FEATURES EC 97911-262

Features

- Trifab® VersaGlaze® 451/451T is 4-1/2" (114.3) deep with a 2" (50.8) sightline
- · Front, Center, Back or Multi-Plane glass applications
- Flush glazed from either the inside or outside
- · Screw Spline, Shear Block, Stick or Continuous Head and Sill fabrication
- · Screw Spline Pre-Glazed option
- · SSG / Weatherseal option
- IsoLock® lanced and debridged thermal break option with Trifab® VersaGlaze® 451T
- Infill options up to 1-1/8" (28.6) thickness
- Permanodic® anodized finishes in seven choices
- Painted finishes in standard and custom choices

Optional Features

- Acoustical rating per AAMA 1801 and ASTM E 1425
- Project specific U-factors (See Thermal Charts)
- Integrates with Versoleil® SunShade Outrigger System and Horizontal Single Blade System
- Profit\$Maker® Plus die sets available

Product Applications

- Storefront, Ribbon Window, Punched Openings or Pre-Glazed
- Single-span
- Integrated entrance framing allowing Kawneer standard entrances or other specialty entrances to be incorporated
- Kawneer windows or GLASSvent® Windows for Storefront Framing are easily incorporated

For specific product applications, consult your Kawneer representative.



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

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

m - meter

cm - centimeter

mm - millimeter

s - second

Pa – pascal

MPa - megapascal



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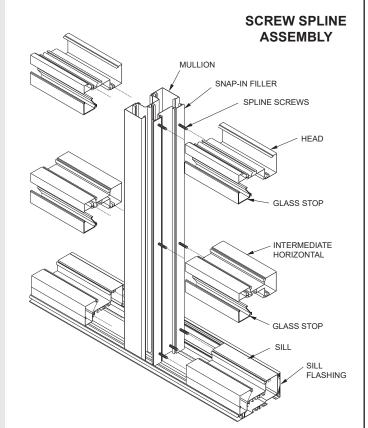
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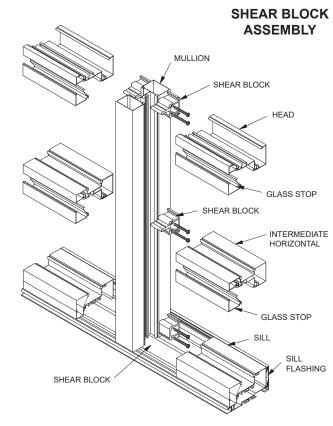


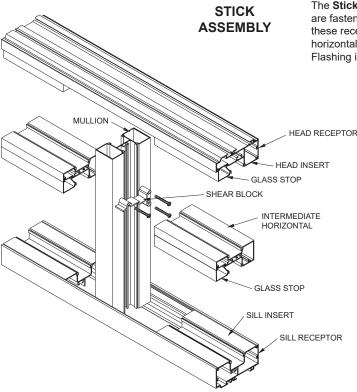
PICTORIAL VIEW (CENTER)

The split vertical in the **Screw Spline** system allows a frame to be installed from unitized assemblies. Screws are driven through the back of the verticals into splines extruded in the horizontal framing members. The Individual units are then snapped together to form a complete frame.



The **Shear Block** system of fabrication allows a frame to be preassembled as a single unit. Horizontals are attached to the verticals with shear blocks.





The **Stick** system allows on-site construction. Head and sill receptors are fastened to the surround. Vertical mullions are then installed in these receptors and are held in place by snap-in inserts. Intermediate horizontal members are attached to the verticals with shear blocks. Flashing is not required.

NOTE:

If the end reaction of the mullion (mullion spacing (ft.) times height (ft.) times specified wind load (psf) divided by two) is more than 500 lbs., the optional mullion anchors must be used. (See page 18)



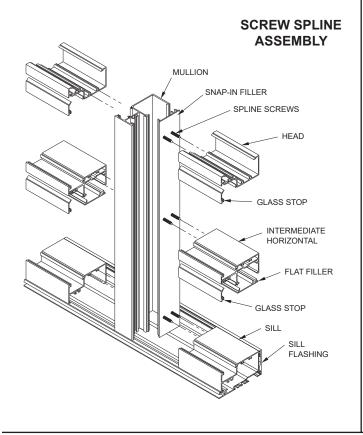
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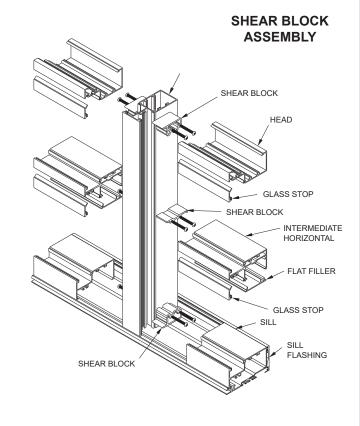
PICTORIAL VIEW (FRONT)

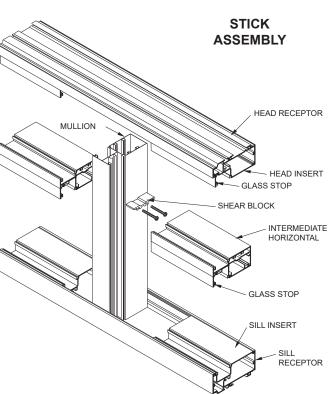
The Individual units are then snapped together to form a complete frame.

The split vertical in the **Screw Spline** system allows a frame to be installed from unitized assemblies. Screws are driven through the back of the verticals into splines extruded in the horizontal framing members.

The Shear Block system of fabrication allows a frame to be preassembled as a single unit. Horizontals are attached to the verticals with shear blocks.







The Stick system allows on-site construction. Head and sill receptors are fastened to the surround. Vertical mullions are then installed in these receptors and are held in place by snap-in inserts. Intermediate horizontal members are attached to the verticals with shear blocks. Flashing is not required.

If the end reaction of the mullion (mullion spacing (ft.) times height (ft.) times specified wind load (psf) divided by two) is more than 500 lbs., the optional mullion



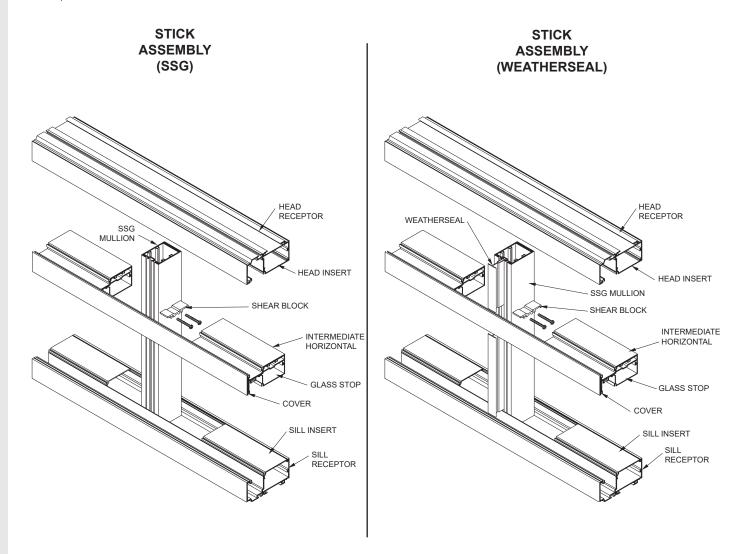
anchors must be used. (See page 40)

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

PICTORIAL VIEW (FRONT)

EC 97911-262

The Stick system allows on-site construction. Head and sill receptors are fastened to the surround. Vertical mullions are then installed in these receptors and are held in place by snap-in inserts. Intermediate horizontal members are attached to the verticals with shear blocks. Flashing is not required.



NOTE:

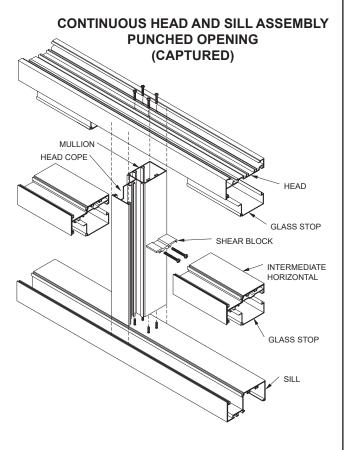
If the end reaction of the mullion (mullion spacing (ft.) times height (ft.) times specified wind load (psf) divided by two) is more than 500 lbs., the optional mullion anchors must be used. (See page 40)

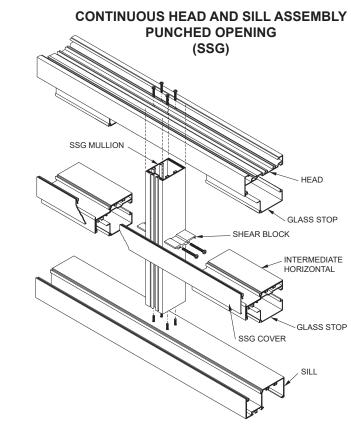


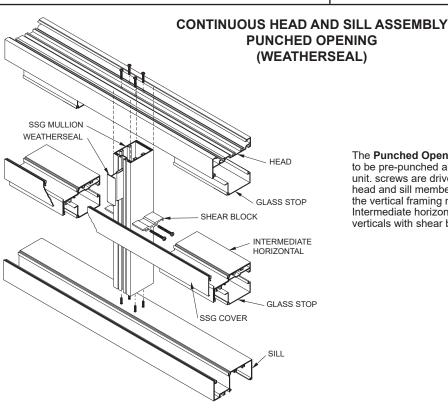
PICTORIAL VIEW (FRONT)

EC 97911-262

The CONTINUOUS HEAD AND SILL punched opening fabrication allows a frame to be pre-assembled and installed as a single unit. Screws are driven through the back of the head and sill members into splines extruded in the vertical framing members. Intermediate horizontals are attached to the verticals with shear blocks.







The Punched Opening fabrication allows a frame to be pre-punched and installed as a single unit. screws are driven through the back of the head and sill members into splines extruded in the vertical framing members. Intermediate horizontals are attached to the verticals with shear blocks.

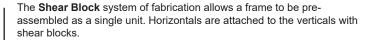
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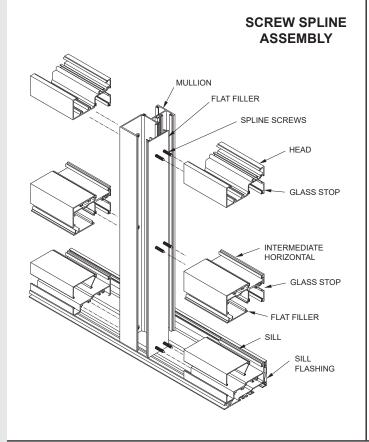
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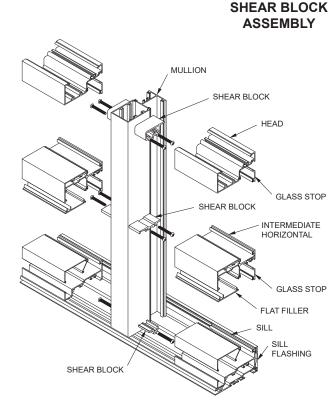
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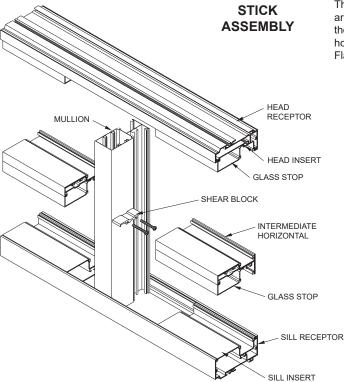
PICTORIAL VIEW (BACK) EC 97911-262

The split vertical in the Screw Spline system allows a frame to be installed from unitized assemblies. Screws are driven through the back of the verticals into splines extruded in the horizontal framing members. The Individual units are then snapped together to form a complete frame.









The Stick system allows on-site construction. Head and sill receptors are fastened to the surround. Vertical mullions are then installed in these receptors and are held in place by snap-in inserts. Intermediate horizontal members are attached to the verticals with shear blocks. Flashing is not required.

If the end reaction of the mullion (mullion spacing (ft.) times height (ft.) times specified wind load (psf) divided by two) is more than 500 lbs., the optional mullion anchors must be used. (See page 51)



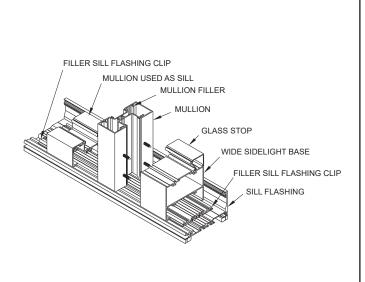
PICTORIAL VIEW (OPTIONAL 451 / 451T SILL ASSEMBLIES USING FILLER AND REGLET SILL FLASHING CLIPS)

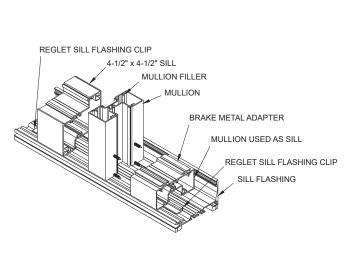
Trifab® VersaGlaze® 451/451T Framing System

EC 97911-262

SCREW SPLINE ASSEMBLY

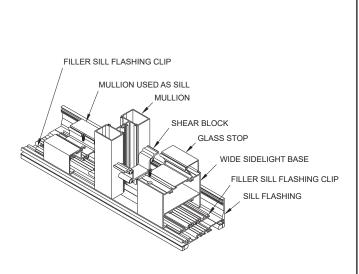
The split vertical in the **Screw Spline** system allows a frame to be installed from unitized assemblies. Screws are driven through the back of the verticals into splines extruded in the horizontal framing members. The Individual units are then snapped together to form a complete frame.

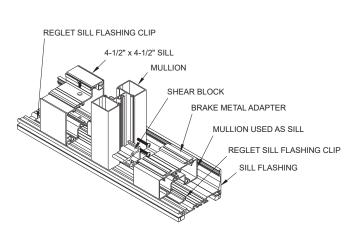




SHEAR BLOCK ASSEMBLY

The **Shear Block** system of fabrication allows a frame to be pre-assembled as a single unit. Horizontals are attached to the verticals with shear blocks.







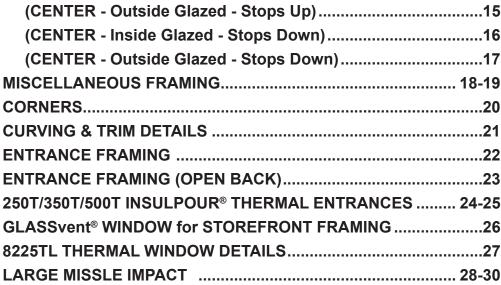
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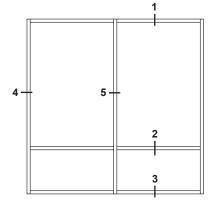
BASIC FRAMING DETAILS (CENTER - Outside Glazed - Stops Up)......12 (CENTER - Inside Glazed - Stops Down)......13 (CENTER - Outside Glazed - Stops Down).....14 PRE-GLAZED FRAMING DETAILS (CENTER - Outside Glazed - Stops Up)......15 (CENTER - Inside Glazed - Stops Down)......16 (CENTER - Outside Glazed - Stops Down).....17 MISCELLANEOUS FRAMING...... 18-19 CURVING & TRIM DETAILS21 ENTRANCE FRAMING22 ENTRANCE FRAMING (OPEN BACK)......23



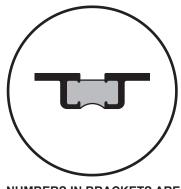


BASIC FRAMING DETAILS (CENTER - Outside Glazed - Stops Up)

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

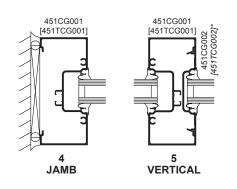


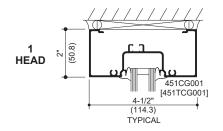
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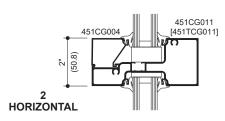


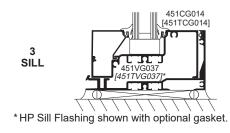
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SCREW SPLINE

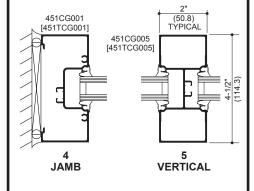


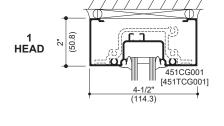


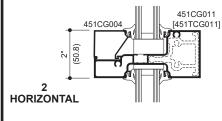


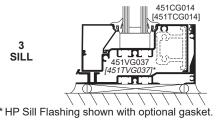


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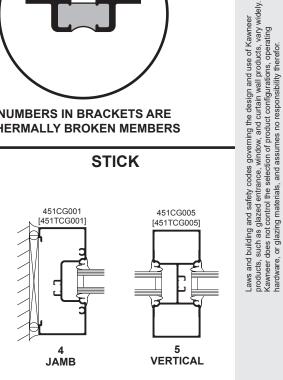


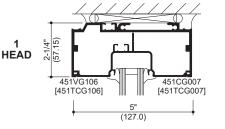


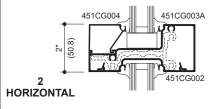


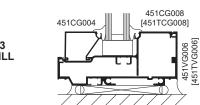


STICK

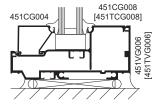








SILL



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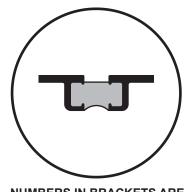
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BASIC FRAMING DETAILS (CENTER - Inside Glazed - Stops Down)

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ELEVATION IS NUMBER KEYED TO DETAILS

SHEAR BLOCK

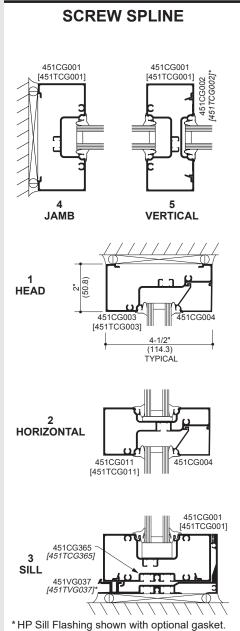


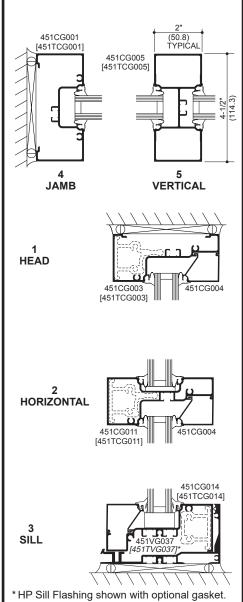
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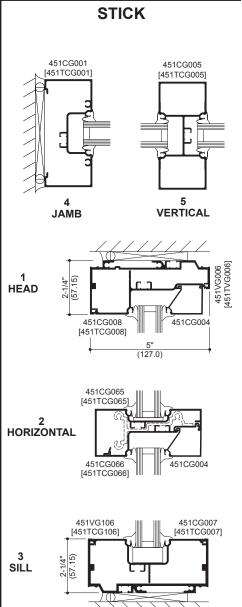
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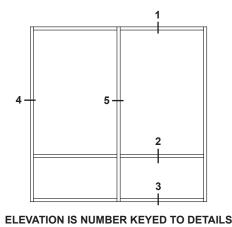


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BASIC FRAMING DETAILS (CENTER - Outside Glazed - Stops Down)

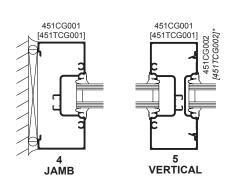
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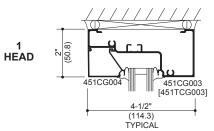


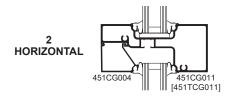


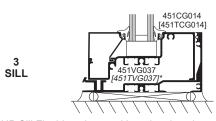
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SCREW SPLINE



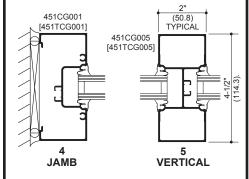


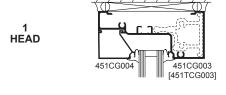


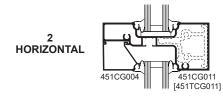


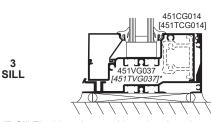
* HP Sill Flashing shown with optional gasket.

SHEAR BLOCK



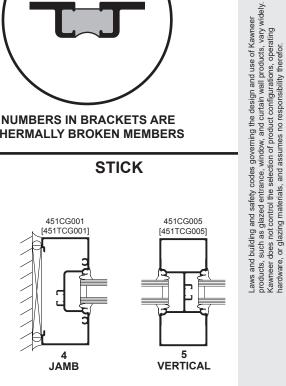


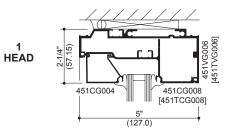


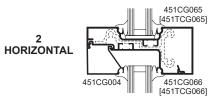


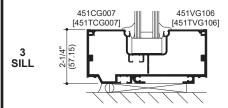
* HP Sill Flashing shown with optional gasket.

