

FIXED WINDOW 3-8

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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

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

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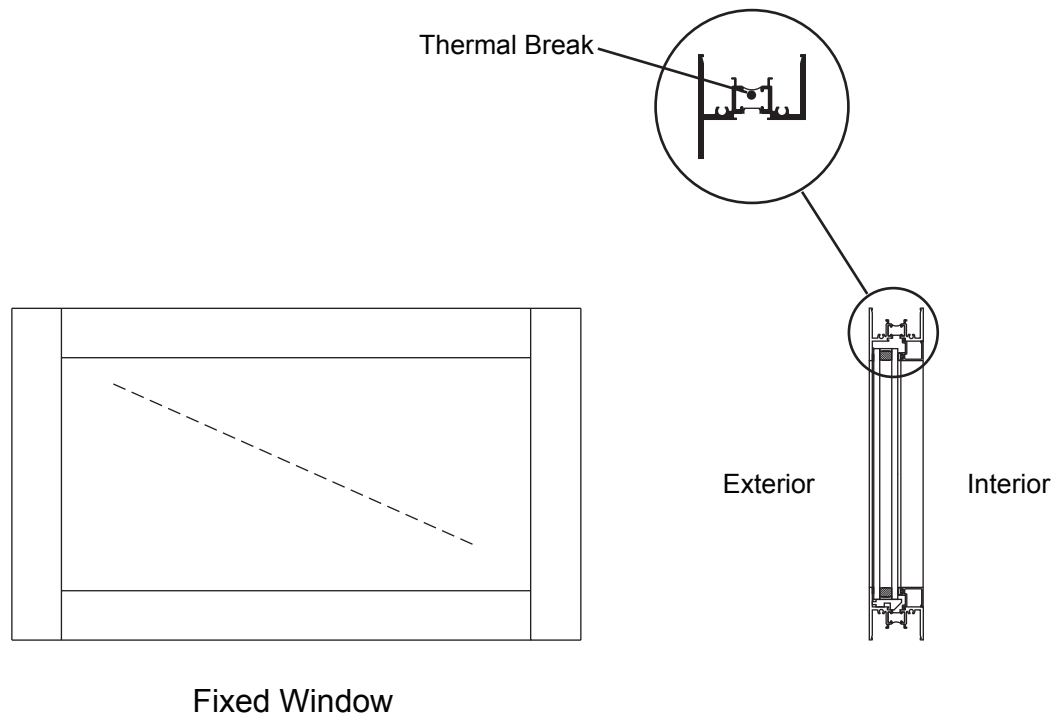
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Features

- Architectural Grade Window
- IsoLock™ Thermal Break
- Screw and Spline Frame Corner Joinery
- Factory Silicone Glazed
- Interior Applied Glazing Bead with Bulb Gasket
- Architectural Anodized Finishes and Applied Coatings
- Two Year Manufacturer's Warranty

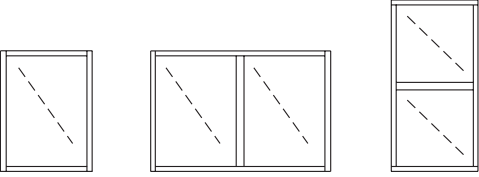
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Fixed Window

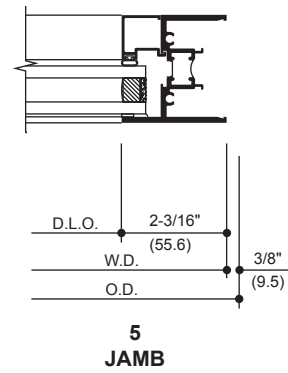
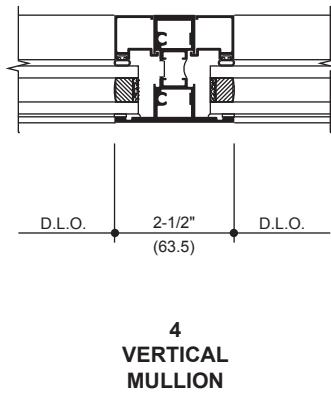
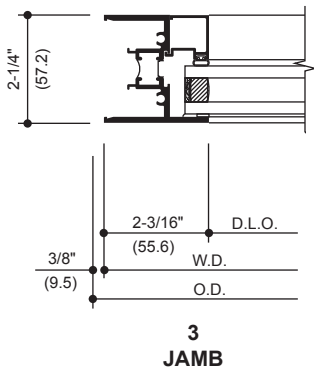
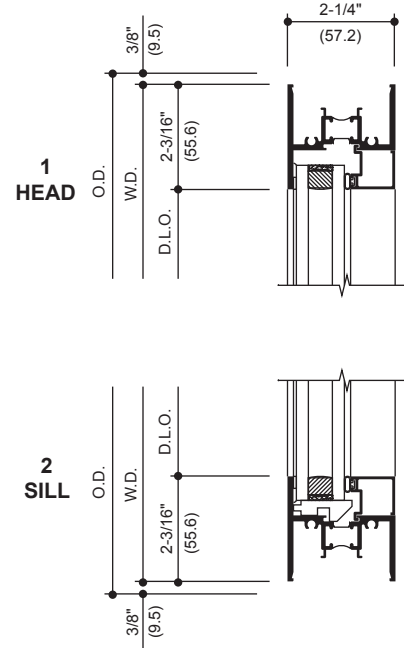
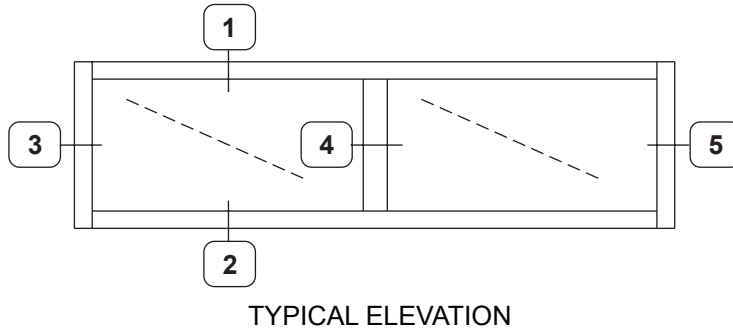
For specific product applications, consult your Kawneer representative.

| | |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLASS and GRADE | Architectural Grade AW-PG100-FW |
| TESTING STANDARD | AAMA / WDMA / CSA 101 / I.S. 2 / A440 (NAFS) |
| FRAME DEPTH | 2-1/4" Overall Frame Depth |
| TYPICAL WALL THICKNESS | .125 Nominal |
| TYPICAL MAXIMUM SIZE | 60" x 96" |
| TYPICAL MINIMUM SIZE | 12" x 12" |
| TYPICAL CONFIGURATIONS |  |
| STANDARD INFILL OPTIONS | 1" |
| STANDARD HARDWARE | Not Applicable |
| OPTIONAL HARDWARE | Not Applicable |
| OTHER OPTIONS | <p>Unequal Leg Frames Exterior Applied Muntins Perimeters and Sills Exterior Pannings and Interior Trims Structural Mullions Vertically or Horizontally Stacked Access Panels and Blinds Silicone Field Glazing upon Request</p> |

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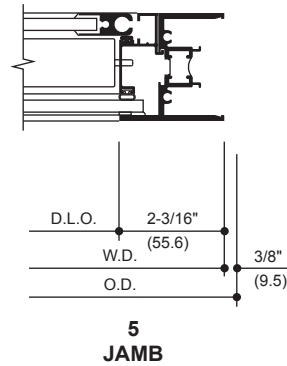
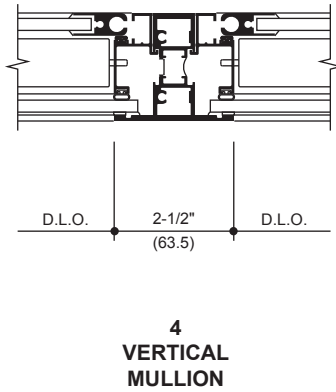
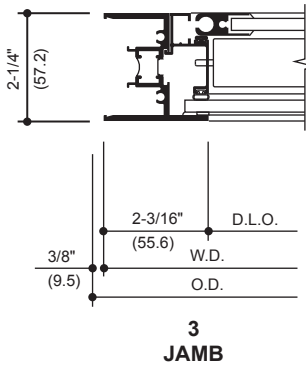
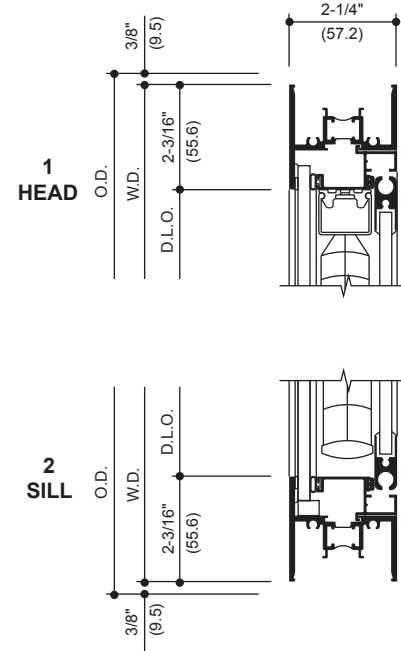
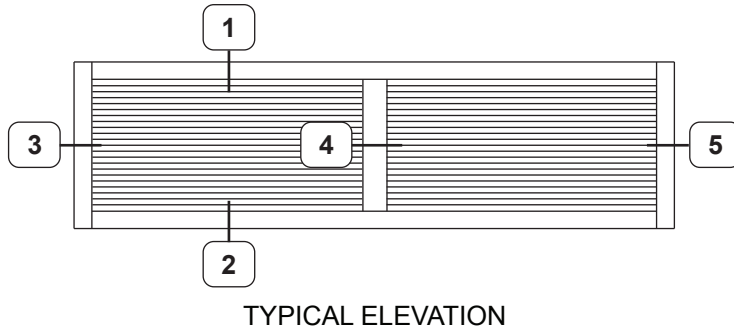


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ACCESS PANEL WITH BLINDS

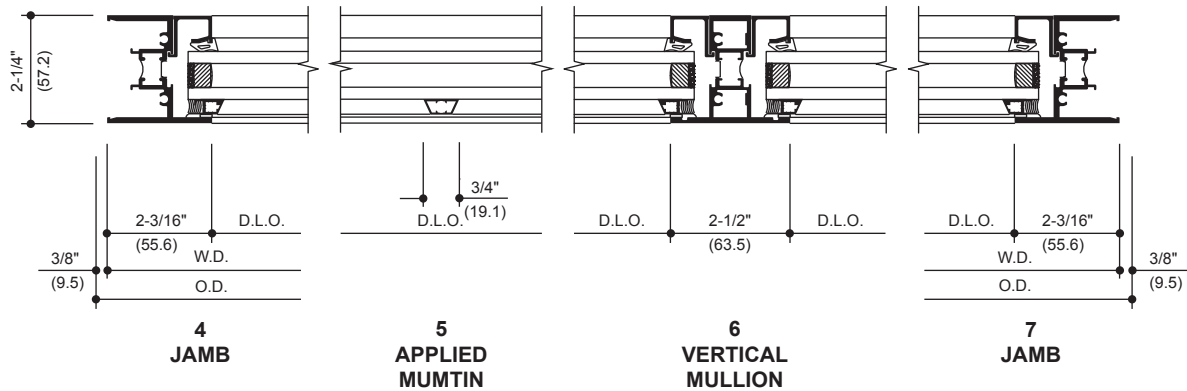
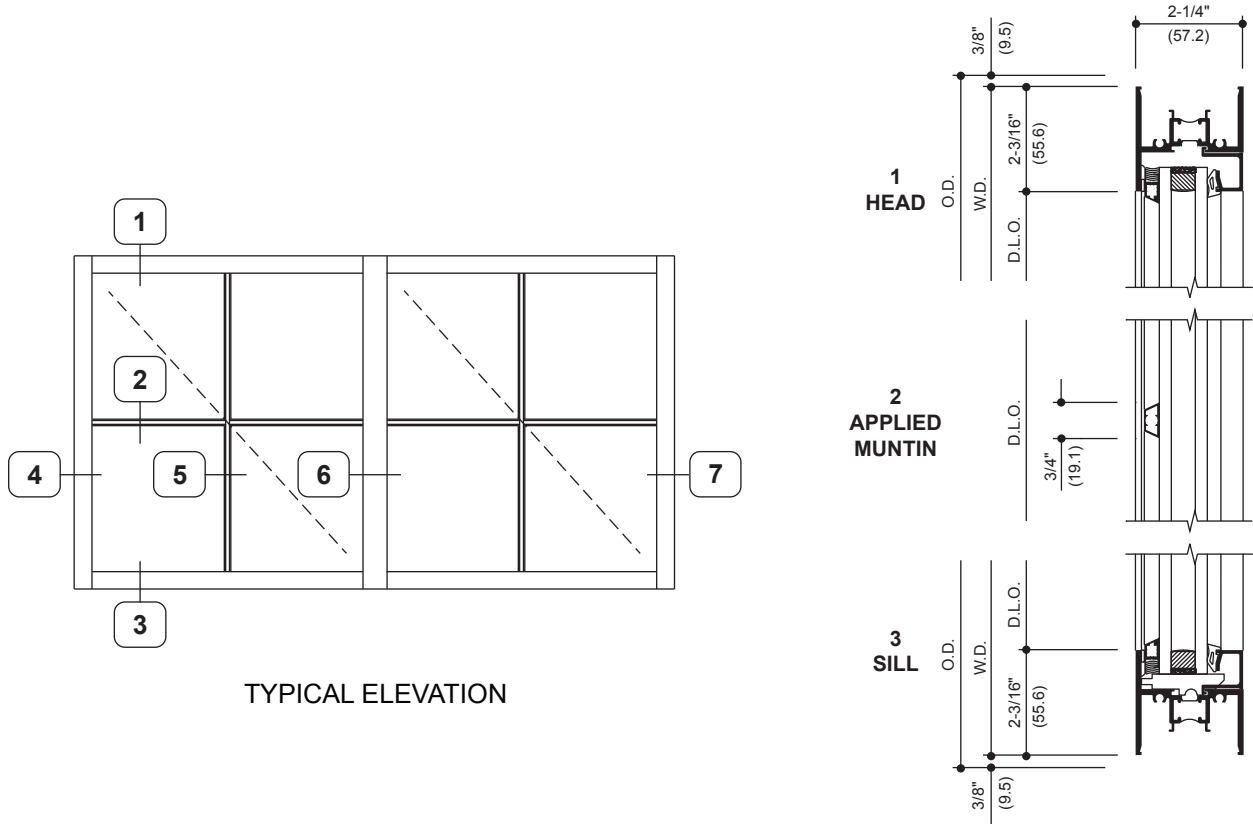


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MUNTIN GRIDS



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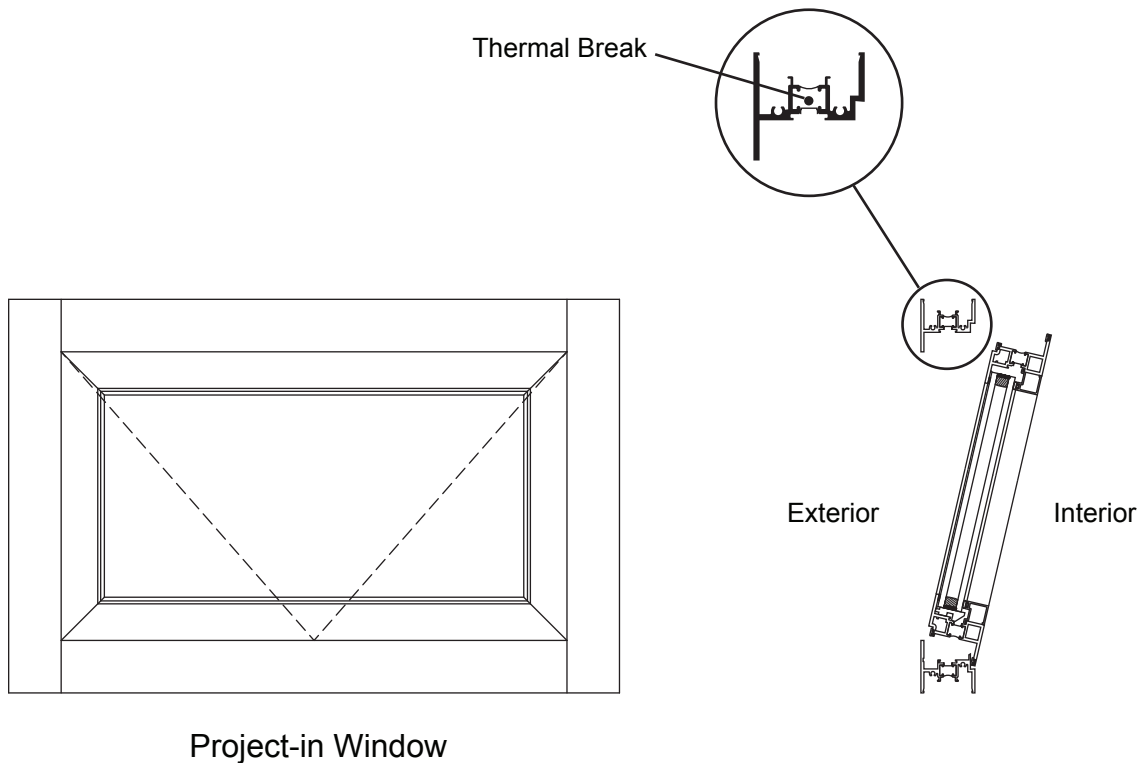
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Features

