

<b>8410TL FIXED WINDOW .....</b>	<b>3-15</b>
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<b>8450TL DOUBLE HUNG WINDOW.....</b>	<b>24-31</b>
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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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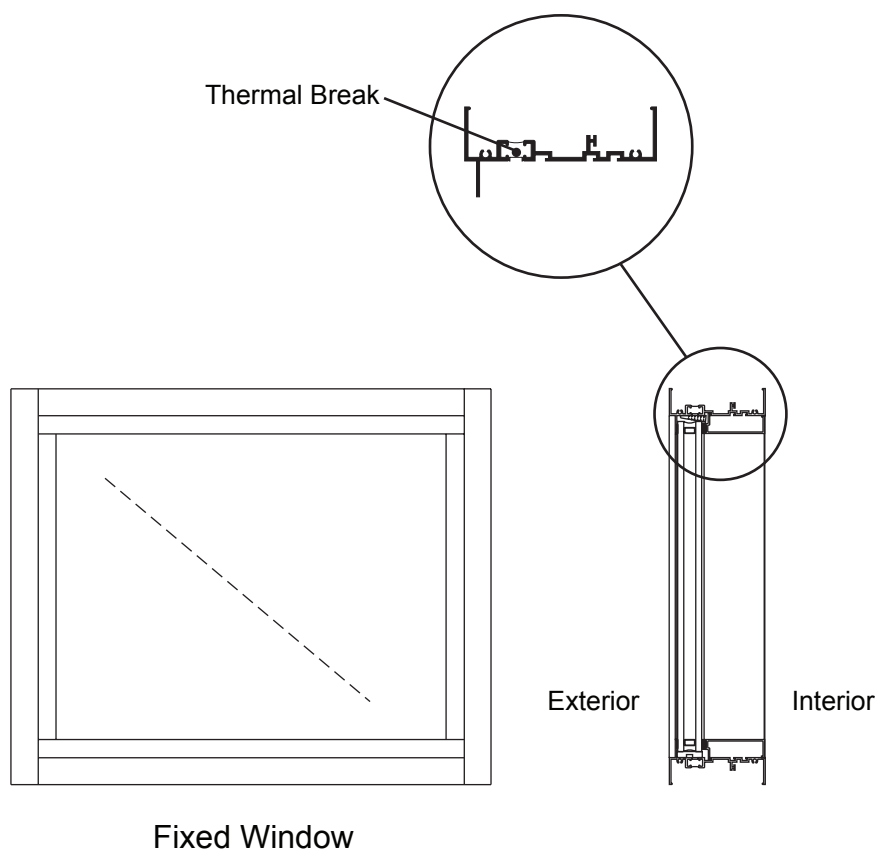
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## **Features**

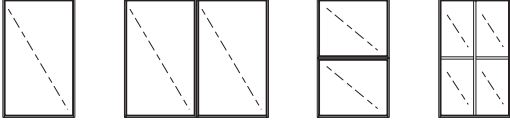
- Architectural Grade Window
- Series 8410TL Standard Design
- IsoLock™ Thermal Break
- Screw and Spline Frame Corner Joinery
- Factory Silicone Glazed
- Interior Applied Glazing Bead with Bulb Gasket
- Architectural Anodized Finishes and Applied Coatings
- Two Year Manufacturer's Warranty

## **Optional Features**

- Bevel Face
- Fixed Offset Hung Replica



For specific product applications,  
consult your Kawneer representative.

<b>CLASS and GRADE</b>	Architectural Grade Window F-HC100 / F-AW100 / AW-PG100-FW
<b>TESTING STANDARD</b>	AAMA / WDMA / CSA 101 / I.S. 2 / A440 (NAFS)
<b>FRAME DEPTH</b>	4" (101.6) Overall Frame Depth
<b>TYPICAL WALL THICKNESS</b>	.070 (1.8) Nominal
<b>TYPICAL MAXIMUM SIZE</b>	60" x 99" (1,524 x 2,514.6)
<b>TYPICAL MINIMUM SIZE</b>	12" x 12" (304.8 x 304.8)
<b>TYPICAL CONFIGURATIONS</b>	
<b>STANDARD INFILL OPTIONS</b>	1/4" (6.4), 3/4" (19.1) with Glazed-In Muntin Grid, 1" (25.4), and 1-1/2" (38.1)
<b>STANDARD HARDWARE</b>	Not Applicable
<b>OPTIONAL HARDWARE</b>	Not Applicable
<b>OTHER OPTIONS</b>	Exterior Glazed-In Muntin Grids Exterior Glazing Offset Glazing Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Mullions Structural Mullions Vertically or Horizontally Stacked

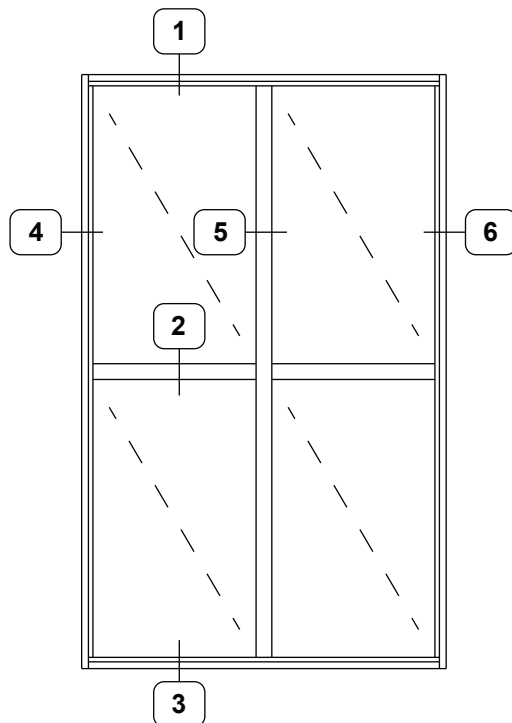
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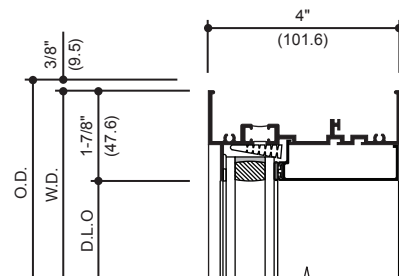
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### 8410TL FIXED WINDOW True Horizontal and Vertical 1" (25.4) Infill

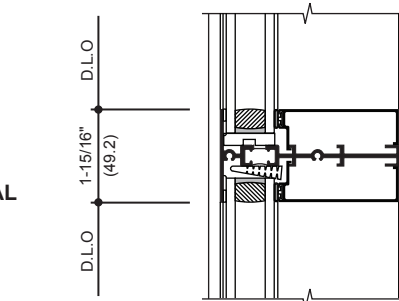


TYPICAL ELEVATION

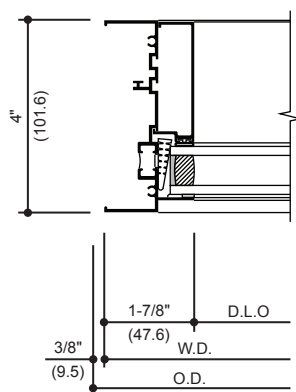
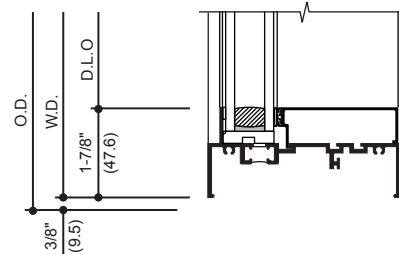
1  
FIXED  
HEAD



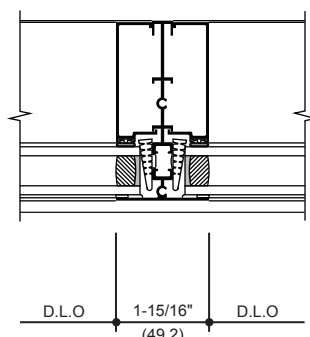
2  
TRUE  
HORIZONTAL



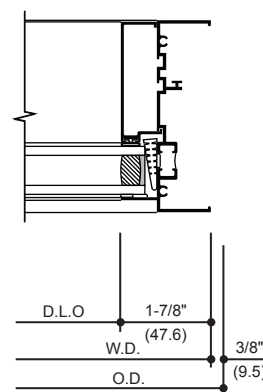
3  
FIXED  
SILL



4  
FIXED  
JAMB



5  
TRUE  
VERTICAL



6  
FIXED  
JAMB

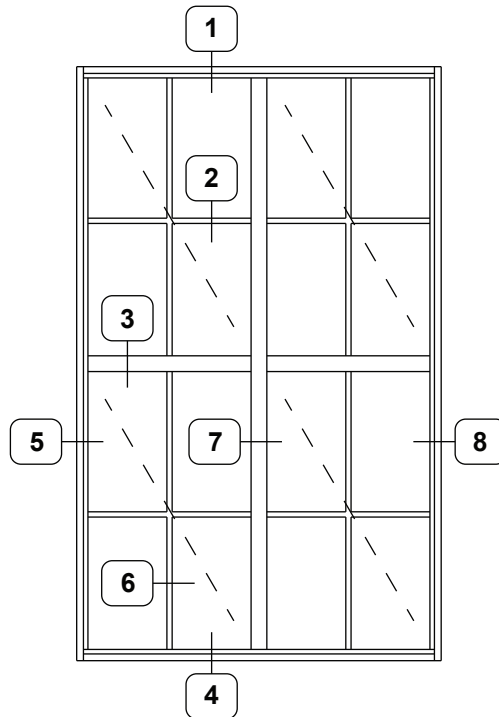
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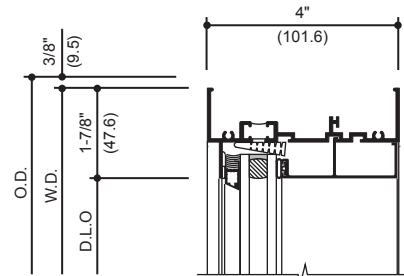
Additional information and CAD details are available at [www.kawneer.com](http://www.kawneer.com)

**8410TL FIXED WINDOW**  
**True Horizontal and Vertical**  
**with Glazed-In Muntins**  
**3/4" (19.1) Infill**

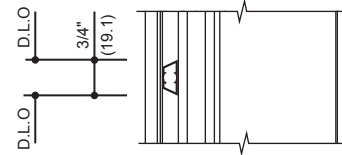


TYPICAL ELEVATION

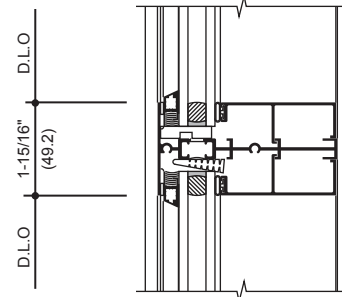
**1**  
**FIXED**  
**HEAD**



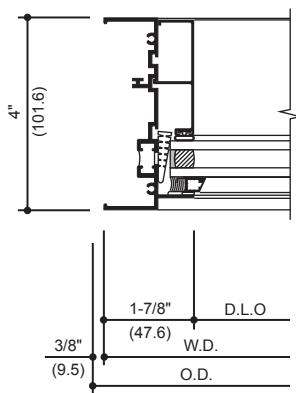
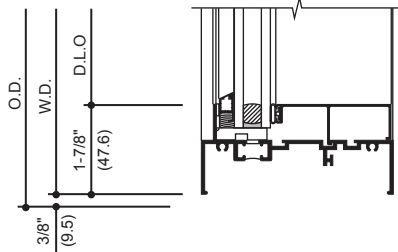
**2**  
**GLAZED-IN**  
**MUNTIN**



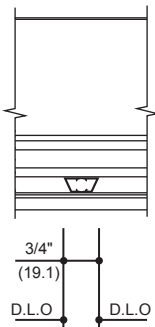
**3**  
**TRUE**  
**HORIZONTAL**



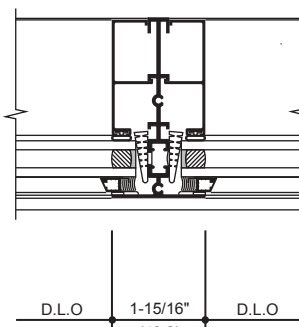
**4**  
**FIXED**  
**SILL**



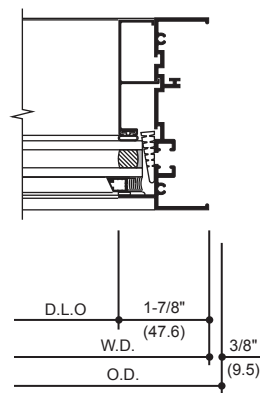
**5**  
**FIXED**  
**JAMB**



**6**  
**GLAZED-IN**  
**MUNTIN**



**7**  
**TRUE**  
**VERTICAL**



**8**  
**FIXED**  
**JAMB**

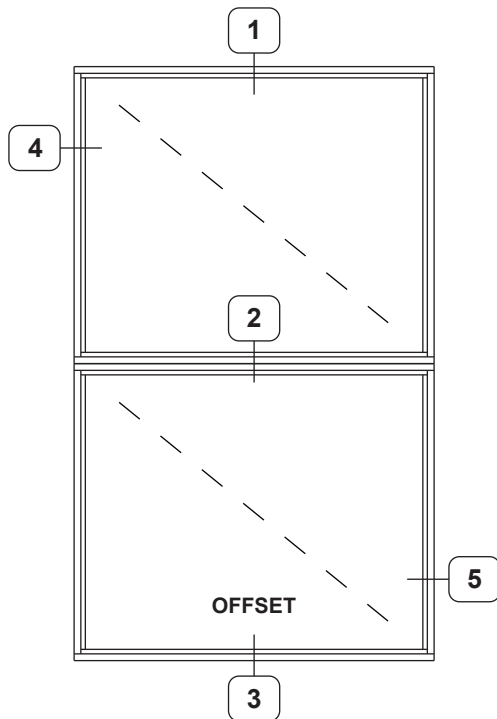
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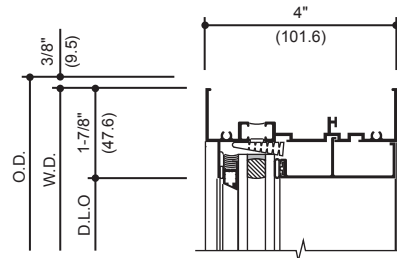
Additional information and CAD details are available at [www.kawneer.com](http://www.kawneer.com)

## 8410TL FIXED WINDOW Stacked Over Offset Fixed 3/4" (19.1) Infill

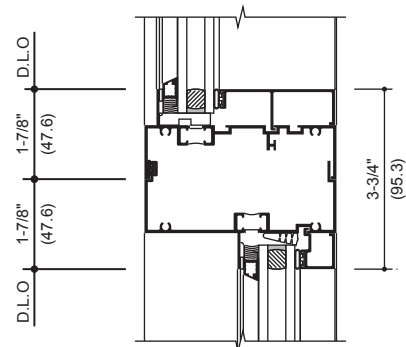


TYPICAL ELEVATION

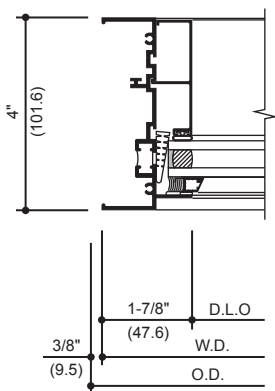
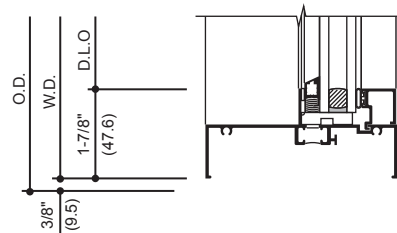
**1  
FIXED  
HEAD**



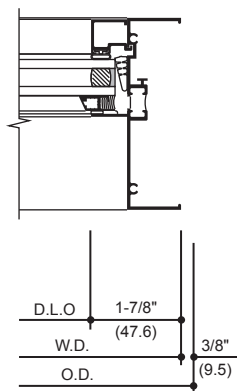
**2  
STACKED  
HORIZONTAL**



**3  
FIXED  
OFFSET  
SILL**



**4  
FIXED  
JAMB**



**5  
FIXED  
OFFSET  
JAMB**

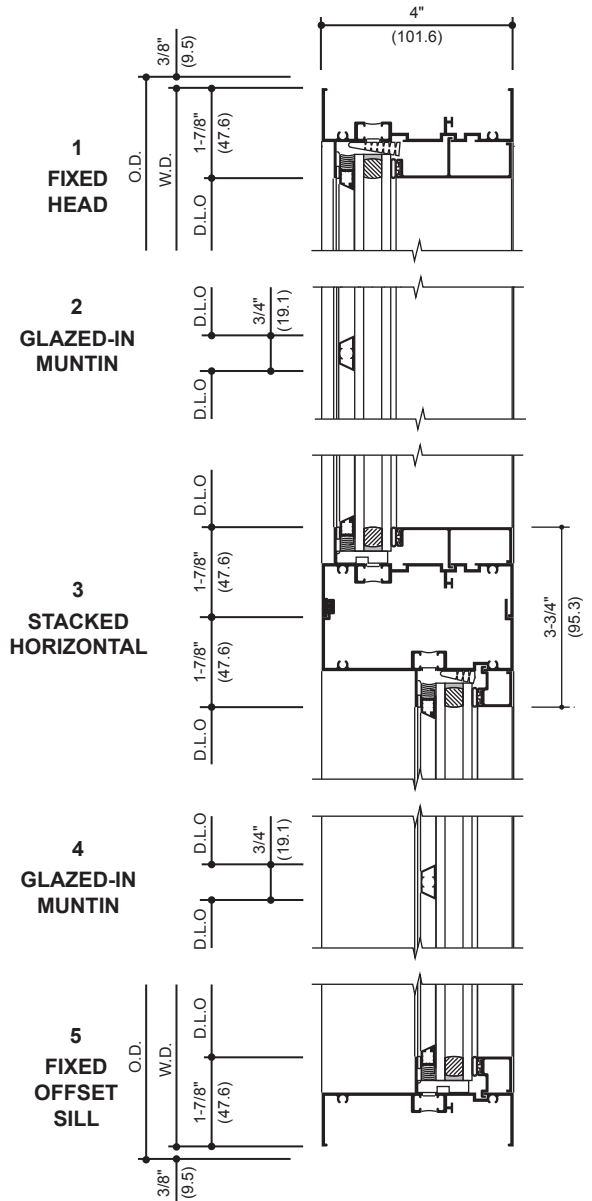
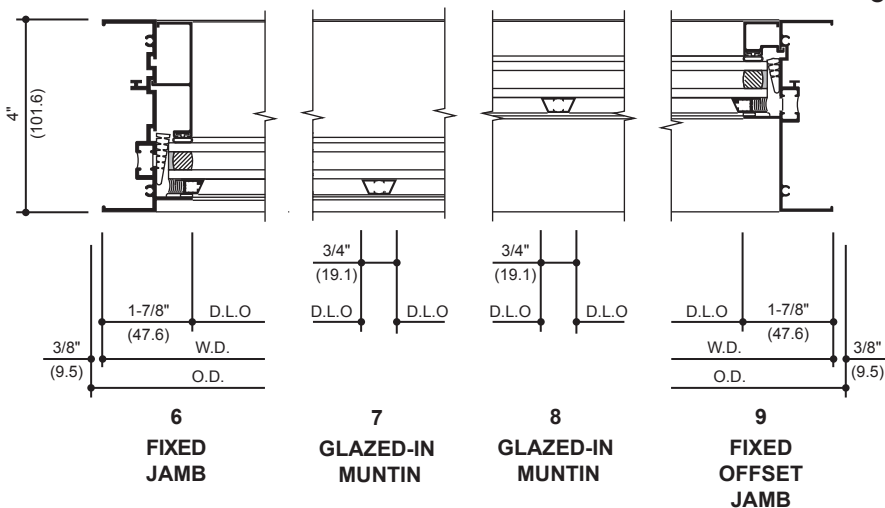
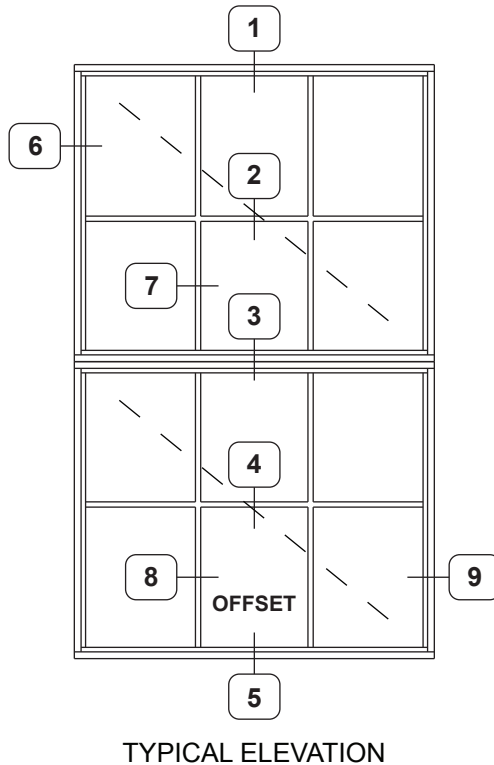
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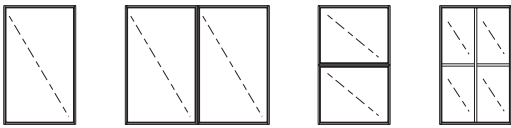
**8410TL FIXED WINDOW**  
**Stacked Over Offset Fixed**  
**with Glazed-In Muntins**  
**3/4" (19.1) Infill**



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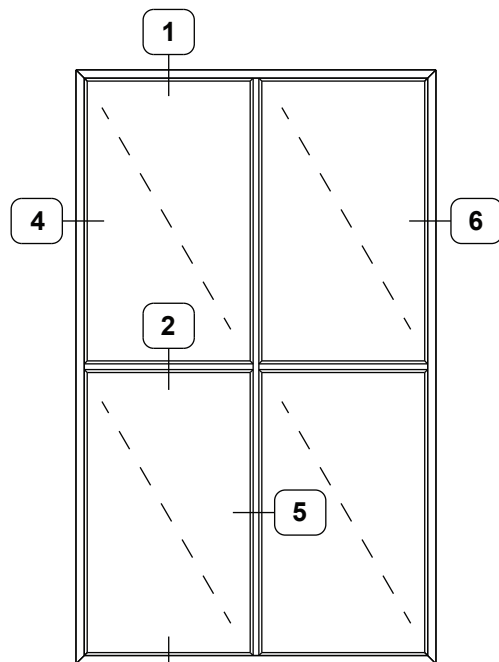
<b>CLASS and GRADE</b>	Architectural Grade Window F-HC100 / F-AW100 / AW-PG100-FW
<b>TESTING STANDARD</b>	AAMA / WDMA / CSA 101 / I.S. 2 / A440 (NAFS)
<b>FRAME DEPTH</b>	4" (101.6) Overall Frame Depth
<b>TYPICAL WALL THICKNESS</b>	.070 (1.8) Nominal
<b>TYPICAL MAXIMUM SIZE</b>	60" x 99" (1,524 x 2,514.6)
<b>TYPICAL MINIMUM SIZE</b>	12" x 12" (304.8 x 304.8)
<b>TYPICAL CONFIGURATIONS</b>	
<b>STANDARD INFILL OPTIONS</b>	1" (25.4)
<b>STANDARD HARDWARE</b>	Not Applicable
<b>OPTIONAL HARDWARE</b>	Not Applicable
<b>OTHER OPTIONS</b>	Applied Muntin Grids Offset Glazing Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Mullions Structural Mullions Vertically or Horizontally Stacked

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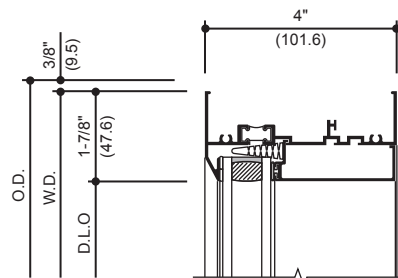
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### 8410TL FIXED WINDOW True Horizontal and Vertical 1" (25.4) Infill

