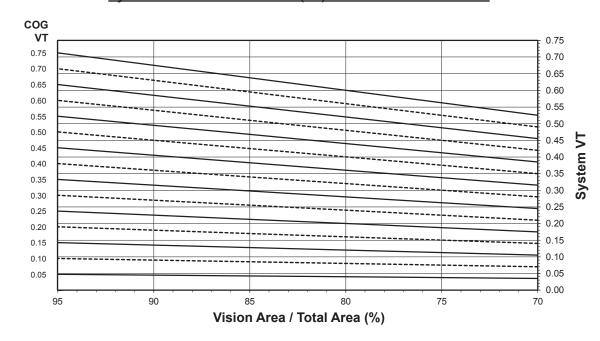
FIXED THERMAL CHARTS

AA®5450 FIXED WINDOW - BEVEL FACE 1-1/2" Triple Glazed - Aluminum Glazing Spacer

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



System Visible Transmittance (VT) vs Percent of Vision Area



AA®5450 Ultra Thermal Window

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

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

Glass U-Factor ³	Overall U-Factor 4
0.34	0.39
0.32	0.37
0.30	0.36
0.28	0.34
0.26	0.32
0.24	0.31
0.22	0.29
0.20	0.28
0.18	0.26
0.16	0.24
0.14	0.23
0.12	0.21
0.10	0.20

AA®5450 FIXED WINDOW - BEVEL FACE 1-1/2" Triple 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	0.65
0.70	0.60
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	0.18
0.15	0.13
0.10	0.09
0.05	0.05

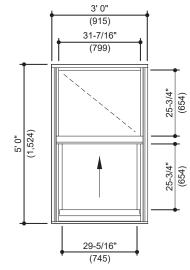
Visible Transmittance ²

Glass VT ³	Overall VT ⁴
0.75	0.64
0.70	0.60
0.65	0.55
0.60	0.51
0.55	0.47
0.50	0.43
0.45	0.38
0.40	0.34
0.35	0.30
0.30	0.26
0.25	0.21
0.20	0.17
0.15	0.13
0.10	0.09
0.05	0.04



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



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

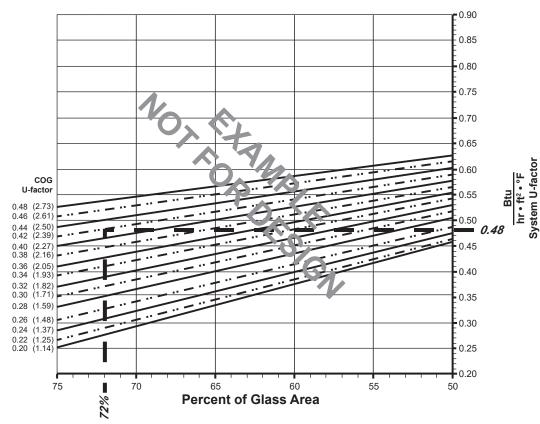
Total Daylight Opening $= (31-7/16" \cdot 25-3/4") + (29-5/16" \cdot 25-3/4") = 10.86 \text{ ft}^2$

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

Percent of Glass = (Total Daylight Opening ÷ Total Projected Area)100

 $= (10.86 \div 15)100 = 72\%$

System U-factor vs Percent of Glass Area



Based on 72% glass and center of glass (COG) U-factor of 0.42 System U-factor is equal to 0.48 Btu/hr • ft2 • °F



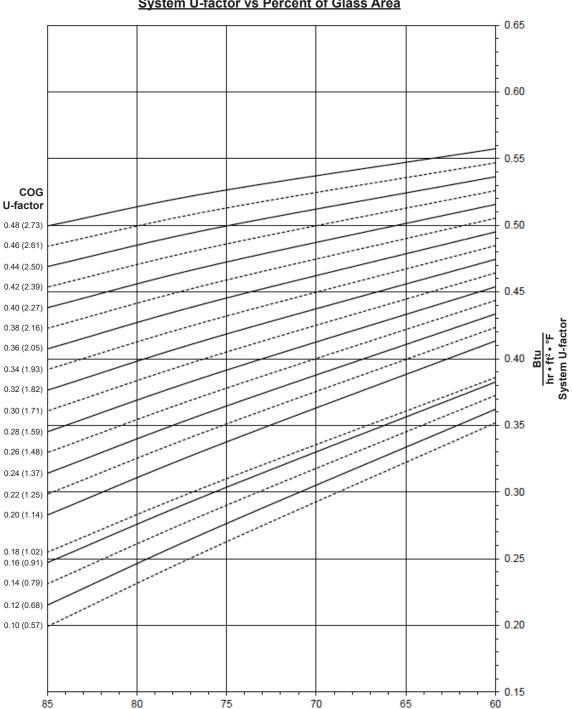
AA®5450 Ultra Thermal Window

AA®5450 SINGLE HUNG WINDOW 1" Double Glazed - Aluminum Glazing Spacer - 10lb. Sill

Note:

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

System U-factor vs Percent of Glass Area



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

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

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

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



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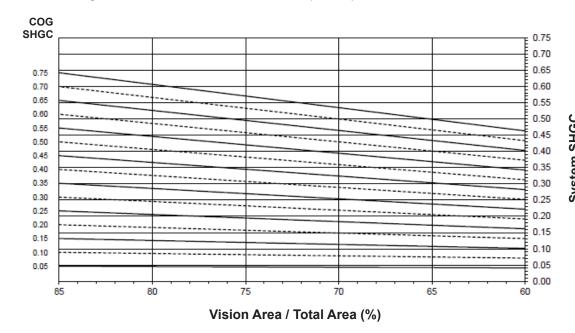
SINGLE HUNG THERMAL CHARTS

AA®5450 Ultra Thermal Window

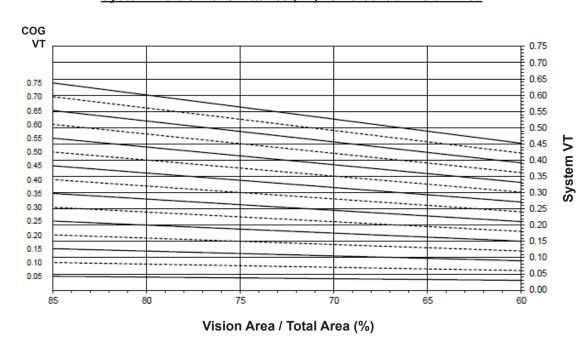
EC 97911-269

AA®5450 SINGLE HUNG WINDOW 1" Double Glazed - Aluminum Glazing Spacer - 10lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area



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

SINGLE HUNG THERMAL PERFORMANCE MATRIX (NFRC SIZE)

5 97911-209

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

Glass U-Factor ³	Overall U-Factor ⁴
0.48	0.53
0.46	0.51
0.44	0.50
0.42	0.48
0.40	0.47
0.38	0.46
0.36	0.44
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	0.30
0.14	0.29
0.12	0.27
0.10	0.26

AA®5450 SINGLE HUNG WINDOW 1" Double Glazed Aluminum Glazing Spacer 10lb. Sill

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.
- 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 Matrix²

Glass SHGC ³	Overall SHGC ⁴
0.75	0.57
0.70	0.54
0.65	0.50
0.60	0.46
0.55	0.42
0.50	0.39
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	0.04

Visible Transmittance ²

Glass VT ³	Overall VT 4
0.75	0.57
0.70	0.53
0.65	0.49
0.60	0.45
0.55	0.42
0.50	0.38
0.45	0.34
0.40	0.30
0.35	0.27
0.30	0.23
0.25	0.19
0.20	0.15
0.15	0.11
0.10	0.08
0.05	0.04
	-



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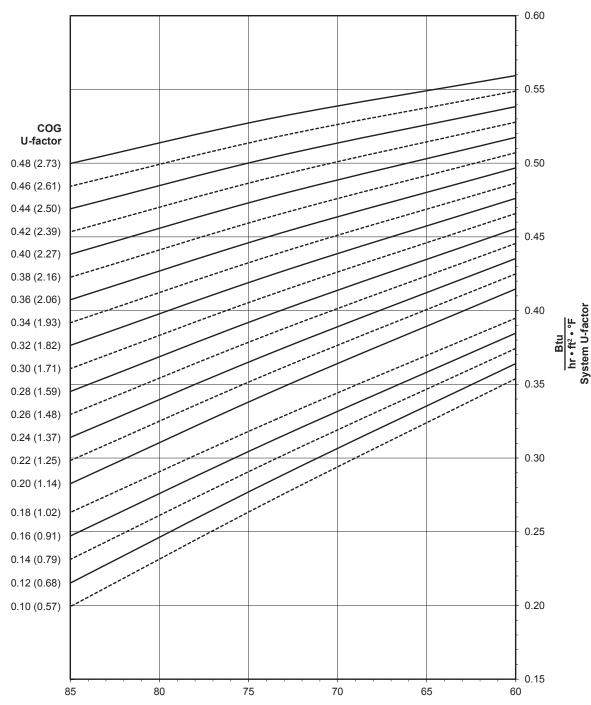
EC 97911-269 SINGLE HUNG THERMAL CHARTS

AA®5450 SINGLE HUNG WINDOW - BEVEL FACE 1" Double Glazed - Aluminum Glazing Spacer - 10lb. Sill

Note:

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

System U-factor vs Percent of Glass Area



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

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

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

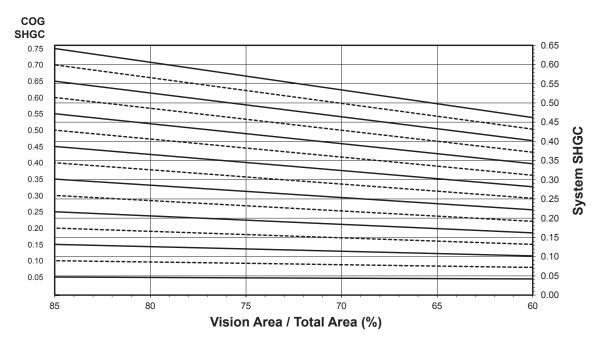


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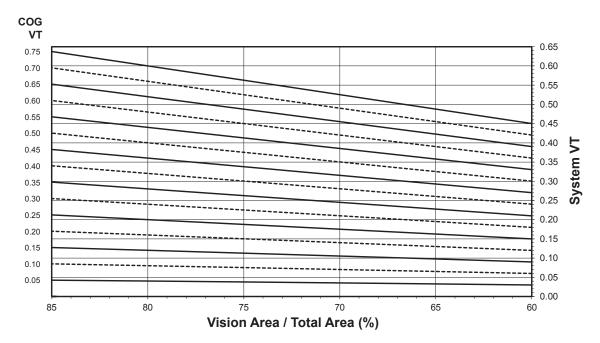
SINGLE HUNG THERMAL CHARTS

AA®5450 SINGLE HUNG WINDOW - BEVEL FACE 1" Double Glazed - Aluminum Glazing Spacer - 10lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area



Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

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SINGLE HUNG THERMAL PERFORMANCE MATRIX (NFRC SIZE)

EC 97911-269

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

Themai manamitance (DTO/III It T)	
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	0.48
0.38	0.46
0.36	0.45
0.34	0.44
0.32	0.43
0.30	0.41
0.28	0.40
0.26	0.39
0.24	0.37
0.22	0.36
0.20	0.35
0.18	0.33
0.16	0.31
0.14	0.30
0.12	0.29
0.10	0.27
	

