

APPLICATION FOR CERTIFICATE OF APPROPRIATENESS FOR THE SPOKANE REGISTER OF HISTORIC PLACES

Please include *all* of the following information with your application. Insufficient application materials will result in a delay in processing of your application. Payment must be filed with the Certificate of Appropriateness. If you have any questions regarding application requirements or management standards for properties listed on the Spokane Register of Historic Places, please call the Historic Preservation Officer at 509.625.6300.

PART 1: PROPERTY INFORMATION

Building/Property Name Green-Hughes Printing Company

Building/Property Address 19 W Pacific

Property Owner's Name (printed) KTEA Camas Health

Property Owner's Address _____ zip code _____

Property Owner's Phone _____ Email _____

PART 2: TYPE OF WORK FOR WHICH COA IS BEING REQUESTED Mark all that apply.

- ☐ Exterior remodeling
 - ☐ Change of exterior color
 - ☐ New construction (an addition or a new building)
 - ☐ Roof Replacement: ___like for like OR ___new type (ie: cedar shake to composition)
 - ☐ Demolition
 - ☒ Window replacement
 - ☐ Changes to an existing porch or new porch
 - ☐ Other: please describe _____
- Estimated cost of proposed work \$ _____

PART 3: APPLICATION CHECKLIST

You may be required to provide the following information.

- ☐ General overview of project, including quantities and dimensions of elements
- ☐ List of features to be removed, replaced or added
- ☒ Site plan/location map and scale elevations (for any additions or new construction)*
- ☐ Details of method(s) of attachment for signs, awnings and canopies*
- ☒ Color photographs of existing conditions. Please provide digitally.
- ☐ True color paint and/or finish samples (for change of exterior color)*

* if applicable



SPOKANE CITY-COUNTY HISTORIC PRESERVATION OFFICE

808 W. Spokane Falls Blvd.
Spokane, Washington 99201
Phone (509) 625-6300
Fax (509) 625-6013

Email: preservation@spokaneicity.org
www.historicspokane.org



PART 4: PROJECT NARRATIVE AND DESCRIPTION

Please use the space below to describe the project. Attach additional pages if necessary. All proposed changes must be included in this description. Please see APPLICATION CHECKLIST (previous page).

The applicant is proposing a change of existing windows (a mix of some original wood windows in poor condition as well as some that have been previously changed out in a prior remodel) to a cohesive aluminum sash window that will match both the new storefront on the existing historic building and the new addition. The windows will be anodized aluminum in bronze and be in the same openings and configurations as currently exist.

I hereby certify that I am the owner of the property or that the proposed work is authorized by the owner of record and I have been authorized by the owner to make this application as his/her authorized agent.

Many certificates can be approved by staff within a few working days; however, some are referred to the Landmarks Commission for review. If the application is referred to the Commission, I understand that a public hearing notice will be published. The Commission meets the third Wednesday of every month in the Briefing Center, City Hall, 808 W. Spokane Falls Blvd, at a time to be determined. The completed application must be submitted no later than 21 days prior to the scheduled meeting. Once a Certificate of Appropriateness is obtained, it may be necessary to apply for a building or zoning permit.

Date

Signature of Owner or Authorized Agent

FOR OFFICE USE ONLY

The Historic Preservation Officer and/or the Landmarks Commission have reviewed the Certificate of Appropriateness and recommend, in conformance with Spokane Municipal Code Chapter 17D.040 and Spokane County Code 1.48:

- ☐ Preliminary Approval of Certificate of Appropriateness
- ☐ Final Approval of Certificate of Appropriateness
- ☐ Denial of Certificate of Appropriateness

Historic Preservation Officer _____ Date _____



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PART 5: INSTRUCTIONS

STEPS FOR SUBMITTING APPLICATIONS

1. **Application:** The application for a Certificate of Appropriateness may be obtained from the Historic Preservation Office, City Hall, 808 W. Spokane Falls Blvd., (509) 625-6300 or can be found online at www.historicspokane.org

2. **Receipt of Request:** Complete and return the application with payment made out to the City of Spokane. A request will then be made to the [Landmarks Commission](#) for design review of the proposed action, if deemed necessary by the Historic Preservation Officer. The application must be submitted at least 21 days prior to the Landmarks Commission's next scheduled meeting (by the last Wednesday of the month prior to the desired Commission meeting). Commission staff will transmit copies of the request and any supplemental information to the Landmarks Commission members, the property owner(s) or applicant, and interested parties of record, 14 days prior to the next scheduled meeting of the Landmarks Commission.

3. **Landmarks Commission Review:** At its next scheduled meeting, the [Landmarks Commission](#) shall review the request and decide whether to issue a Certificate of Appropriateness.

PLEASE NOTE: Commission Meetings are held on the third Wednesday of each month at 3:00 p.m., unless otherwise noted, in the Council Briefing Center, Lower Level, City Hall.
For the current meeting date and agenda, visit www.historicspokane.org.

4. **Application Fees (contact office for appropriate fee):**
a) \$500.00 - Public Hearing/Landmarks Commission Review of a Certificate of Appropriateness application

Should the request for a Certificate of Appropriateness be denied, the owner(s) have the right to arbitration as set forth in Spokane Municipal Code Chapter 17D.100.270 and Spokane County Code 1.48. In unusual or complex cases, the owner(s), Commission, or the Historic Preservation Officer may request that specific [negotiated management standards](#) be developed for modifications to particular properties.

Submit the completed application and application fee (payable to City of Spokane) to:

Spokane City-County Historic Preservation Office
City Hall, Third Floor
808 W. Spokane Falls Boulevard
Spokane, Washington 99201
Phone: 509.625.6300
Fax: 509.625.6013
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PROJECT	257355.00
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19 W. PACIFIC AVE.,
SPOKANE, WA 99201

DATE 4/13/26

SHEET TITLE

SHEET NUMBER

45 LIME IS 3 INCH LONG 600-800
RATED FOR FULL SCALE



Painted and Anodized Finishes

Certain precautions must be taken when cleaning painted and anodized surfaces:

- Select the appropriate cleaning method after identifying the finish.
- Do not use abrasive household cleaners or materials like steel wool or hard brushes that can wear and harm finishes.
- Excessive abrasive rubbing should not be used since it can damage the finish.
- Avoid drips and splashes and remove run-downs as quickly as possible.
- Consider the effects of run-downs on shrubbery, personnel and equipment and schedule cleaning appropriately.
- Strong cleaners should not be used on window glass and other components where they might come into contact with the aluminum.
- Avoid temperature extremes which can accelerate chemical reactions, evaporate or strengthen cleaning solutions, cause streaking, staining or blotching.
- Do not mix cleaners or substitute a heavy-duty cleaner for a safer, milder cleaner.
- Never use paint removers or aggressive alkaline, acid or abrasive cleaners.
- Always do a test on a small area first and follow manufacturers recommendations for mixing and diluting cleaners.
- Make sure cloths, sponges and cleaning equipment are grit-free.

Cleaning procedures to remove construction or accumulated environmental soils and discoloration should be initiated as soon as possible. Mortar, cement and other alkaline materials will quickly corrode anodic coatings if allowed to dry on the metal surface. Cleaning should start at the top of the building and proceed to the ground level in a continuous drop the width of the stage or scaffolding. The type of procedure depends upon the degree of soiling.

Removal of Light Surface Soil

Trial and error testing employing progressively stronger cleaning procedures can determine which method will be most effective:

- A forceful water rinse should create initial surface agitation.
- If soil is still present after air drying the surface, scrubbing with a soft brush or sponge and concurrent spraying with water should be attempted.
- A 5 percent solution of industrial or commercial detergent and water should be applied with soft brushes, sponges or cloth using uniform alternate horizontal and vertical motion. Detergent should be safe for bare hands—stronger detergents should be spot tested.
- After washing, the surface should be rinsed thoroughly with clean water and allowed to dry. Do not allow detergent solution to dry on aluminum.
- Cleaner run-down should be minimized and rinsed immediately.
- A thorough rinse should remove solution from joints, crevices and surfaces.
- If it is necessary to remove oil, wax, polish or similar materials *from anodized finishes*, MEK, mineral spirits or an equivalent solvent is recommended.
(See cautions † listed under “Removal of Non-Water Soluble Deposits”).

Painted Finishes

Removal of Stains:

- Sodium hypochlorite solution (laundry bleach, Clorox) may assist in removing certain stains from painted finishes.
- Hydrochloric acid, or 10 percent muriatic acid, diluted with 10 volumes of water, may assist in removing rust or alkali mortar stains from Permafluor™ surfaces.
- Limit contact to 5 minutes. *Caution: acid solutions are corrosive and toxic. Flush all surfaces with water immediately after use.*
- Ascectic acid (vinegar) or oxalic acid solutions may be used for the same purpose. Flush with water.
- *Anodized surfaces should not be washed with acidic or caustic solutions.*

Mildew Removal

Remove mildew from painted aluminum finishes with a basic solution of:

1/3 cup detergent
2/3 cup trisodium phosphate (TSP)
1 quart sodium hypochlorite, 5% solution (bleach)
Rinse with clear water immediately.

Anodized Finishes

Removal of Stains:

Once all the general cleaning procedures have been exhausted, cleaning with an abrasive pad soaked in clean water or a mild detergent cleaner may be tried:

- Using uniform pressure, hand scrub the metal surface using a palm size nylon cleaning pad. Thoroughly wet with clean water and a mild detergent cleaner or pumice powder. Start at the top and work down, rubbing in the direction of the metal grain.
- After scrubbing, the surface should be rinsed thoroughly with clean water or wiped with solvent to remove all residue.
- The surface should then be air dried or wiped dry with a chamois, squeegee or lint-free cloth, particularly if cleaner has dried on the surface.
- A power cleaning tool, such as an air-driven reciprocating machine fitted with cleaning pads, may be necessary for removal of unusually heavy soils. During this operation, the surface being cleaned must be continually wetted with clean water or a mild detergent cleaning solution to provide lubrication and a medium for carrying away the dirt. The machine should move in alternate vertical and horizontal strokes.
- After machine scrubbing, the area must be rinsed and thoroughly scrubbed again with a stiff bristle brush. A final rinse completes the operation and the cleaned surface is allowed to air dry or is wiped dry. It is important to remove promptly cleaner run-down on uncleaned surfaces to avoid staining.

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

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.
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Removal of Non-Water Soluble Deposits

†Solvents may be used to remove non-water soluble deposits such as tar, grease, oil, paint and graffiti. However, extreme care should be used when using solvents on painted surfaces. Many solvents will reduce the gloss level of painted finishes and, if allowed to remain on the finish for more than a few minutes, may soften the paint and damage the coating. It is suggested that the painted area that comes into contact with the solvent be limited as much as possible.

†Extreme care must be exercised when solvents are used since they may damage organic sealants, gaskets and finishes.

Solvents should never be used on anodic finishes protected by clear organic coatings, such as lacquer, unless the organic coating has deteriorated and is to be removed. Organic solvents should be used only in accordance with manufacturers' safety recommendations.

†Most organic solvents are flammable and/or toxic and must be handled accordingly. Avoid open flames, sparks and electrical motors and use adequate ventilation, protective clothing and goggles.

Removal of Non-Water Soluble Deposits

Alcohols	Petroleum Solvents	Aromatic and Chlorinated	Ketones, Esters and Lacquer Thinner	Acetone Paint Remover
Denatured (ethanol) Isopropyl (rubbing)	VM&P Naphtha Mineral Spirits Turpentine (wood or gum spirits)	Xytol (Xylene) Toluol (Tolene)	Methyl Ethyl Ketone (MEK) Methyl Isobutyl Ketone (MIBK) Ethyl Acetate (nail polish remover) Butyl Acetate Lacquer Thinner	Acetones Paint Removers
Cautions: †Use with care. See cautions above.	Cautions: †Use with care. See cautions above.	Cautions: †Use with care. See cautions above. These solvents should be used with caution on painted surfaces and limited to a maximum of five minutes exposure. A test should be carried out before using them.	Cautions: †Use with care. See cautions above. Use with extreme caution on painted surfaces. Contact should be limited to a maximum of one minute and a test should be carried out prior to use. Manufacturers are not responsible for damage from unrestricted use.	Cautions: †These should NOT be used on painted surfaces.

Reference Publications

Recognizing the need for the aluminum industry to provide information on the care and maintenance of exterior wall finishes, the AAMA has released a two publications:

AAMA 609, Voluntary Guide Specification for Cleaning and Maintenance of Architectural Anodized Aluminum.

AAMA 610, Voluntary Guide Specification for Cleaning and Maintenance of Painted Aluminum Extrusions and Curtain Wall Panels.

To obtain a copy of these publications, contact: American Architectural Manufacturers Association.

Features

- Trifab® 451UT is 4-1/2" (114.3) deep with a 2" (50.8) sightline
- Center Plane glass applications
- Flush glazed from either the inside or outside
- Screw Spline fabrication
- Screw Spline Pre-Glazed option
- Dual IsoLock® lanced and debridged thermal break
- Infill options up to 1-1/8" (28.6) thickness
- High performance sill flashing
- Permanodic® anodized finishes option
- 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

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, GLASSvent® UT windows are easily incorporated

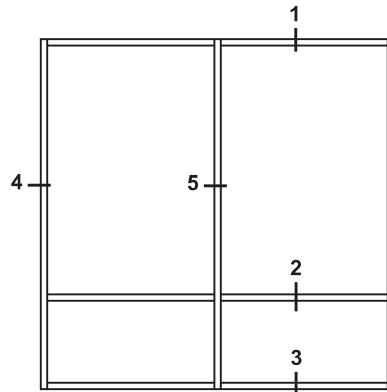
For specific product applications,
consult your Kawneer representative.

