350/500 HEAVY WALL™ ENTRANCES

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.

Features

- 350 medium stile has 3-1/2" vertical stile, 3-1/2" top and 6-1/2" bottom rail
- 500 wide stile has 5" vertical stile, 5" top and 6-1/2" bottom rail
- Door is 2" deep
- Door has 3/16" wall thickness
- Dual moment welded corner construction
- Single acting
- Offset pivot, butt hinges or continuous geared hinge
- Surface mounted or concealed closers
- MS lock or exit device hardware
- Architects Classic push-pulls
- 1/4", 5/8" or 1" infills
- Adjustable astragal utilizing pile weathering with polymeric fin at meeting stiles
- Sealair® bulb polymeric weatherstripping in door frames
- Permanodic® anodized finishes in seven standard choices
- Painted finishes in standard and custom choices

Optional Features

- Numerous push/pull options
- Paneline® exit device or Paneline® EL exit device
- 3/16" heavy wall frame

Product Applications

- Designed for high traffic applications such as schools, universities and office buildings

For specific product applications,
Consult your Kawneer representative.

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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.

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

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

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

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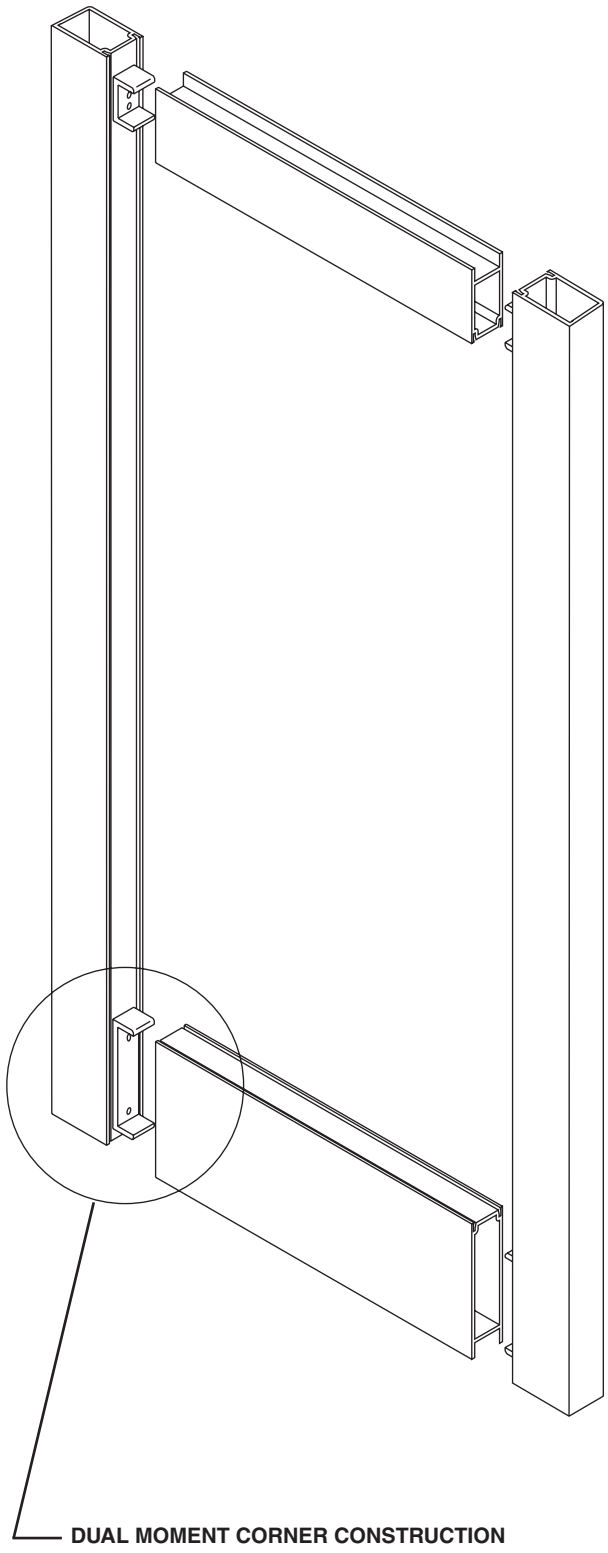
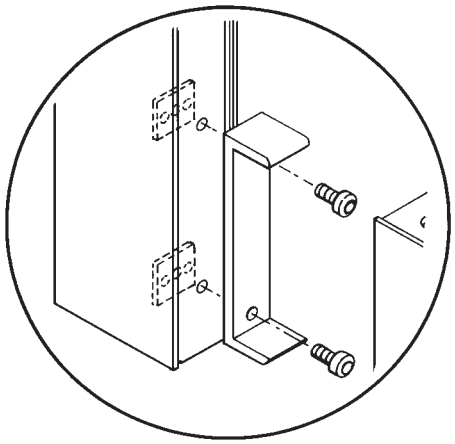
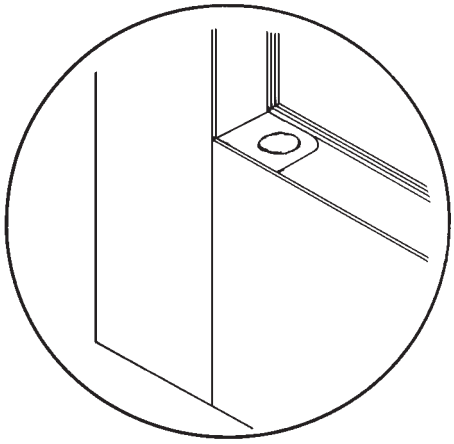
350/500 HEAVY WALL™ ENTRANCES



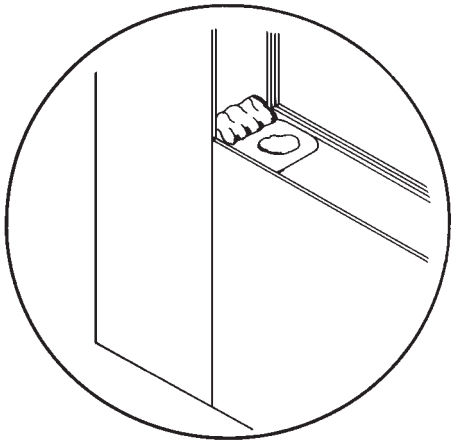
DUAL MOMENT CORNER CONSTRUCTION



#1 MECHANICAL FASTENING is accomplished by attaching a 5/16" (7.9) thick extruded aluminum channel clip to the vertical stile with 1/4"-20 heat strengthened bolts and 3/16" thick steel nut plates for a high strength welding base for attachment horizontal member.



#2 SIGMA* DEEP PENETRATION PLUG WELDS are made top and bottom after the horizontal is properly positioned over the channel clip to help provide the strongest door corner joint currently available.



#3 SIGMA* FILLET WELDS along both top and bottom webs of the rail extrusion complete the Dual Moment corner construction.

*** An arc welding process known as Shielded Inert Gas Metal Arc (SIGMA) or also known as Metal Inert Gas (MIG).**

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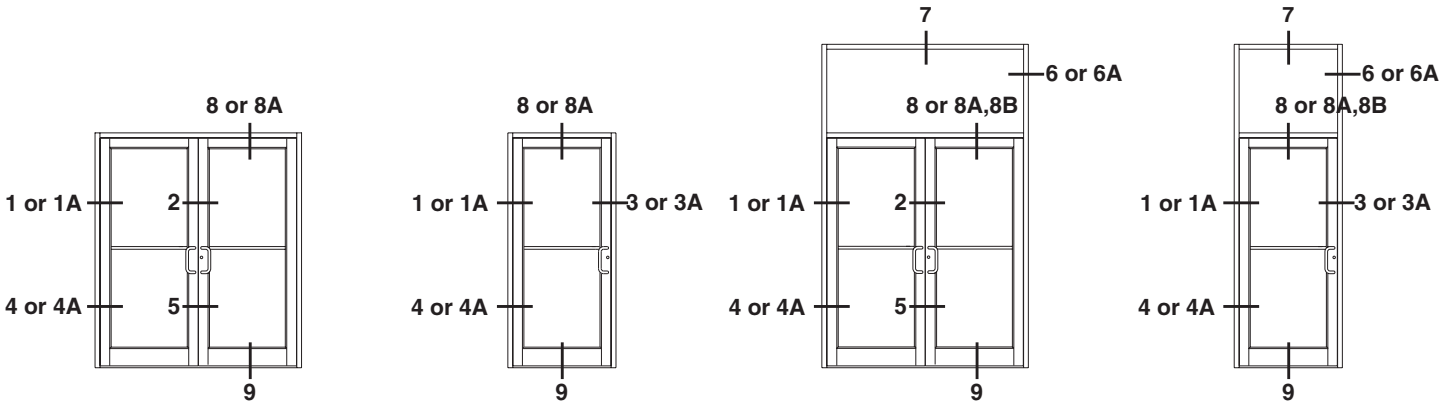
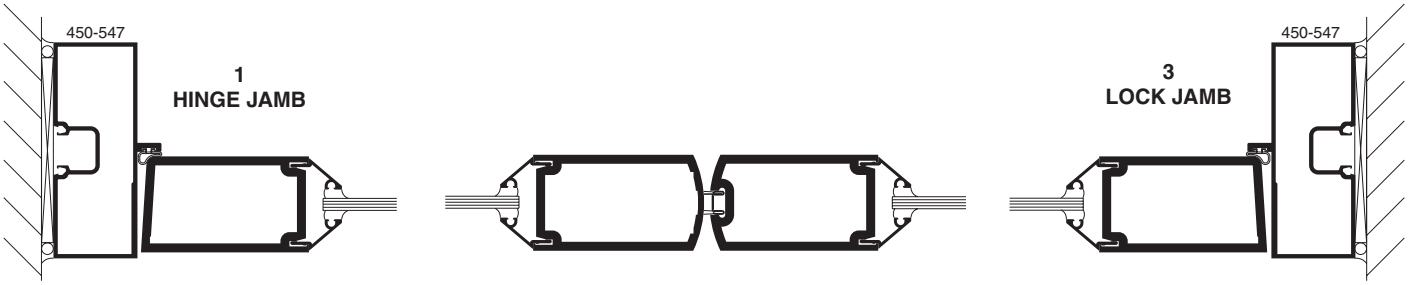
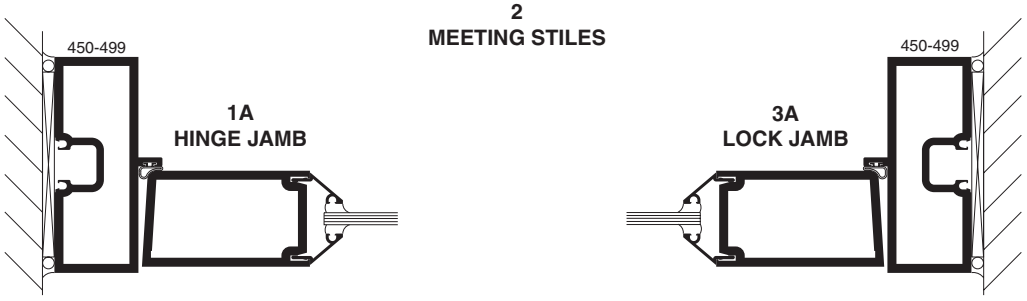
SCALE 3" = 1'-0"

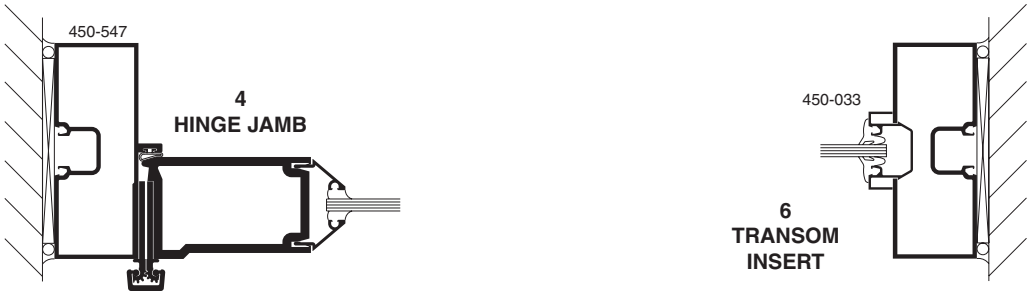
350 HEAVY WALL DOORS
TRIFAB® VG 450 CENTER DOOR FRAMES SHOWN
(HEAVY WALL FRAME OPTIONAL)





2
MEETING STILES





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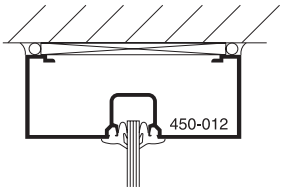
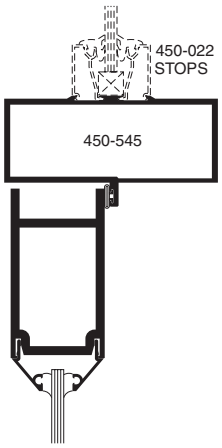
SCALE 3" = 1'-0"