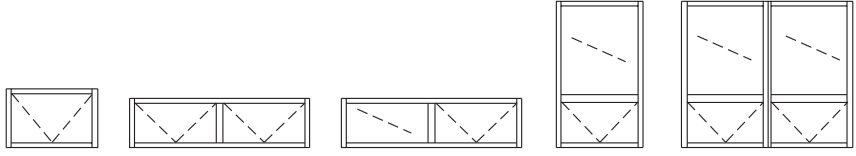
- Architectural Grade Window
- IsoLock™ Thermal Break
- Mitered, Clipped and Staked Vent Corner Joinery
- Screw and Spline Frame Corner Joinery
- Flush Vent and Frame Design
- Factory Silicone Glazed
- Interior Applied Glazing Bead with Bulb Gasket
- Architectural Anodized Finishes and Applied Coatings
- Two Year Manufacturer's Warranty
- Compatible with Storefront and Curtain Wall Systems

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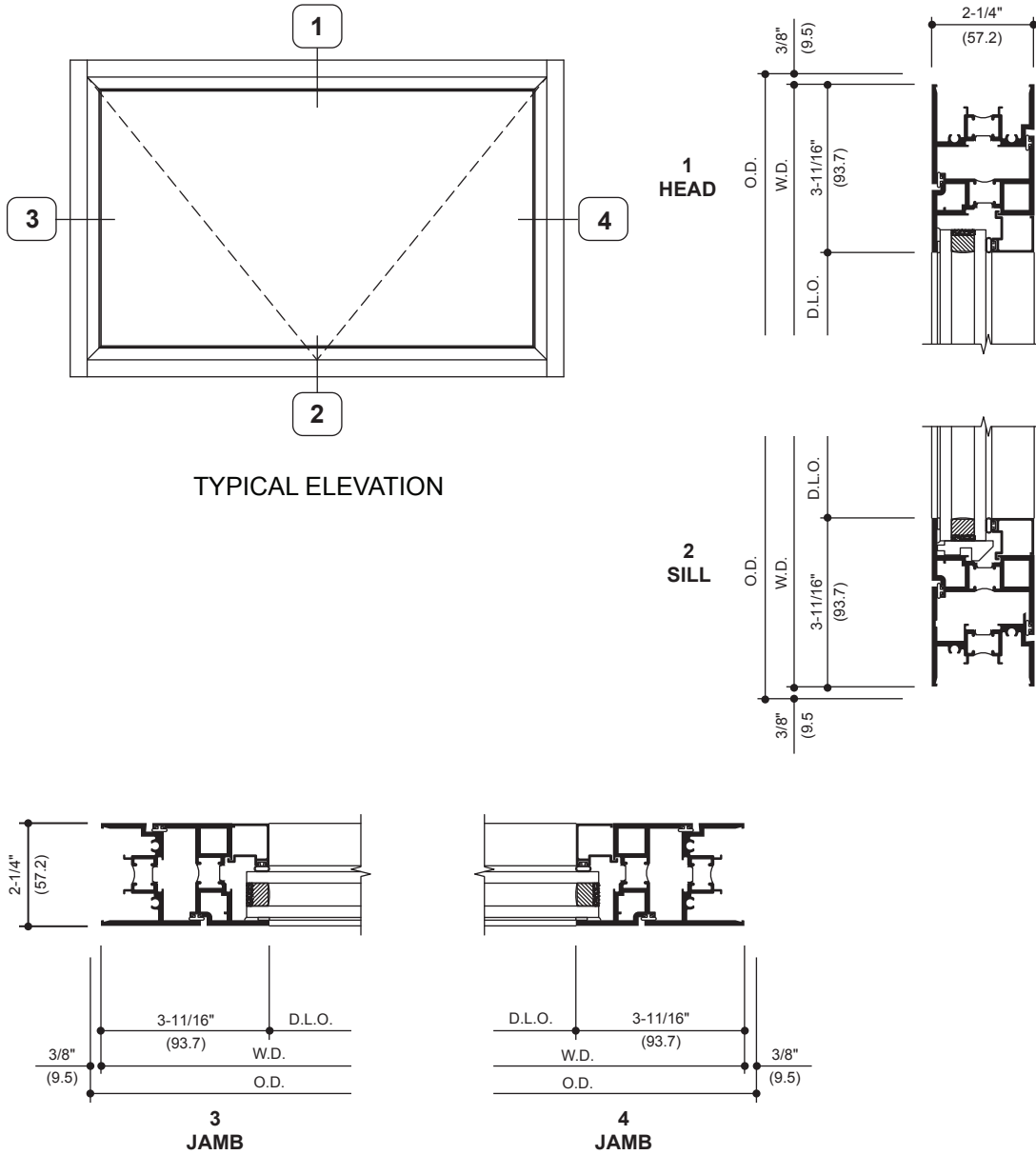
For specific product applications,
consult your Kawneer representative.

| | |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLASS and GRADE | Architectural Grade AW-PG90-AP |
| TESTING STANDARD | AAMA / WDMA / CSA 101 / I.S. 2 / A440 (NAFS) |
| FRAME DEPTH | 2-1/4" Overall Frame Depth |
| TYPICAL WALL THICKNESS | .125 Nominal |
| TYPICAL MAXIMUM SIZE | 60" x 48" |
| TYPICAL MINIMUM SIZE | 17" x 17" |
| TYPICAL CONFIGURATIONS |  |
| STANDARD INFILL OPTIONS | 1" |
| STANDARD HARDWARE | Stainless Steel 4-Bar Hinges Cast White Bronze Cam Locks |
| OPTIONAL HARDWARE | Access Control Locks Limit Stop Pole and Pole Ring |
| OTHER OPTIONS | Unequal Leg Frames Exterior Applied Muntins Insect Screens Perimeters and Sills Exterior Pannings and Interior Trims Structural Mullions Vertically or Horizontally Stacked Access Panels and Blinds Silicone Field Glazing upon Request |

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

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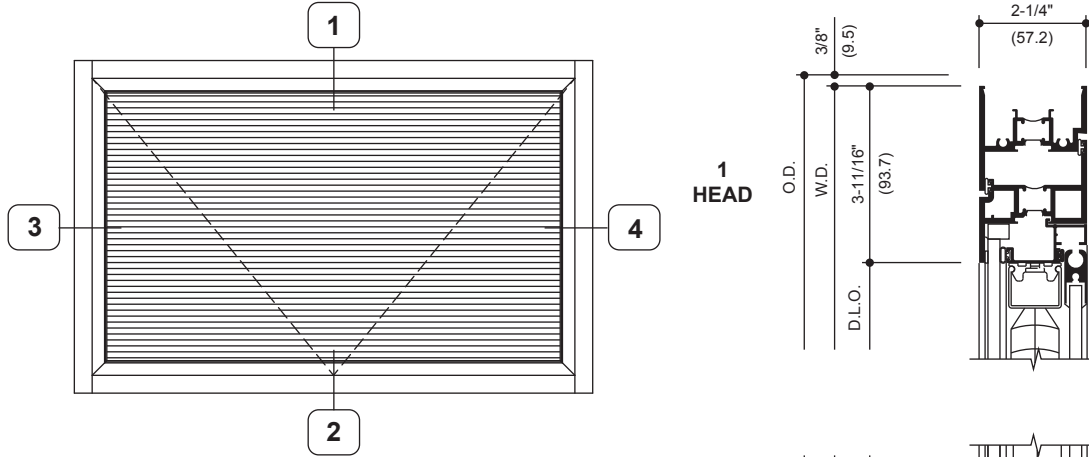


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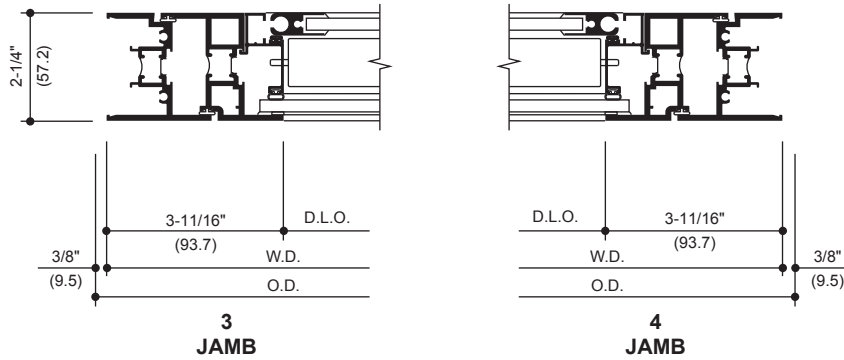
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ACCESS PANEL WITH BLINDS



TYPICAL ELEVATION

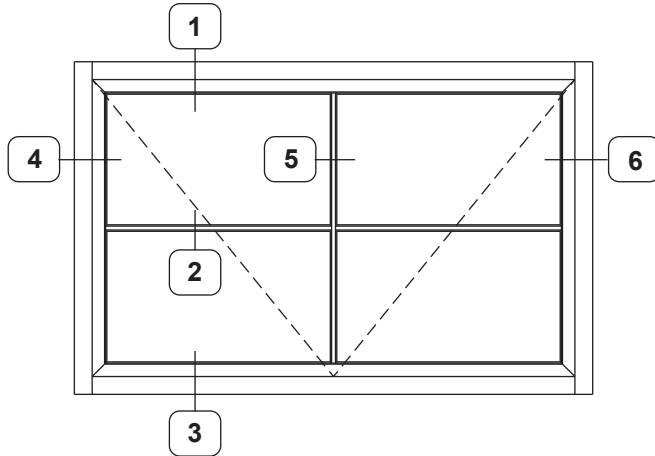


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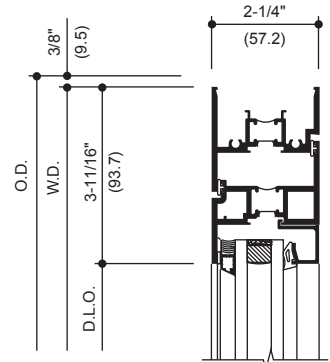
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MUNTIN GRIDS

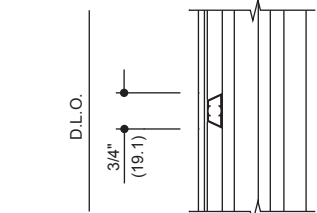


TYPICAL ELEVATION

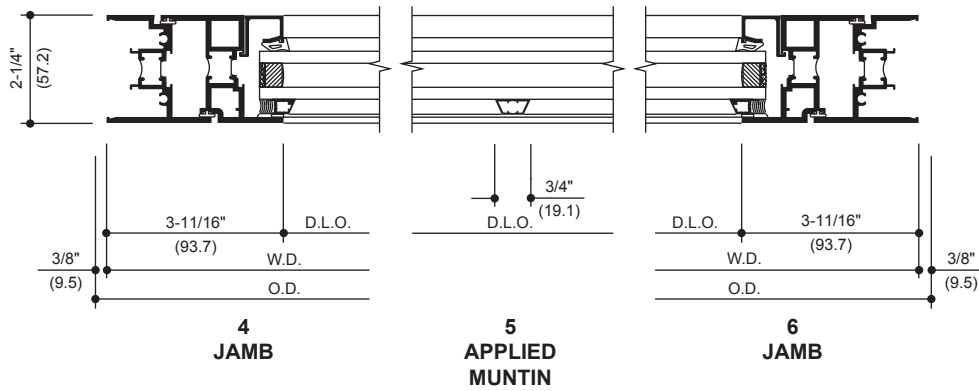
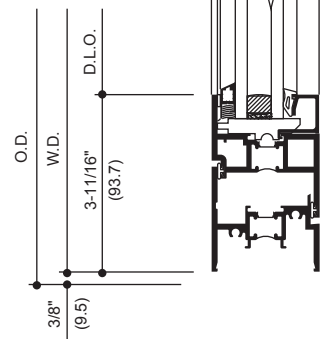
1 HEAD



2 APPLIED MUNTIN



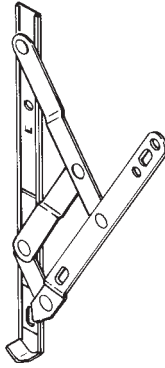
3 SILL



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STAINLESS STEEL 4 BAR HINGES



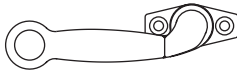
A standard hinge for ventilators providing approximately 45° to 60° openings depending on size. An optional limit stop is available to restrict hinge travel and limit vent opening.

STANDARD CAM HANDLE



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

CAM HANDLE WITH POLE RING



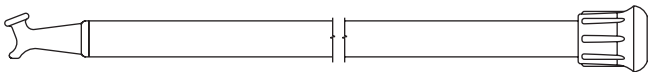
Cast white bronze cam handles with pole ring provide manual operation of ventilators located above reach. These handles are operated with a sash pole.

POLE RING



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

SASH POLE

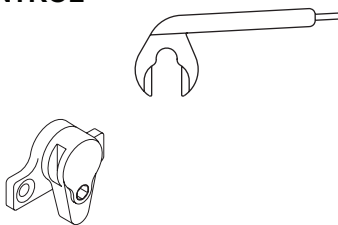


HANGER FOR SASH POLE



A 3/4" diameter aluminum sash pole with a cast white bronze pull down hook and black rubber tip. Available in 6 ft. and 12 ft. lengths with optional cast white bronze Pole Hanger.

ACCESS CONTROL LOCK



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

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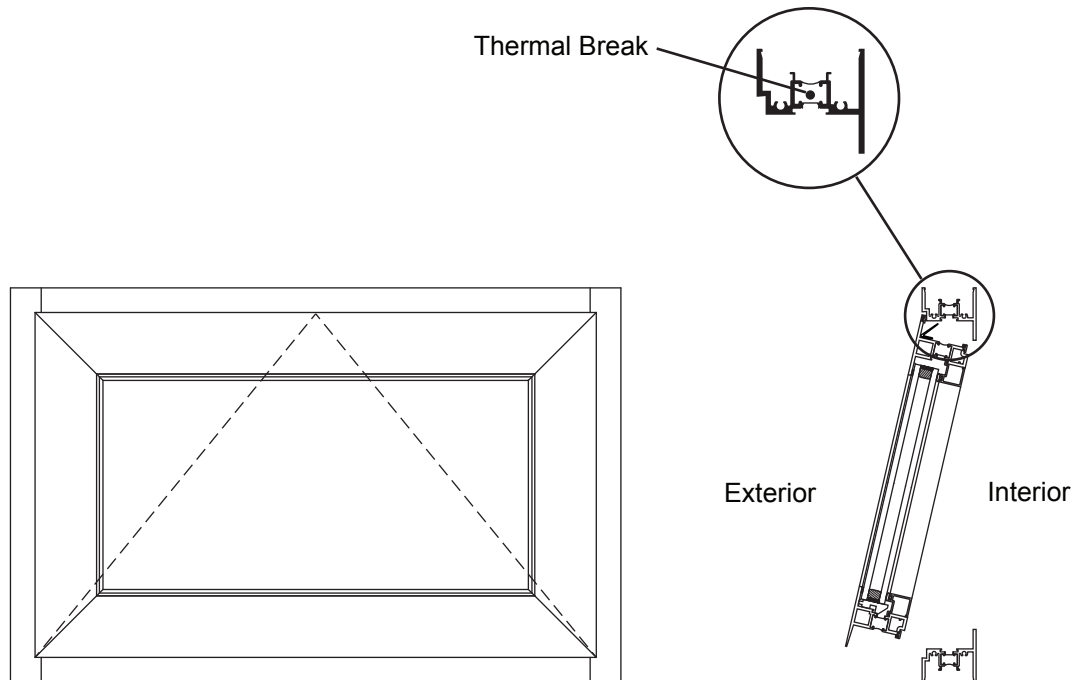
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Features