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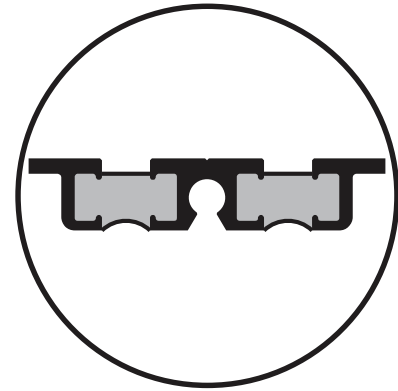
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Additional information and CAD details are available at www.kawneer.com



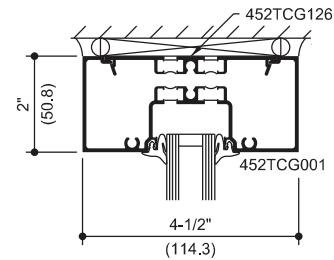
ELEVATION IS NUMBER KEYED TO DETAILS



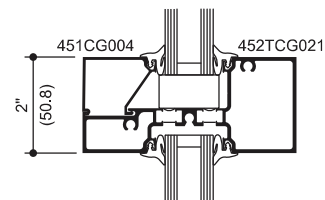
DUAL IsoLock® THERMAL BREAK

SCREW SPLINE

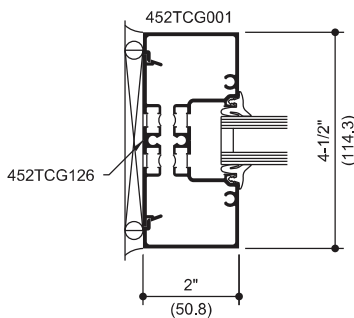
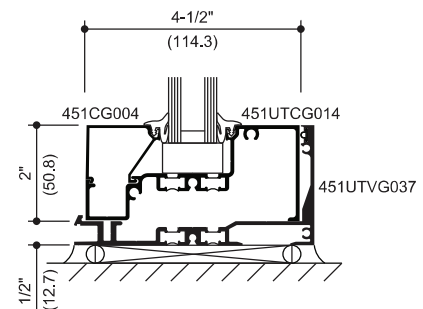
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HEAD



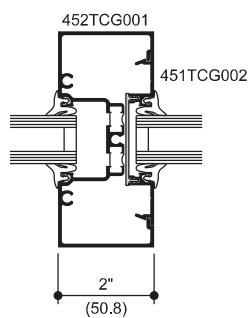
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HORIZONTAL



3
SILL



4
JAMB

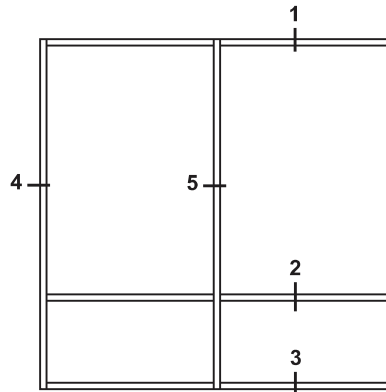


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VERTICAL

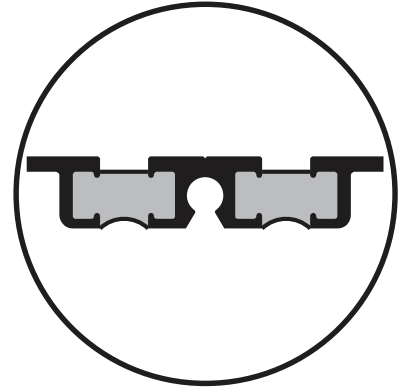
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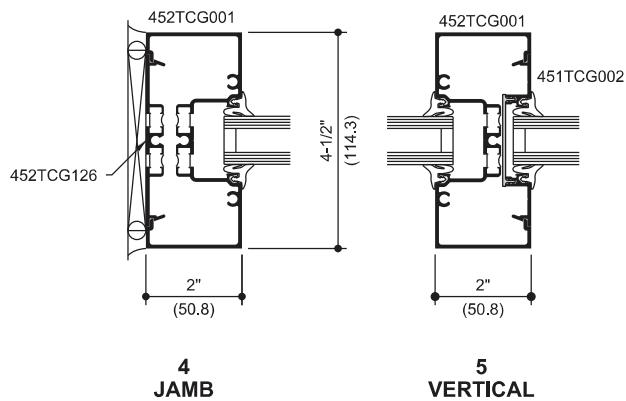


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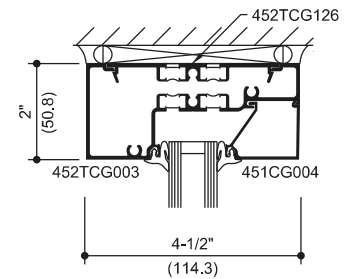


DUAL IsoLock® THERMAL BREAK

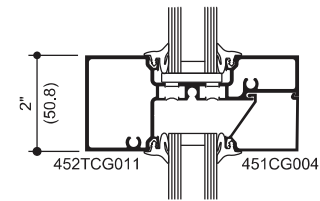
SCREW SPLINE



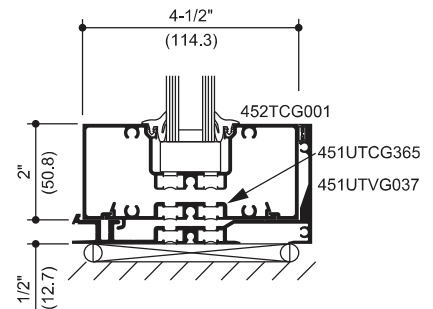
1 HEAD



2 HORIZONTAL



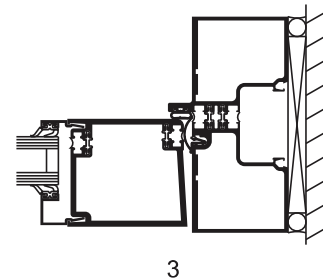
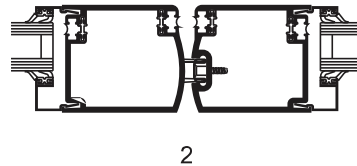
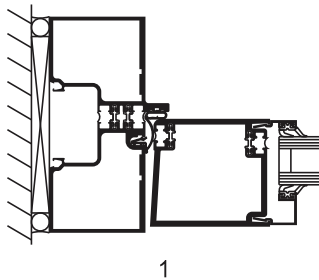
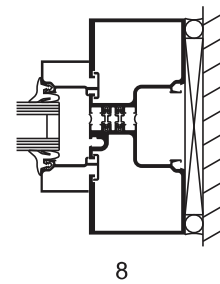
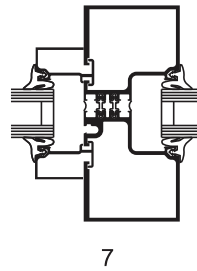
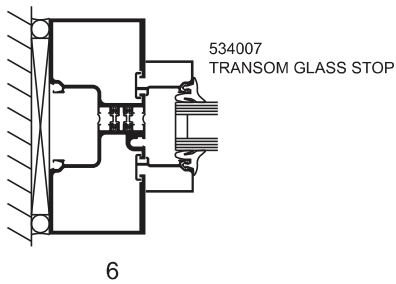
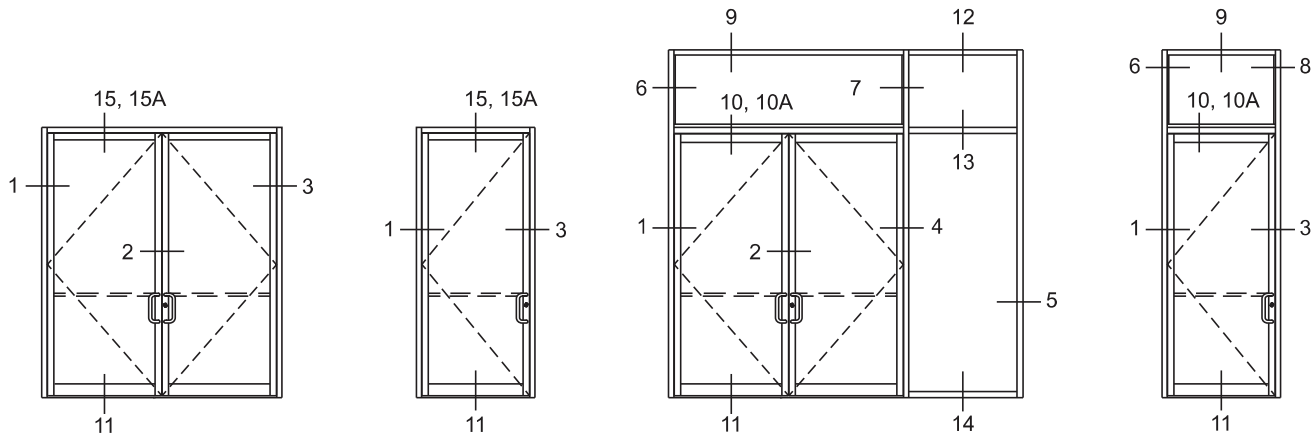
3 SILL



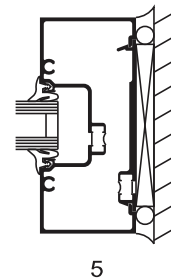
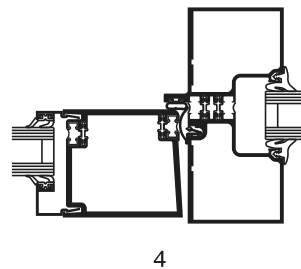
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NOTE:

1. SERIES 250T NARROW STILE DOORS ARE DETAILED, MEDIUM STILE 350T DOORS AND WIDE STILE 500T DOORS ALSO MAY BE USED.
2. TRIFAB® VG 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.



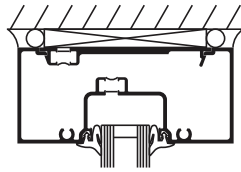
SINGLE ACTING DOORS



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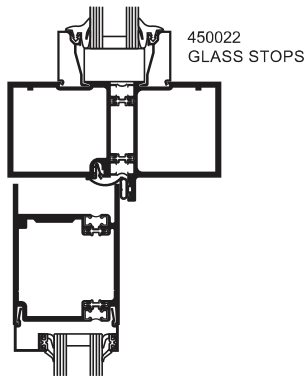
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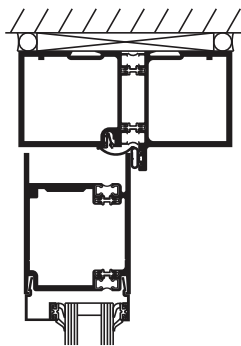


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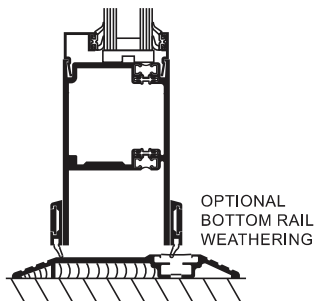
SINGLE ACTING DOORS



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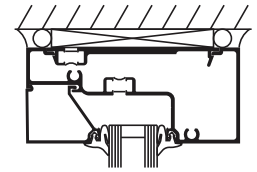


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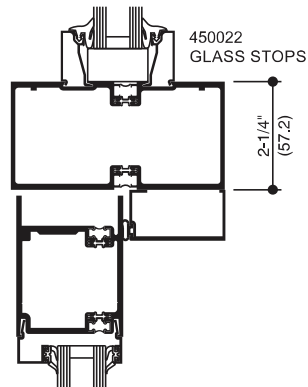
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SURFACE OVERHEAD CLOSER

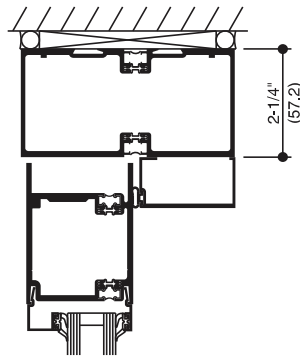


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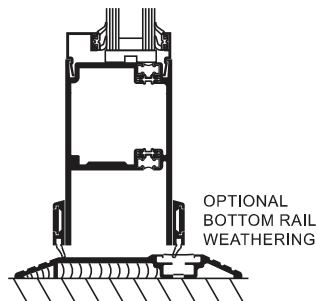
COC WITH SINGLE ACTING OFFSET ARM



10A

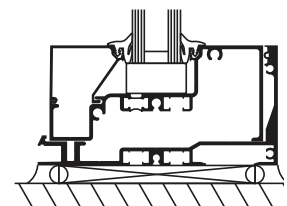


15A



11

CONSEALED OVERHEAD CLOSER



14

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.

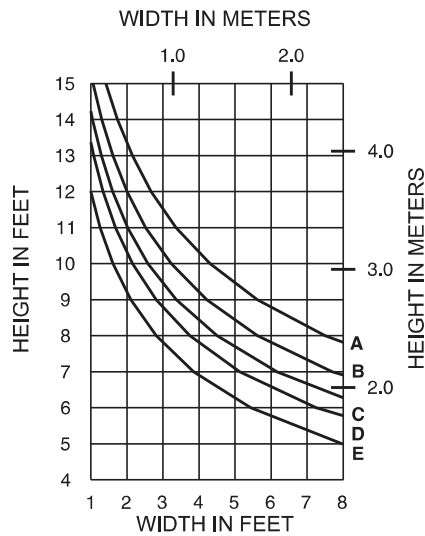
If the end reaction of the mullion [mullion spacing (ft.) times height (ft.) times specified wind load (psf) divided by two] is more than 500 lbs., the optional Mullion Anchors must be used. Consult Application Engineering. (*Mullion Anchor not used with Lightweight Receptor.*)

DEADLOAD CHARTS

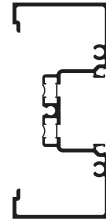
Horizontal or deadload limitations are based upon 1/8" (3.2), maximum allowable deflection at the center of an intermediate horizontal member. The accompanying charts are calculated for 1" (25.4) thick insulating glass or 1/4" (6.35) thick glass supported on two setting blocks placed at the loading points shown.