350 HEAVY WALL DOORS
TRIFAB® VG 450 CENTER DOOR FRAMES SHOWN
(HEAVY WALL FRAME OPTIONAL)

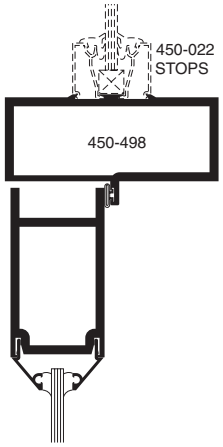
SINGLE ACTING DOORS



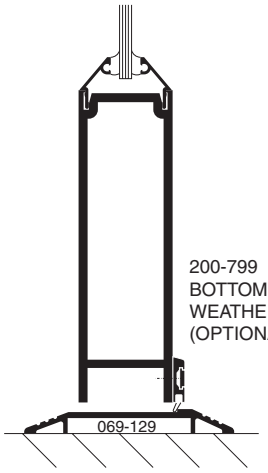
7
TRANSOM HEAD



8
DOOR HEADER/
TRANSOM BAR



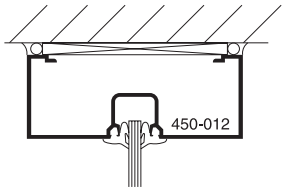
8A
DOOR HEADER/
TRANSOM BAR



9*
BOTTOM RAIL

***NOTE:** Some building codes limit threshold height to 1/2" (12.7) max.

COC WITH SINGLE ACTING OFFSET ARM



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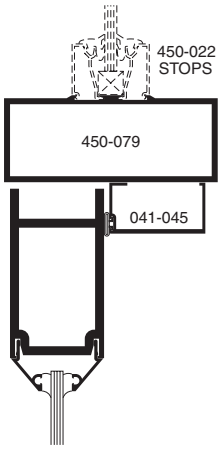
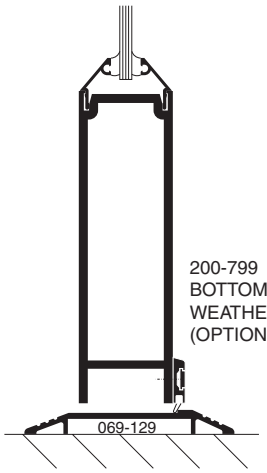


8B
DOOR HEADER/
TRANSOM BAR



9*
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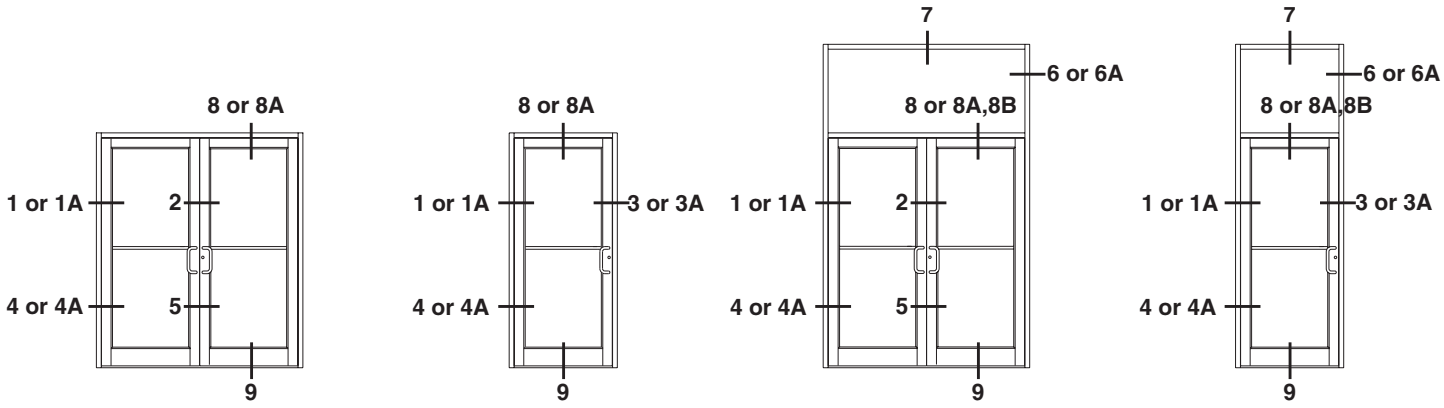
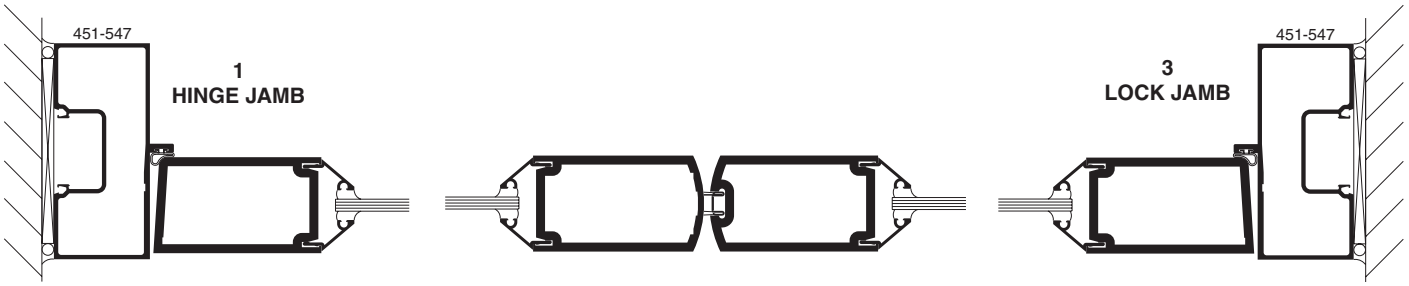
SCALE 3" = 1'-0"

350 HEAVY WALL DOORS
TRIFAB® VG 451 CENTER DOOR FRAMES SHOWN
(HEAVY WALL FRAME OPTIONAL)





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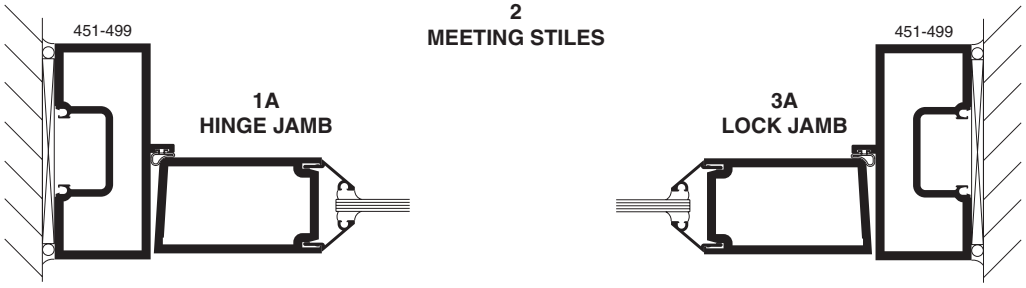
MEETING STILES



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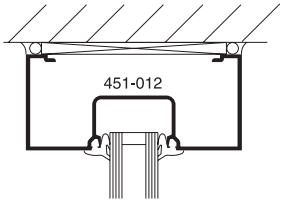
TRIFAB® VG 451 CENTER DOOR FRAMES SHOWN
(HEAVY WALL FRAME OPTIONAL)

SINGLE ACTING DOORS



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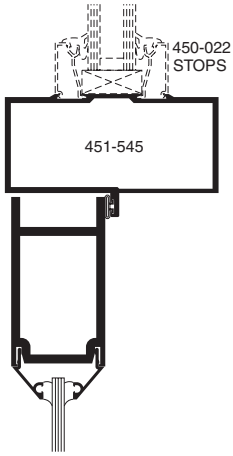
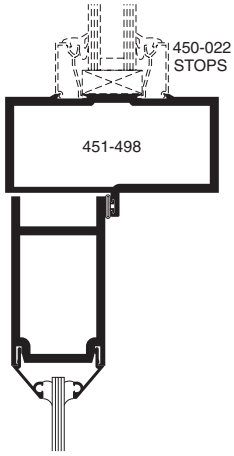
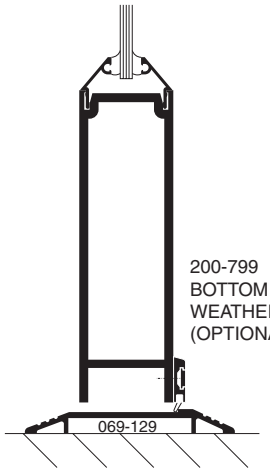


8
DOOR HEADER/
TRANSOM BAR



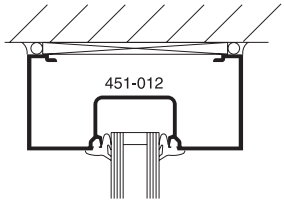
8A
DOOR HEADER/
TRANSOM BAR



9*
BOTTOM RAIL

***NOTE:** Some building codes limit threshold height to 1/2" (12.7) max.

COC WITH SINGLE ACTING OFFSET ARM



7
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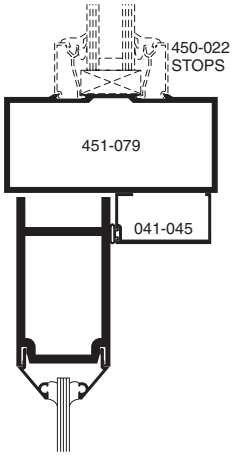

8B
DOOR HEADER/
TRANSOM BAR

9*
BOTTOM RAIL

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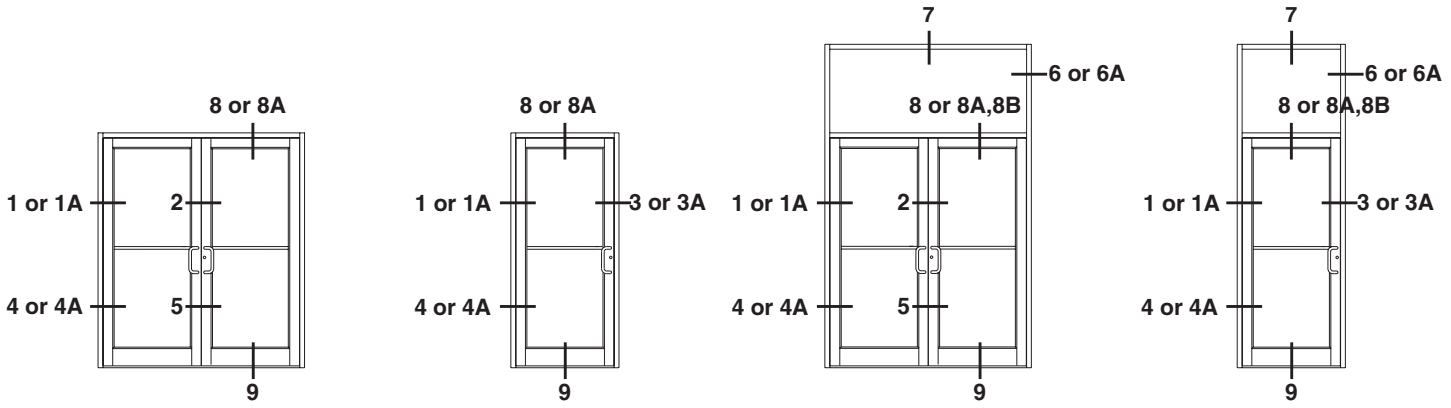
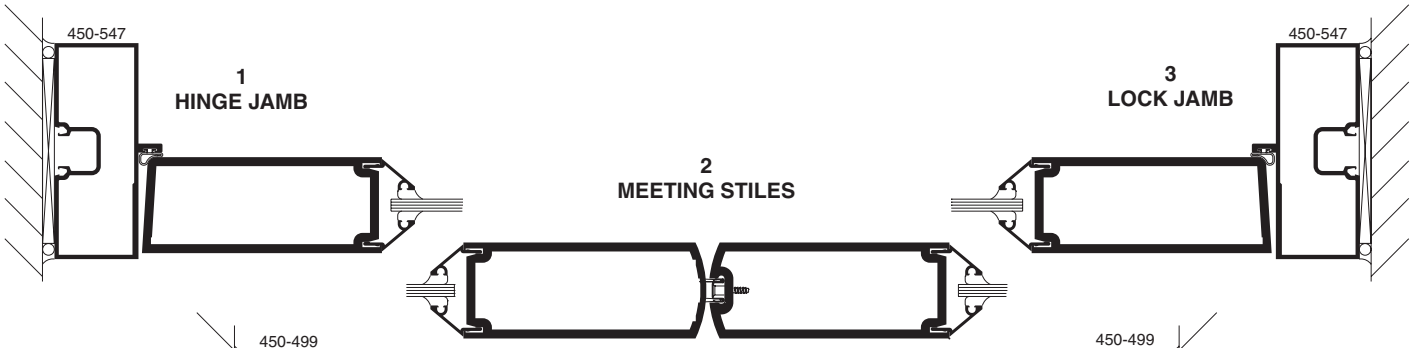
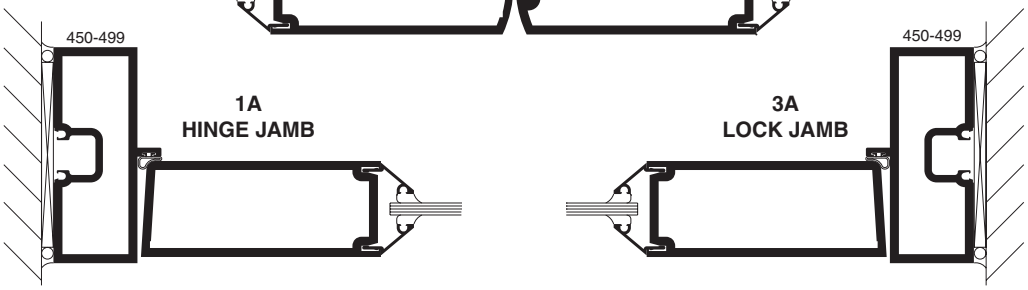
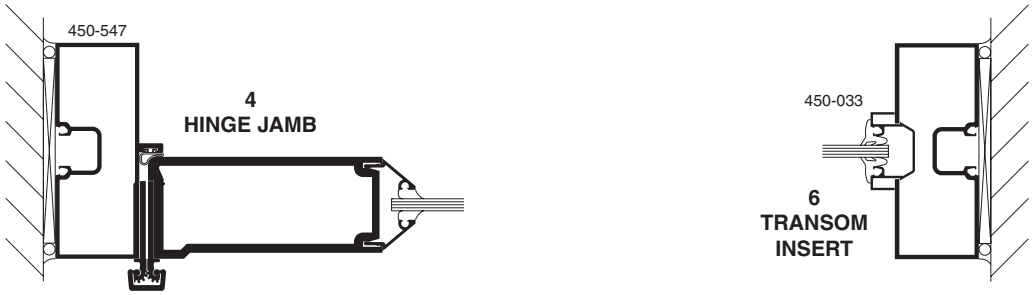
SCALE 3" = 1'-0"