- Architectural Grade Window
- IsoLock™ Thermal Break
- Mitered, Clipped and Staked Vent Corner Joinery
- Screw and Spline Frame Corner Joinery
- Flush Vent and Frame Design
- Factory Silicone Glazed
- Interior Applied Glazing Bead with Bulb Gasket
- Architectural Anodized Finishes and Applied Coatings
- Two Year Manufacturer's Warranty
- Compatible with Storefront and Curtain Wall Systems

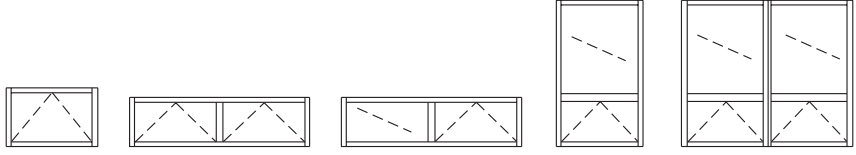
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Project-out Window

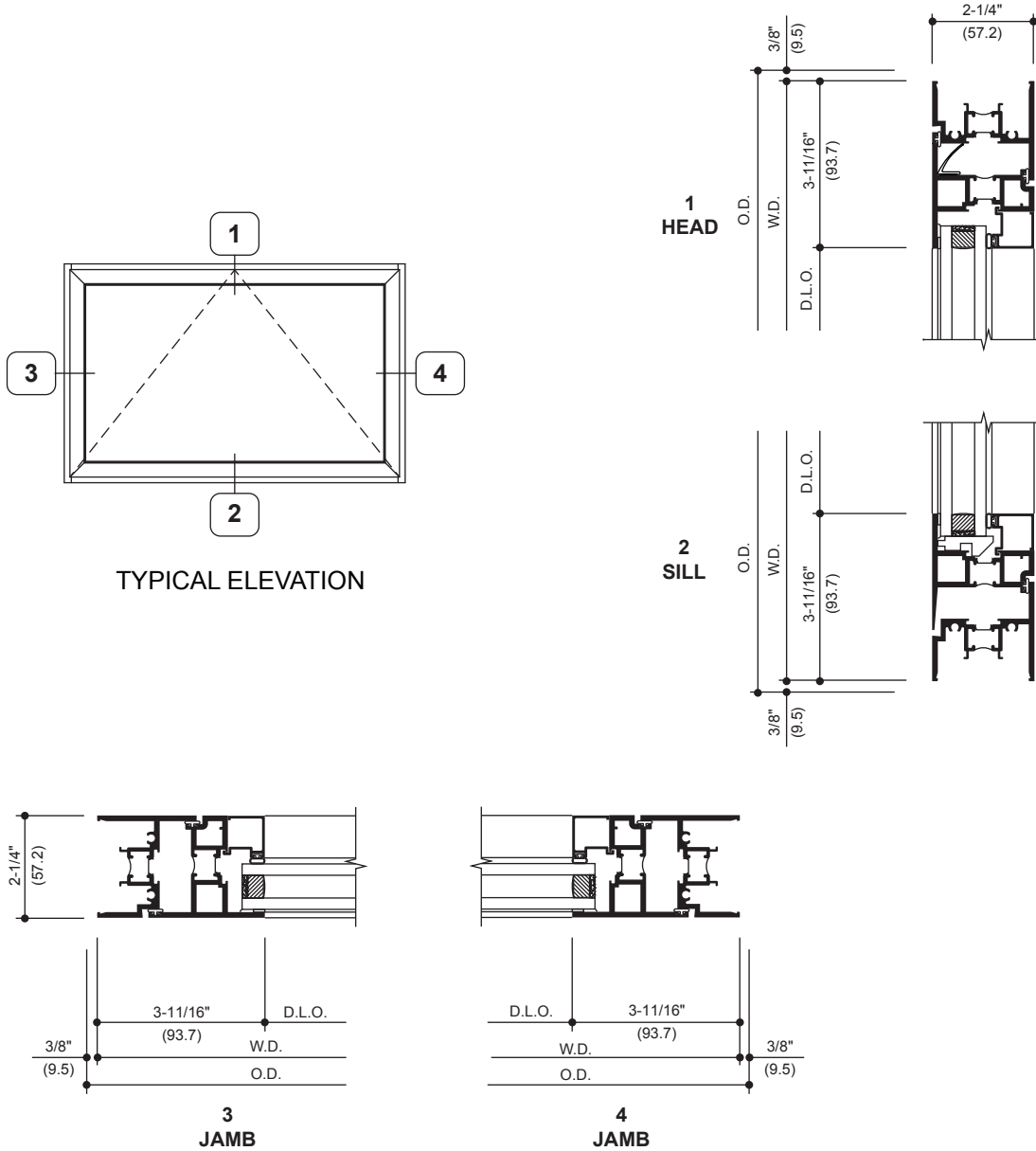
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| | |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLASS and GRADE | Architectural Grade AW-PG90-AP |
| TESTING STANDARD | AAMA / WDMA / CSA 101 / I.S. 2 / A440 (NAFS) |
| FRAME DEPTH | 2-1/4" Overall Frame Depth |
| TYPICAL WALL THICKNESS | .125 Nominal |
| TYPICAL MAXIMUM SIZE | 60" x 89" |
| TYPICAL MINIMUM SIZE | 17" x 17" |
| TYPICAL CONFIGURATIONS |  |
| STANDARD INFILL OPTIONS | 1" |
| STANDARD HARDWARE | Stainless Steel 4-Bar Hinges Cast White Bronze Cam Locks 88SS Support Arm (Units over 50" in height) |
| OPTIONAL HARDWARE | Access Control Locks Hook Bolt Lock Handle Pivot Shoe Roto-Operator Scissors Arm Roto-Operator Limit Stop Pole and Pole Ring |
| OTHER OPTIONS | Unequal Leg Frames Exterior Applied Muntins Insect Screens Perimeters and Sills Exterior Pannings and Interior Trims Structural Mullions Vertically or Horizontally Stacked Access Panels and Blinds Silicone Field Glazing upon Request |

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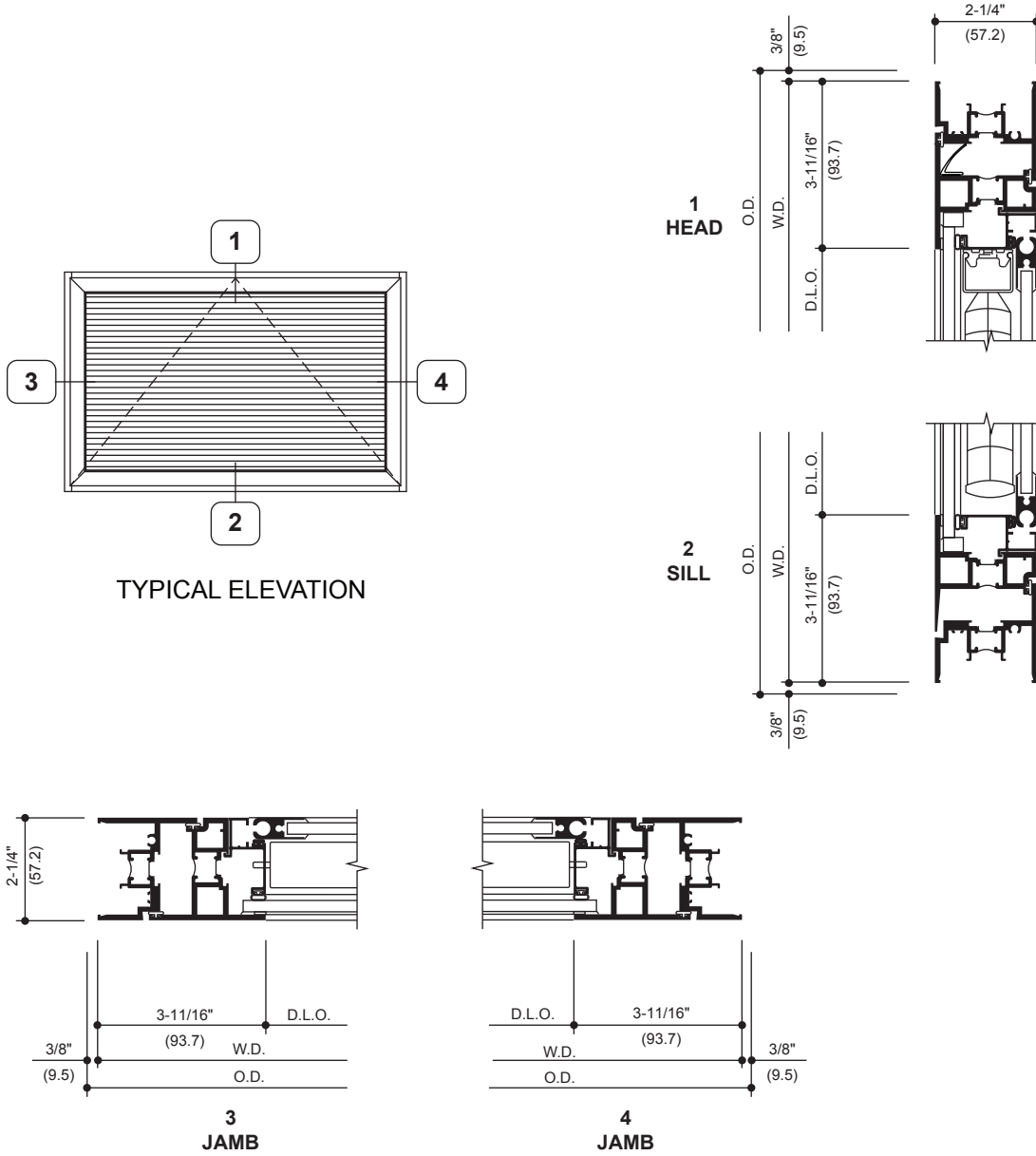


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ACCESS PANEL WITH BLINDS

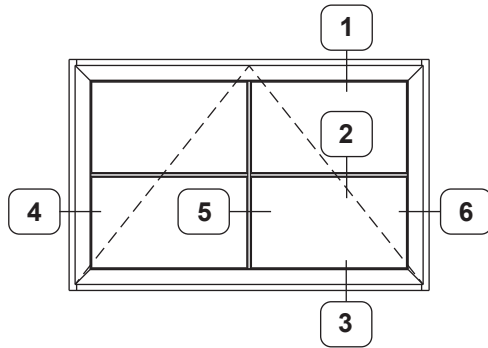


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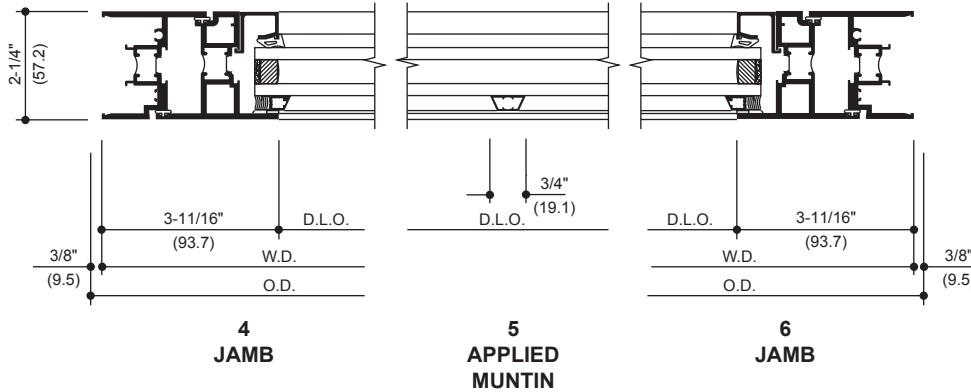
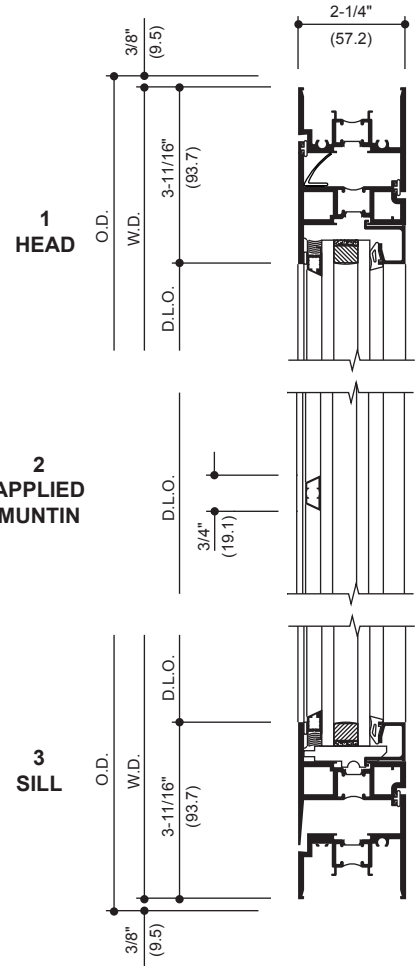
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MUNTIN GRIDS



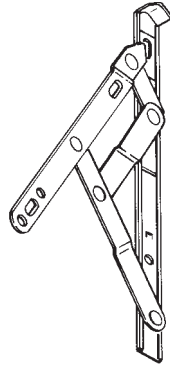
TYPICAL ELEVATION



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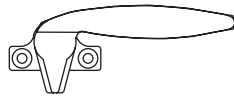
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STAINLESS STEEL 4 BAR HINGES



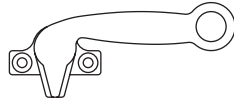
A standard hinge for ventilators providing approximately 45° to 60° openings depending on size. An optional limit stop is available to restrict hinge travel and limit vent opening.

STANDARD CAM HANDLE



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

CAM HANDLE WITH POLE RING



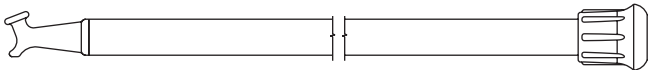
Cast white bronze cam handles with pole ring provide manual operation of ventilators located above reach. These handles are operated with a sash pole.

POLE RING



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

SASH POLE

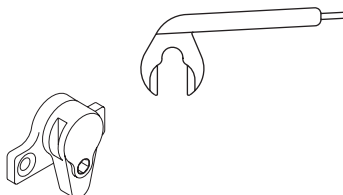


HANGER FOR SASH POLE



A 3/4" diameter aluminum sash pole with a cast white bronze pull down hook and black rubber tip. Available in 6 ft. and 12 ft. lengths with optional cast white bronze pole hanger.

ACCESS CONTROL LOCK

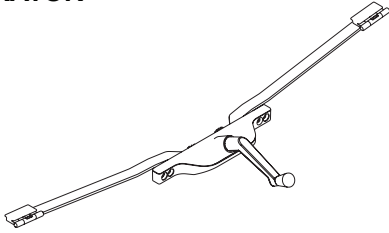


In lieu of the standard cam handles cast white bronze access control locks are offered for managed control of vent operations. Lock is operated with a manganese bronze removable handle.

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**PIVOT-SHOE
ROTO-OPERATOR**



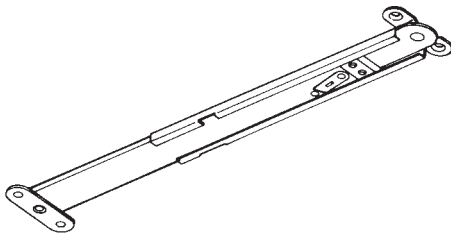
Optional pivot shoe roto operator is located on the center line of the bottom horizontal frame.
Standard finish shall be brushed copper nickel to match US-25-D.

HOOK BOLT LOCK



For use with pivot-shoe roto operator in lieu of cam handles.
Standard finish shall be US-25-D clear white bronze.

88SS SUPPORT ARM



Support arms are used when window height exceeds 50".
When fully extended, the hardware automatically retains the ventilator in an open position.