AA®5450 SINGLE HUNG WINDOW - BEVEL FACE 1" Double Glazed **Aluminum Glazing Spacer** 10lb. Sill

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	0.56
0.70	0.52
0.65	0.49
0.60	0.45
0.55	0.41
0.50	0.38
0.45	0.34
0.40	0.30
0.35	0.26
0.30	0.23
0.25	0.19
0.20	0.15
0.15	0.12
0.10	0.08
0.05	0.04

Visible Transmittance 2

Glass VT ³	Overall VT ⁴
0.75	0.55
0.70	0.51
0.65	0.48
0.60	0.44
0.55	0.40
0.50	0.37
0.45	0.33
0.40	0.29
0.35	0.26
0.30	0.22
0.25	0.18
0.20	0.15
0.15	0.11
0.10	0.07
0.05	0.04

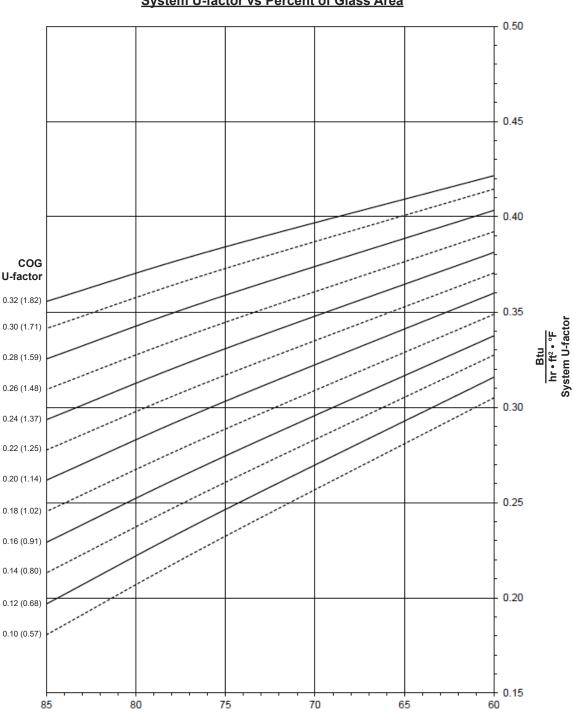


AA®5450 SINGLE HUNG WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer - 10lb. Sill

Note:

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

System U-factor vs Percent of Glass Area



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

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

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

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



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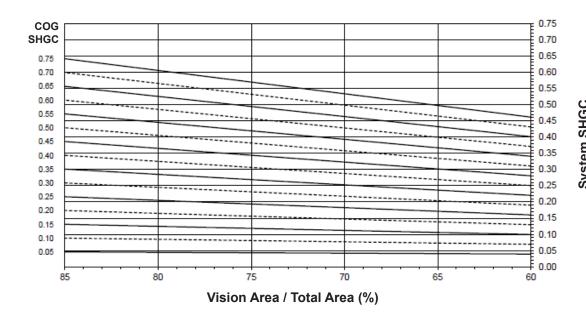
EC 97911-269

SINGLE HUNG THERMAL CHARTS

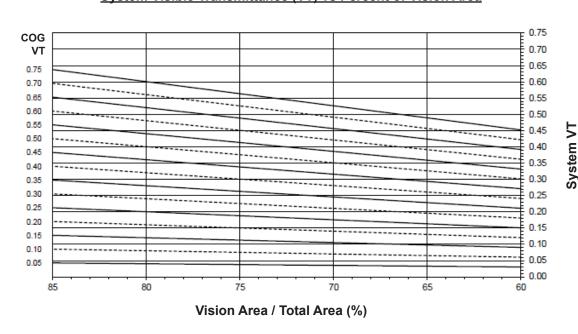
AA®5450 Ultra Thermal Window

AA®5450 SINGLE HUNG WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer - 10lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area



the design and use of Kawneer products, wall products, vary widely. Kawneer does not operating hardware, or glazing materials,

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SINGLE HUNG THERMAL PERFORMANCE MATRIX (NFRC SIZE)

Thermal Transmittance¹ (BTU/hr • ft ² • °F)

Glass U-Factor ³	Overall U-Factor 4
0.32	0.38
0.30	0.37
0.28	0.36
0.26	0.34
0.24	0.33
0.22	0.31
0.20	0.30
0.18	0.29
0.16	0.27
0.14	0.26
0.12	0.24
0.10	0.23

AA®5450 SINGLE HUNG WINDOW 1-1/2" Triple Glazed **Aluminum Glazing Spacer** 10lb. Sill

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

OTTOO WALLIA	
Glass SHGC ³	Overall Glass U-Factor 4
0.75	0.65
0.70	0.60
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	0.31
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	0.64
0.70	0.60
0.65	0.55
0.60	0.51
0.55	0.47
0.50	0.43
0.45	0.38
0.40	0.34
0.35	0.30
0.30	0.26
0.25	0.21
0.20	0.17
0.15	0.13
0.10	0.09
0.05	0.04



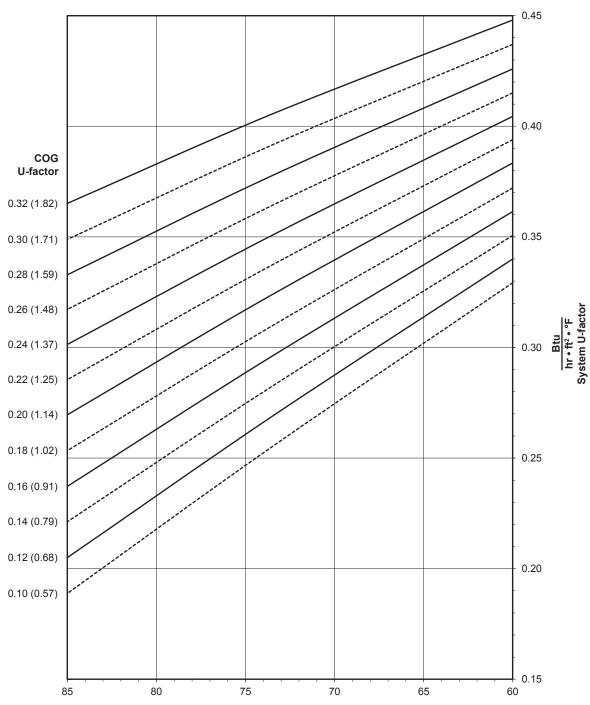
SINGLE HUNG THERMAL CHARTS

AA®5450 SINGLE HUNG WINDOW - BEVEL FACE 1-1/4" Triple Glazed - Aluminum Glazing Spacer - 10lb. Sill

Note:

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

System U-factor vs Percent of Glass Area



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

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

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

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

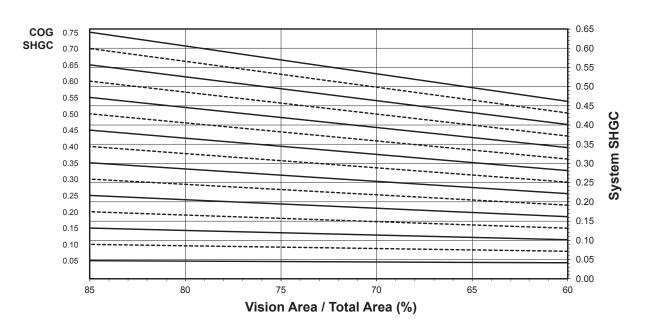


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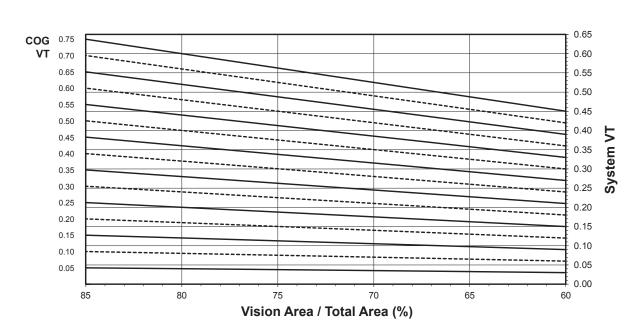
SINGLE HUNG THERMAL CHARTS

AA®5450 SINGLE HUNG WINDOW - BEVEL FACE 1-1/4" Triple Glazed - Aluminum Glazing Spacer - 10lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area





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design and use of Kawneer products, products, vary widely. Kawneer does not rating hardware, or glazing materials,

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SINGLE HUNG THERMAL PERFORMANCE MATRIX (NFRC SIZE)

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

Glass U-Factor ³	Overall U-Factor 4
0.32	0.41
0.30	0.39
0.28	0.38
0.26	0.36
0.24	0.35
0.22	0.34
0.20	0.32
0.18	0.31
0.16	0.30
0.14	0.28
0.12	0.27
0.10	0.26

AA®5450 SINGLE HUNG WINDOW - BEVEL FACE 1-1/4" Triple Glazed **Aluminum Glazing Spacer** 10lb. Sill

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

Overall SHGC ⁴
0.56
0.52
0.48
0.45
0.41
0.37
0.34
0.30
0.26
0.23
0.19
0.15
0.12
0.08
0.04

Visible Transmittance 2

Glass VT ³	Overall VT 4
0.75	0.55
0.70	0.51
0.65	0.48
0.60	0.44
0.55	0.40
0.50	0.37
0.45	0.33
0.40	0.29
0.35	0.26
0.30	0.22
0.25	0.18
0.20	0.15
0.15	0.11
0.10	0.07
0.05	0.04



EC 97911-269

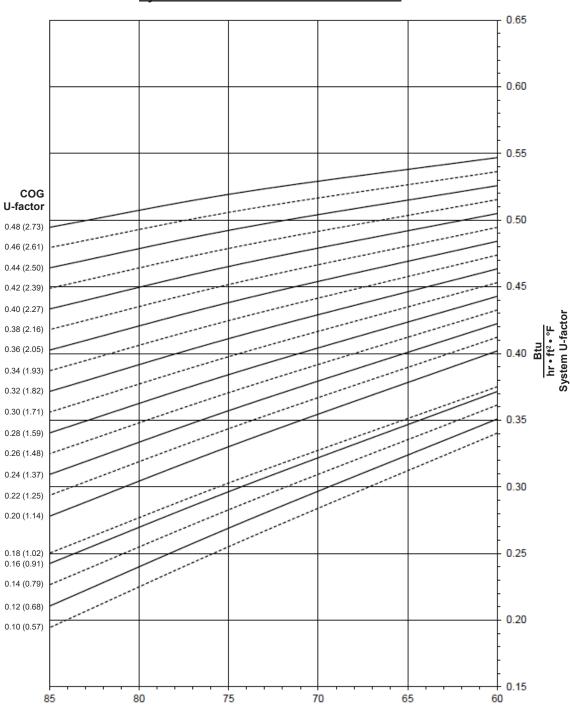
SINGLE HUNG THERMAL CHARTS

AA®5450 SINGLE HUNG WINDOW 1" Double Glazed - Aluminum Glazing Spacer - 15lb. Sill

Note:

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

System U-factor vs Percent of Glass Area



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

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

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

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



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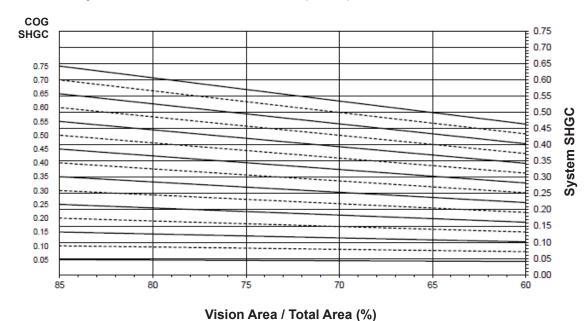
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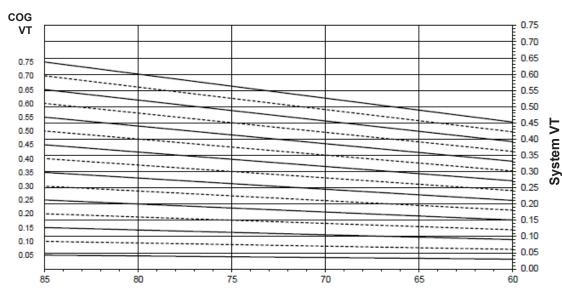
SINGLE HUNG THERMAL CHARTS

AA®5450 SINGLE HUNG WINDOW 1" Double Glazed - Aluminum Glazing Spacer - 15lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area



Vision Area / Total Area (%)

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SINGLE HUNG THERMAL PERFORMANCE MATRIX (NFRC SIZE)

AA®5450 Ultra Thermal Window

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

Glass U-Factor ³	Overall U-Factor ⁴
0.48	0.52
0.46	0.51
0.44	0.49
0.42	0.48
0.40	0.47
0.38	0.45
0.36	0.44
0.34	0.43
0.32	0.41
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	0.30
0.14	0.29
0.12	0.27
0.10	0.26

AA®5450 SINGLE HUNG WINDOW 1" Double Glazed **Aluminum Glazing Spacer** 15lb. Sill

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 Matrix²

Glass SHGC ³	Overall SHGC ⁴
0.75	0.56
0.70	0.53
0.65	0.49
0.60	0.45
0.55	0.42
0.50	0.38
0.45	0.34
0.40	0.30
0.35	0.27
0.30	0.23
0.25	0.19
0.20	0.16
0.15	0.12
0.10	0.08
0.05	0.04

Visible Transmittance ²

	i
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



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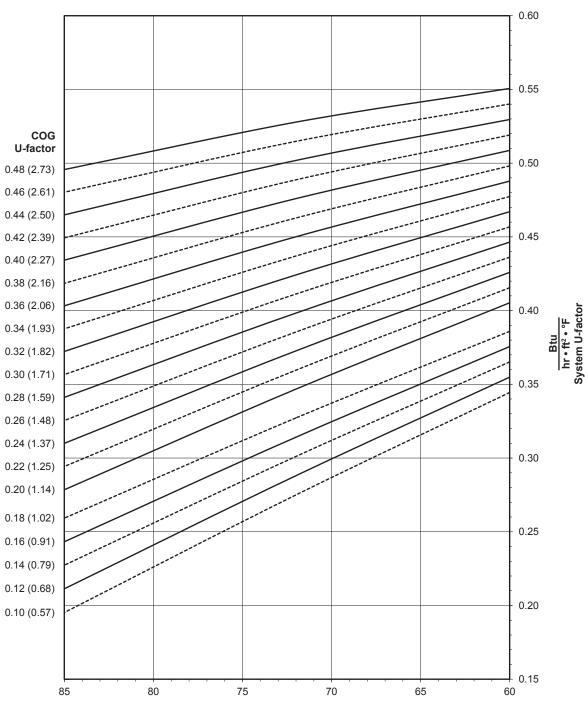
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AA®5450 SINGLE HUNG WINDOW - BEVEL FACE 1" Double Glazed - Aluminum Glazing Spacer - 15lb. Sill

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.

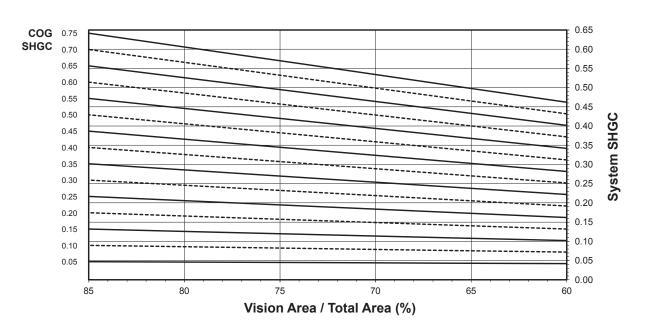


EC 97911-269

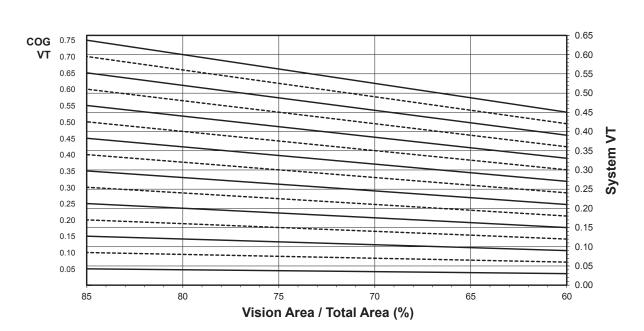
SINGLE HUNG THERMAL CHARTS

AA®5450 SINGLE HUNG WINDOW - BEVEL FACE 1" Double Glazed - Aluminum Glazing Spacer - 15lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area



Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

SINGLE HUNG THERMAL PERFORMANCE MATRIX (NFRC SIZE)

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

EC 97911-269

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

THOTHAI HAHOMILLANDO (B19/III IL 1)	
Glass U-Factor ³	Overall U-Factor 4
0.48	0.53
0.46	0.51
0.44	0.50
0.42	0.49
0.40	0.48
0.38	0.46
0.36	0.45
0.34	0.44
0.32	0.42
0.30	0.41
0.28	0.40
0.26	0.39
0.24	0.37
0.22	0.36
0.20	0.35
0.18	0.33
0.16	0.31
0.14	0.30
0.12	0.29
0.10	0.27

AA®5450 SINGLE HUNG WINDOW - BEVEL FACE 1" Double Glazed **Aluminum Glazing Spacer** 15lb. Sill

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	0.55
0.70	0.51
0.65	0.48
0.60	0.44
0.55	0.40
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	0.12
0.10	0.08
0.05	0.04

Visible Transmittance 2

Glass VT ³	Overall VT 4
0.75	0.54
0.70	0.50
0.65	0.47
0.60	0.43
0.55	0.40
0.50	0.36
0.45	0.32
0.40	0.29
0.35	0.25
0.30	0.22
0.25	0.18
0.20	0.14
0.15	0.11
0.10	0.07
0.05	0.04



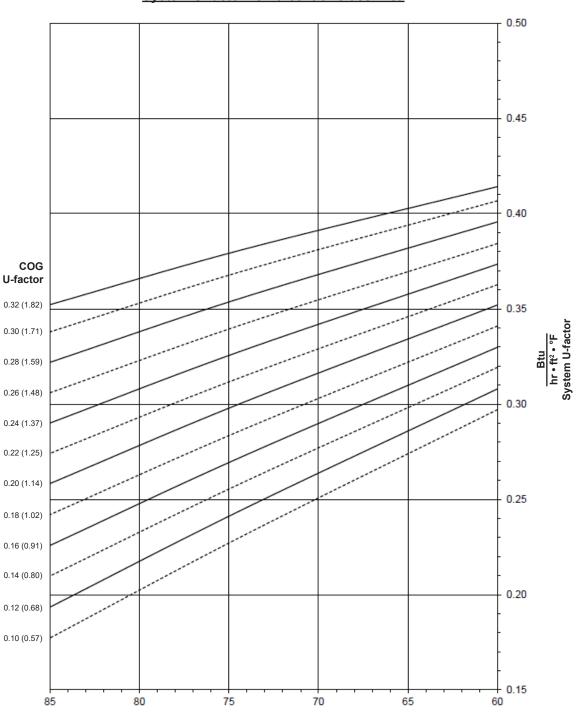
AA®5450 Ultra Thermal Window

AA®5450 SINGLE HUNG WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer - 15lb. Sill

Note:

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

System U-factor vs Percent of Glass Area



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

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

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

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



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Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

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the design and use of Kawneer products, wall products, vary widely. Kawneer does not operating hardware, or glazing materials,

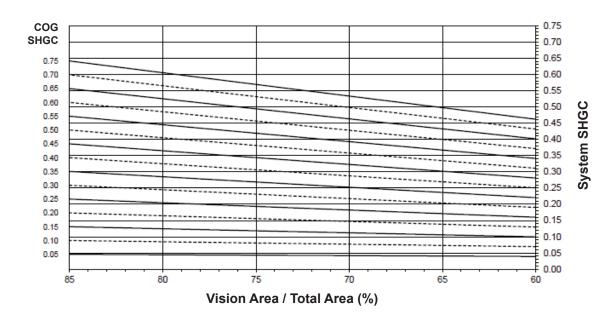
Laws and building and safety codes governing such as glazed entrance, window, and curtain woontrol the selection of product configurations, and assumes no responsibility therefor.

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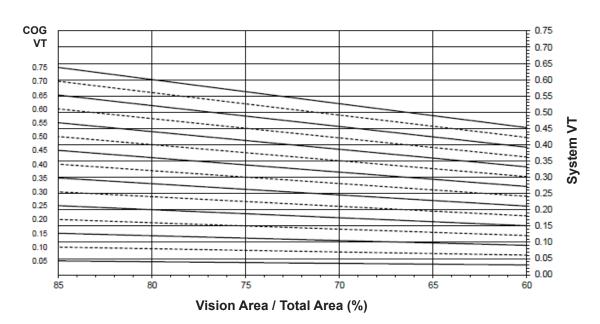
SINGLE HUNG THERMAL CHARTS

AA®5450 SINGLE HUNG WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer - 15lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area





Thermal Transmittance¹ (BTU/hr • ft ² • °F)

Glass U-Factor ³	Overall U-Factor 4
0.32	0.38
0.30	0.37
0.28	0.36
0.26	0.34
0.24	0.33
0.22	0.31
0.20	0.30
0.18	0.29
0.16	0.27
0.14	0.26
0.12	0.24
0.10	0.23

AA®5450 SINGLE HUNG WINDOW 1-1/2" Triple Glazed Aluminum Glazing Spacer 15lb. Sill

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

SHGC Matrix ²

OTTOO MARIX	
Glass SHGC ³	Overall Glass U-Factor 4
0.75	0.56
0.70	0.53
0.65	0.49
0.60	0.45
0.55	0.41
0.50	0.38
0.45	0.34
0.40	0.30
0.35	0.27
0.30	0.23
0.25	0.19
0.20	0.15
0.15	0.12
0.10	0.08
0.05	0.04

Visible Transmittance ²

Glass VT ³	Overall VT ⁴
0.75	0.59
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



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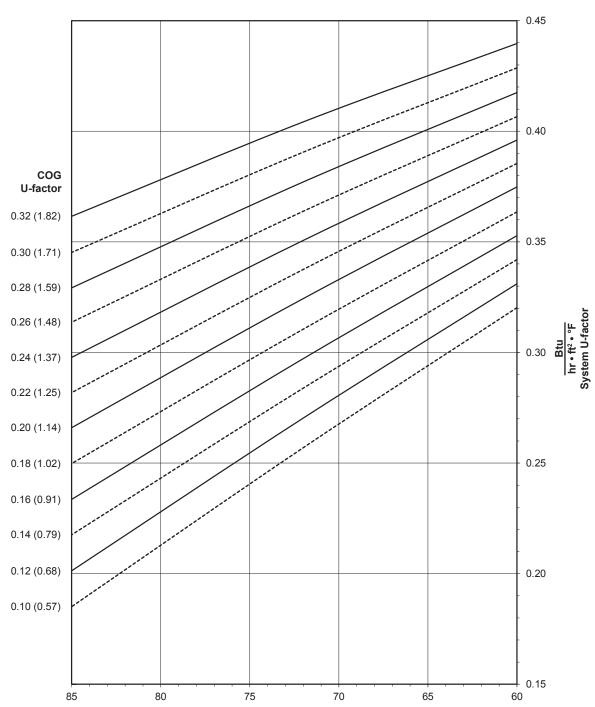
EC 97911-269 SINGLE HUNG THERMAL CHARTS

AA®5450 SINGLE HUNG WINDOW - BEVEL FACE 1-1/4" Triple Glazed - Aluminum Glazing Spacer - 15lb. Sill

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.