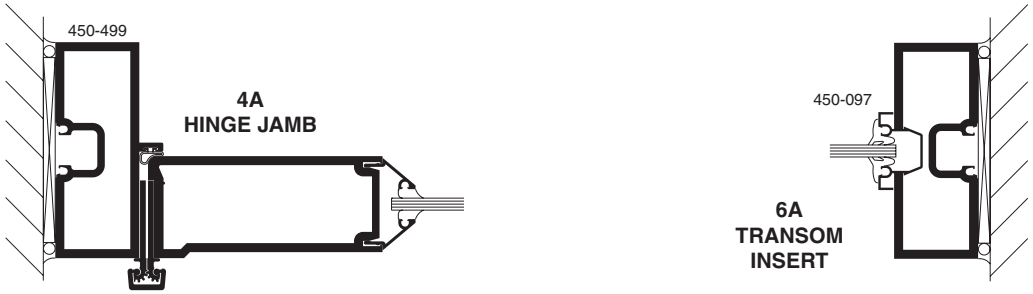
500 HEAVY WALL DOORS
TRIFAB® VG 450 CENTER DOOR FRAMES SHOWN
(HEAVY WALL FRAME OPTIONAL)











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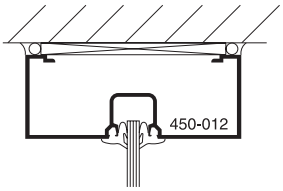
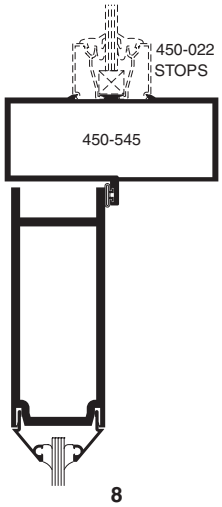
SCALE 3" = 1'-0"

500 HEAVY WALL DOORS
TRIFAB® VG 450 CENTER DOOR FRAMES SHOWN
(HEAVY WALL FRAME OPTIONAL)

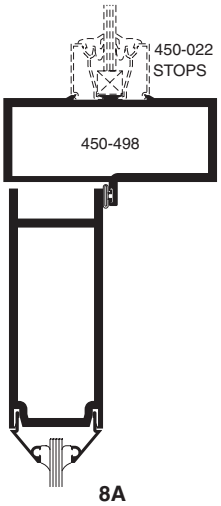
SINGLE ACTING DOORS



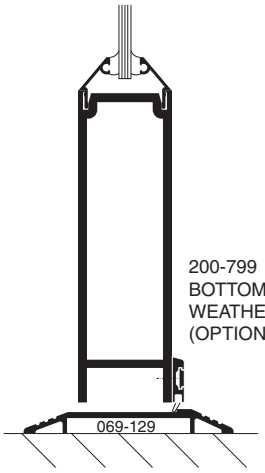
7
TRANSOM HEAD



8
DOOR HEADER/
TRANSOM BAR



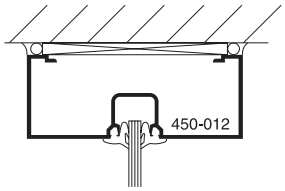
8A
DOOR HEADER/
TRANSOM BAR



9*
BOTTOM RAIL

***NOTE:** Some building codes limit threshold height to 1/2" (12.7) max.

COC WITH SINGLE ACTING OFFSET ARM



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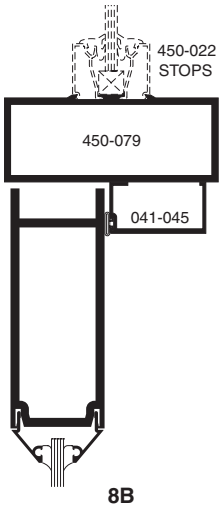
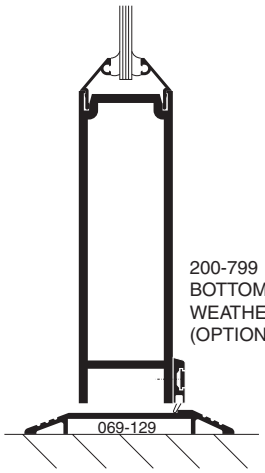
TRANSOM HEAD



8B
DOOR HEADER/
TRANSOM BAR



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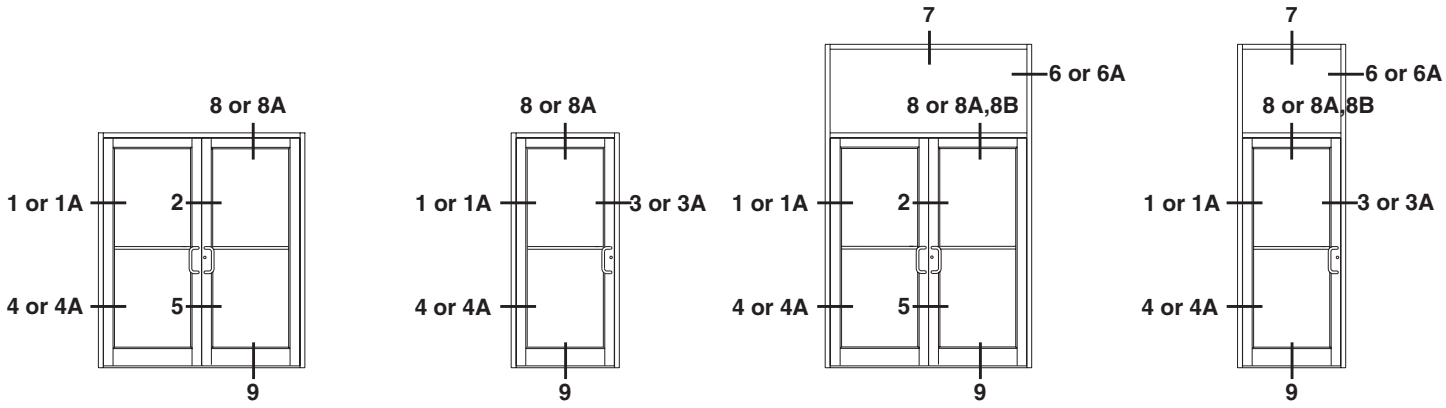
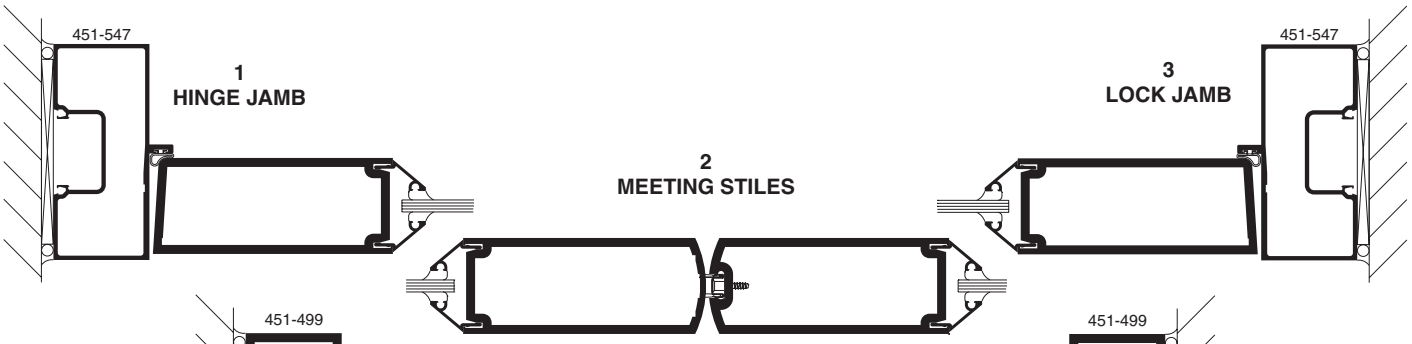
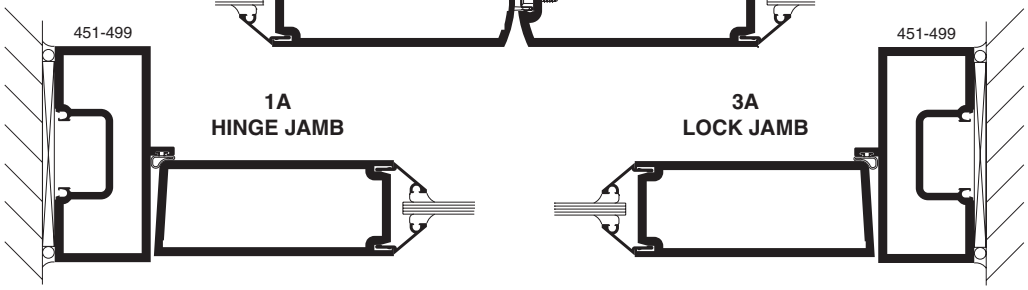
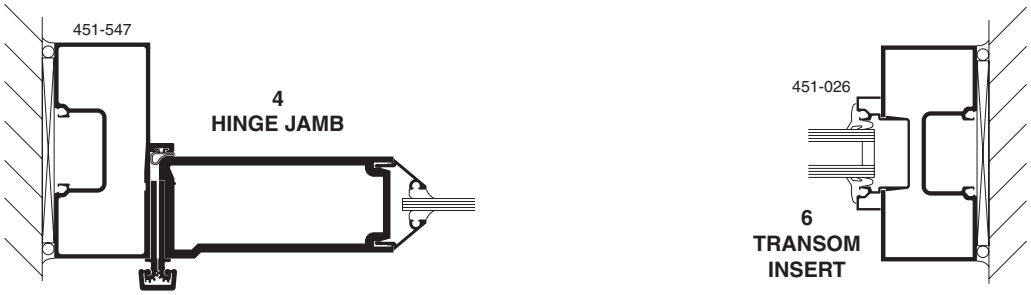
SCALE 3" = 1'-0"

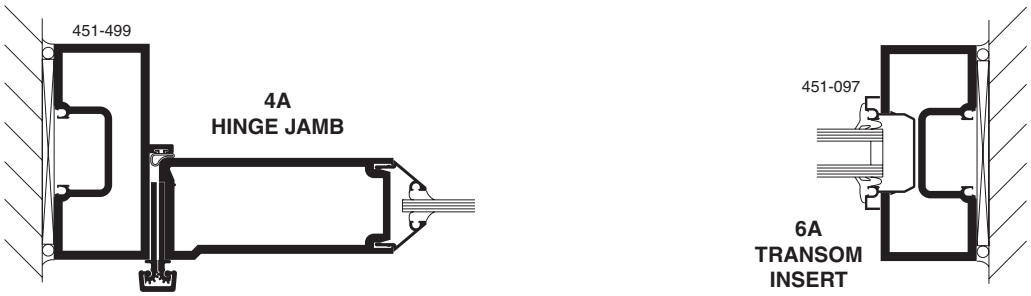
500 HEAVY WALL DOORS
TRIFAB® VG 451 CENTER DOOR FRAMES SHOWN
(HEAVY WALL FRAME OPTIONAL)











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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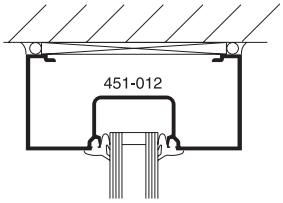
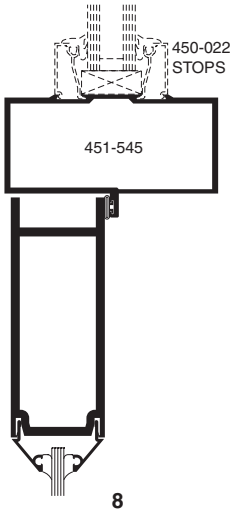
SCALE 3" = 1'-0"

500 HEAVY WALL DOORS
TRIFAB® VG 451 CENTER DOOR FRAMES SHOWN
(HEAVY WALL FRAME OPTIONAL)

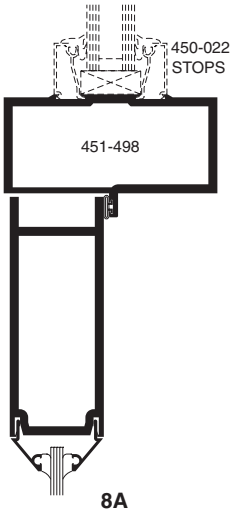
SINGLE ACTING DOORS



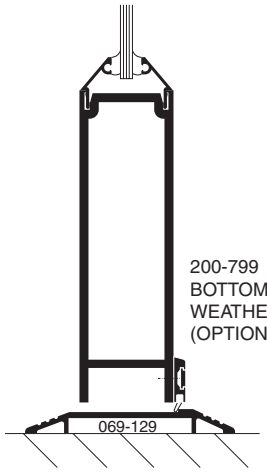
7
TRANSOM HEAD



8
DOOR HEADER/
TRANSOM BAR



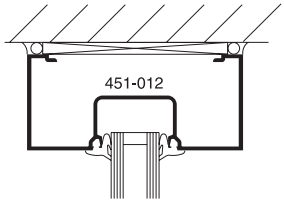
8A
DOOR HEADER/
TRANSOM BAR



9*
BOTTOM RAIL

***NOTE:** Some building codes limit threshold height to 1/2" (12.7) max.

COC WITH SINGLE ACTING OFFSET ARM



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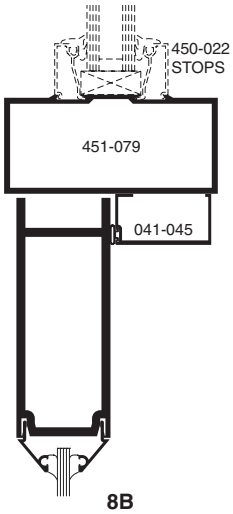
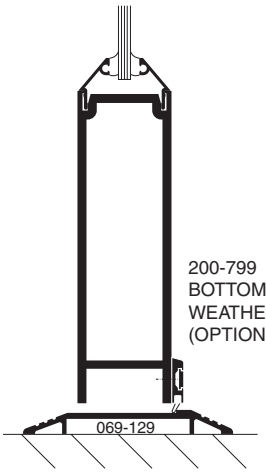
TRANSOM HEAD