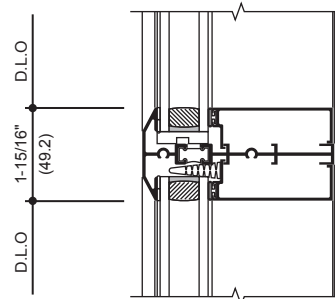


TYPICAL ELEVATION

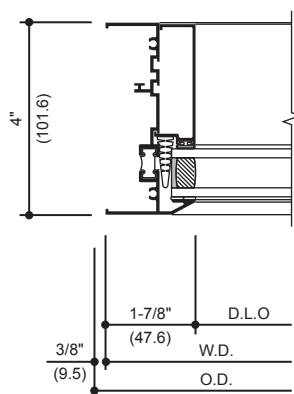
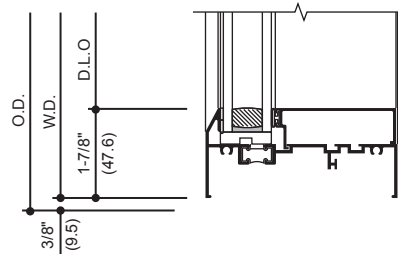
1  
FIXED  
HEAD



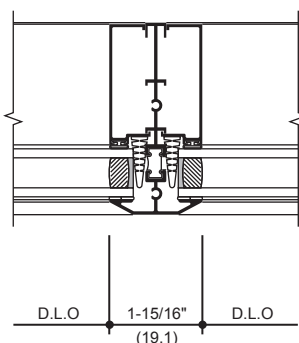
2  
TRUE  
HORIZONTAL



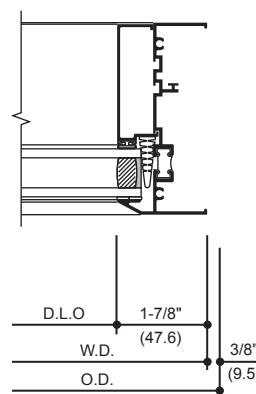
3  
FIXED  
SILL



4  
FIXED  
JAMB



5  
TRUE  
VERTICAL



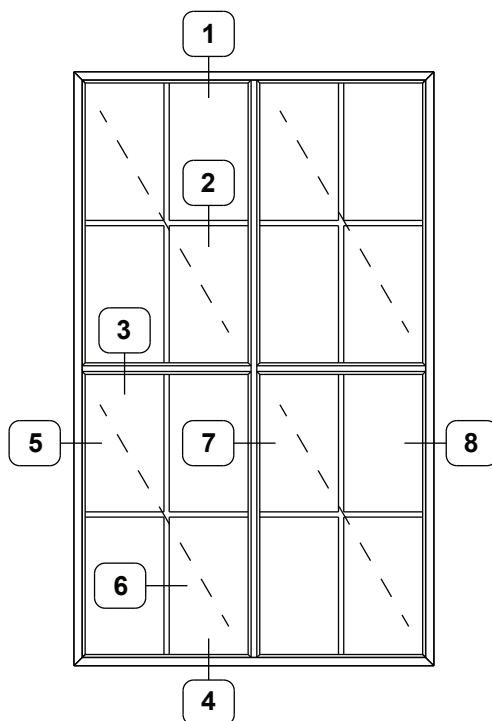
6  
FIXED  
JAMB

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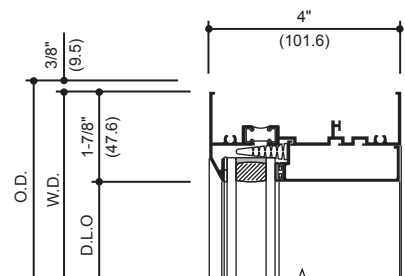
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**8410TL FIXED WINDOW**  
**True Horizontal and Vertical**  
**with Applied Muntins**  
**1" (25.4) Infill**

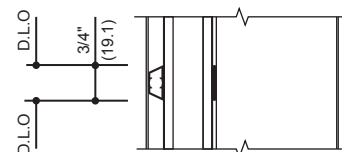


TYPICAL ELEVATION

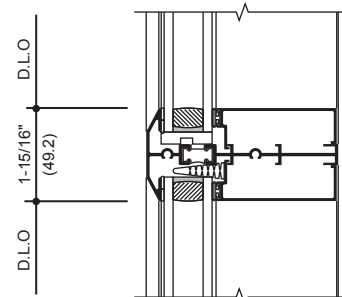
**1**  
**FIXED**  
**HEAD**



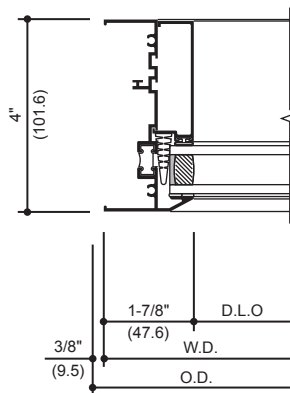
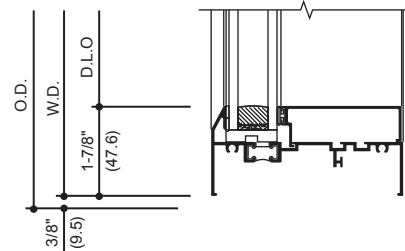
**2**  
**APPLIED**  
**MUNTIN**



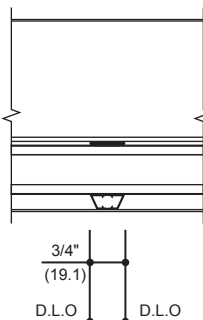
**3**  
**TRUE**  
**HORIZONTAL**



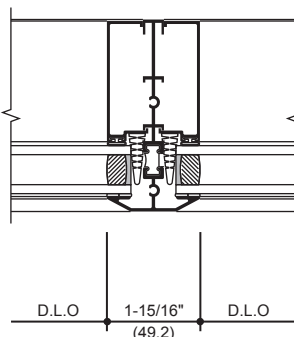
**4**  
**FIXED**  
**SILL**



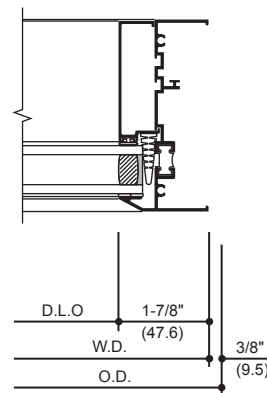
**5**  
**FIXED**  
**JAMB**



**6**  
**APPLIED**  
**MUNTIN**



**7**  
**TRUE**  
**VERTICAL**



**8**  
**FIXED**  
**JAMB**

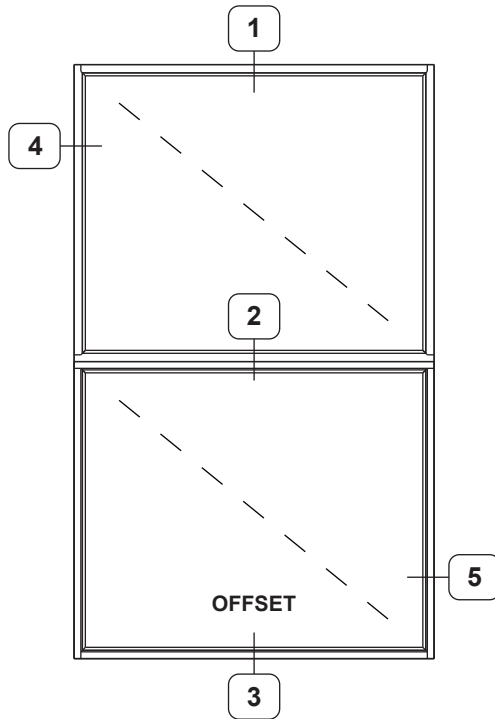
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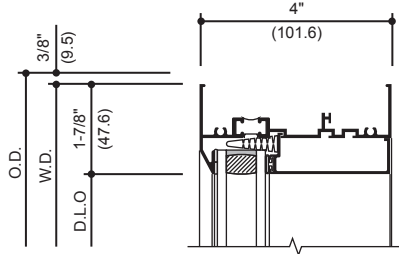
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**8410TL FIXED WINDOW**  
**Stacked Over Offset Fixed**  
**1" (25.4) Infill**

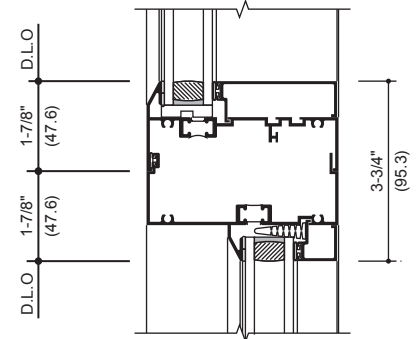


TYPICAL ELEVATION

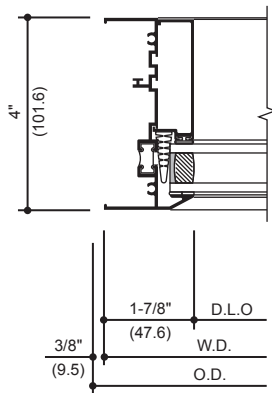
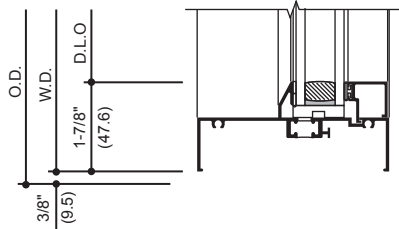
**1**  
**FIXED**  
**HEAD**



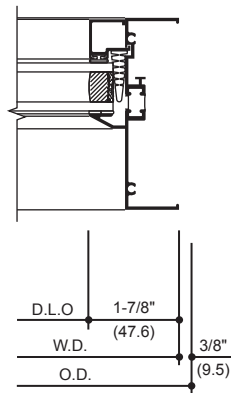
**2**  
**STACKED**  
**HORIZONTAL**



**3**  
**FIXED**  
**OFFSET**  
**SILL**



**4**  
**FIXED**  
**JAMB**



**5**  
**FIXED**  
**OFFSET**  
**JAMB**

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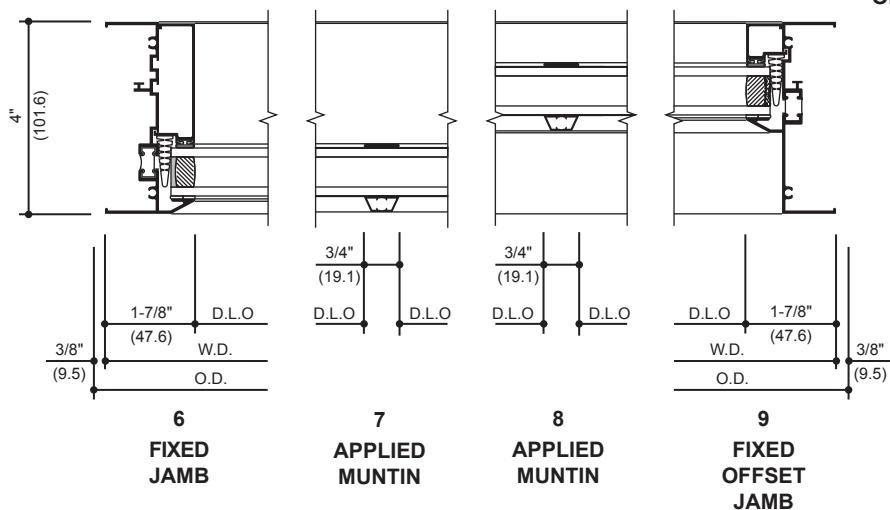
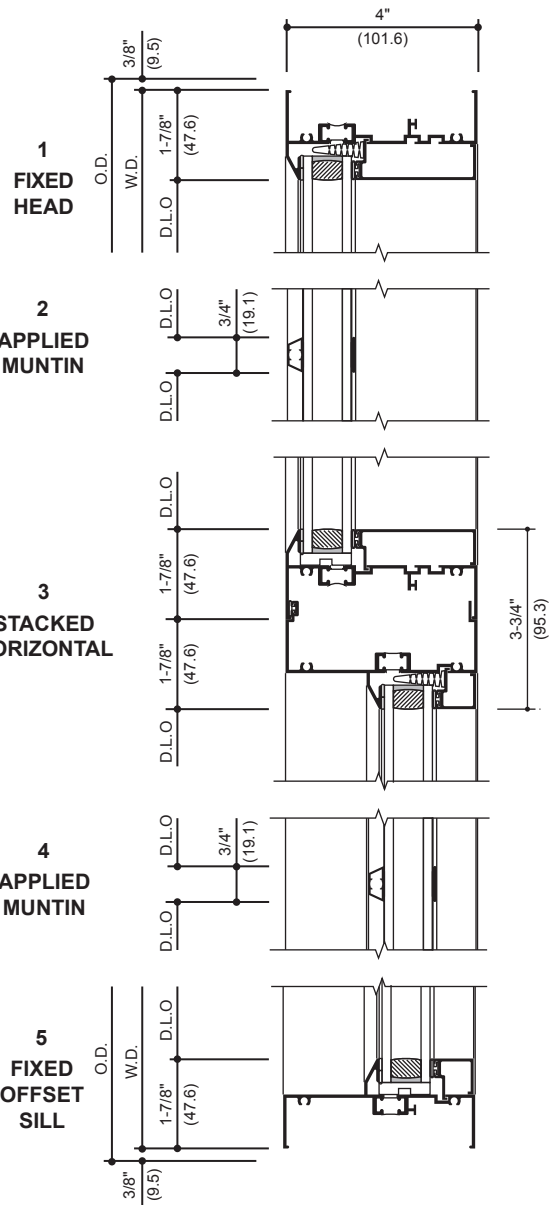
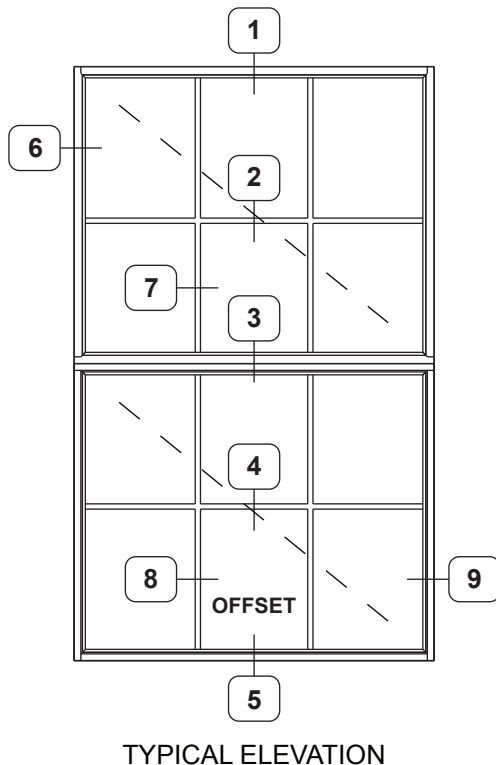
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**8410TL FIXED WINDOW**  
**Stacked Over Offset Fixed**  
**with Applied Muntins**  
**1" (25.4) Infill**



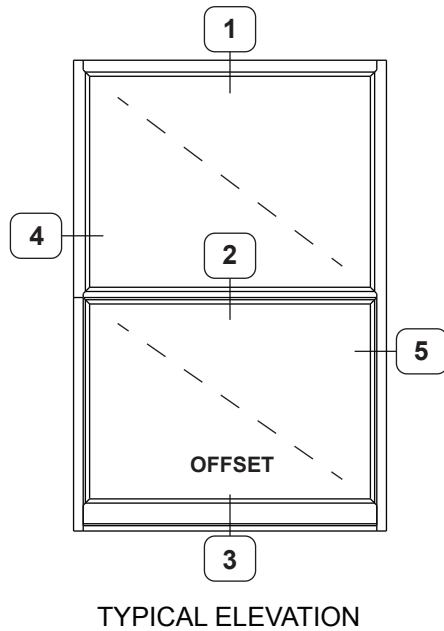
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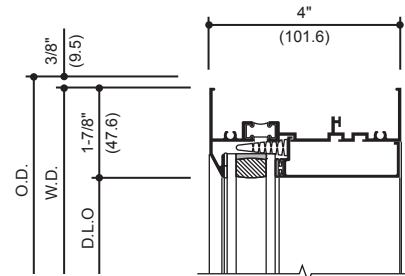
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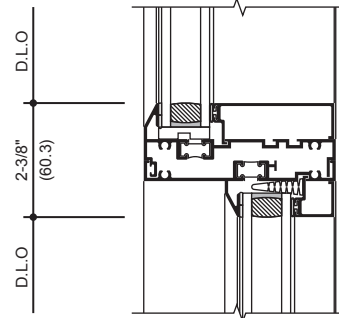
**8410TL FIXED WINDOW**  
**Offset Horizontal / Replica Sill**  
**1" (25.4) Infill**



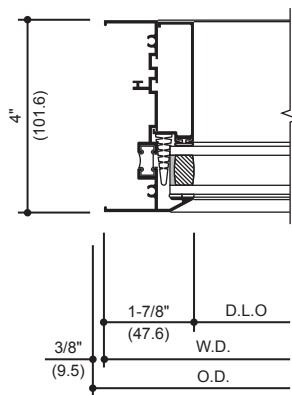
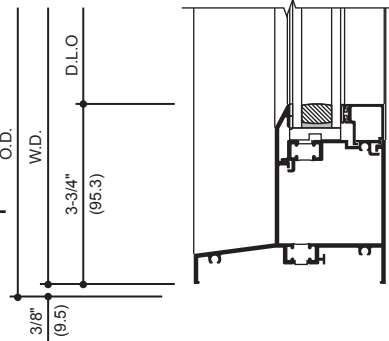
**1**  
**FIXED**  
**HEAD**



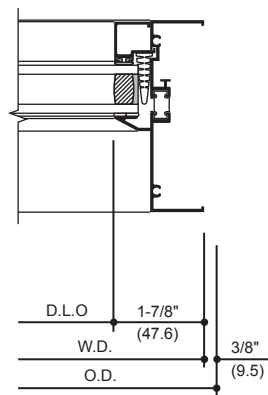
**2**  
**OFFSET**  
**HORIZONTAL**



**3**  
**FIXED**  
**REPLICA**  
**HUNG SILL**



**4**  
**FIXED**  
**JAMB**



**5**  
**FIXED**  
**OFFSET**  
**JAMB**

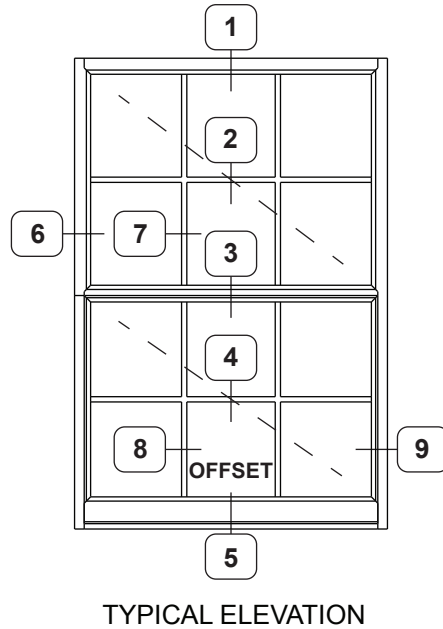
Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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

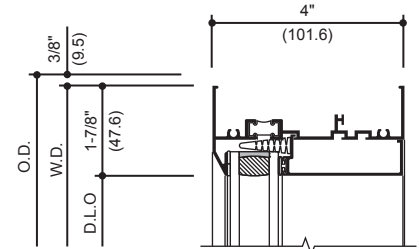
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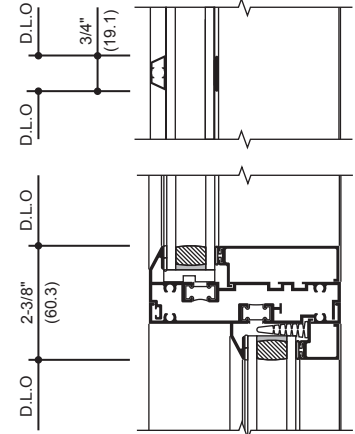
**8410TL FIXED WINDOW**  
**Offset Horizontal / Replica Sill**  
**with Applied Muntins**  
**1" (25.4) Infill**



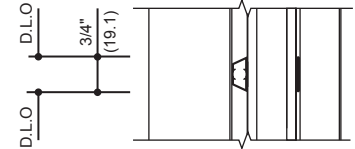
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**FIXED**  
**HEAD**



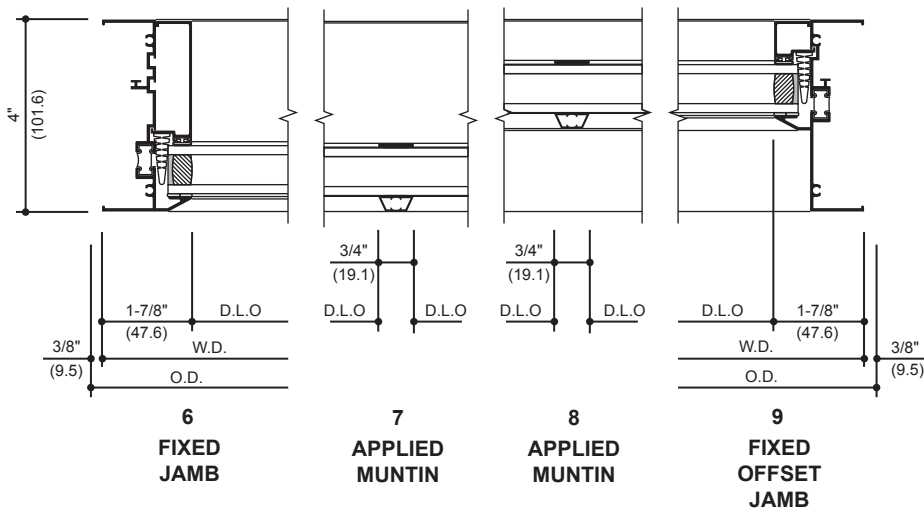
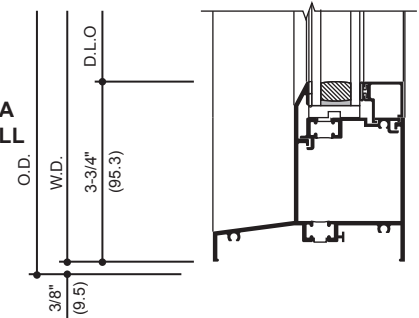
**3**  
**OFFSET**  
**HORIZONTAL**



**4**  
**APPLIED**  
**MUNTIN**



**5**  
**FIXED**  
**REPLICA**  
**HUNG SILL**



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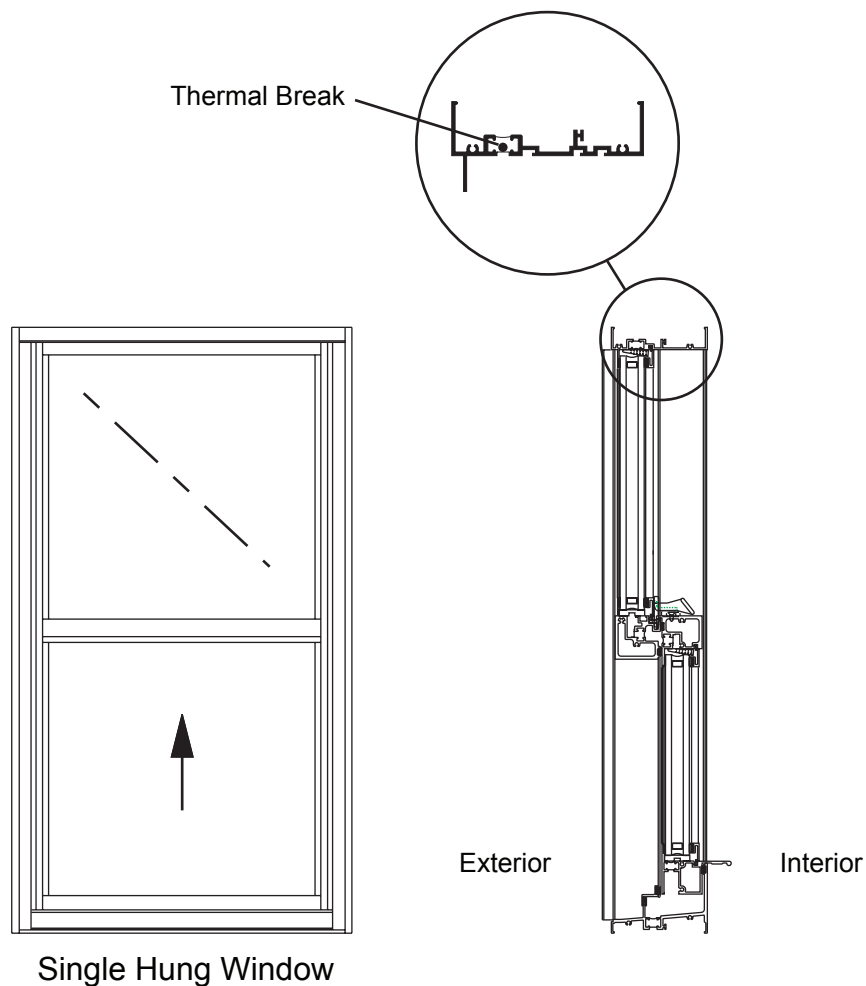
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**Features**

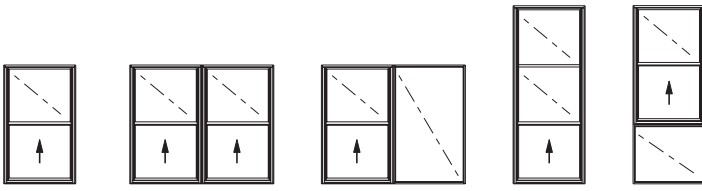
- Architectural Grade Window
- Series 8430TL Standard Design
- IsoLock™ Thermal Break
- Screw and Spline Frame and Sash Corner Joinery
- Factory Silicone Glazed
- Interior Applied Glazing Bead with Bulb Gasket
- Architectural Anodized Finishes and Applied Coatings
- Two Year Manufacturer's Warranty

**Optional Features**

- Bevel Face
- Class 5 Block and Tackle or Spiral Balance



For specific product applications,  
consult your Kawneer representative.