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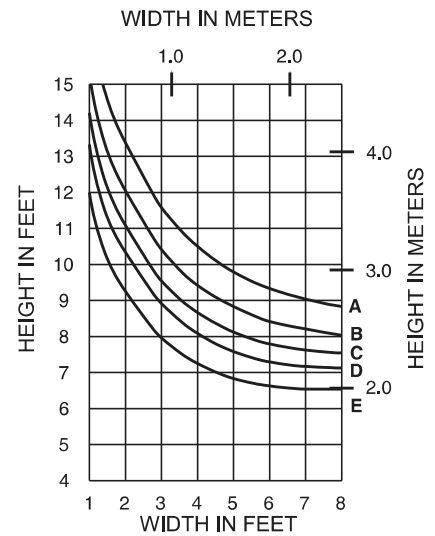
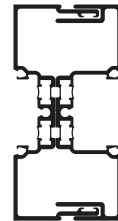
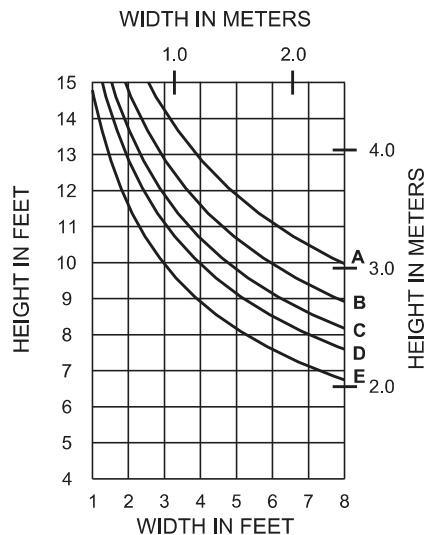
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WITH HORIZONTALS

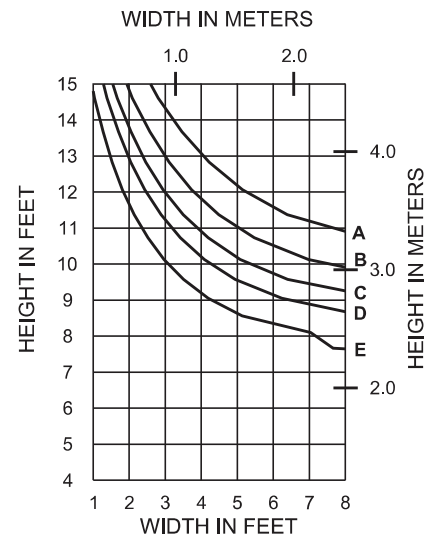
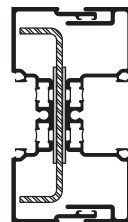
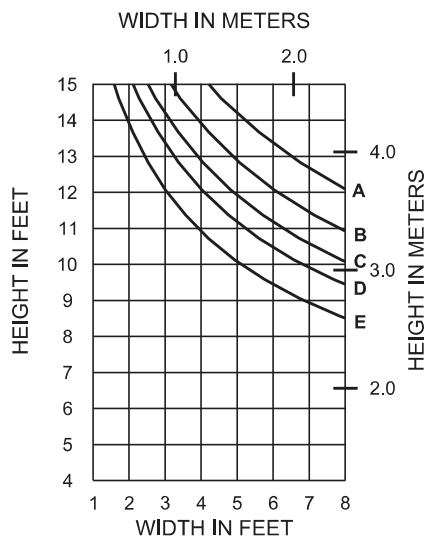
	Allowable Stress Design Load	LRFD Ultimate Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	40 PSF (1920)	67 PSF (3200)

**452TCG001**

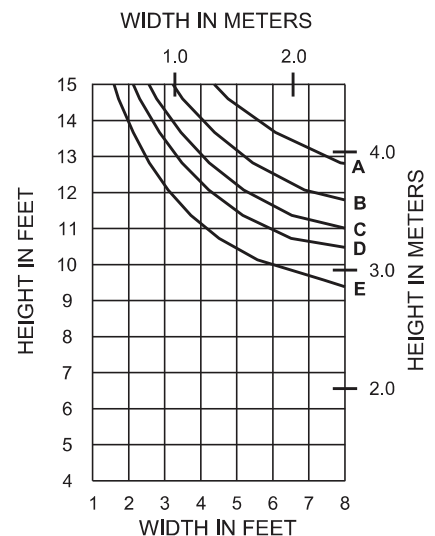
WINDLOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505

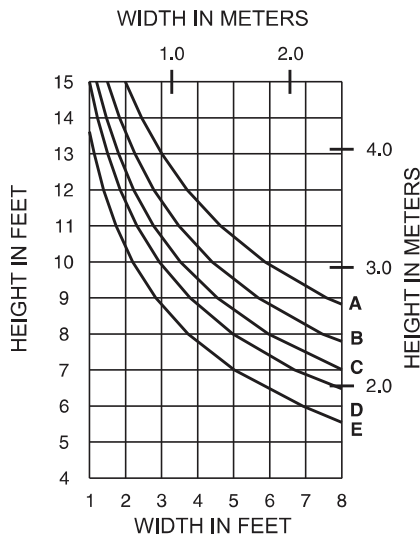
WITHOUT HORIZONTALS**WITH HORIZONTALS****451UTCG581 / 451UT082**

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

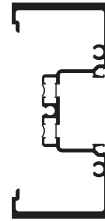
WITHOUT HORIZONTALS**WITH HORIZONTALS****451UTCG581 / 451UT082
with 400110 STEEL**

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

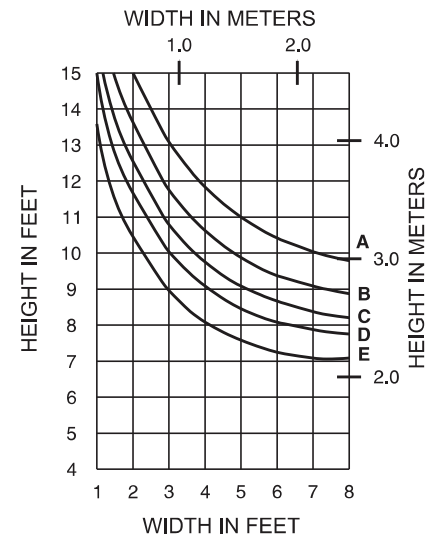
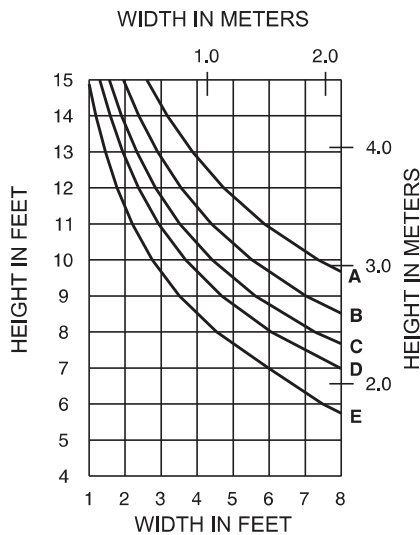
WITHOUT HORIZONTALS

WITH HORIZONTALS

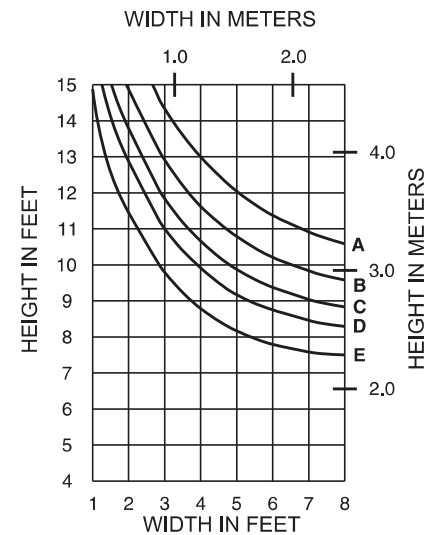
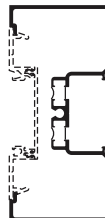
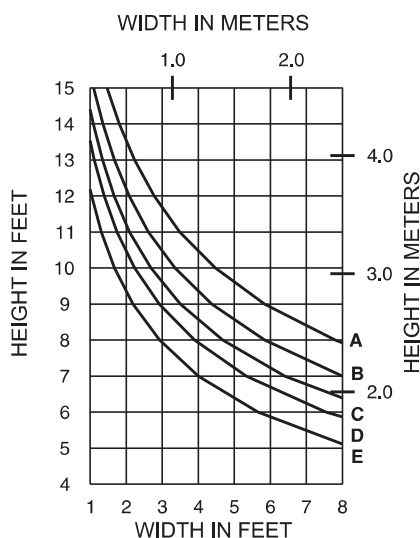
	Allowable Stress Design Load	LRFD Ultimate Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
D =	30 PSF (1440)	50 PSF (2400)
E =	40 PSF (1920)	67 PSF (3200)

**452TCG012**

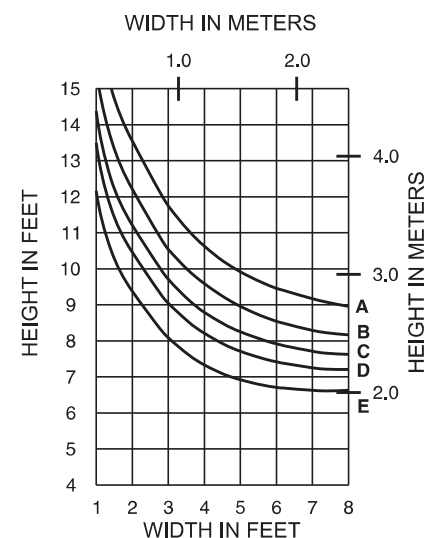
WINDLOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-8 AND AAMA 505

WITHOUT HORIZONTALS**WITH HORIZONTALS****452TCG013**

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

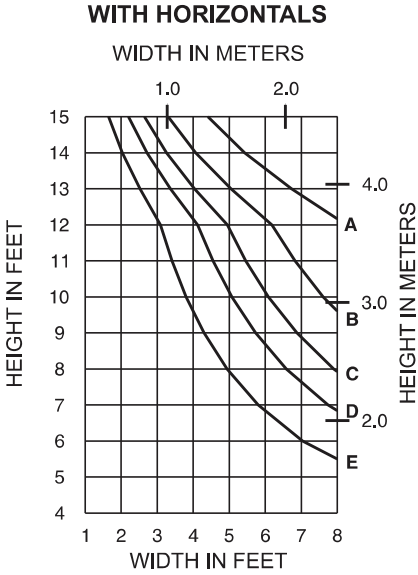
WITHOUT HORIZONTALS**WITH HORIZONTALS****452TCG112**

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

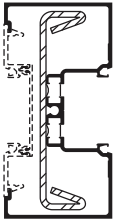
WITHOUT HORIZONTALS

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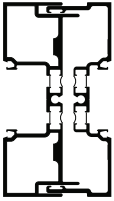
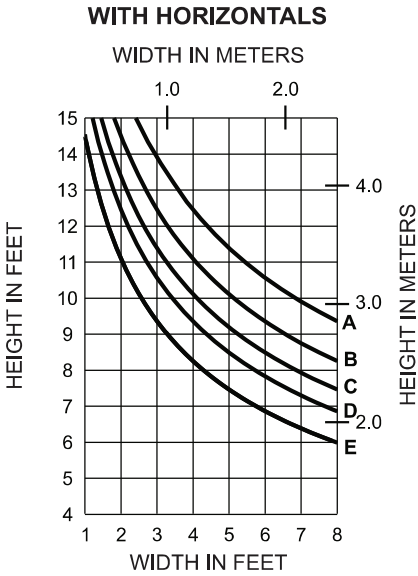
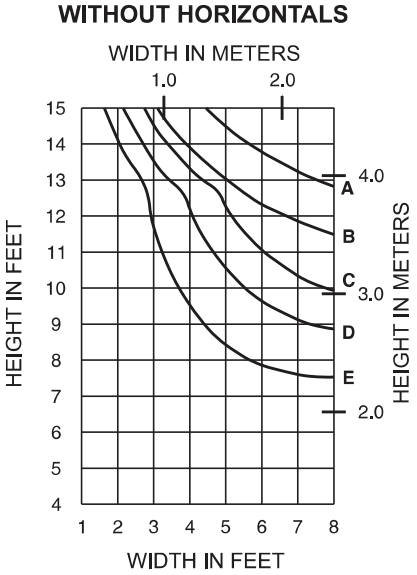


	Allowable Stress Design Load	LRFD Ultimate Design Load
A =	15 PSF (720)	25 PSF (1200)
B =	20 PSF (960)	33 PSF (1580)
C =	25 PSF (1200)	42 PSF (2000)
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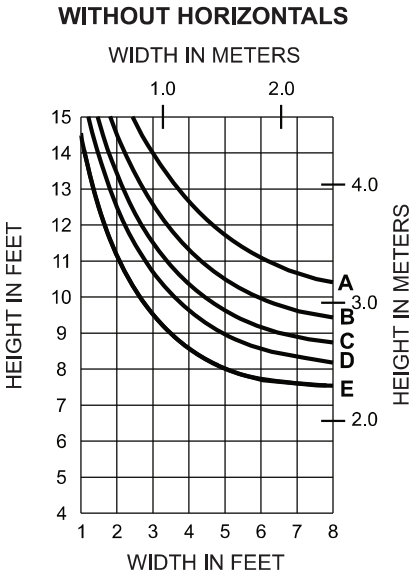
452TCG112
with 450110 STEEL

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



452TCG010 / 452TCG009

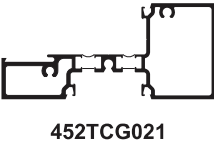
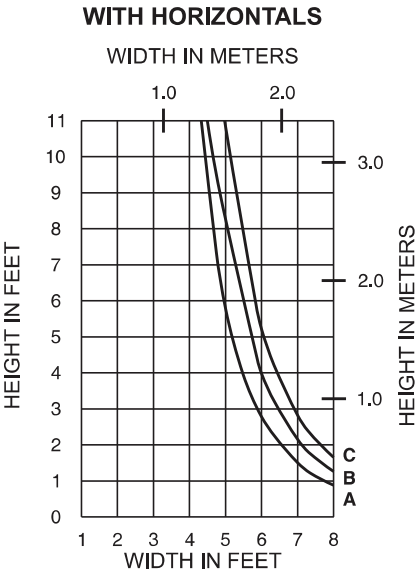
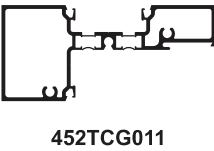
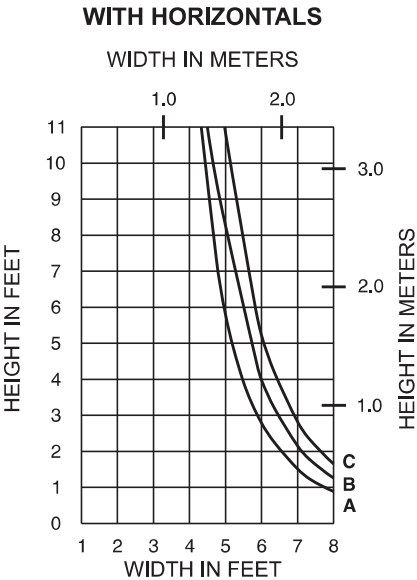
WINDLOAD CHARTS ARE BASED ON
COMPOSITE PROPERTIES WHICH
ARE CALCULATED IN ACCORDANCE
WITH AAMA TIR-8 AND AAMA 505