8B
DOOR HEADER/
TRANSOM BAR



9*
BOTTOM RAIL

***NOTE:** Some building codes limit threshold height to 1/2" (12.7) max.

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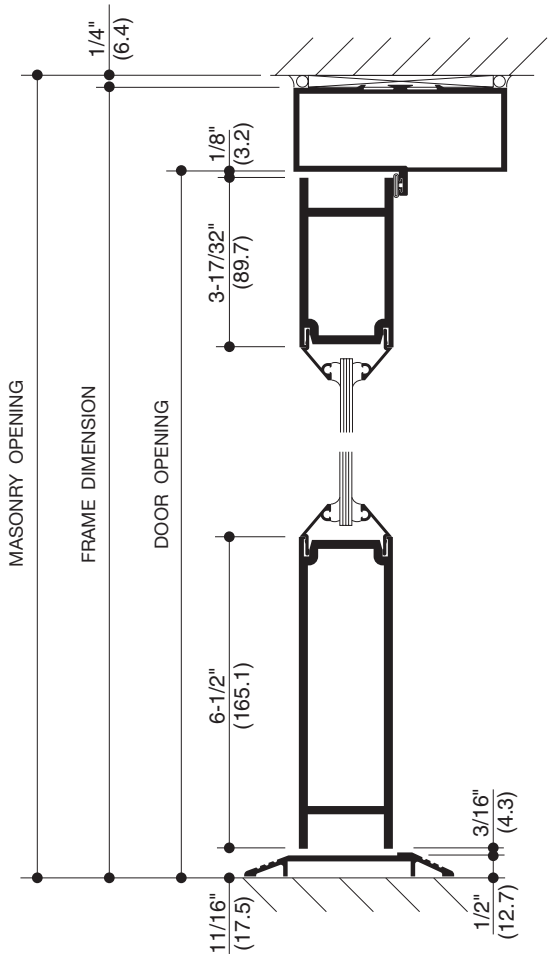
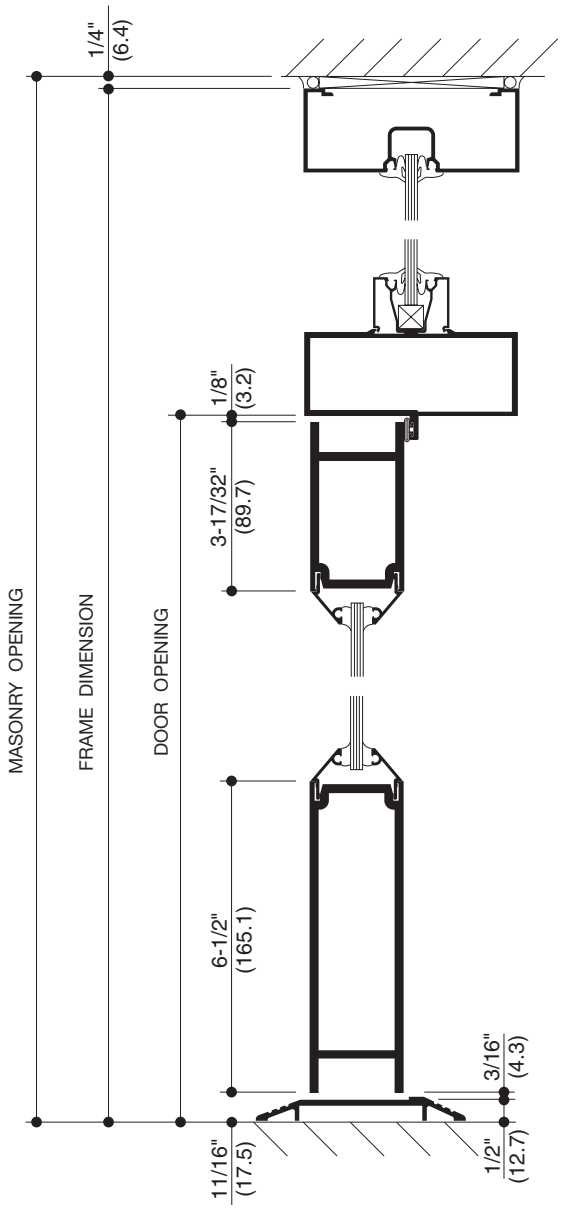
SCALE 3" = 1'-0"

TRIFAB® VG 450 CENTER DOOR FRAMES SHOWN (TRIFAB® VG 451 CENTER DOOR FRAMES SIMILAR)



SINGLE ACTING DOOR WITHOUT TRANSOM



SINGLE ACTING DOOR WITH TRANSOM

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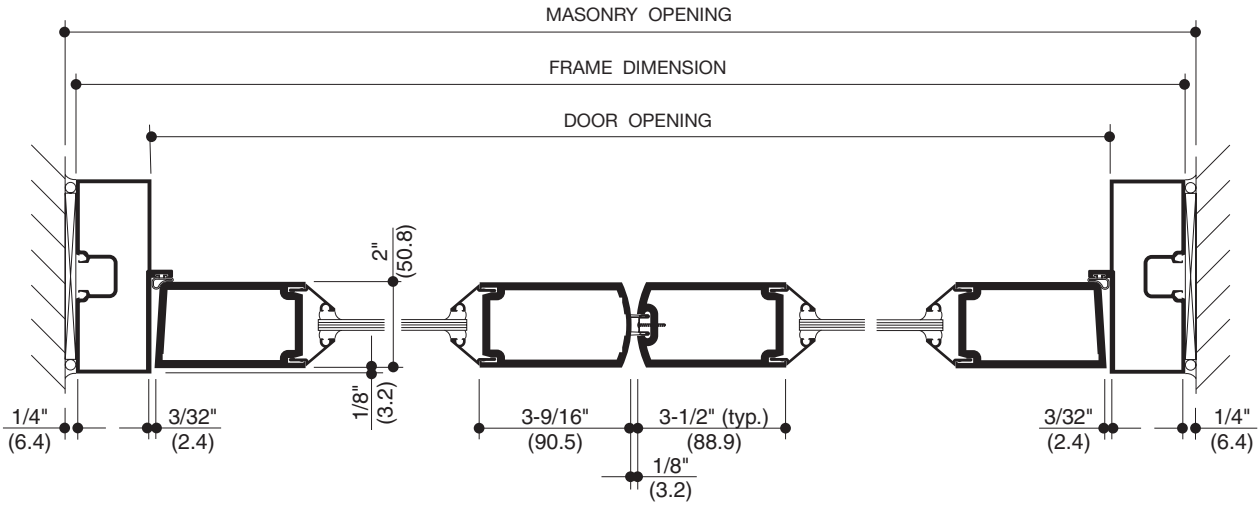
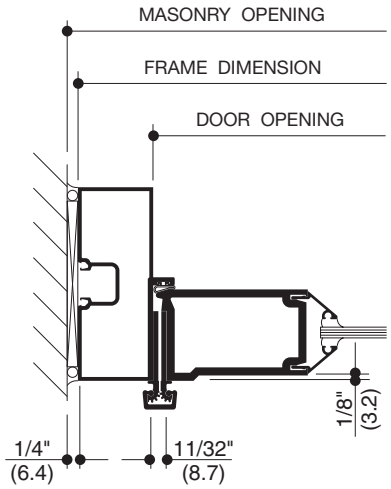
SCALE 3" = 1'-0"



SINGLE ACTING DOORS



CONTINUOUS HINGE JAMB

STANDARD SIZE TRIFAB® VG 450 CENTER DOOR FRAMES WITHOUT TRANSOM

Door Opening Dimension	Overall Frame Dimension	Masonry Opening Dimension
3' 1/2" x 7' 0" (927.1 x 2134)	3' 4" x 7' 1-3/4" (1016 x 2178)	3' 4-1/2" x 7' 2" (1028.7 x 2185)
3' 6" x 7' 0" (1066.8 x 2134)	3' 9-1/2" x 7' 1-3/4" (1155.7 x 2178)	3' 10" x 7' 2" (1168.4 x 2185)
6' 0" x 7' 0" (1829 x 2134)	6' 3-1/2" x 7' 1-3/4" (1918 x 2178)	6' 4" x 7' 2" (1930 x 2185)

WITH TRANSOM

Door Opening Dimension	Overall Frame Dimension	Masonry Opening Dimension
Unchanged from above	Add 3' 1-3/4" (959) to above heights	Add 3' 1-3/4" (959) to above heights

STANDARD SIZE TRIFAB® VG 451 CENTER DOOR FRAMES WITHOUT TRANSOM

Door Opening Dimension	Overall Frame Dimension	Masonry Opening Dimension
3' 1/2" x 7' 0" (927.1 x 2134)	3' 4" x 7' 1-3/4" (1016 x 2178)	3' 4-1/2" x 7' 2" (1028.7 x 2185)
3' 6" x 7' 0" (1066.8 x 2134)	3' 9-1/2" x 7' 1-3/4" (1155.7 x 2178)	3' 10" x 7' 2" (1168.4 x 2185)
6' 0" x 7' 0" (1829 x 2134)	6' 3-1/2" x 7' 1-3/4" (1918 x 2178)	6' 4" x 7' 2" (1930 x 2185)

WITH TRANSOM

Door Opening Dimension	Overall Frame Dimension	Masonry Opening Dimension
Unchanged from above	Add 3' 1-3/4" (959) to above heights	Add 3' 1-3/4" (959) to above heights

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	STANDARD	OPTIONAL
Door Sizes	Standard sizes shown on Page 15.	Any size up to 4' x 8' (1219 x 2438)
Glass Stops	Beveled glass stops for 3/16" (4.0) or 1/4" (6.4) infill.	Square glass stops for 3/16" (4.0) or 1/4" (6.4) infill. Also 1" (25.4) infill.
Door Frames	• Trifab® VG 450 Center - 1-3/4" x 4-1/2" (44.5 x 114.3) for single glazing. • Trifab® VG 451 Center - 2" x 4-1/2" (50.8 x 114.3) for double glazing.	• Heavy Wall Trifab® VG 450 Center - (3/16" Wall). • Heavy Wall Trifab® VG 451 Center - (3/16" Wall).
Push-Pulls	**Single Acting**: • Architects Classic Style "CO-9" Pull and "CP-II" Push bar. • Architects Classic Style "CO-9" Pull and "CP" Push bar.	**Single Acting**: • Architects Classic Style "CO-12" Pull and "CP-II" Push bar. • Architects Classic Style "CO-12" Pull and "CP" Push bar. • Architects Classic Style "CO-9" / "CO-9" Pull. • Architects Classic Style "CO-12" / "CP-12" Pull.
Door Closers	**Single Acting**: • Norton 1601 adjustable or 1601 BF adjustable surface closer with back-check, and with or without hold-open.	**Single Acting**: • LCN 1260 adjustable • LCN 4040 surface closer with or without adjustable hold-open. • Standard COC with single acting offset arm. • Norton 8100 surface closer with 50% spring power adjustment (for opening forces of less than 8 pounds.) Closer is available with standard back-checks and with or without the hold-open feature. • Door-O-Matic/Falcon SC 60 surface closer.
Pivots / Butts	**Single Acting**: • Kawneer top and bottom offset pivots. • Kawneer top and bottom 4-1/2" x 4" (114.3 x 101.6) ball bearing butt hinge with non-removable pin (NRP). • Continuous Hinge.	
Intermediate Pivots / Butts	**Single Acting**: • Kawneer optional intermediate pivot. • Kawneer 4-1/2" x 4" (114.3 x 101.6) ball bearing butt hinge with non-removable pin (NRP). **Note:** Offset Pivots are not available for use with Heavy Wall Frames.	
Power Transfers	**Single Acting**: • Kawneer optional intermediate pivot with wire transfer. • Kawneer standard (4-1/2" x 4") (114.3 x 101.6) ball bearing (NRP) butt hinge with wire transfer. • EPT (Electric Power Transfer)	
Power Supply	• SP 1000 Power Supply	
Locks (Active Leaf)	Adams-Rite MS 1850A Deadlock with two 1-5/32" (29.4) diameter 5 pin cylinders.	• Adams-Rite #4510 Latch Lock. • Adams-Rite #1850A-500 Short throw Deadlock. • Adams-Rite #1850A-505 Hookbolt Lock. • Adams-Rite #4015 Two-point Lock. • Adams-Rite #4085 Three-point Lock. • Adams-Rite #4089 Exit Indicator. • Kawneer Cylinder Guard. • Kawneer Thumbturn (in lieu of cylinder).

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	STANDARD	OPTIONAL
Locks (Inactive Leaf)	One pair of Kawneer flush bolts in the inactive leaf of a pair of doors.	**Controller®** 3-point locking system consisting of a two point locking device in the inactive leaf in lieu of flush bolts, working in conjunction with the MS 1850A deadlock in the active leaf. This combination provides for greater security than possible with flush bolts and complies with the life safety considerations of building codes which prohibit the use of flush bolts.
Threshold	A 1/2" x 4" (12.7 x 101.6) aluminum mill finish threshold.	
Weathering	**SEALAIR®** Weathering system in the door and frame consisting of a dense, bulb polymeric material, which remains resilient and retains its weathering ability under temperature extremes. (The system is complete with an optional EPDM blade gasket sweep strip applied to the bottom door rail with concealed fasteners.)	**Bottom Door Sweep**
Exit Devices	• **Kawneer 1686** concealed rod exit device with or without a rim type cylinder. • **Kawneer 1786** rim type exit device with or without a rim type cylinder.	• **Paneline®** is a concealed rod exit device applicable to single or pairs of doors. It features an activating panel contained within the door crossrail. • **Paneline® EL** is a concealed rod exit device applicable to single or pairs of doors. The device is designed for electrified access control and is compatible with most key pad and card reader systems. • **Dor-O-Matic/Falcon 1490** is a concealed rod exit device with or without a rim type cylinder. • **Dor-O-Matic/Falcon 1590** is a rim type exit device with or without a rim type cylinder. • **Dor-O-Matic/Falcon 1690** concealed rod exit device with or without a rim type cylinder. • **Dor-O-Matic/Falcon 1790** rim type exit device with or without a rim type cylinder. • **Dor-O-Matic/Falcon EL 1690** concealed rod exit device with or without a rim type cylinder. The device is designed for electrified access control and is compatible with most key pad and card reader systems. • **Dor-O-Matic/Falcon EL 1790** rim type exit device with or without a rim type cylinder. The device is designed for electrified access control and is compatible with most key pad and card reader systems. • **Dor-O-Matic/Falcon 1990** is a concealed rod exit device with or without a rim type cylinder. • **Dor-O-Matic/Falcon 2090** is a rim type exit device with or without a rim type cylinder.
	Exit Device Pulls • Architects Classic style "CO-9" Pull. • Architects Classic style "CPN" Pull for Paneline® and Paneline® EL exit devices.	**Exit Device Pulls** • Architects Classic style "CO-12" Pull (except for Paneline® and Paneline® EL exit devices).