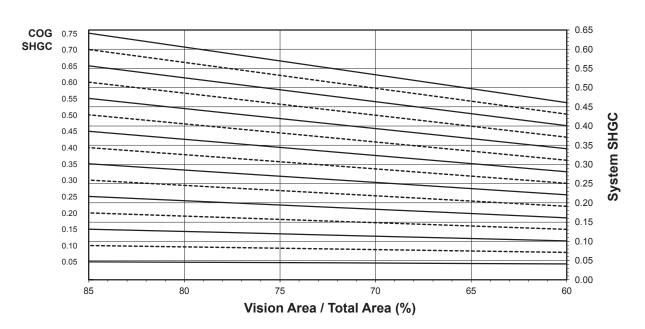


SINGLE HUNG THERMAL CHARTS

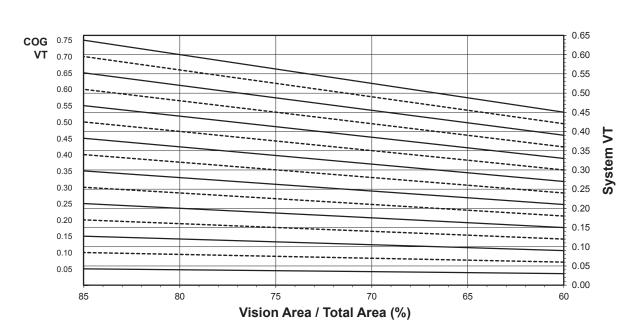
92

AA®5450 SINGLE HUNG WINDOW - BEVEL FACE 1-1/4" Triple Glazed - Aluminum Glazing Spacer - 15lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area





SINGLE HUNG THERMAL PERFORMANCE MATRIX (NFRC SIZE)

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EC 97911-269

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

Glass U-Factor ³	Overall U-Factor 4
0.32	0.40
0.30	0.39
0.28	0.38
0.26	0.36
0.24	0.35
0.22	0.34
0.20	0.32
0.18	0.31
0.16	0.30
0.14	0.28
0.12	0.27
0.10	0.26

AA®5450 SINGLE HUNG WINDOW - BEVEL FACE 1-1/4" Triple Glazed **Aluminum Glazing Spacer** 15lb. Sill

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	0.55
0.70	0.51
0.65	0.48
0.60	0.44
0.55	0.40
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	0.12
0.10	0.08
0.05	0.04

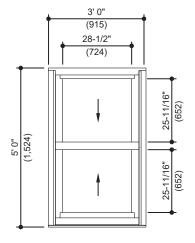
Visible Transmittance 2

Glass VT ³	Overall VT 4
0.75	0.54
0.70	0.50
0.65	0.47
0.60	0.43
0.55	0.40
0.50	0.36
0.45	0.32
0.40	0.29
0.35	0.25
0.30	0.22
0.25	0.18
0.20	0.14
0.15	0.11
0.10	0.07
0.05	0.04



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



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

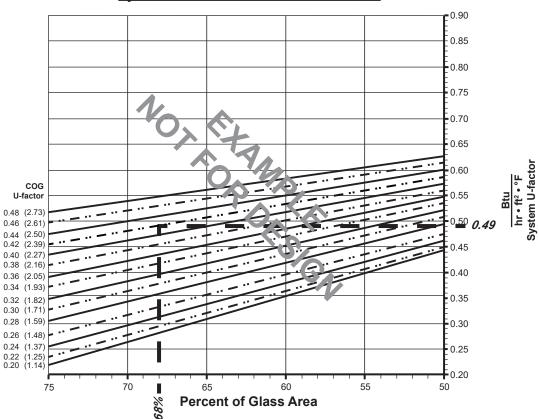
Total Daylight Opening = $(28-1/2" \cdot 25-11/16") + (28-1/2" \cdot 25-11/16") = 10.17 \text{ ft}^2$

Total Projected Area = $3' \ 0'' \cdot 5' \ 0'' = 15 \ ft^2$

Percent of Glass = (Total Daylight Opening ÷ Total Projected Area)100

 $= (10.17 \div 15)100 = 68\%$

System U-factor vs Percent of Glass Area



Based on 68% glass and center of glass (COG) U-factor of 0.42 System U-factor is equal to 0.49 Btu/hr • ft² • °F



ice when deemed Laws and building and safet such as gazed entrance, wi control the selection of prod

design and use of Kawneer products, products, vary widely. Kawneer does not rating hardware, or glazing materials,

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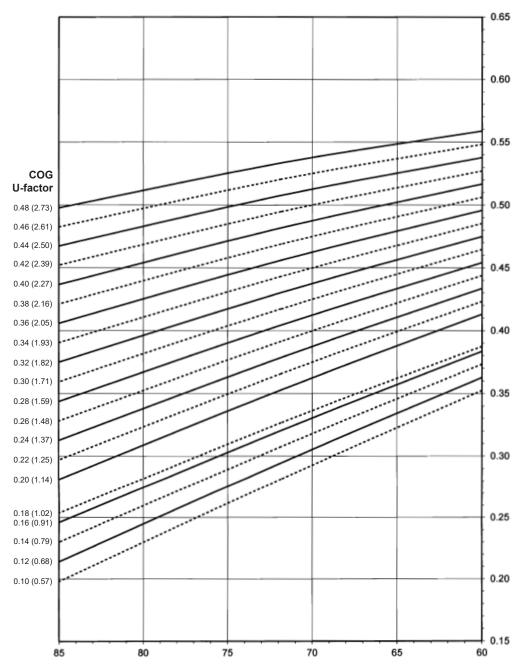
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Note:

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

System U-factor vs Percent of Glass Area



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

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

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

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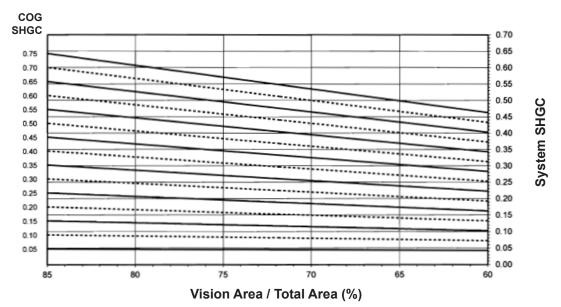
Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

DOUBLE HUNG THERMAL CHARTS

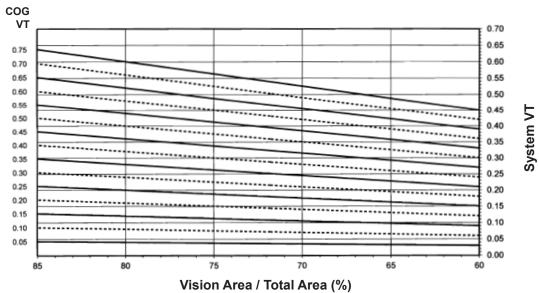
96

AA®5450 DOUBLE HUNG WINDOW 1" Double Glazed - Aluminum Glazing Spacer - 10lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area



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DOUBLE HUNG THERMAL PERFORMANCE MATRIX (NFRC SIZE)

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EC 97911-269

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	0.52
0.42	0.49
0.40	0.48
0.38	0.47
0.36	0.46
0.34	0.44
0.32	0.43
0.30	0.42
0.28	0.40
0.26	0.39
0.24	0.38
0.22	0.37
0.20	0.35
0.18	0.33
0.16	0.32
0.14	0.31
0.12	0.29
0.10	0.28

AA®5450 DOUBLE HUNG WINDOW 1" Double Glazed Aluminum Glazing Spacer 10lb. Sill

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 960 mm wide by 2,090 mm high (37-3/4" by 82-3/8").

SHGC Matrix ²

Glass SHGC ³	Overall SHGC 4
0.75	0.55
0.70	0.51
0.65	0.48
0.60	0.44
0.55	0.40
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	0.12
0.10	0.08
0.05	0.04

Visible Transmittance ²

Glass VT ³	Overall VT 4
0.75	0.54
0.70	0.50
0.65	0.47
0.60	0.43
0.55	0.40
0.50	0.36
0.45	0.32
0.40	0.29
0.35	0.25
0.30	0.22
0.25	0.18
0.20	0.14
0.15	0.11
0.10	0.07
0.05	0.04



DOUBLE HUNG THERMAL CHARTS

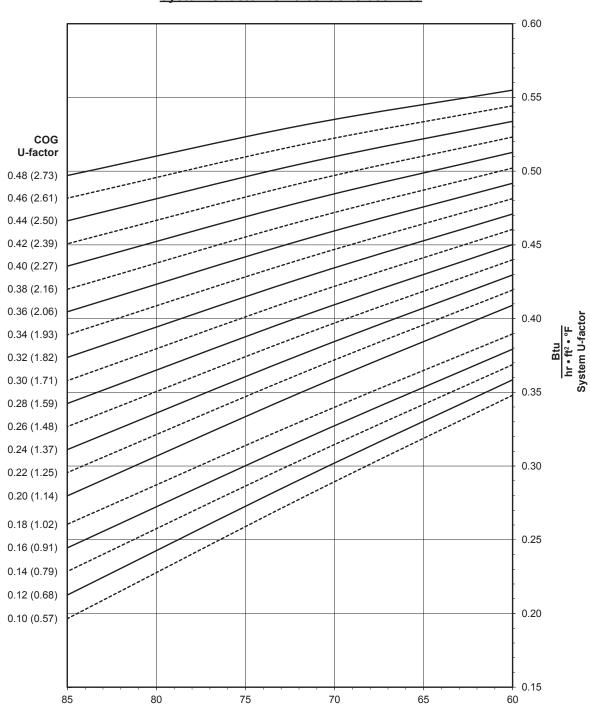
EC 97911-269

AA®5450 DOUBLE HUNG WINDOW - BEVEL FACE 1" Double Glazed - Aluminum Glazing Spacer - 10lb. Sill

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:

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



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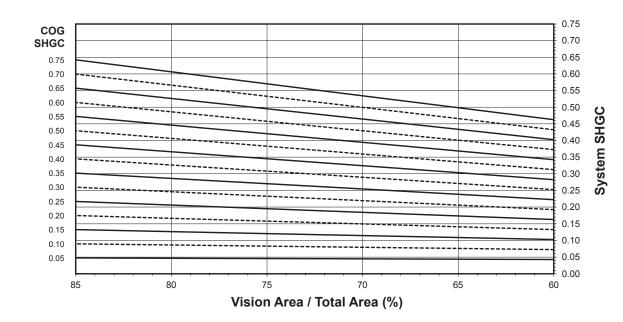
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DOUBLE HUNG THERMAL CHARTS