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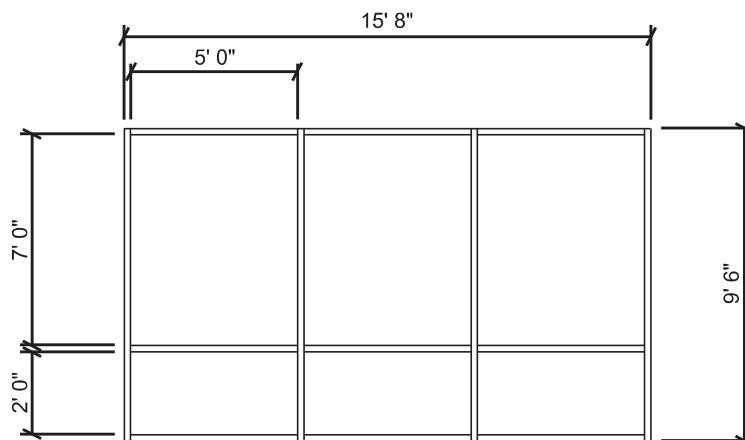
A = (1/4 POINT LOADING)
B = (1/6 POINT LOADING)
C = (1/8 POINT LOADING)



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



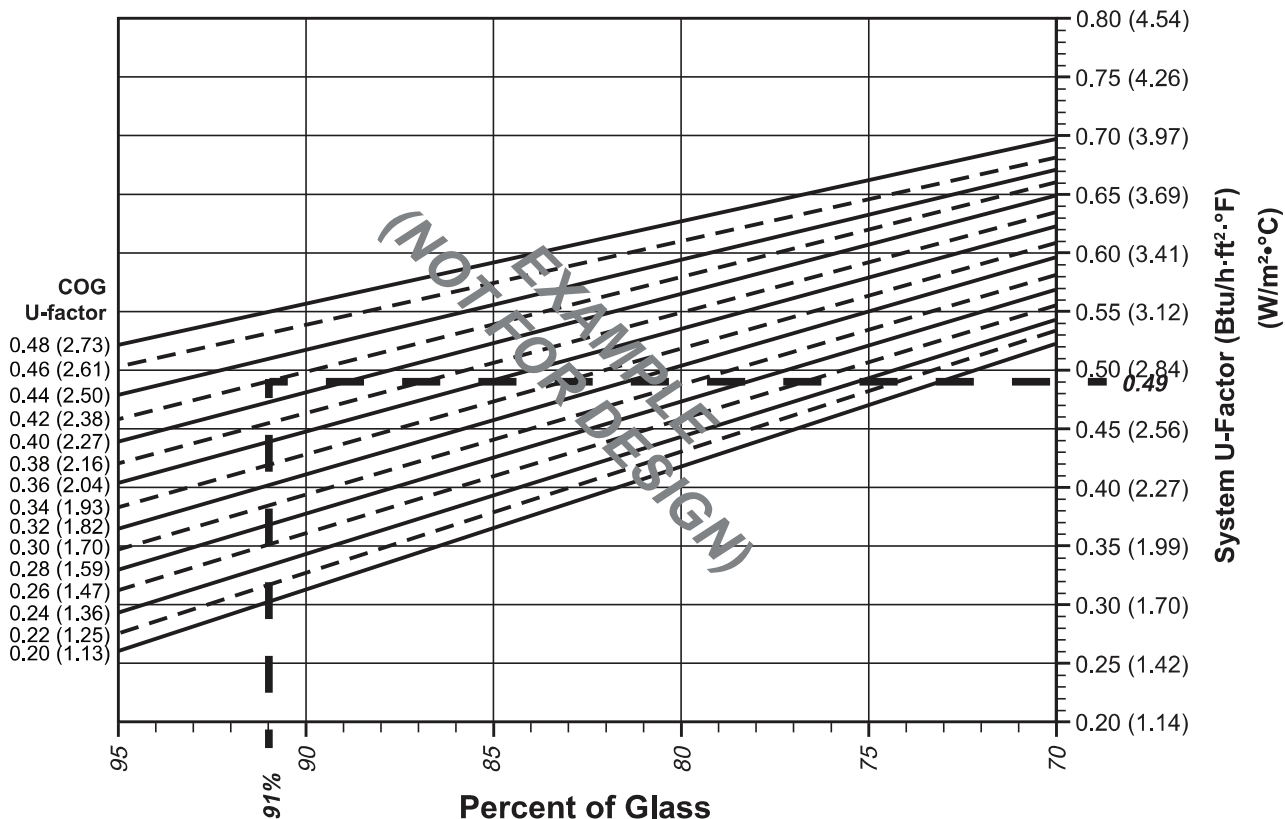
Example Glass U-factor = 0.42 Btu/hr·ft²·°F

Total Daylight Opening = 3(5' x 7') + 3(5' x 2') = 135ft²

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 ÷ 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

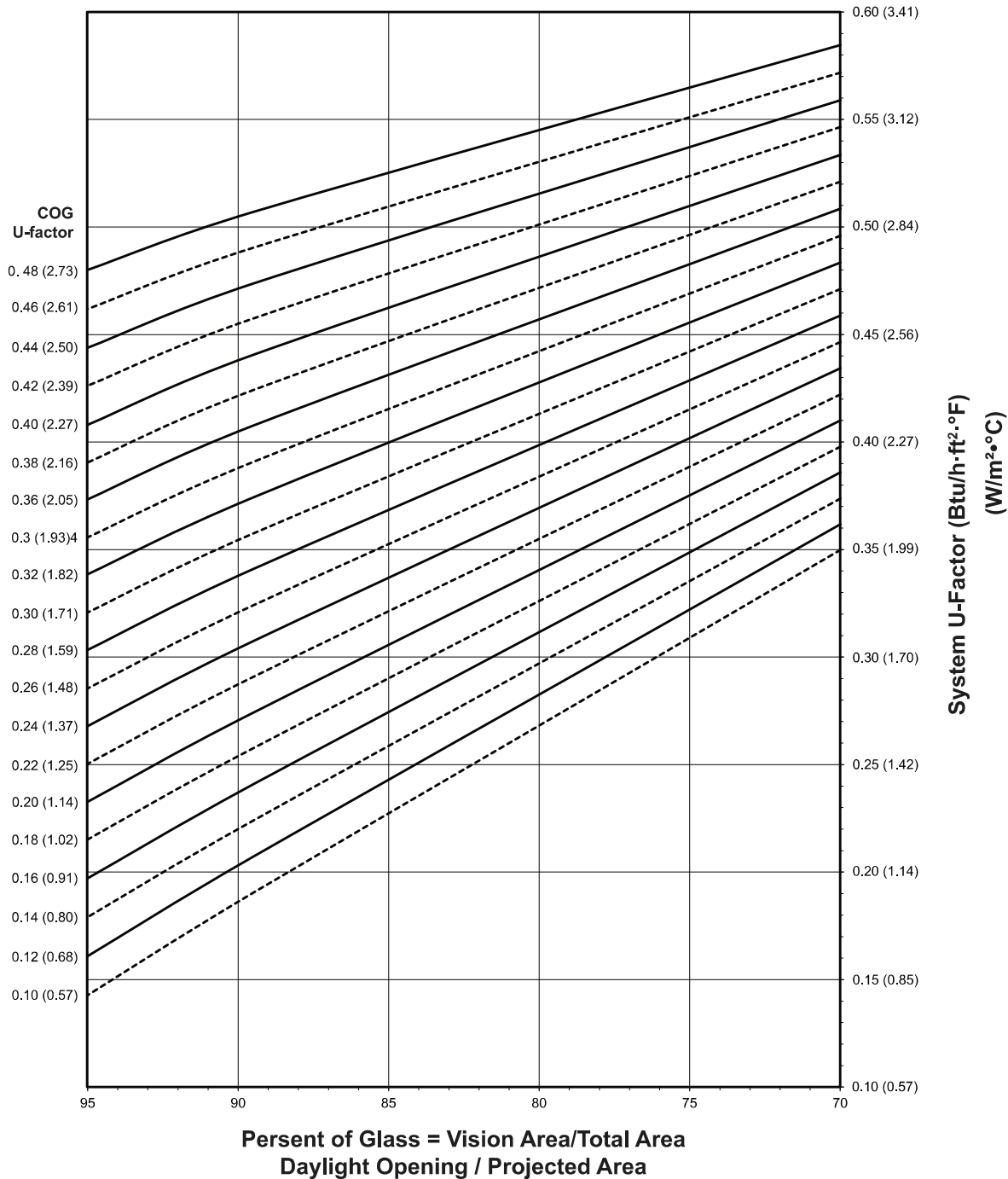
Note:

Values in parentheses are metric.

COG=Center of Glass.

Charts are generated per AAMA 507.

Trifab® 451UT
1" Double Glazed - Warm-Edge Glazing Spacer
System U-Factor vs Percent of Glass Area



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

For glass values not listed, linear interpolation is permitted.

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

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

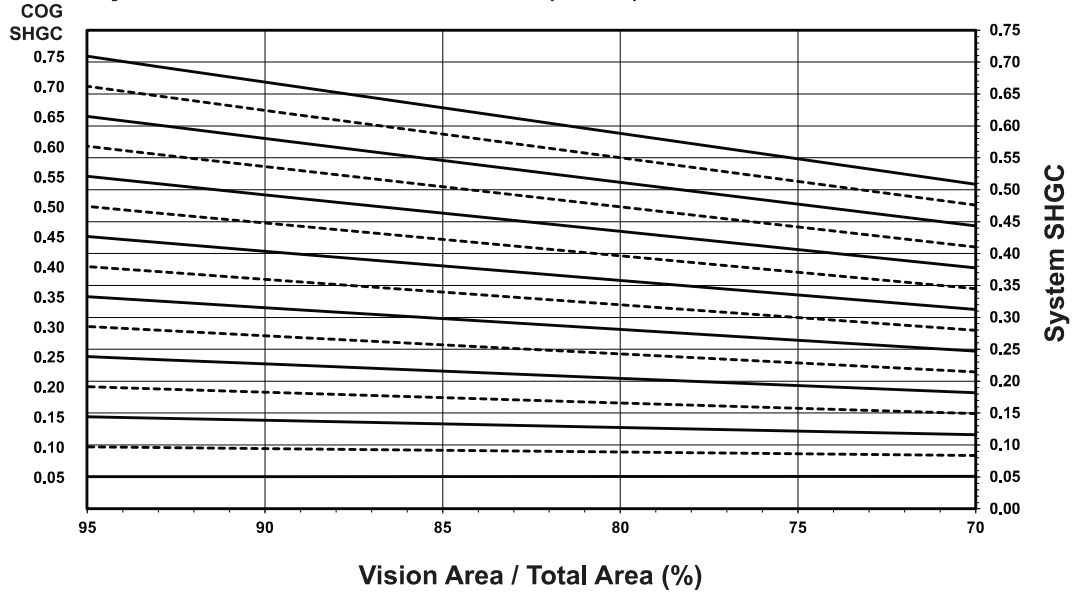
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Trifab® 451UT

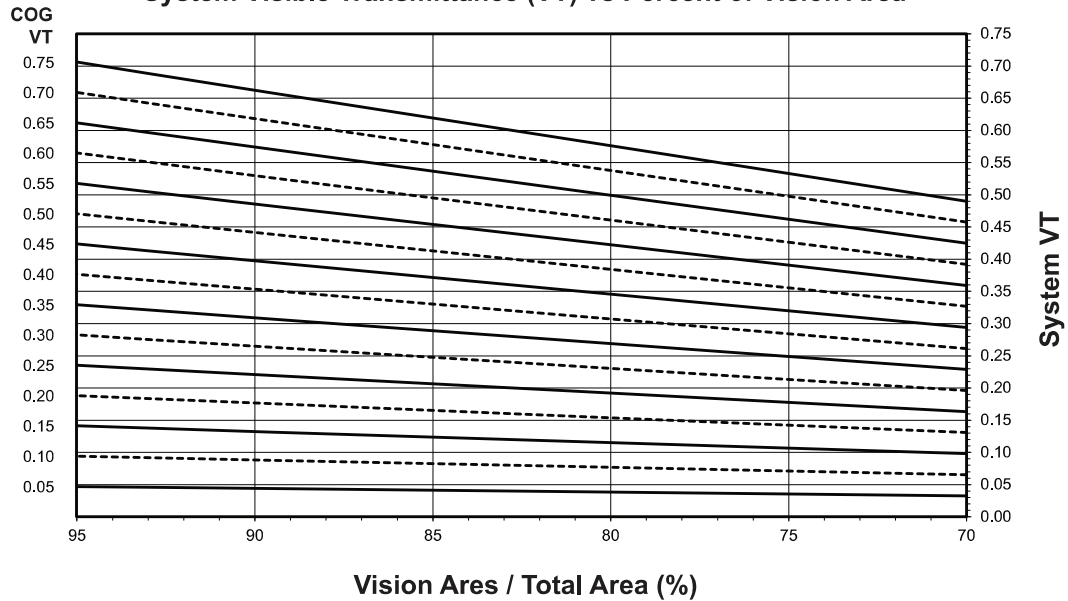
1" Double Glazed - Warm-Edge Glazing Spacer

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



Charts are generated per AAMA 507.

System Visible Transmittance (VT) vs Percent of Vision Area



Charts are generated per AAMA 507.

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

Glass U-Factor ³	Overall U-Factor ⁴
0.48	0.51
0.46	0.49
0.44	0.47
0.42	0.46
0.40	0.44
0.38	0.42
0.36	0.41
0.34	0.39
0.32	0.37
0.30	0.36
0.28	0.34
0.26	0.32
0.24	0.31
0.22	0.29
0.20	0.27
0.18	0.26
0.16	0.24
0.14	0.22
0.12	0.21
0.10	0.19

Trifab® 451UT

1" Double Glazed
Warm-Edge Glazing Spacer

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

1. U-Factors are determined in accordance with NFRC 100.
2. SHGC and VT values are determined in accordance with NFRC 200.
3. Glass properties are based on center of glass values and are obtained from your glass supplier.
4. Overall U-Factor, SHGC, and VT Matrices 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").

State of WA Energy Code max
U-Factor for fixed fenestration is 0.34.
No exceptions taken

State of WA Energy Code max SHGC
for fixed fenestration is 0.46. No
exceptions taken

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	0.09
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

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Note:

Values in parentheses are metric.