STICK









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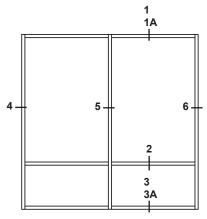


PRE-GLAZED FRAMING DETAILS (CENTER - Outside Glazed - Stops Up)

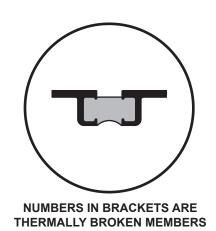
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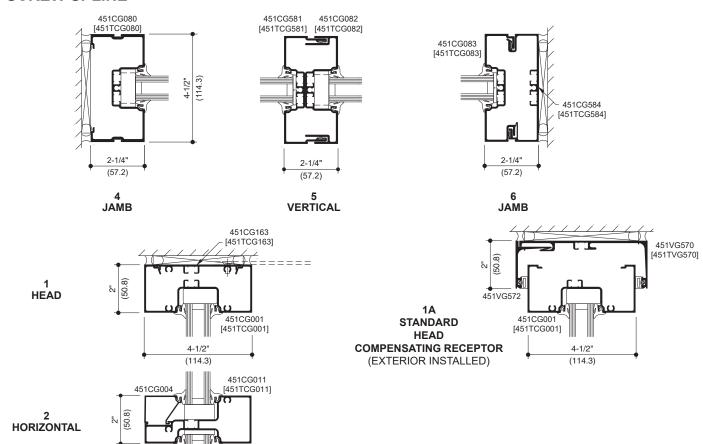
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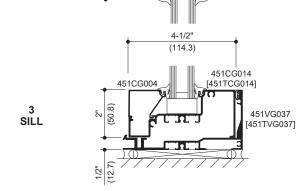


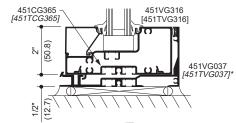


SCREW SPLINE



3A SILL



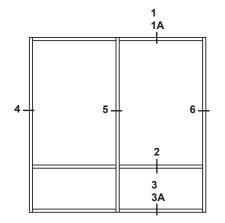


KAWNEER

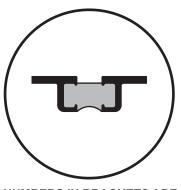
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PRE-GLAZED FRAMING DETAILS (CENTER - Inside Glazed - Stops Down)

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

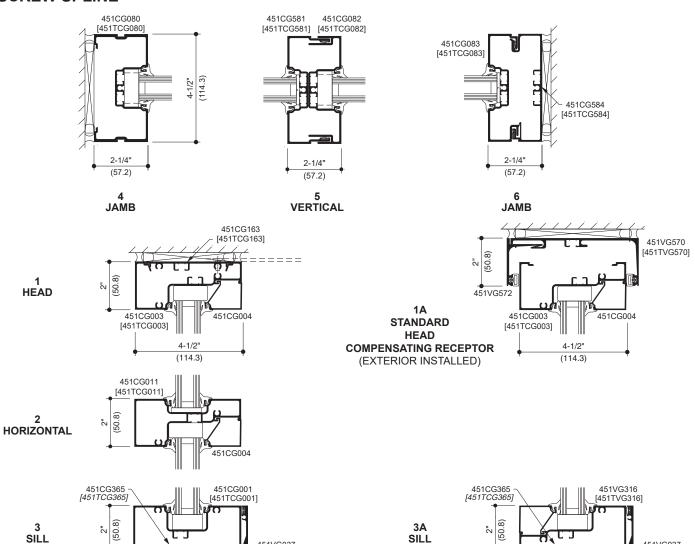


ELEVATION IS NUMBER KEYED TO DETAILS



NUMBERS IN BRACKETS ARE THERMALLY BROKEN MEMBERS

SCREW SPLINE



* HP Sill Flashing shown with optional gasket.



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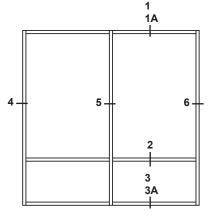
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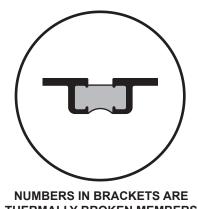
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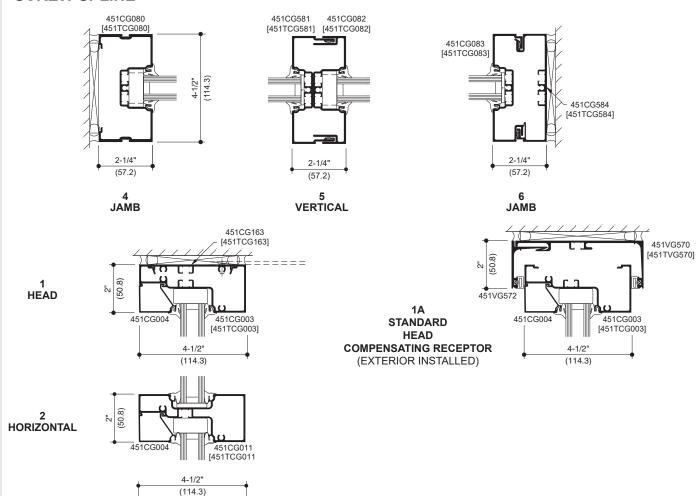




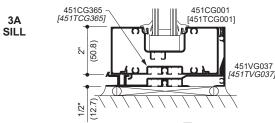


THERMALLY BROKEN MEMBERS

SCREW SPLINE



451CG004 (20.8) SILL





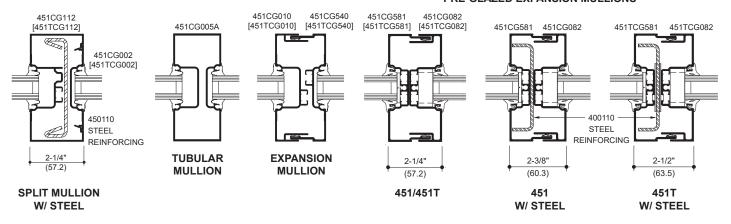
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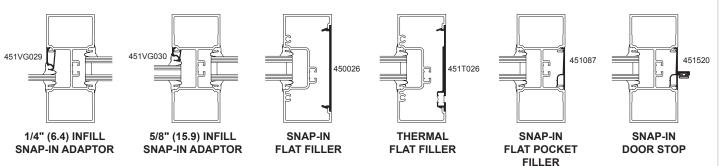
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PRE-GLAZED EXPANSION MULLIONS

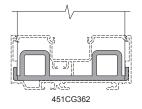


Trifab® VersaGlaze® 451/451T Framing System





THERMAL POCKET FILLERS

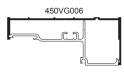


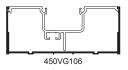
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NOTE:

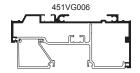
If the end reaction of the mullion (mullion spacing (ft.) times height (ft) times specified wind load (psf), divided by two) is more than 500 LBS., the optional mullion anchor must be used. Consult Application Engineering.

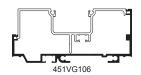
Mullion Anchor not used with Lightweight Receptor.





OPTIONAL LIGHTWEIGHT CAN RECEPTORS





OPTIONAL UNEQUAL LEG CAN RECEPTORS

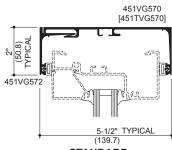


Laws and building and safety codes governing the design and use of Kawneer brodicts, such as glazed entrance, window, and cutain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

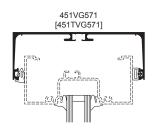
Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

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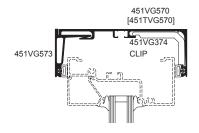
Additional information and CAD details are available at www.kawneer.com



STANDARD HEAD COMPENSATING RECEPTOR (EXTERIOR INSTALLED)

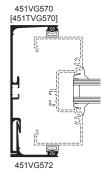


ONE PIECE HEAD COMPENSATING RECEPTOR

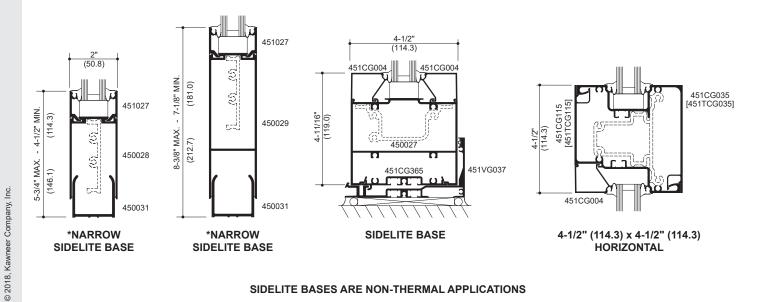


Trifab® VersaGlaze® 451/451T Framing System

HEAVY WEIGHT HEAD COMPENSATING RECEPTOR (EXTERIOR INSTALLED)



JAMB COMPENSATING RECEPTOR (EXTERIOR INSTALLED)



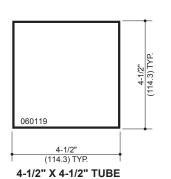
SIDELITE BASES ARE NON-THERMAL APPLICATIONS

*NARROW SIDELITE BASES REQUIRE THE USE OF NON-THERMAL 2-PIECE VERTICALS ONLY.

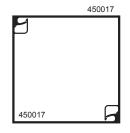
NOTE: SIDELITE BASES SHOWN ARE FOR USE WITH SCREW SPLINE AND SHEAR BLOCK SYSTEMS ONLY.

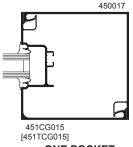


Additional information and CAD details are available at www.kawneer.com



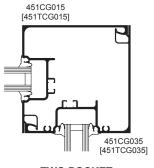
CORNERS (CENTER)

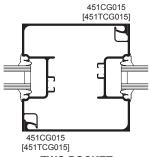


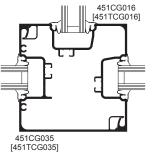


TWO PIECE NO POCKET CORNER

ONE POCKET CORNER



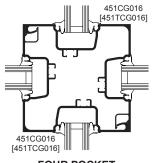


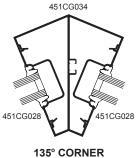


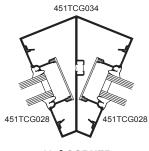
TWO POCKET 90° CORNER

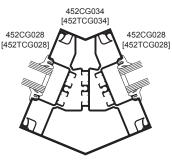
TWO POCKET CORNER POST

THREE POCKET 90° CORNER









FOUR POCKET 90° CORNER

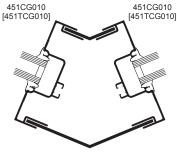
135° CORNER (NON-THERMAL)

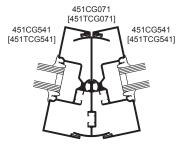
135° CORNER (THERMAL)

135° CORNER

451CG071

[451TCG071]





451CG541 451CG541

VARIABLE DEGREE BRAKE METAL CORNER

155° TO 180° PIVOT MULLION (OUTSIDE CORNER)

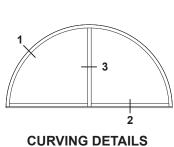
155° TO 180° PIVOT MULLION (INSIDE CORNER)

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Trifab® VersaGlaze® 451/451T Framing System **CURVING & TRIM DETAILS**

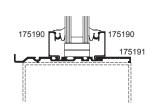
Additional information and CAD details are available at www.kawneer.com

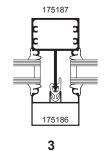


(Center Plane Only)

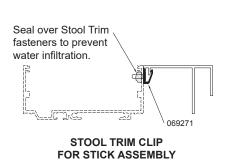


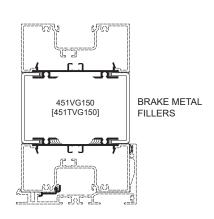
175186 (114.3)**TYPICAL**



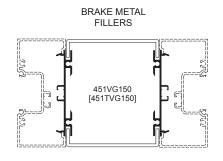


Seal over Stool Trim fasteners to prevent water infiltration. STOOL TRIM 069271 STOOL TRIM CLIP WITH HIGH PERFORMANCE **FLASHING**





BRAKE METAL ADAPTOR AT HORIZONTAL



BRAKE METAL ADAPTOR AT VERTICAL

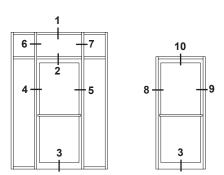


ENTRANCE FRAMING (CENTER)

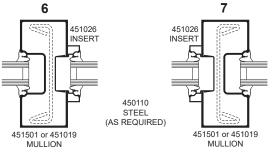
Additional information and CAD details are available at www.kawneer.com

Trifab® VersaGlaze® 451 FRAMING INCORPORATING KAWNEER® "190" DOORS. DOOR FRAMING NON-THERMAL ONLY

NOTE: OTHER TYPES OF KAWNEER DOORS MAY BE USED WITH THIS FRAMING SYSTEM. SEE ENTRANCE DETAILS FOR ADDITIONAL INFORMATION.

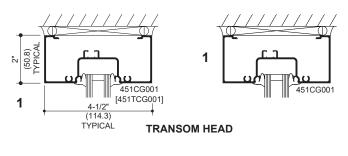


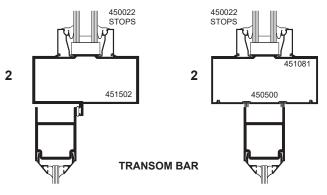
ELEVATIONS ARE NUMBER KEYED TO DETAILS

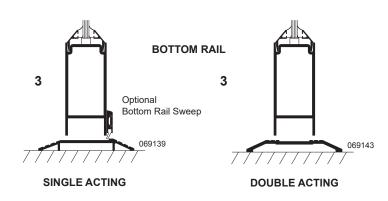


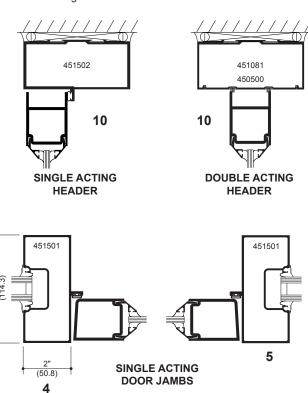
TRANSOM JAMBS

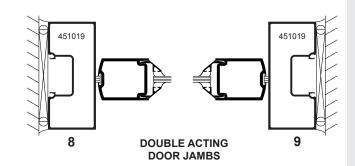
Transom area for both double or single acting doors with glass surround. Jambs above transom bar are routed out to accept glass holding insert with or without steel reinforcina.











KAWNEER

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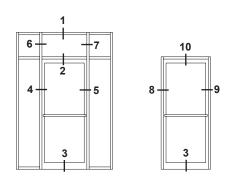
EC 97911-262

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

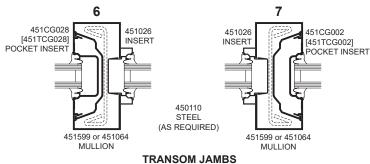
Trifab® VersaGlaze® 451 FRAMING INCORPORATING KAWNEER® "190" DOORS.

DOOR FRAMING NON-THERMAL ONLY

NOTE: OTHER TYPES OF KAWNEER DOORS MAY BE USED WITH THIS FRAMING SYSTEM. SEE ENTRANCE DETAILS FOR ADDITIONAL INFORMATION.

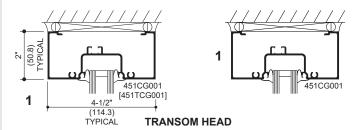


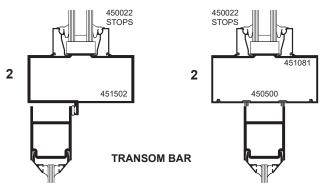
ELEVATIONS ARE NUMBER KEYED TO DETAILS

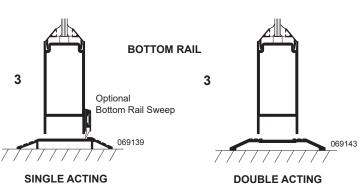


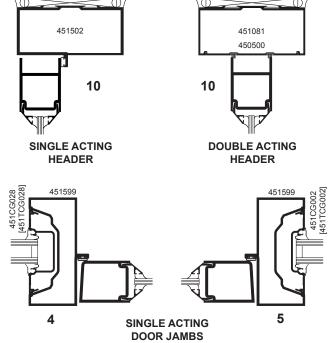
ENTRANCE FRAMING (CENTER - Open Back)

Transom area for both double or single acting doors with glass surround. Jambs above transom bar are routed out to accept glass holding insert with or without steel reinforcing.

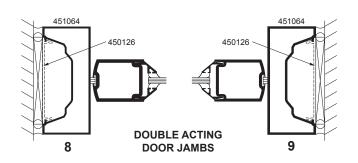








NOTE: Sidelite mullions must be oriented to provide at least one (1) deep vertical pocket per lite to facilitate glazing.





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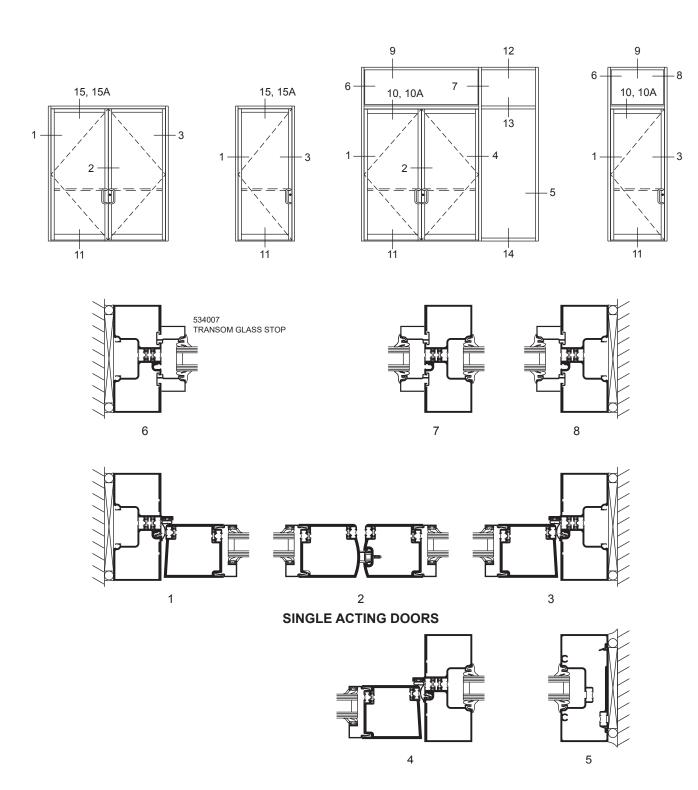
ADMC040EN

250T/350T/500T INSULPOUR® THERMAL ENTRANCES

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

NOTE:

- 1. SERIES 250T NARROW STILE DOORS ARE DETAILED, MEDIUM STILE 350T DOORS AND WIDE STILE 500T DOORS ALSO MAY BE USED.
- 2. TRIFAB® VERSAGLAZE® 451T CENTER, 2" x 4-1/2" (50.8 x 114.3) FRAMING IS DETAILED WITH THE DOORS FOR REFERENCE. OTHER KAWNEER FRAMING SERIES OR CURTAIN WALL SYSTEMS MAY BE USED.





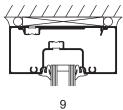
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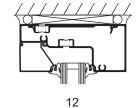
Laws and building and safety codes governing the design and use of Kawneer products, such as glazade afratneroe, window, and ourtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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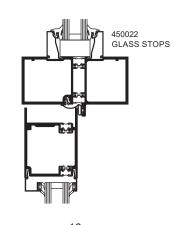
Additional information and CAD details are available at www.kawneer.com



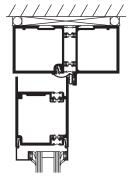




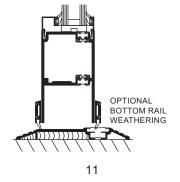
SINGLE ACTING DOORS



10

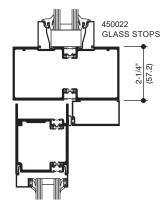


15

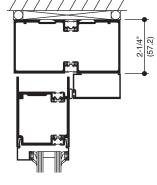


SURFACE OVERHEAD CLOSER

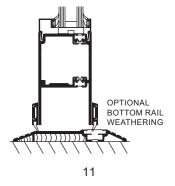
COC WITH SINGLE ACTING OFFSET ARM



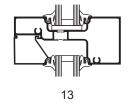
10A

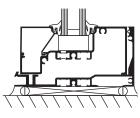


15A



CONSEALED OVERHEAD CLOSER





14

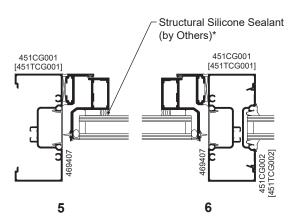


Additional information and CAD details are available at www.kawneer.com

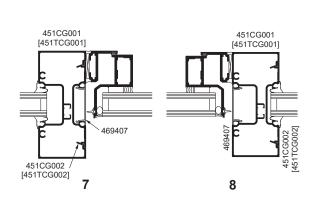
Trifab® VersaGlaze® 451/451T Framing System

OUTSWING CASEMENT PROJECT-OUT VERTICAL SECTION VERTICAL SECTION 451CG001 [451TCG001] 451CG001 [451TCG001] 3 469407 450026 5 **ELEVATION IS NUMBER KEYED TO DETAILS** 451CG004 451CG011 2 [451TCG011] 451CG014 451VG037 [451TVG037] [451TCG014

OUTSWING CASEMENT HORIZONTAL SECTION



PROJECT-OUT HORIZONTAL SECTION



NOTE: Black spacer is recommended when 1" (25.4) insulating glass is used.

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



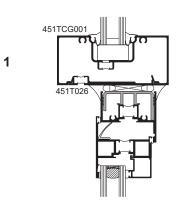
Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

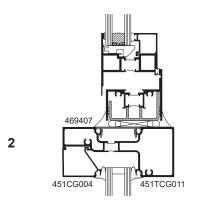
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8225TL THERMAL WINDOWS (CENTER)

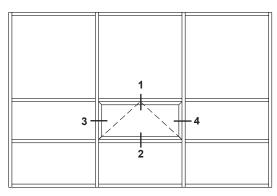
Additional information and CAD details are available at www.kawneer.com

PROJECT-OUT VERTICAL SECTION



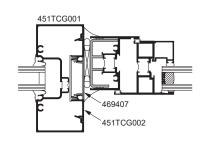


8225TL THERMAL WINDOWS SHOWN NOTE: OTHER VENT TYPES CAN BE ACCOMMODATED. CONSULT YOUR KAWNEER REPRESENTATIVE FOR OTHER OPTIONS

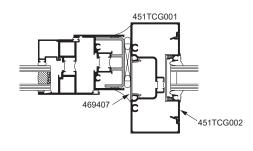


ELEVATION IS NUMBER KEYED TO DETAILS

PROJECT-OUT HORIZONTAL SECTION







KAWNEER

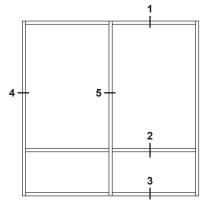
3

BASIC FRAMING DETAILS (CENTER - Outside Glazed - Stops Down)

Hurricane Resistant Product

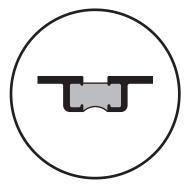
Additional information and CAD details are available at www.kawneer.com

LEVEL D - LARGE MISSILE IMPACT



ELEVATION IS NUMBER KEYED TO DETAILS

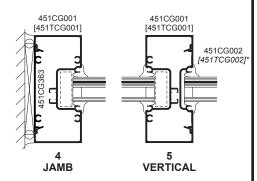
451CG001A

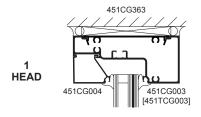


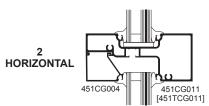
NUMBERS IN BRACKETS ARE THERMALLY BROKEN MEMBERS

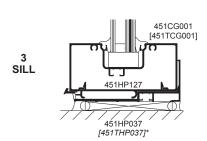
451CG113

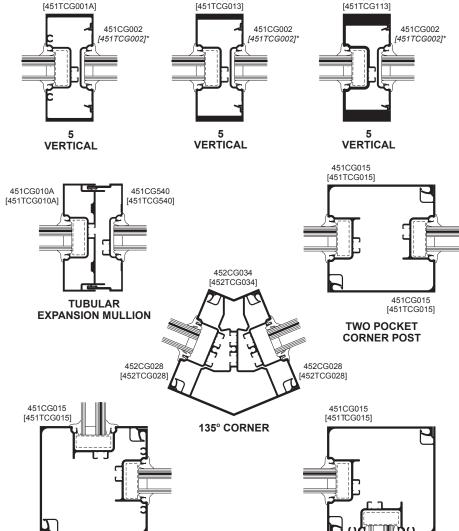
SCREW SPLINE











OPTIONAL FRAMING (CENTER)

451CG013

KAWNEER

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TWO POCKET

OUTSIDE CORNER POST

451CG035

[451TCG035]

kawneer.com

451CG035

[451TCG035]

TWO POCKET

INSIDE CORNER POST

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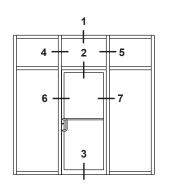
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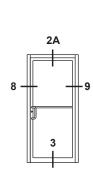
Hurricane Resistant Product

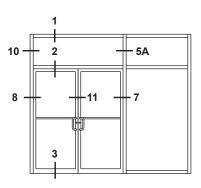
Additional information and CAD details are available at www.kawneer.com

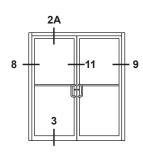
Trifab® VersaGlaze® 451 FRAMING INCORPORATING KAWNEER® "350/500 IR" DOORS (DRY GLAZED). DOOR FRAMING NON-THERMAL ONLY

NOTE: OTHER TYPES OF KAWNEER DOORS MAY BE USED WITH THIS FRAMING SYSTEM. SEE ENTRANCE DETAILS FOR ADDITIONAL INFORMATION.