Reference Hardware section for additional information

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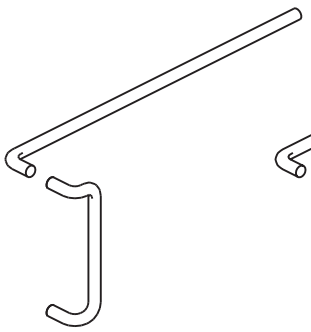
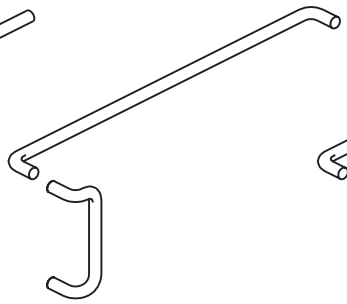
ARCHITECTS CLASSIC (PUSH-PULL SETS)

SINGLE ACTING DOORS USE A PULL HANDLE AND PUSH BAR.

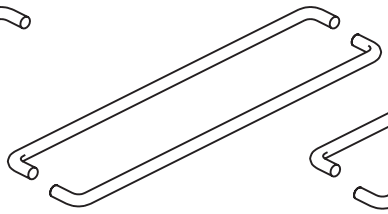
Refer to **HARDWARE SECTION** for complete hardware information.



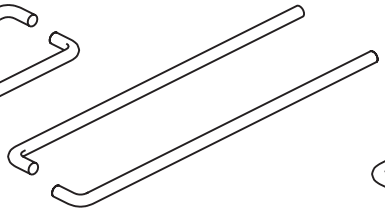
CO-9 / CP
CO-12 / CP



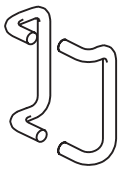
CO-9 / CP-II
CO-12 / CP-II



CP-II / CP-II

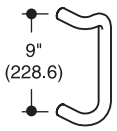


CP / CP

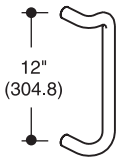


CO-9 / CO-9
CO-12 / CO-12

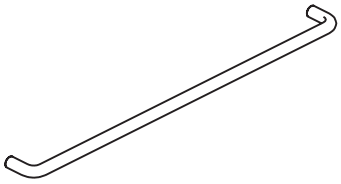
ARCHITECTS CLASSIC (COMPONENTS)



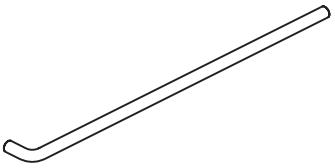
"CO-9"
PULL



"CO-12"
PULL

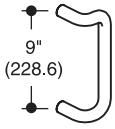


"CP-II" PUSH BAR

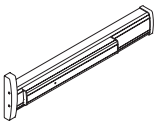


"CP" PUSH BAR

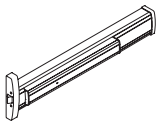
EXIT DEVICES and EXIT DEVICE PULLS



"CO-9"
PULL

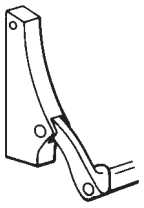


CONCEALED ROD EXIT DEVICE
Kawneer 1686

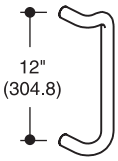


RIM LATCH EXIT DEVICE
Kawneer 1786

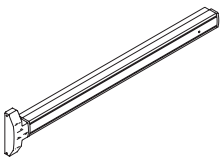
c UL us LISTED



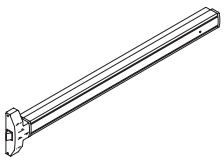
CONCEALED ROD EXIT DEVICE
Dor-O-Matic/Falcon 1990



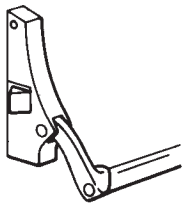
"CO-12"
PULL



CONCEALED ROD EXIT DEVICE
Dor-O-Matic/Falcon 1690
Dor-O-Matic/Falcon EL 1690



RIM LATCH EXIT DEVICE
Dor-O-Matic/Falcon 1790
Dor-O-Matic/Falcon EL 1790



RIM LATCH EXIT DEVICE
Dor-O-Matic/Falcon 2090

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SCALE 3" = 1'-0"

PANELINE® EXIT DEVICE

The Paneline® concealed rod exit device will accommodate variations in door width as shown in the following illustrations. Sidelites adjacent to Paneline equipped doors not requiring exit devices may be fitted with fixed panels as detailed below to match the general appearance of the Paneline cross rail.

c UL US LISTED

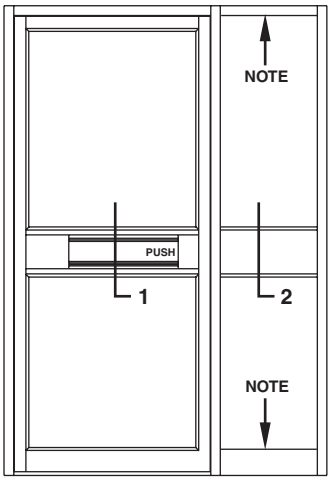
The Optional Paneline® EL device is designed for electrified access control and is compatible with most key pad and card reader systems.

See **Hardware Section** for complete description of Paneline hardware, including finish of units.

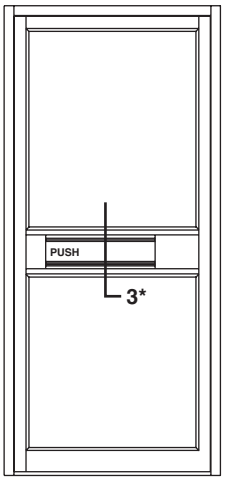
Paneline uses mortise cylinder in lieu of the normal rim-type.
Dummy Paneline units should not use any type of lock.

INTERIOR ELEVATIONS

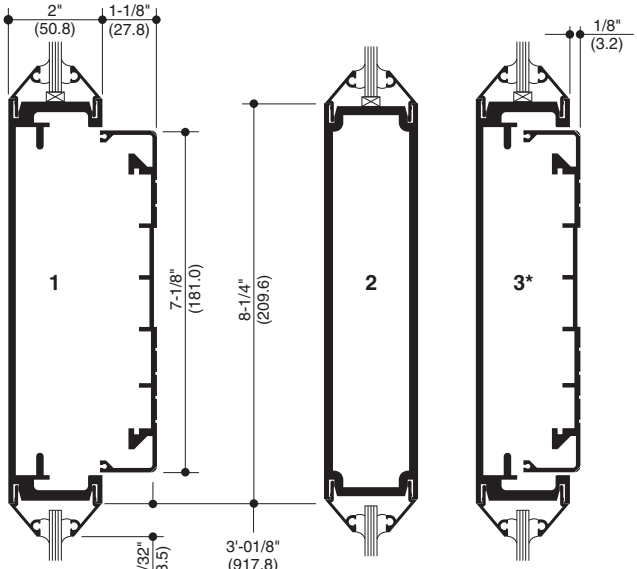
NOTE: Sidelites must be stop glazed above and below rail.



ACTIVE DOOR **SIDELITE**



***VESTIBULE DOOR**
(Without Exit Device or Lock)

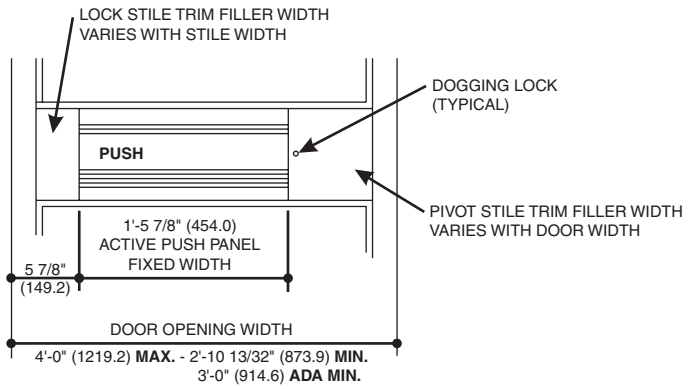


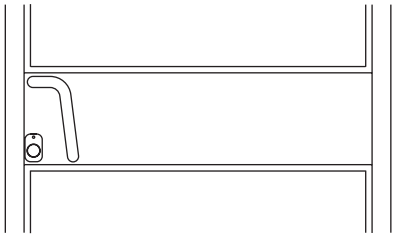
CROSSRAIL WITH EXIT DEVICE AND CPN PULL HANDLE

SIDELITE CROSSRAIL

CROSSRAIL WITH FIXED PANEL

INTERIOR VIEW

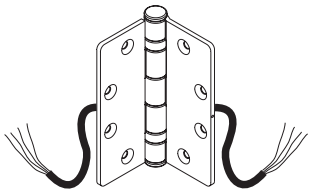




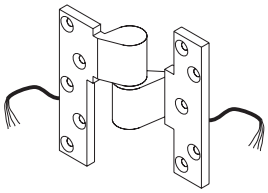
EXTERIOR VIEW

"CPN" PULL AND OPTIONAL CYLINDER GUARD SHOWN

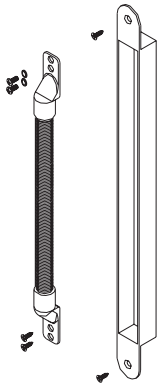
PANELINE® EL COMPONENTS



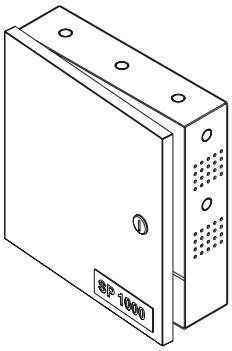
POWER TRANSFER INTERMEDIATE BUTT HINGE



POWER TRANSFER INTERMEDIATE OFFSET PIVOT



ELECTRIC POWER TRANSFER (EPT)



SP 1000 POWER SUPPLY

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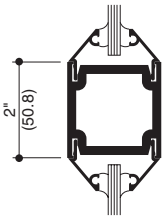
KAWNEER AN ALCOA COMPANY

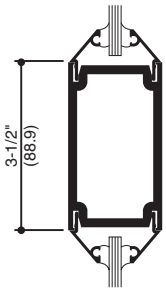
SCALE 3" = 1'-0"

2" CROSSRAIL WITH BEVELED STOPS FOR 1/4" INFILL



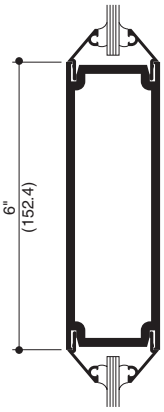
200-182

3-1/2" CROSSRAIL WITH BEVELED STOPS FOR 1/4" INFILL



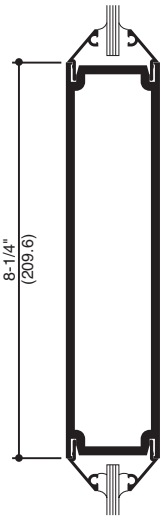
200-183

6" CROSSRAIL WITH BEVELED STOPS FOR 1/4" INFILL

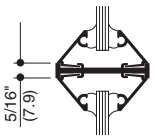


200-184

8-1/4" CROSSRAIL WITH BEVELED STOPS FOR 1/4" INFILL

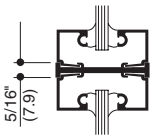


200-185



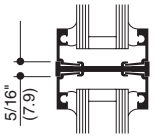
118-070

5/16" CROSSRAIL WITH BEVELED STOPS FOR 1/4" INFILL



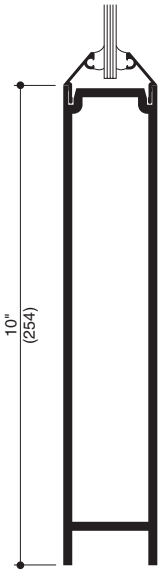
118-070

5/16" CROSSRAIL WITH SQUARE STOPS FOR 1/4" INFILL



118-070

5/16" CROSSRAIL WITH SQUARE STOPS FOR 1" INFILL



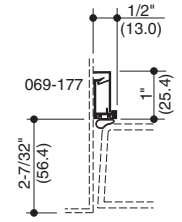
10" BOTTOM RAIL

400-086 (TF VG 450) SNAP-IN DOOR STOP

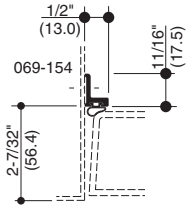
451-098 (TF VG 451) SNAP-IN DOOR STOP

OPTIONAL SQUARE STOPS FOR 1/4" INFILL

OPTIONAL SQUARE STOPS FOR 1" INFILL



APPLIED DOOR STOP



APPLIED DOOR STOP

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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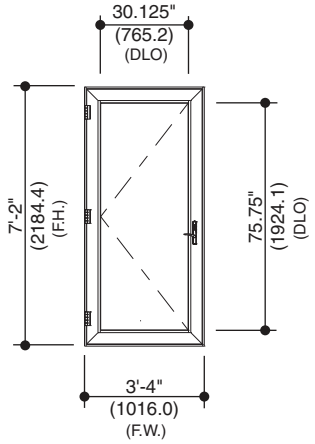
Project Specific U-Factor Example Calculation