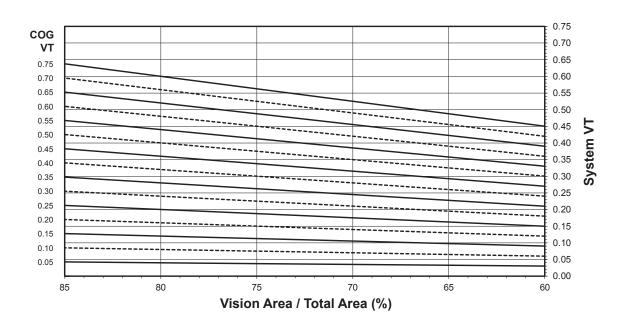
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AA®5450 DOUBLE HUNG WINDOW - BEVEL FACE 1" Double Glazed - Aluminum Glazing Spacer - 10lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area



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

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DOUBLE HUNG THERMAL PERFORMANCE MATRIX (NFRC SIZE)

Thermal Transmittance 1 (BTII/br • ft 2 • °E)

inermal transmittance (BTU/hr • ft • °F)	
Glass U-Factor ³	Overall U-Factor 4
0.48	0.53
0.46	0.52
0.44	0.51
0.42	0.49
0.40	0.48
0.38	0.47
0.36	0.45
0.34	0.44
0.32	0.43
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	0.33
0.16	0.32
0.14	0.30
0.12	0.29
0.10	0.28

AA®5450 DOUBLE HUNG WINDOW - BEVEL FACE 1" Double Glazed **Aluminum Glazing Spacer** 10lb. Sill

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	0.55
0.70	0.51
0.65	0.48
0.60	0.44
0.55	0.40
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	0.12
0.10	0.08
0.05	0.04

Visible Transmittance ²

Glass VT ³	Overall VT 4
0.75	0.54
0.70	0.50
0.65	0.47
0.60	0.43
0.55	0.40
0.50	0.36
0.45	0.32
0.40	0.29
0.35	0.25
0.30	0.22
0.25	0.18
0.20	0.14
0.15	0.11
0.10	0.07
0.05	0.04



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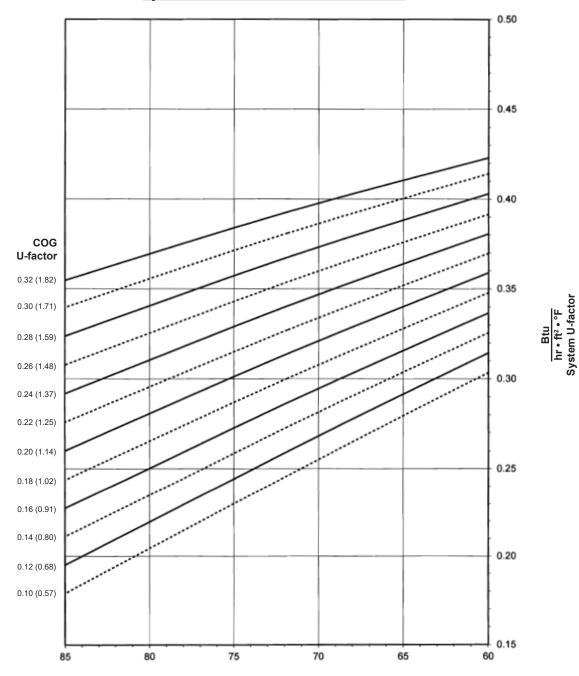
ADME120EN kawneer.com AA®5450 Ultra Thermal Window

AA®5450 DOUBLE HUNG WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer - 10lb. Sill

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**

ADME120EN

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.

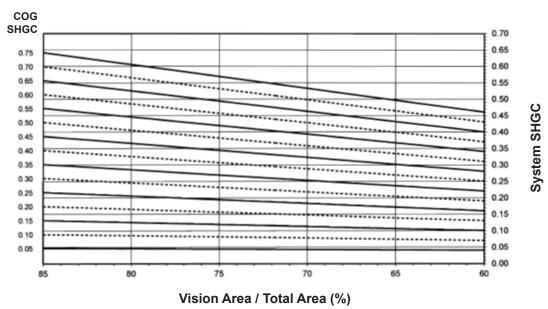


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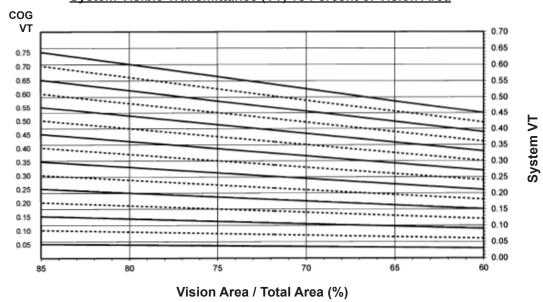
DOUBLE HUNG THERMAL CHARTS

AA®5450 DOUBLE HUNG WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer - 10lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area





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design and use of Kawneer products, products, vary widely. Kawneer does not rrating hardware, or glazing materials,

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DOUBLE HUNG THERMAL PERFORMANCE MATRIX (NFRC SIZE)

AA®5450 Ultra Thermal Window

Thermal Transmittance¹ (BTU/hr • ft ² • °F)

Glass U-Factor ³	Overall U-Factor 4
0.32	0.39
0.30	0.38
0.28	0.37
0.26	0.35
0.24	0.34
0.22	0.33
0.20	0.31
0.18	0.30
0.16	0.29
0.14	0.27
0.12	0.26
0.10	0.25

AA®5450 DOUBLE HUNG WINDOW 1-1/2" Triple Glazed Aluminum Glazing Spacer 10lb. Sill

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 960 mm wide by 2,090 mm high (37-3/4" by 82-3/8").

SHGC Matrix ²

Overall Glass U-Factor ⁴
0.55
0.51
0.47
0.44
0.40
0.37
0.33
0.29
0.26
0.22
0.19
0.15
0.12
0.08
0.04

Visible Transmittance ²

Glass VT ³	Overall VT 4
0.75	0.54
0.70	0.50
0.65	0.47
0.60	0.43
0.55	0.40
0.50	0.36
0.45	0.32
0.40	0.29
0.35	0.25
0.30	0.22
0.25	0.18
0.20	0.14
0.15	0.11
0.10	0.07
0.05	0.04



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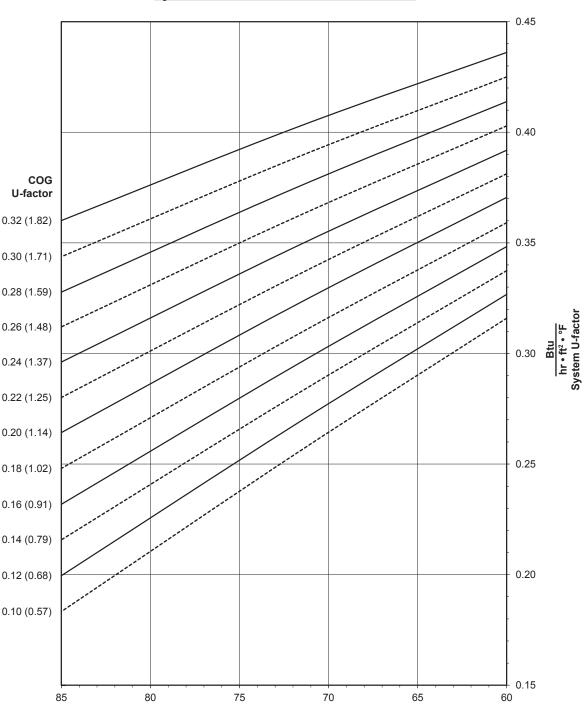
DOUBLE HUNG THERMAL CHARTS

AA®5450 DOUBLE HUNG WINDOW - BEVEL FACE 1-1/4" Triple Glazed - Aluminum Glazing Spacer - 10lb. Sill

Note:

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

System U-factor vs Percent of Glass Area



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

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

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

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



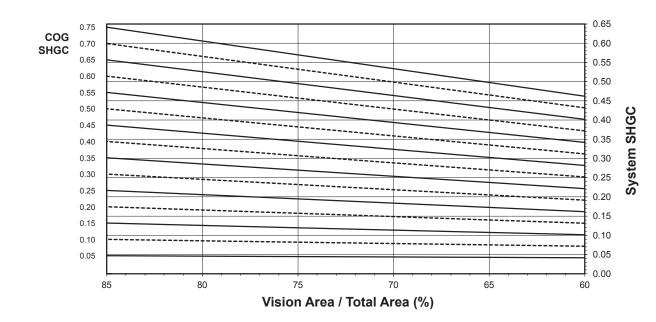
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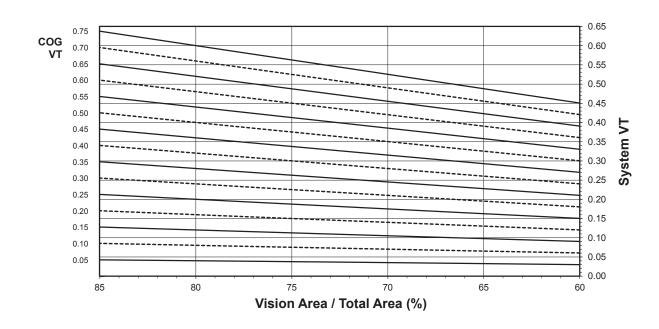
DOUBLE HUNG THERMAL CHARTS

AA®5450 DOUBLE HUNG WINDOW - BEVEL FACE 1-1/4" Triple Glazed - Aluminum Glazing Spacer - 10lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area



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

Glass U-Factor ³	Overall U-Factor 4
0.32	0.40
0.30	0.39
0.28	0.38
0.26	0.36
0.24	0.35
0.22	0.34
0.20	0.32
0.18	0.31
0.16	0.30
0.14	0.28
0.12	0.27
0.10	0.25

AA®5450 DOUBLE HUNG WINDOW - BEVEL FACE 1-1/4" Triple Glazed **Aluminum Glazing Spacer** 10lb. Sill

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	0.55
0.70	0.51
0.65	0.47
0.60	0.44
0.55	0.40
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	0.12
0.10	0.08
0.05	0.04

Visible Transmittance 2

Overall VT ⁴ 0.54
0.54
0.50
0.47
0.43
0.40
0.36
0.32
0.29
0.25
0.22
0.18
0.14
0.11
0.07
0.04



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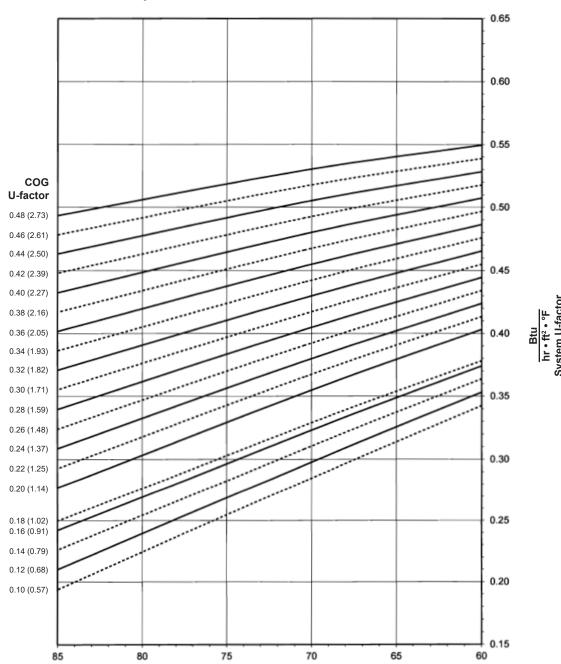
ADME120EN kawneer.com AA®5450 Ultra Thermal Window

AA®5450 DOUBLE HUNG WINDOW 1" Double Glazed - Aluminum Glazing Spacer - 15lb. Sill

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:

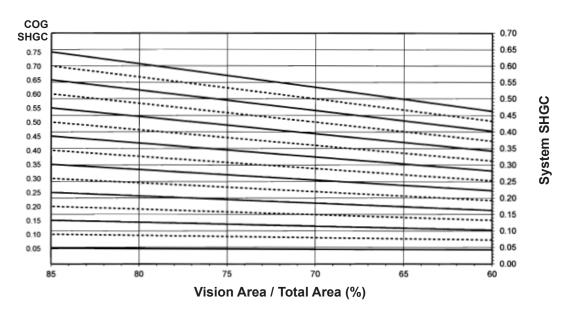
For glass values that are not listed, linear interpolation is permitted. Glass properties are based on center of glass values and are obtained from your glass supplier.