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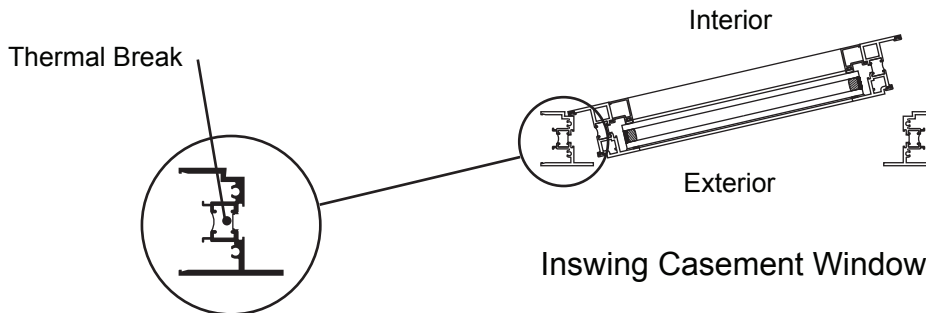
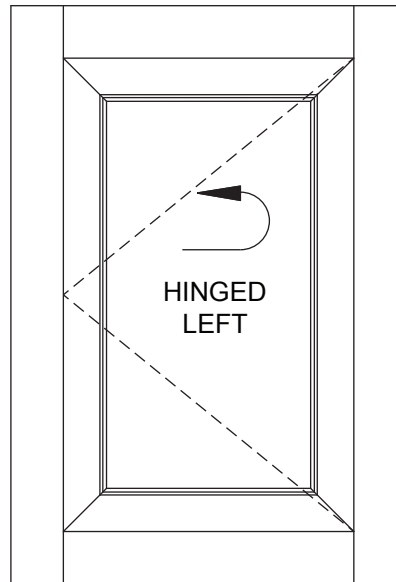
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Features

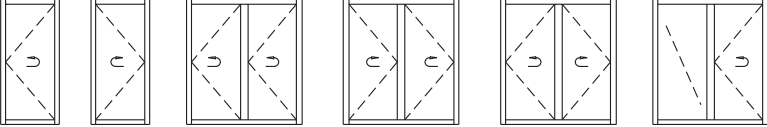
- Architectural Grade Window
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- Screw and Spline Frame Corner Joinery
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- Architectural Anodized Finishes and Applied Coatings
- Two Year Manufacturer's Warranty
- Compatible with Storefront and Curtain Wall Systems

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

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.
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For specific product applications,
consult your Kawneer representative.

| | |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLASS and GRADE | Architectural Grade AW-PG90-C |
| TESTING STANDARD | AAMA / WDMA / CSA 101 / I.S. 2 / A440 (NAFS) |
| FRAME DEPTH | 2-1/4" Overall Frame Depth |
| TYPICAL WALL THICKNESS | .125 Nominal |
| TYPICAL MAXIMUM SIZE | 36" x 60" |
| TYPICAL MINIMUM SIZE | 17" x 17" |
| TYPICAL CONFIGURATIONS |  |
| STANDARD INFILL OPTIONS | 1" |
| STANDARD HARDWARE | Stainless Steel 4-Bar Hinges Cast White Bronze Cam Locks |
| OPTIONAL HARDWARE | Access Control Locks Limit Stop Pole and Pole Ring Butt Hinges Friction Adjustor Keyed Limit Arm |
| OTHER OPTIONS | Unequal Leg Frames Exterior Applied Muntins Insect Screens Perimeters and Sills Exterior Pannings and Interior Trims Structural Mullions Vertically or Horizontally Stacked Access Panels and Blinds Silicone Field Glazing upon Request |

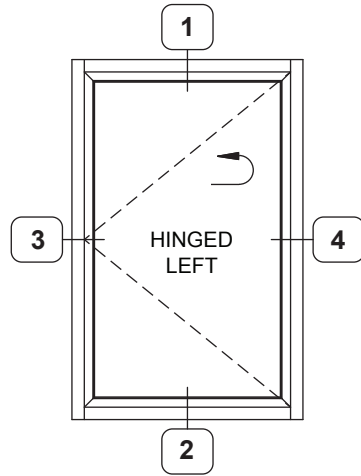
Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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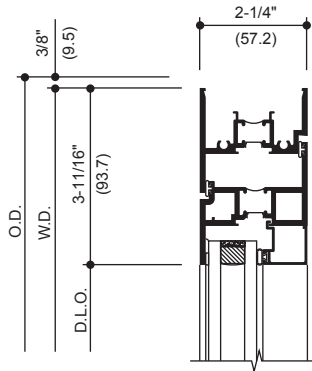
Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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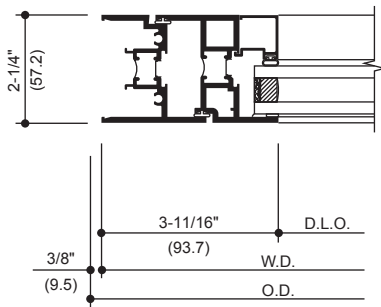
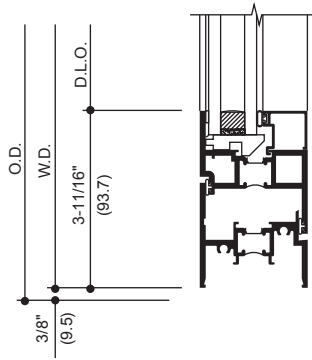


TYPICAL ELEVATION

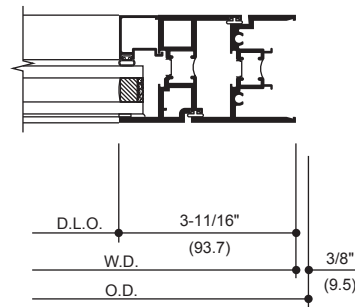
1 HEAD



2 SILL



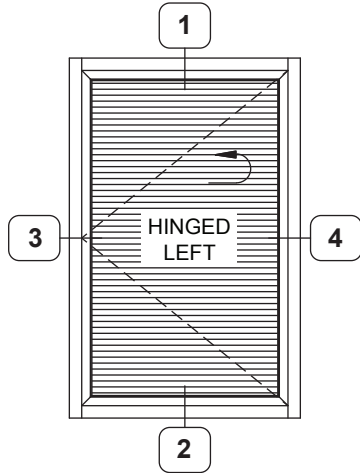
3 JAMB



4 JAMB

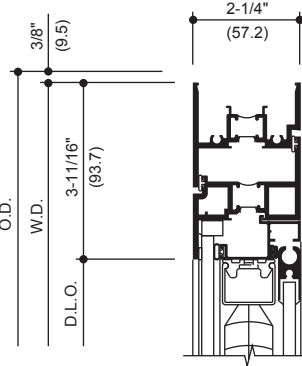
Additional information and CAD details are available at www.kawneer.com

ACCESS PANEL WITH BLINDS

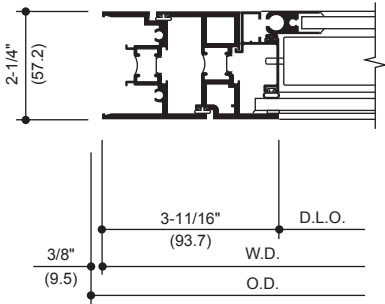
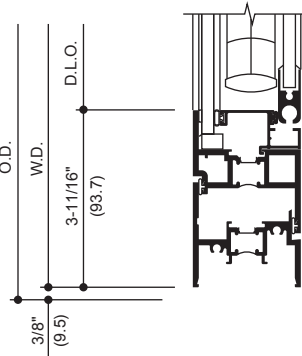


TYPICAL ELEVATION

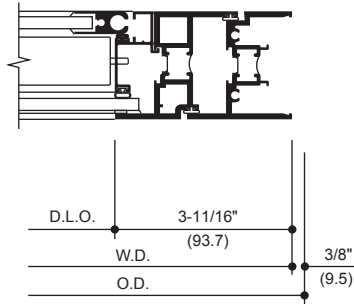
1 HEAD



2 SILL



3 JAMB



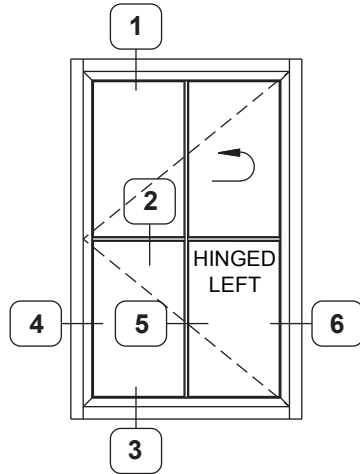
4 JAMB

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

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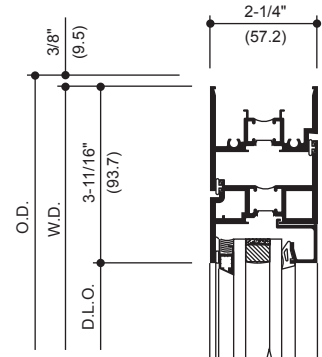
Additional information and CAD details are available at www.kawneer.com

MUNTIN GRIDS

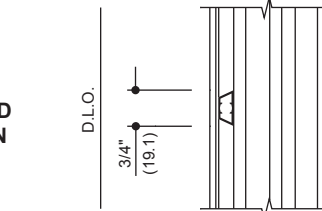


TYPICAL ELEVATION

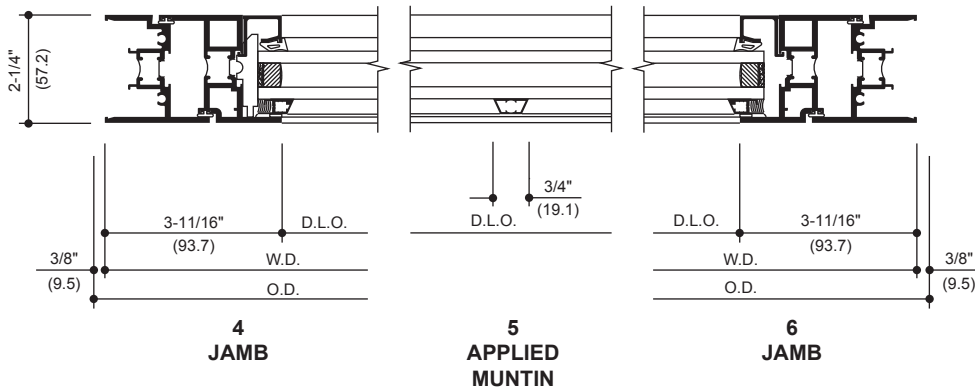
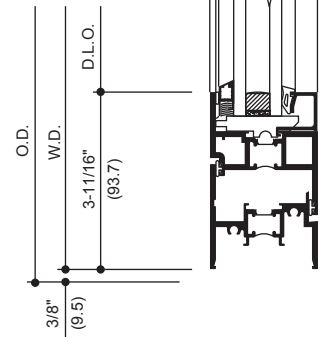
1 HEAD



2 APPLIED MUNTIN



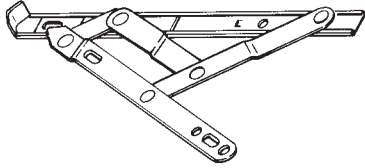
3 SILL



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

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STAINLESS STEEL 4 BAR HINGES



A standard hinge for ventilators providing approximately 45° to 60° openings depending on size. An optional limit stop is available to restrict hinge travel and limit vent opening.

STANDARD CAM HANDLE



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

CAM HANDLE WITH POLE RING



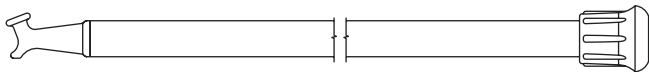
Cast white bronze cam handles with pole ring provide manual operation of ventilators located above reach. These handles are operated with a sash pole.

POLE RING



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

SASH POLE

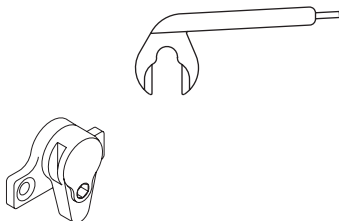


HANGER FOR SASH POLE



A 3/4" diameter aluminum sash pole with a cast white bronze pull down hook and black rubber tip. Available in 6 ft. and 12 ft. lengths with optional cast white bronze pole hanger.

ACCESS CONTROL LOCK

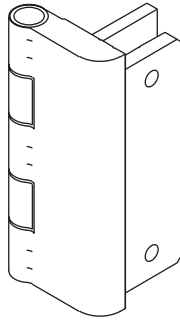


In lieu of the standard cam handles cast white bronze access control locks are offered for managed control of vent operations. Lock is operated with a manganese bronze removable handle.

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

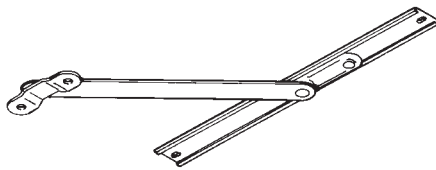
Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.
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BUTT HINGES



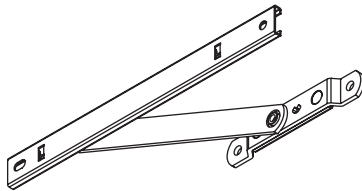
An optional hinge for ventilators providing a full 90° opening. Butt Hinges shall be finished to match the window.

FRICTION ADJUSTOR



Friction adjustors shall be used with butt hinges for additional friction for control of the ventilator.

KEYED LIMIT ARM



Key released limit arms may be used to restrict ventilator opening when used with butt hinges.

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

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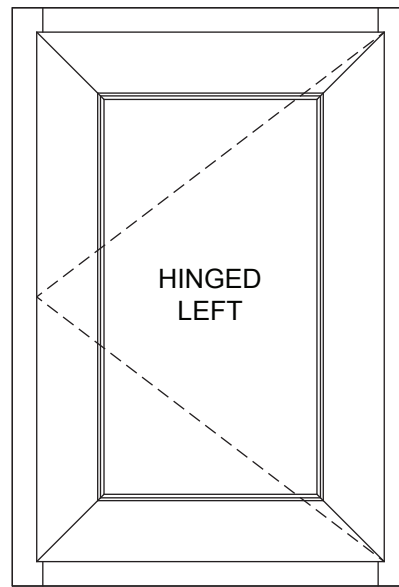
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Features

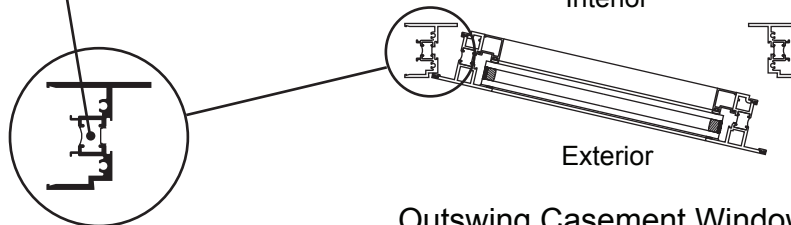
- Architectural Grade Window
- IsoLock™ Thermal Break
- Mitered, Clipped and Staked Vent Corner Joinery
- Screw and Spline Frame Corner Joinery
- Flush Vent and Frame Design
- Factory Silicone Glazed
- Interior Applied Glazing Bead with Bulb Gasket
- Architectural Anodized Finishes and Applied Coatings
- Two Year Manufacturer's Warranty
- Compatible with Storefront and Curtain Wall Systems

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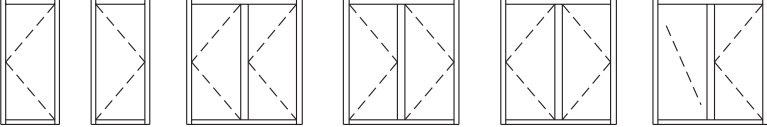
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Thermal Break



For specific product applications,
consult your Kawneer representative.

| | |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLASS and GRADE | Architectural Grade AW-PG90-C |
| TESTING STANDARD | AAMA / WDMA / CSA 101 / I.S. 2 / A440 (NAFS) |
| FRAME DEPTH | 2-1/4" Overall Frame Depth |
| TYPICAL WALL THICKNESS | .125 Nominal |
| TYPICAL MAXIMUM SIZE | 36" x 60" |
| TYPICAL MINIMUM SIZE | 17" x 17" |
| TYPICAL CONFIGURATIONS |  |
| STANDARD INFILL OPTIONS | 1" |
| STANDARD HARDWARE | Stainless Steel 4-Bar Hinges Cast White Bronze Cam Locks |
| OPTIONAL HARDWARE | Butt Hinges Access Control Locks Hook Bolt Lock or Multi-Point Lock Limit Stop Pole and Pole Ring Friction Adjustor Keyed Limit Arm Roto Operator |
| OTHER OPTIONS | Unequal Leg Frames Exterior Applied Muntins Insect Screens Perimeters and Sills Exterior Pannings and Interior Trims Structural Mullions Vertically or Horizontally Stacked Access Panel and Blinds Silicone Field Glazing upon Request |

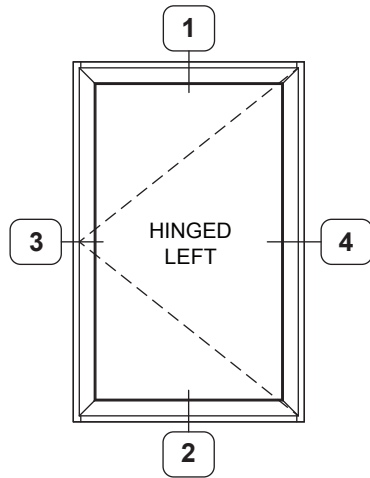
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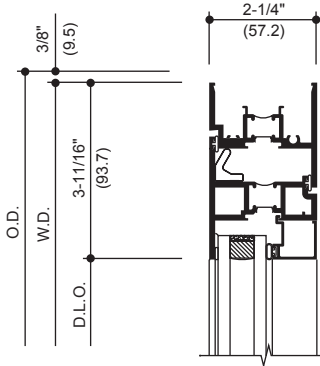
Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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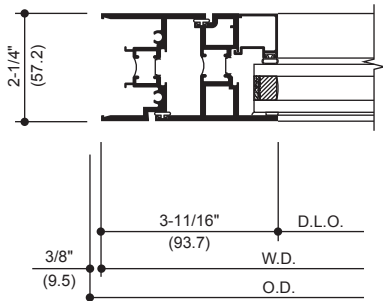
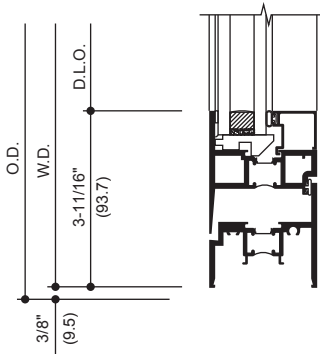