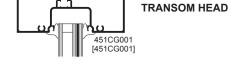


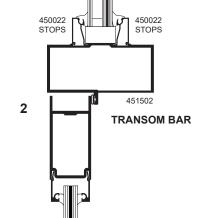


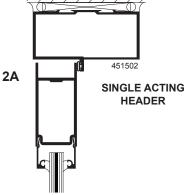


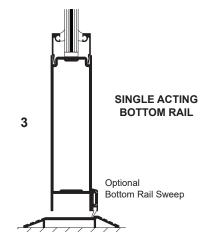
ELEVATIONS ARE NUMBER KEYED TO DETAILS

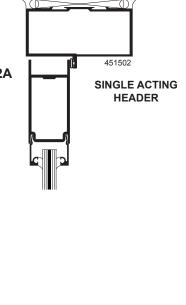
451CG363 1





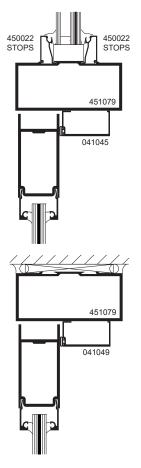






ADMC040EN

CONCEALED **OVERHEAD CLOSERS**





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Hurricane Resistant Product

451CG002

575054

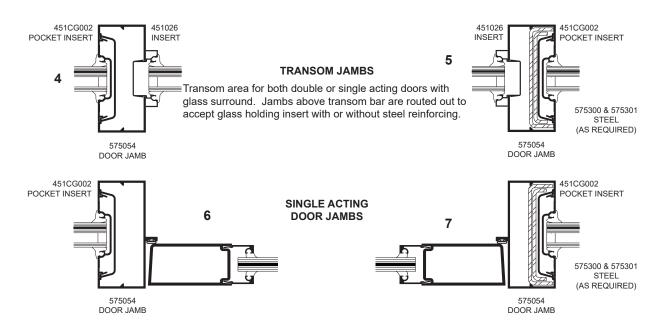
POCKET INSERT

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

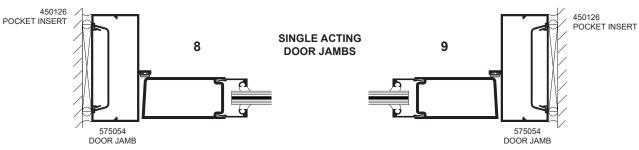
Trifab® VersaGlaze® 451 FRAMING INCORPORATING KAWNEER® "350/500 IR" DOORS (DRY GLAZED). DOOR FRAMING NON-THERMAL ONLY

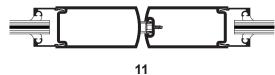
Trifab® VersaGlaze® 451/451T Framing System

NOTE: OTHER TYPES OF KAWNEER DOORS MAY BE USED WITH THIS FRAMING SYSTEM. SEE ENTRANCE DETAILS FOR ADDITIONAL INFORMATION.









MEETING STILES



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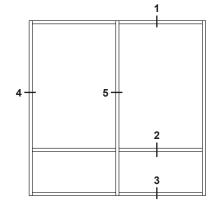
Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entriance, window, and cutrain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.



EC 97911-262 INDEX (FRONT)

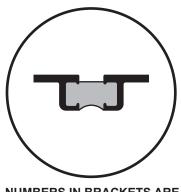
(FRONT - Outside Glazed - Stops Down)	33
STICK	34-36
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CORNERS	41-42
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GLASSvent® WINDOW for STOREFRONT FRAMING	44
8225TL THERMAL WINDOW DETAILS	45





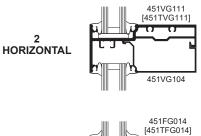
BASIC FRAMING DETAILS (FRONT - Inside Glazed - Stops Down)

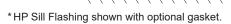
ELEVATION IS NUMBER KEYED TO DETAILS



NUMBERS IN BRACKETS ARE THERMALLY BROKEN MEMBERS

SCREW SPLINE (50.8) 451VG012 451VG001 [451TVG001] [451TVG012] 4-1/2" (114.3) **JAMB VERTICAL HEAD** [451TVG103] 451VG104 (114.3) **TYPICAL** 451VG111 [451TVG111] 2 HORIZONTAL



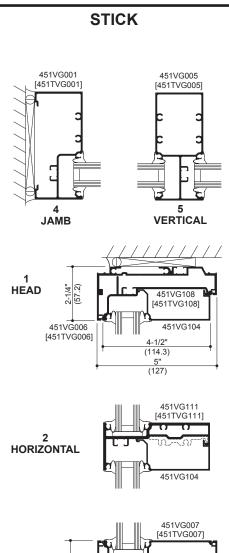


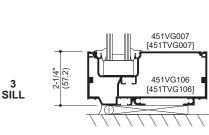
451VG037

[451TVG037]*

451VG005 451VG001 [451TVG001] [451TVG005] 5 **JAMB VERTICAL HEAD** 451VG103 [451TVG103] 451VG104 451VG111 [451TVG111] HORIZONTAL 451VG104 451FG014 [451TFG014] 451VG037 3 SILL [451TVG037]*

SHEAR BLOCK





HP Sill Flashing shown with optional gasket.

KAWNEER

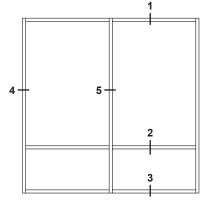
3 SILL

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BASIC FRAMING DETAILS (FRONT - Outside Glazed - Stops Down)

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

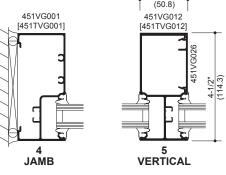


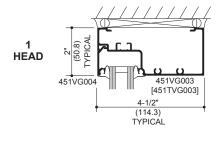
ELEVATION IS NUMBER KEYED TO DETAILS

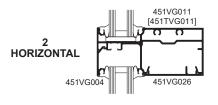


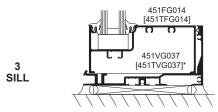
NUMBERS IN BRACKETS ARE THERMALLY BROKEN MEMBERS

SCREW SPLINE (50.8) 451VG012 [451TVG012]



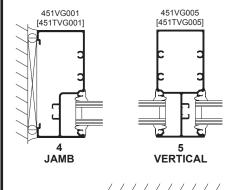


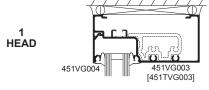


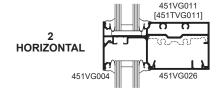


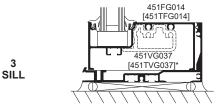
* HP Sill Flashing shown with optional gasket.

SHEAR BLOCK

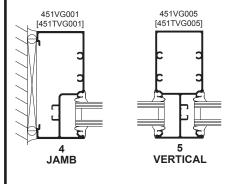


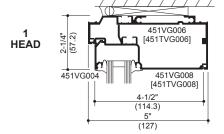


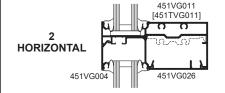


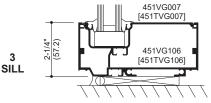


STICK









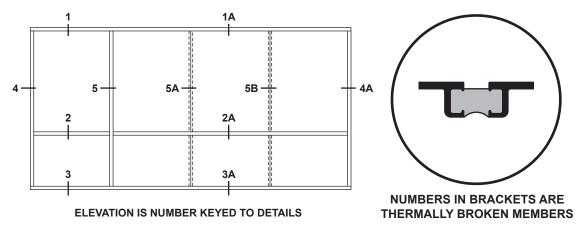
HP Sill Flashing shown with optional gasket.

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

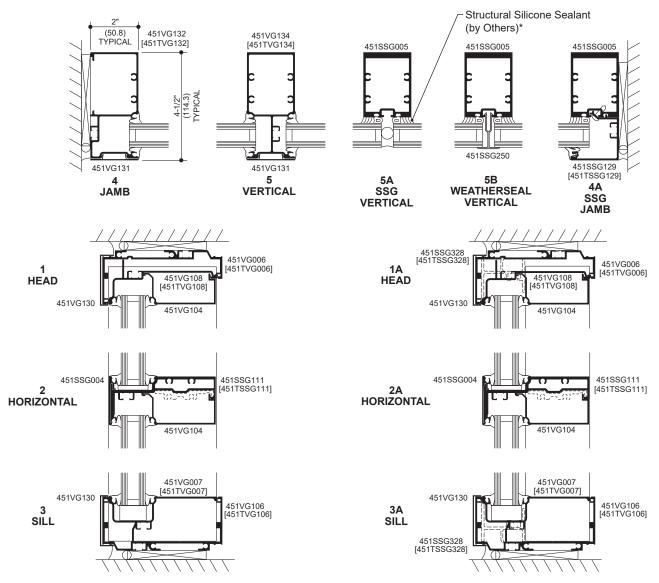
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Additional information and CAD details are available at www.kawneer.com



STICK (INSIDE GLAZED) TWO COLOR OPTION

STANDARD RECEPTOR with SSG ADAPTOR



^{*} INSTALLER NOTE: Installer is responsible for all required compatibility review and approvals with the Structural Silicone Manufacturer and the Insulating Glass Unit Manufacturer.



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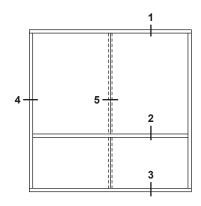
Laws and building and safety codes governing the design and use of Kawneer brodicts, such as glazed entrance, window, and cutain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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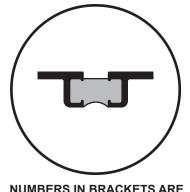
EC 97911-262

BASIC FRAMING DETAILS (FRONT)

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

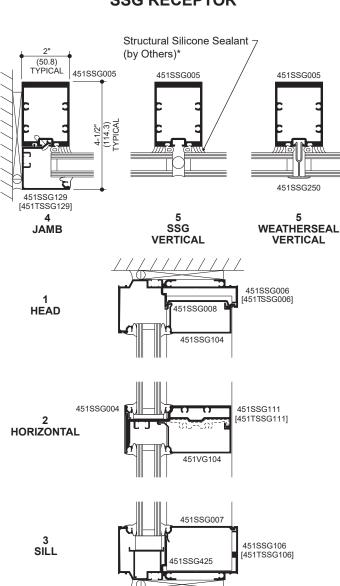


ELEVATION IS NUMBER KEYED TO DETAILS

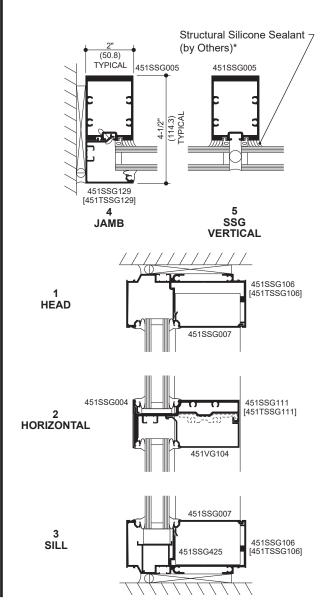


NUMBERS IN BRACKETS ARE THERMALLY BROKEN MEMBERS

STICK (INSIDE GLAZED) SSG RECEPTOR



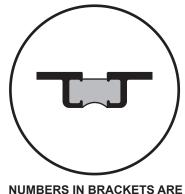
STICK (OUTSIDE GLAZED) **SSG RECEPTOR**



^{*} INSTALLER NOTE: Installer is responsible for all required compatibility review and approvals with the Structural Silicone Manufacturer and the Insulating Glass Unit Manufacturer.

KAWNEER

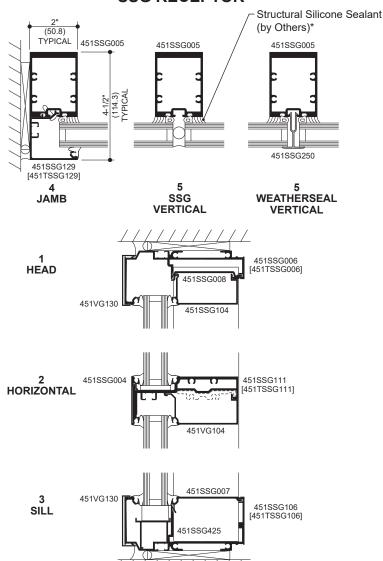




NUMBERS IN BRACKETS ARE THERMALLY BROKEN MEMBERS

STICK (INSIDE GLAZED) TWO COLOR OPTION

SSG RECEPTOR



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



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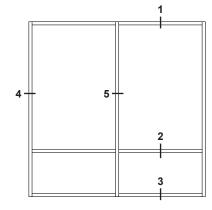
© 2018, Kawneer Company, Inc.

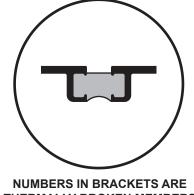
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EC 97911-262

BASIC FRAMING DETAILS (FRONT)

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



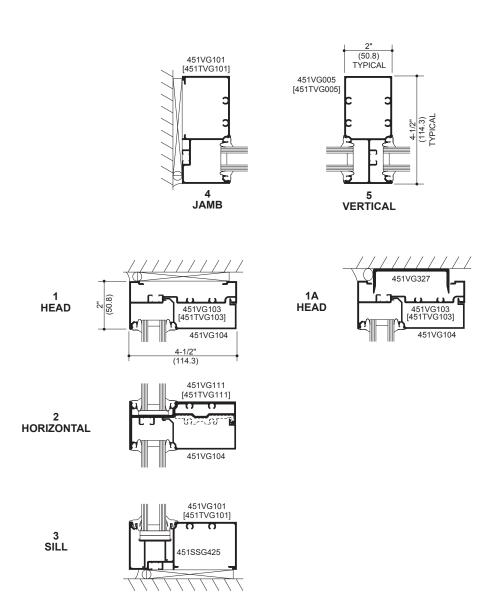


THERMALLY BROKEN MEMBERS

ELEVATION IS NUMBER KEYED TO DETAILS

CONTINUOUS HEAD AND SILL (INSIDE GLAZED)

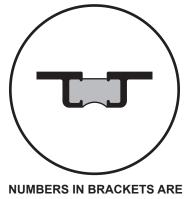
PUNCHED OPENING







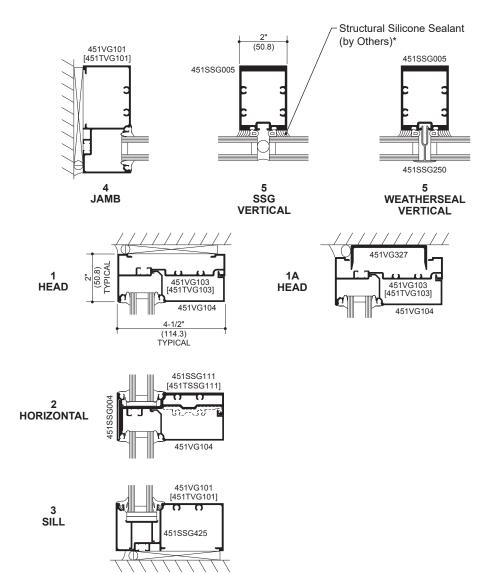
3



THERMALLY BROKEN MEMBERS

CONTINUOUS HEAD AND SILL (INSIDE GLAZED) SSG \ WEATHERSEAL

PUNCHED OPENING



^{*} INSTALLER NOTE: Installer is responsible for all required compatibility review and approvals with the Structural Silicone Manufacturer and the Insulating Glass Unit Manufacturer.

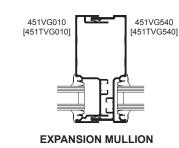


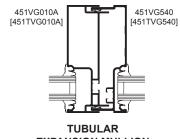
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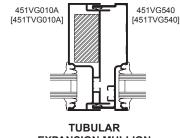
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Additional information and CAD details are available at www.kawneer.com





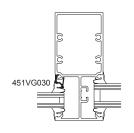


EXPANSION MULLION





1/4" (6.4) INFILL **SNAP-IN ADAPTOR**

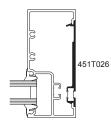


5/8" (15.9) INFILL **SNAP-IN ADAPTOR**



PVC FLAT FILLER (NON STRUCTURAL)

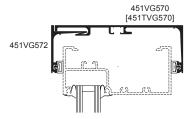
ADMC040EN



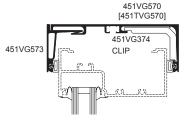
THERMAL FLAT FILLER



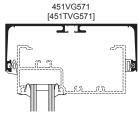
SNAP-IN **FLAT FILLER**



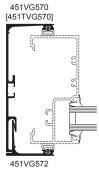
STANDARD - HEAD **COMPENSATING RECEPTOR** (EXTERIOR INSTALLED)



HEAVY WEIGHT - HEAD COMPENSATING RECEPTOR



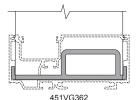
ONE PIECE - HEAD COMPENSATING RECEPTOR



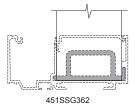
JAMB COMPENSATING RECEPTOR (EXTERIOR INSTALLED)



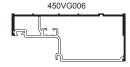
Additional information and CAD details are available at www.kawneer.com

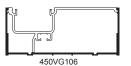


MULLION ANCHOR

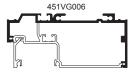


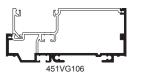
SSG MULLION ANCHOR





OPTIONAL LIGHTWEIGHT CAN RECEPTORS





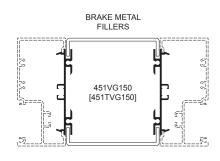
OPTIONAL UNEQUAL LEG CAN RECEPTORS

NOTE:

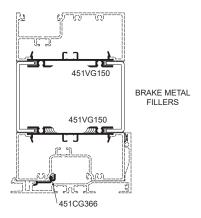
If the end reaction of the mullion (mullion spacing (ft.) times height (ft) times specified wind load (psf), divided by two) is more than 500 LBS., the optional Mullion Anchor must be used. Consult Application Engineering.

NOTE:

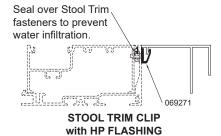
Mullion Anchor not used with Lightweight Receptor.



BRAKE METAL ADAPTOR



BRAKE METAL ADAPTOR AT HORIZONTAL





STOOL TRIM CLIP FOR STICK ASSEMBLY

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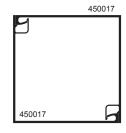
Laws and building and safety codes governing the design and use of Kawneer products, such as glazade antrance, window, and outrain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

CORNERS (FRONT)

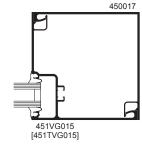
Additional information and CAD details are available at www.kawneer.com



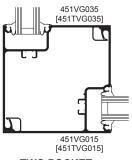
4-1/2" X 4-1/2" TUBE



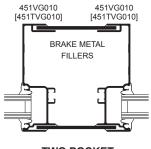
TWO PIECE NO POCKET CORNER



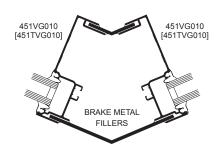
ONE POCKET CORNER



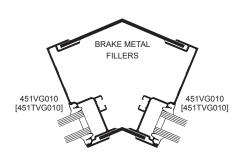
TWO POCKET 90° CORNER



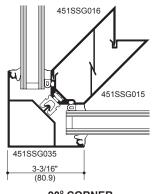
TWO POCKET CORNER POST



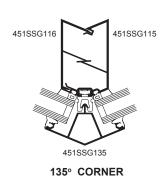
VARIABLE DEGREE **BRAKE METAL OUTSIDE CORNER**



VARIABLE DEGREE BRAKE METAL INSIDE CORNER



90° CORNER

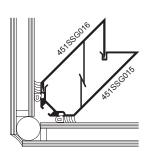




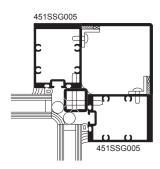
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Additional information and CAD details are available at www.kawneer.com

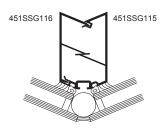
INSIDE GLAZED



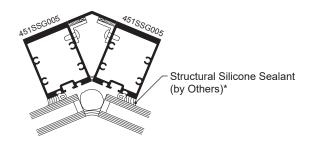
90° OUTSIDE CORNER



90° INSIDE CORNER

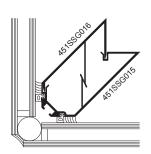


135° OUTSIDE CORNER

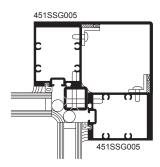


135° INSIDE CORNER

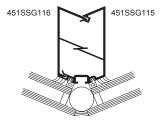
OUTSIDE GLAZED



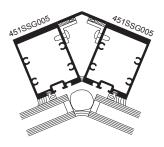
90° OUTSIDE CORNER



90° INSIDE CORNER



135° OUTSIDE CORNER



135° INSIDE CORNER

^{*} INSTALLER NOTE: Installer is responsible for all required compatibility review and approvals with the Structural Silicone Manufacturer and the Insulating Glass Unit Manufacturer.