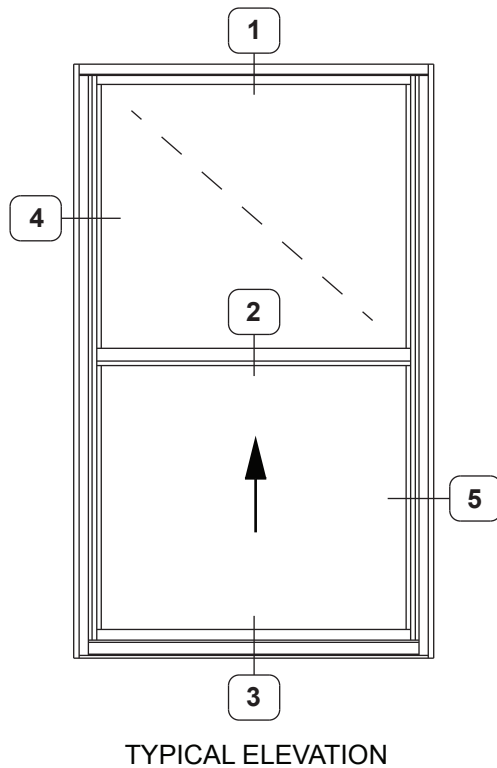
<b>CLASS and GRADE</b>	Architectural Grade Window H-HC70 / H-AW70 / AW-PG70-H
<b>TESTING STANDARD</b>	AAMA / WDMA / CSA 101 / I.S. 2 / A440 (NAFS)
<b>FRAME DEPTH</b>	4" (101.6) Overall Frame Depth
<b>TYPICAL WALL THICKNESS</b>	.070 (1.8) Nominal
<b>TYPICAL MAXIMUM SIZE</b>	60" x 99" (1,524 x 2,514.6)
<b>TYPICAL MINIMUM SIZE</b>	20" x 33" (508 x 838.2)
<b>TYPICAL CONFIGURATIONS</b>	
<b>STANDARD INFILL OPTIONS</b>	1/4" (6.4), 3/4" (19.1) with Glazed-In Muntin Grid, and 1" (25.4)
<b>STANDARD HARDWARE</b>	Heavy Duty Balances Cast White Bronze Sweep Locks
<b>OPTIONAL HARDWARE</b>	Aluminum Auto Lock Class 5 Block and Tackle or Spiral Balance
<b>OTHER OPTIONS</b>	Exterior Glazed-In Muntin Grids Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Mullions Structural Mullions Vertically or Horizontally Stacked Sill for 10 PSF or 15 PSF Water Performance Insect Screens

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.

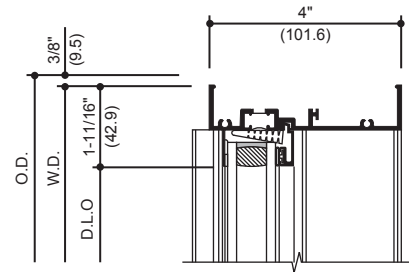
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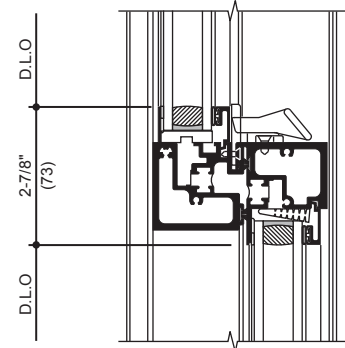
## 8430TL SINGLE HUNG WINDOW 1" (25.4) Infill



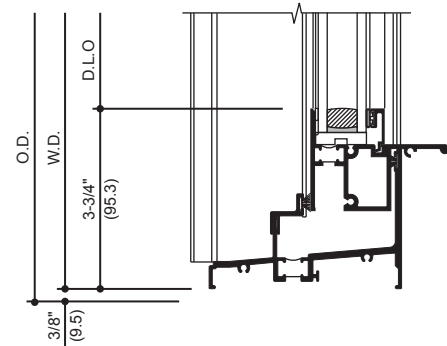
1  
HEAD



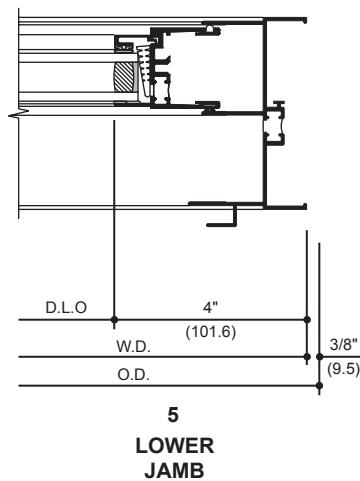
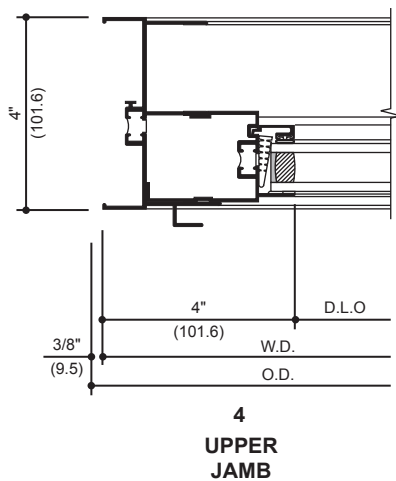
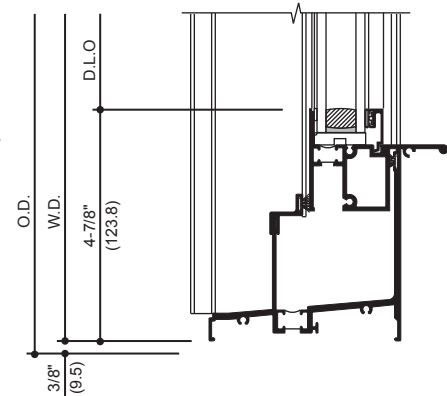
2  
HORIZONTAL



3  
SILL  
10 PSF



3A  
SILL  
15 PSF



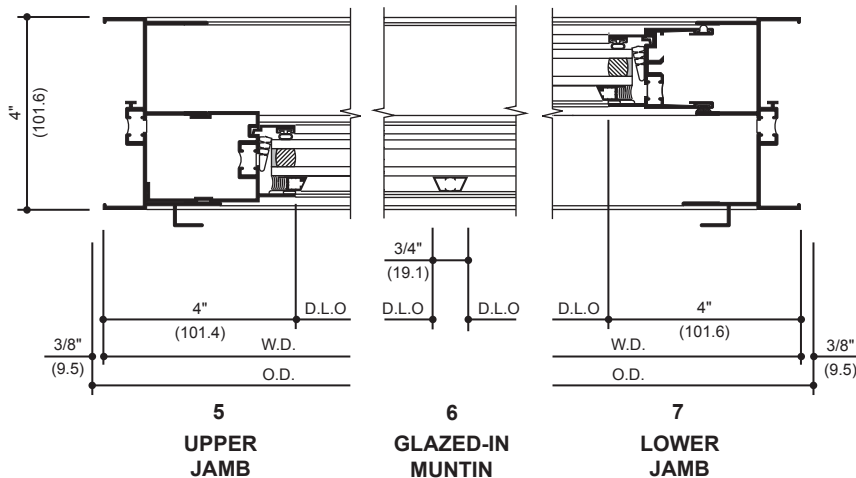
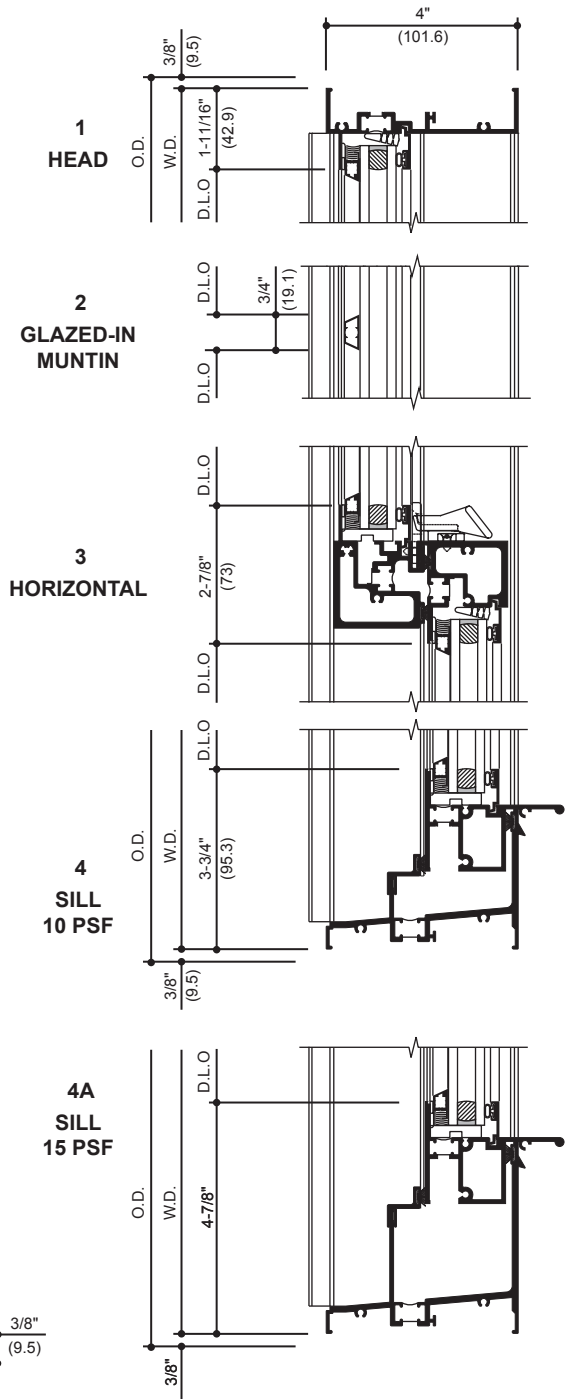
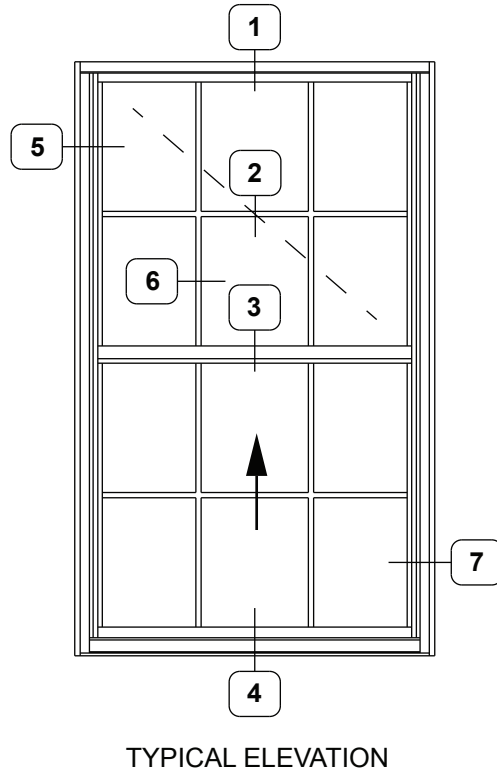
Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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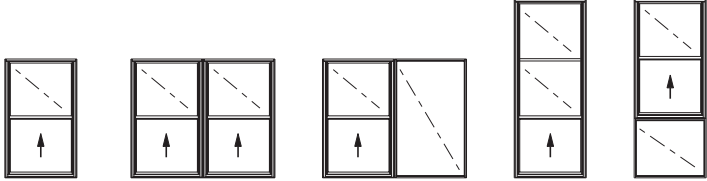
Additional information and CAD details are available at [www.kawneer.com](http://www.kawneer.com)

### 8430TL SINGLE HUNG WINDOW with Glazed-In Muntins 3/4" (19.1) Infill



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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<b>CLASS and GRADE</b>	Architectural Grade Window H-HC70 / H-AW70 / AW-PG70-H
<b>TESTING STANDARD</b>	AAMA / WDMA / CSA 101 / I.S. 2 / A440 (NAFS)
<b>FRAME DEPTH</b>	4" (101.6) Overall Frame Depth
<b>TYPICAL WALL THICKNESS</b>	.070 (1.8) Nominal
<b>TYPICAL MAXIMUM SIZE</b>	60" x 99" (1,524 x 2,514.6)
<b>TYPICAL MINIMUM SIZE</b>	20" x 33" (508 x 838.2)
<b>TYPICAL CONFIGURATIONS</b>	
<b>STANDARD INFILL OPTIONS</b>	1" (25.4)
<b>STANDARD HARDWARE</b>	Heavy Duty Balances Cast White Bronze Sweep Locks
<b>OPTIONAL HARDWARE</b>	Aluminum Auto Lock Class 5 Block and Tackle or Spiral Balance
<b>OTHER OPTIONS</b>	Applied Muntin Grids Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Mullions Structural Mullions Vertically or Horizontally Stacked Sill for 10 PSF or 15 PSF Water Performance Insect Screens

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.

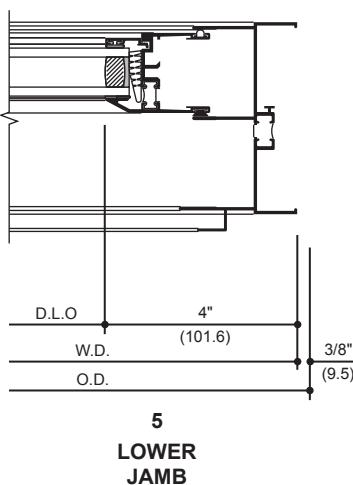
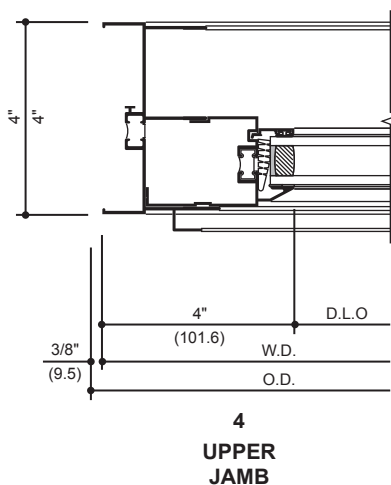
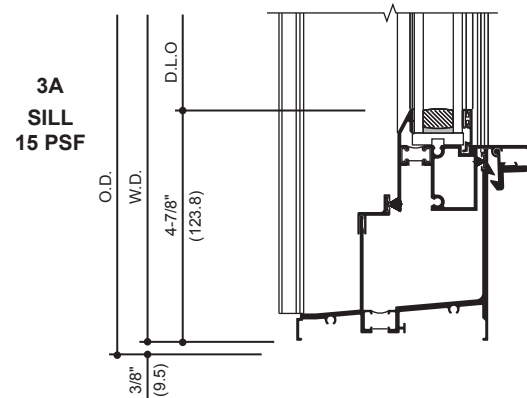
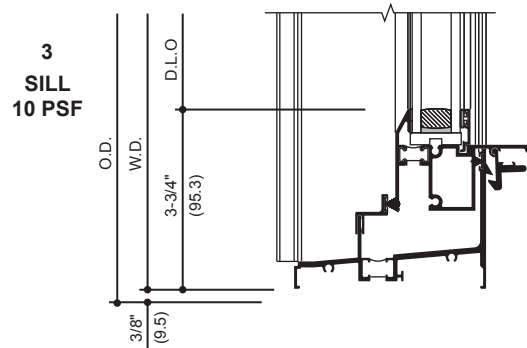
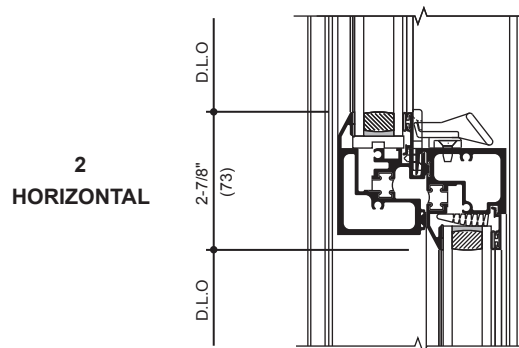
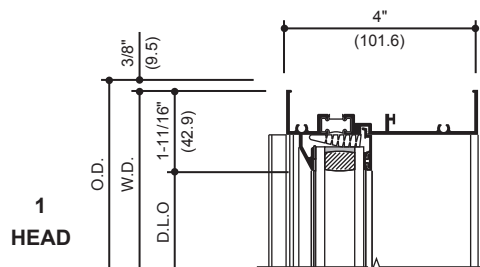
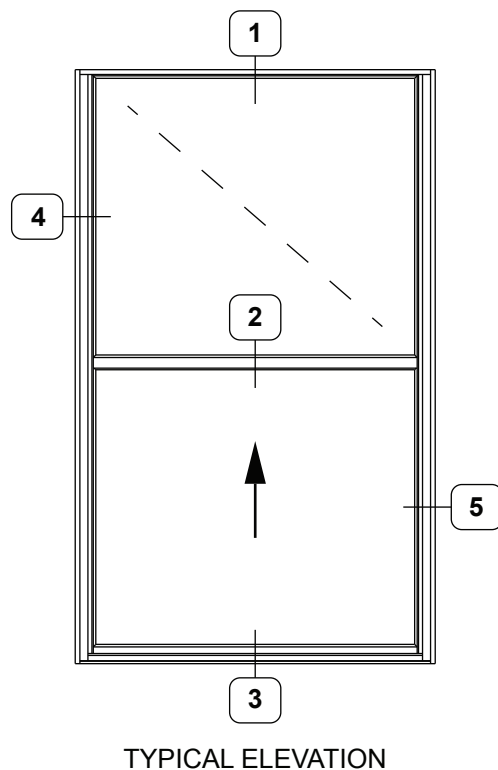
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## 8430TL SINGLE HUNG WINDOW 1" (25.4) Infill

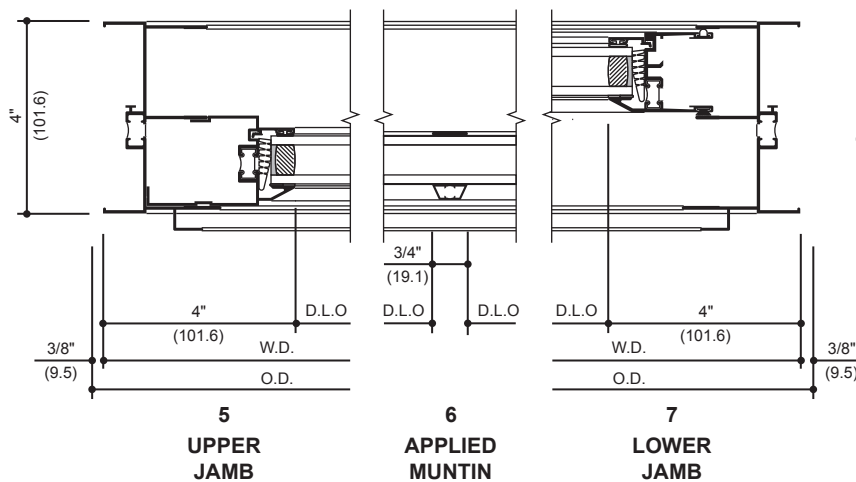
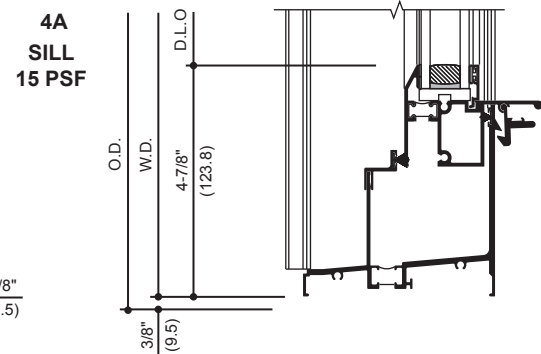
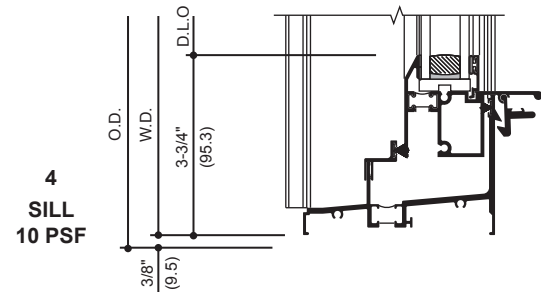
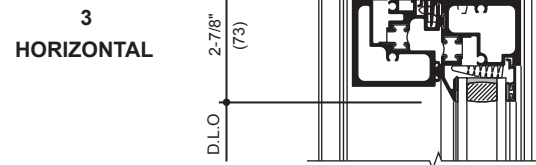
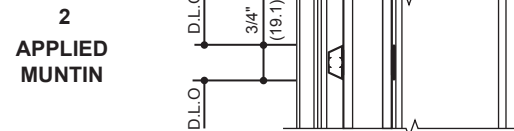
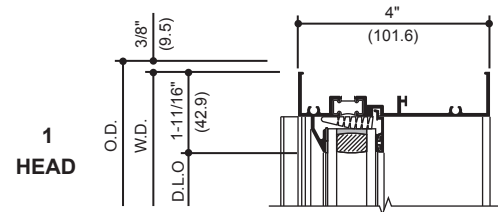
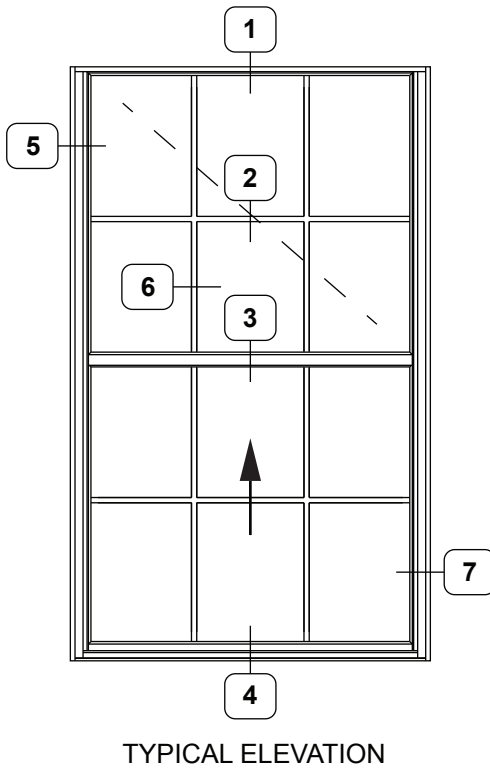


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### 8430TL SINGLE HUNG WINDOW with Applied Muntins 1" (25.4) Infill

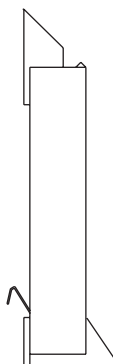


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Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

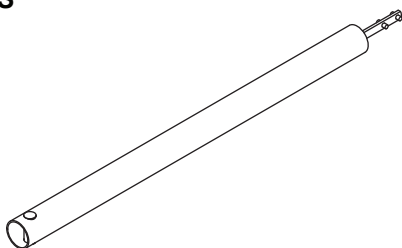
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### HEAVY DUTY BLOCK AND TACKLE BALANCES



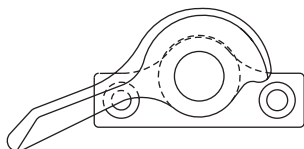
Heavy duty balances are concealed in the left and right jambs. Balances are sized according to sash dimensions and sash weight.