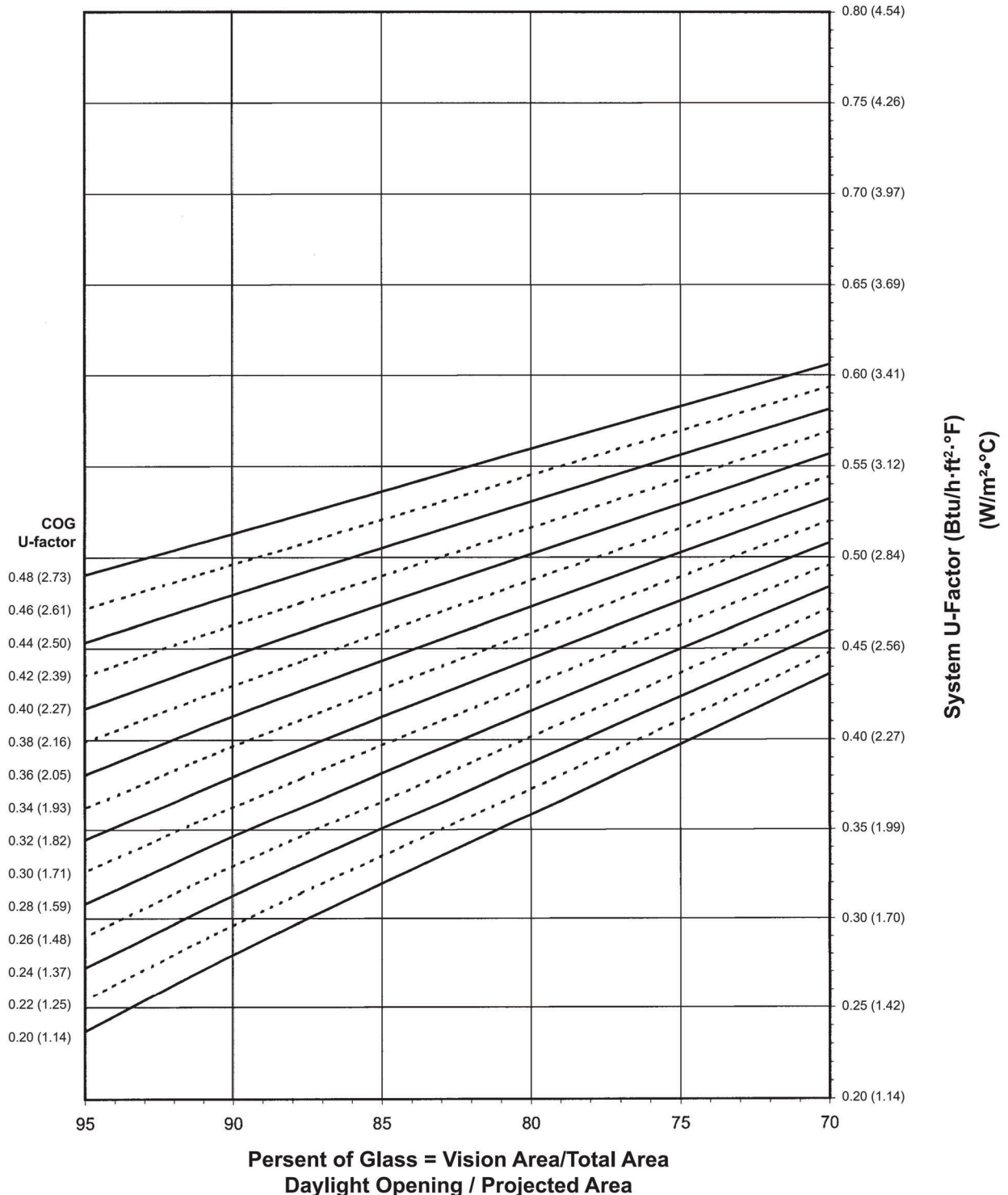
COG=Center of Glass.

Charts are generated per AAMA 507.

Trifab® 451UT

1" Double Glazed - Aluminum Glazing Spacer

System U-Factor vs Percent of Glass Area



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

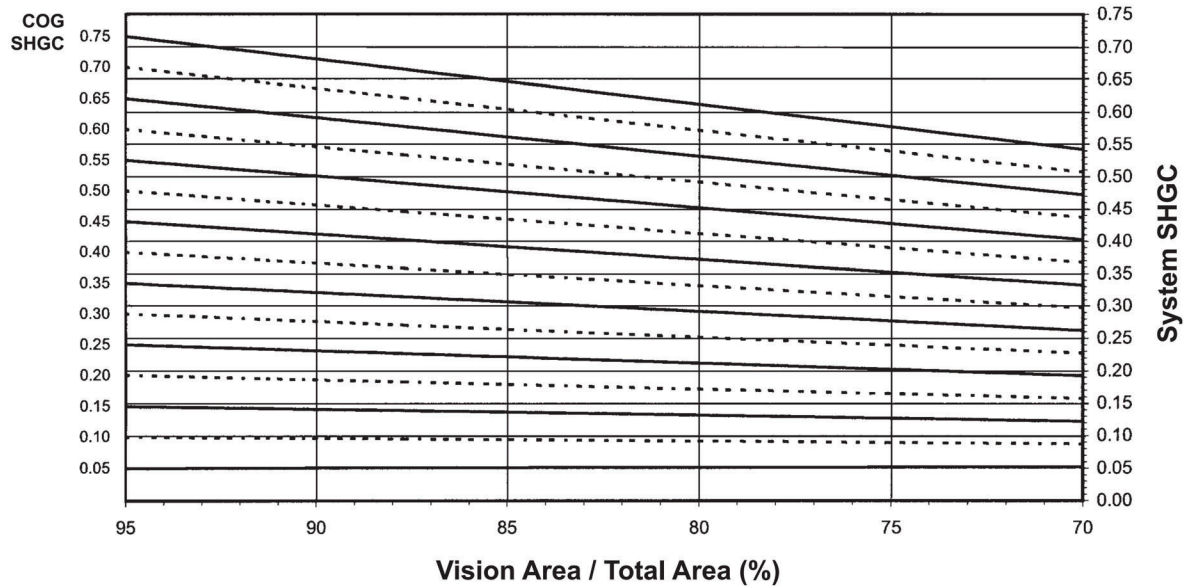
For glass values not listed, linear interpolation is permitted.

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

Trifab® 451UT

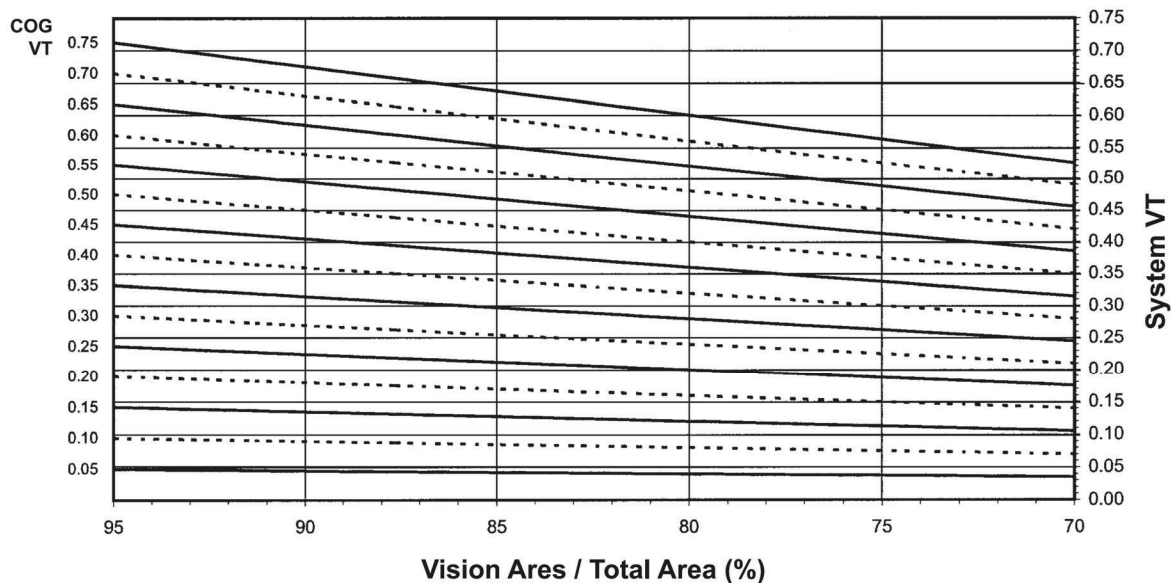
1" Double Glazed - Aluminum Glazing Spacer

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



Charts are generated per AAMA 507.

System Visible Transmittance (VT) vs Percent of Vision Area



Charts are generated per AAMA 507.

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Features

- 250T narrow stile has 2-1/2" (63.5) vertical stile, 2-15/16" (74.6) top and 3-7/8" (98.4) bottom rail
- 350T medium stile has 3-1/2" (88.9) vertical stile, 3-1/2" (88.9) top and 6-1/2" (165.1) bottom rail
- 500T wide stile has 5" (127) vertical stile, 5" (127) top and 6-1/2" (165.1) bottom rail
- Door is 2-1/4" (57.2) deep
- Door has 1/8" (3.2) wall thickness
- Dual moment welded corner construction
- IsoPour® thermal break
- Single acting
- Infills include 1" (25.4) and 1-1/2" (38.1)
- Offset pivots, butt hinges, continuous geared hinge
- MS locks or exit device hardware
- Surface mounted or concealed closers
- Architects Classic push/pulls
- Adjustable astragal utilizing pile weathering with polymeric fin at meeting stiles
- Polymeric bulb weatherstripping and secondary weathering in door frames
- Permanodic® anodized finishes option
- Painted finishes in standard and custom choices

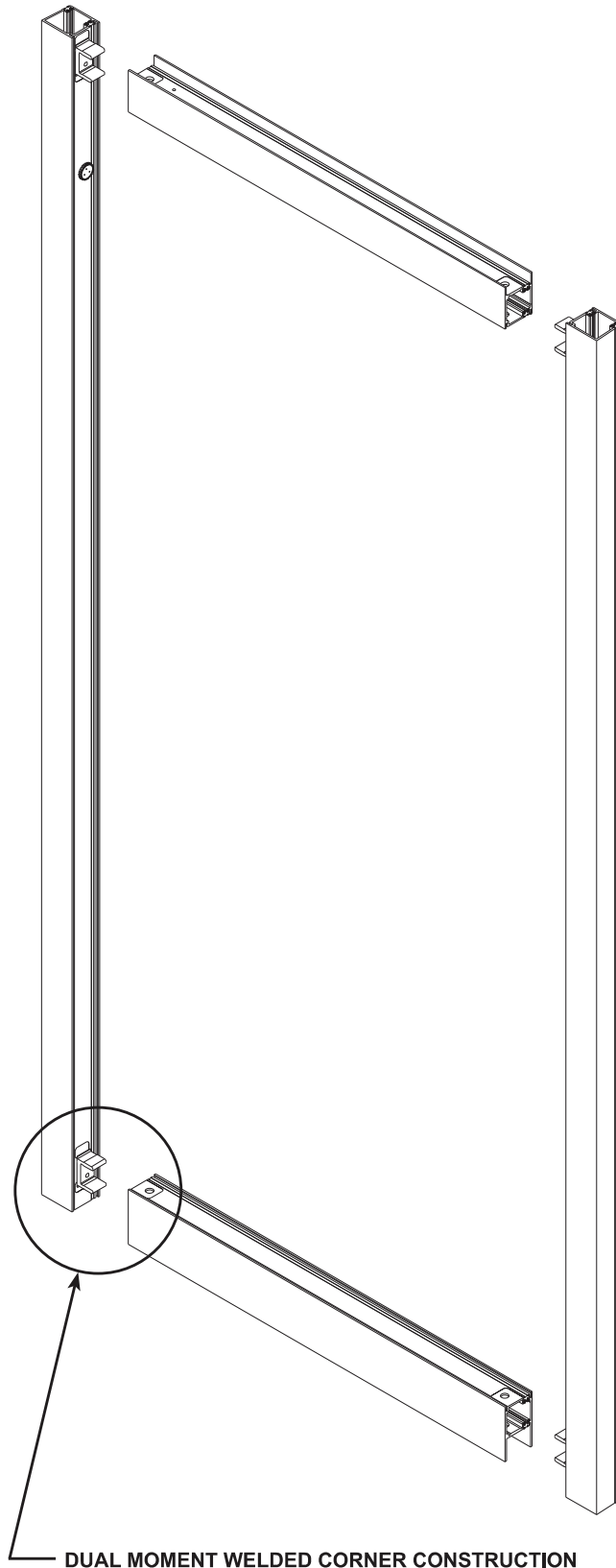
Optional Features

- Wide variety of bottom rail and cross rail
- Two color finish capability

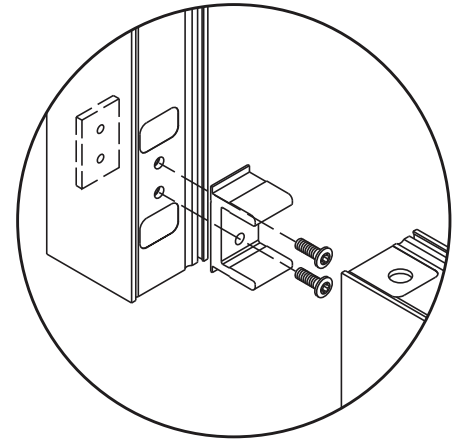
Product Applications

- 250T narrow stile - engineered for moderate traffic in applications such as offices and stores
- 350T medium stile - provides extra strength for schools, institutions and other high traffic applications
- 500T wide stile - creates a monumental visual statement for banks, libraries or buildings that experience heavy traffic conditions
- Engineered for high performance buildings

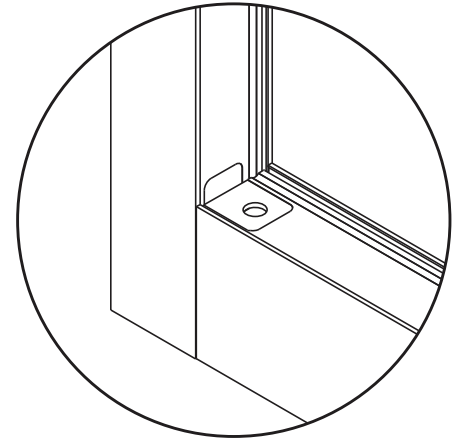
For specific product applications,
consult your Kawneer representative.