TYPICAL ELEVATION

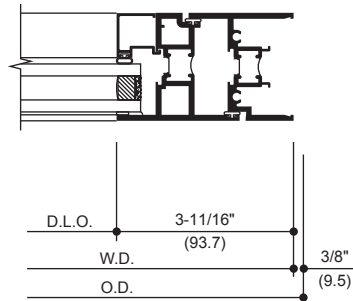
1 HEAD



2 SILL



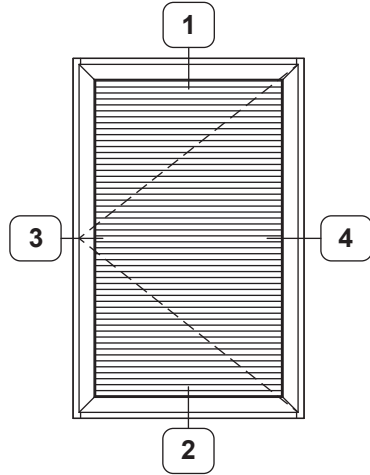
3 JAMB



4 JAMB

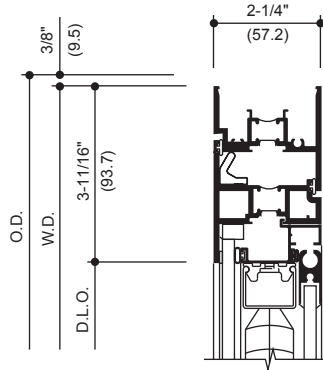
Additional information and CAD details are available at www.kawneer.com

ACCESS PANEL WITH BLINDS

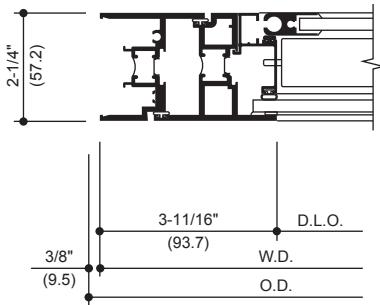
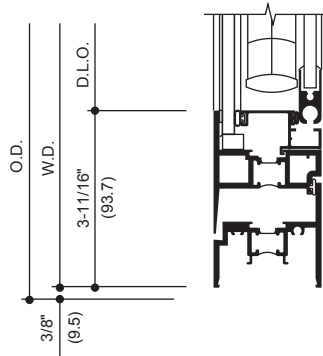


TYPICAL ELEVATION

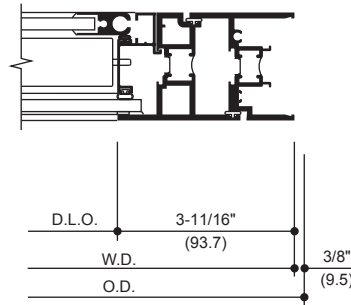
1 HEAD



2 SILL



3 JAMB



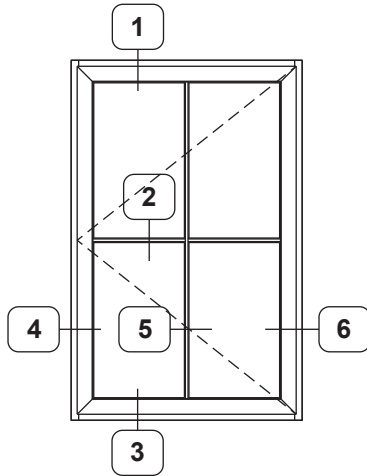
4 JAMB

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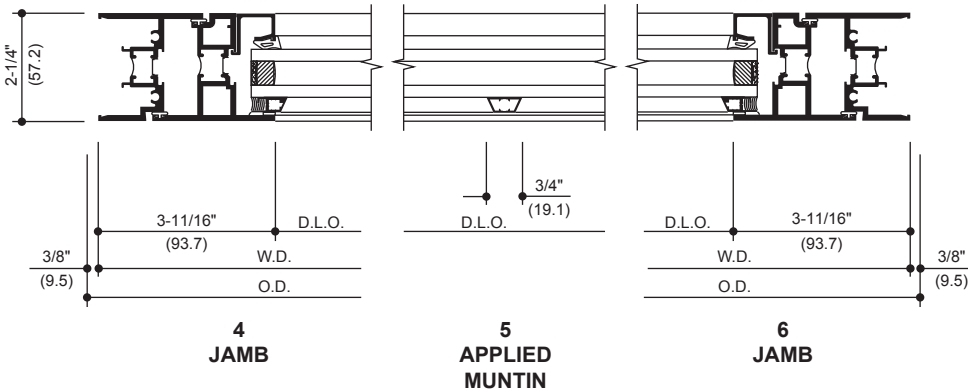
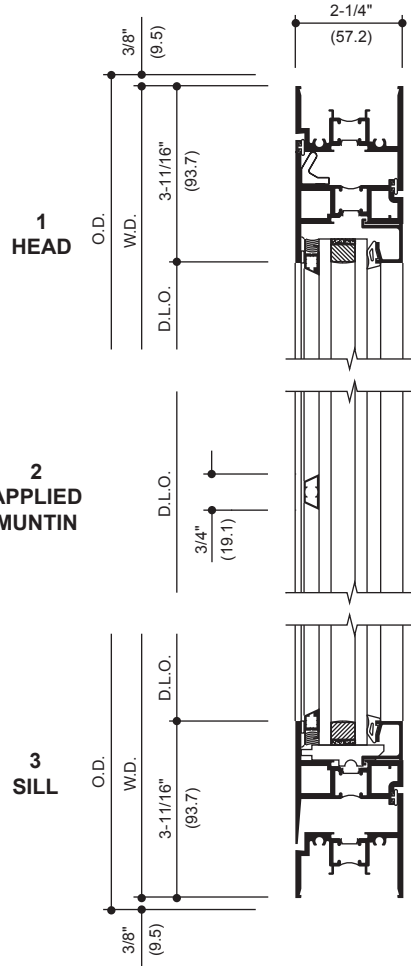
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MUNTIN GRIDS



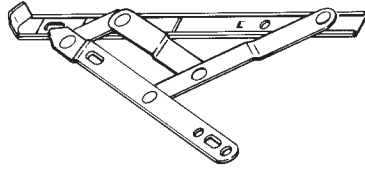
TYPICAL ELEVATION



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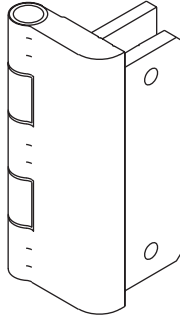
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STAINLESS STEEL 4 BAR HINGES



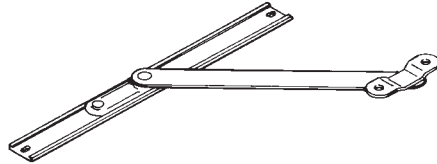
A standard hinge for ventilators providing approximately 45° to 60° openings depending on size. An optional limit stop is available to restrict hinge travel and limit vent opening.

BUTT HINGES



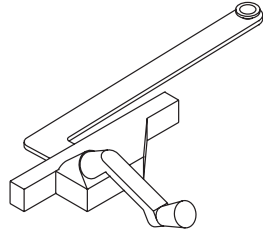
An optional hinge for ventilators providing a full 90° opening. Butt hinges shall be finished to match the window.

FRICTION ADJUSTOR



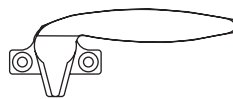
Friction adjustors shall be used with butt hinges for additional friction for control of the ventilator.

ROTO OPERATOR



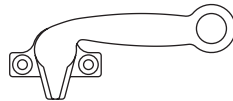
Roto operators are used with butt hinges only and located at the bottom horizontal frame. Standard finish shall be brushed copper nickel to match US-25-D.

STANDARD CAM HANDLE



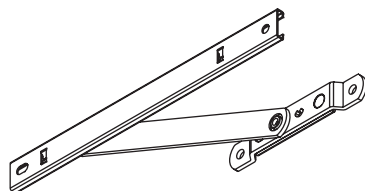
Cast white bronze cam handles are standard for the manual operation and locking of ventilators.

CAM HANDLE WITH POLE RING



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

KEYED LIMIT ARM



Key released limit arms may be used to restrict ventilator opening when used with butt hinges.

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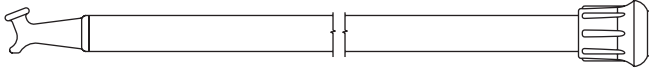
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POLE RING



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

SASH POLE

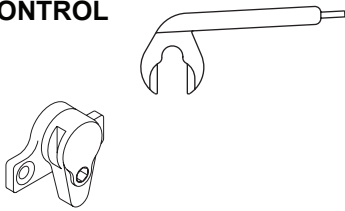


HANGER FOR SASH POLE



A 3/4" diameter aluminum sash pole with a cast white bronze pull down hook and black rubber tip. Available in 6 ft. and 12 ft. lengths with optional cast white bronze pole hanger.

ACCESS CONTROL LOCK



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

HOOK BOLT LOCK



Optional hook bolt lock in lieu of cam handle. Standard finish shall be US-25-D clear white bronze.

MULTI-POINT LOCK



Optional single locking handle for concealed multi-point locks located on the vertical frame. Standard finish shall be US-25-D clear white bronze.

RESCUE WINDOW SIGN



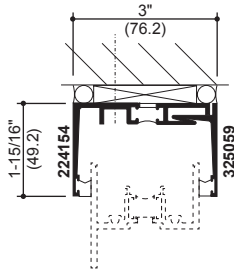
Vinyl rescue window sign with lettering on both sides. Colors are black letters on a yellow background.

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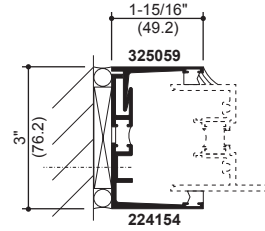
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EQUAL LEG SILLS

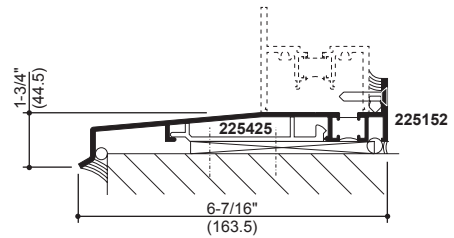
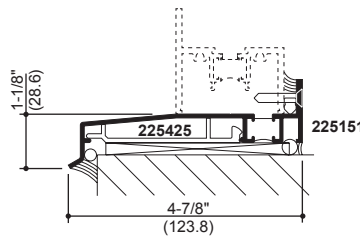
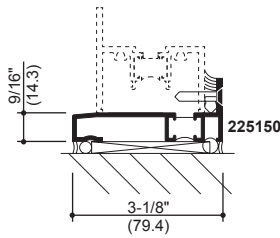


HEAD RECEPTOR (INTERIOR INSTALLED)

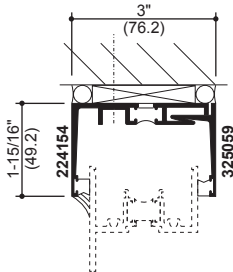


JAMB RECEPTOR (INTERIOR INSTALLED)

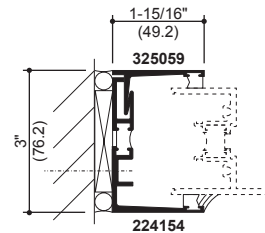
FULL DEPTH SILLS



UNEQUAL LEG SILLS

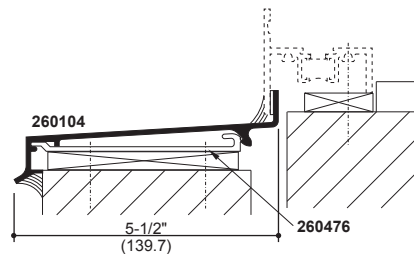
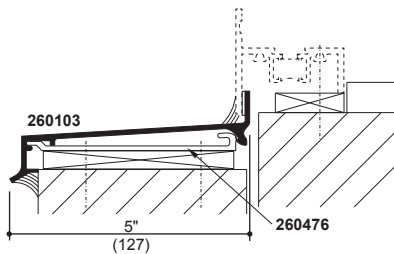
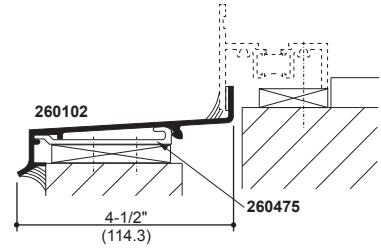
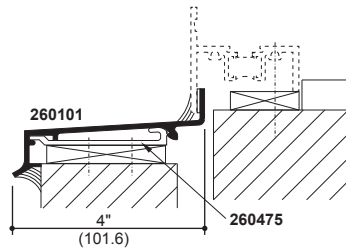
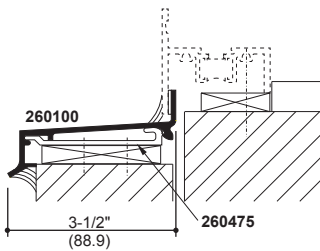


HEAD RECEPTOR (INTERIOR INSTALLED)



JAMB RECEPTOR (INTERIOR INSTALLED)

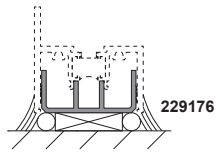
UNEQUAL LEG SILLS



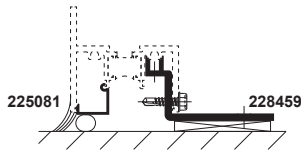
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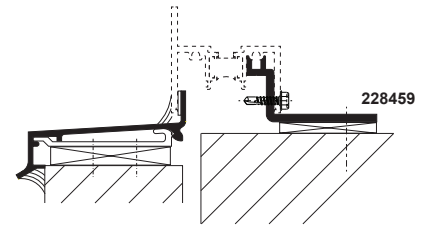
Additional information and CAD details are available at www.kawneer.com



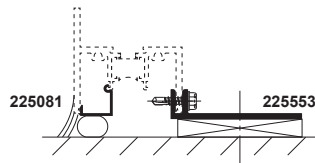
**PERIMETER FILLER
(Continuous)**
(Head and Jamb Similar)