### SPIRAL BALANCES



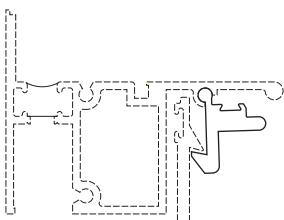
Spiral balances are visible in the upper portion of the left and right jambs. Quantity and sizing of balances are according to window height and sash weight.

### STANDARD SWEEP LOCK



Cast white bronze sweep locks and keepers secure the operating sash at the center meeting rails.

### ALUMINUM AUTO LOCK



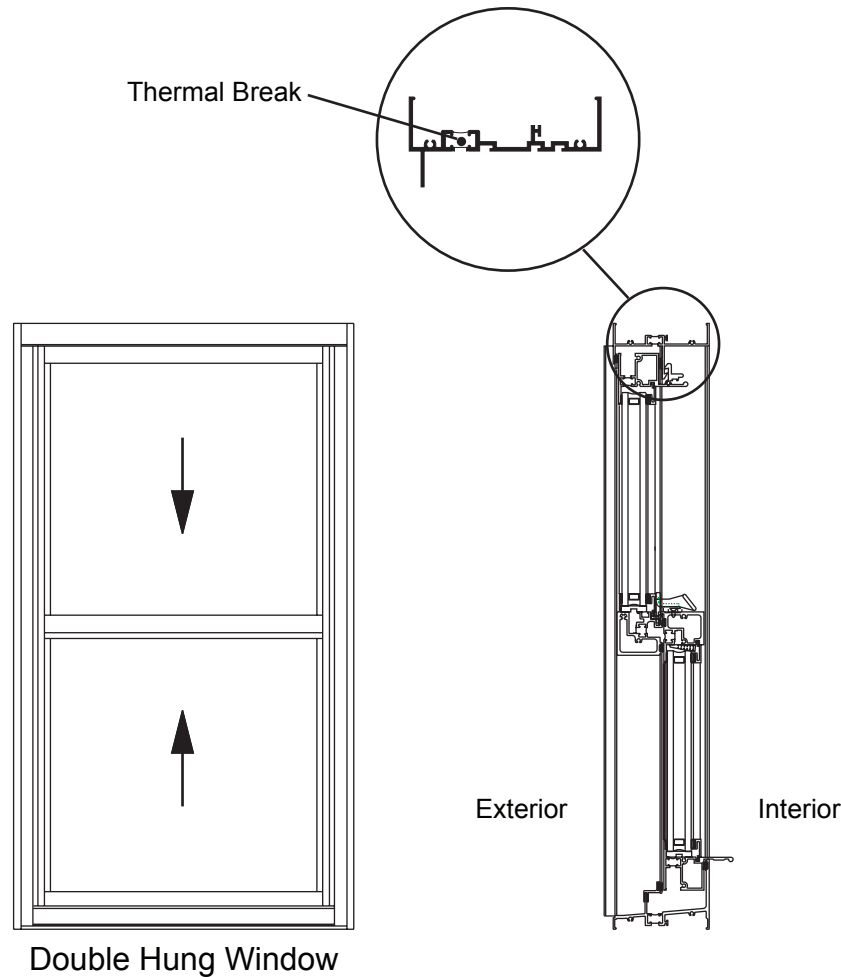
Aluminum auto locks are integral to the sash lift rail and used in lieu of cast white bronze auto locks. These locks are used in conjunction with sweep locks for additional security.

**Features**

- Architectural Grade Window
- Series 8450TL Standard Design
- IsoLock™ Thermal Break
- Screw and Spline Frame and Sash Corner Joinery
- Factory Silicone Glazed
- Interior Applied Glazing Bead with Bulb Gasket
- Architectural Anodized Finishes and Applied Coatings
- Two Year Manufacturer's Warranty

**Optional Features**

- Bevel Face
- Class 5 Block and Tackle or Spiral Balance



For specific product applications,  
consult your Kawneer representative.

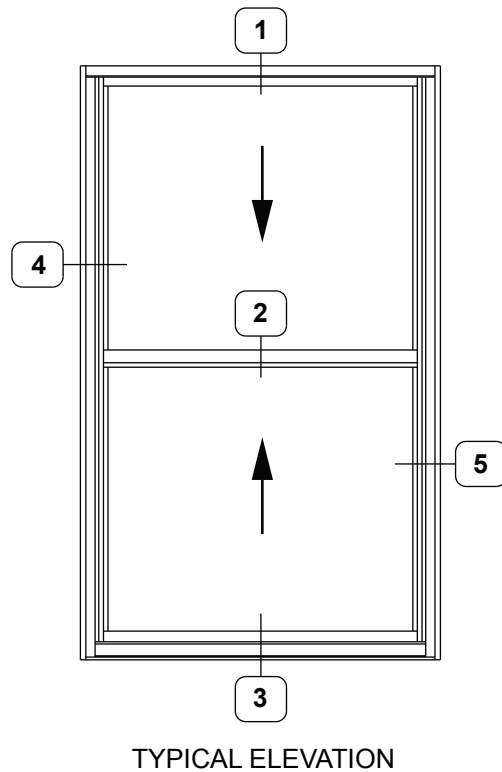
<b>CLASS and GRADE</b>	Architectural Grade Window H-HC70 / H-AW70 / AW-PG70-H
<b>TESTING STANDARD</b>	AAMA / WDMA / CSA 101 / I.S. 2 / A440 (NAFS)
<b>FRAME DEPTH</b>	4" (101.6) Overall Frame Depth
<b>TYPICAL WALL THICKNESS</b>	.070 (1.8) Nominal
<b>TYPICAL MAXIMUM SIZE</b>	60" x 99" (1,524 x 2,514.6)
<b>TYPICAL MINIMUM SIZE</b>	20" x 33" (508 x 838.2)
<b>TYPICAL CONFIGURATIONS</b>	
<b>STANDARD INFILL OPTIONS</b>	1/4" (6.4), 3/4" (19.1) with Glazed-In Muntin Grid, and 1" (25.4)
<b>STANDARD HARDWARE</b>	Heavy Duty Balances Cast White Bronze Sweep Locks Aluminum Auto Lock (Upper Sash Only)
<b>OPTIONAL HARDWARE</b>	Aluminum Auto Lock at Sill Class 5 Block and Tackle or Spiral Balance Aluminum Pole Operated Auto Lock at Head Only
<b>OTHER OPTIONS</b>	Exterior Glazed-In Muntin Grids Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Mullions Structural Mullions Vertically or Horizontally Stacked Sill for 10 PSF or 15 PSF Water Performance Insect Screens

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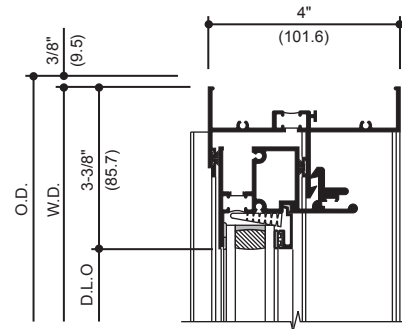
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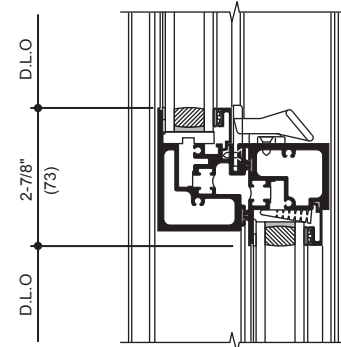
## 8450TL DOUBLE HUNG WINDOW 1" (25.4) Infill



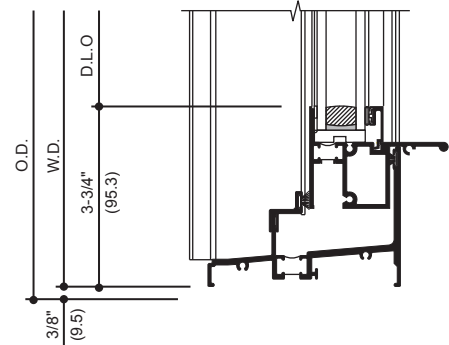
1  
HEAD



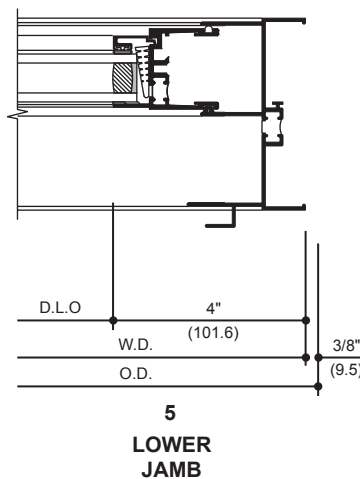
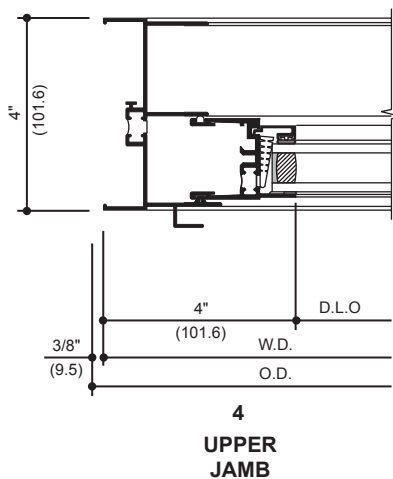
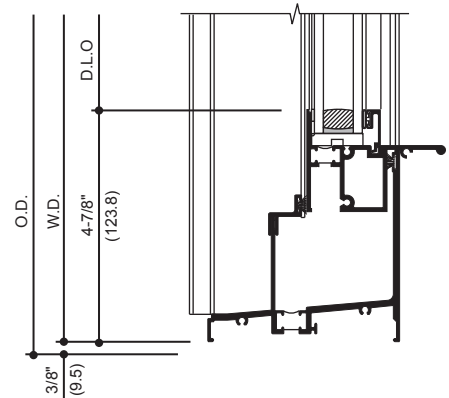
2  
HORIZONTAL



3  
SILL  
10 PSF



3A  
SILL  
15 PSF



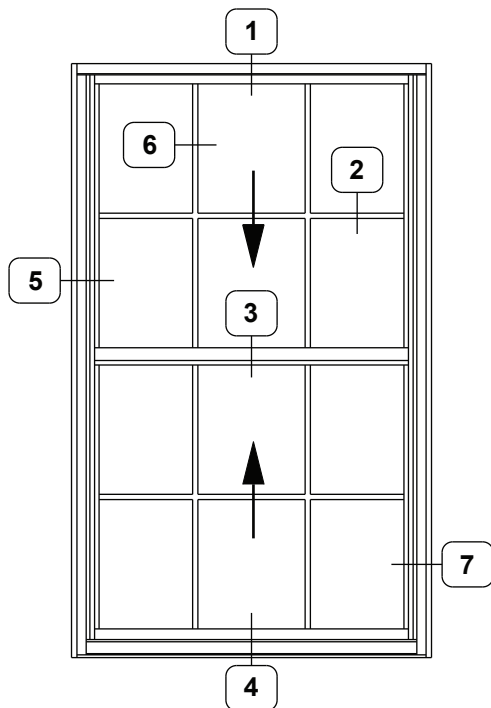
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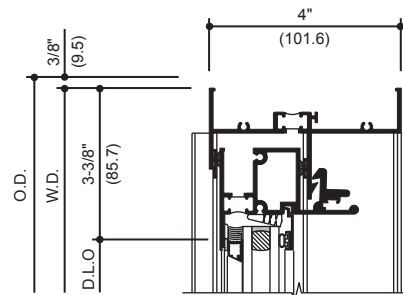
Additional information and CAD details are available at [www.kawneer.com](http://www.kawneer.com)

### 8450TL DOUBLE HUNG WINDOW with Glazed-In Muntins 3/4" (19.1) Infill

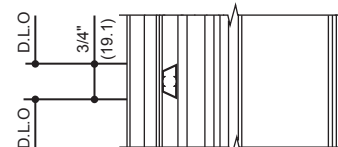


TYPICAL ELEVATION

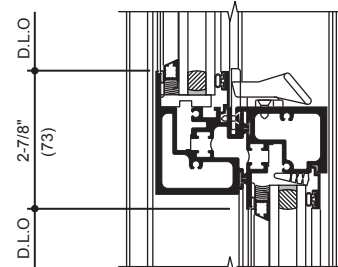
1  
HEAD



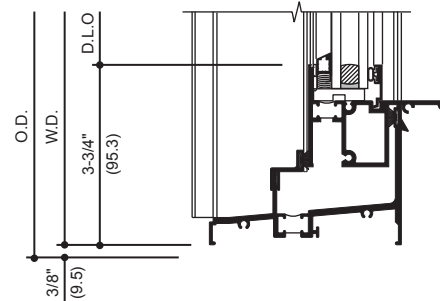
2  
GLAZED-IN  
MUNTIN



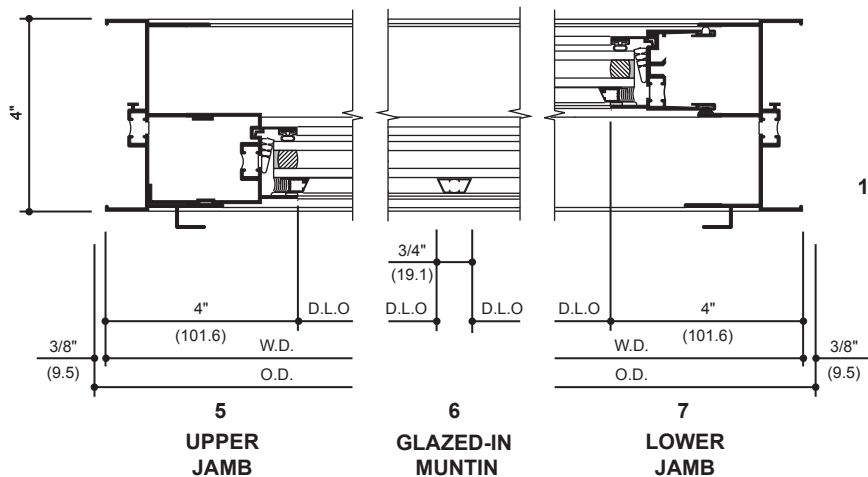
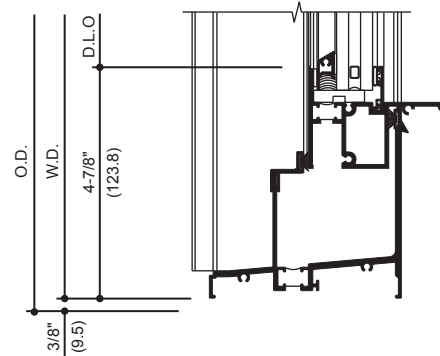
3  
HORIZONTAL



4  
SILL  
10 PSF



4A  
SILL  
15 PSF



5  
UPPER  
JAMB

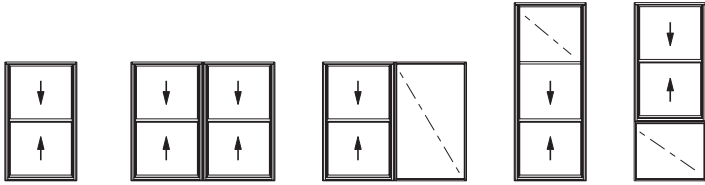
6  
GLAZED-IN  
MUNTIN

7  
LOWER  
JAMB

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<b>CLASS and GRADE</b>	Architectural Grade Window H-HC70 / H-AW70 / AW-PG70-H
<b>TESTING STANDARD</b>	AAMA / WDMA / CSA 101 / I.S. 2 / A440 (NAFS)
<b>FRAME DEPTH</b>	4" (101.6) Overall Frame Depth
<b>TYPICAL WALL THICKNESS</b>	.070 (1.8) Nominal
<b>TYPICAL MAXIMUM SIZE</b>	60" x 99" (1,524 x 2,514.6)
<b>TYPICAL MINIMUM SIZE</b>	20" x 33" (508 x 838.2)
<b>TYPICAL CONFIGURATIONS</b>	
<b>STANDARD INFILL OPTIONS</b>	1" (25.4)
<b>STANDARD HARDWARE</b>	Heavy Duty Balances Cast White Bronze Sweep Locks Aluminum Auto Lock (Upper Sash Only)
<b>OPTIONAL HARDWARE</b>	Aluminum Auto Lock at Sill Class 5 Block and Tackle or Spiral Balance Aluminum Pole Operated Auto Lock at Head Only
<b>OTHER OPTIONS</b>	Applied Muntin Grids Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Mullions Structural Mullions Vertically or Horizontally Stacked Sill for 10 PSF or 15 PSF Water Performance Insect Screens

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.

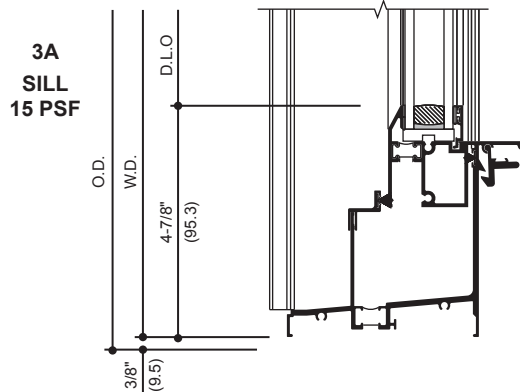
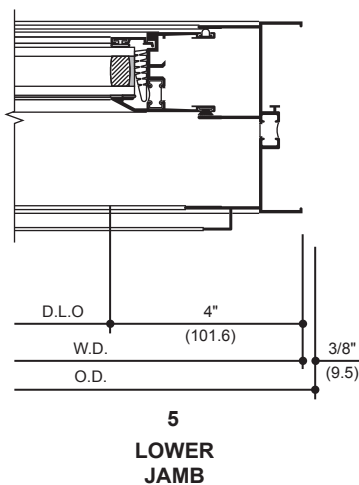
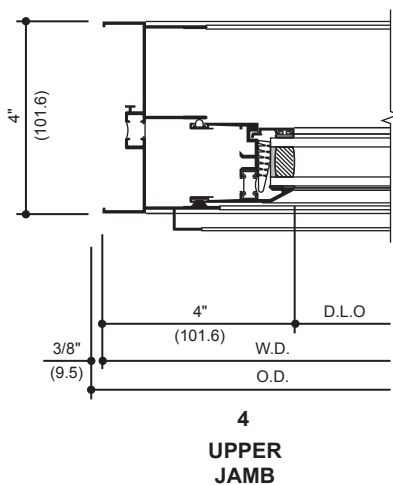
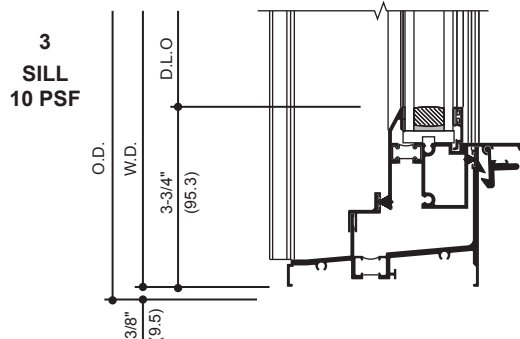
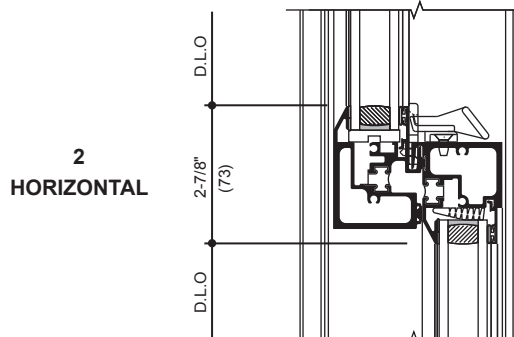
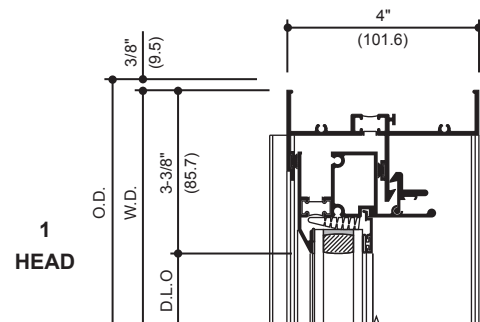
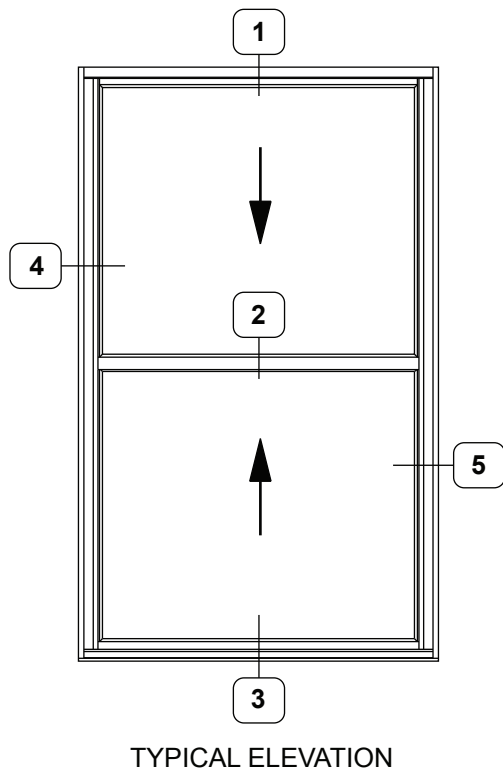
Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

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Additional information and CAD details are available at [www.kawneer.com](http://www.kawneer.com)

## 8450TL DOUBLE HUNG WINDOW 1" (25.4) Infill

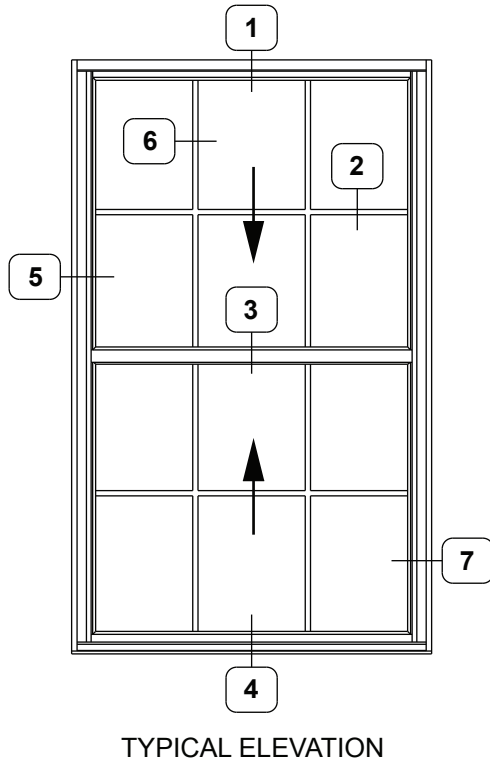


Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

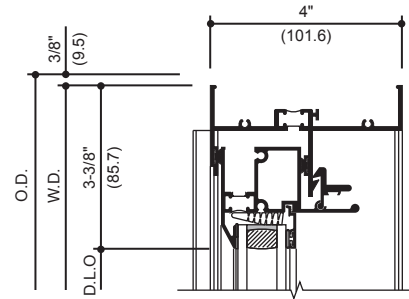
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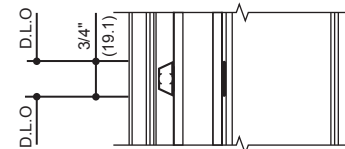
**8450TL DOUBLE HUNG WINDOW  
with Applied Muntins  
1" (25.4) Infill**



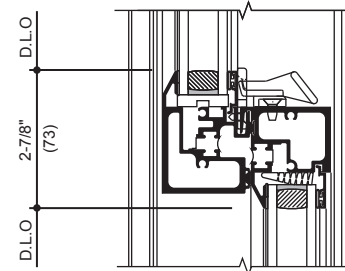
**1  
HEAD**



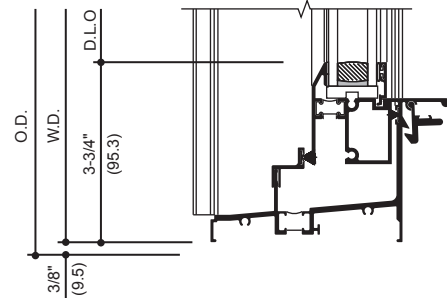
**2  
APPLIED  
MUNTIN**



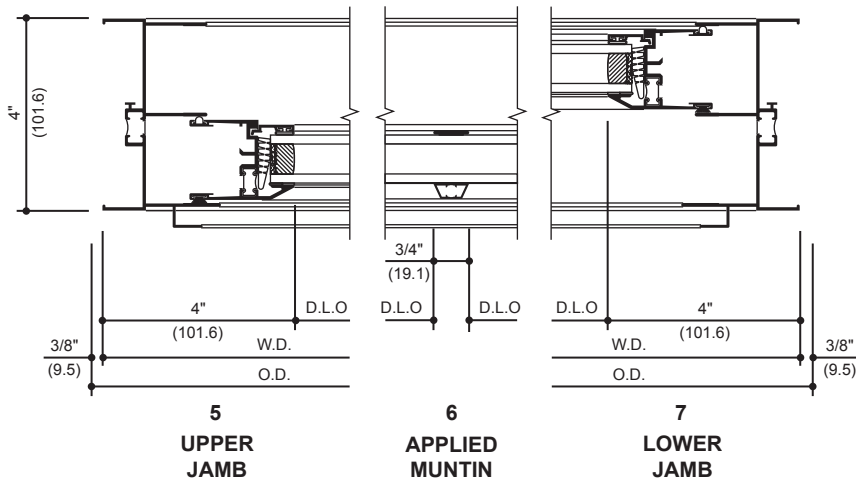
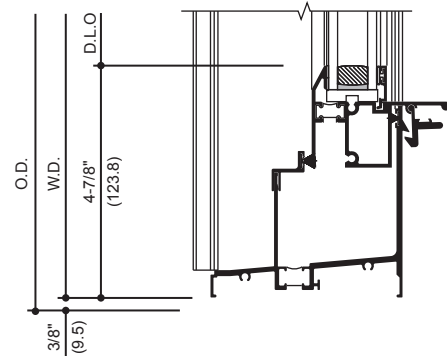
**3  
HORIZONTAL**



**4  
SILL  
10 PSF**



**4A  
SILL  
15 PSF**

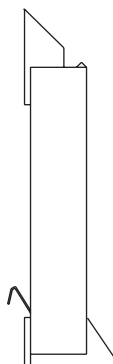


Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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

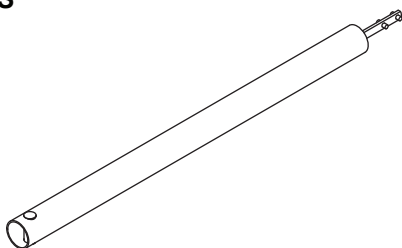
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## HEAVY DUTY BLOCK AND TACKLE BALANCES



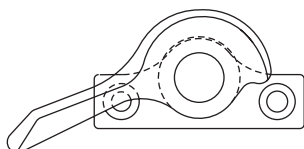
Heavy duty balances are concealed in the left and right jambs. Balances are sized according to sash dimensions and sash weight.