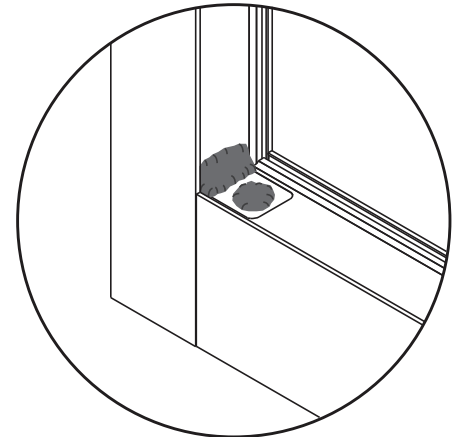
DUAL MOMENT WELDED CORNER CONSTRUCTION



#1 MECHANICAL FASTENING is accomplished by attaching a 5/16" (7.9) thick extruded aluminum channel clip to the vertical stile with 1/4"-20 heat strengthened bolts and 3/16" (4.8) thick steel nut plates for a high strength welding base for attachment horizontal member.



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



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

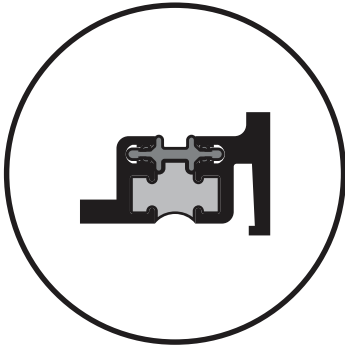
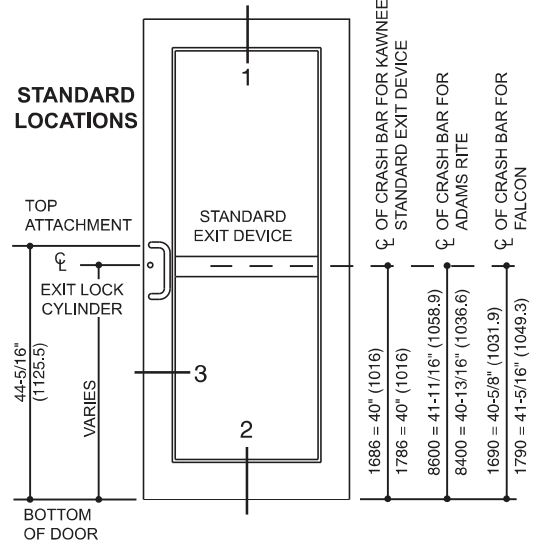
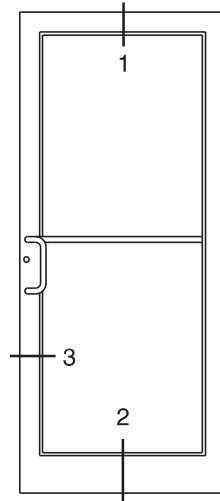
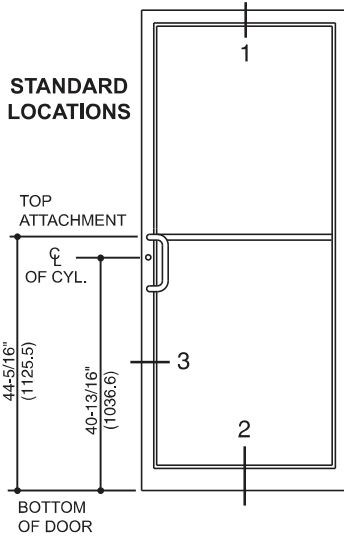
* An arc welding process known as Shielded Inert Gas Metal Arc (SIGMA) or also known as Metal Inert Gas (MIG).

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

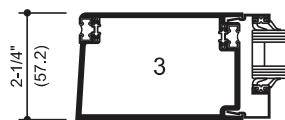
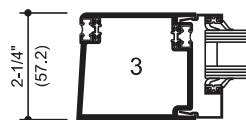
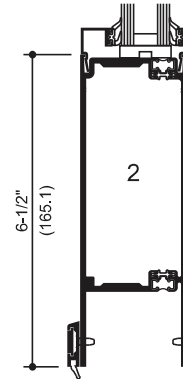
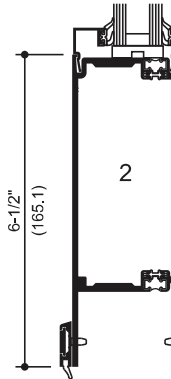
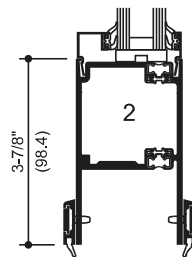
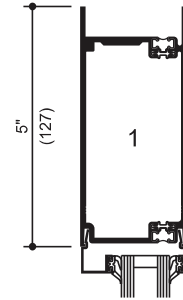
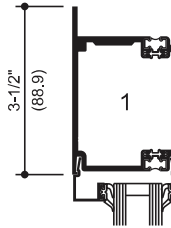
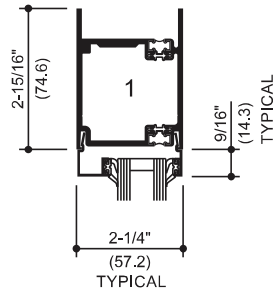
250T NARROW STILE

350T MEDIUM STILE

500T WIDE STILE



IsoPour® THERMAL BREAK

250T NARROW STILE
SINGLE ACTING350T MEDIUM STILE
SINGLE ACTING500T WIDE STILE
SINGLE ACTING

Note: 1-1/2" (38.1) Triple Insulating Glass Unit infill available.

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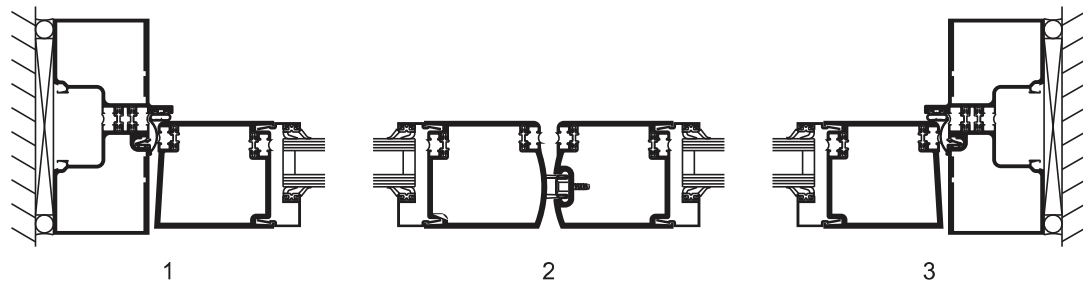
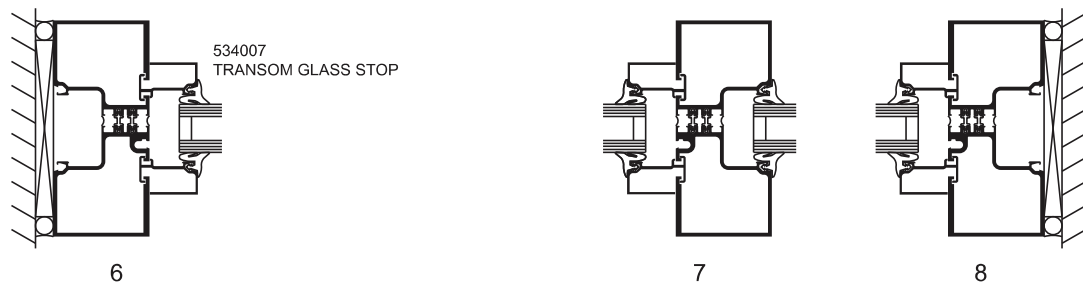
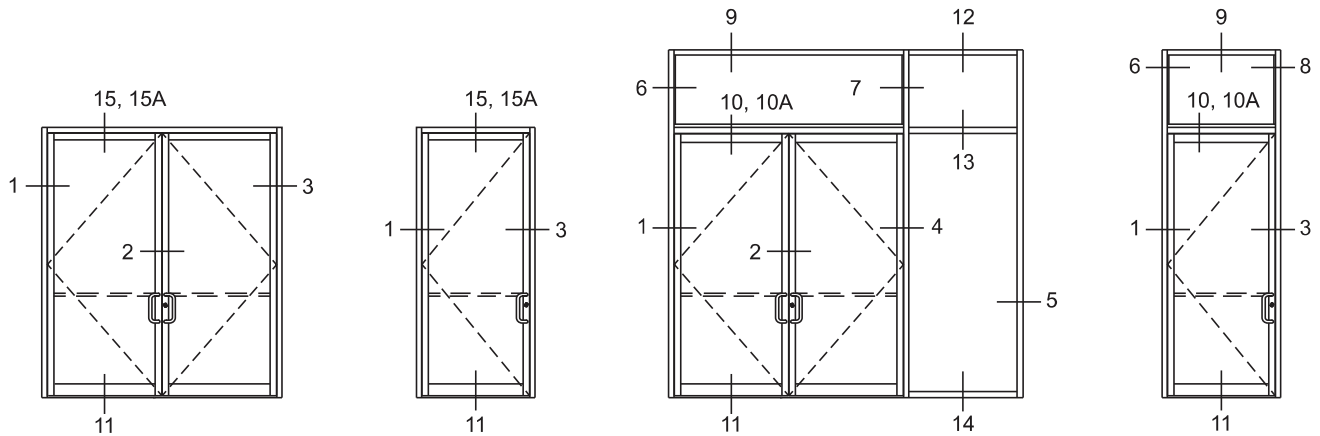
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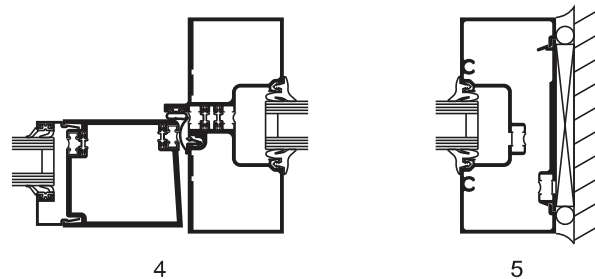
Additional information and CAD details are available at www.kawneer.com

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.



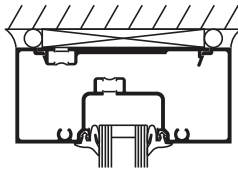
SINGLE ACTING DOORS



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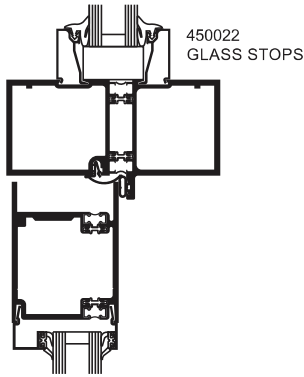
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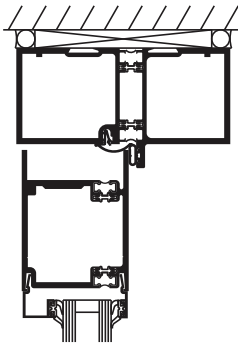


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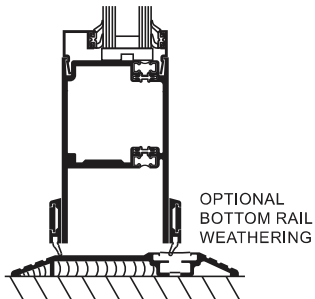
SINGLE ACTING DOORS



10

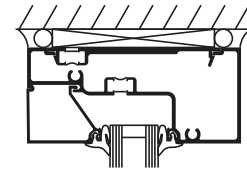


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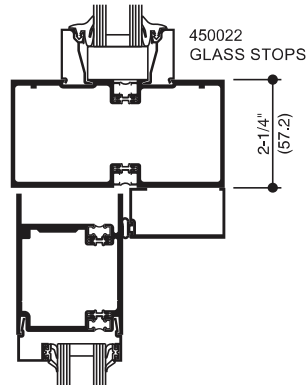
11

SURFACE OVERHEAD CLOSER

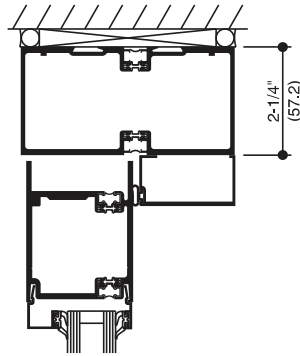


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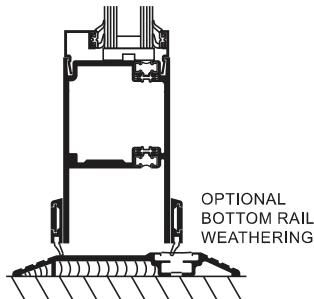
COC WITH SINGLE ACTING OFFSET ARM