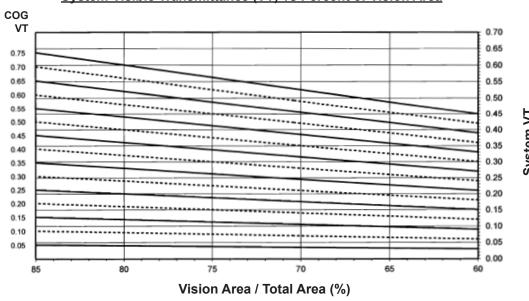
DOUBLE HUNG THERMAL CHARTS

AA®5450 DOUBLE HUNG WINDOW 1" Double Glazed - Aluminum Glazing Spacer - 15lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area





DOUBLE HUNG THERMAL PERFORMANCE MATRIX (NFRC SIZE)

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

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

Overall U-Factor 4
0.53
0.52
0.50
0.49
0.48
0.47
0.45
0.44
0.43
0.42
0.40
0.39
0.38
0.37
0.35
0.33
0.32
0.31
0.30
0.28

AA®5450 DOUBLE HUNG WINDOW 1" Double Glazed **Aluminum Glazing Spacer** 15lb. Sill

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 960 mm wide by 2,090 mm high (37-3/4" by 82-3/8").

SHGC Matrix ²

Glass SHGC ³	Overall SHGC ⁴
0.75	0.54
0.70	0.50
0.65	0.47
0.60	0.43
0.55	0.40
0.50	0.36
0.45	0.33
0.40	0.29
0.35	0.26
0.30	0.22
0.25	0.19
0.20	0.15
0.15	0.11
0.10	0.08
0.05	0.04

Visible Transmittance 2

Glass VT ³	Overall VT ⁴
0.75	0.53
0.70	0.49
0.65	0.46
0.60	0.42
0.55	0.39
0.50	0.35
0.45	0.32
0.40	0.28
0.35	0.25
0.30	0.21
0.25	0.18
0.20	0.14
0.15	0.11
0.10	0.07
0.05	0.04



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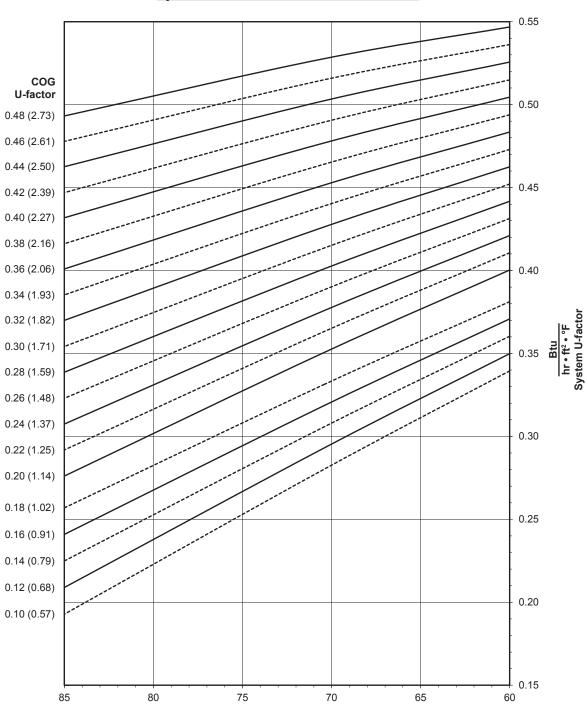
DOUBLE HUNG THERMAL CHARTS

AA®5450 DOUBLE HUNG WINDOW - BEVEL FACE 1" Double Glazed - Aluminum Glazing Spacer - 15lb. Sill

Note:

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

System U-factor vs Percent of Glass Area



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

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

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

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



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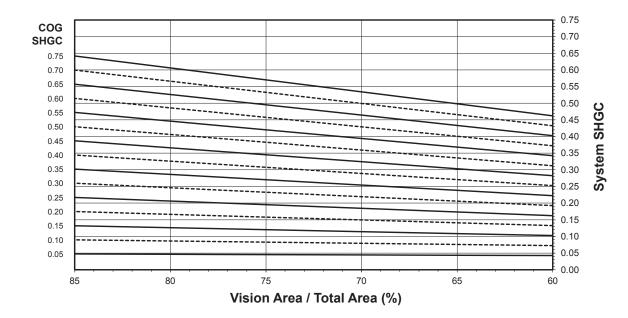
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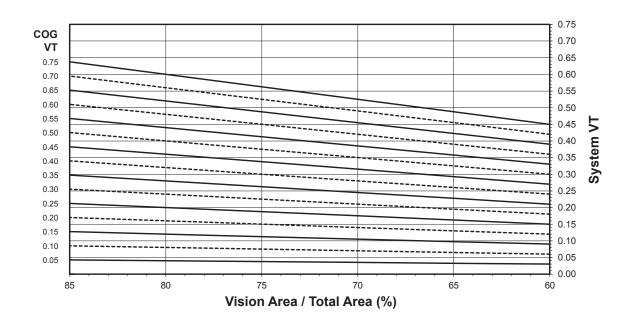
DOUBLE HUNG THERMAL CHARTS

AA®5450 DOUBLE HUNG WINDOW - BEVEL FACE 1" Double Glazed - Aluminum Glazing Spacer - 15lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area



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DOUBLE HUNG THERMAL PERFORMANCE MATRIX (NFRC SIZE)

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

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

Thermal mansimulance (BTO/MFTR + F)	
Glass U-Factor ³	Overall U-Factor 4
0.48	0.53
0.46	0.51
0.44	0.50
0.42	0.49
0.40	0.48
0.38	0.46
0.36	0.45
0.34	0.44
0.32	0.43
0.30	0.41
0.28	0.40
0.26	0.39
0.24	0.39
0.22	0.36
0.20	0.35
0.18	0.33
0.16	0.32
0.14	0.31
0.12	0.29
0.10	0.28

AA®5450 DOUBLE HUNG WINDOW - BEVEL FACE 1" Double Glazed **Aluminum Glazing Spacer** 15lb. Sill

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	0.54
0.70	0.50
0.65	0.47
0.60	0.43
0.55	0.40
0.50	0.36
0.45	0.33
0.40	0.29
0.35	0.26
0.30	0.22
0.25	0.19
0.20	0.15
0.15	0.11
0.10	0.08
0.05	0.04

Visible Transmittance 2

VISIBIC ITALISHIILLANCE	
Glass VT ³	Overall VT 4
0.75	0.53
0.70	0.49
0.65	0.46
0.60	0.42
0.55	0.39
0.50	0.35
0.45	0.32
0.40	0.28
0.35	0.25
0.30	0.21
0.25	0.18
0.20	0.14
0.15	0.11
0.10	0.07
0.05	0.04



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DOUBLE HUNG THERMAL CHARTS

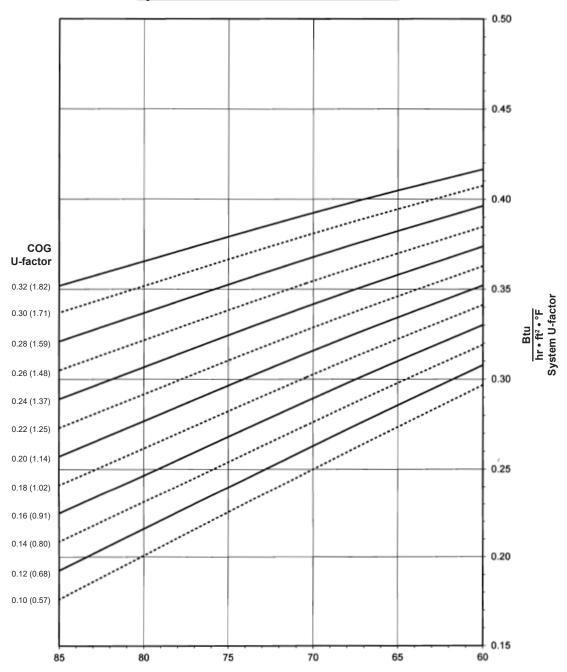
AA®5450 Ultra Thermal Window

AA®5450 DOUBLE HUNG WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer - 15lb. Sill

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**

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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.

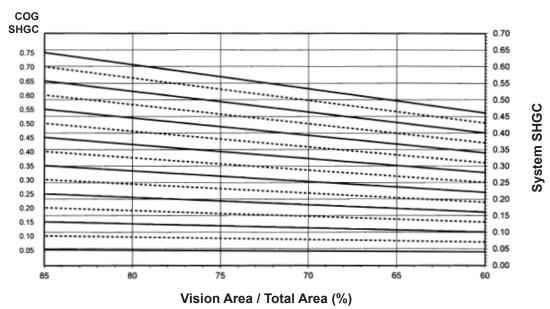


DOUBLE HUNG THERMAL CHARTS

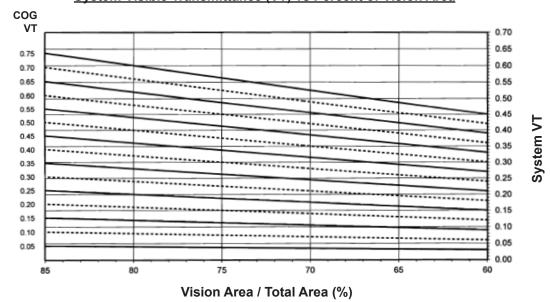
EC 97911-269

AA®5450 DOUBLE HUNG WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer - 15lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area



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Thermal Transmittance¹ (BTU/hr • ft ² • °F)

Glass U-Factor ³	Overall U-Factor 4
0.32	0.39
0.30	0.38
0.28	0.37
0.26	0.35
0.24	0.34
0.22	0.33
0.20	0.31
0.18	0.30
0.16	0.29
0.14	0.27
0.12	0.26
0.10	0.25

AA®5450 DOUBLE HUNG WINDOW 1-1/2" Triple Glazed Aluminum Glazing Spacer 15lb. Sill

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 960 mm wide by 2,090 mm high (37-3/4" by 82-3/8").