## SPIRAL BALANCES



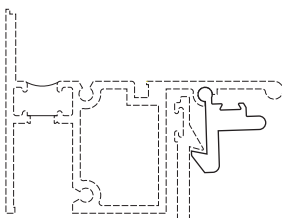
Spiral balances are visible in the upper portion of the left and right jambs. Quantity and sizing of balances are according to window height and sash weight.

## STANDARD SWEEP LOCK



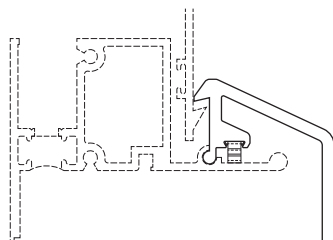
Cast white bronze sweep locks and keepers secure the operating sash at the center meeting rails.

## ALUMINUM AUTO LOCK



Aluminum auto locks are applied to the integral handle rail and used in lieu of cast white bronze auto locks at head or sill locations. These locks are used in conjunction with sweep locks for additional security.

## ALUMINUM AUTO LOCK



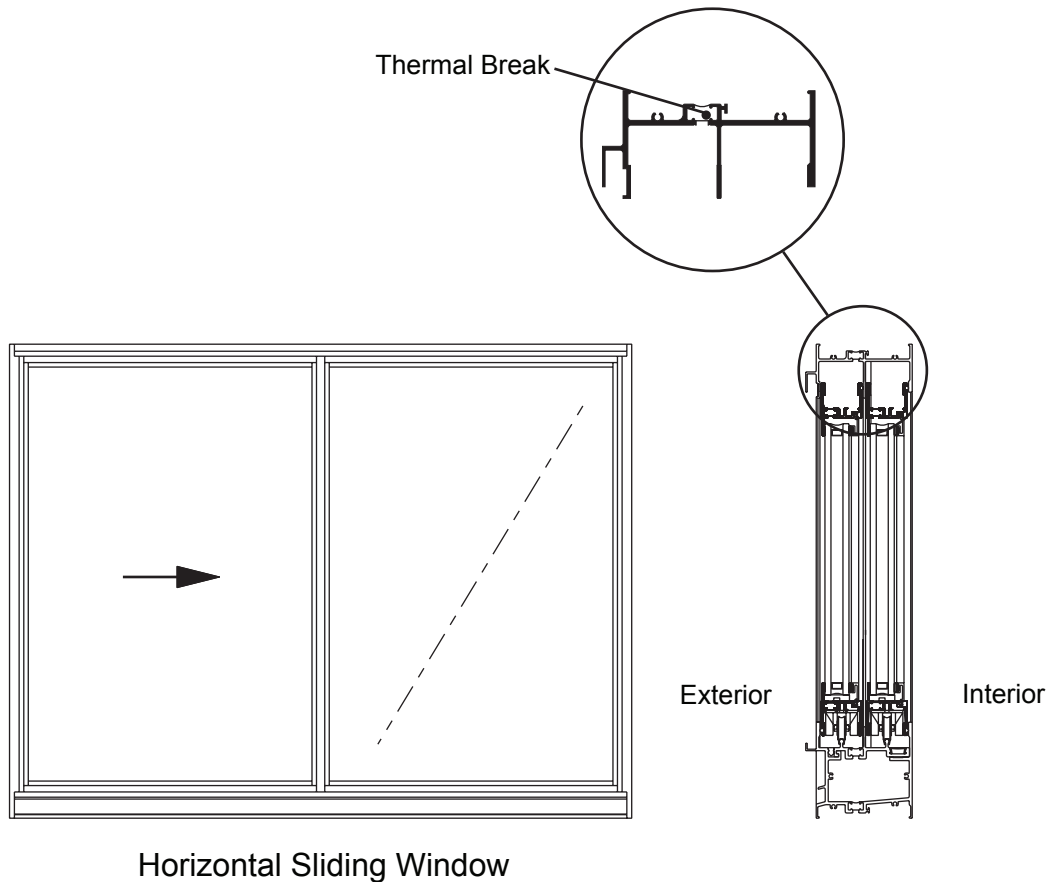
Aluminum pole operated auto locks are applied to the integral sash handle rail at the upper sash only. These must be used in conjunction with either the aluminum auto lock at the sill or the sweep locks at the meeting rail or both.

**Features**

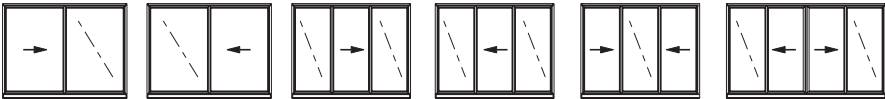
- Architectural Grade Window
- Series 8470TL Standard Design
- IsoLock™ Thermal Break
- Screw and Spline Frame and Sash Corner Joinery
- Factory Silicone Glazed
- Interior Applied Glazing Bead with Bulb Gasket
- Architectural Anodized Finishes and Applied Coatings
- Two Year Manufacturer's Warranty

**Optional Features**

- Bevel Face



For specific product applications,  
consult your Kawneer representative.

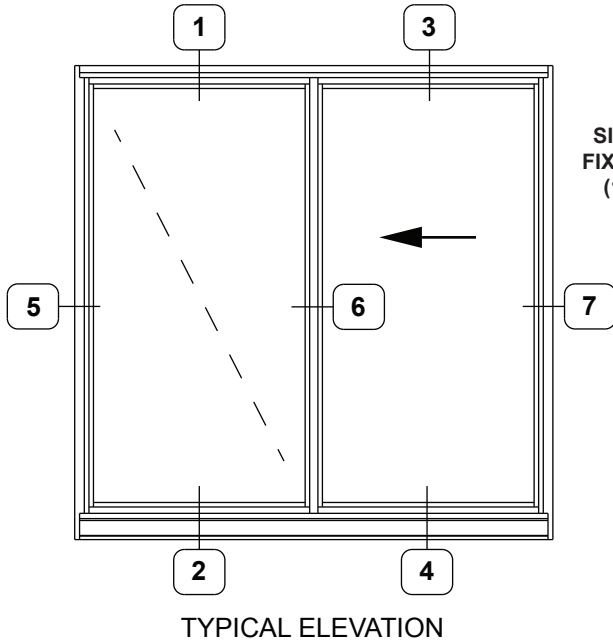
<b>CLASS and GRADE</b>	Architectural Grade Window HS-HC70 / HS-AW70 / AW-PG70-HS
<b>TESTING STANDARD</b>	AAMA / WDMA / CSA 101 / I.S. 2 / A440 (NAFS)
<b>FRAME DEPTH</b>	4" (101.6) Overall Frame Depth
<b>TYPICAL WALL THICKNESS</b>	.070 (1.8) to .125 (3.2) Nominal
<b>TYPICAL MAXIMUM SIZE</b>	99" x 79" (2,514.6 x 2,006.6) (OX,XO,XX) 120" x 79" (3,048 x 2,006.6) (OXO,XOX, OXXO)
<b>TYPICAL MINIMUM SIZE</b>	32" x 20" (812.8 x 508) (OX,XO,XX) 48" x 20" (1,219.2 x 508) (OXO,XOX) 64" x 20" (1,625.6 x 508) (OXXO)
<b>TYPICAL CONFIGURATIONS</b>	
<b>STANDARD INFILL OPTIONS</b>	1/4" (6.4), 3/4" (19.1) with Glazed-In Muntin Grid, and 1" (25.4)
<b>STANDARD HARDWARE</b>	Steel Roller Assembly Cast White Bronze Sweep Locks
<b>OPTIONAL HARDWARE</b>	Aluminum Auto Lock
<b>OTHER OPTIONS</b>	Exterior Glazed-In Muntin Grids Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Mullions Structural Mullions Vertically or Horizontally Stacked Sill for 10 PSF or 15 PSF Water Performance Insect Screens Standard and Heavy Duty Interlock

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.

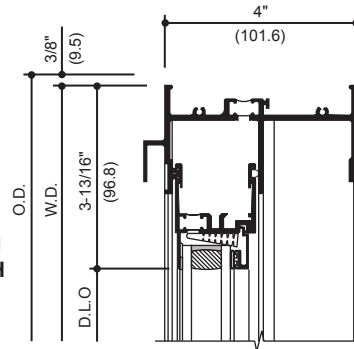
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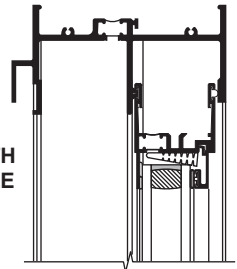
### 8470TL HORIZONTAL SLIDER 1" (25.4) Infill



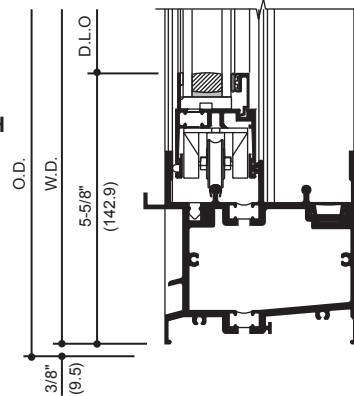
1  
HEAD WITH  
FIXED SASH



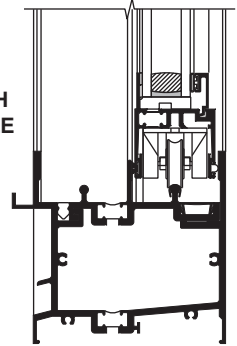
3  
HEAD WITH  
OPERABLE  
SASH



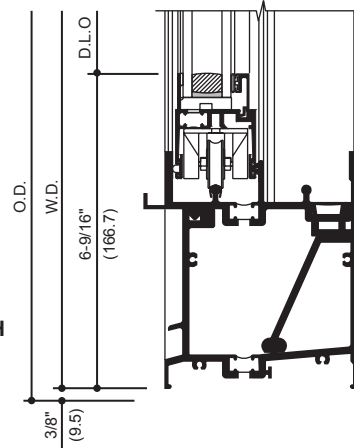
2  
SILL WITH  
FIXED SASH  
(10 PSF)



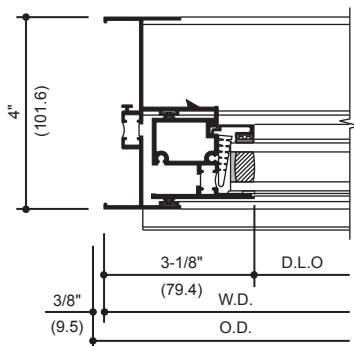
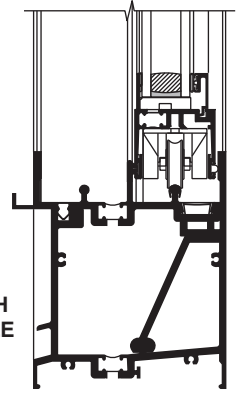
4  
SILL WITH  
OPERABLE  
SASH  
(10 PSF)



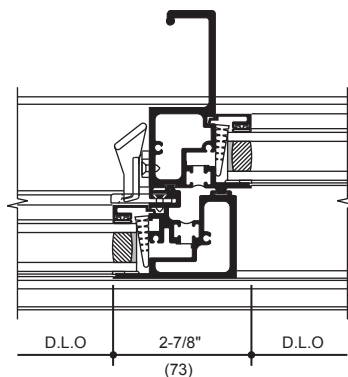
2A  
SILL WITH  
FIXED SASH  
(15 PSF)



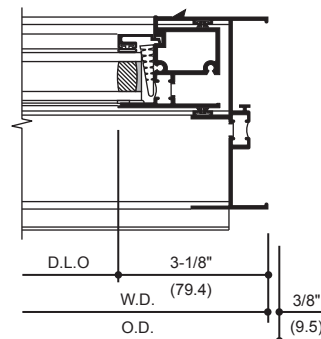
4A  
SILL WITH  
OPERABLE  
SASH  
(15 PSF)



5  
FIXED SASH  
JAMB



6  
INTERLOCK



7  
OPERABLE SASH  
JAMB

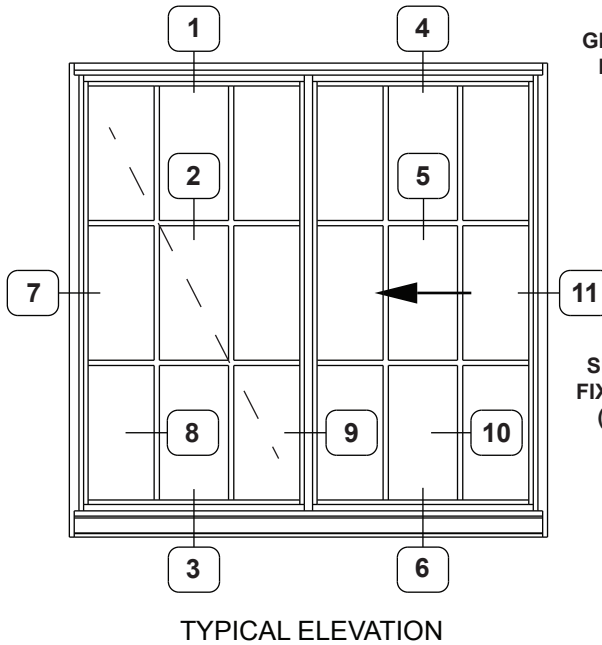
Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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### 8470TL HORIZONTAL SLIDER with Glazed-In Muntins 3/4" (19.1) Infill



1  
HEAD WITH  
FIXED SASH

2  
GLAZED-IN  
MUNTIN

3  
SILL WITH  
FIXED SASH  
(10 PSF)

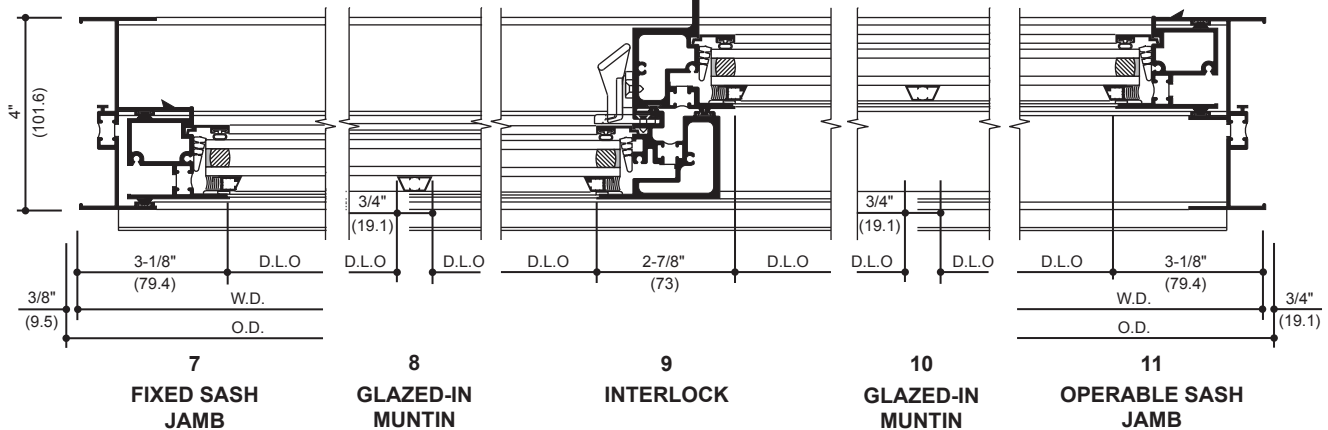
4  
HEAD WITH  
OPERABLE  
SASH

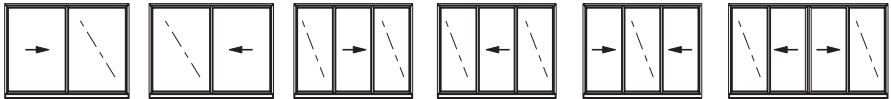
5  
GLAZED-IN  
MUNTIN

6  
SILL WITH  
OPERABLE  
SASH  
(10 PSF)

3A  
SILL WITH  
FIXED SASH  
(15 PSF)

6A  
SILL WITH  
OPERABLE  
SASH  
(15 PSF)



<b>CLASS and GRADE</b>	Architectural Grade Window HS-HC70 / HS-AW70 / AW-PG70-HS
<b>TESTING STANDARD</b>	AAMA / WDMA / CSA 101 / I.S. 2 / A440 (NAFS)
<b>FRAME DEPTH</b>	4" (101.6) Overall Frame Depth
<b>TYPICAL WALL THICKNESS</b>	.070 (1.8) to .125 (3.2) Nominal
<b>TYPICAL MAXIMUM SIZE</b>	99" x 79" (2,514.6 x 2,006.6) (OX, XO, XX) 120" x 79" (3,048 x 2,006.6) (OXO, XOX, OXXO)
<b>TYPICAL MINIMUM SIZE</b>	32" x 20" (812.8 x 508) (OX, XO, XX) 48" x 20" (1,219.2 x 508) (OXO, XOX) 64" x 20" (1,625.6 x 508) (OXXO)
<b>TYPICAL CONFIGURATIONS</b>	
<b>STANDARD INFILL OPTIONS</b>	1" (25.4)
<b>STANDARD HARDWARE</b>	Steel Roller Assembly Cast White Bronze Sweep Locks
<b>OPTIONAL HARDWARE</b>	Aluminum Auto Lock
<b>OTHER OPTIONS</b>	Applied Muntin Grids Perimeters and Sills Exterior Pannings and Interior Trims True Intermediate Mullions Structural Mullions Vertically or Horizontally Stacked Sill for 10 PSF or 15 PSF Water Performance Insect Screens Standard and Heavy Duty Interlock

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.

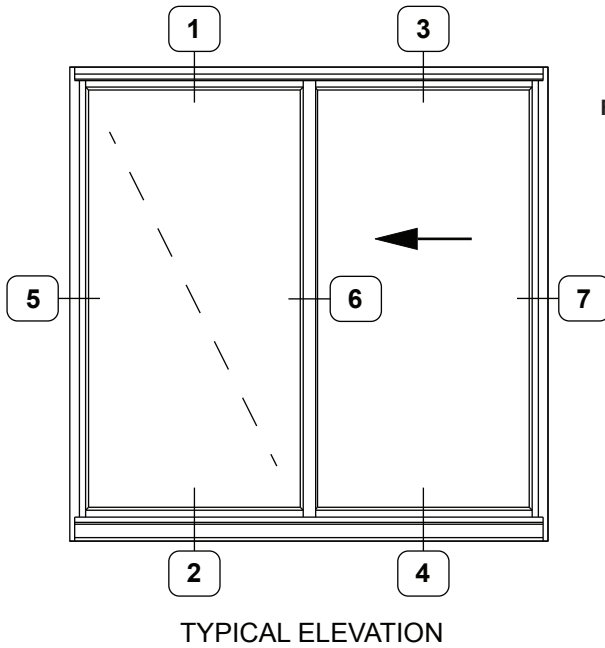
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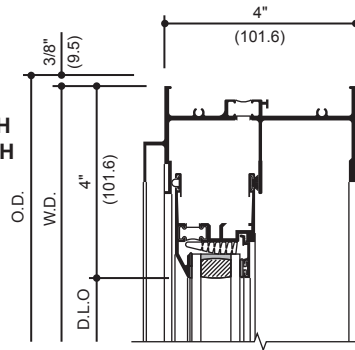


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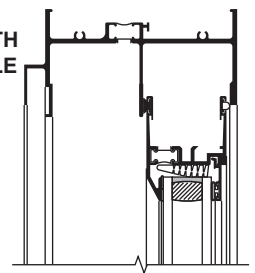
## 8470TL HORIZONTAL SLIDER 1" (25.4) Infill



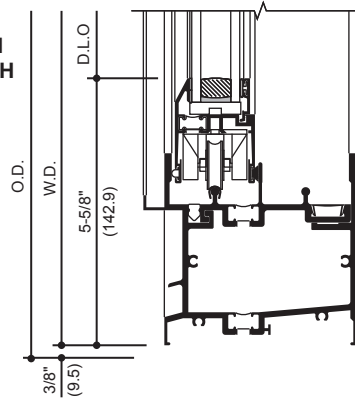
1  
HEAD WITH  
FIXED SASH



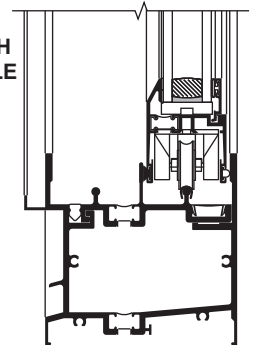
3  
HEAD WITH  
OPERABLE  
SASH



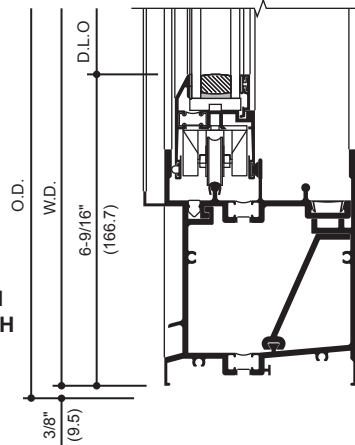
2  
SILL WITH  
FIXED SASH  
(10 PSF)



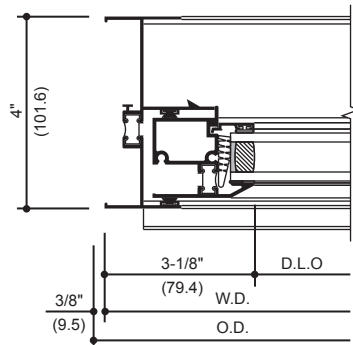
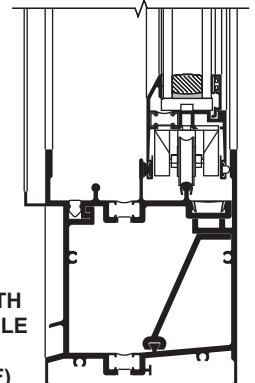
4  
SILL WITH  
OPERABLE  
SASH  
(10 PSF)