10A

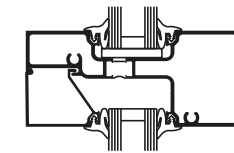


15A

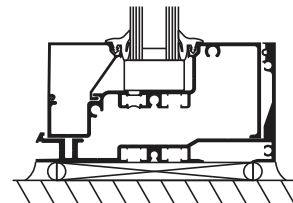


11

CONSEALED OVERHEAD CLOSER



13



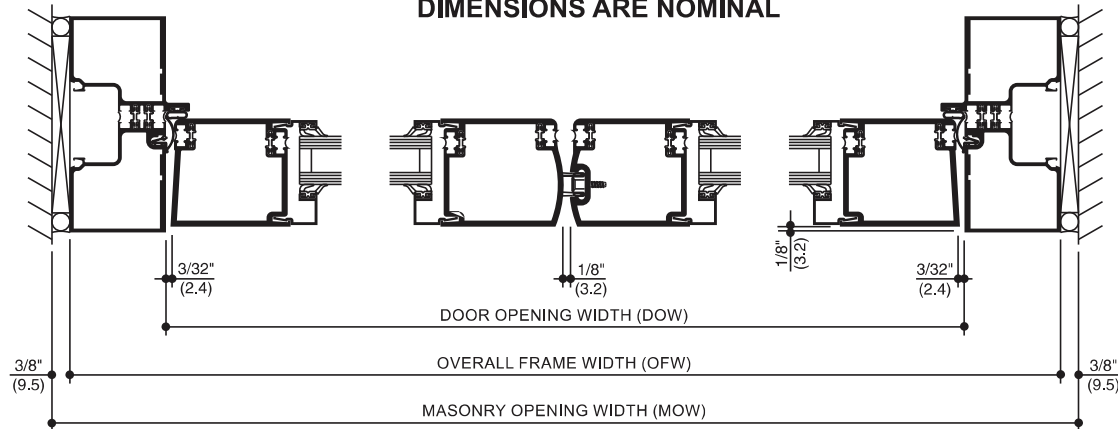
14

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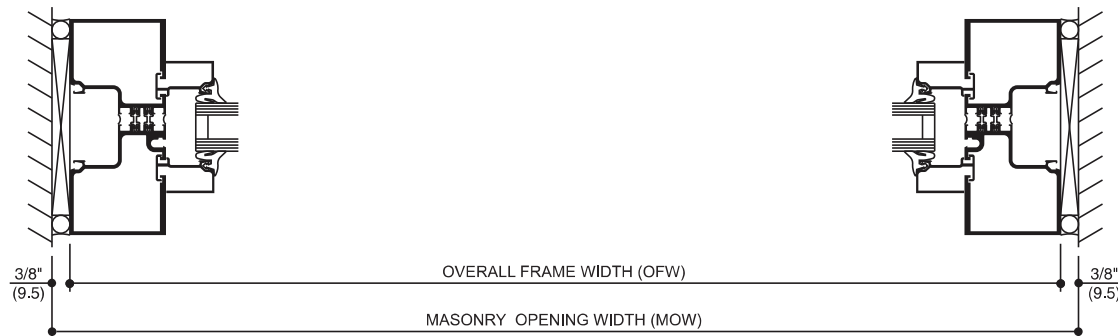
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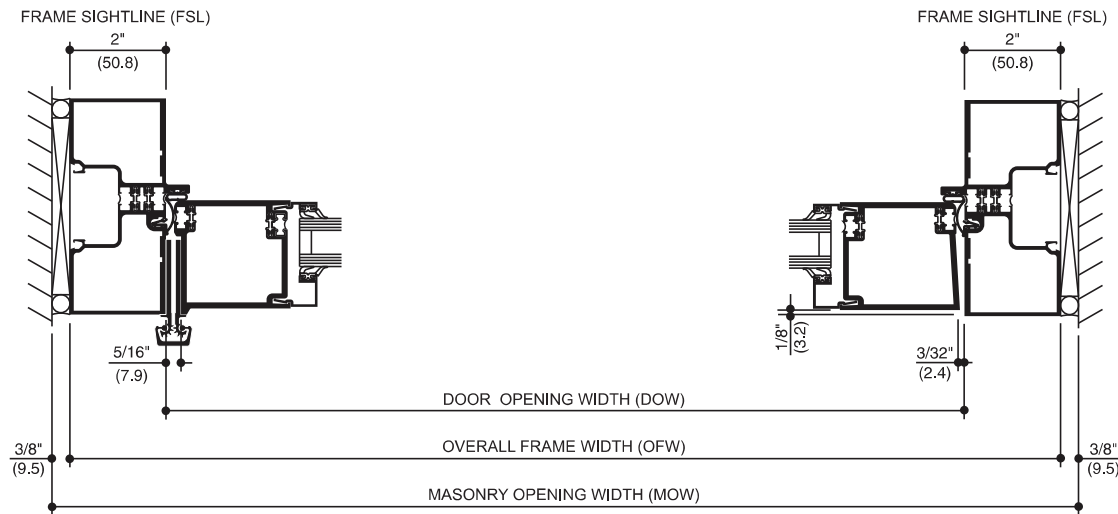
DIMENSIONS ARE NOMINAL



SINGLE ACTING DOORS



TRANSOM JAMBS



CONTINUOUS HINGE JAMB

STANDARD SIZES (TRIFAB® VG 451T CENTER FRAMES)

WITH AND WITHOUT TRANSOM

Door Opening Dimension (DOW)

3' 0"	(914)
3' 6"	(1,067)
6' 0"	(1,829)

Overall Frame Dimension (OFW)

3' 4"	(1,016)
3' 10"	(1,168)
6' 4"	(1,930)

Masonry Opening Dimension (MOW)

3' 4-3/4"	(1,035)
3' 10-3/4"	(1,187)
6' 4-3/4"	(1,949)

WITH AND WITHOUT TRANSOM

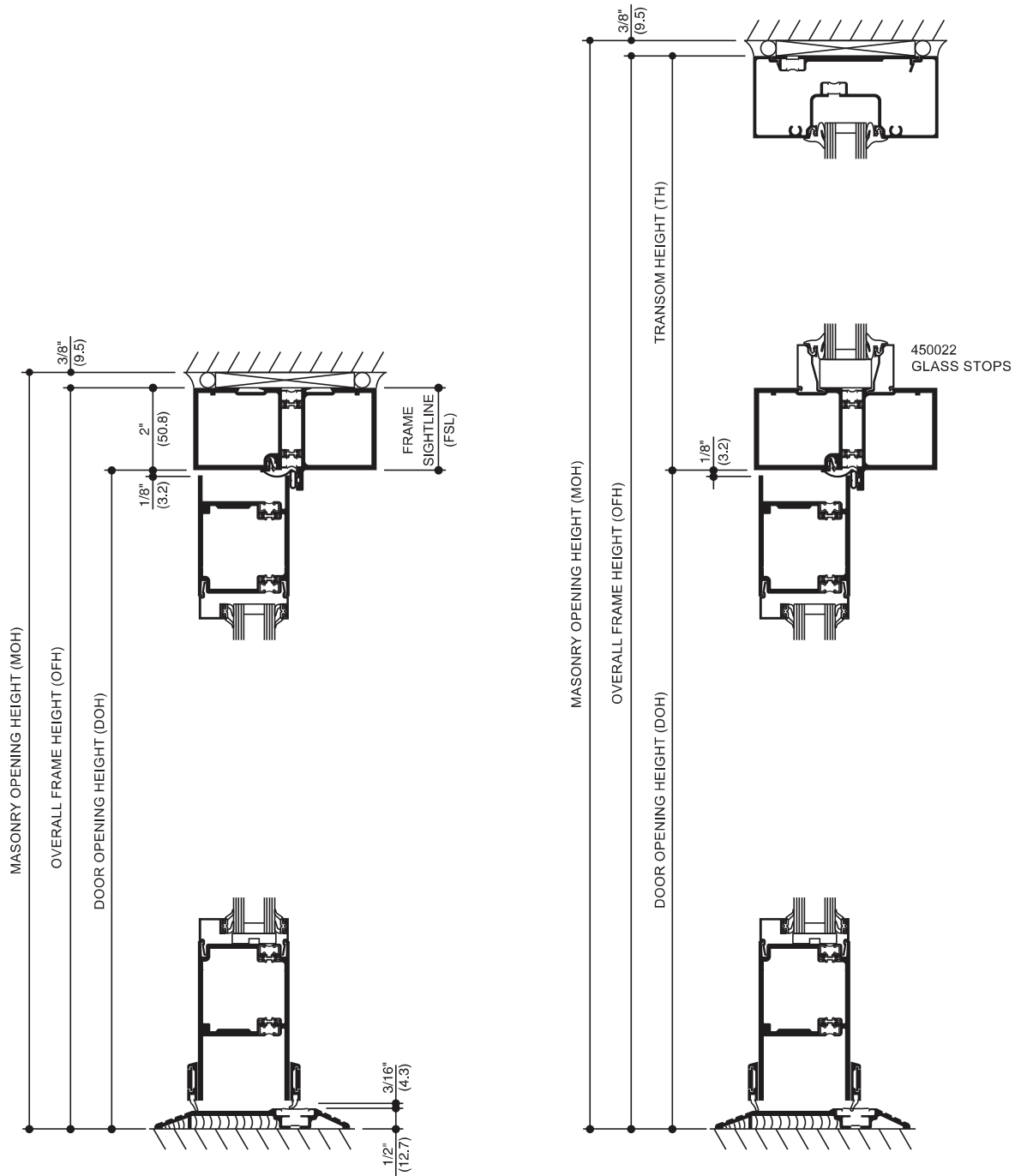
$$\text{OFW} = \text{DOW} + 2 \text{ FSL}$$

$$\text{MOW} = \text{OFW} + \frac{3}{4}"$$

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STANDARD SIZES (TRIFAB® VG 451T CENTER FRAMES)

WITHOUT TRANSOM

Door Opening Dimension (DOH)	
7' 0"	(2,134)
7' 0"	(2,134)
7' 0"	(2,134)

Overall Frame Dimension (OFH)	
7' 2"	(2,184)
7' 2"	(2,184)
7' 2"	(2,184)

Masonry Opening Dimension (MOH)	
7' 2-3/8"	(2,194)
7' 2-3/8"	(2,194)
7' 2-3/8"	(2,194)

WITHOUT TRANSOM

$$OFH = DOH + FSL$$

$$MOH = OFH + 3/8"$$

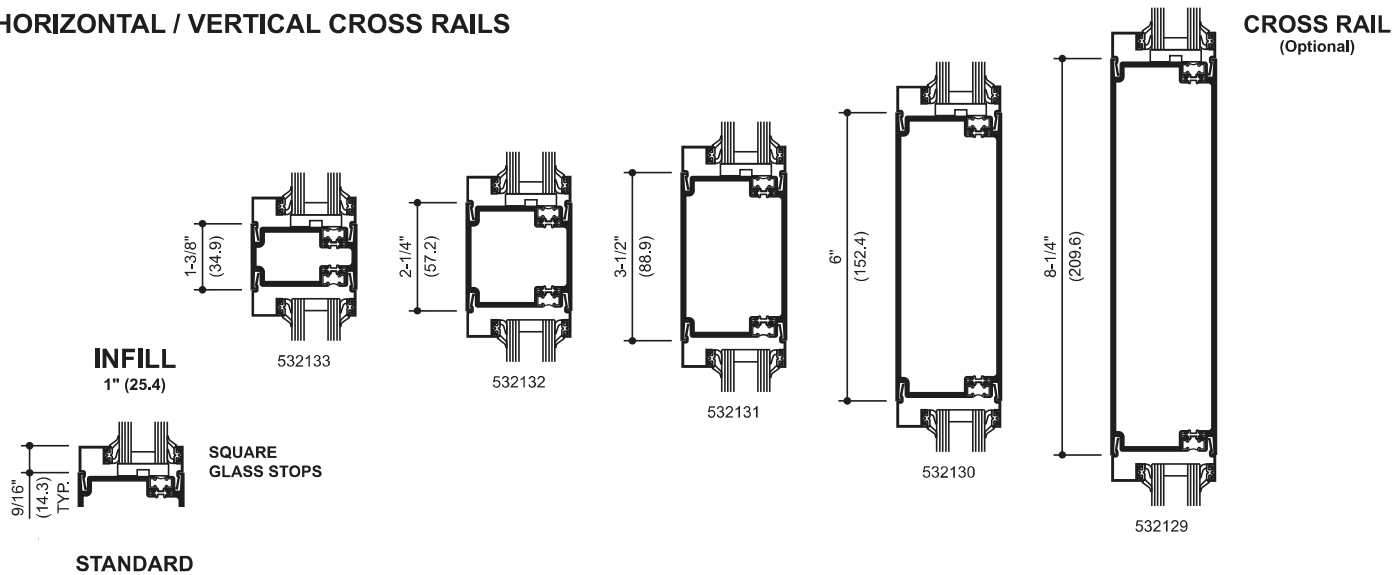
WITH TRANSOM

$$OFH = DOH + TH$$

$$MOH = OFH + 3/8"$$

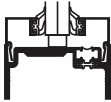
Additional information and CAD details are available at www.kawneer.com

HORIZONTAL / VERTICAL CROSS RAILS

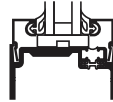


INFILL OPTIONS

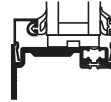
1/2" INFILL



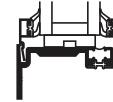
3/4" INFILL



1-1/8" INFILL



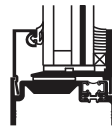
1-1/4" INFILL



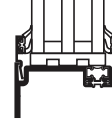
1" INFILL TAPE GLAZED (Blast)



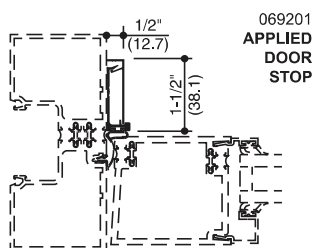
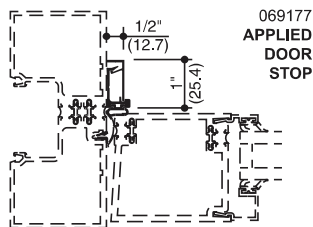
1" INFILL WET GLAZED (Blast)



1-1/2" INFILL (Triple Insulating Glass Unit)



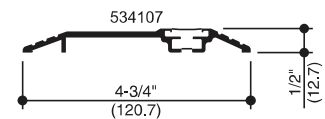
ACCESSORY ITEMS



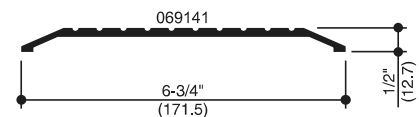
THRESHOLDS

APPLICATION

FOR SINGLE ACTING DOOR



FOR FLOOR CLOSERS



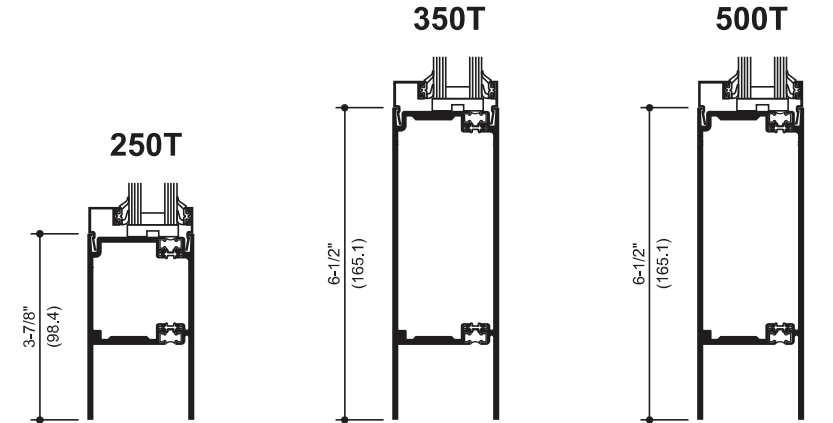
SOME BUILDING CODES LIMIT THRESHOLD HEIGHT TO 1/2" (12.7) MAX.