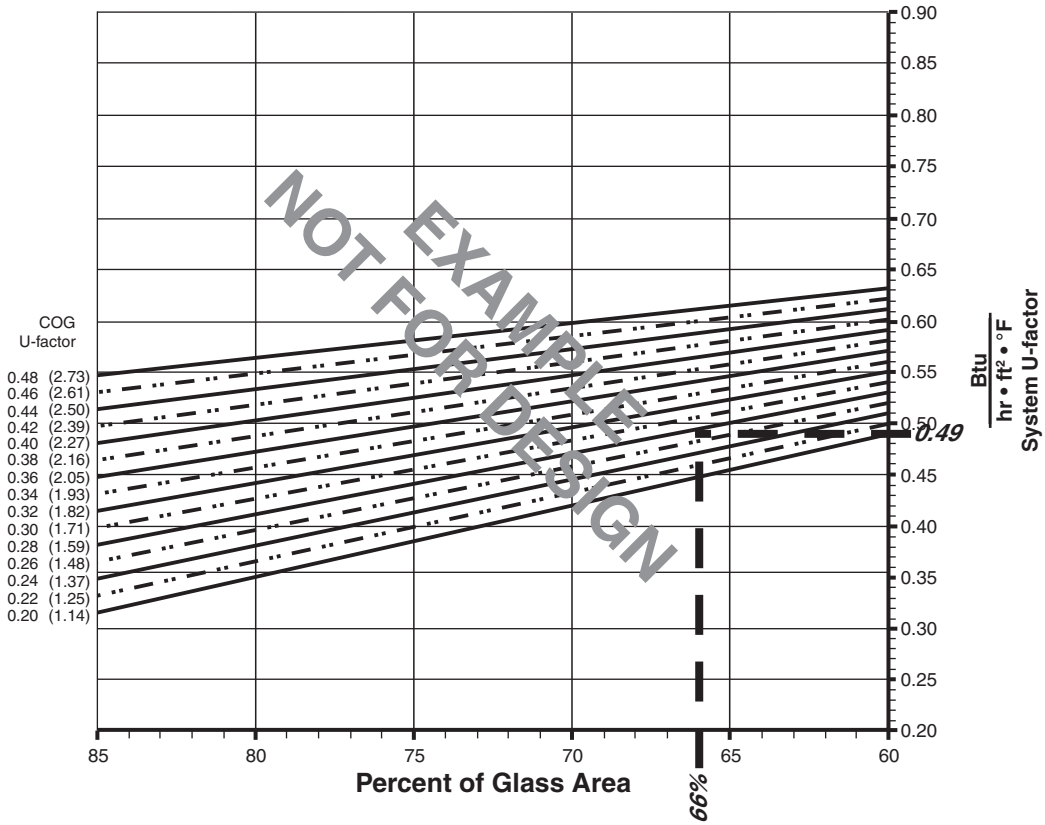
Example Glass U-Factor = 0.28 Btu/hr • ft² • °F

Total Daylight Opening = 30.125" x 75.75" = 15.85 ft²

Total Projected Area = 3'-4" x 7'-2" = 23.9 ft²

Percent of Glass = (Total Daylight Opening ÷ Total Projected Area)100
= (15.85 ÷ 23.9)100 = 66%

System U-factor vs Percent of Glass Area



Based on 66% glass and center of glass (COG) U-factor of 0.28
System U-factor is equal to 0.49 Btu/hr • ft² • °F

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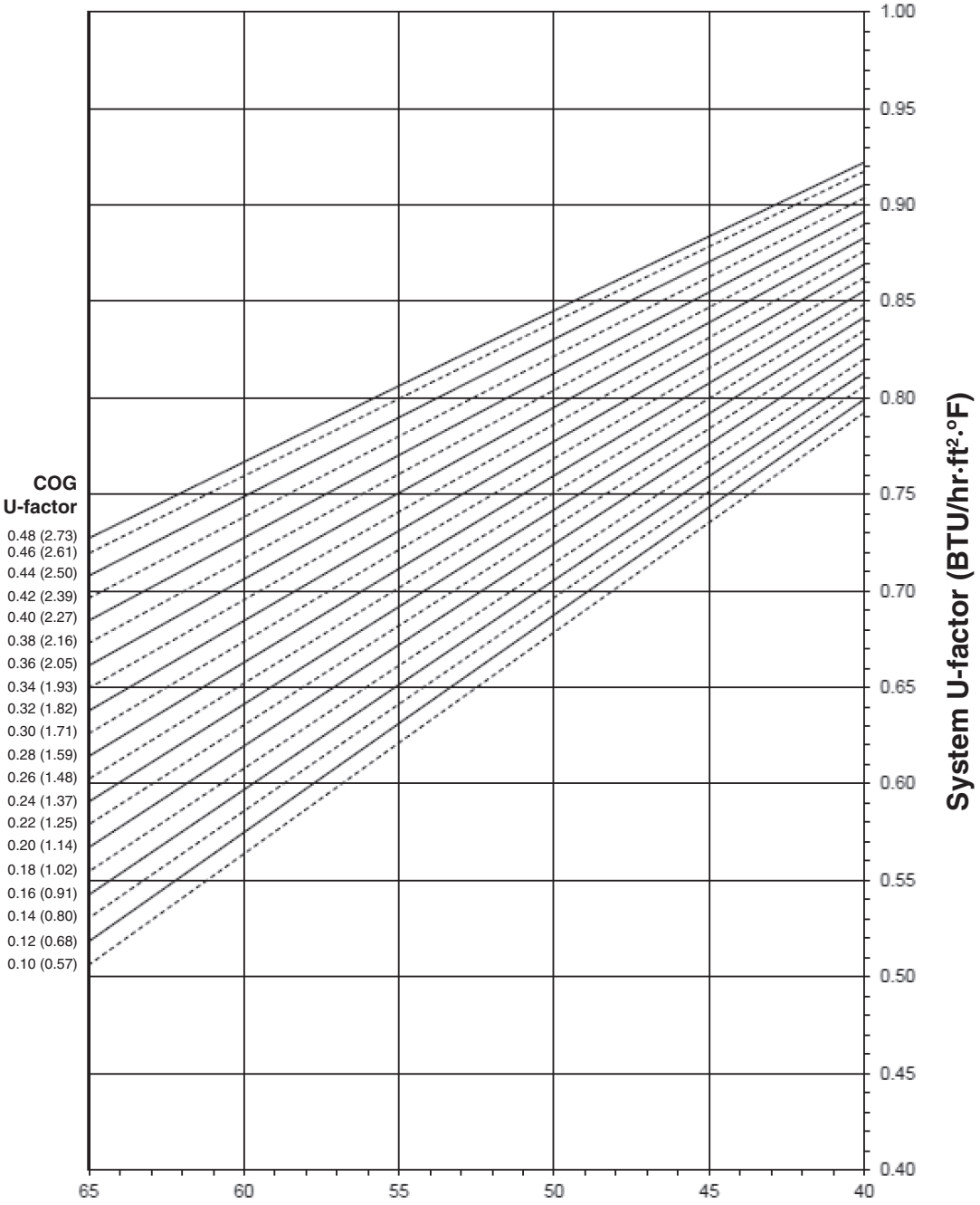
350 (SINGLE DOOR)

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 (winter conditions) and are obtained from your glass supplier.

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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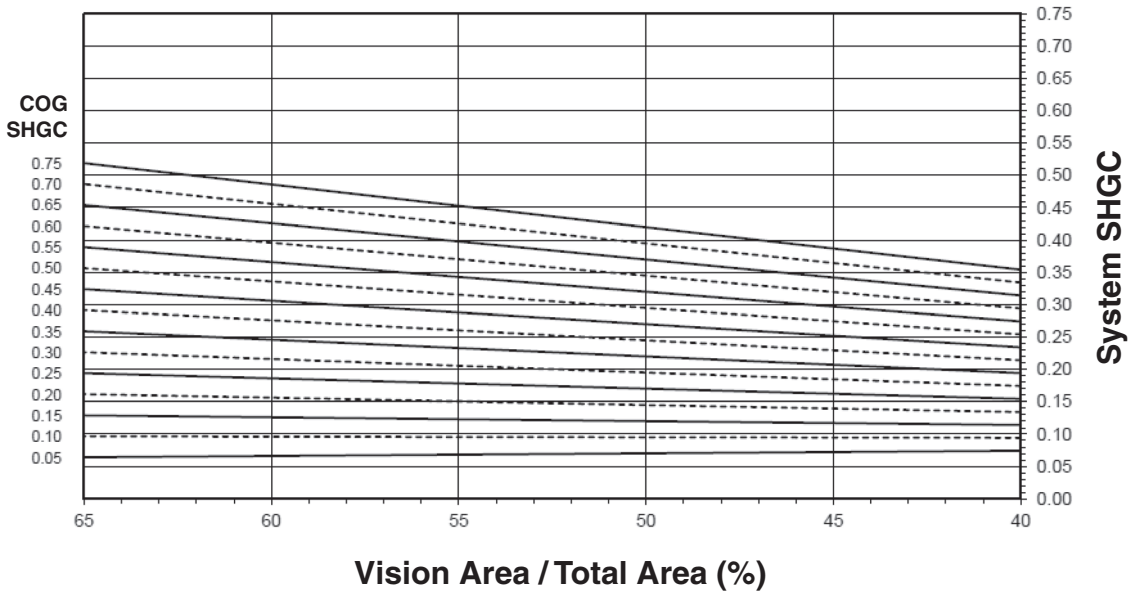
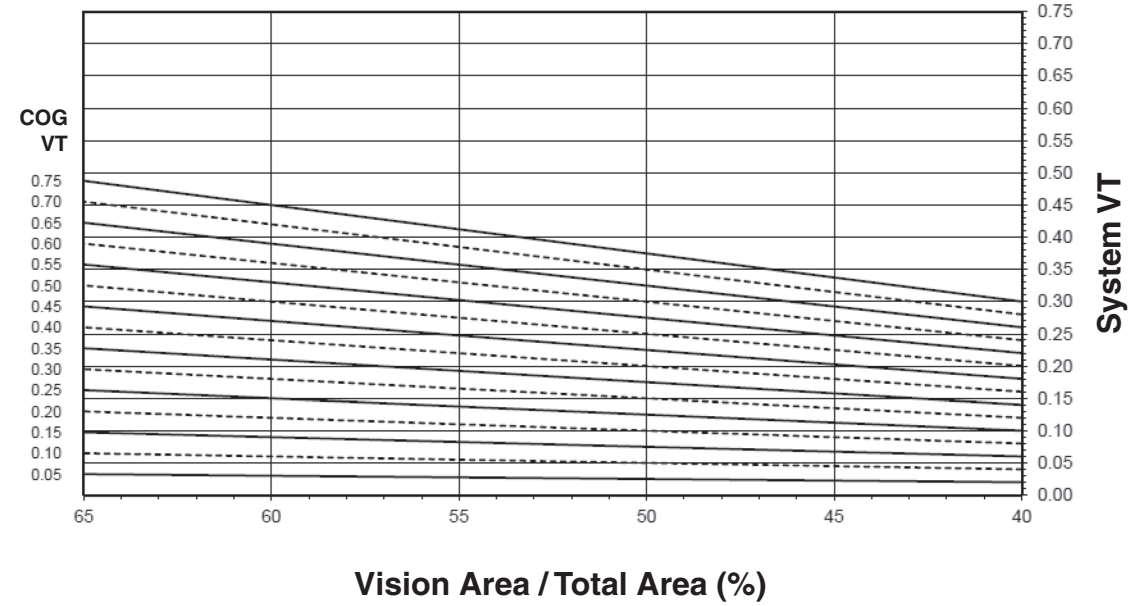
350 (SINGLE DOOR)

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



System Visible Transmittance (VT) vs Percent of Vision Area



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350 (SINGLE DOOR)

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

Glass U-Factor [3]	Overall U-Factor [4]
0.48	0.83
0.46	0.82
0.44	0.81
0.42	0.81
0.40	0.80
0.38	0.79
0.36	0.78
0.34	0.77
0.32	0.76
0.30	0.75
0.28	0.74
0.26	0.73
0.24	0.72
0.22	0.71
0.20	0.70
0.18	0.69
0.16	0.68
0.14	0.68
0.12	0.67
0.10	0.66

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 (winter conditions) and are obtained from your glass supplier.
4. Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 960mm wide by 2090mm high (37-3/4" by 82-3/8").