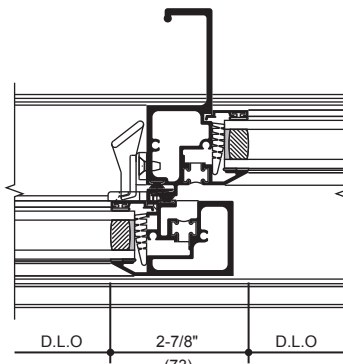
2A  
SILL WITH  
FIXED SASH  
(15 PSF)



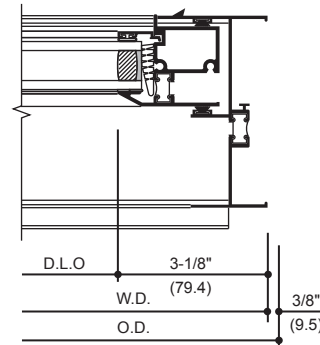
4A  
SILL WITH  
OPERABLE  
SASH  
(15 PSF)



5  
FIXED SASH  
JAMB



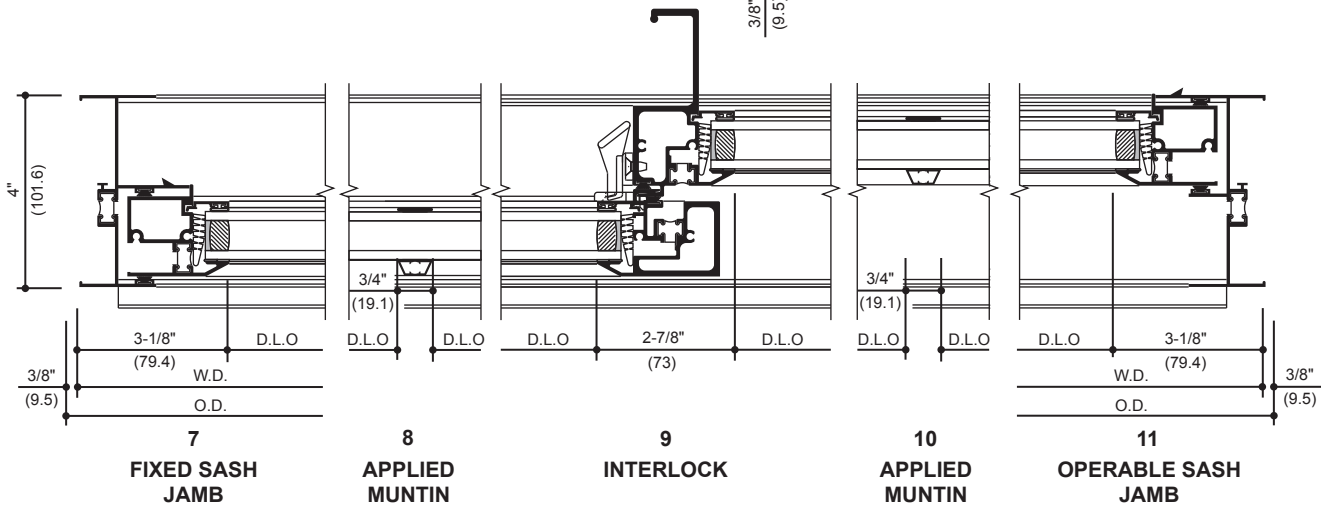
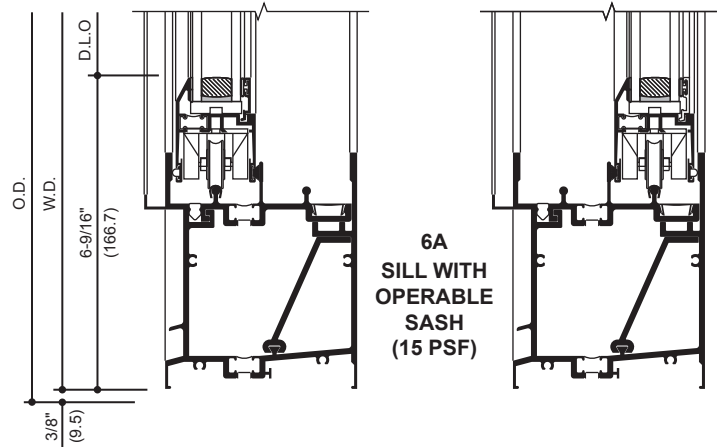
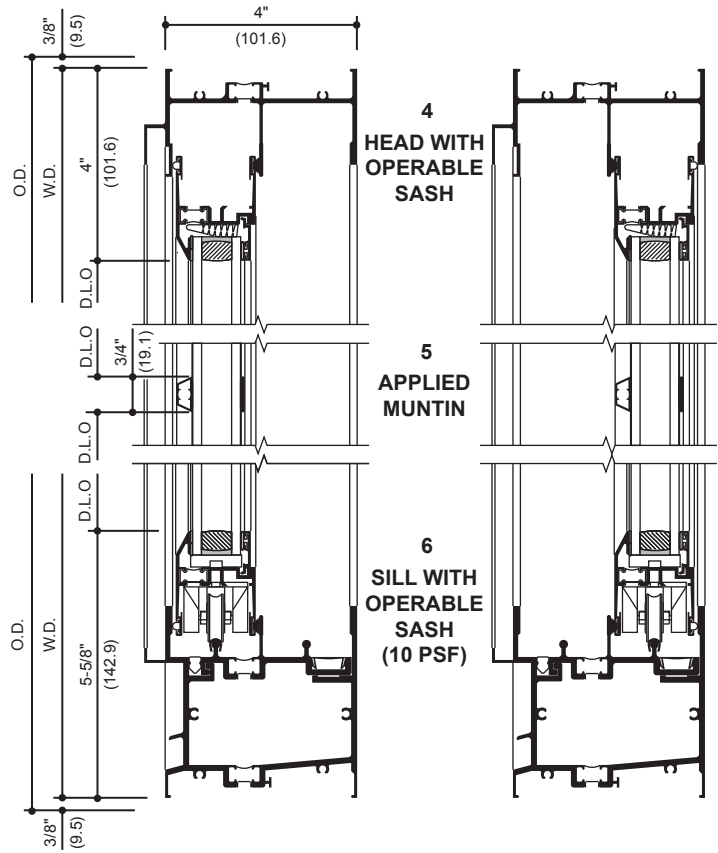
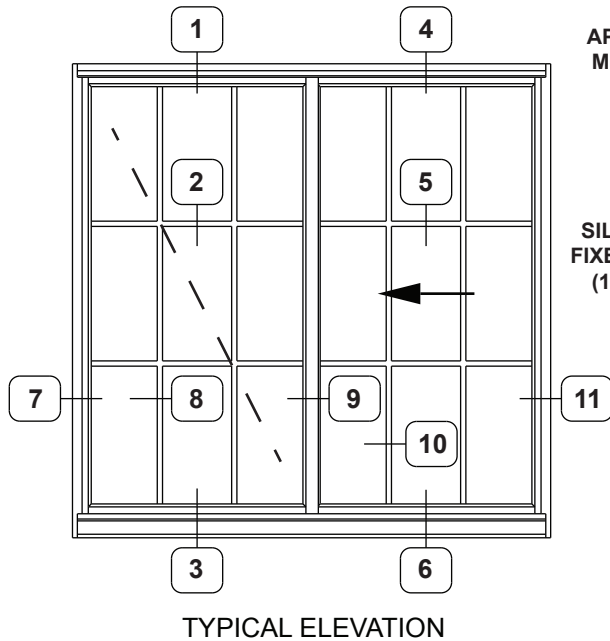
6  
INTERLOCK



7  
OPERABLE SASH  
JAMB

Additional information and CAD details are available at [www.kawneer.com](http://www.kawneer.com)

### 8470TL HORIZONTAL SLIDER with Applied Muntins 1" (25.4) Infill



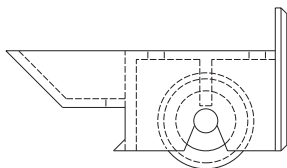
Laws and building and safety codes governing the design and use of glazed entrance, window, and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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

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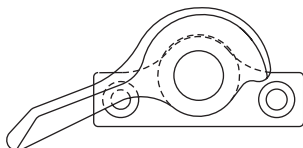
## STEEL ROLLER ASSEMBLY

Steel ball bearing roller and glass filled nylon housing provide smooth and lasting operation.



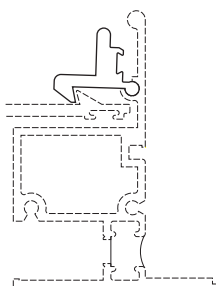
## STANDARD SWEEP LOCK

Cast white bronze sweep locks and keepers secure the operating sash at the center meeting rails.



## ALUMINUM AUTO LOCK

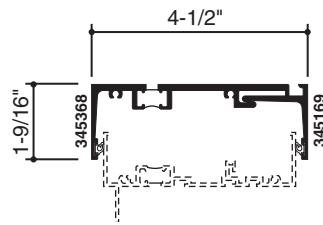
Aluminum auto locks are integral to the handle rail. These locks are used in conjunction with sweep locks for additional security.



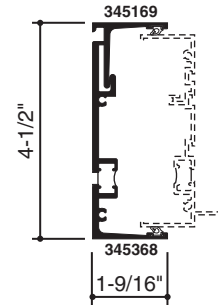
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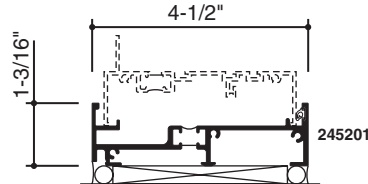
Additional information and CAD details are available at [www.kawneer.com](http://www.kawneer.com)



**HEAD  
RECEPTOR  
(INTERIOR  
INSTALLED)**

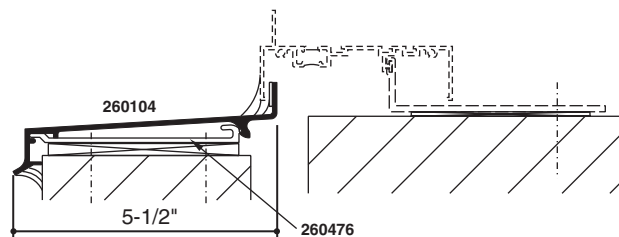
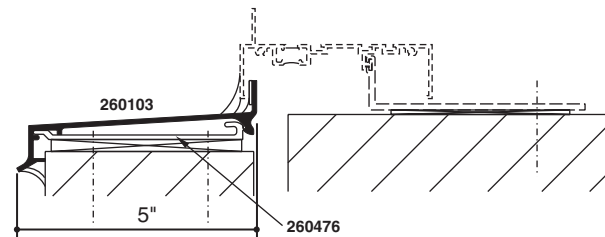
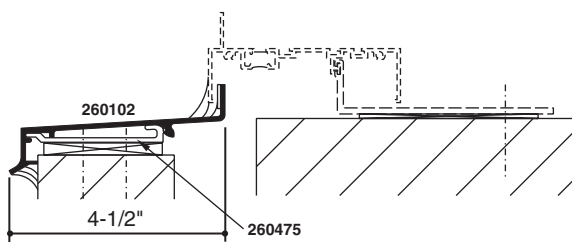
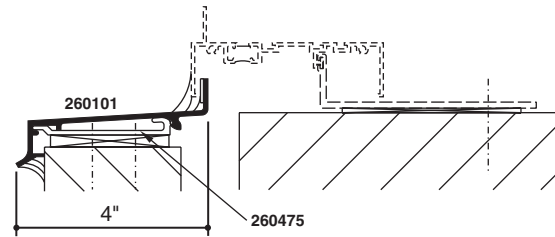
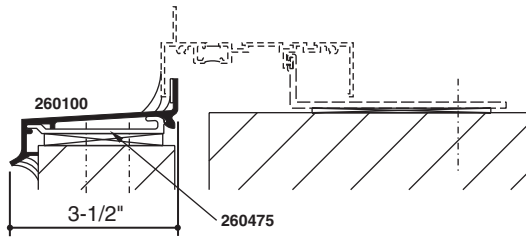


**JAMB  
RECEPTOR  
(INTERIOR  
INSTALLED)**



**FULL DEPTH  
SILL  
(INTERIOR  
INSTALLED)**

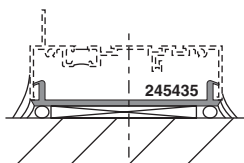
### SUB SILLS



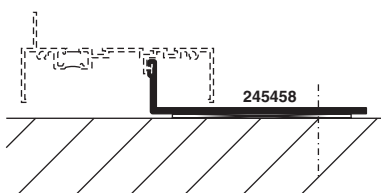
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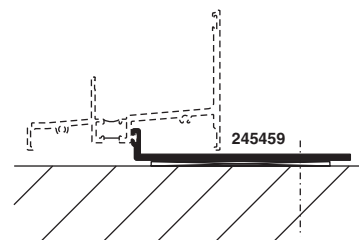
Additional information and CAD details are available at [www.kawneer.com](http://www.kawneer.com)



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



**STRAP ANCHOR  
WITH FIXED WINDOW**



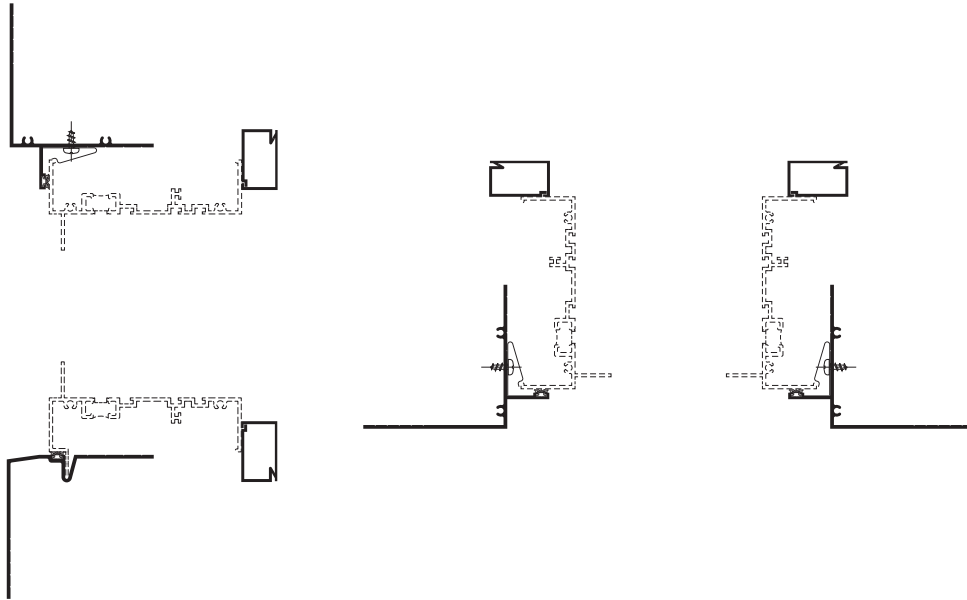
**STRAP ANCHOR  
WITH HUNG WINDOW**

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.

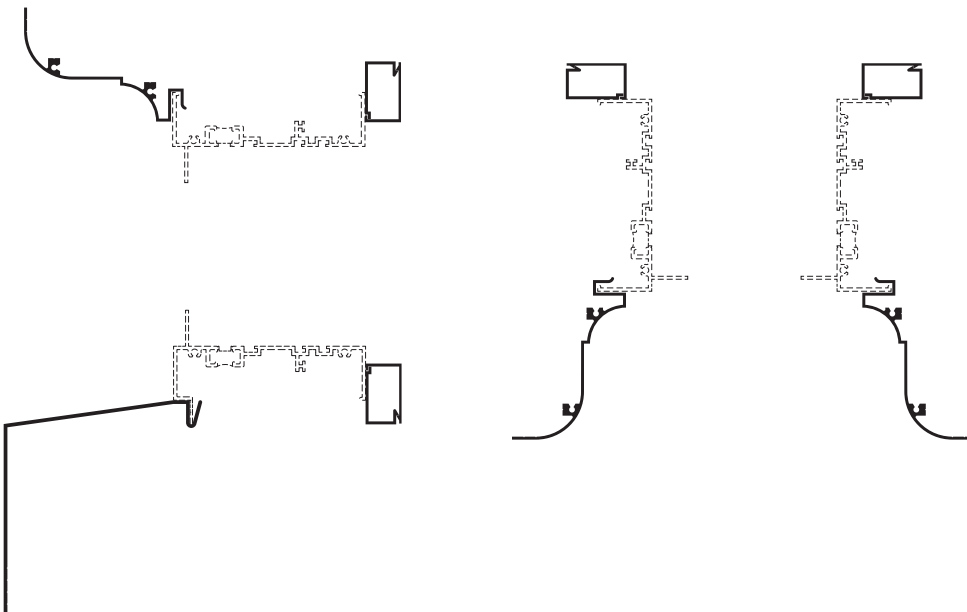
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### PRE-SET PANNING



### WRAP AROUND PANNING



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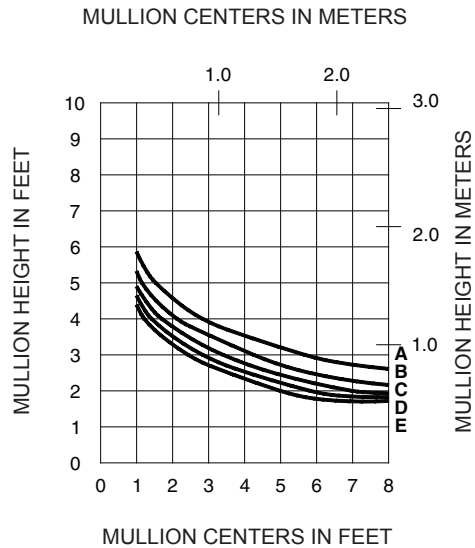
## WIND LOAD CHARTS

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.

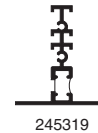
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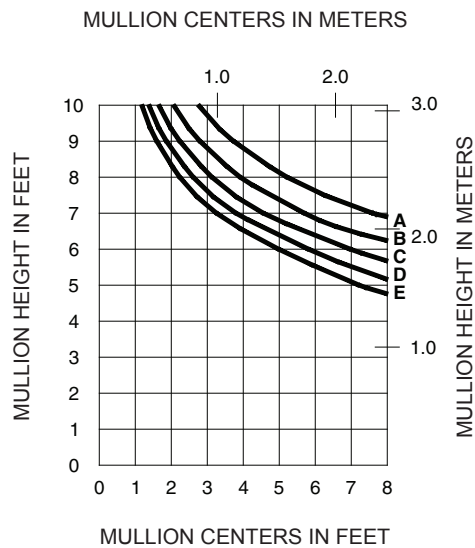
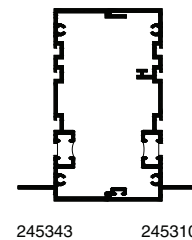
	Allowable Stress Design Load	LRFD Ultimate Design Load
A =	30 PSF (1440)	50 PSF (2400)
B =	40 PSF (1920)	67 PSF (3200)
C =	50 PSF (2400)	83 PSF (4000)
D =	60 PSF (2880)	100 PSF (4790)
E =	70 PSF (3360)	117 PSF (5600)



VERTICAL MULLION



WITH HORIZONTALS

8410  
FIXED WINDOW

WITH HORIZONTALS

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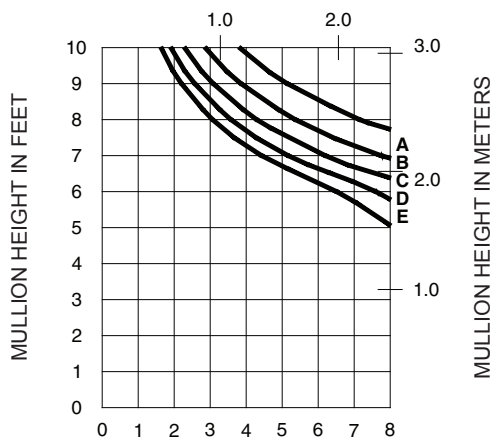
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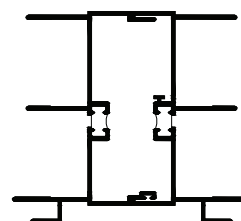


	Allowable Stress Design Load	LRFD Ultimate Design Load
A =	30 PSF (1440)	50 PSF (2400)
B =	40 PSF (1920)	67 PSF (3200)
C =	50 PSF (2400)	83 PSF (4000)
D =	60 PSF (2880)	100 PSF (4790)
E =	70 PSF (3360)	117 PSF (5600)

MULLION CENTERS IN METERS



8430 SINGLE HUNG  
8450 DOUBLE HUNG



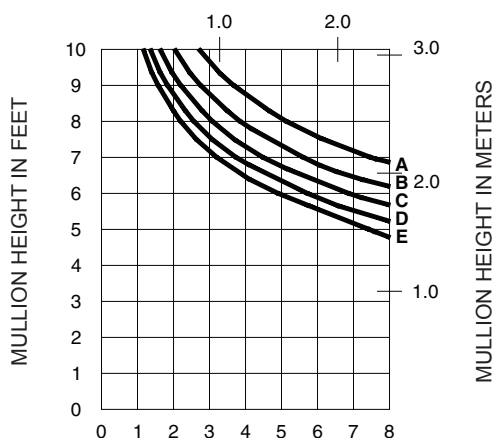
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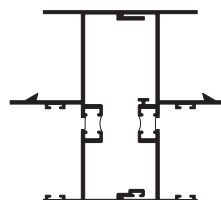
MULLION CENTERS IN FEET

WITH HORIZONTALS

MULLION CENTERS IN METERS



8470  
HORIZONTAL SLIDER



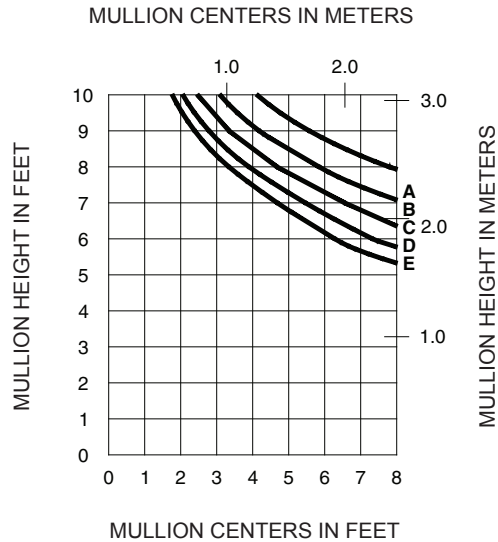
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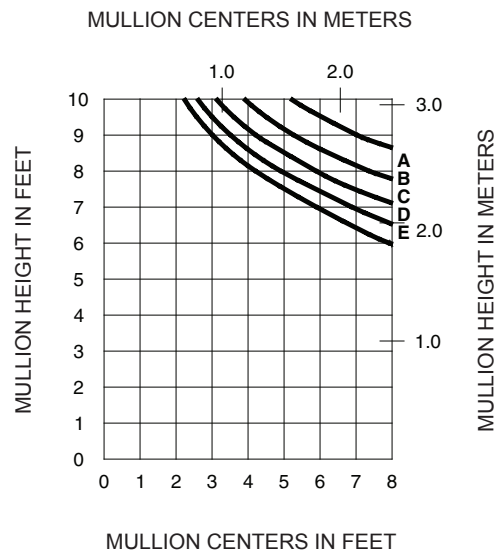
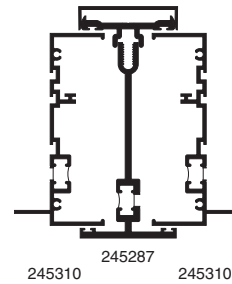
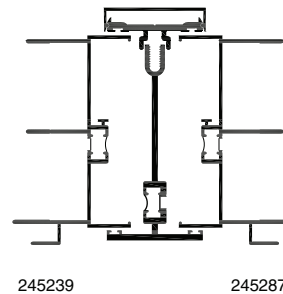
MULLION CENTERS IN FEET

WITH HORIZONTALS

	Allowable Stress Design Load	LRFD Ultimate 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)



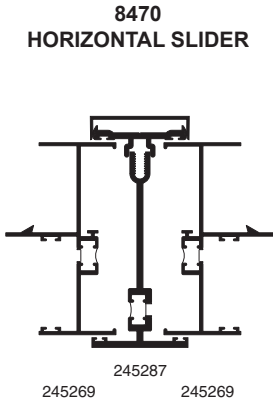
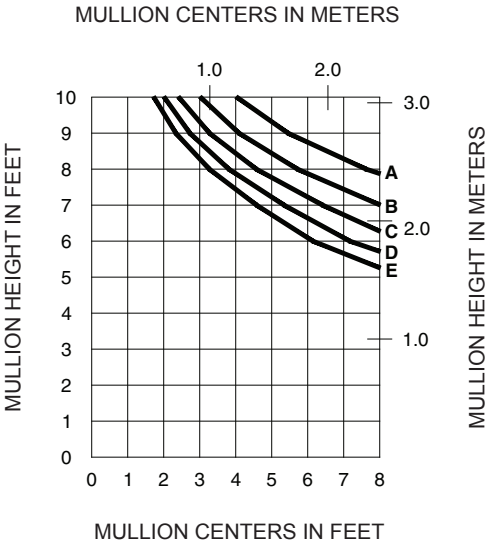
8410 FIXED WINDOW