SHGC Matrix ²

Glass SHGC ³	Overall Glass U-Factor ⁴
0.75	0.54
0.70	0.50
0.65	0.47
0.60	0.43
0.55	0.39
0.50	0.36
0.45	0.32
0.40	0.29
0.35	0.25
0.30	0.22
0.25	0.18
0.20	0.15
0.15	0.11
0.10	0.08
0.05	0.04
0.05	0.04

Visible Transmittance ²

VISIBIC ITUIISIIIILLUITOC	
Glass VT ³	Overall VT 4
0.75	0.53
0.70	0.49
0.65	0.46
0.60	0.42
0.55	0.39
0.50	0.35
0.45	0.32
0.40	0.28
0.35	0.25
0.30	0.21
0.25	0.18
0.20	0.14
0.15	0.11
0.10	0.07
0.05	0.04



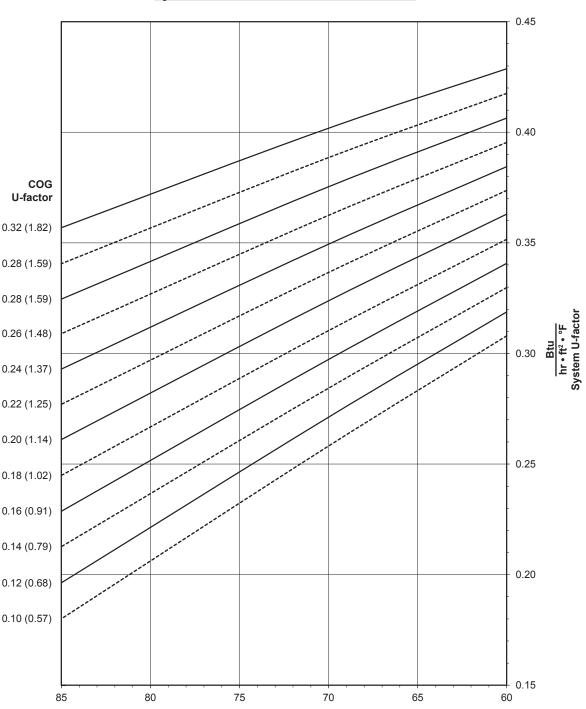
DOUBLE HUNG THERMAL CHARTS

AA®5450 DOUBLE HUNG WINDOW - BEVEL FACE 1-1/4" Triple Glazed - Aluminum Glazing Spacer - 15lb. Sill

Note:

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

System U-factor vs Percent of Glass Area



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

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

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

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



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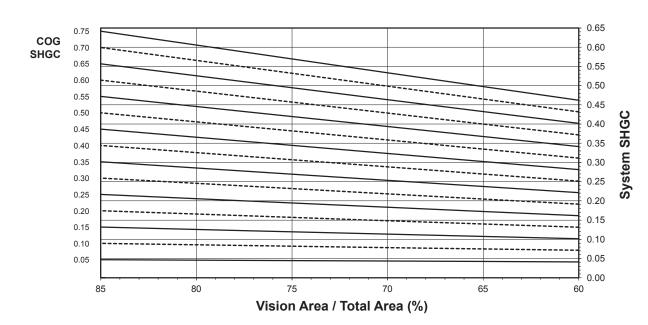
Laws and building and safety codes governing such as glazed entrance, window, and curtain woontrol the selection of product configurations, and assumes no responsibility therefor.

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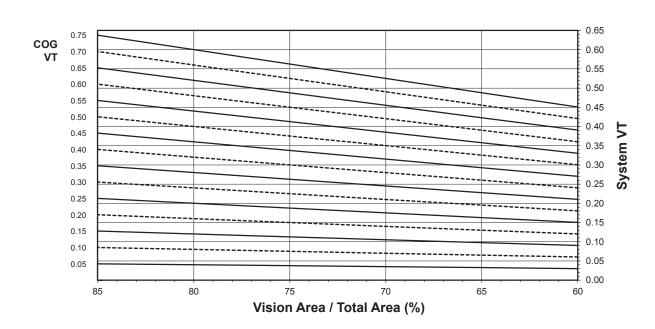
DOUBLE HUNG THERMAL CHARTS

AA®5450 DOUBLE HUNG WINDOW - BEVEL FACE 1-1/4" Triple Glazed - Aluminum Glazing Spacer - 15lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area





DOUBLE HUNG THERMAL PERFORMANCE MATRIX (NFRC SIZE)

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

Glass U-Factor ³	Overall U-Factor 4
0.32	0.40
0.30	0.39
0.28	0.37
0.26	0.36
0.24	0.35
0.22	0.34
0.20	0.32
0.18	0.31
0.16	0.30
0.14	0.28
0.12	0.27
0.10	0.26

AA®5450 BEVELED DOUBLE HUNG WINDOW - BEVEL FACE

1-1/4" Triple Glazed **Aluminum Glazing Spacer** 15lb. Sill

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	0.54
0.70	0.50
0.65	0.47
0.60	0.43
0.55	0.40
0.50	0.36
0.45	0.33
0.40	0.29
0.35	0.25
0.30	0.22
0.25	0.18
0.20	0.15
0.15	0.11
0.10	0.08
0.05	0.04

Visible Transmittance ²

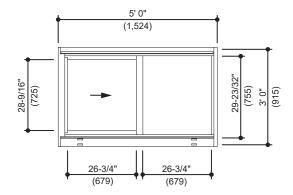
Glass VT ³	Overall VT 4
0.75	0.53
0.70	0.49
0.65	0.46
0.60	0.42
0.55	0.39
0.50	0.35
0.45	0.32
0.40	0.28
0.35	0.25
0.30	0.21
0.25	0.18
0.20	0.14
0.15	0.11
0.10	0.07
0.05	0.04



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



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

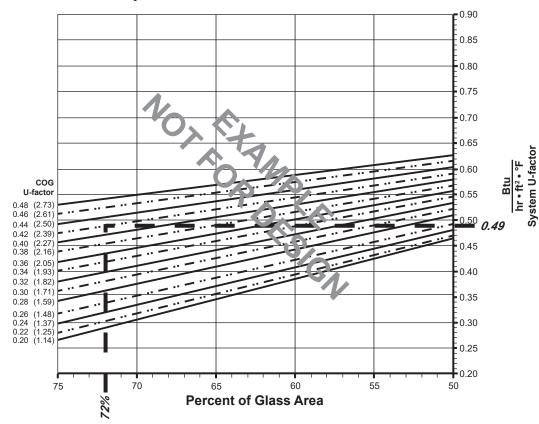
Total Daylight Opening = $(28-9/16" \cdot 26-3/4") + (29-23/32" \cdot 26-3/4") = 10.83 \text{ ft}^2$

Total Projected Area = $3' \ 0'' \cdot 5' \ 0'' = 15 \ \text{ft}^2$

Percent of Glass = (Total Daylight Opening ÷ Total Projected Area)100

 $= (10.83 \div 15)100 = 72\%$

System U-factor vs Percent of Glass Area



Based on 72% glass and center of glass (COG) U-factor of 0.42 System U-factor is equal to 0.49 Btu/hr • ft² • °F

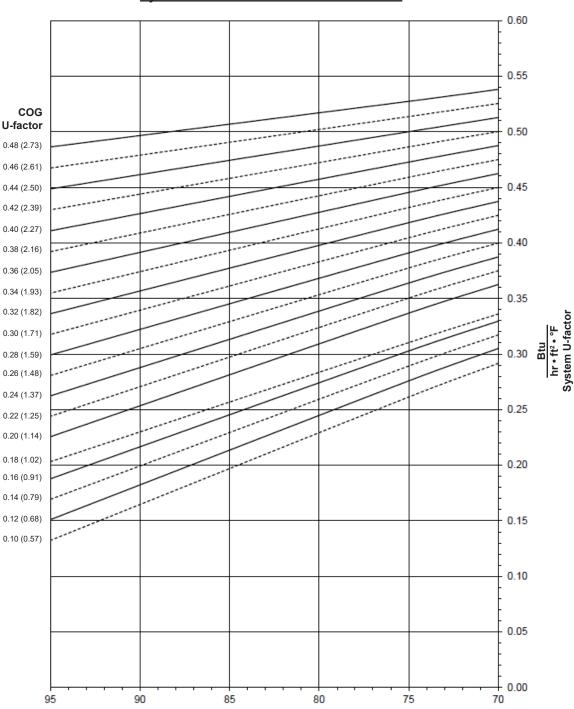


AA®5450 OX / XO HORIZONTAL SLIDING WINDOW 1" Double Glazed - Aluminum Glazing Spacer - 10lb. Sill

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:

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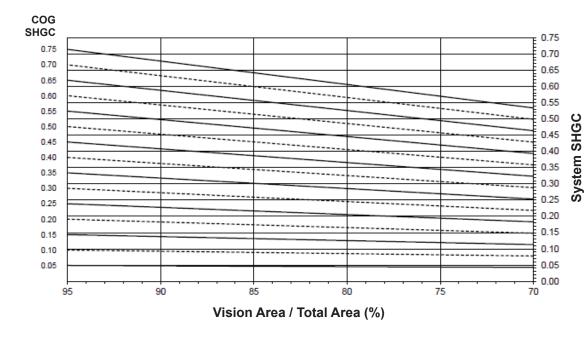
HORIZONTAL SLIDER THERMAL CHARTS

EC 97911-269

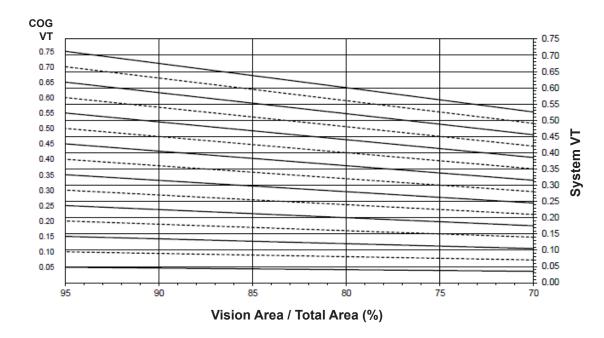
AA®5450 OX / XO HORIZONTAL SLIDING WINDOW

1" Double Glazed - Aluminum Glazing Spacer - 10lb Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area



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

HORIZONTAL SLIDER THERMAL PERFORMANCE MATRIX (NFRC SIZE)

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

Glass U-Factor ³	Overall U-Factor 4
0.48	0.53
0.46	0.51
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	0.38
0.24	0.36
0.22	0.35
0.20	0.34
0.18	0.31
0.16	0.30
0.14	0.29
0.12	0.28
0.10	0.26

AA®5450 OX / XO HORIZONTAL **SLIDING WINDOW** 1" Double Glazed **Aluminum Glazing Spacer** -10lb. Sill

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

SHGC Matrix²

Glass SHGC ³	Overall SHGC ⁴
0.75	0.57
0.70	0.53
0.65	0.49
0.60	0.46
0.55	0.42
0.50	0.38
0.45	0.34
0.40	0.31
0.35	0.27
0.30	0.23
0.25	0.19
0.20	0.16
0.15	0.12
0.10	0.08
0.05	0.04

Visible Transmittance 2

Glass VT ³	Overall VT 4
0.75	0.56
0.70	0.53
0.65	0.49
0.60	0.45
0.55	0.41
0.50	0.38
0.45	0.34
0.40	0.30
0.35	0.26
0.30	0.23
0.25	0.19
0.20	0.15
0.15	0.11
0.10	0.08
0.05	0.04



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Laws and building and safety codes governing the ravid as glazed entrance, window, and curtain wall control the selection of product configurations, oper and assumes no responsibility therefor.