SHGC Matrix [2]

Glass SHGC [3]	Overall SHGC [4]
0.75	0.43
0.70	0.41
0.65	0.38
0.60	0.36
0.55	0.33
0.50	0.30
0.45	0.28
0.40	0.25
0.35	0.23
0.30	0.20
0.25	0.17
0.20	0.15
0.15	0.12
0.10	0.10
0.05	0.07

Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
0.75	0.39
0.70	0.36
0.65	0.34
0.60	0.31
0.55	0.29
0.50	0.26
0.45	0.23
0.40	0.21
0.35	0.18
0.30	0.16
0.25	0.13
0.20	0.10
0.15	0.08
0.10	0.05
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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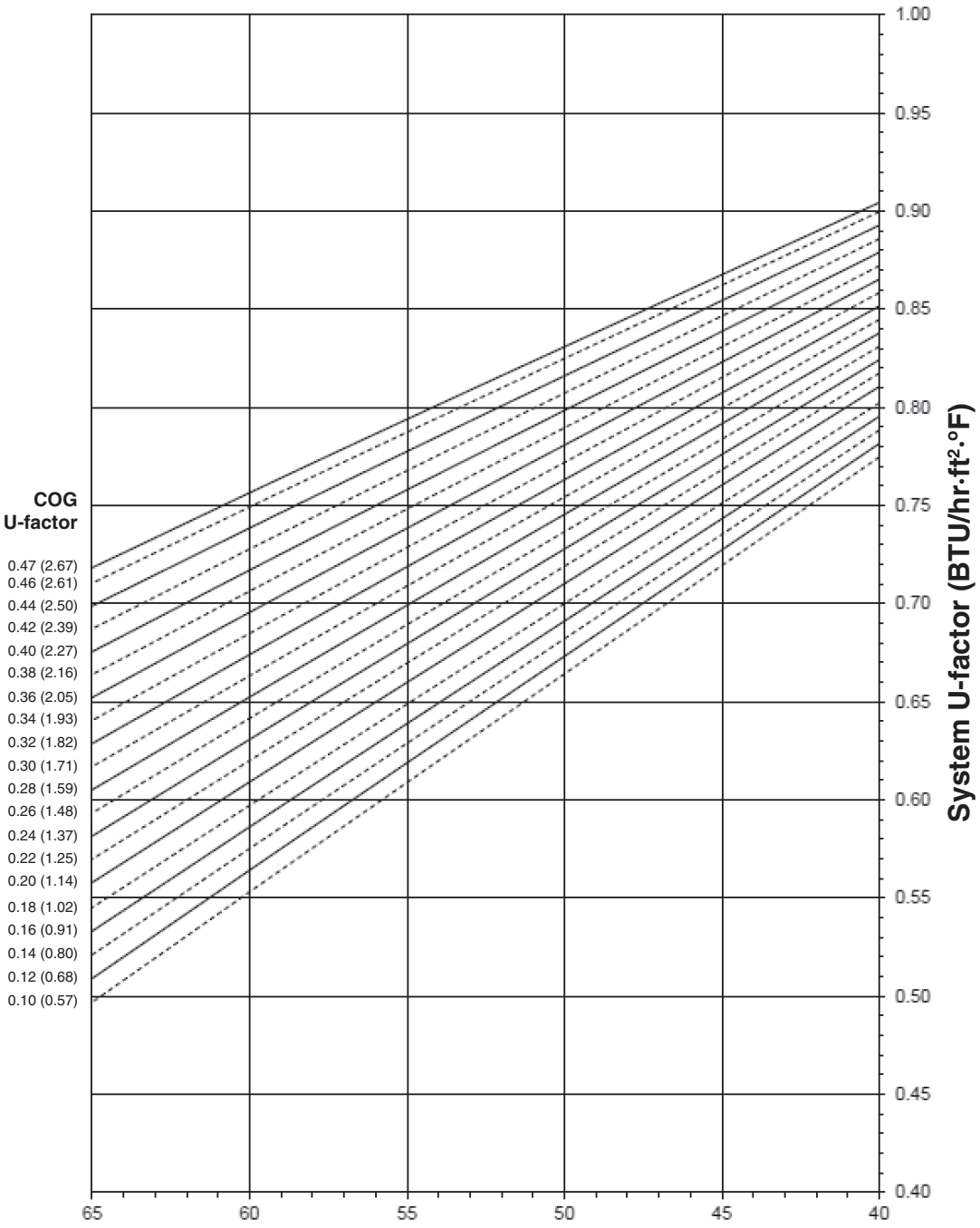
350 (PAIR OF DOORS)

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 (winter conditions) and are obtained from your glass supplier.

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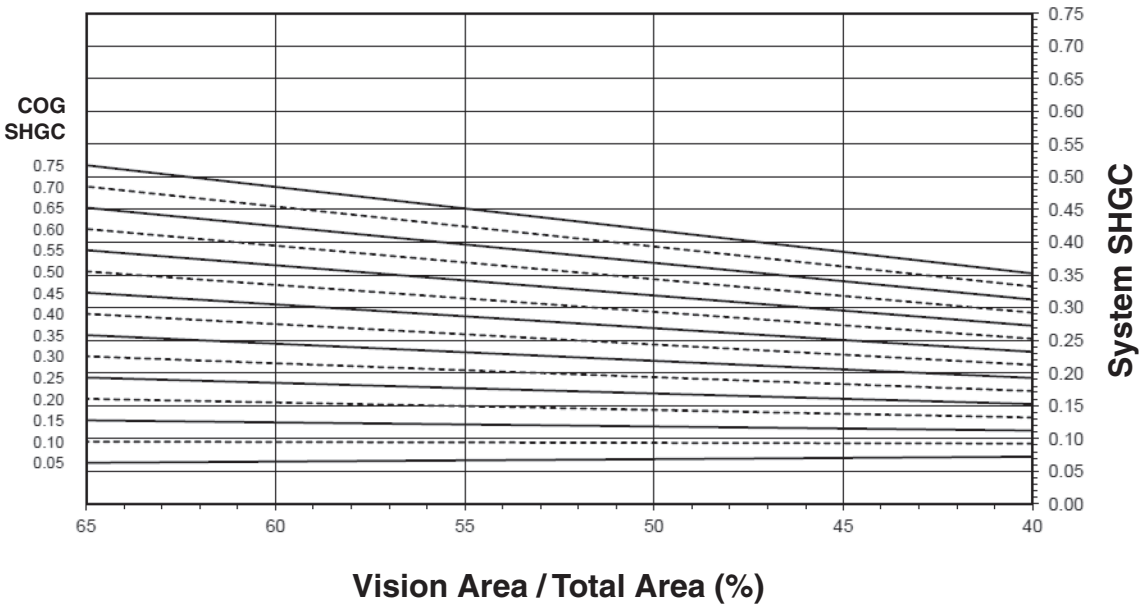
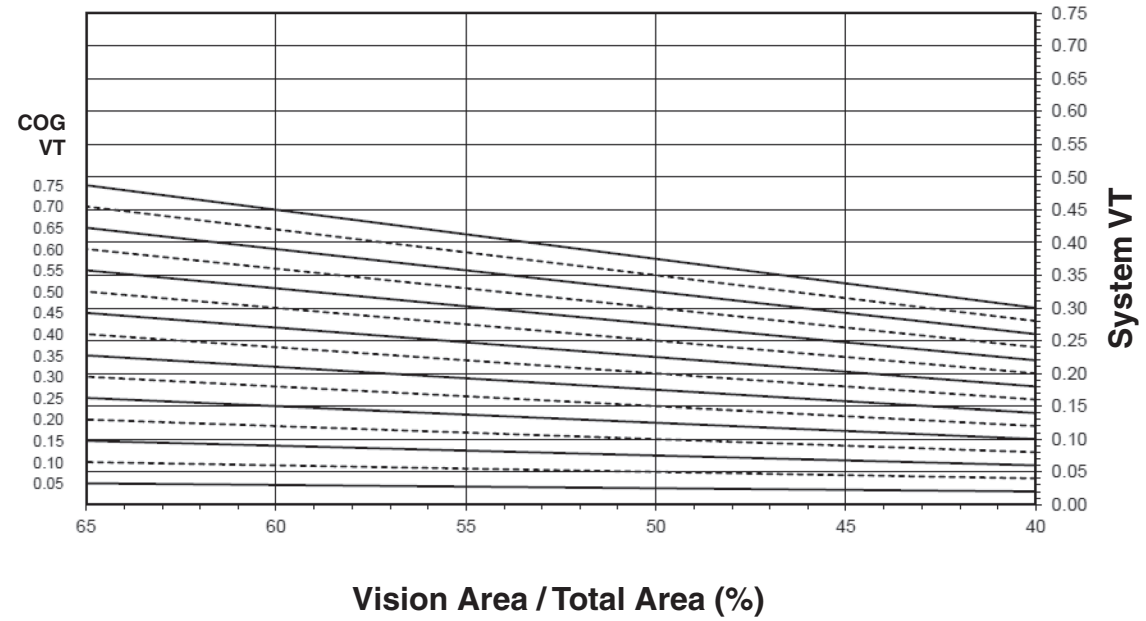
350 (PAIR OF DOORS)

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



System Visible Transmittance (VT) vs Percent of Vision Area



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

350 (PAIR OF DOORS)

Glass U-Factor [3]	Overall U-Factor [4]
0.47	0.79
0.46	0.78
0.44	0.77
0.42	0.76
0.40	0.75
0.38	0.74
0.36	0.73
0.34	0.72
0.32	0.71
0.30	0.70
0.28	0.69
0.26	0.68
0.24	0.67
0.22	0.66
0.20	0.65
0.18	0.64
0.16	0.63
0.14	0.62
0.12	0.61
0.10	0.60

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 (winter conditions) and are obtained from your glass supplier.
4. Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 1920mm wide by 2090mm high (75-1/2" by 82-3/8").

SHGC Matrix [2]

Glass SHGC [3]	Overall SHGC [4]
0.75	0.46
0.70	0.43
0.65	0.40
0.60	0.37
0.55	0.35
0.50	0.32
0.45	0.29
0.40	0.26
0.35	0.23
0.30	0.21
0.25	0.18
0.20	0.15
0.15	0.12
0.10	0.09
0.05	0.07

Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
0.75	0.42
0.70	0.39
0.65	0.36
0.60	0.34
0.55	0.31
0.50	0.28
0.45	0.25
0.40	0.22
0.35	0.20
0.30	0.17
0.25	0.14
0.20	0.11
0.15	0.08
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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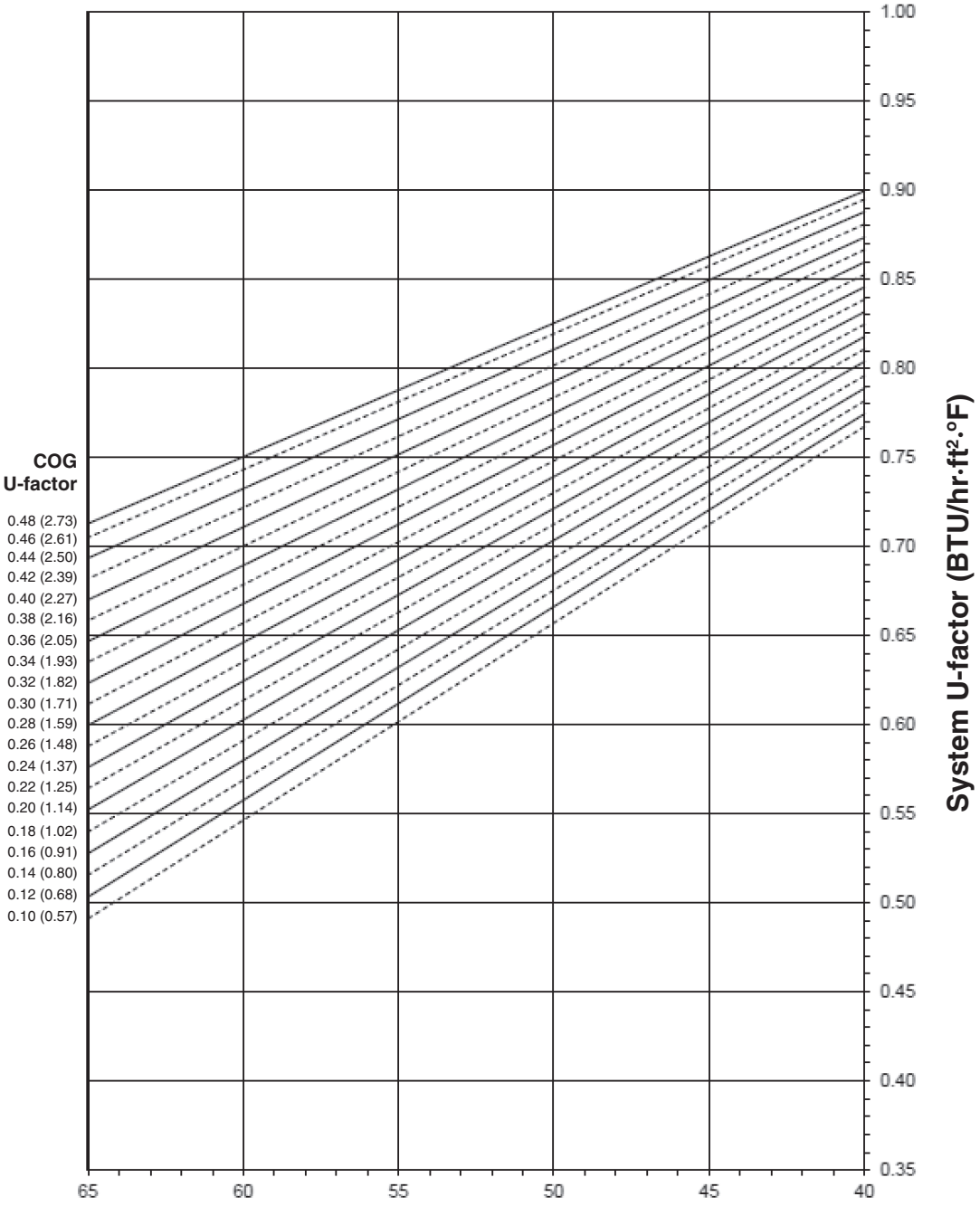
500 (SINGLE DOOR)

System U-factor vs Percent of Glass Area



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

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

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

Glass properties are based on center of glass values (winter conditions) and are obtained from your glass supplier.