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EC 97911-262

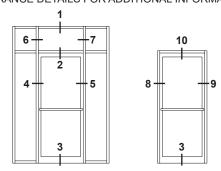
ENTRANCE FRAMING (FRONT)

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

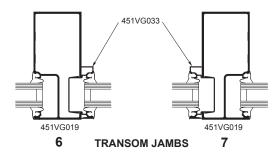
Trifab® VersaGlaze® 451 FRAMING INCORPORATING KAWNEER "190" DOORS.

DOOR FRAMING NON-THERMAL ONLY

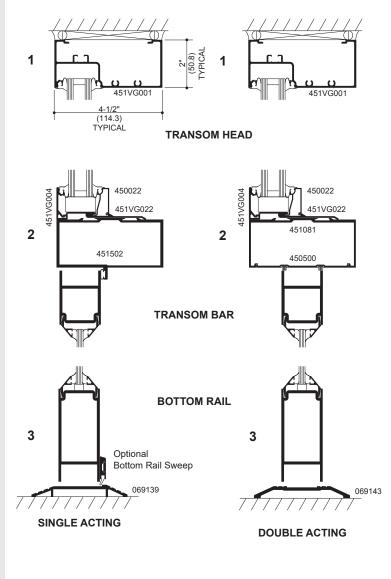
NOTE: OTHER TYPES OF KAWNEER DOORS MAY BE USED WITH THIS FRAMING SYSTEM. SEE ENTRANCE DETAILS FOR ADDITIONAL INFORMATION.

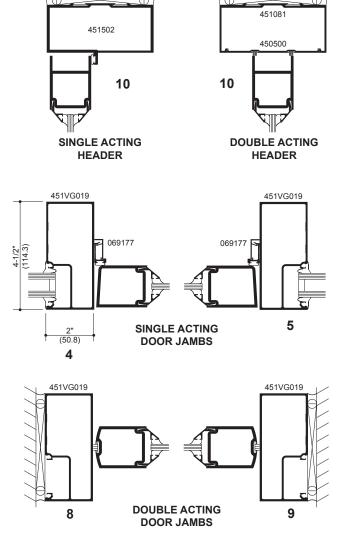


ELEVATIONS ARE NUMBER KEYED TO DETAILS



Transom area for both double or single acting doors with glass surround. Jambs above transom bar are routed out to accept glass holding insert.





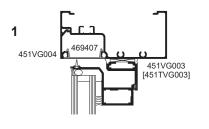


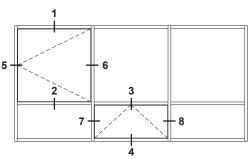
ADMC040EN kawneer.com

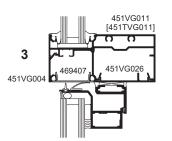
Additional information and CAD details are available at www.kawneer.com

GLASSvent®WINDOW for STOREFRONT FRAMING (FRONT)

OUTSWING CASEMENT VERTICAL SECTION

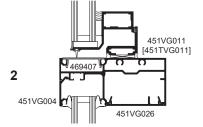




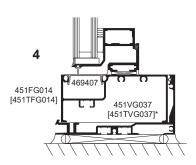


PROJECT-OUT

VERTICAL SECTION

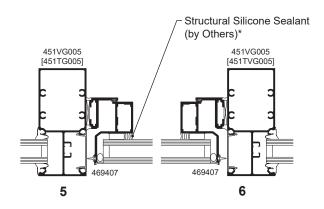


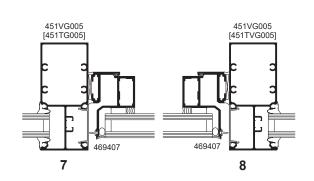
ELEVATION IS NUMBER KEYED TO DETAILS



OUTSWING CASEMENT HORIZONTAL SECTION

PROJECT-OUT HORIZONTAL SECTION





NOTE: Black spacer is recommended when 1" insulating glass is used.

^{*} INSTALLER NOTE: Installer is responsible for all required compatibility review and approvals with the Structural Silicone Manufacturer and the Insulating Glass Unit Manufacturer.



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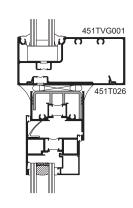
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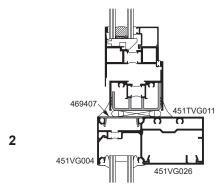
Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entriance, window, and cutrain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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

PROJECT-OUT VERTICAL SECTION

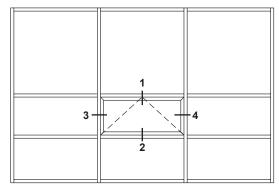
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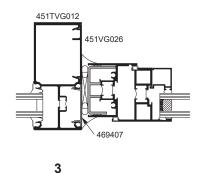
8225TL THERMAL WINDOWS SHOWN NOTE: OTHER VENT TYPES CAN BE

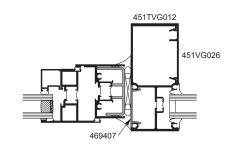
ACCOMMODATED, CONSULT YOUR KAWNEER REPRESENTATIVE FOR OTHER OPTIONS



ELEVATION IS NUMBER KEYED TO DETAILS

PROJECT-OUT HORIZONTAL SECTION





KAWNEER

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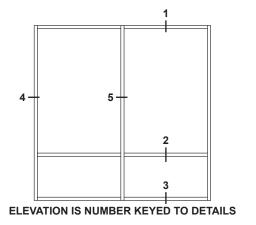
EC 97911-262 INDEX (BACK)

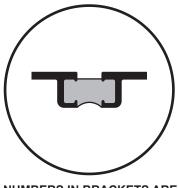


BASIC FRAMING DETAILS (BACK - Inside Glazed - Stops Down)

EC 97911-262

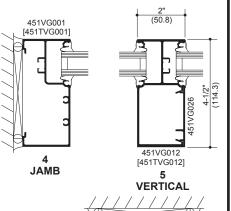
Additional information and CAD details are available at www.kawneer.com

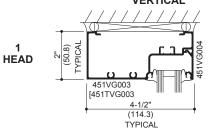


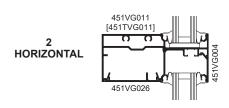


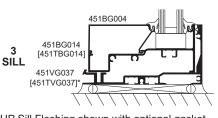
NUMBERS IN BRACKETS ARE THERMALLY BROKEN MEMBERS





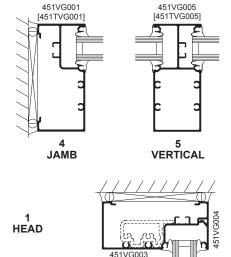




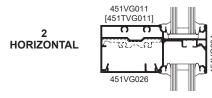


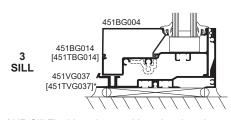
* HP Sill Flashing shown with optional gasket.

SHEAR BLOCK



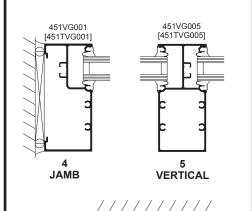
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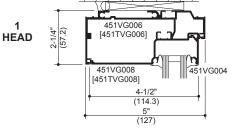


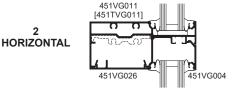


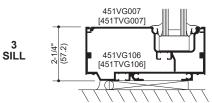
* HP Sill Flashing shown with optional gasket.

STICK









KAWNEER

ADMC040EN

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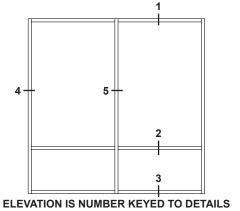
BASIC FRAMING DETAILS (BACK - Outside Glazed - Stops Down)

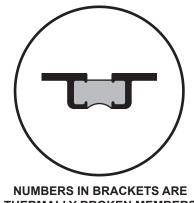
EC 97911-262

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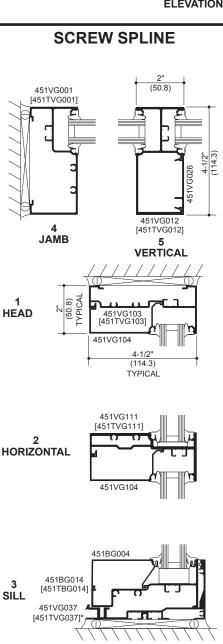
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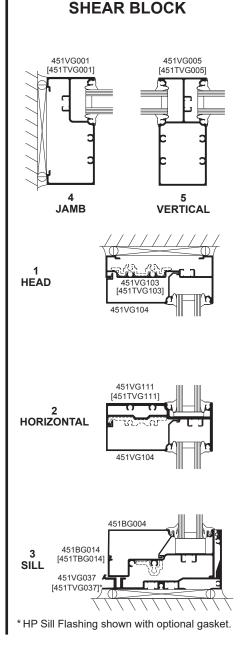


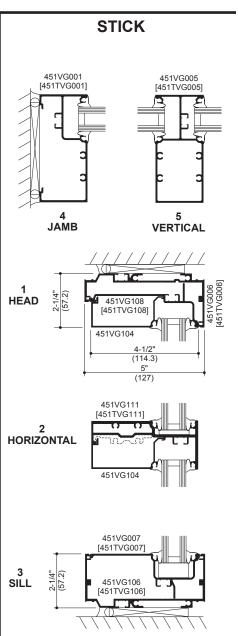


THERMALLY BROKEN MEMBERS



* HP Sill Flashing shown with optional gasket.



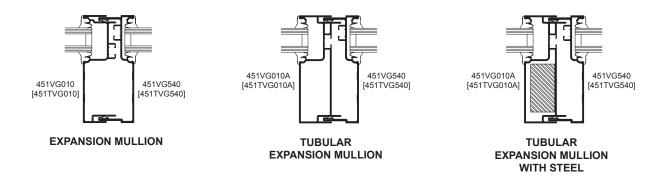


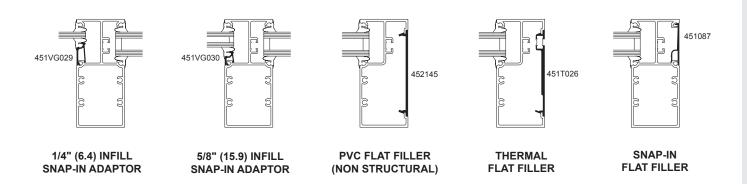


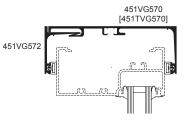
ADMC040EN kawneer.com

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

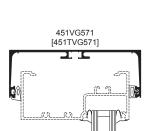
MISCELLANEOUS FRAMING (BACK)



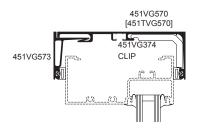




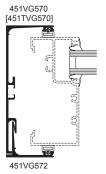
STANDARD - HEAD **COMPENSATING RECEPTOR**



STANDARD - HEAD **COMPENSATING RECEPTOR**



HEAVY WEIGHT - HEAD COMPENSATING RECEPTOR (EXTERIOR INSTALLED)



JAMB COMPENSATING RECEPTOR (EXTERIOR INSTALLED)

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

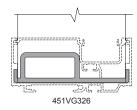


EC 97911-262

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MISCELLANEOUS FRAMING (BACK)

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

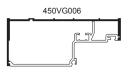


MULLION ANCHOR

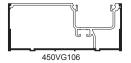
NOTE:

If the end reaction of the mullion (mullion spacing (ft.) times height (ft) times specified wind load (psf), divided by two) is more than 500 LBS., the optional Mullion Anchor must be used. Consult Application Engineering.

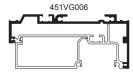
Mullion Anchor not used with Lightweight Receptor.

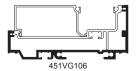


Trifab® VersaGlaze® 451/451T Framing System

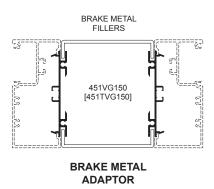


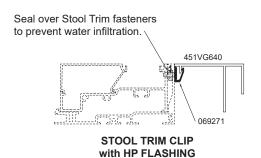
OPTIONAL LIGHTWEIGHT CAN RECEPTORS

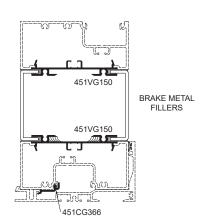




OPTIONAL UNEQUAL LEG **CAN RECEPTORS**







BRAKE METAL ADAPTOR AT HORIZONTAL

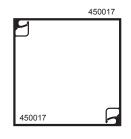




kawneer.com

4-1/2" X 4-1/2" TUBE

CORNERS (BACK)

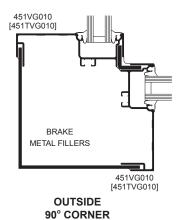


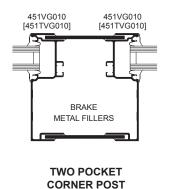
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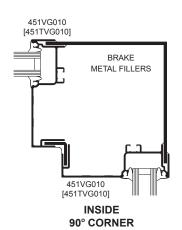
451VG015 [451TVG015]

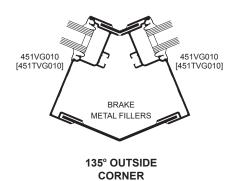
TWO PIECE NO POCKET CORNER

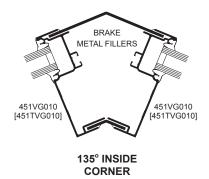
ONE POCKET CORNER











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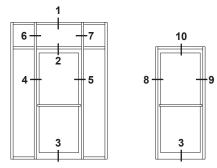
Additional information and CAD details are available at www.kawneer.com

TRIFAB® VersaGlaze® 451 FRAMING INCORPORATING KAWNEER "190" DOORS.

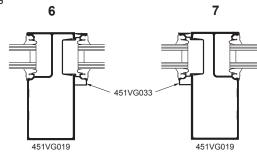
DOOR FRAMING NON-THERMAL ONLY

NOTE: OTHER TYPES OF KAWNEER DOORS MAY BE USED WITH THIS FRAMING

SEE ENTRANCE DETAILS FOR ADDITIONAL INFORMATION.

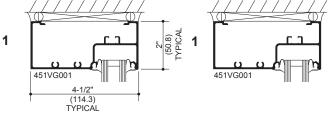


ELEVATIONS ARE NUMBER KEYED TO DETAILS

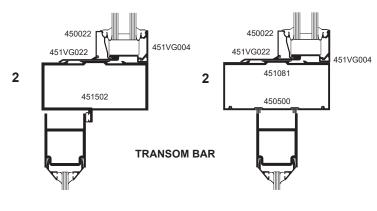


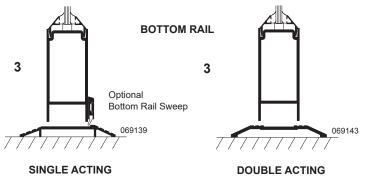
TRANSOM JAMBS

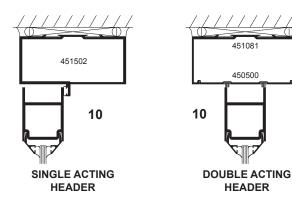
Transom area for both double or single acting doors with glass surround. Jambs above transom bar are routed out to accept glass holding insert.

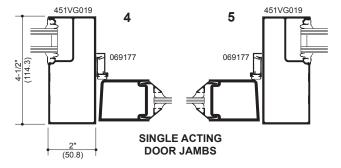


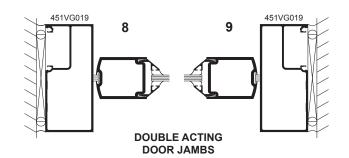
TRANSOM HEAD















54

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INDEX (MULTI-PLANE) EC 97911-262

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(MULTI-PLANE - Outside Glazed - Stops Down)	61
(See appropriate Center, Front or Back Section	
for Miscellaneous Details.)	

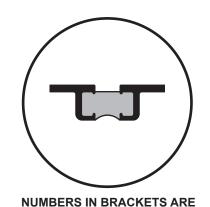


EC 97911-262

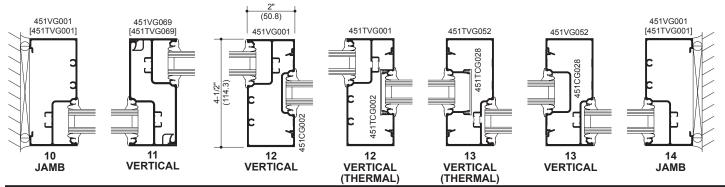
Additional information and CAD details are available at www.kawneer.com

SCREW SPLINE ASSEMBLY **FRONT BACK CENTER FRONT** 10 12 13 14 5 8

ELEVATION IS NUMBER KEYED TO DETAILS

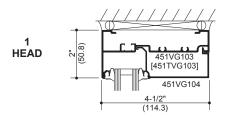


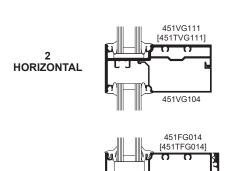
THERMALLY BROKEN MEMBERS

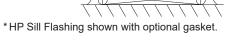




See Pages 32 thru 45 for all FRONT details.





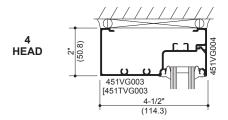


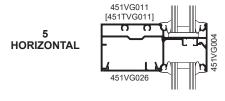
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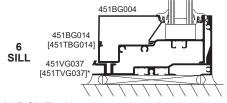
[451TVG037]*

BACK

See Pages 48 thru 53 for all BACK details.



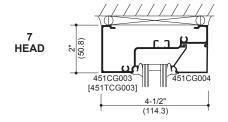


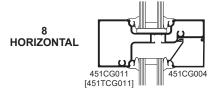


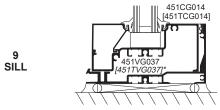
* HP Sill Flashing shown with optional gasket.

CENTER

See Pages 12 thru 30 for all CENTER details.







* HP Sill Flashing shown with optional gasket.

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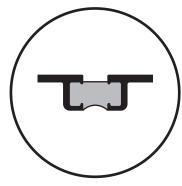
3 SILL

EC 97911-262

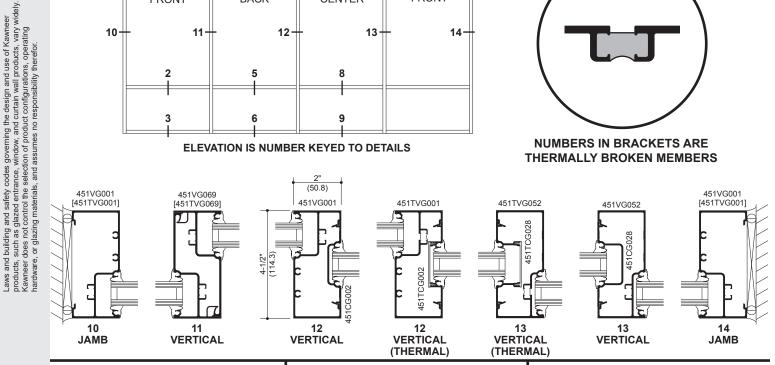
BASIC FRAMING DETAILS (MULTI-PLANE - Outside Glazed - Stops Down)

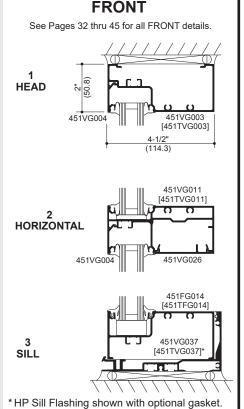
Additional information and CAD details are available at www.kawneer.com

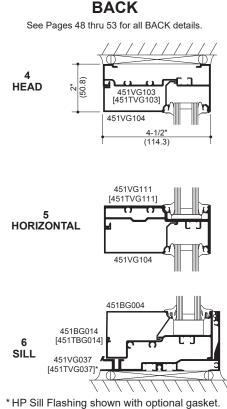
SCREW SPLINE ASSEMBLY **FRONT BACK CENTER FRONT** 10 12 13 14 5 8 **ELEVATION IS NUMBER KEYED TO DETAILS**

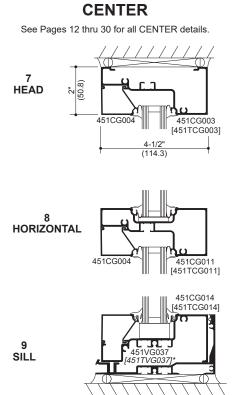


NUMBERS IN BRACKETS ARE THERMALLY BROKEN MEMBERS









* HP Sill Flashing shown with optional gasket.

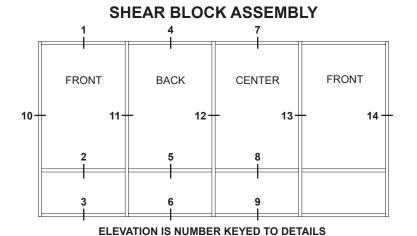
KAWNEER

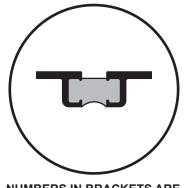
ADMC040EN kawneer.com

BASIC FRAMING DETAILS (MULTI-PLANE - Inside Glazed - Stops Down)

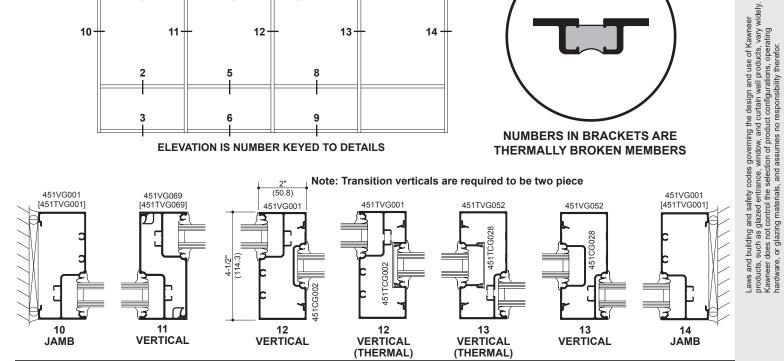
EC 97911-262

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

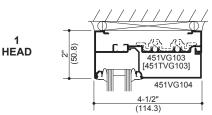


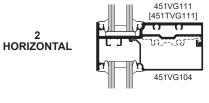


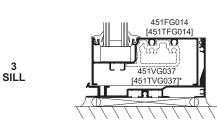
NUMBERS IN BRACKETS ARE THERMALLY BROKEN MEMBERS







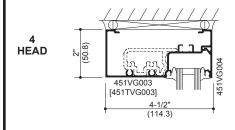


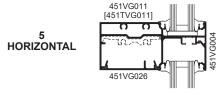


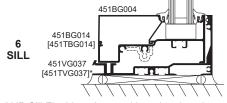
* HP Sill Flashing shown with optional gasket.

BACK

See Pages 48 thru 53 for all BACK details.





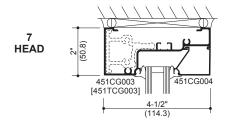


* HP Sill Flashing shown with optional gasket.