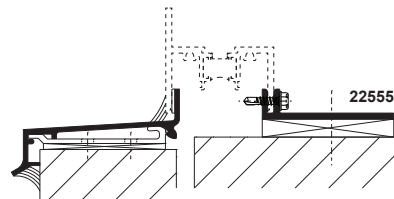
**STRAP ANCHOR
with SEALANT BACK-UP**



**STRAP ANCHOR
with SUBSILL**



**F-ANCHOR STRAP
with SEALANT BACK-UP**



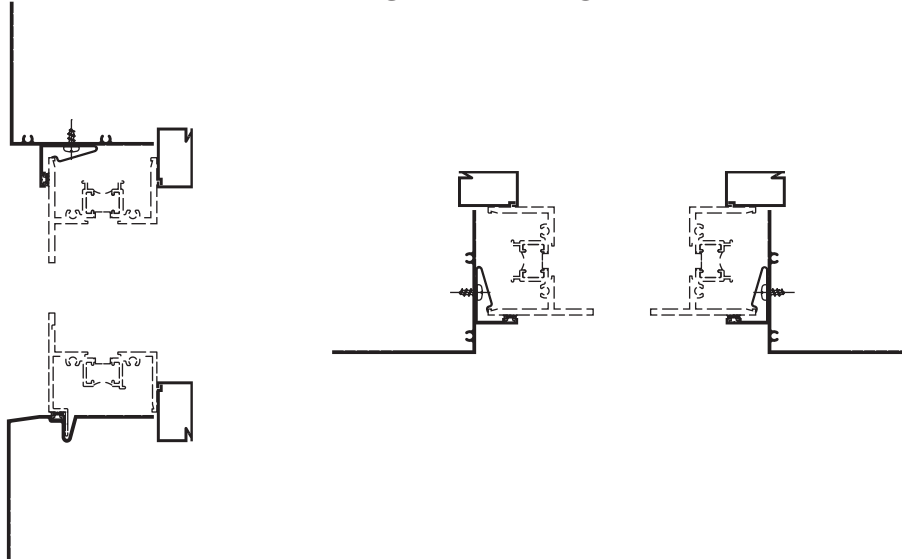
**ANCHOR CLIP
with SUBSILL**

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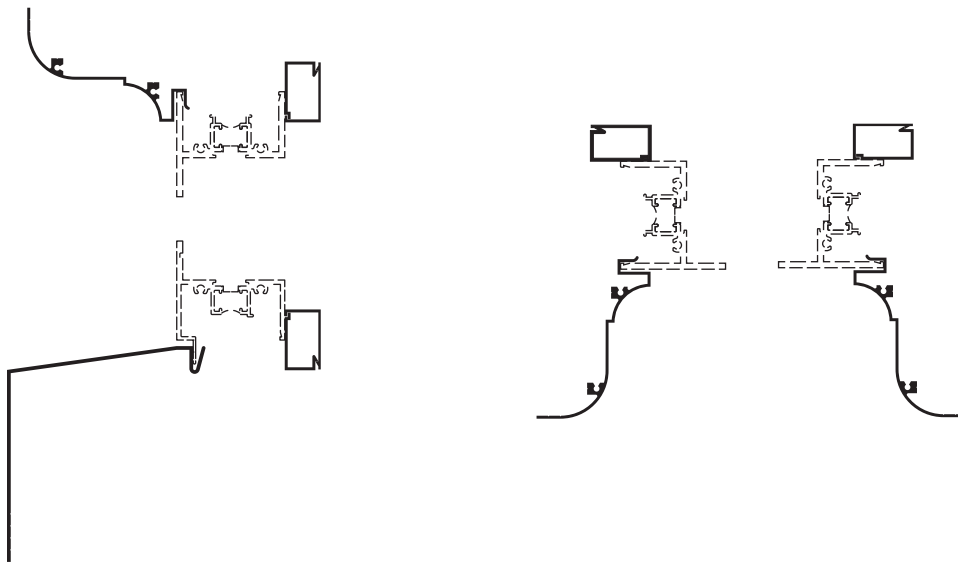
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PRE-SET PANNING



WRAP AROUND PANNING



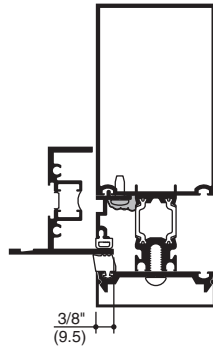
Note: Panning shown with fixed window also available for P.O., P.I., C.O., and C.I.

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

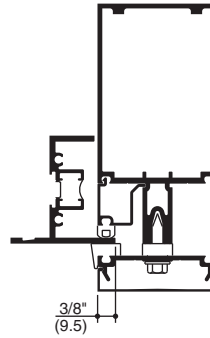
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CURTAIN WALL ADAPTERS



7500 WALL



1600 WALL

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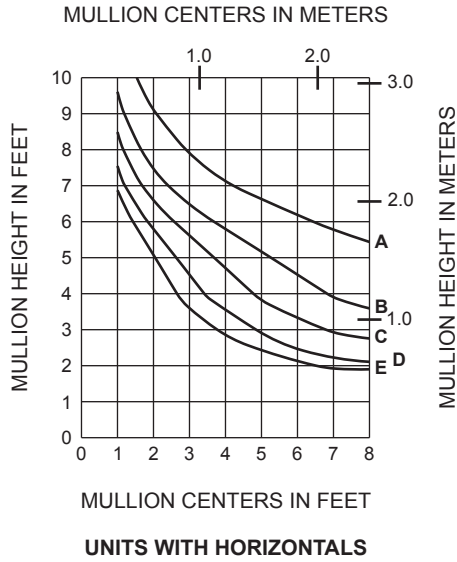
WIND LOAD CHARTS

Mullions are designed for deflection limitations in accordance with AAMA TIR-A11 of L/175 up to 13'-6" and L/240 +1/4" above 13'-6". These curves are for mullions WITH HORIZONTALS and are based on engineering calculations for stress and deflection. Allowable wind load stress for ALUMINUM 15,152 psi (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.

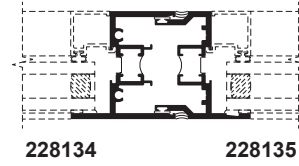
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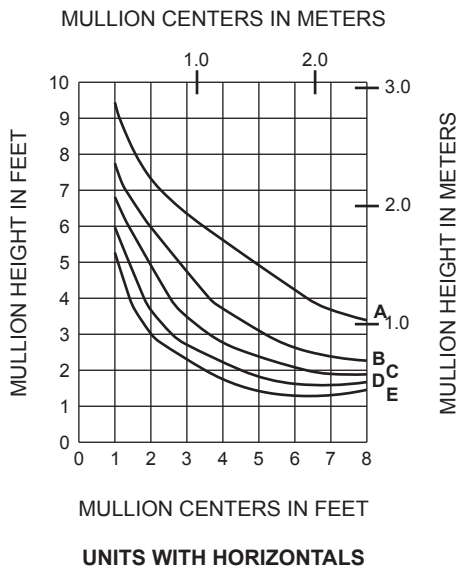
Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.



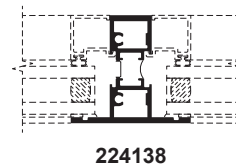
| | Allowable Stress Design Load | LRFD Ultimate Design Load |
|-----|------------------------------|---------------------------|
| A = | 20 PSF (960) | 33 PSF (1580) |
| B = | 35 PSF (1680) | 58 PSF (2780) |
| C = | 50 PSF (2400) | 83 PSF (4000) |
| D = | 70 PSF (3360) | 117 PSF (5600) |
| E = | 90 PSF (4310) | 150 PSF (7200) |

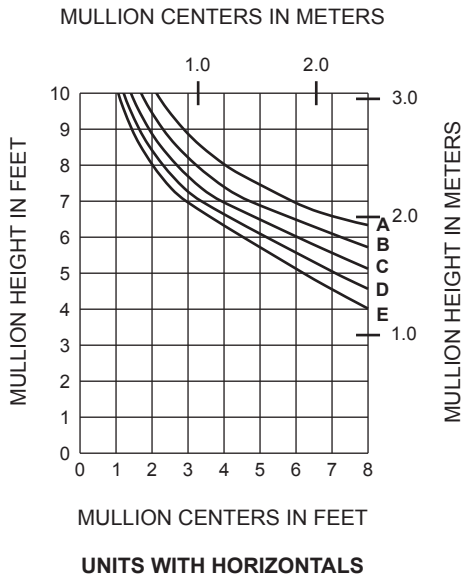


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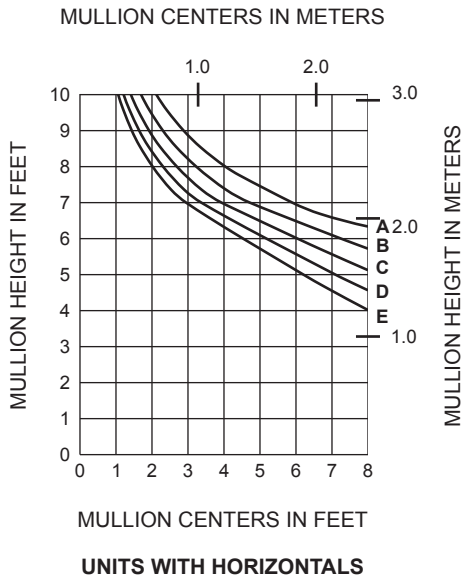
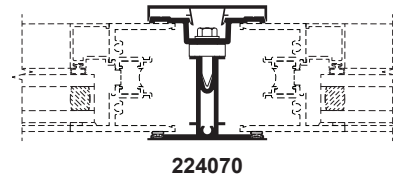


| | Allowable Stress Design Load | LRFD Ultimate Design Load |
|-----|------------------------------|---------------------------|
| A = | 20 PSF (960) | 33 PSF (1580) |
| B = | 35 PSF (1680) | 58 PSF (2780) |
| C = | 50 PSF (2400) | 83 PSF (4000) |
| D = | 70 PSF (3360) | 117 PSF (5600) |
| E = | 90 PSF (4310) | 150 PSF (7200) |

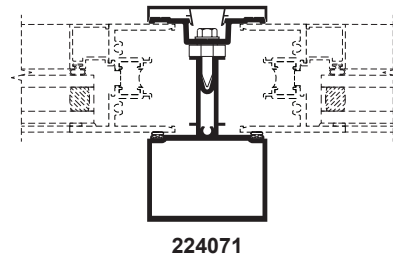




| | Allowable Stress Design Load | LRFD Ultimate Design Load |
|-----|------------------------------|---------------------------|
| A = | 20 PSF (960) | 33 PSF (1580) |
| B = | 25 PSF (1200) | 42 PSF (2000) |
| C = | 30 PSF (1440) | 50 PSF (2400) |
| D = | 40 PSF (1920) | 67 PSF (3200) |
| E = | 50 PSF (2400) | 82 PSF (4000) |



| | Allowable Stress Design Load | LRFD Ultimate Design Load |
|-----|------------------------------|---------------------------|
| A = | 30 PSF (1440) | 50 PSF (2400) |
| B = | 45 PSF (2160) | 75 PSF (3600) |
| C = | 60 PSF (2880) | 100 PSF (4790) |
| D = | 75 PSF (3600) | 125 PSF (6000) |
| E = | 90 PSF (4310) | 150 PSF (7200) |

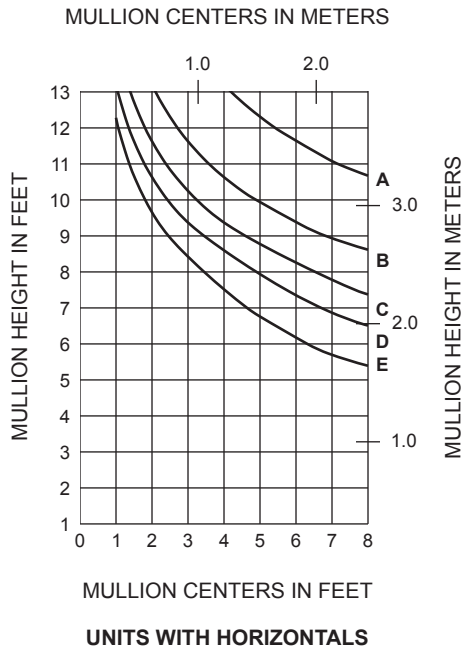


Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

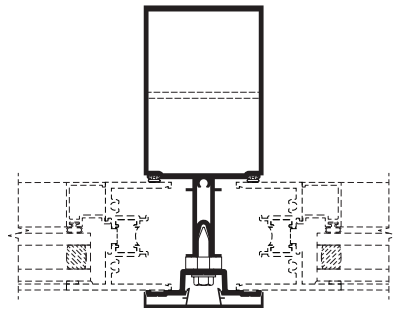
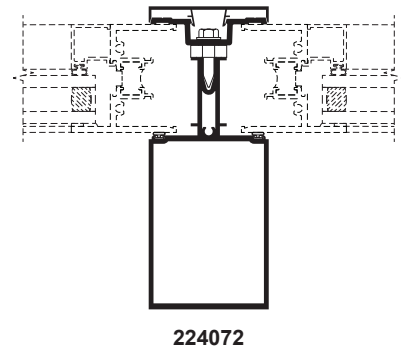
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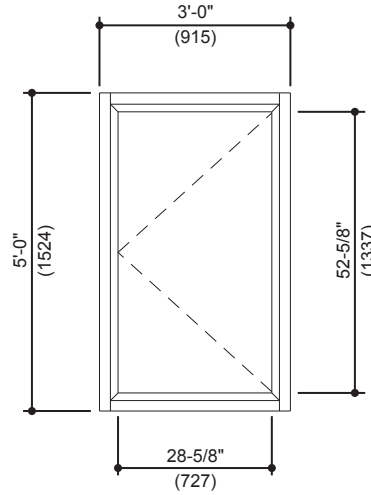


| | Allowable Stress Design Load | LRFD Ultimate Design Load |
|-----|------------------------------|---------------------------|
| A = | 20 PSF (960) | 33 PSF (1580) |
| B = | 40 PSF (1920) | 67 PSF (3200) |
| C = | 60 PSF (2880) | 100 PSF (4790) |
| D = | 80 PSF (3830) | 133 PSF (6380) |
| E = | 100 PSF (4790) | 167 PSF (7980) |



NOTE:
 MULLION PROJECTION TO THE INTERIOR AVAILABLE

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



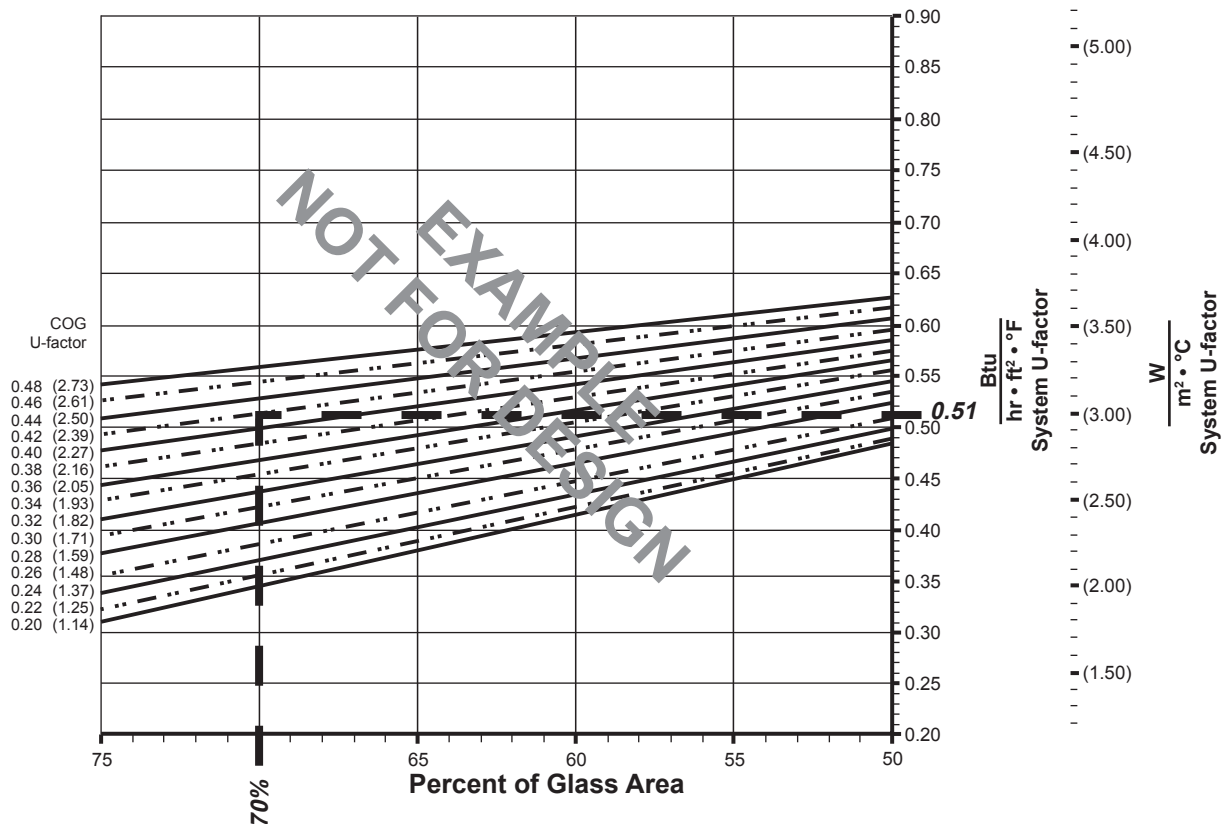
Example Glass U-Factor = 0.42 Btu/hr • ft² • °F

Total Daylight Opening = 28-5/8" • 52-5/8" = 10.46 ft²

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

Percent of Glass = (Total Daylight Opening ÷ Total Projected Area)100
 = (10.46 ÷ 15)100 = 70%

System U-factor vs Percent of Glass Area



Based on 70% glass and center of glass (COG) U-factor of 0.42
 System U-factor is equal to 0.51 Btu/hr • ft² • °F