8430 SINGLE HUNG  
8450 DOUBLE HUNG

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

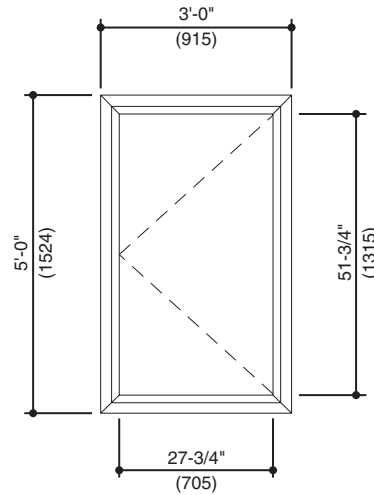


WITH HORIZONTALS

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



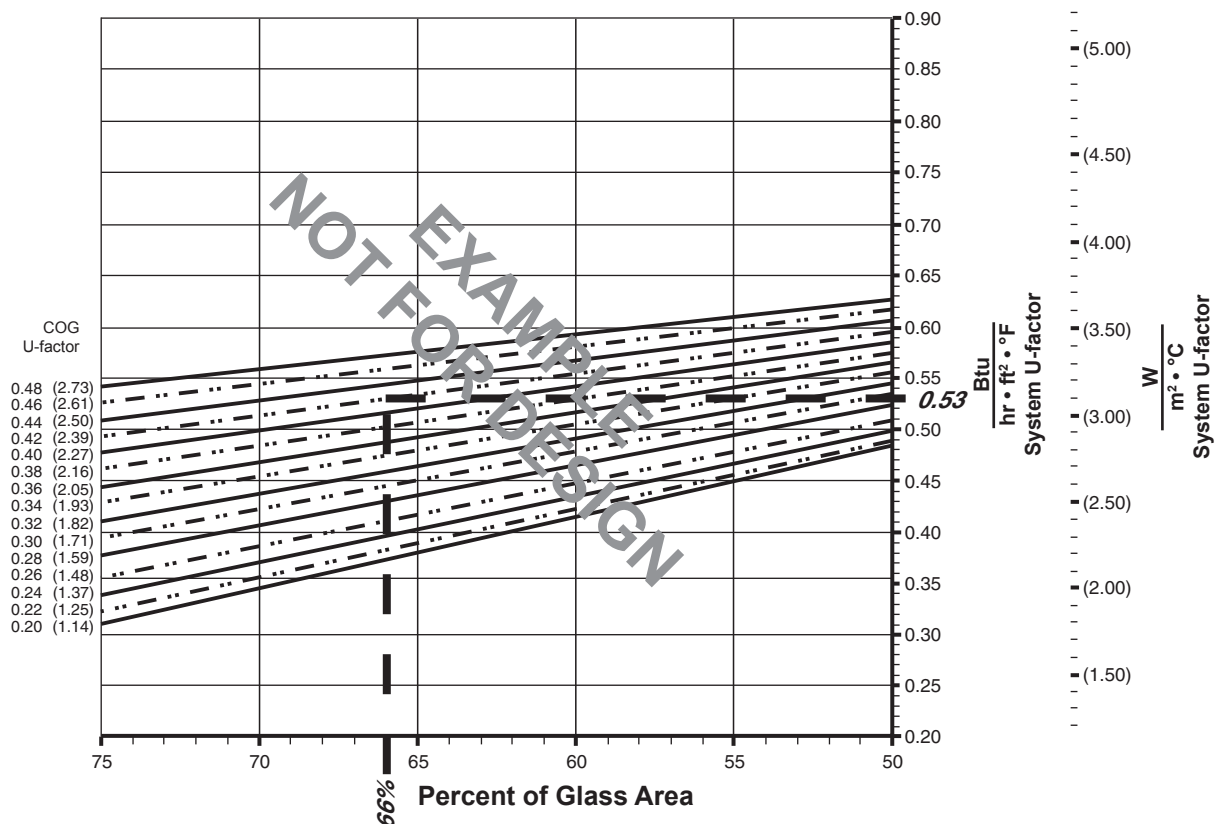
Example Glass U-Factor = 0.42 Btu/hr • ft<sup>2</sup> • °F

Total Daylight Opening = 27-3/4" • 51-3/4" = 9.97ft<sup>2</sup>

Total Projected Area = 3'-0" • 5'-0" = 15 ft<sup>2</sup>

Percent of Glass = (Total Daylight Opening ÷ Total Projected Area)100  
 = (9.97 ÷ 15)100 = 66%

**System U-factor vs Percent of Glass Area**



Based on 66% glass and center of glass (COG) U-factor of 0.42  
 System U-factor is equal to 0.53 Btu/hr • ft<sup>2</sup> • °F

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## FIXED WINDOW WITH 1" GLAZING

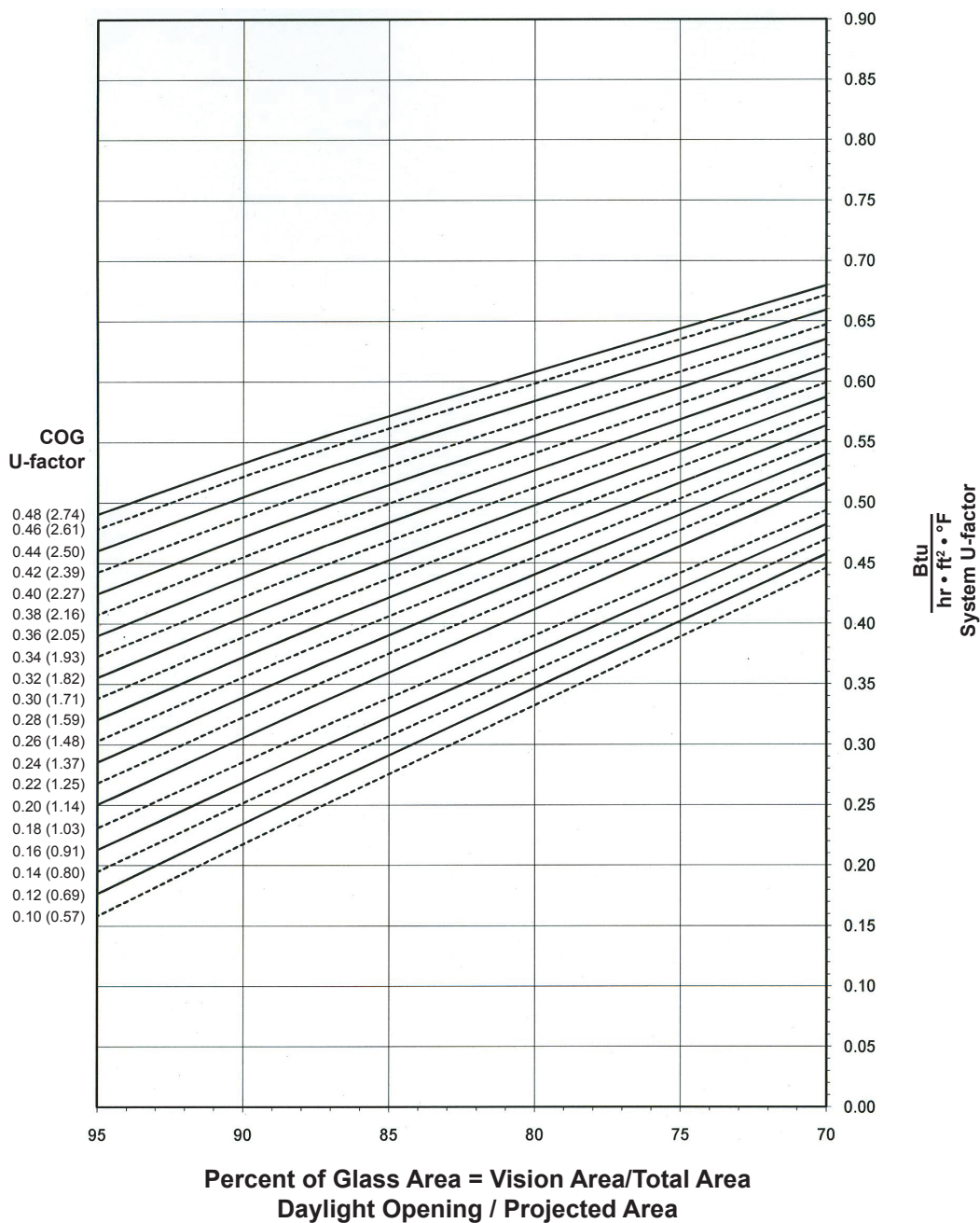
**Note:**

Values in parentheses are metric.

COG = Center of Glass.

Charts are generated per AAMA 507

### System U-factor vs Percent of Glass Area

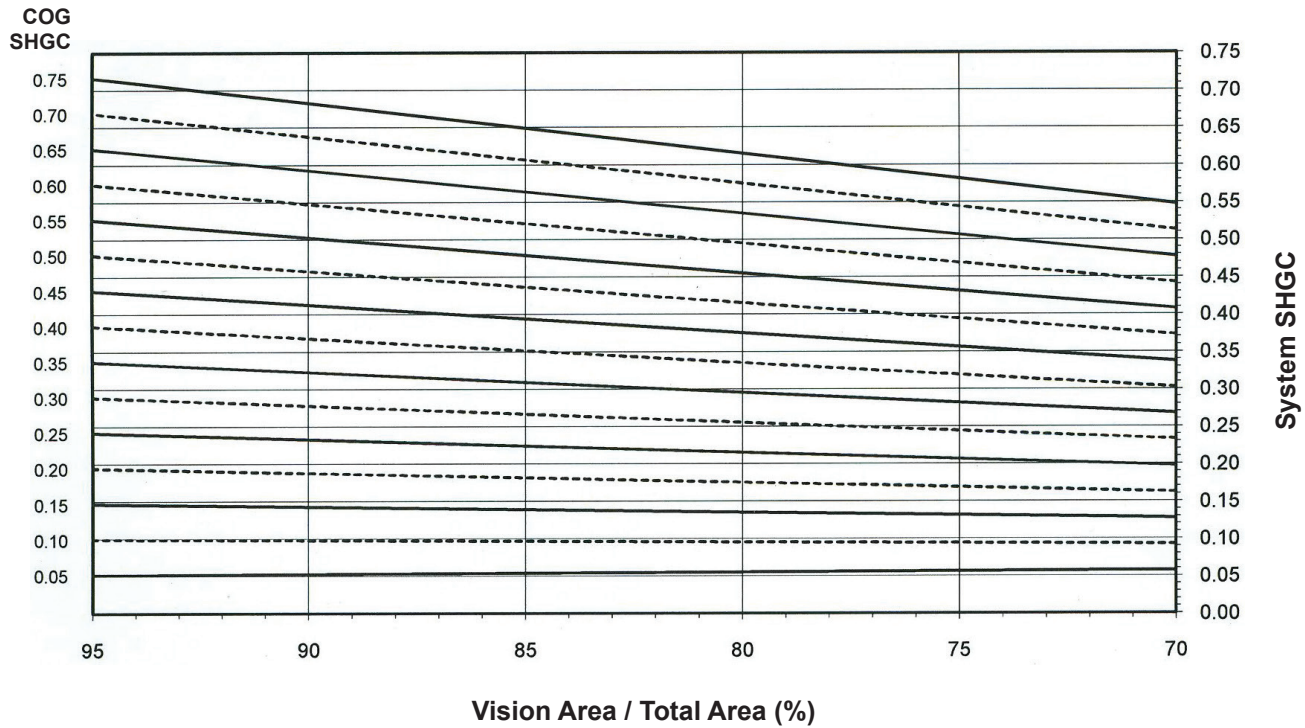
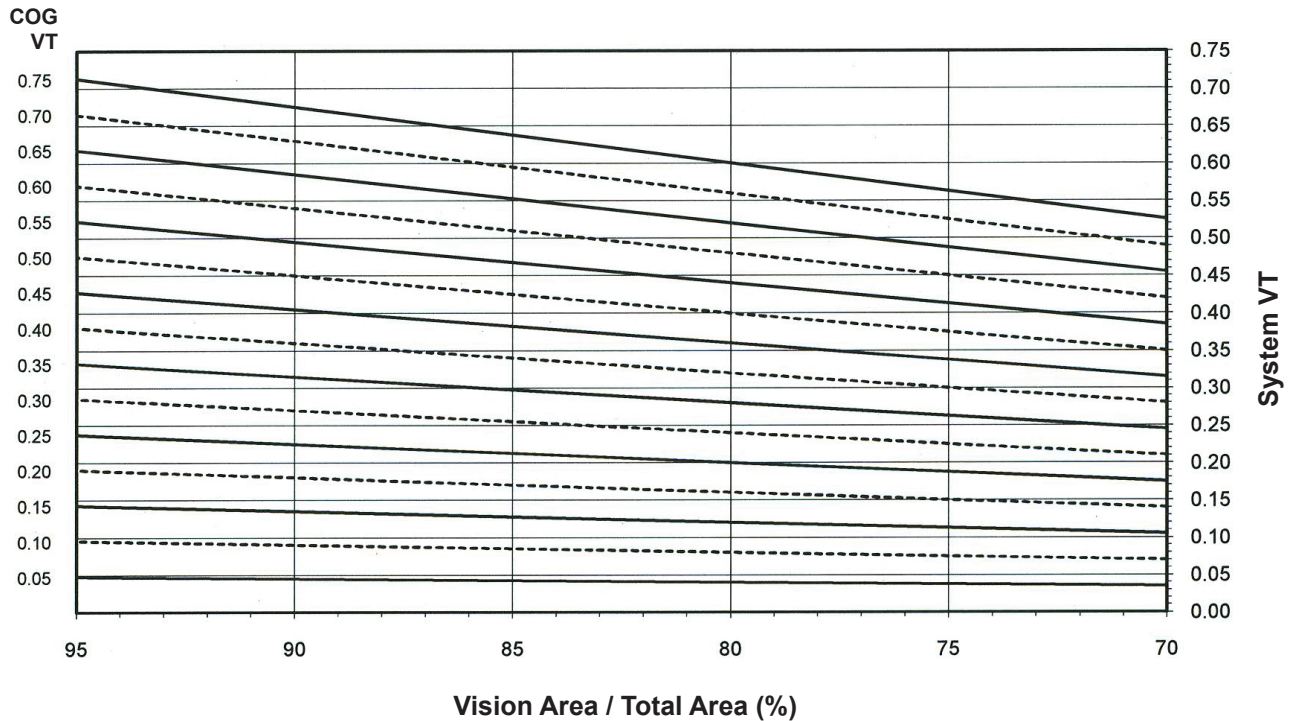


**Notes for System U-factor, SHGC and VT charts:**

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 WINDOW WITH 1" GLAZING

System Solar Heat Gain Coefficient (SHGC) vs Percent of Vision AreaSystem Visible Transmittance (VT) vs Percent of Vision Area

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

Glass U-Factor <sup>3</sup>	Overall U-Factor <sup>4</sup>
0.48	0.56
0.46	0.55
0.44	0.54
0.42	0.52
0.40	0.50
0.38	0.49
0.36	0.47
0.34	0.46
0.32	0.44
0.30	0.43
0.28	0.41
0.26	0.39
0.24	0.38
0.22	0.36
0.20	0.35
0.18	0.33
0.16	0.31
0.14	0.29
0.12	0.28
0.10	0.26

## 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 Matrices 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 <sup>2</sup>

Glass SHGC <sup>3</sup>	Overall SHGC <sup>4</sup>
0.75	0.66
0.70	0.61
0.65	0.57
0.60	0.53
0.55	0.48
0.50	0.44
0.45	0.40
0.40	0.36
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	0.05

Visible Transmittance <sup>2</sup>

Glass VT <sup>3</sup>	Overall VT <sup>4</sup>
0.75	0.65
0.70	0.60
0.65	0.56
0.60	0.52
0.55	0.47
0.50	0.43
0.45	0.39
0.40	0.34
0.35	0.30
0.30	0.26
0.25	0.22
0.20	0.17
0.15	0.13
0.10	0.09
0.05	0.04

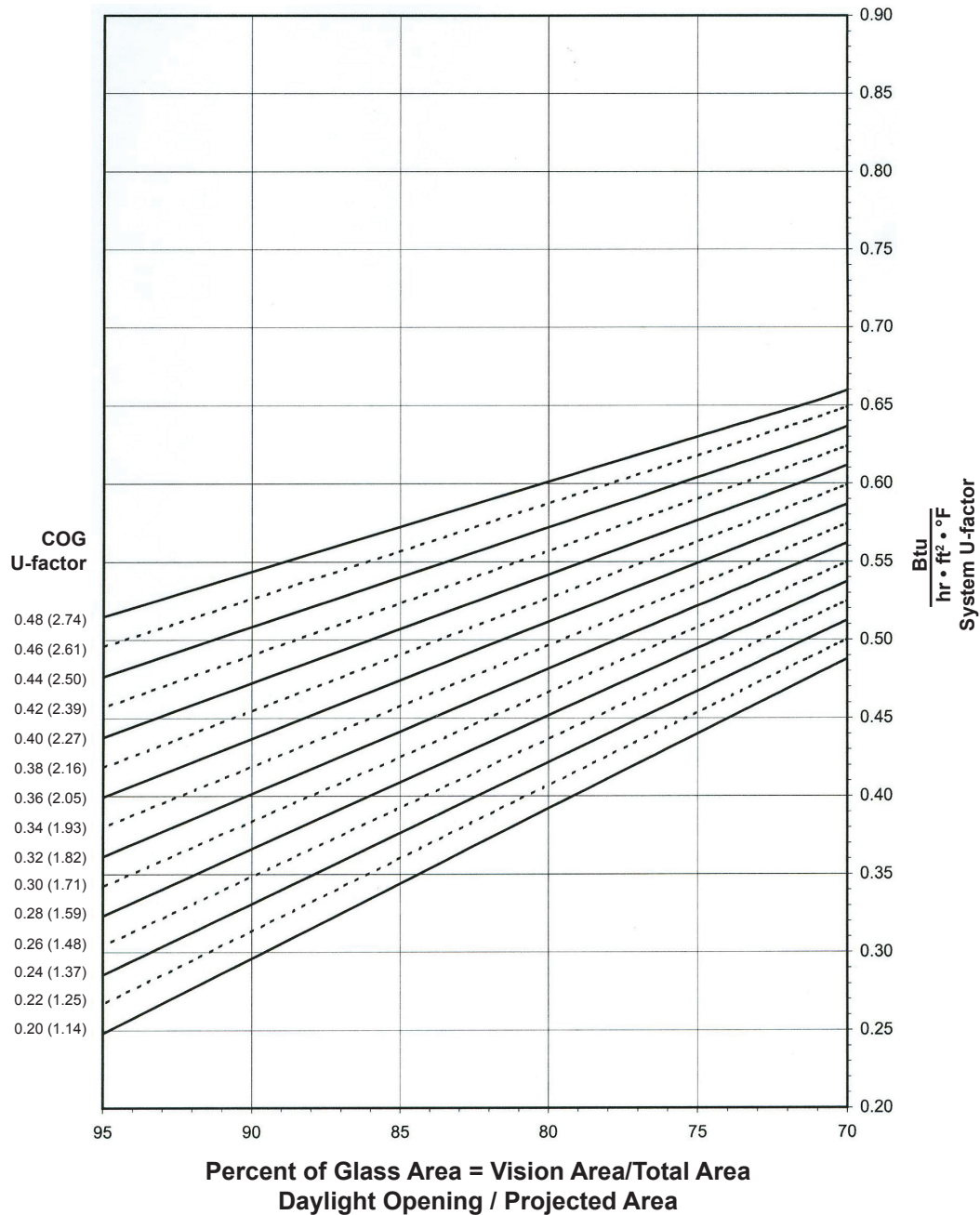
## SINGLE HUNG VERTICAL SLIDER WITH 1" GLAZING

**Note:**

Values in parentheses are metric.

COG = Center of Glass.

Charts are generated per AAMA 507

**System U-factor vs Percent of Glass Area****Notes for System U-factor, SHGC and VT charts:**

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

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

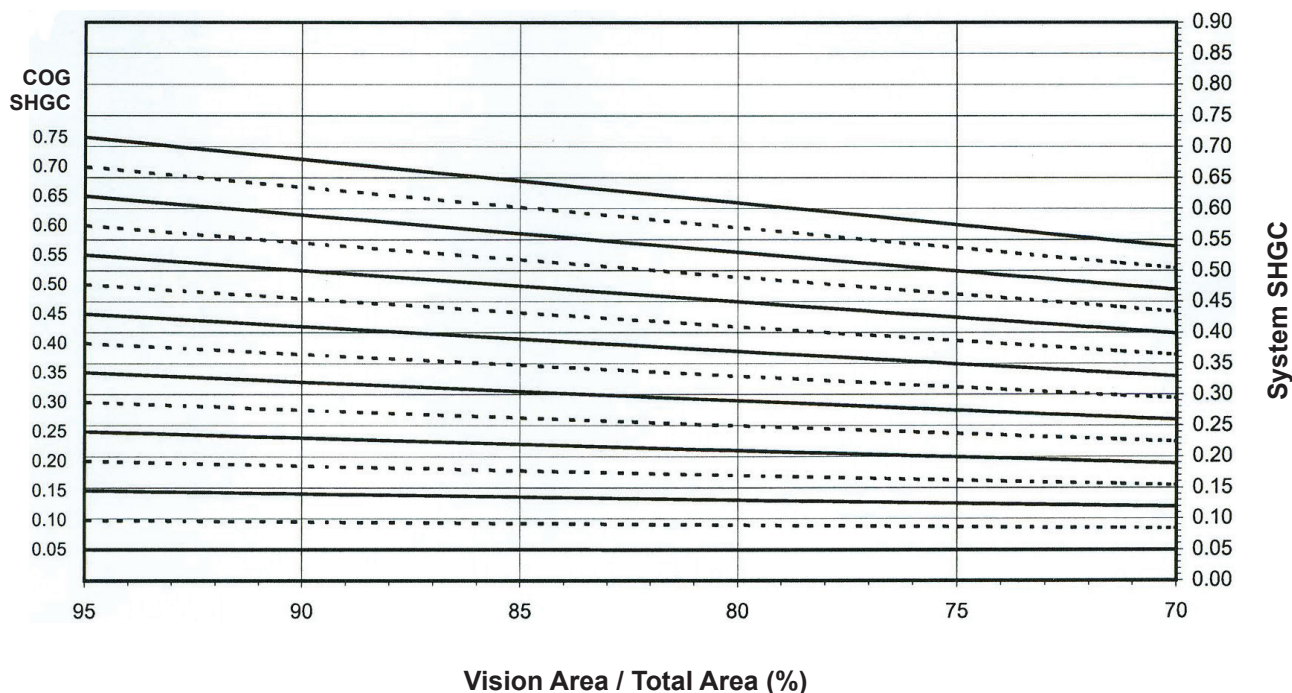
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Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