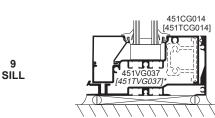
ADMC040EN

CENTER

See Pages 12 thru 30 for all CENTER details.







* HP Sill Flashing shown with optional gasket.

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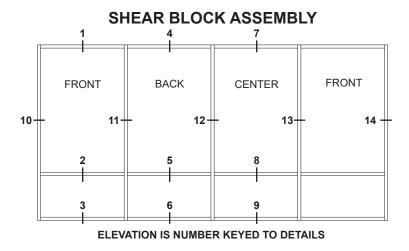
Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

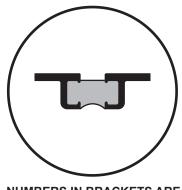
© 2018, Kawneer Company,

EC 97911-262

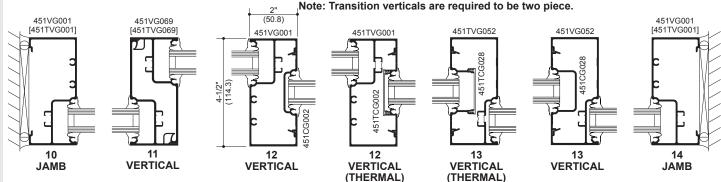
BASIC FRAMING DETAILS (MULTI-PLANE - Outside Glazed - Stops Down)

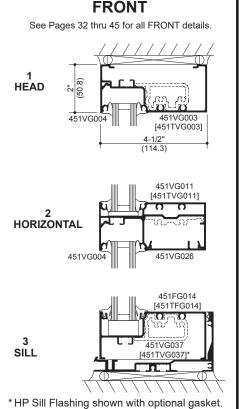
Additional information and CAD details are available at www.kawneer.com

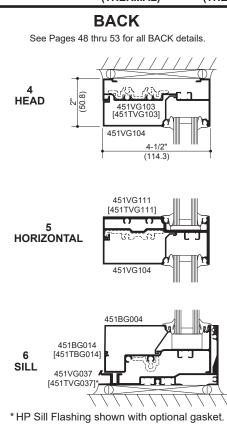


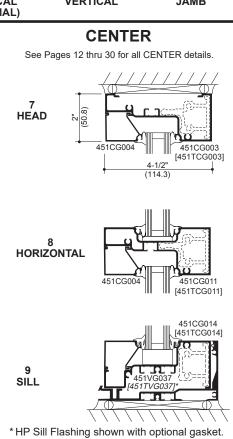


NUMBERS IN BRACKETS ARE THERMALLY BROKEN MEMBERS





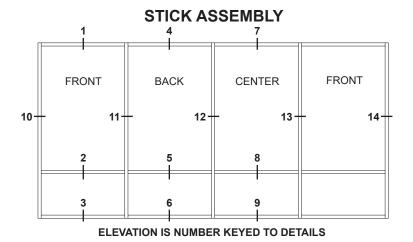


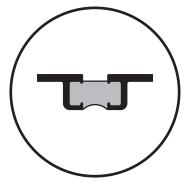




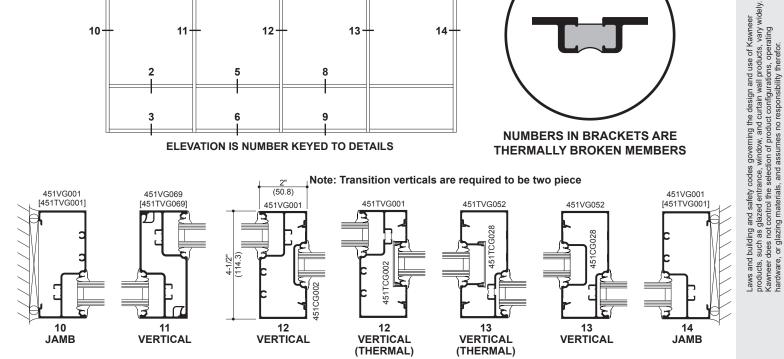
BASIC FRAMING DETAILS (MULTI-PLANE - Inside Glazed - Stops Down)

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



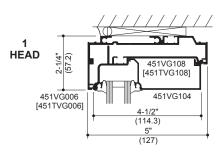


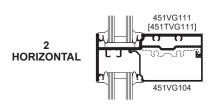
NUMBERS IN BRACKETS ARE THERMALLY BROKEN MEMBERS

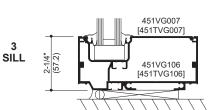




See Pages 32 thru 45 for all FRONT details.

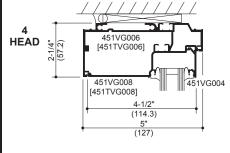


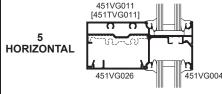


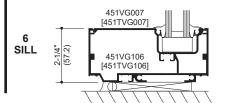


BACK

See Pages 48 thru 53 for all BACK details.

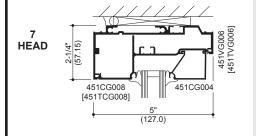


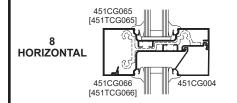


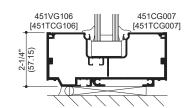


CENTER

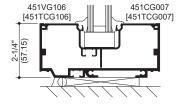
See Pages 12 thru 30 for all CENTER details.







SILL

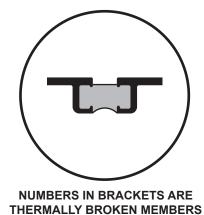


KAWNEER

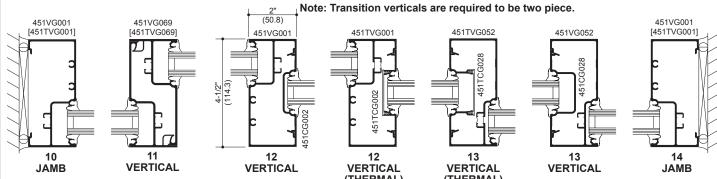
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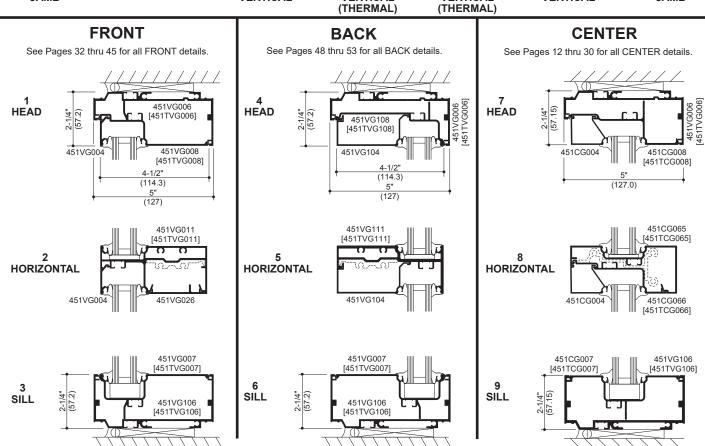
STICK ASSEMBLY **FRONT BACK** CENTER **FRONT** 10 12 13 14

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



ELEVATION IS NUMBER KEYED TO DETAILS





The following applications utilize Tremco Proglaze® ETA Connections as the transition assembly from the wall air/vapor barrier membrane to the storefront framing perimeter. Corners are sealed with either Proglaze® ETA 3D molded silicone corners or lapped Proglaze® ETA silicone sheet material. Transition assembly components are set in Tremco Spectrem® 1 silicone sealant. For complete installation instructions of Tremco Proglaze® ETA products, contact your local Tremco representative or visit www.tremcosealants.com.

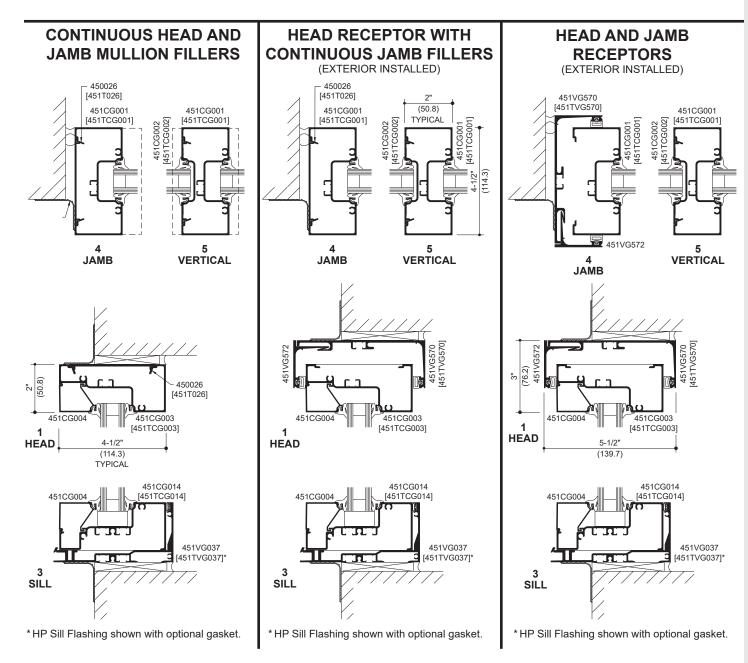
For integration of a silicone engineered transition assembly, the Trifab® storefront system must use continuous head and jamb mullion fillers, a head receptor with continuous jamb fillers or a head receptor with jamb receptors.

Reference air/vapor barrier installation instructions 451VG977EN. All storefront framing to be installed according to applicable Kawneer storefront system installation instructions, project specific plans, specifications and shop details.

Storefront installations require the sill to be structurally supported directly under the glass setting blocks and mullion locations, as well as where the sill is anchored to the substrate. Any projecting or cantilevered sill applications that are not supported must be reviewed by Kawneer application engineering.

Installer to independently confirm sealant compatibility and adhesion with all job specific storefront framing materials, silicone ETA sheet material and wall AVB material.

(451 center plane details shown, 451T and front/back/multi-plane similar.





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

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WIND LOAD CHARTS

Mullions are designed for deflection limitations in accordance with AAMA TIR-A11 of L/175 up to 13' 6" and L/240 +1/4" above 13' 6". These curves are for mullions WITH HORIZONTALS and are based on engineering calculations for stress and deflection. Allowable wind load stress for ALUMINUM 15,152 psi (104 MPa), STEEL 30,000 psi (207 MPa). Charted curves, in all cases are for the limiting value. Wind load charts contained herein are based upon nominal wind load utilized in allowable stress design. A conversion from Load Resistance Factor Design (LRFD) is provided. To convert ultimate wind loads to nominal loads, multiply ultimate wind loads by a factor of 0.6 per ASCE/SEI 7. A 4/3 increase in allowable stress has not been used to develop these curves. For special situations not covered by these curves, contact your Kawneer representative for additional information.

If the end reaction of the mullion [mullion spacing (ft.) times height (ft.) times specified wind load (psf) divided by two] is more than 500 lbs., the optional Heavyweight Compensating Receptor Face/Reinforcing Clip (Screw Spline/Shear Block systems) or Mullion Anchors (Stick system) must be used. Consult Application Engineering. (Mullion Anchor not used with Standard Receptor.)

DEADLOAD CHARTS

Horizontal or deadload limitations are based upon 1/8" (3.2), maximum allowable deflection at the center of an intermediate horizontal member. The accompanying charts are calculated for 1" (25.4) thick insulating glass or 1/4" (6.4) thick glass supported on two setting blocks placed at the loading points shown.

NOTE: Charts are for THERMAL and NON-THERMAL members.

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

32018, Kawneer Company,

nd safety codes governing the design and use of Kawneer azed entrance, window, and curtain wall products, vary widely, matriol the selection of product configurations, operating materials, and assumes no responsibility therefor.



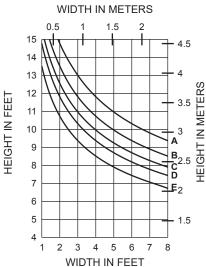
WIND LOAD CHARTS (CENTER) Non-Thermal

EC 97911-262

Laws and building and safety codes governing the design and use of Kawneer broucks, such as glazed entrance, window, and cutain 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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WITH HORIZONTALS

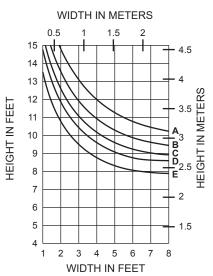


	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	40 PSF (1920)	67 PSF (3200)

451CG001

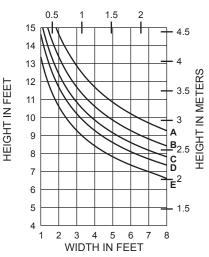
451CG002 I = 3.237 (134.73 x 104) $S = 1.431 (23.45 \times 10^3)$

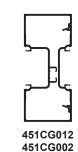
WITHOUT HORIZONTALS



WITH HORIZONTALS



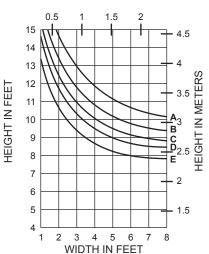




 $I = 3.137 (130.57 \times 10^4)$ $S = 1.384 (22.68 \times 10^3)$

WITHOUT HORIZONTALS

WIDTH IN METERS

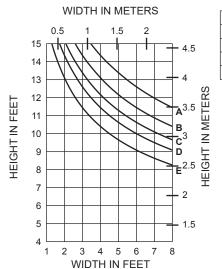




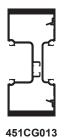
WIND LOAD CHARTS (CENTER) Non-Thermal

EC 97911-262

WITH HORIZONTALS



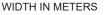
Allowable Stress	LRFD Ultimate
Design Load	Design Load
15 PSF (720)	25 PSF (1200)
20 PSF (960)	33 PSF (1580)
25 PSF (1200)	42 PSF (2000)
30 PSF (1440)	50 PSF (2400)
40 PSF (1920)	67 PSF (3200)
	Design Load 15 PSF (720) 20 PSF (960) 25 PSF (1200) 30 PSF (1440)

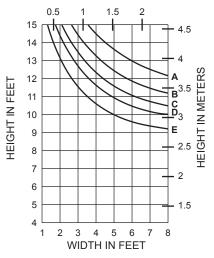


451CG002

I = 5.907 (245.86 x 10⁴) S = 2.615 (42.85 x 10³)

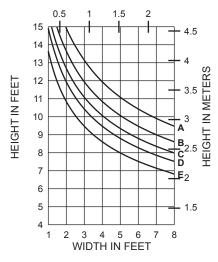
WITHOUT HORIZONTALS

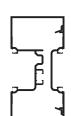




WITH HORIZONTALS

WIDTH IN METERS



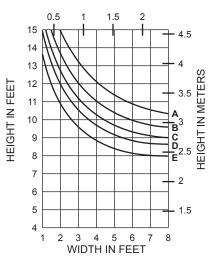


451CG112 451CG002

I = 3.346 (139.27 x 10⁴) S = 1.474 (24.15 x 10³)

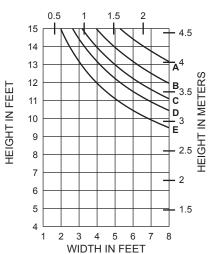
WITHOUT HORIZONTALS

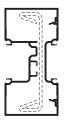
WIDTH IN METERS



WITH HORIZONTALS







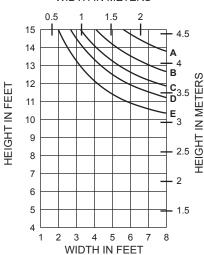
451CG112 451CG002 with 450110 STEEL

 $I_A = 3.346 (139.27 \times 10^4)$ $S_A = 1.474 (24.15 \times 10^3)$ $I_S = 1.935 (80.54 \times 10^4)$

 $S_s = 0.938 (15.37 \times 10^3)$

WITHOUT HORIZONTALS





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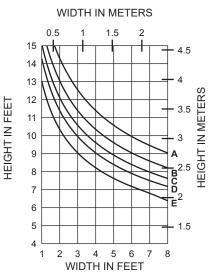
- 4.5

HEIGHT IN FEET

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WIND LOAD CHARTS (CENTER) Non-Thermal EC 97911-262

WITH HORIZONTALS

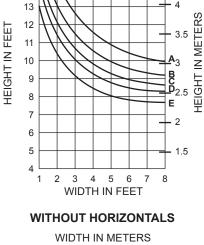


WITH HORIZONTALS

WIDTH IN METERS

Allowable Stress	LRFD Ultimate
Design Load	Design Load
15 PSF (720)	25 PSF (1200)
20 PSF (960)	33 PSF (1580)
25 PSF (1200)	42 PSF (2000)
30 PSF (1440)	50 PSF (2400)
40 PSF (1920)	67 PSF (3200)
	Design Load 15 PSF (720) 20 PSF (960) 25 PSF (1200) 30 PSF (1440)

451CG005 $I = 2.907 (120.99 \times 10^4)$ $S = 1.292 (21.17 \times 10^3)$



WITHOUT HORIZONTALS

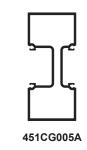
WIDTH IN METERS

15

14

15

15 14 13 HEIGHT IN METERS 12 11 10 9 8 CD 7 6 5



I = 3.016 (125.53 x 104)
$S = 1.340 (21.96 \times 10^3)$

15 4.5 14 13 HEIGHT IN METERS 12 HEIGHT IN FEET 11 10 В 9 8 7 2 6 5 3 4 5 6 WIDTH IN FEET

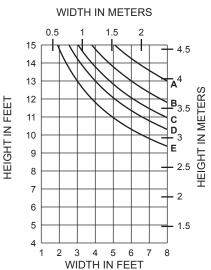
WITH HORIZONTALS

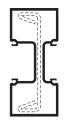
WIDTH IN FEET

4

5 6

3

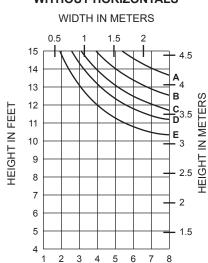




451CG005A with 450110 STEEL

 $I_A = 3.016 (125.53 \times 10^4)$ $S_A = 1.340 (21.96 \times 10^3)$ $I_s = 1.935 (80.54 \times 10^4)$ $S_s = 0.938 (15.37 \times 10^3)$

WITHOUT HORIZONTALS



WIDTH IN FEET



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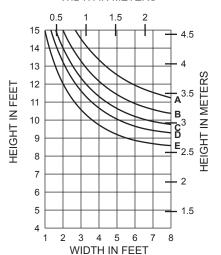
EC 97911-262

WITH HORIZONTALS

WIND LOAD CHARTS (CENTER) Non-Thermal

WITHOUT HORIZONTALS

WIDTH IN METERS



WIDTH IN METERS							
15 14 13 12 11 10 10 9 8 7 6 5 4	0.5	3 4	1.5	6		• 4.5 • 4 • 3.5 A • 3 B C • 2.5 E • 2	HEIGHT IN METERS

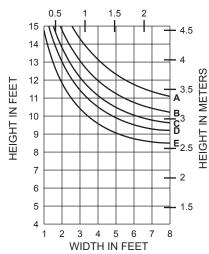
	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	40 PSF (1920)	67 PSF (3200)

451CG001A 451CG002

 $I = 4.507 (187.59 \times 10^4)$ $S = 1.993 (32.66 \times 10^3)$

WITHOUT HORIZONTALS

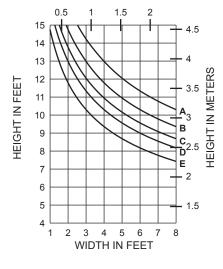
WIDTH IN METERS



WITH HORIZONTALS

WIDTH IN FEET

WIDTH IN METERS



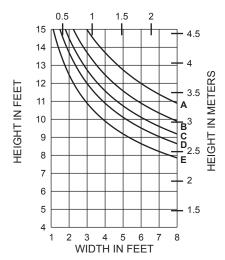


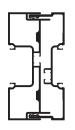
451CG010 451CG540

 $I = 4.301 (179.02 \times 10^{4})$ $S = 1.886 (30.91 \times 10^3)$

WITH HORIZONTALS

WIDTH IN METERS



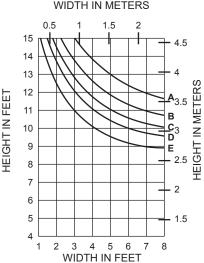


451CG010A 451CG540

 $I = 5.083 (211.57 \times 10^{4})$ $S = 2.259 (37.02 \times 10^3)$

WITHOUT HORIZONTALS

WIDTH IN METERS



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Trifab® VersaGlaze® 451T Framing System

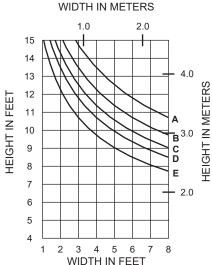
EC 97911-262

WIND LOAD CHARTS (CENTER) Non-Thermal

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WITH HORIZONTALS



WITH HORIZONTALS

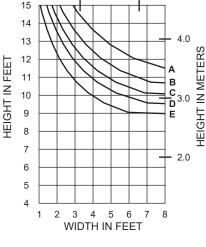
WIDTH IN METERS

	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	40 PSF (1920)	67 PSF (3200)

451CG081 / 451CG082

I = 4.829 (201.00 x 10⁴) S = 2.146 (35.17 x 10³)

WITHOUT HORIZONTALS

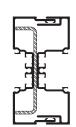


WITHOUT HORIZONTALS
WIDTH IN METERS

1.0

2.0

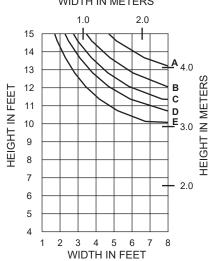
HEIGHT IN FEET	14 13 12 11 10 9 8 7 6 5 4	1 2	2 :	3 4	14 !		- 4.0 B C - 3.0 E - 2.0	HEIGHT IN METERS
					H IN			



451CG081 / 451CG082 with 400110 STEEL

WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WIDTH IN METERS



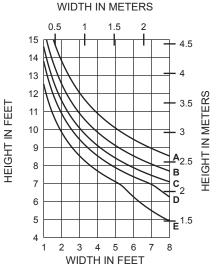
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EC 97911-262

WIND LOAD CHARTS (CENTER) Thermal

WITH HORIZONTALS



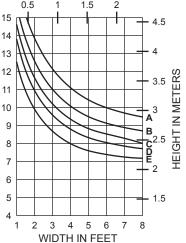
	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E=	40 PSF (1920)	67 PSF (3200)

451TCG001

WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITHOUT HORIZONTALS

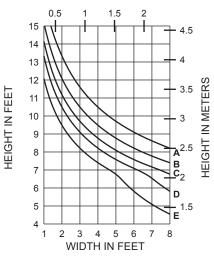


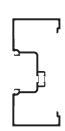


HEIGHT IN FEET

WITH HORIZONTALS

WIDTH IN METERS



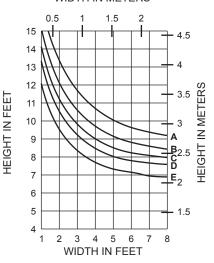


WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

451TCG012

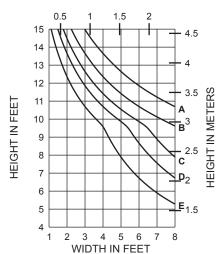
WITHOUT HORIZONTALS

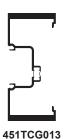
WIDTH IN METERS



WITH HORIZONTALS

WIDTH IN METERS

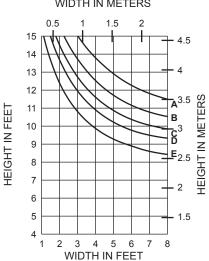




WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITHOUT HORIZONTALS

WIDTH IN METERS



KAWNEER

ADMC040EN

kawneer.com

codes governing the design and use of Kawneer rance, window, and curtain wall products, vary widely, relection of product configurations, operating s, and assumes no responsibility therefor.