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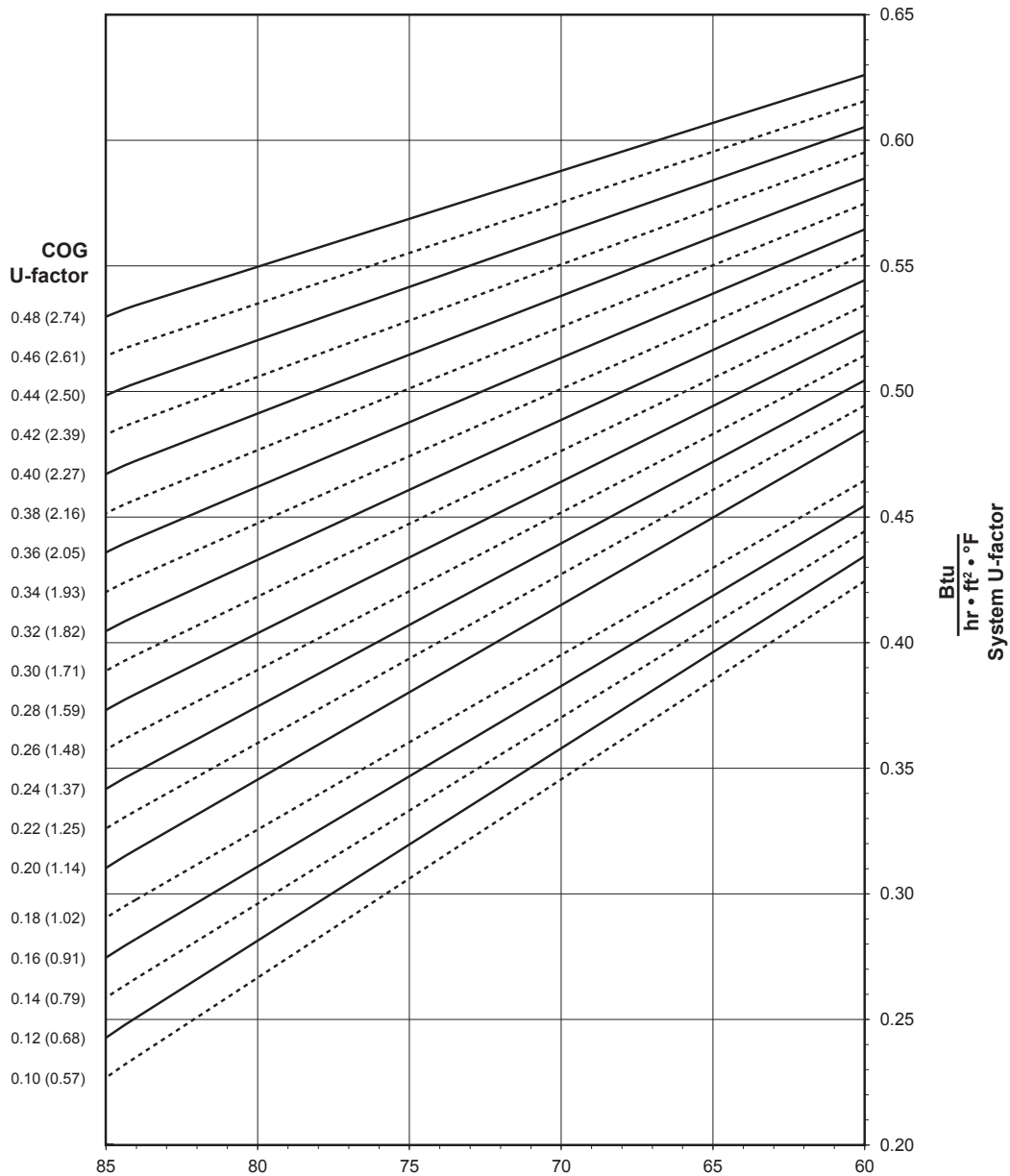
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FIXED WINDOW WITH 1" GLAZING

Note:

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

System U-factor vs Percent of Glass Area



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

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

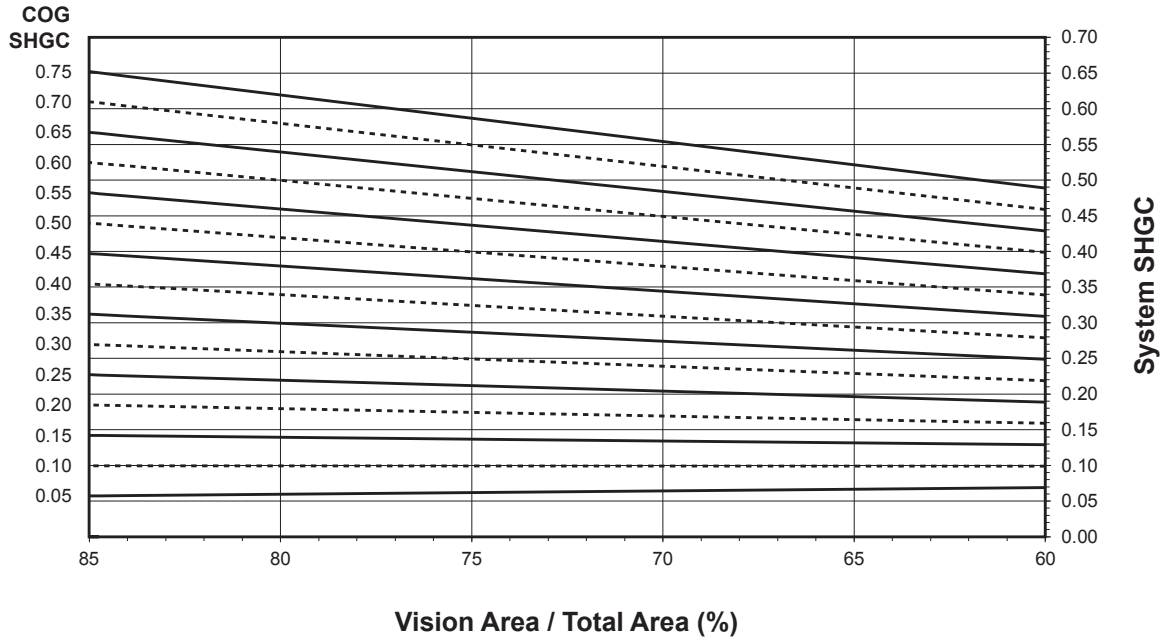
For glass values that are not listed, linear interpolation is permitted.
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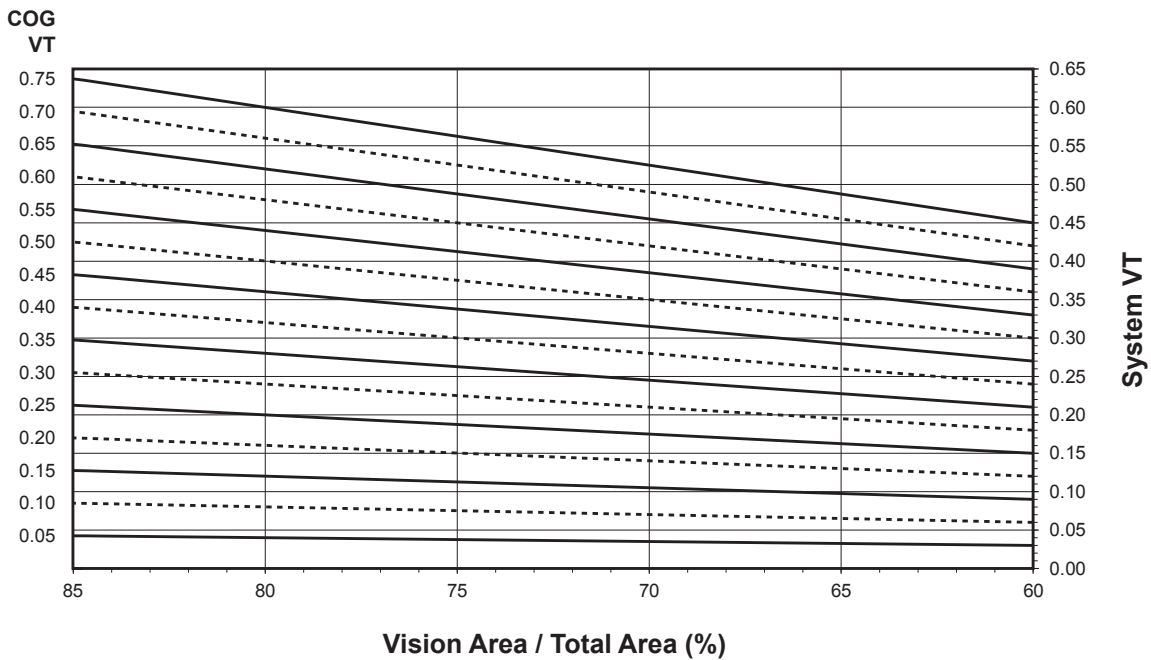
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FIXED WINDOW WITH 1" GLAZING

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

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

| Glass U-Factor ³ | Overall U-Factor ⁴ |
|-----------------------------|-------------------------------|
| 0.48 | 0.53 |
| 0.46 | 0.52 |
| 0.44 | 0.50 |
| 0.42 | 0.49 |
| 0.40 | 0.47 |
| 0.38 | 0.46 |
| 0.36 | 0.44 |
| 0.34 | 0.43 |
| 0.32 | 0.41 |
| 0.30 | 0.40 |
| 0.28 | 0.38 |
| 0.26 | 0.36 |
| 0.24 | 0.35 |
| 0.22 | 0.33 |
| 0.20 | 0.32 |
| 0.18 | 0.30 |
| 0.16 | 0.28 |
| 0.14 | 0.27 |
| 0.12 | 0.25 |
| 0.10 | 0.23 |

FIXED WINDOW WITH 1" GLAZING

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

1. U-Factors are determined in accordance with NFRC 100.
2. SHGC and VT values are determined in accordance with NFRC 200.
3. Glass properties are based on center of glass values and are obtained from your glass supplier.
4. Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 1,200 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 | 0.44 |
| 0.45 | 0.39 |
| 0.40 | 0.35 |
| 0.35 | 0.31 |
| 0.30 | 0.27 |
| 0.25 | 0.23 |
| 0.20 | 0.18 |
| 0.15 | 0.14 |
| 0.10 | 0.10 |
| 0.05 | 0.06 |

Visible Transmittance ²

| Glass VT ³ | Overall VT ⁴ |
|-----------------------|-------------------------|
| 0.75 | 0.63 |
| 0.70 | 0.59 |
| 0.65 | 0.55 |
| 0.60 | 0.50 |
| 0.55 | 0.46 |
| 0.50 | 0.42 |
| 0.45 | 0.38 |
| 0.40 | 0.34 |
| 0.35 | 0.29 |
| 0.30 | 0.25 |
| 0.25 | 0.21 |
| 0.20 | 0.17 |
| 0.15 | 0.13 |
| 0.10 | 0.08 |
| 0.05 | 0.04 |

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

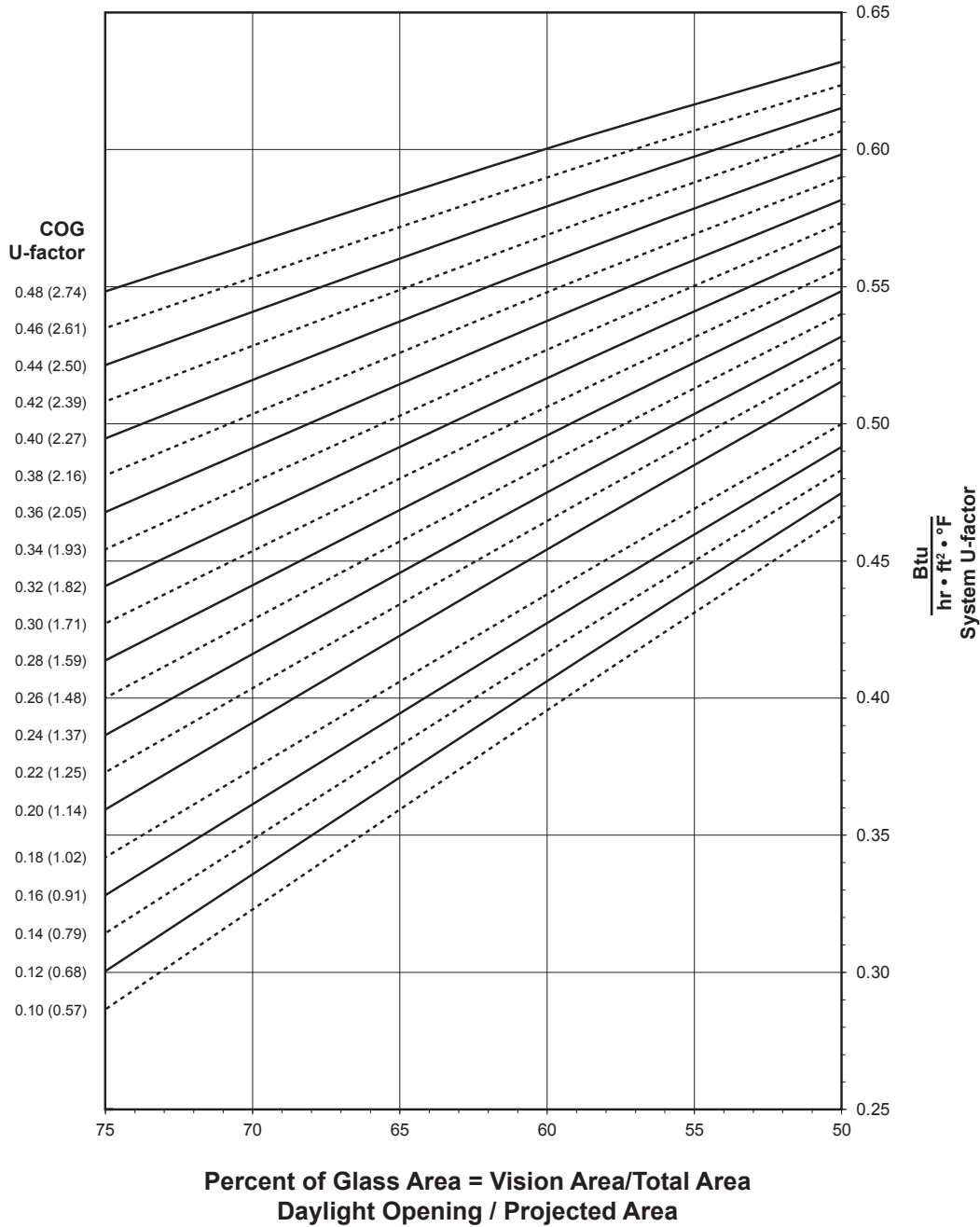
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CASEMENT INSWING / PROJECT-IN WINDOW WITH 1" GLAZING

Note:

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

System U-factor vs Percent of Glass Area



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

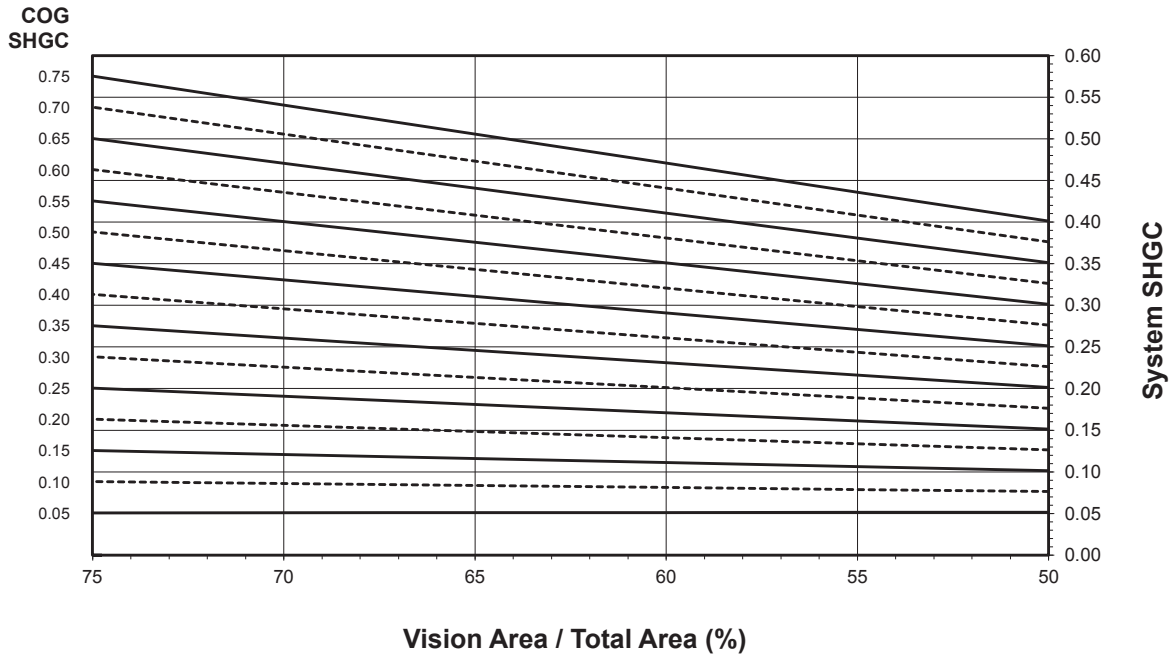
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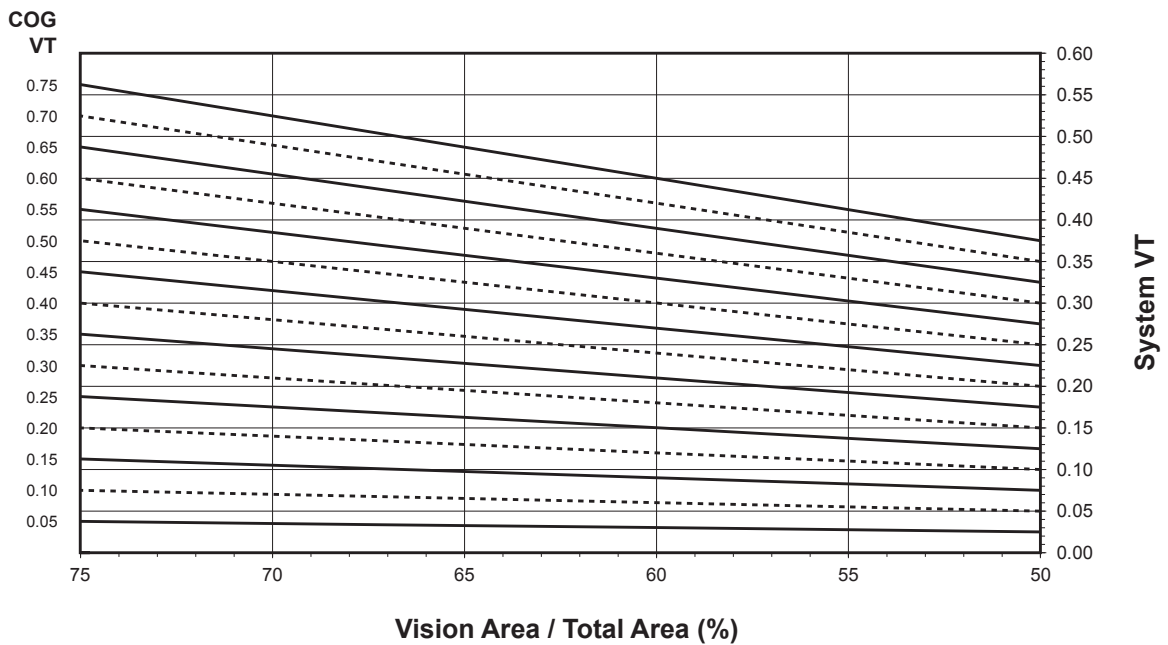
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CASEMENT INSWING / PROJECT-IN WINDOW WITH 1" GLAZING

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

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Thermal Transmittance¹ (BTU/hr • ft² • °F)

| Glass U-Factor ³ | Overall U-Factor ⁴ |
|-----------------------------|-------------------------------|
| 0.48 | 0.60 |
| 0.46 | 0.59 |
| 0.44 | 0.58 |
| 0.42 | 0.57 |
| 0.40 | 0.56 |
| 0.38 | 0.55 |
| 0.36 | 0.54 |
| 0.34 | 0.53 |
| 0.32 | 0.52 |
| 0.30 | 0.51 |
| 0.28 | 0.49 |
| 0.26 | 0.48 |
| 0.24 | 0.47 |
| 0.22 | 0.46 |
| 0.20 | 0.45 |
| 0.18 | 0.44 |
| 0.16 | 0.43 |
| 0.14 | 0.42 |
| 0.12 | 0.40 |
| 0.10 | 0.39 |

CASEMENT INSWING / PROJECT-IN WINDOW WITH 1" GLAZING

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

1. U-Factors are determined in accordance with NFRC 100.
2. SHGC and VT values are determined in accordance with NFRC 200.
3. Glass properties are based on center of glass values and are obtained from your glass supplier.
4. Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 600 mm wide by 1,500 mm high (23-5/8" by 59-1/16").

SHGC Matrix²

| Glass SHGC ³ | Overall SHGC ⁴ |
|-------------------------|---------------------------|
| 0.75 | 0.47 |
| 0.70 | 0.44 |
| 0.65 | 0.41 |
| 0.60 | 0.38 |
| 0.55 | 0.35 |
| 0.50 | 0.32 |
| 0.45 | 0.29 |
| 0.40 | 0.26 |
| 0.35 | 0.23 |
| 0.30 | 0.20 |
| 0.25 | 0.17 |
| 0.20 | 0.14 |
| 0.15 | 0.11 |
| 0.10 | 0.08 |
| 0.05 | 0.05 |

Visible Transmittance²

| Glass VT ³ | Overall VT ⁴ |
|-----------------------|-------------------------|
| 0.75 | 0.45 |
| 0.70 | 0.42 |
| 0.65 | 0.39 |
| 0.60 | 0.36 |
| 0.55 | 0.33 |
| 0.50 | 0.30 |
| 0.45 | 0.27 |
| 0.40 | 0.24 |
| 0.35 | 0.21 |
| 0.30 | 0.18 |
| 0.25 | 0.15 |
| 0.20 | 0.12 |
| 0.15 | 0.09 |
| 0.10 | 0.06 |
| 0.05 | 0.03 |

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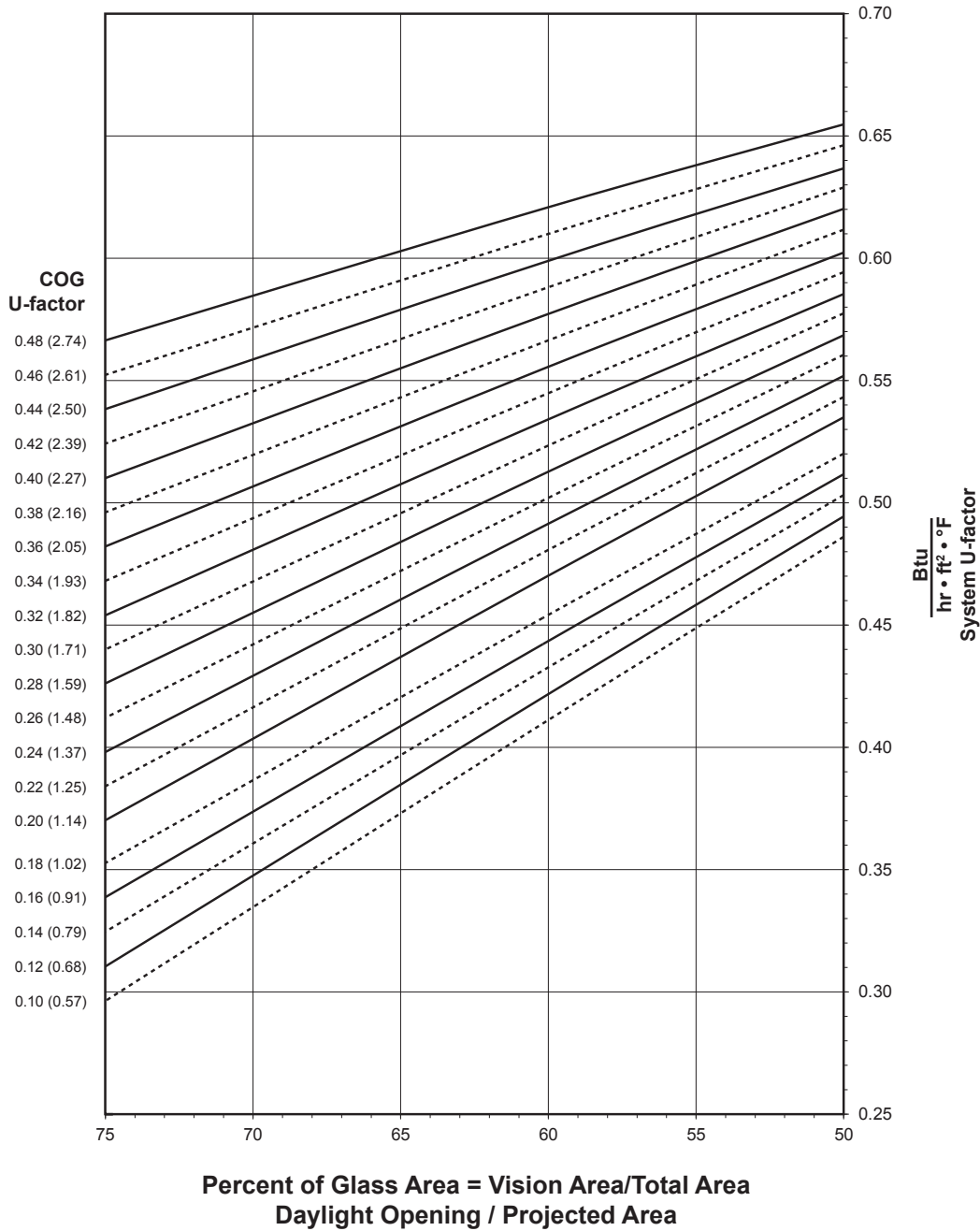
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PROJECT-OUT / CASEMENT OUTSWING WINDOW WITH 1" GLAZING

Note:

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

System U-factor vs Percent of Glass Area



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

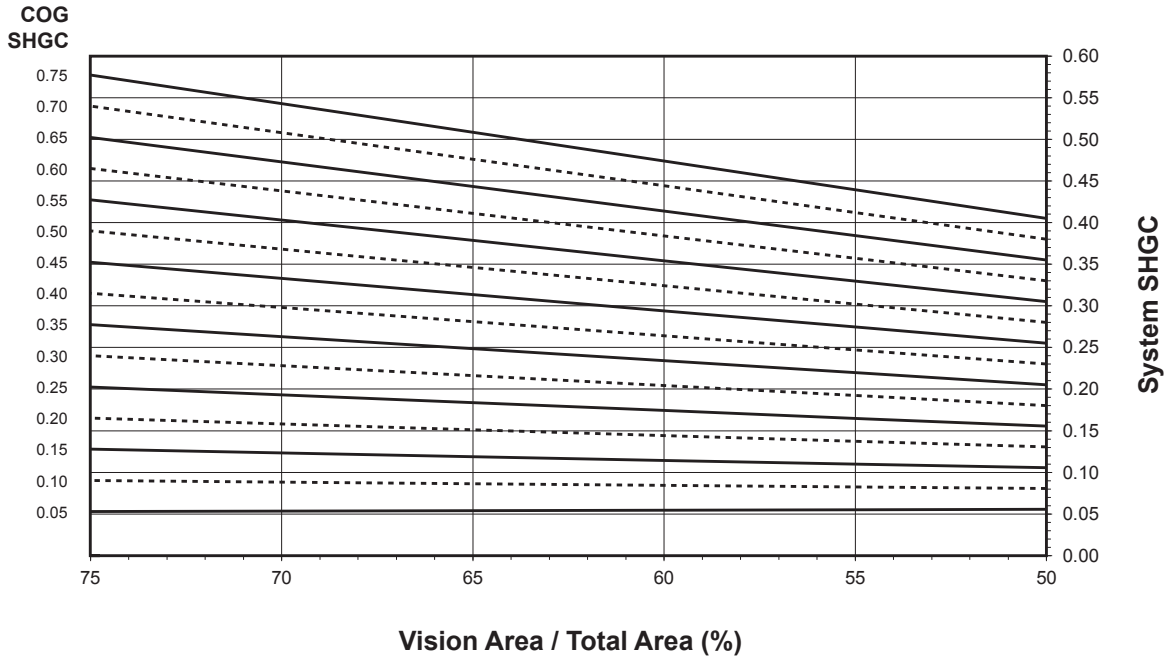
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 Glass properties are based on center of glass values and are obtained from your glass supplier.

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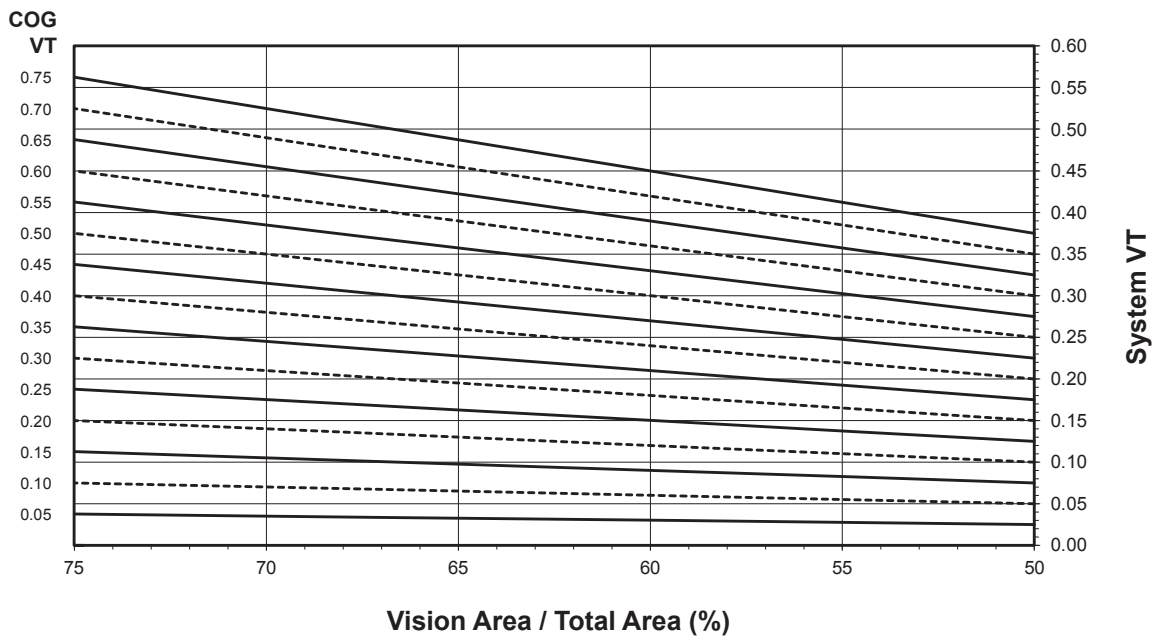
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PROJECT-OUT / CASEMENT OUTSWING WINDOW WITH 1" GLAZING

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

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Thermal Transmittance ¹ (BTU/hr • ft² • °F)

| Glass U-Factor ³ | Overall U-Factor ⁴ |
|-----------------------------|-------------------------------|
| 0.48 | 0.62 |
| 0.46 | 0.61 |
| 0.44 | 0.60 |
| 0.42 | 0.59 |
| 0.40 | 0.58 |
| 0.38 | 0.57 |
| 0.36 | 0.55 |
| 0.34 | 0.54 |
| 0.32 | 0.53 |
| 0.30 | 0.52 |
| 0.28 | 0.51 |
| 0.26 | 0.50 |
| 0.24 | 0.49 |
| 0.22 | 0.48 |
| 0.20 | 0.47 |
| 0.18 | 0.45 |
| 0.16 | 0.44 |
| 0.14 | 0.43 |
| 0.12 | 0.42 |
| 0.10 | 0.41 |

PROJECT-OUT / CASEMENT OUTSWING WINDOW WITH 1" GLAZING

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

1. U-Factors are determined in accordance with NFRC 100.
2. SHGC and VT values are determined in accordance with NFRC 200.
3. Glass properties are based on center of glass values and are obtained from your glass supplier.
4. Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 1,500 mm wide by 600 mm high (59-1/16" by 23-5/8").

SHGC Matrix ²

| Glass SHGC ³ | Overall SHGC ⁴ |
|-------------------------|---------------------------|
| 0.75 | 0.48 |
| 0.70 | 0.45 |
| 0.65 | 0.42 |
| 0.60 | 0.39 |
| 0.55 | 0.36 |
| 0.50 | 0.33 |
| 0.45 | 0.29 |
| 0.40 | 0.26 |
| 0.35 | 0.23 |
| 0.30 | 0.20 |
| 0.25 | 0.17 |
| 0.20 | 0.14 |
| 0.15 | 0.11 |
| 0.10 | 0.08 |
| 0.05 | 0.05 |

Visible Transmittance ²

| Glass VT ³ | Overall VT ⁴ |
|-----------------------|-------------------------|
| 0.75 | 0.45 |
| 0.70 | 0.42 |
| 0.65 | 0.39 |
| 0.60 | 0.36 |
| 0.55 | 0.33 |
| 0.50 | 0.30 |
| 0.45 | 0.27 |
| 0.40 | 0.24 |
| 0.35 | 0.21 |
| 0.30 | 0.18 |
| 0.25 | 0.15 |
| 0.20 | 0.12 |
| 0.15 | 0.09 |
| 0.10 | 0.06 |
| 0.05 | 0.03 |

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

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