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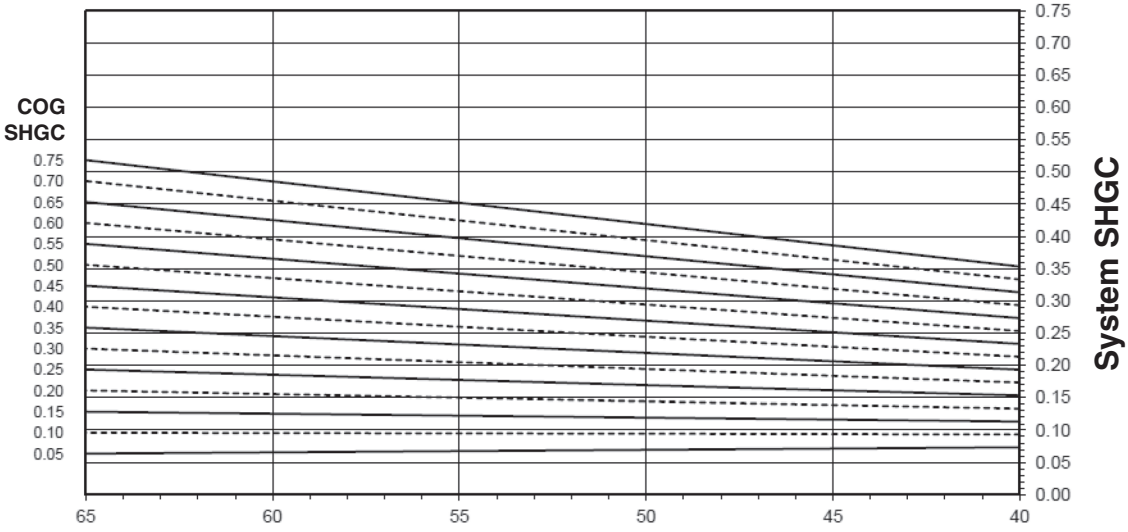
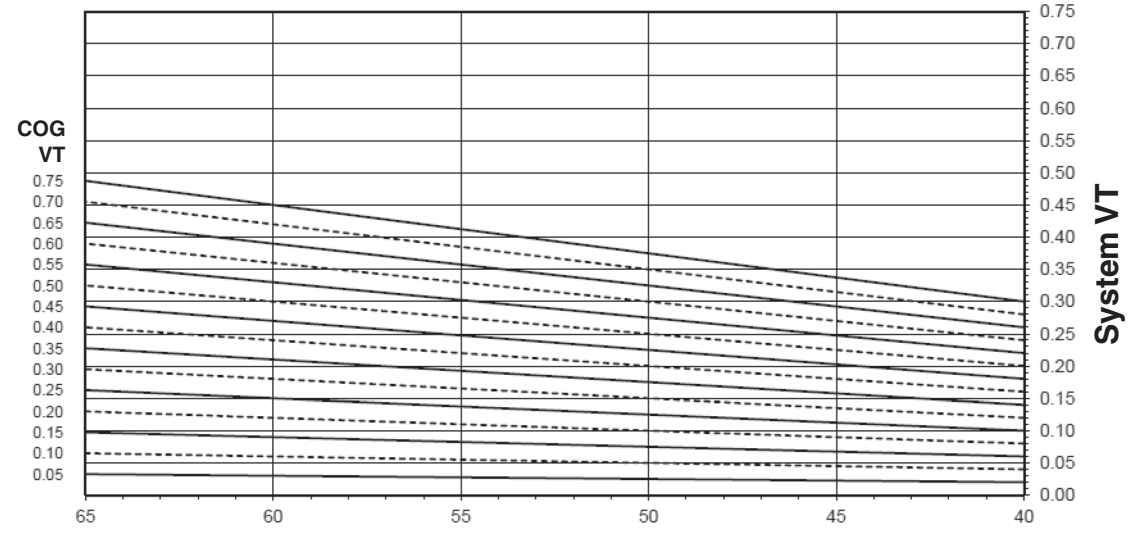
500 (SINGLE DOOR)

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



System Visible Transmittance (VT) vs Percent of Vision Area



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

500 (SINGLE DOOR)

Glass U-Factor [3]	Overall U-Factor [4]
0.48	0.87
0.46	0.86
0.44	0.85
0.42	0.84
0.40	0.84
0.38	0.83
0.36	0.82
0.34	0.81
0.32	0.81
0.30	0.80
0.28	0.79
0.26	0.78
0.24	0.77
0.22	0.77
0.20	0.76
0.18	0.75
0.16	0.74
0.14	0.73
0.12	0.73
0.10	0.72

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 (winter conditions) and are obtained from your glass supplier.
4. Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 960mm wide by 2090mm high (37-3/4" by 82-3/8").

SHGC Matrix [2]

Glass SHGC [3]	Overall SHGC [4]
0.75	0.38
0.70	0.36
0.65	0.34
0.60	0.32
0.55	0.29
0.50	0.27
0.45	0.25
0.40	0.23
0.35	0.21
0.30	0.18
0.25	0.16
0.20	0.14
0.15	0.12
0.10	0.09
0.05	0.07

Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
0.75	0.33
0.70	0.31
0.65	0.29
0.60	0.27
0.55	0.25
0.50	0.22
0.45	0.20
0.40	0.18
0.35	0.16
0.30	0.13
0.25	0.11
0.20	0.09
0.15	0.07
0.10	0.04
0.05	0.02

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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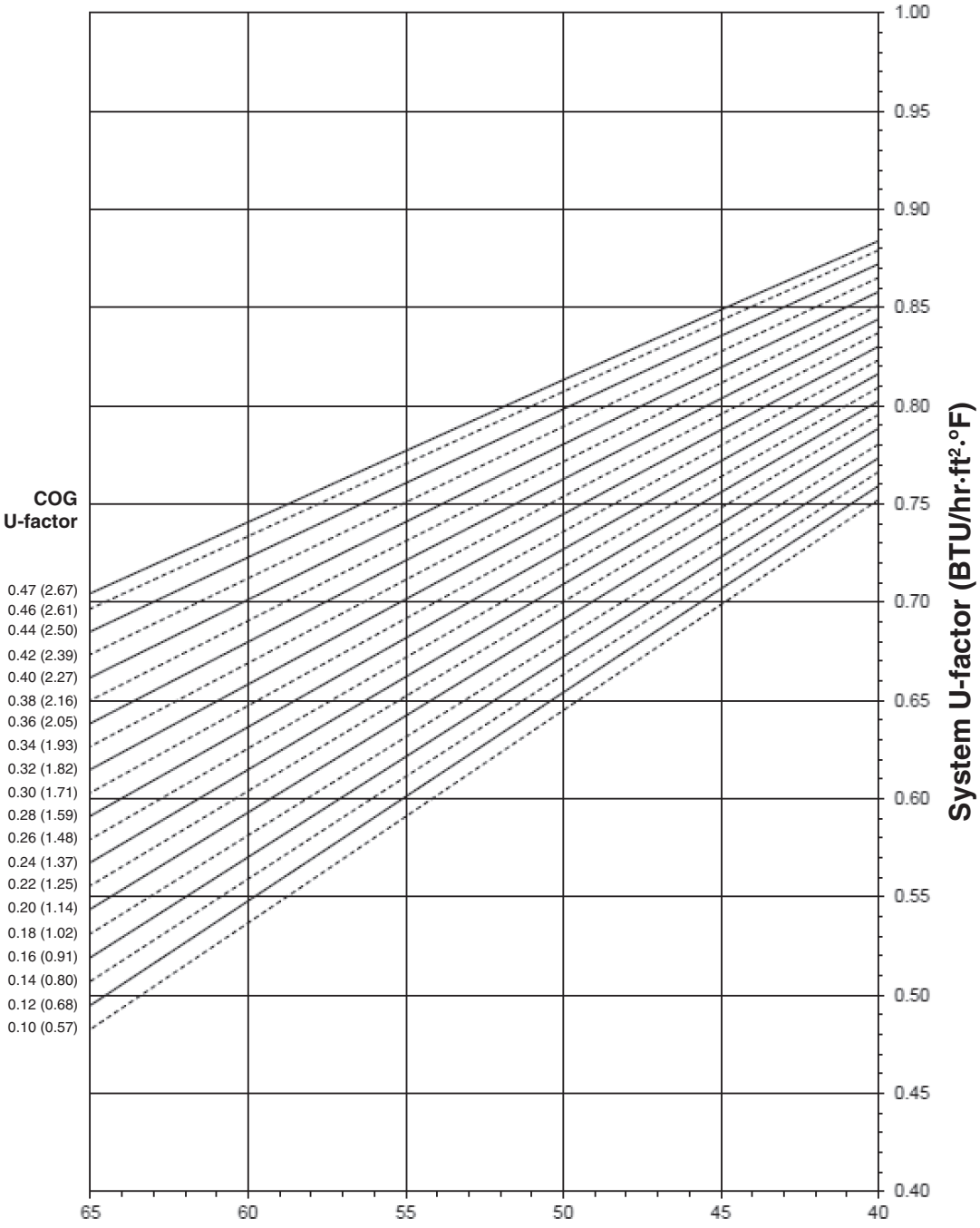
500 (PAIR OF DOORS)

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 (winter conditions) and are obtained from your glass supplier.

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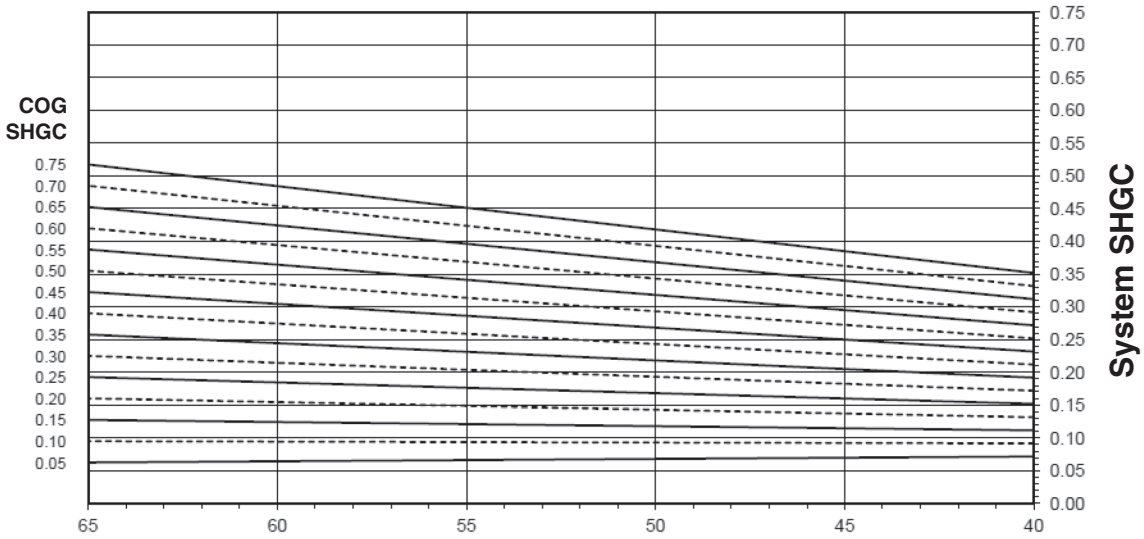
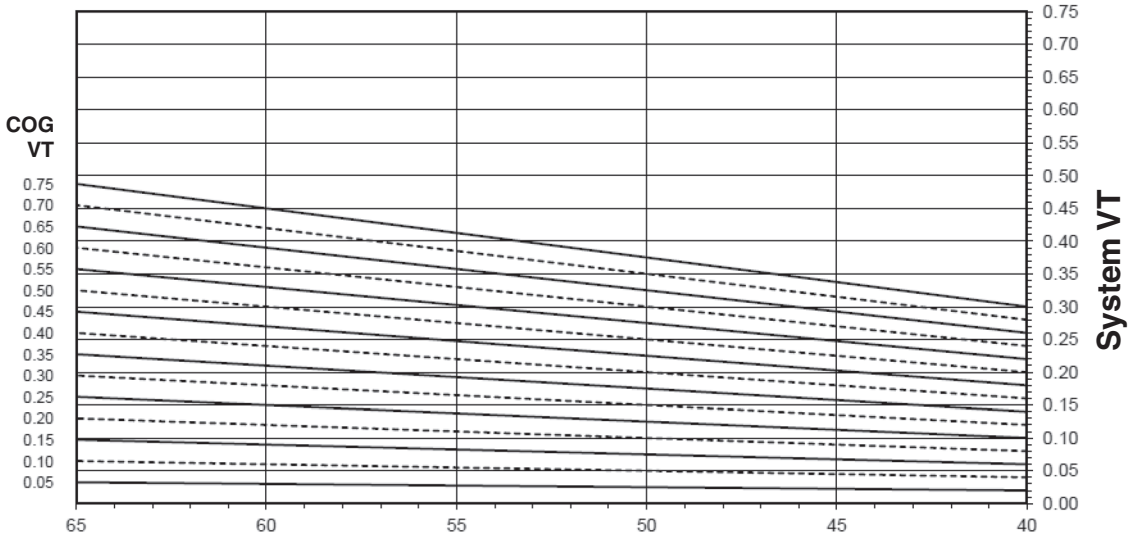
500 (PAIR OF DOORS)

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



Vision Area / Total Area (%)

System Visible Transmittance (VT) vs Percent of Vision Area



Vision Area / Total Area (%)

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

500 (PAIR OF DOORS)

Glass U-Factor [3]	Overall U-Factor [4]
0.47	0.82
0.46	0.82
0.44	0.81
0.42	0.80
0.40	0.79
0.38	0.78
0.36	0.77
0.34	0.77
0.32	0.76
0.30	0.75
0.28	0.74
0.26	0.73
0.24	0.72
0.22	0.71
0.20	0.70
0.18	0.70
0.16	0.69
0.14	0.68
0.12	0.67
0.10	0.66

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 (winter conditions) and are obtained from your glass supplier.
4. Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 1920mm wide by 2090mm high (75-1/2" by 82-3/8").

SHGC Matrix [2]

Glass SHGC [3]	Overall SHGC [4]
0.75	0.41
0.70	0.38
0.65	0.36
0.60	0.34
0.55	0.31
0.50	0.29
0.45	0.26
0.40	0.24
0.35	0.21
0.30	0.19
0.25	0.17
0.20	0.14
0.15	0.12
0.10	0.09
0.05	0.07

Visible Transmittance [2]

Glass VT [3]	Overall VT [4]
0.75	0.36
0.70	0.34
0.65	0.32
0.60	0.29
0.55	0.27
0.50	0.24
0.45	0.22
0.40	0.19
0.35	0.17
0.30	0.15
0.25	0.12
0.20	0.10
0.15	0.07
0.10	0.05
0.05	0.02

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