HEIGHT IN METERS

B_{2.5}

2

1.5

D E

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HEIGHT IN FEET

WIND LOAD CHARTS (CENTER) Thermal

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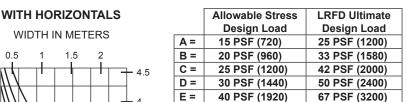
8

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HEIGHT IN FEET

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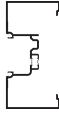
HEIGHT IN METERS

В



451TCG112

WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505



WIDTH IN FEET WITHOUT HORIZONTALS

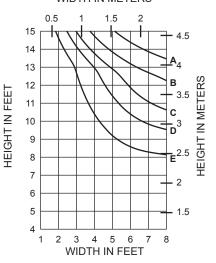
3 4 5 6

WITHOUT HORIZONTALS

WIDTH IN METERS

1.5

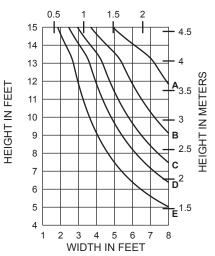
WIDTH IN METERS



WITH HORIZONTALS WIDTH IN METERS

WIDTH IN FEET

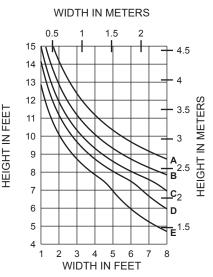
3 4 5 6

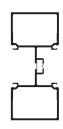


451TCG112 with 450110 STEEL

WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITH HORIZONTALS

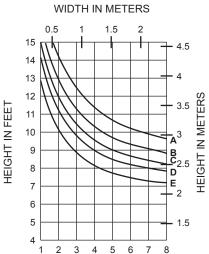


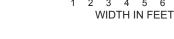


451TCG005

WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITHOUT HORIZONTALS

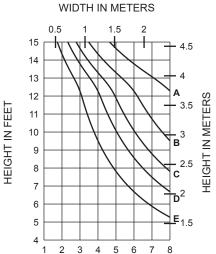






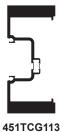
kawneer.com

WITH HORIZONTALS



WIDTH IN FEET

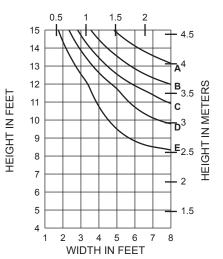
	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	40 PSF (1920)	67 PSF (3200)



WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITHOUT HORIZONTALS

WIDTH IN METERS



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HEIGHT IN FEET

WIDTH IN FEET

WITH HORIZONTALS

WIDTH IN METERS

HEIGHT IN FEET

WIND LOAD CHARTS (CENTER) Thermal

HEIGHT IN FEET

EC 97911-262

WITH HORIZONTALS Allowable Stress **LRFD Ultimate Design Load Design Load** WIDTH IN METERS A = 15 PSF (720) 25 PSF (1200) 0.5 B = 20 PSF (960) 33 PSF (1580) C = 25 PSF (1200) 42 PSF (2000) **-** 4.5 D = 30 PSF (1440) 50 PSF (2400) E = 40 PSF (1920) 67 PSF (3200)

HEIGHT IN METERS

3.5

В

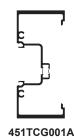
4.5

D

Ε

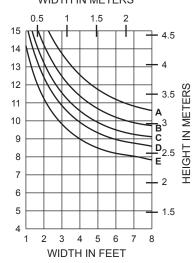
GHT IN METERS

7

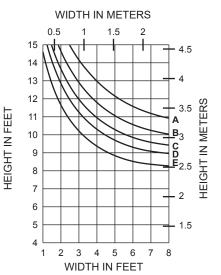


WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITHOUT HORIZONTALS WIDTH IN METERS



WITHOUT HORIZONTALS



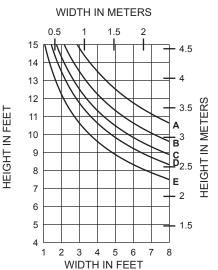
451TCG540 451TCG010

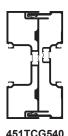
WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITH HORIZONTALS

WIDTH IN FEET

3 4 5 6

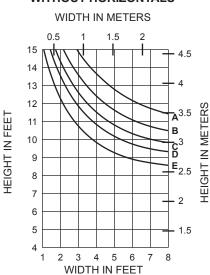




451TCG540 451TCG010A

WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITHOUT HORIZONTALS

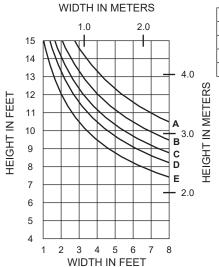




ADMC040EN kawneer.com

WITH HORIZONTALS

WIND LOAD CHARTS (CENTER) Thermal

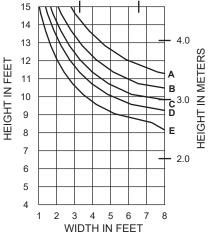


	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E=	40 PSF (1920)	67 PSF (3200)

451TCG081 / 451TCG082

WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505





WITHOUT HORIZONTALS WIDTH IN METERS

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HEIGHT IN FEET	11	В Е
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		+ 2.0
	6	
	5	
	4	
		1 2 3 4 5 6 7 8

WIDTH IN FEET

WITH HORIZONTALS

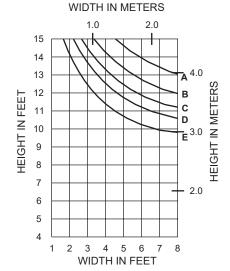
WIDTH IN METERS



451TCG081 / 451TCG082 with 400110 STEEL

WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITHOUT HORIZONTALS



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- 4.5

HEIGHT IN METERS

g

4.5

HEIGHT IN METERS

2.5

2

WITHOUT HORIZONTALS

WIDTH IN METERS

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HEIGHT IN FEET

WIDTH IN FEET

WITHOUT HORIZONTALS

WIDTH IN METERS

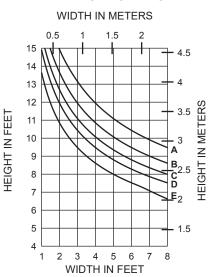
HEIGHT IN FEET

codes governing the design and use of Kawneer arnce, window, and curtain well products, vary widely, selection of product configurations, operating s, and assumes no responsibility therefor. Laws and building and sarety couces a products, such as glazed entrance, will knowneer does not control the selectic hardware, or glazing materials, and a

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HEIGHT IN FEET

WITH HORIZONTALS

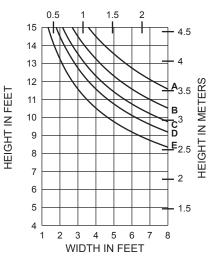


	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	40 PSF (1920)	67 PSF (3200)

I = 3.346 (139.27 x 104) $S = 1.447 (23.71 \times 10^3)$

WITH HORIZONTALS

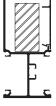






451VG012 451VG026 with 1" x 2-1/4" STEEL BAR

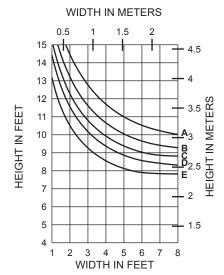
 $I_A = 3.346 (139.27 \times 10^4)$ $S_A = 1.447 (23.71 \times 10^3)$ $I_s = 0.949 (39.50 \times 10^4)$ $S_s = 0.844 (13.83 \times 10^3)$



WITHOUT HORIZONTALS

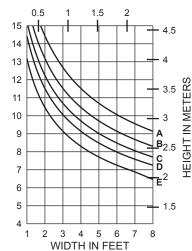
WIDTH IN FEET

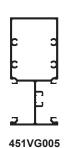
3 4 5 6



WITH HORIZONTALS

WIDTH IN METERS





 $I = 3.001 (124.91 \times 10^4)$ $S = 1.323 (21.68 \times 10^3)$

451VG012 451VG026

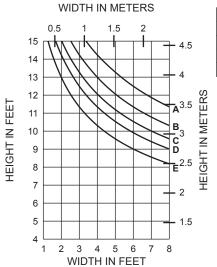
KAWNEER

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EC 97911-262

HEIGHT IN METERS

WITH HORIZONTALS



	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	40 PSF (1920)	67 PSF (3200)

451VG005 with 1" x 2-1/4" STEEL BAR

$I_A = 3.001 (124.91 \times 10^4)$ $S_A = 1.323 (21.68 \times 10^3)$
$I_s = 0.949 (39.50 \times 10^4)$ $S_s = 0.844 (13.83 \times 10^3)$



WITHOUT HORIZONTALS

WIDTH IN FEET

5 6

3

WITHOUT HORIZONTALS

WIDTH IN METERS

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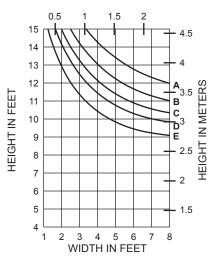
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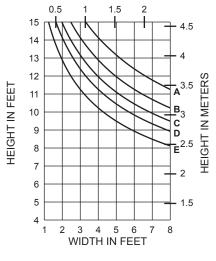
HEIGHT IN FEET

WIDTH IN METERS



WITH HORIZONTALS

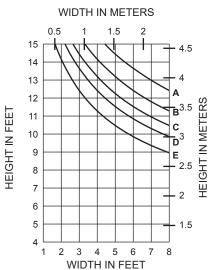
WIDTH IN METERS





 $I = 5.604 (233.25 \times 10^4)$ $S = 2.397 (39.28 \times 10^3)$

WITH HORIZONTALS



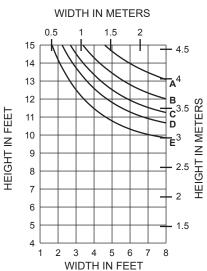


451VG014 with 1" x 2" STEEL BAR

 $I = 5.604 (233.25 \times 10^4)$ $S = 2.397 (39.28 \times 10^3)$

 $I_s = 0.667 (27.26 \times 10^4)$ $S_s = 0.667 (10.93 \times 10^3)$

WITHOUT HORIZONTALS



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HEIGHT IN METERS

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HEIGHT IN FEET

WIND LOAD CHARTS (FRONT/BACK) Non-Thermal

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HEIGHT IN FEET

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

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

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HEIGHT IN FEET

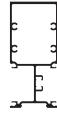
EC 97911-262

WITH HORIZONTALS Allowable Stress LRFD Ultimate **Design Load Design Load** WIDTH IN METERS A = 15 PSF (720) 25 PSF (1200) 0.5 1.5 B = 20 PSF (960) C = 25 PSF (1200) 4.5 D =

E =

HEIGHT IN METERS

3



 $I = 2.930 (121.96 \times 10^{4})$

33 PSF (1580) 42 PSF (2000) 50 PSF (2400) 30 PSF (1440) 40 PSF (1920) 67 PSF (3200)



 $S = 1.290 (21.13 \times 10^3)$

WITHOUT HORIZONTALS

WIDTH IN FEET

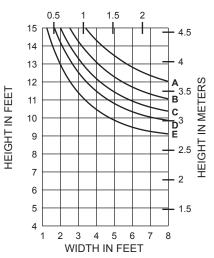
3 4 5 6

WITHOUT HORIZONTALS

WIDTH IN METERS

1.5

WIDTH IN METERS

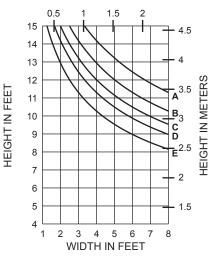


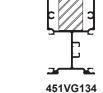
WITH HORIZONTALS

WIDTH IN FEET

3 4 5 6

WIDTH IN METERS



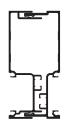


with 1" x 2-1/4" STEEL BAR

 $= 2.930 (121.96 \times 10^{4})$ $I_A = 2.930 \text{ (121.00 \times 103)}$ $S_A = 1.290 \text{ (21.13 \times 103)}$ $I_s = 0.949 (39.50 \times 10^4)$ $S_s = 0.844 (13.83 \times 10^3)$

WITH HORIZONTALS

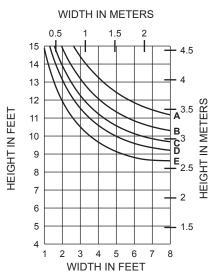
WIDTH IN FEET



451VG010 451VG540

 $I = 4.418 (183.89 \times 10^4)$ $S = 1.798 (29.46 \times 10^3)$

WITHOUT HORIZONTALS



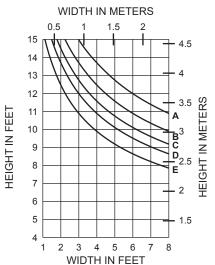


ADMC040EN kawneer.com

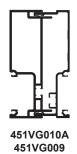
WIND LOAD CHARTS (FRONT/BACK) Non-Thermal

EC 97911-262

WITH HORIZONTALS

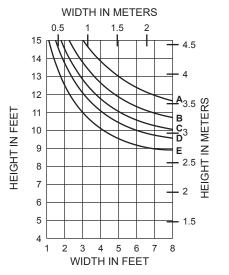


	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D=	30 PSF (1440)	50 PSF (2400)
E=	40 PSF (1920)	67 PSF (3200)



I = 5.076 (211.27 x 10⁴) S = 2.066 (33.86 x 10³)

WITHOUT HORIZONTALS



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HEIGHT IN FEET

HEIGHT IN FEET

WIND LOAD CHARTS (FRONT/BACK) Thermal

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EC 97911-262

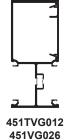
Allowable Stress LRFD Ultimate WITH HORIZONTALS **Design Load Design Load** WIDTH IN METERS A = 15 PSF (720) 25 PSF (1200) 1.5 B = 20 PSF (960) 33 PSF (1580) 25 PSF (1200) C= 42 PSF (2000) 50 PSF (2400) D = 30 PSF (1440) E = 40 PSF (1920) 67 PSF (3200)

HEIGHT IN METERS

3

CD

2



WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

451TVG012

451VG026

with 1" x 2-1/4" STEEL BAR

WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE

CALCULATED IN ACCORDANCE WITH

AAMA TIR-A8 AND AAMA 505

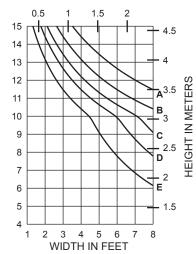


WITH HORIZONTALS

WIDTH IN FEET

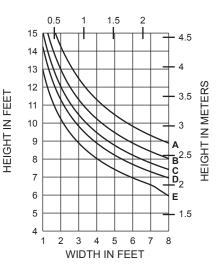
3 4 5 6

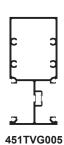
WIDTH IN METERS



WITH HORIZONTALS

WIDTH IN METERS





WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

HEIGHT IN FEET 8

0.5

15

14 13 12 HEIGHT IN METERS 11 10 В С Р_{2.5} Ε 7 2 6 5 1.5 3 4 5 WIDTH IN FEET

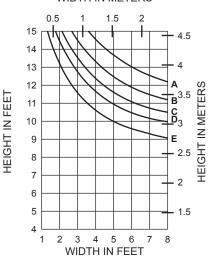
WITHOUT HORIZONTALS

WIDTH IN METERS

1.5

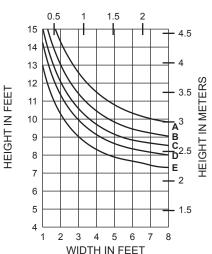
WITHOUT HORIZONTALS

WIDTH IN METERS



WITHOUT HORIZONTALS

WIDTH IN METERS

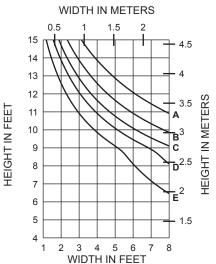


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WIND LOAD CHARTS (FRONT/BACK) Thermal

WITH HORIZONTALS

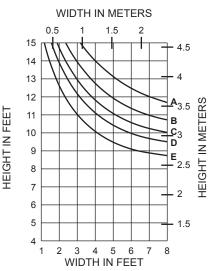


	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	40 PSF (1920)	67 PSF (3200)

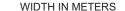


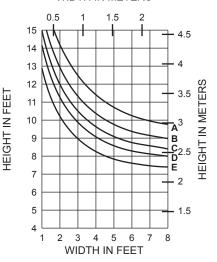
WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITHOUT HORIZONTALS



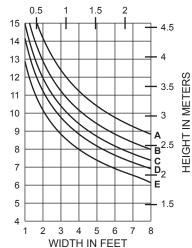
WITHOUT HORIZONTALS



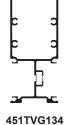


WITH HORIZONTALS





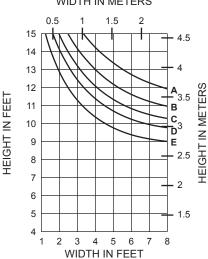
HEIGHT IN FEET



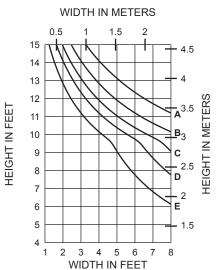
WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

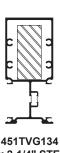
WITHOUT HORIZONTALS





WITH HORIZONTALS





with 1" x 2-1/4" STEEL BAR

WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

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Trifab® VersaGlaze® 451T Framing System

EC 97911-262

WIND LOAD CHARTS (FRONT/BACK) Thermal

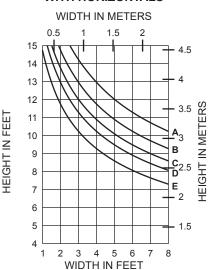
HEIGHT IN FEET

HEIGHT IN FEET

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WITH HORIZONTALS

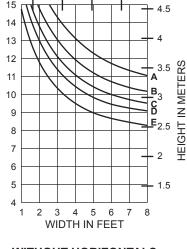


	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E=	40 PSF (1920)	67 PSF (3200)

451TVG540 451TVG010

WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITHOUT HORIZONTALS WIDTH IN METERS



WITHOUT HORIZONTALS

WIDTH IN METERS

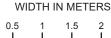
1.5

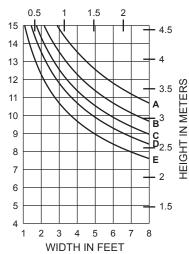
WIDTH IN FEET

GHT IN METERS

핖

WITH HORIZONTALS





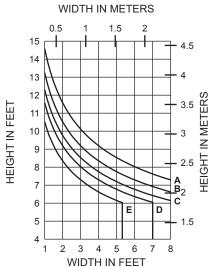
HEIGHT IN FEET



COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

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WITH HORIZONTALS

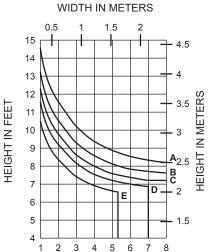


	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	40 PSF (1920)	67 PSF (3200)

451SSG005

 $I = 1.527 (63.55 \times 10^4)$ $S = 1.057 (17.32 \times 10^3)$

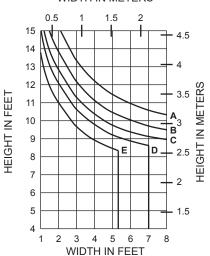
WITHOUT HORIZONTALS



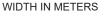
WITHOUT HORIZONTALS

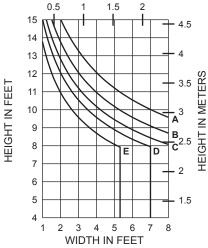
WIDTH IN FEET

WIDTH IN METERS



WITH HORIZONTALS







451SSG005 with 1" x 2" STEEL BAR

$$\begin{split} I_{A} &= 1.527 \ (63.55 \times 10^{4}) \\ S_{A} &= 1.057 \ (17.32 \times 10^{3}) \\ I_{S} &= 0.667 \ (27.76 \times 10^{4}) \\ S_{c} &= 0.667 \ (10.93 \times 10^{3}) \end{split}$$



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15

14

13

12

11

10

8

7

6

5

HEIGHT IN FEET

WIND LOAD CHARTS (MULTI-PLANE) Non-Thermal

JEIGHT IN FEET

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

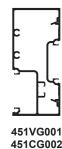
EC 97911-262

WITH HORIZONTALS Allowable Stress **LRFD Ultimate Design Load Design Load** WIDTH IN METERS A = 15 PSF (720) 25 PSF (1200) 0.5 1.5 B = 20 PSF (960) 33 PSF (1580) C = 25 PSF (1200) 42 PSF (2000) 50 PSF (2400) D = 30 PSF (1440) E = 40 PSF (1920) 67 PSF (3200)

HEIGHT IN METERS

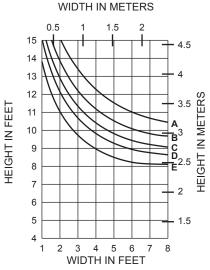
В

Š



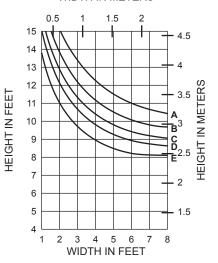
 $I = 3.485 (145.05 \times 10^4)$ $S = 1.468 (24.06 \times 10^3)$

WITHOUT HORIZONTALS



WITHOUT HORIZONTALS

WIDTH IN METERS

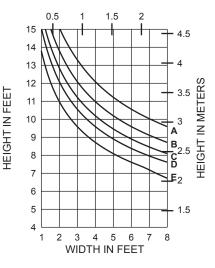


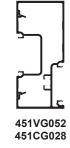
WITH HORIZONTALS

WIDTH IN METERS

WIDTH IN FEET

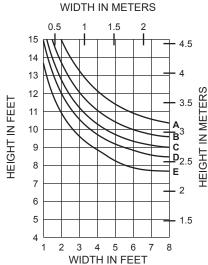
3 4 5 6





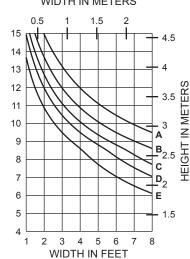
 $I = 3.470 (144.43 \times 10^{4})$ $S = 1.431 (23.45 \times 10^3)$

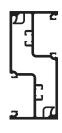
WITHOUT HORIZONTALS



WITH HORIZONTALS

WIDTH IN METERS





451VG069 451VG069

 $I = 3.362 (139.94 \times 10^4)$ $S = 1.181 (19.35 \times 10^3)$

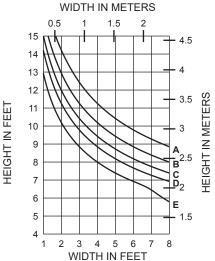


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WIND LOAD CHARTS (MULTI-PLANE) Thermal

EC 97911-262

WITH HORIZONTALS

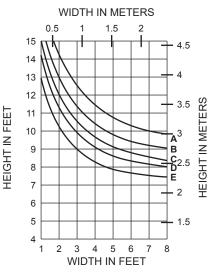


Allowable Stress	LRFD Ultimate
Design Load	Design Load
15 PSF (720)	25 PSF (1200)
20 PSF (960)	33 PSF (1580)
25 PSF (1200)	42 PSF (2000)
30 PSF (1440)	50 PSF (2400)
40 PSF (1920)	67 PSF (3200)
	Design Load 15 PSF (720) 20 PSF (960) 25 PSF (1200) 30 PSF (1440)



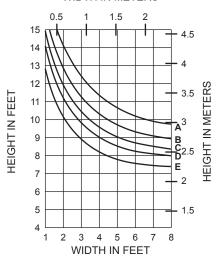
WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITHOUT HORIZONTALS

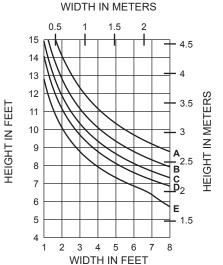


WITHOUT HORIZONTALS





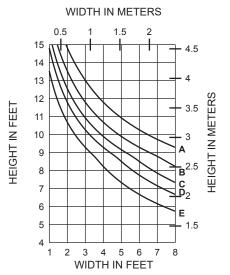
WITH HORIZONTALS

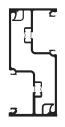




WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITH HORIZONTALS

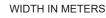


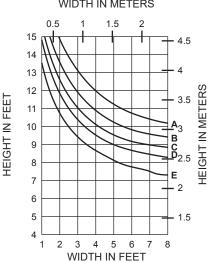


451TVG069 451TVG069

WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

WITHOUT HORIZONTALS





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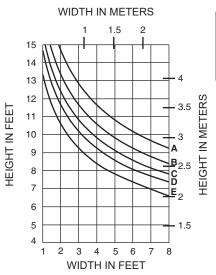
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codes governing the design and use of Kawneer rance, window, and curtain wall products, vary widely, relection of product configurations, operating s, and assumes no responsibility therefor.