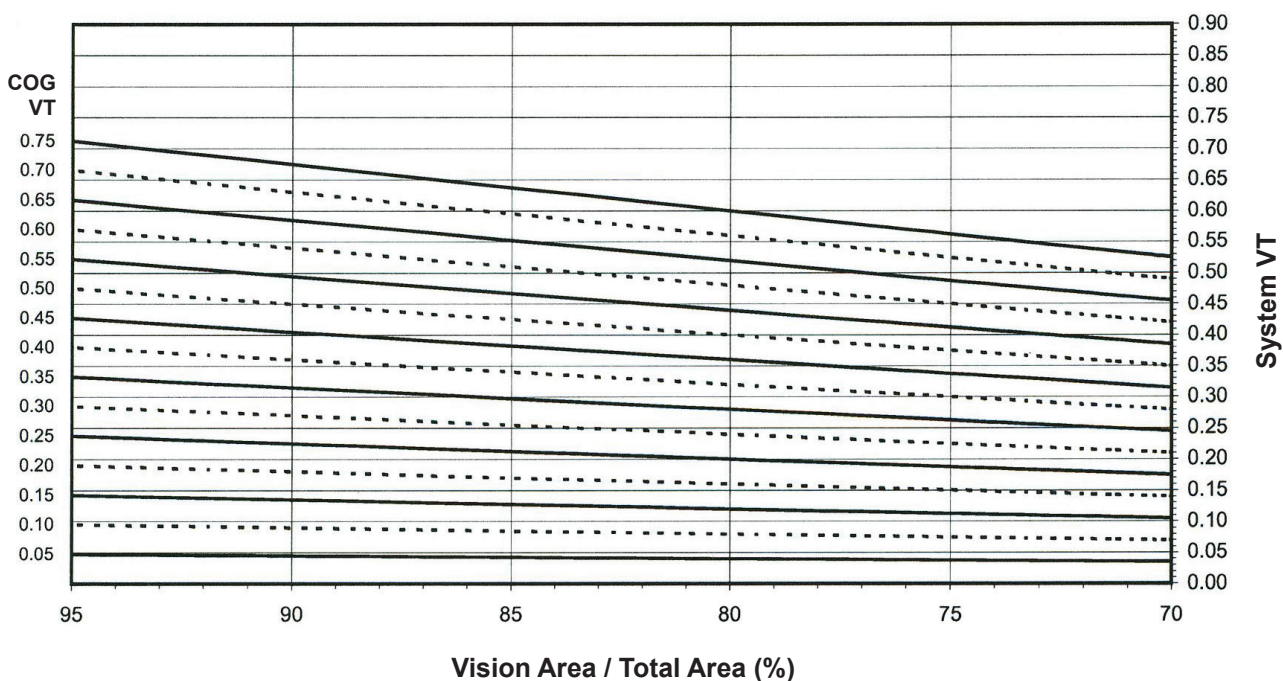
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**SINGLE HUNG VERTICAL SLIDER WITH 1" GLAZING**  
**System Solar Heat Gain Coefficient (SHGC) vs Percent of Vision Area**



**System Visible Transmittance (VT) vs Percent of Vision Area**



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

Glass U-Factor <sup>3</sup>	Overall U-Factor <sup>4</sup>
0.48	0.65
0.46	0.64
0.44	0.63
0.42	0.61
0.40	0.60
0.38	0.59
0.36	0.58
0.34	0.56
0.32	0.55
0.30	0.54
0.28	0.53
0.26	0.51
0.24	0.50
0.22	0.49
0.20	0.47

**SINGLE HUNG VERTICAL SLIDER  
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 Matrices 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** <sup>2</sup>

Glass SHGC <sup>3</sup>	Overall SHGC <sup>4</sup>
0.75	0.55
0.70	0.51
0.65	0.48
0.60	0.44
0.55	0.41
0.50	0.37
0.45	0.33
0.40	0.30
0.35	0.26
0.30	0.23
0.25	0.19
0.20	0.16
0.15	0.12
0.10	0.08
0.05	0.05

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

Glass VT <sup>3</sup>	Overall VT <sup>4</sup>
0.75	0.54
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	0.29
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 VERTICAL SLIDER WITH 1" GLAZING

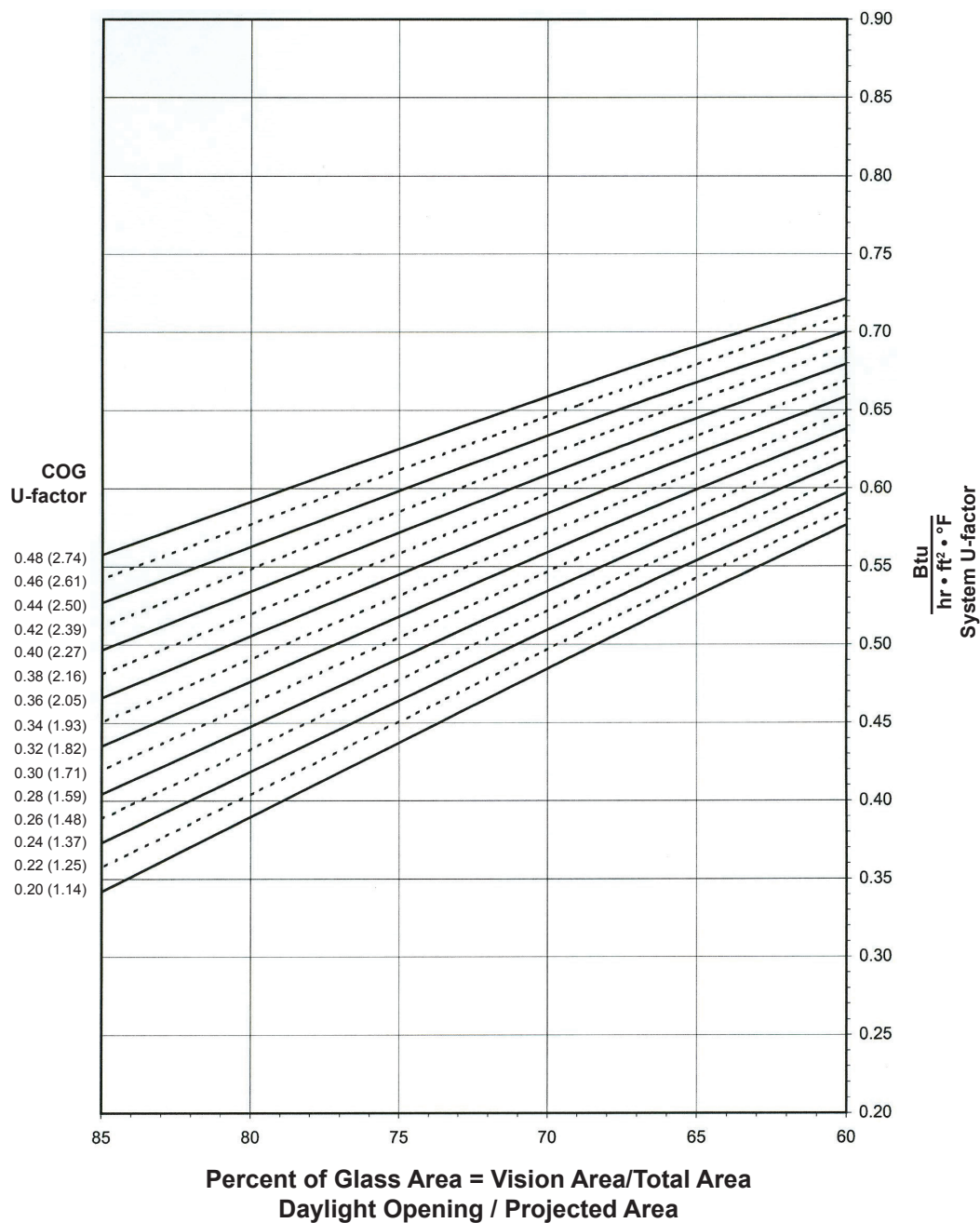
**Note:**

Values in parentheses are metric.

COG = Center of Glass.

Charts are generated per AAMA 507

### System U-factor vs Percent of Glass Area

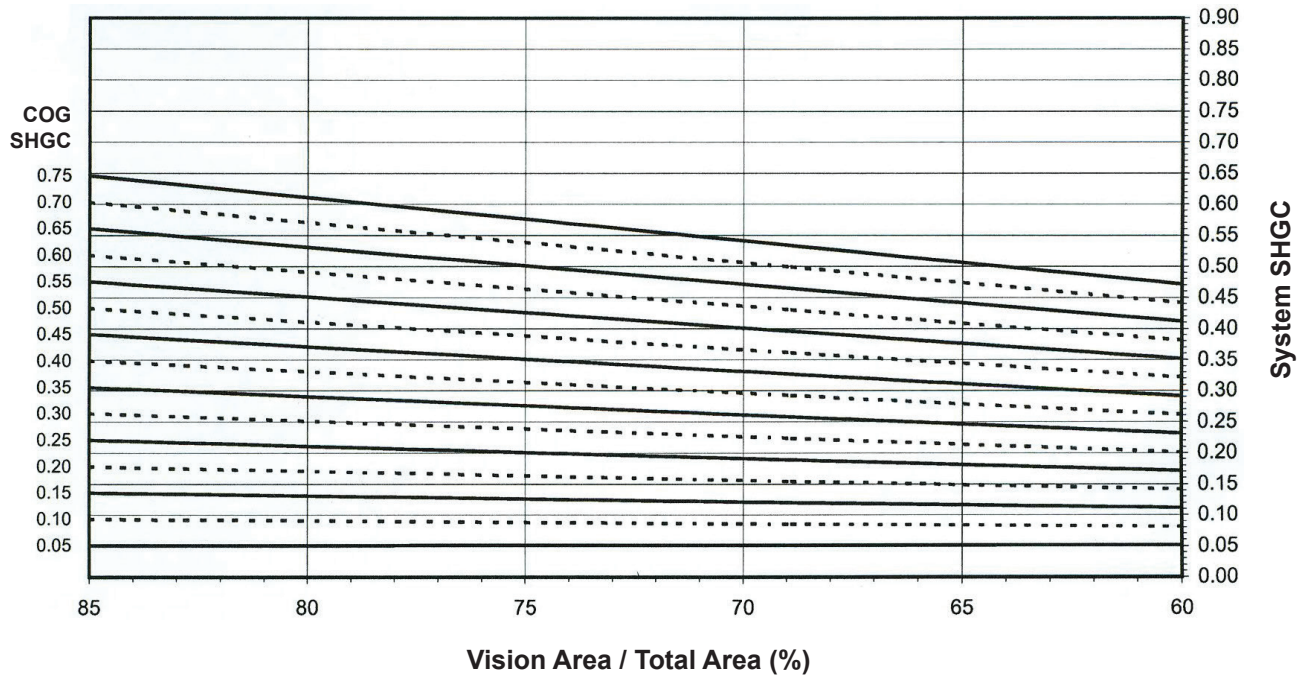
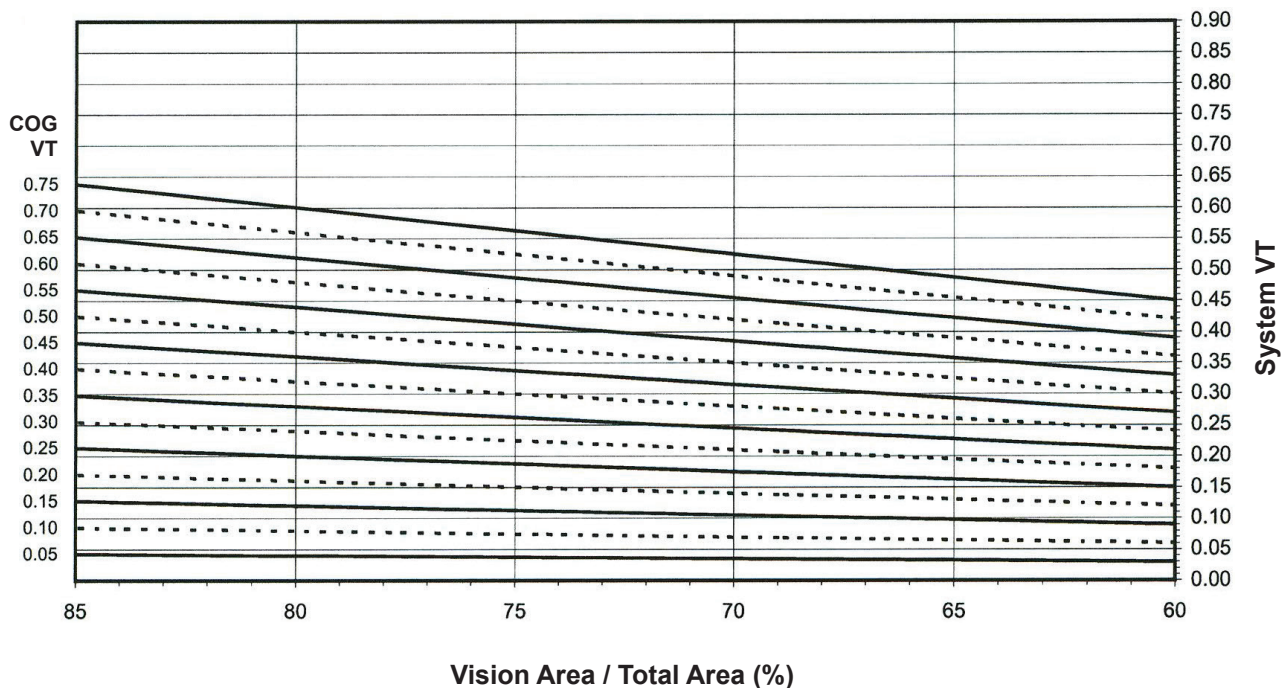


**Notes for System U-factor, SHGC and VT charts:**

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

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



**DOUBLE HUNG VERTICAL SLIDER WITH 1" GLAZING****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 <sup>1</sup> (BTU/hr • ft<sup>2</sup> • °F)

Glass U-Factor <sup>3</sup>	Overall U-Factor <sup>4</sup>
0.48	0.67
0.46	0.65
0.44	0.64
0.42	0.63
0.40	0.62
0.38	0.60
0.36	0.59
0.34	0.58
0.32	0.57
0.30	0.56
0.28	0.54
0.26	0.53
0.24	0.52
0.22	0.51
0.20	0.49

DOUBLE HUNG VERTICAL SLIDER  
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 Matrices 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 <sup>2</sup>

Glass SHGC <sup>3</sup>	Overall SHGC <sup>4</sup>
0.75	0.53
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	0.12
0.10	0.09
0.05	0.05

Visible Transmittance <sup>2</sup>

Glass VT <sup>3</sup>	Overall VT <sup>4</sup>
0.75	0.52
0.70	0.48
0.65	0.45
0.60	0.41
0.55	0.38
0.50	0.35
0.45	0.31
0.40	0.28
0.35	0.24
0.30	0.21
0.25	0.17
0.20	0.14
0.15	0.10
0.10	0.07
0.05	0.03

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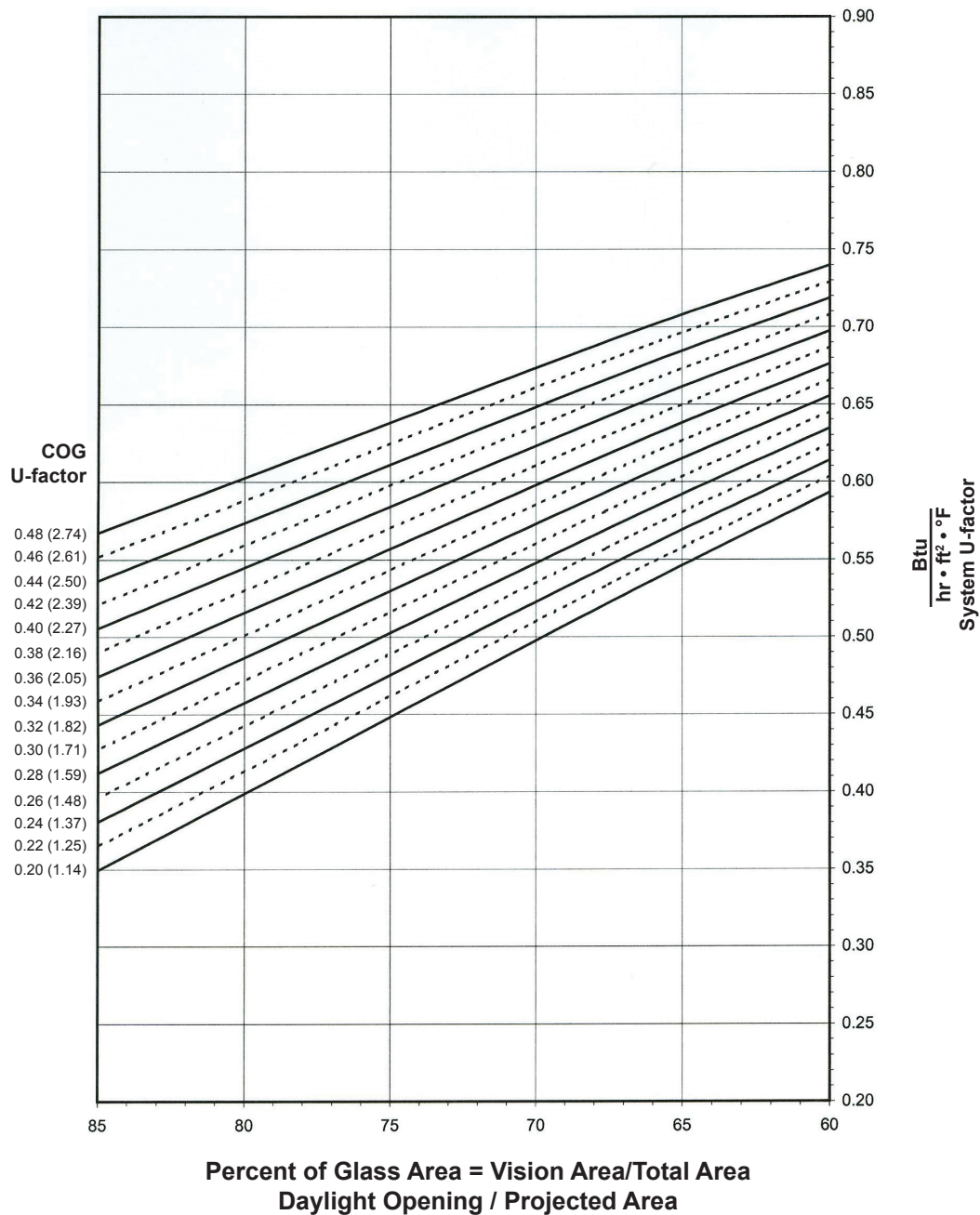
## HORIZONTAL SLIDER WITH 1" GLAZING

**Note:**

Values in parentheses are metric.

COG = Center of Glass.

Charts are generated per AAMA 507

**System U-factor vs Percent of Glass Area****Notes for System U-factor, SHGC and VT charts:**

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

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

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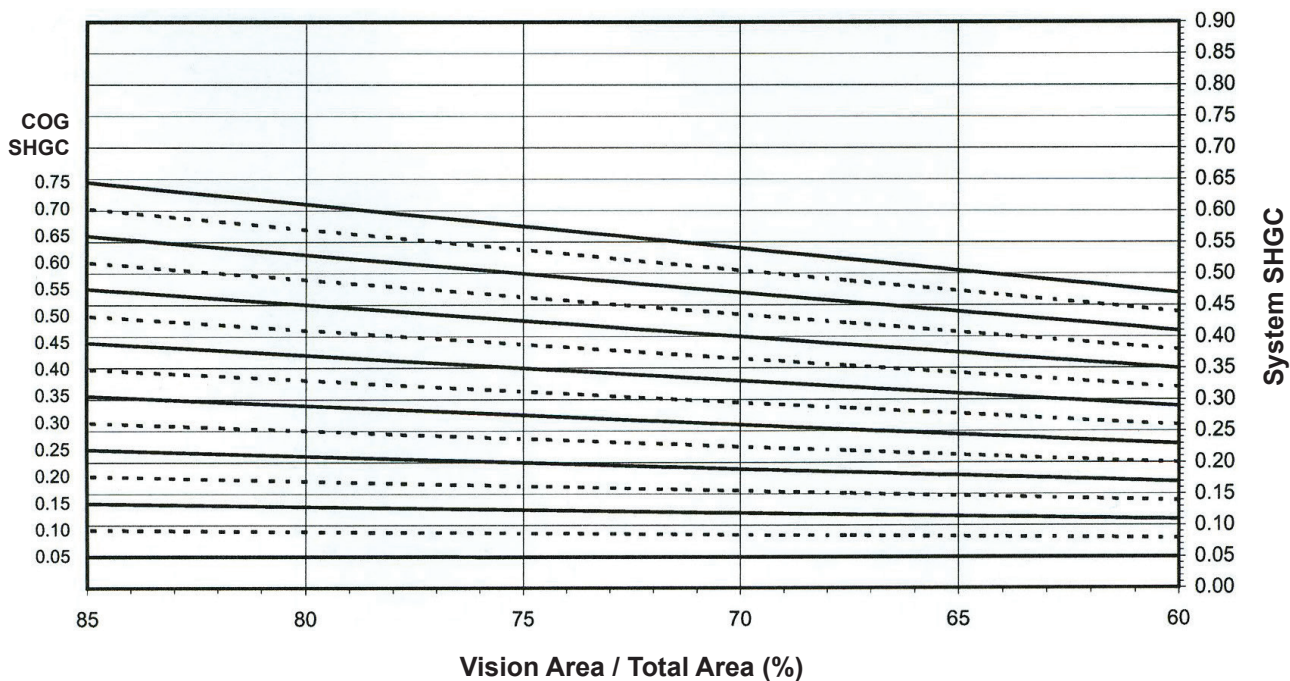
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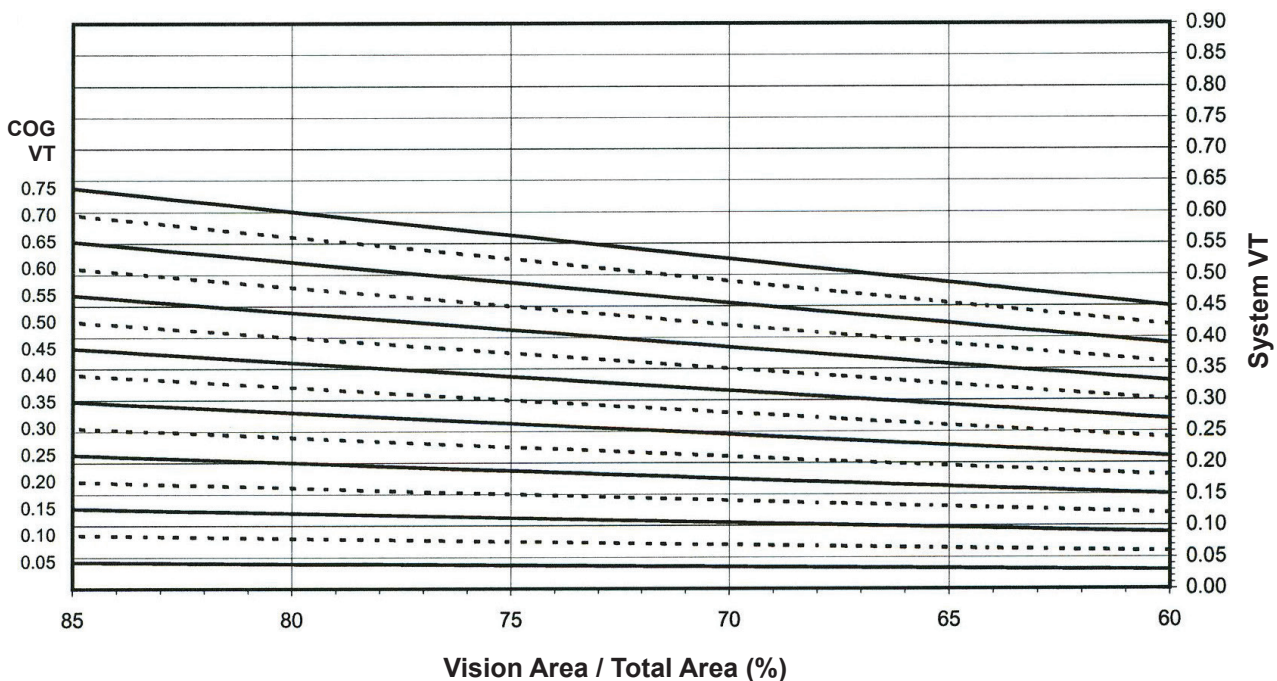


## HORIZONTAL SLIDER WITH 1" GLAZING

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



### System Visible Transmittance (VT) vs Percent of Vision Area



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

Glass U-Factor <sup>3</sup>	Overall U-Factor <sup>4</sup>
0.48	0.69
0.46	0.68
0.44	0.67
0.42	0.65
0.40	0.64
0.38	0.63
0.36	0.62
0.34	0.61
0.32	0.59
0.30	0.58
0.28	0.57
0.26	0.56
0.24	0.54
0.22	0.53
0.20	0.52

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

**SHGC Matrix**<sup>2</sup>

Glass SHGC <sup>3</sup>	Overall SHGC <sup>4</sup>
0.75	0.52
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	0.29
0.35	0.25
0.30	0.22
0.25	0.18
0.20	0.15
0.15	0.12
0.10	0.08
0.05	0.05

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

Glass VT <sup>3</sup>	Overall VT <sup>4</sup>
0.75	0.51
0.70	0.47
0.65	0.44
0.60	0.41
0.55	0.37
0.50	0.34
0.45	0.30
0.40	0.27
0.35	0.24
0.30	0.20
0.25	0.17
0.20	0.14
0.15	0.10
0.10	0.07
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.

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