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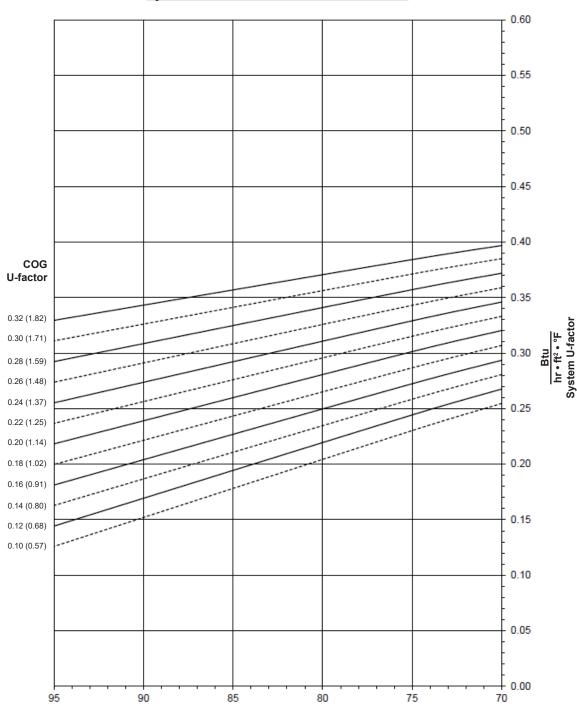
EC 97911-269

AA®5450 OX / XO HORIZONTAL SLIDING WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer - 10lb. Sill

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**

ADME120EN

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.

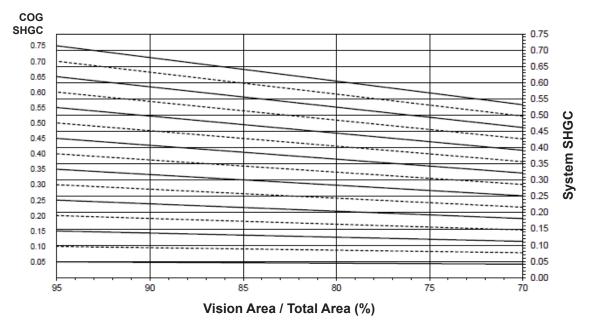


HORIZONTAL SLIDER THERMAL CHARTS

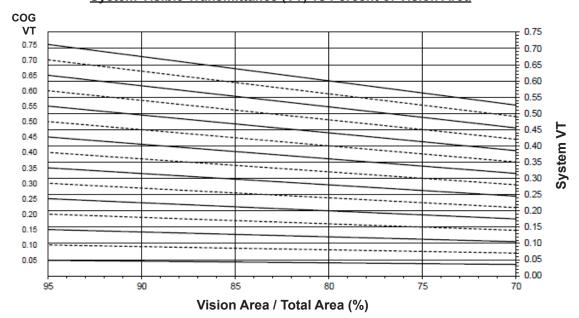
design and use of Kawneer products, products, vary widely. Kawneer does not rrating hardware, or glazing materials,

AA®5450 OX / XO HORIZONTAL SLIDING WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer - 10lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area



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Thermal Transmittance¹ (BTU/hr • ft ² • °F)

Glass U-Factor ³	Overall U-Factor 4
0.32	0.38
0.30	0.37
0.28	0.36
0.26	0.34
0.24	0.33
0.22	0.31
0.20	0.30
0.18	0.29
0.16	0.27
0.14	0.26
0.12	0.24
0.10	0.23

AA®5450 OX / XO HORIZONTAL SLIDING WINDOW 1-1/2" Triple Glazed Aluminum Glazing Spacer 10lb. Sill

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.
- Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 1,500 mm wide by 1,200 mm high (59-1/16" by 47-1/4").

SHGC Matrix ²

Glass SHGC ³	Overall Glass U-Factor 4
0.75	0.57
0.70	0.53
0.65	0.49
0.60	0.46
0.55	0.42
0.50	0.38
0.45	0.34
0.40	0.31
0.35	0.27
0.30	0.23
0.25	0.19
0.20	0.16
0.15	0.12
0.10	0.08
0.05	0.04

Visible Transmittance ²

Glass VT ³	Overall VT ⁴
0.75	0.56
0.70	0.53
0.65	0.49
0.60	0.45
0.55	0.41
0.50	0.38
0.45	0.34
0.40	0.30
0.35	0.26
0.30	0.23
0.25	0.19
0.20	0.15
0.15	0.11
0.10	0.08
0.05	0.04



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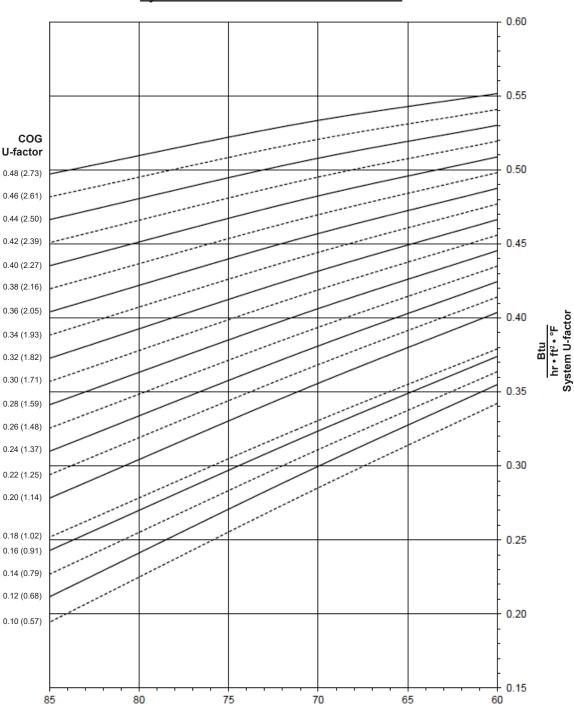
HORIZONTAL SLIDER THERMAL CHARTS

AA®5450 XX HORIZONTAL SLIDING WINDOW 1" Double Glazed - Aluminum Glazing Spacer - 10lb. Sill

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:

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



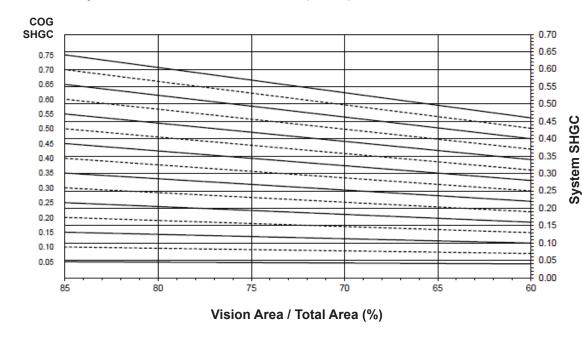
Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials,

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

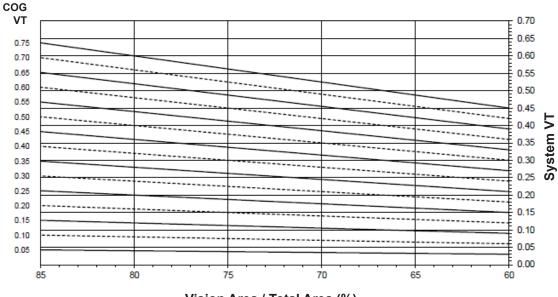
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AA®5450 XX HORIZONTAL SLIDING WINDOW 1" Double Glazed - Aluminum Glazing Spacer - 10lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area







HORIZONTAL SLIDER THERMAL PERFORMANCE MATRIX (NFRC SIZE)

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

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	0.48
0.38	0.47
0.36	0.45
0.34	0.44
0.32	0.43
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	0.32
0.16	0.32
0.14	0.30
0.12	0.29
0.10	0.28

AA®5450 XX HORIZONTAL SLIDING WINDOW 1" Double Glazed Aluminum Glazing Spacer 10lb. Sill

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

SHGC Matrix²

Glass SHGC ³	Overall SHGC ⁴
0.75	0.54
0.70	0.51
0.65	0.47
0.60	0.43
0.55	0.40
0.50	0.36
0.45	0.33
0.40	0.29
0.35	0.26
0.30	0.22
0.25	0.19
0.20	0.15
0.15	0.11
0.10	0.08
0.05	0.04

Visible Transmittance ²

Glass VT ³	Overall VT 4
0.75	0.53
0.70	0.50
0.65	0.46
0.60	0.43
0.55	0.39
0.50	0.36
0.45	0.32
0.40	0.28
0.35	0.25
0.30	0.21
0.25	0.18
0.20	0.14
0.15	0.11
0.10	0.07
0.05	0.04

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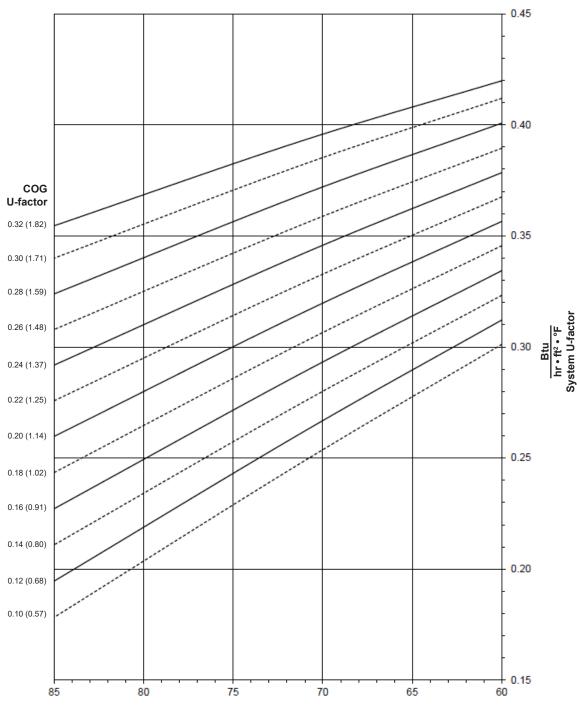
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AA®5450 XX HORIZONTAL SLIDING WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer - 10lb. Sill

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:

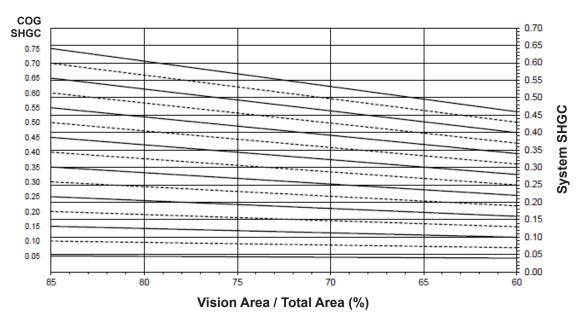
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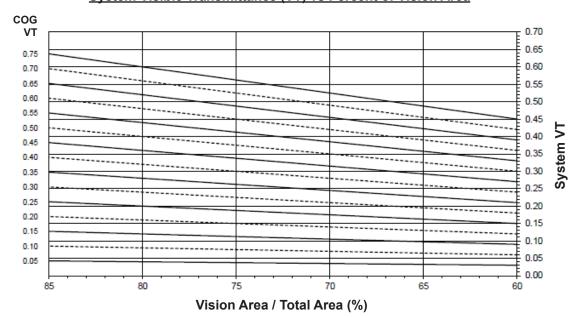
HORIZONTAL SLIDER THERMAL CHARTS

AA®5450 XX HORIZONTAL SLIDING WINDOW 1-1/2" Triple Glazed - Aluminum Glazing Spacer - 10lb. Sill

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



System Visible Transmittance (VT) vs Percent of Vision Area



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HORIZONTAL SLIDER THERMAL PERFORMANCE MATRIX (NFRC SIZE)

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0.16	0.29
0.14	0.27
0.12	0.26
0.10	0.25

AA®5450 XX HORIZONTAL **SLIDING WINDOW** 1-1/2" Triple Glazed **Aluminum Glazing Spacer** 10lb. Sill

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Visible Transmittance ²

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