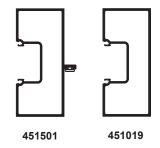
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WIND LOAD CHARTS (ENTRANCES) Non-Thermal EC 97911-262

WITH HORIZONTALS

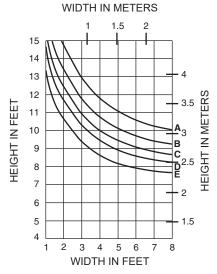




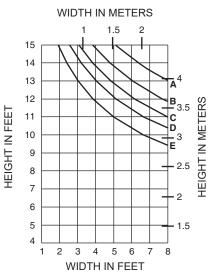


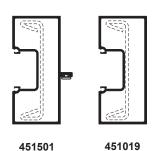
 $I = 3.116 (129.7 \times 10^4)$ $S = 1.385 (22.7 \times 10^3)$

WITHOUT HORIZONTALS



WITH HORIZONTALS



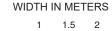


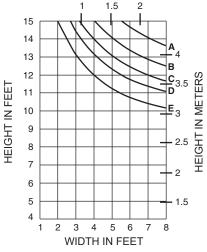
with 450110 STEEL = 3.116 (129.70 x 104)

 $\hat{S}_{A} = 1.385 (22.70 \times 10^{3})$ $I_s = 1.935 (80.54 \times 10^4)$

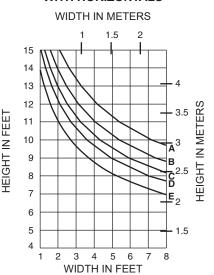
 $S_s = 0.938 (15.37 \times 10^3)$

WITHOUT HORIZONTALS





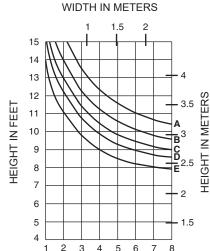
WITH HORIZONTALS

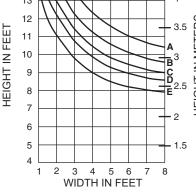


451599 451064 451CG002 451CG002

I = 3.586 (149.26 x 104) $S = 1.594 (26.12 \times 10^3)$

WITHOUT HORIZONTALS



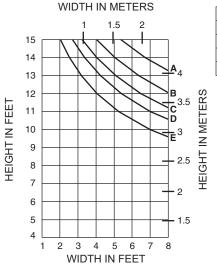




WIND LOAD CHARTS (ENTRANCES) Non-Thermal

EC 97911-262

WITH HORIZONTALS



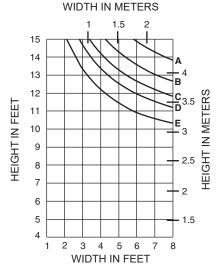
	Allowable Stress	LRFD Ultimate
	Design Load	Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	40 PSF (1920)	67 PSF (3200)

451599 451064 451CG002 451CG002

with 450110 STEEL

 $I = 3.565 (148.39 \times 10^4)$ $S = 1.622 (26.58 \times 10^3)$

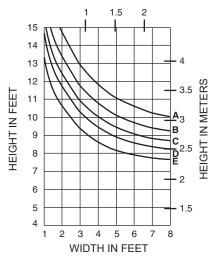
 $I_s = 1.935 (80.54 \times 10^4)$ $S_s = 0.938 (15.37 \times 10^3)$



WITHOUT HORIZONTALS

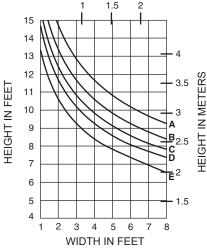
WITHOUT HORIZONTALS

WIDTH IN METERS



WITH HORIZONTALS



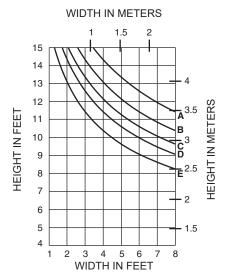


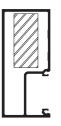


451VG019

 $I = 3.124 (130.03 \times 10^4)$ $S = 1.333 (21.84 \times 10^3)$

WITH HORIZONTALS





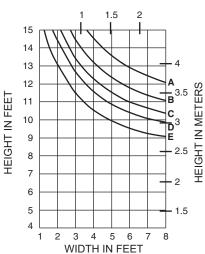
451VG019 with 1" x 2-1/4" STEEL BAR

 $I_{\Lambda} = 3.124 (130.03 \times 10^{4})$ $S_{\Delta} = 1.333 (21.84 \times 10^3)$

 $I_s = 0.949 (39.50 \times 10^4)$ $S_s = 0.844 (13.83 \times 10^3)$

WITHOUT HORIZONTALS





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EC 97911-262

DEADLOAD CHARTS

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

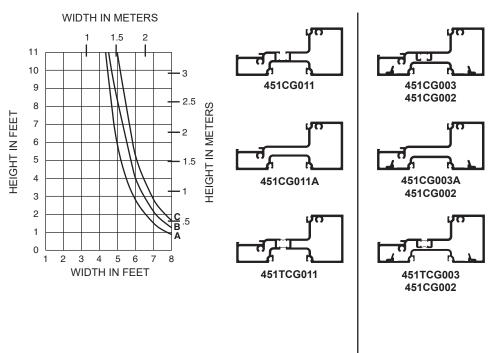
Trifab® VersaGlaze® 451/451T Framing System

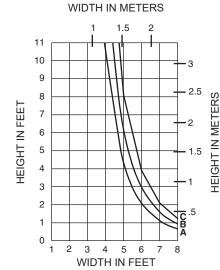
NOTE: Charts are for THERMAL and NON-THERMAL members.

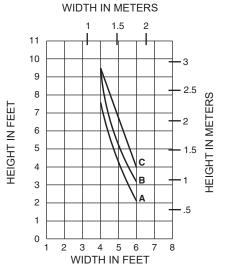
A = (1/4 POINT LOADING)

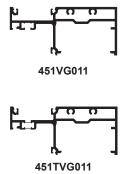
B = (1/6 POINT LOADING)

C = (1/8 POINT LOADING)

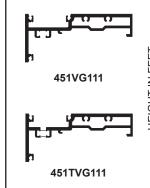


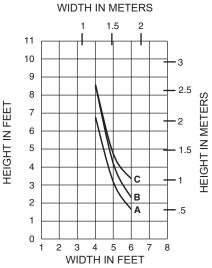






ADMC040EN





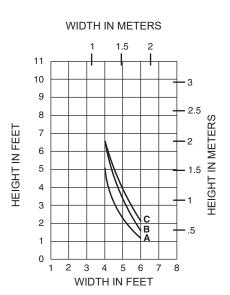
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accompanying charts are calculated for 1" (25.4) thick insulating glass supported on two setting blocks at the loading points shown.

NOTE: Charts are for THERMAL and NON-THERMAL members.

DEADLOAD CHARTS



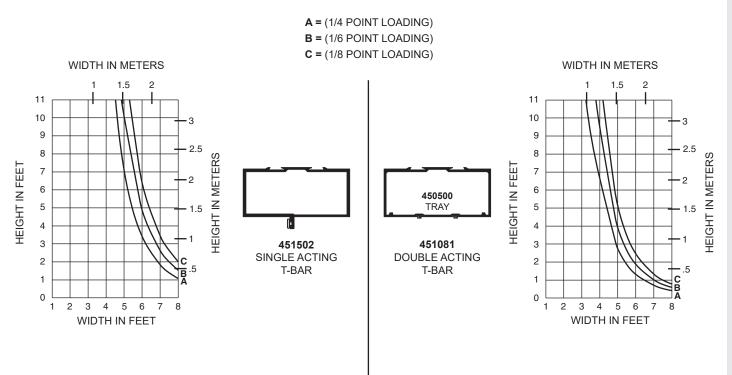
A = (1/4 POINT LOADING)B = (1/6 POINT LOADING)C = (1/8 POINT LOADING)

Horizontal or deadload limitations are based upon 1/8" (3.2) maximum allowable deflection at the center of an intermediate horizontal member. The





Height limitations for transom glass over a doorway are based upon a 1/16" (1.6) maximum allowable deflection at the center of a transom bar. The accompanying charts are calculated for 1" (25.4) thick insulating glass supported on two setting blocks placed at the loading points shown.



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

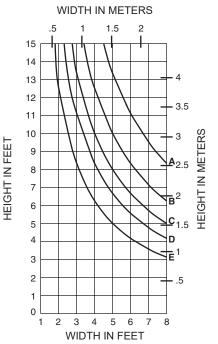
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END REACTION CHARTS EC 97911-262

For each application, end reactions MUST be checked. These charts are used to verify that the end reactions at the head and sill receptors are 500 lbs. (2224N) or less and will meet the specified wind load.



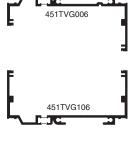
WITH HORIZONTALS

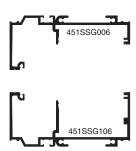


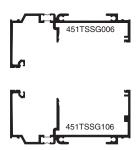
A = 15 PSF (720 Pa) B = 20 PSF (960 Pa) C = 25 PSF (1200 Pa) D = 30 PSF (1440 Pa) E = 40 PSF (1920 Pa)

Trifab® VersaGlaze® 451/451T Framing System



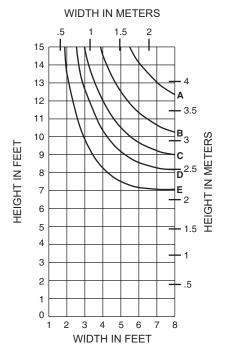






500lbs. Max. End Reaction

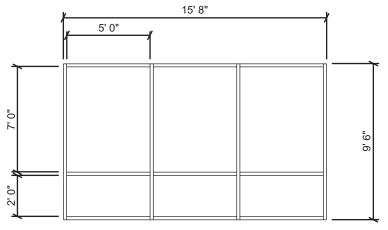
WITHOUT HORIZONTALS





EC 97911-262

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



Example Glass U-factor = 0.42 Btu/hr·ft².°F

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

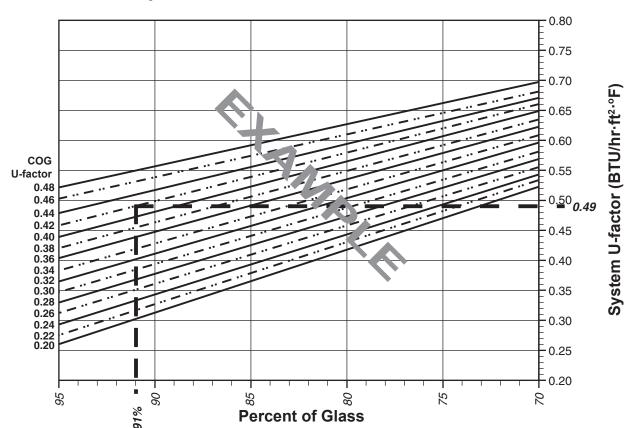
Total Projected Area = (Total Daylight Opening + Total Area of Framing System)

= 15' 8" x 9' 6" = 148.83ft²

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

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

System U-factor vs Percent of Glass Area



Based on 91% glass and center of glass (COG) U-factor of 0.42 System U-factor is equal to 0.49 Btu/hr x ft² x °F



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

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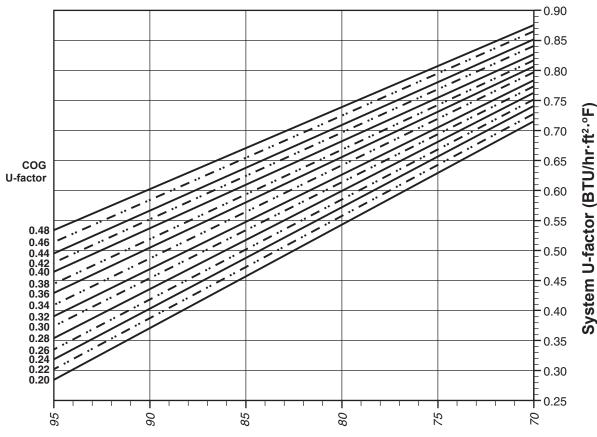
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Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and cutain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing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

EC 97911-262 THERMAL CHARTS

Trifab® VersaGlaze® 451 (CENTER – Non-Thermal)

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.

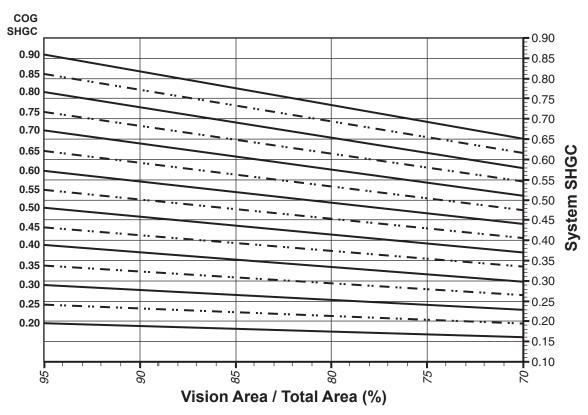
Glass properties are based on center of glass values and are obtained from your glass supplier.



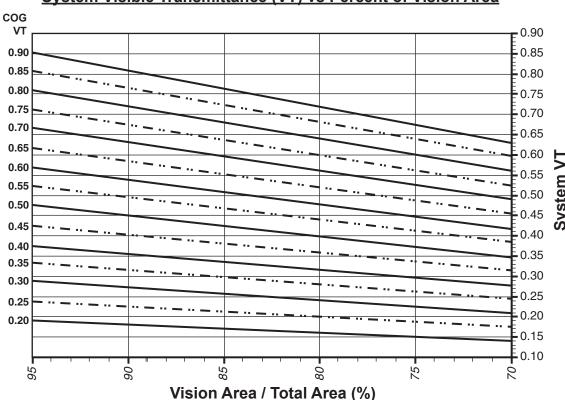
EC 97911-262

Trifab® VersaGlaze® 451 (CENTER – Non-Thermal)

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



System Visible Transmittance (VT) vs Percent of Vision Area





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is and building and safety codes governing the design and use of Kawneer tucts, such as glazed entrance, window, and curtain well products, vary wide meer does not control the selection of product configurations, persating many or design mandarials and accumes an presentalistic theoretic.

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

Glass U-Factor ³	Overall U-Factor 4
0.48	0.63
0.46	0.61
0.44	0.60
0.42	0.58
0.40	0.57
0.38	0.55
0.36	0.53
0.34	0.52
0.32	0.50
0.30	0.49
0.28	0.47
0.26	0.45
0.24	0.44
0.22	0.42
0.20	0.41

Trifab[®] VersaGlaze[®] 451 (CENTER – Non-Thermal)

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

- 1. U-Factors are determined in accordance with NFRC 100.
- SHGC and VT values are determined in accordance with NFRC 200.
- 3. Glass properties are based on center of glass values and are obtained from your glass supplier.
- 4. Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 2,000 mm wide by 2,000 mm high (78-3/4" by 78-3/4").

SHGC Matrix ²

Overall SHGC 4	Glass SHGC ³
0.80	0.90
0.76	0.85
0.71	0.80
0.67	0.75
0.63	0.70
0.58	0.65
0.64	0.60
0.49	0.55
0.45	0.50
0.41	0.45
0.36	0.40
0.32	0.35
0.27	0.30
0.23	0.25
0.18	0.20
0.41 0.36 0.32 0.27 0.23	0.45 0.40 0.35 0.30 0.25

Visible Transmittance ²

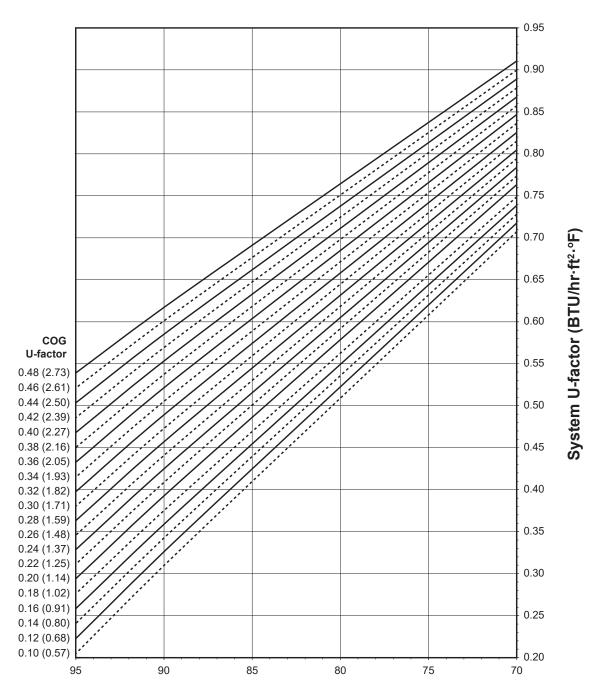
Glass VT ³	Overall VT ⁴
0.90	0.79
0.85	0.75
0.80	0.71
0.75	0.66
0.70	0.62
0.65	0.57
0.60	0.53
0.55	0.49
0.50	0.44
0.45	0.40
0.40	0.35
0.35	0.31
0.30	0.26
0.25	0.22
0.20	0.18



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Trifab® VersaGlaze® 451 Pre-Glazed (CENTER – Non-Thermal)

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.

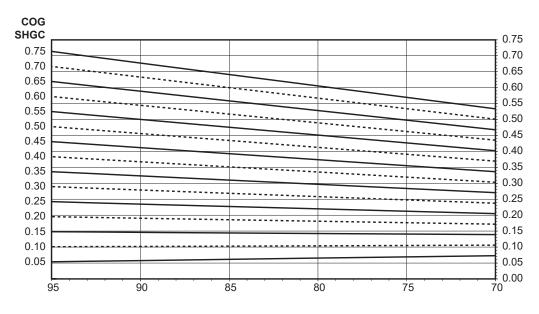
Glass properties are based on center of glass values and are obtained from your glass supplier.



EC 97911-262

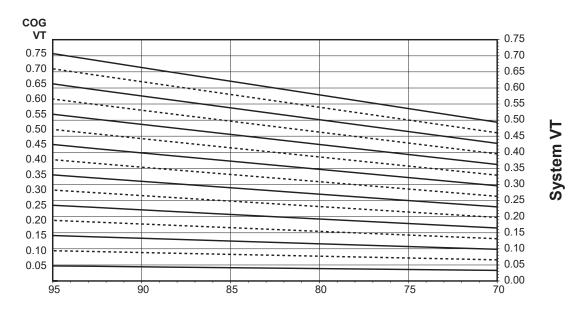
Trifab® VersaGlaze® 451 Pre-Glazed (CENTER – Non-Thermal)

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 (%)



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

96

Thermal transmittance (BTO/MF•11 • F)	
Glass U-Factor ³	Overall U-Factor 4
0.48	0.63
0.46	0.62
0.44	0.60
0.42	0.59
0.40	0.57
0.38	0.56
0.36	0.54
0.34	0.52
0.32	0.51
0.30	0.49
0.28	0.48
0.26	0.46
0.24	0.45
0.22	0.43
0.20	0.41
0.18	0.40
0.16	0.38
0.14	0.36
0.12	0.35
0.10	0.33

Trifab[®] VersaGlaze[®] 451 Pre-Glazed (CENTER – Non-Thermal)

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

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SHGC Matrix²

one mann	
Glass SHGC ³	Overall SHGC 4
0.75	0.67
0.70	0.63
0.65	0.58
0.60	0.54
0.55	0.49
0.50	0.45
0.45	0.41
0.40	0.36
0.35	0.32
0.30	0.28
0.25	0.23
0.20	0.19
0.15	0.15
0.10	0.10
0.05	0.06
	ļ

Visible Transmittance ²

VISIBLE TRANSMITTATION	
Glass VT ³	Overall VT ⁴
0.75	0.65
0.70	0.61
0.65	0.57
0.60	0.52
0.55	0.48
0.50	0.44
0.45	0.39
0.40	0.35
0.35	0.31
0.30	0.26
0.25	0.22
0.20	0.17
0.15	0.13
0.10	0.09
0.05	0.04

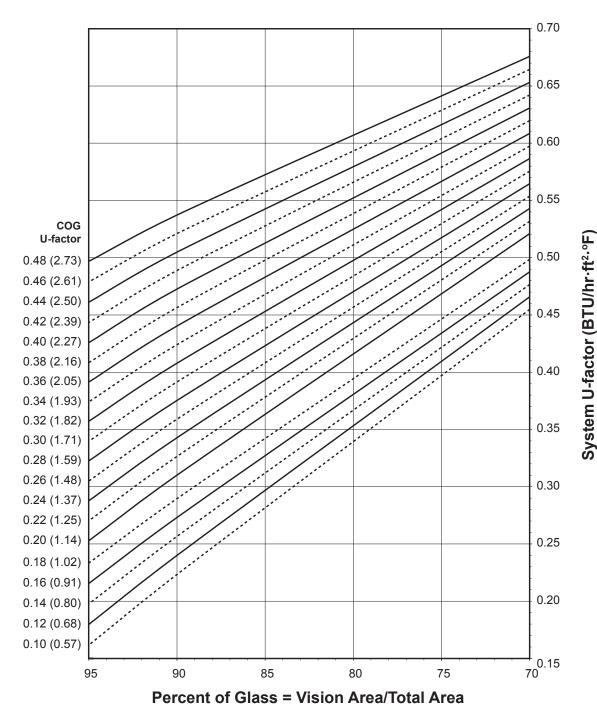


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Trifab® VersaGlaze® 451T (CENTER – Thermal)

System U-factor vs Percent of Glass 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.

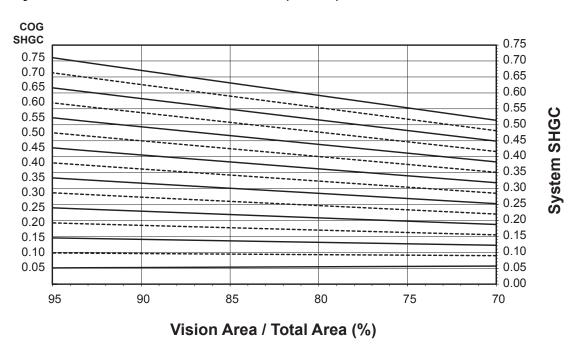
Glass properties are based on center of glass values and are obtained from your glass supplier.



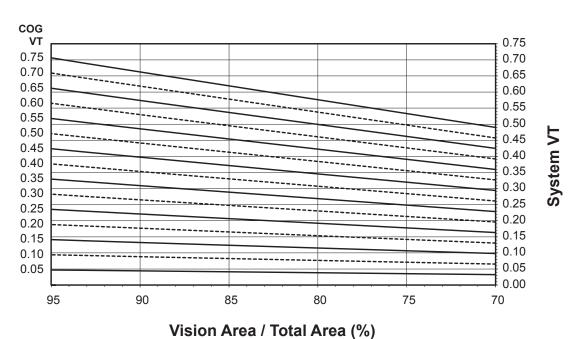
EC 97911-262

Trifab® VersaGlaze® 451T (CENTER – Thermal)

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



System Visible Transmittance (VT) vs Percent of Vision Area





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

Glass U-Factor ³	Overall U-Factor 4
0.48	0.54
0.46	0.52
0.44	0.51
0.42	0.49
0.40	0.48
0.38	0.46
0.36	0.44
0.34	0.43
0.32	0.41
0.30	0.40
0.28	0.38
0.26	0.36
0.24	0.35
0.22	0.33
0.20	0.32
0.18	0.29
0.16	0.28
0.14	0.26
0.12	0.25
0.10	0.23

Trifab[®] VersaGlaze[®] 451T (CENTER – Thermal)

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

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- SHGC and VT values are determined in accordance with NFRC 200.
- 3. Glass properties are based on center of glass values and are obtained from your glass supplier.
- 4. Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 2,000 mm wide by 2,000 mm high (78-3/4" by 78-3/4").

SHGC Matrix ²

Glass SHGC ³	Overall SHGC 4
0.75	0.67
0.70	0.62
0.65	0.58
0.60	0.53
0.55	0.49
0.50	0.45
0.45	0.40
0.40	0.36
0.35	0.32
0.30	0.27
0.25	0.23
0.20	0.18
0.15	0.14
0.10	0.10
0.05	0.05

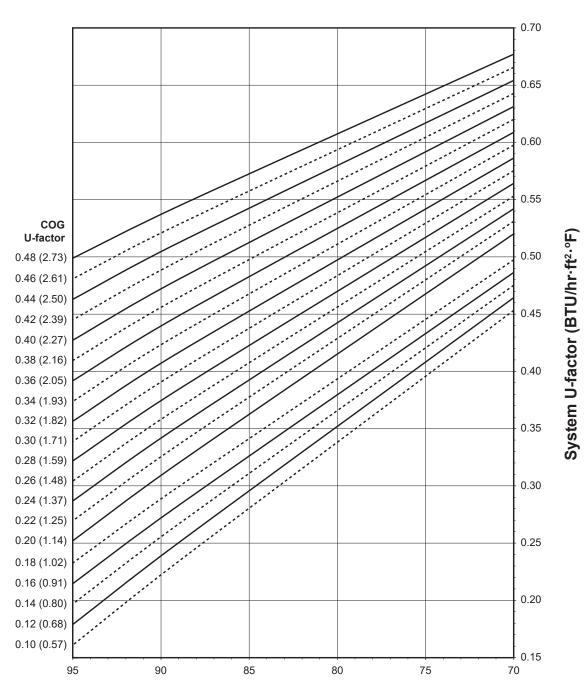
Visible Transmittance ²

Glass VT ³	Overall VT 4
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	0.39
0.40	0.35
0.35	0.31
0.30	0.26
0.25	0.22
0.20	0.18
0.15	0.13
0.10	0.09
0.05	0.04



Trifab® VersaGlaze® 451T Pre-Glazed (CENTER – Thermal)

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.

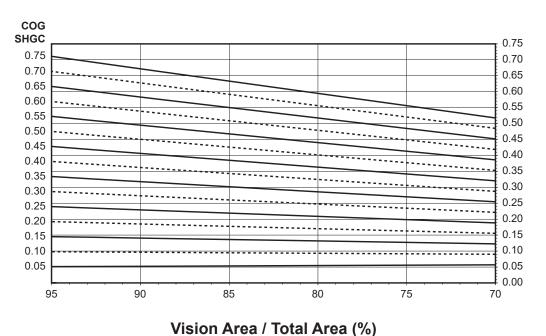
Glass properties are based on center of glass values and are obtained from your glass supplier.



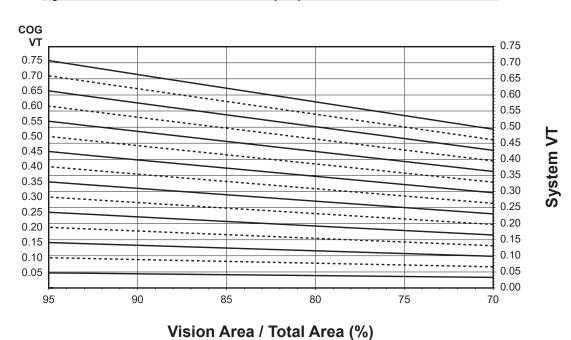
EC 97911-262 THERMAL CHARTS

Trifab® VersaGlaze® 451T Pre-Glazed (CENTER – Thermal)

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



System Visible Transmittance (VT) vs Percent of Vision Area





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Thermal Transmittance 1 (BTU/hr • ft 2 • °F)	
Glass U-Factor ³	Overall U-Factor 4
0.48	0.55
0.46	0.53
0.44	0.51
0.42	0.50
0.40	0.48
0.38	0.47
0.36	0.45
0.34	0.43
0.32	0.42
0.30	0.40
0.28	0.39
0.26	0.37
0.24	0.35
0.22	0.34
0.20	0.32
0.18	0.30
0.16	0.28
0.14	0.27
0.12	0.25
0.10	0.24
0.10	0.24

Trifab[®] VersaGlaze[®] 451T Pre-Glazed (CENTER – Thermal)

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

- 1. U-Factors are determined in accordance with NFRC 100.
- SHGC and VT values are determined in accordance with NFRC 200.
- 3. Glass properties are based on center of glass values and are obtained from your glass supplier.
- 4. Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 2,000 mm wide by 2,000 mm high (78-3/4" by 78-3/4").

SHGC Matrix ²

Glass SHGC ³	Overall SHGC ⁴
0.75	0.66
0.70	0.62
0.65	0.58
0.60	0.53
0.55	0.49
0.50	0.45
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 ²

Glass VT ³	Overall VT 4
0.75	0.65
0.70	0.61
0.65	0.57
0.60	0.52
0.55	0.48
0.50	0.44
0.45	0.39
0.40	0.35
0.35	0.31
0.30	0.26
0.25	0.22
0.20	0.17
0.15	0.13
0.10	0.09
0.05	0.04



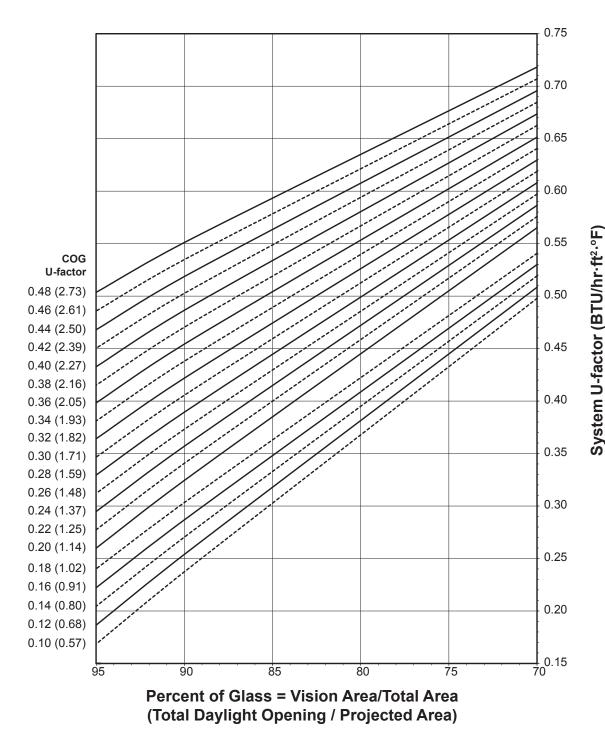
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EC 97911-262 THERMAL CHARTS

Trifab[®] VersaGlaze[®] 451T (FRONT – Thermal)

System U-factor vs Percent of Glass Area



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

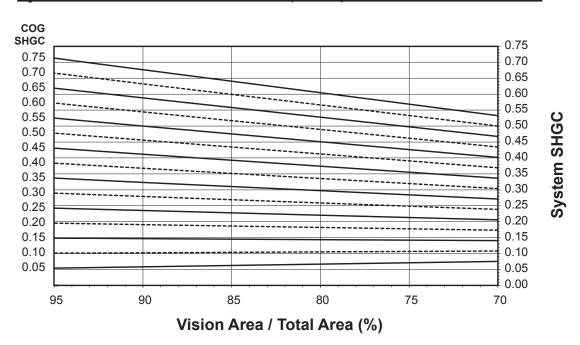
For glass values that are not listed, linear interpolation is permitted. Glass properties are based on center of glass values and are obtained from your glass supplier.



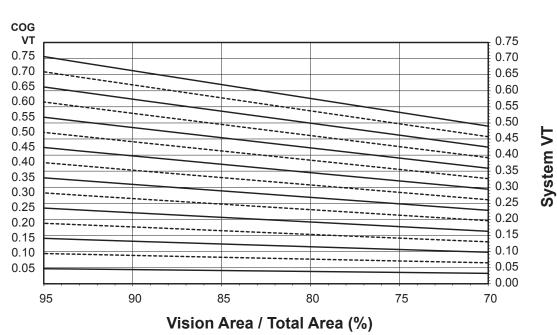
EC 97911-262

Trifab® VersaGlaze® 451T (FRONT – Thermal)

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



System Visible Transmittance (VT) vs Percent of Vision Area





aws and building and safety codes governing the design and use of Kawneer roducts, such as glazed entrance, window, and curtain wall products, vary wide awwreer does not control the selection of product configurations, operating and common and control the selection of product configurations, operating

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

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THERMAL PERFORMANCE MATRIX

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

Glass U-Factor ³	Overall U-Factor 4
0.48	0.56
0.46	0.54
0.44	0.52
0.42	0.51
0.40	0.49
0.38	0.48
0.36	0.46
0.34	0.44
0.32	0.43
0.30	0.41
0.28	0.40
0.26	0.38
0.24	0.36
0.22	0.35
0.20	0.33
0.18	0.31
0.16	0.29
0.14	0.28
0.12	0.26
0.10	0.24

Trifab® VersaGlaze® 451T (FRONT - Thermal)

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

- 1. U-Factors are determined in accordance with NFRC 100.
- 2. SHGC and VT values are determined in accordance with NFRC 200.
- 3. Glass properties are based on center of glass values and are obtained from your glass supplier.
- 4. Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 2,000 mm wide by 2,000 mm high (78-3/4" by 78-3/4").

SHGC Matrix ²

Glass SHGC ³	Overall SHGC ⁴
0.75	0.67
0.70	0.63
0.65	0.59
0.60	0.54
0.55	0.50
0.50	0.45
0.45	0.41
0.40	0.37
0.35	0.32
0.30	0.28
0.25	0.23
0.20	0.19
0.15	0.15
0.10	0.10
0.05	0.06

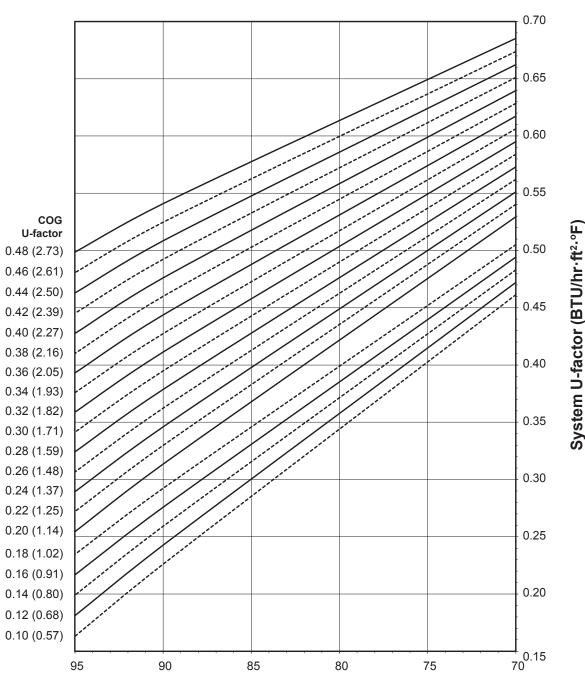
Visible Transmittance 2

Glass VT ³	Overall VT 4
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	0.39
0.40	0.35
0.35	0.31
0.30	0.26
0.25	0.22
0.20	0.18
0.15	0.13
0.10	0.09
0.05	0.04



Trifab® VersaGlaze® 451T (BACK – Thermal)

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 and are obtained from your glass supplier.

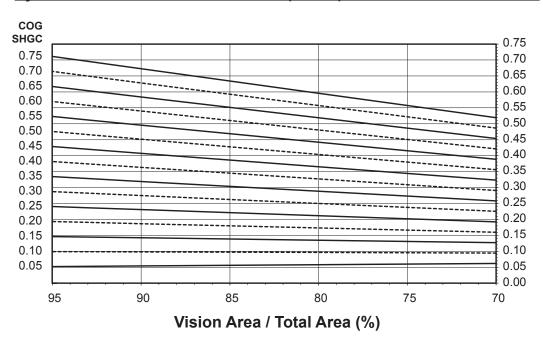


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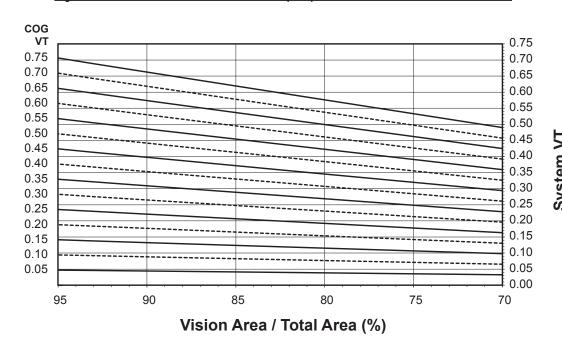
EC 97911-262 THERMAL CHARTS

Trifab® VersaGlaze® 451T (BACK – Thermal)

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 PERFORMANCE MATRIX

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

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Glass U-Factor ³	Overall U-Factor ⁴
0.48	0.54
0.46	0.53
0.44	0.51
0.42	0.50
0.40	0.48
0.38	0.46
0.36	0.45
0.34	0.43
0.32	0.42
0.30	0.40
0.28	0.38
0.26	0.37
0.24	0.35
0.22	0.34
0.20	0.32
0.18	0.30
0.16	0.28
0.14	0.26
0.12	0.25
0.10	0.23

Trifab® VersaGlaze® 451T (BACK - Thermal)

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

- 1. U-Factors are determined in accordance with NFRC 100.
- 2. SHGC and VT values are determined in accordance with NFRC 200.
- 3. Glass properties are based on center of glass values and are obtained from your glass supplier.
- 4. Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 2,000 mm wide by 2,000 mm high (78-3/4" by 78-3/4").

SHGC Matrix ²

Glass SHGC ³	Overall SHGC ⁴
0.75	0.67
0.70	0.62
0.65	0.58
0.60	0.54
0.55	0.49
0.50	0.45
0.45	0.41
0.40	0.36
0.35	0.32
0.30	0.27
0.25	0.23
0.20	0.19
0.15	0.14
0.10	0.10
0.05	0.05

Visible Transmittance ²

Glass VT ³	Overall VT 4
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	0.39
0.40	0.35
0.35	0.31
0.30	0.26
0.25	0.22
0.20	0.18
0.15	0.13
0.10	0.09
0.05	0.04



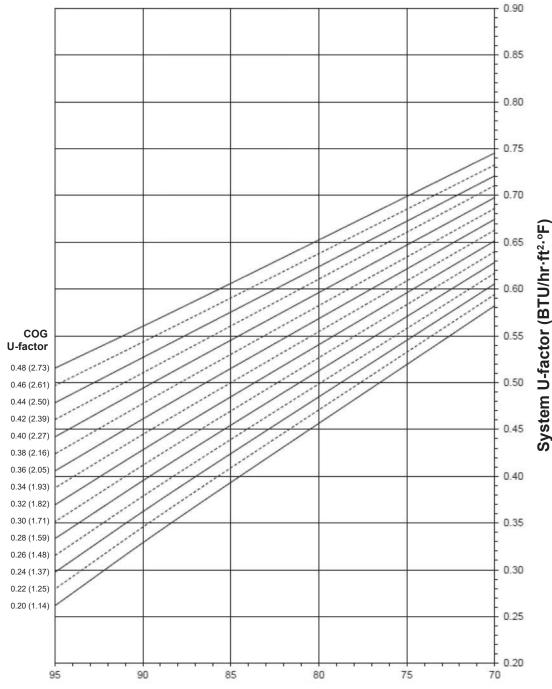
ADMC040EN kawneer.com

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EC 97911-262 THERMAL CHARTS

Trifab® VersaGlaze® 451T with Steel (CENTER)

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.

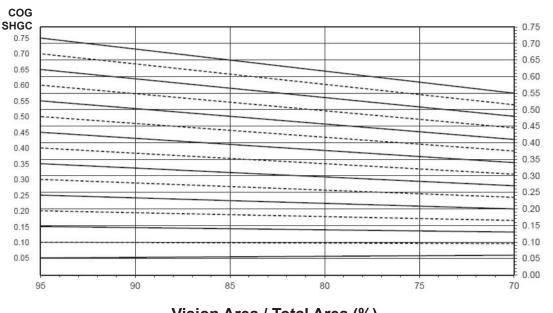
Glass properties are based on center of glass values and are obtained from your glass supplier.



EC 97911-262

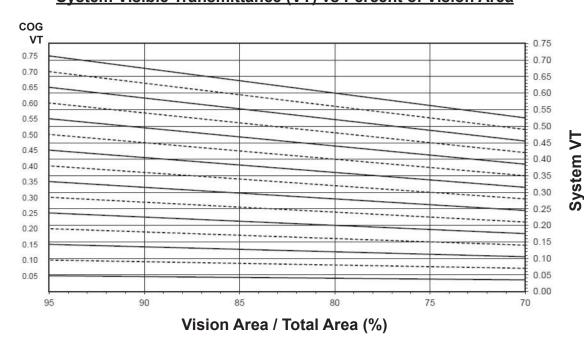
Trifab® VersaGlaze® 451T with Steel (CENTER)

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



Vision Area / Total Area (%)

System Visible Transmittance (VT) vs Percent of Vision Area





Laws and building and safety codes governing the design and use of I products, such as glazed entrance, Window, and curtain wall products Kawneer does not control the selection of product configurations, open

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

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

Glass U-Factor ³	Overall U-Factor 4
0.48	0.59
0.46	0.57
0.44	0.55
0.42	0.54
0.40	0.52
0.38	0.51
0.36	0.49
0.34	0.48
0.32	0.46
0.30	0.44
0.28	0.43
0.26	0.41
0.24	0.40
0.22	0.38
0.20	0.37

Trifab® VersaGlaze® 451T with Steel (CENTER)

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

THERMAL PERFORMANCE MATRIX

- 1. U-Factors are determined in accordance with NFRC 100.
- 2. SHGC and VT values are determined in accordance with NFRC 200.
- 3. Glass properties are based on center of glass values and are obtained from your glass supplier.
- 4. Overall U-Factor, SHGC, and VT Matricies are based on the standard NFRC specimen size of 2,000 mm wide by 2,000 mm high (78-3/4" by 78-3/4").

SHGC Matrix ²

Glass SHGC ³	Overall SHGC ⁴
0.75	0.66
0.70	0.62
0.65	0.58
0.60	0.53
0.55	0.49
0.50	0.45
0.45	0.40
0.40	0.36
0.35	0.32
0.30	0.27
0.25	0.23
0.20	0.19
0.15	0.14
0.10	0.10
0.05	0.05

Visible Transmittance ²

Glass VT ³	Overall VT 4
0.75	0.65
0.70	0.61
0.65	0.57
0.60	0.52
0.55	0.48
0.50	0.44
0.45	0.39
0.40	0.35
0.35	0.31
0.30	0.26
0.25	0.22
0.20	0.17
0.15	0.13
0.10	0.09
0.05	0.04



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