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

STANDARD BOTTOM RAILS

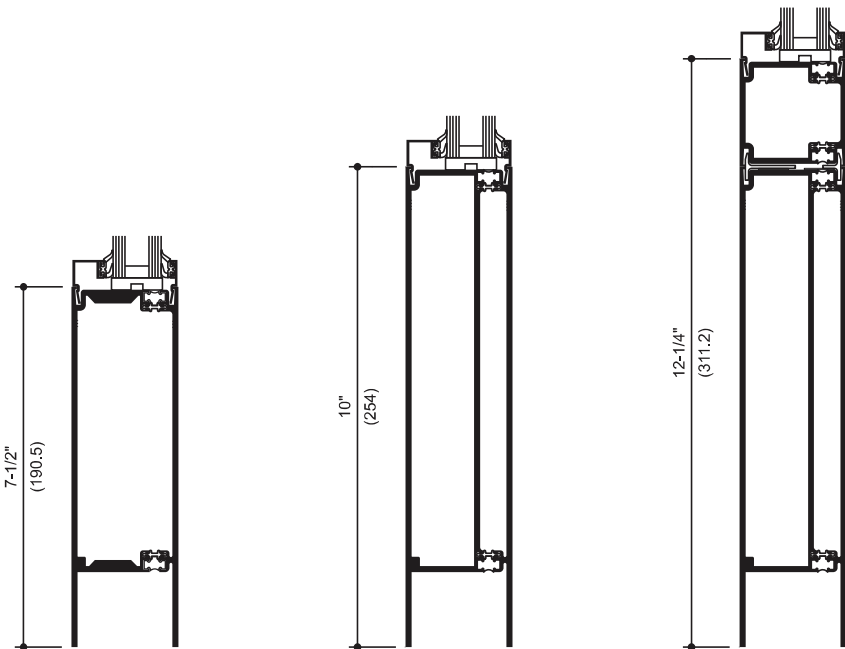
Rail heights shown may be used on 250T, 350T, and 500T doors.

NOTE:
See Page 18 for available
Horizontal Intermediate Members.



OPTIONAL BOTTOM RAILS

Rail heights shown may be used on 250T, 350T, and 500T doors.
Custom heights available.



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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.

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" (6.35) thick glass supported on two setting blocks placed at the loading points shown.

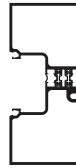
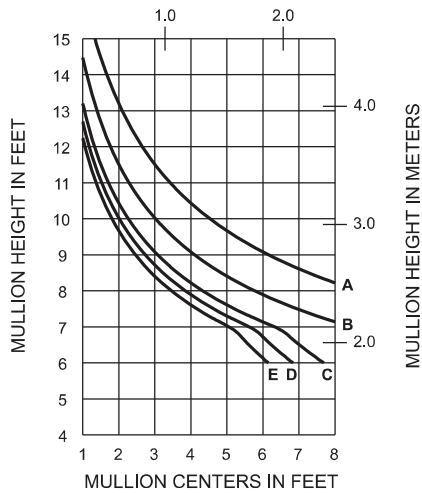
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	Allowable Stress Design Load	LRFD Ultimate Design Load
A =	20 PSF (960)	33 PSF (1580)
B =	30 PSF (1440)	50 PSF (2400)
C =	40 PSF (1920)	67 PSF (3200)
D =	45 PSF (2160)	75 PSF (3600)
E =	50 PSF (2400)	83 PSF (4000)

WITH HORIZONTALS

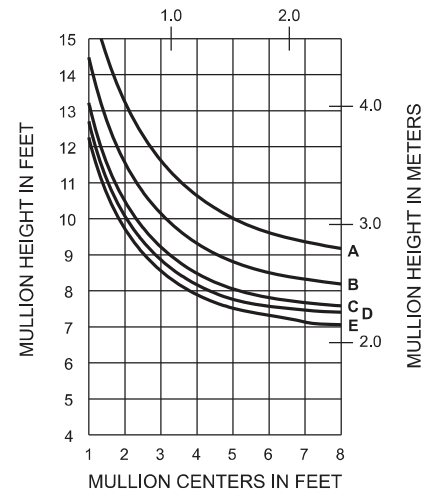
MULLION CENTERS IN METERS

**534109**

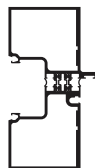
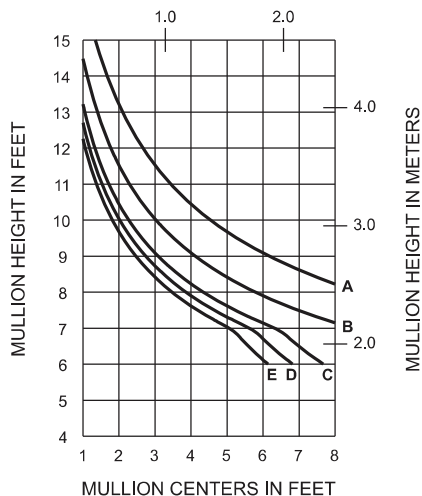
WIND LOAD CHARTS ARE BASED ON
COMPOSITE PROPERTIES WHICH
ARE CALCULATED IN ACCORDANCE
WITH AAMA TIR-A8 AND AAMA 505

WITHOUT HORIZONTALS

MULLION CENTERS IN METERS

**WITH HORIZONTALS**

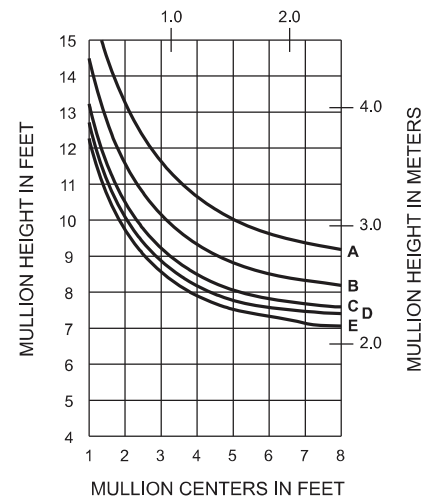
MULLION CENTERS IN METERS

**534103**

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

WITHOUT HORIZONTALS

MULLION CENTERS IN METERS



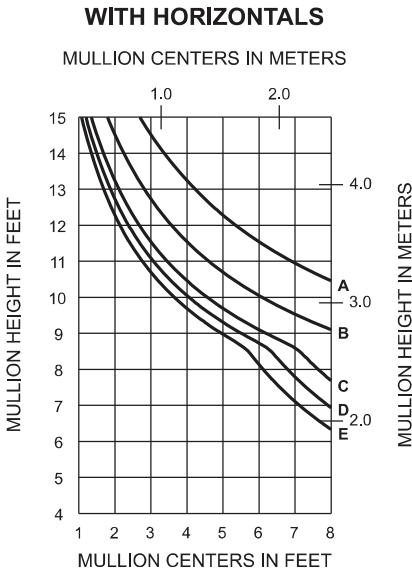
Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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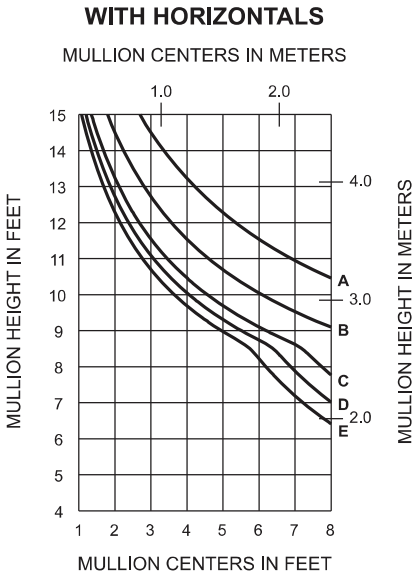
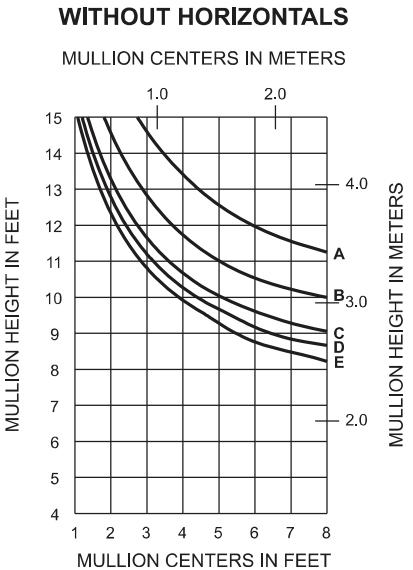
Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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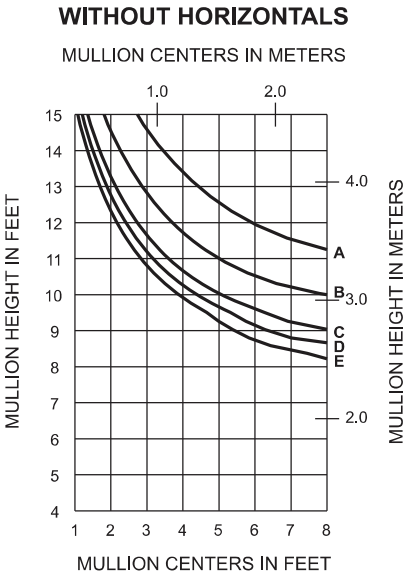
	Allowable Stress Design Load	LRFD Ultimate Design Load
A =	20 PSF (960)	33 PSF (1580)
B =	30 PSF (1440)	50 PSF (2400)
C =	40 PSF (1920)	67 PSF (3200)
D =	45 PSF (2160)	75 PSF (3600)
E =	50 PSF (2400)	83 PSF (4000)



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

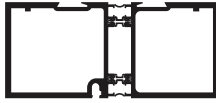


WIND LOAD CHARTS ARE BASED ON COMPOSITE PROPERTIES WHICH ARE CALCULATED IN ACCORDANCE WITH AAMA TIR-A8 AND AAMA 505

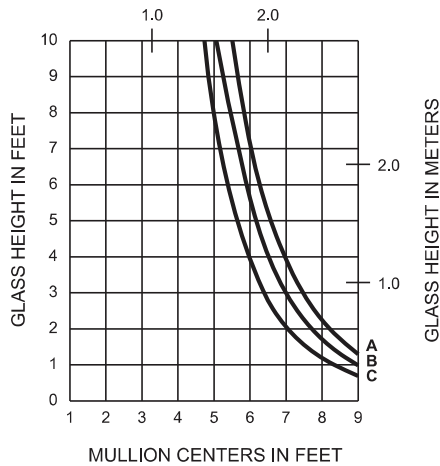


A - 1" GLASS (1/8 POINT LOADING)
 B - 1" GLASS (1/6 POINT LOADING)
 C - 1" GLASS (1/4 POINT LOADING)

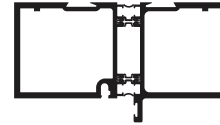
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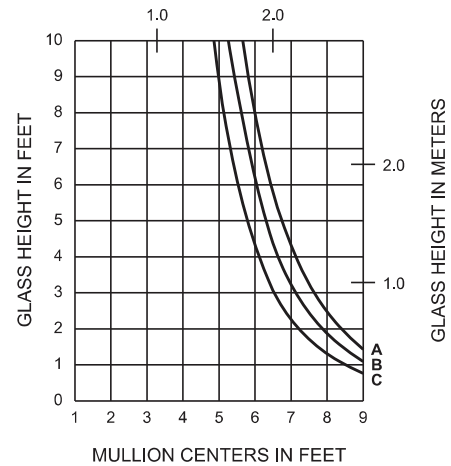
MULLION CENTERS IN METERS



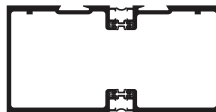
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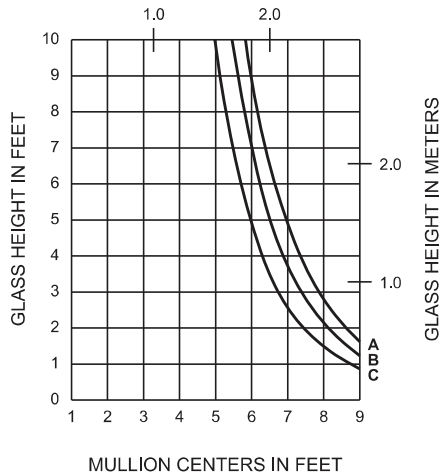
MULLION CENTERS IN METERS



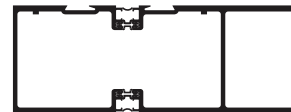
534101



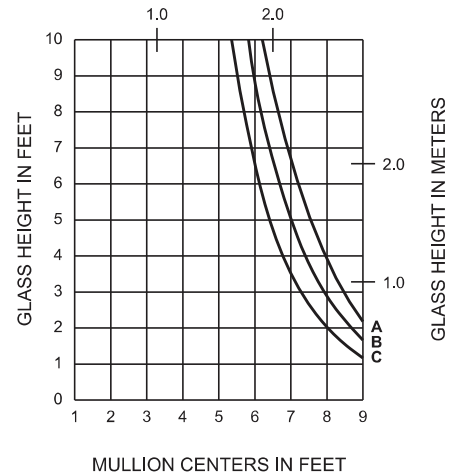
MULLION CENTERS IN METERS



534104



MULLION CENTERS IN METERS



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

Glass U-Factor ³	Overall U-Factor ⁴
0.48	0.63
0.46	0.62
0.44	0.61
0.42	0.61
0.40	0.60
0.38	0.59
0.36	0.58
0.34	0.57
0.32	0.57
0.30	0.56
0.28	0.55
0.26	0.54
0.24	0.53
0.22	0.53
0.20	0.52
0.18	0.51
0.16	0.50
0.14	0.49
0.12	0.48
0.10	0.47

500T

SINGLE DOOR / PAIR OF DOORS
(1" Double Glazed)

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

1. U-Factors are determined in accordance with NFRC 100.
2. SHGC and VT values are determined in accordance with NFRC 200.
3. Glass properties are based on center of glass values and are obtained from your glass supplier.
4. Overall U-Factor, SHGC, and VT Matrices are based on the standard NFRC specimen size of 960 mm wide by 2,090 mm high (37-3/4" by 82-3/8").

SHGC Matrix ²

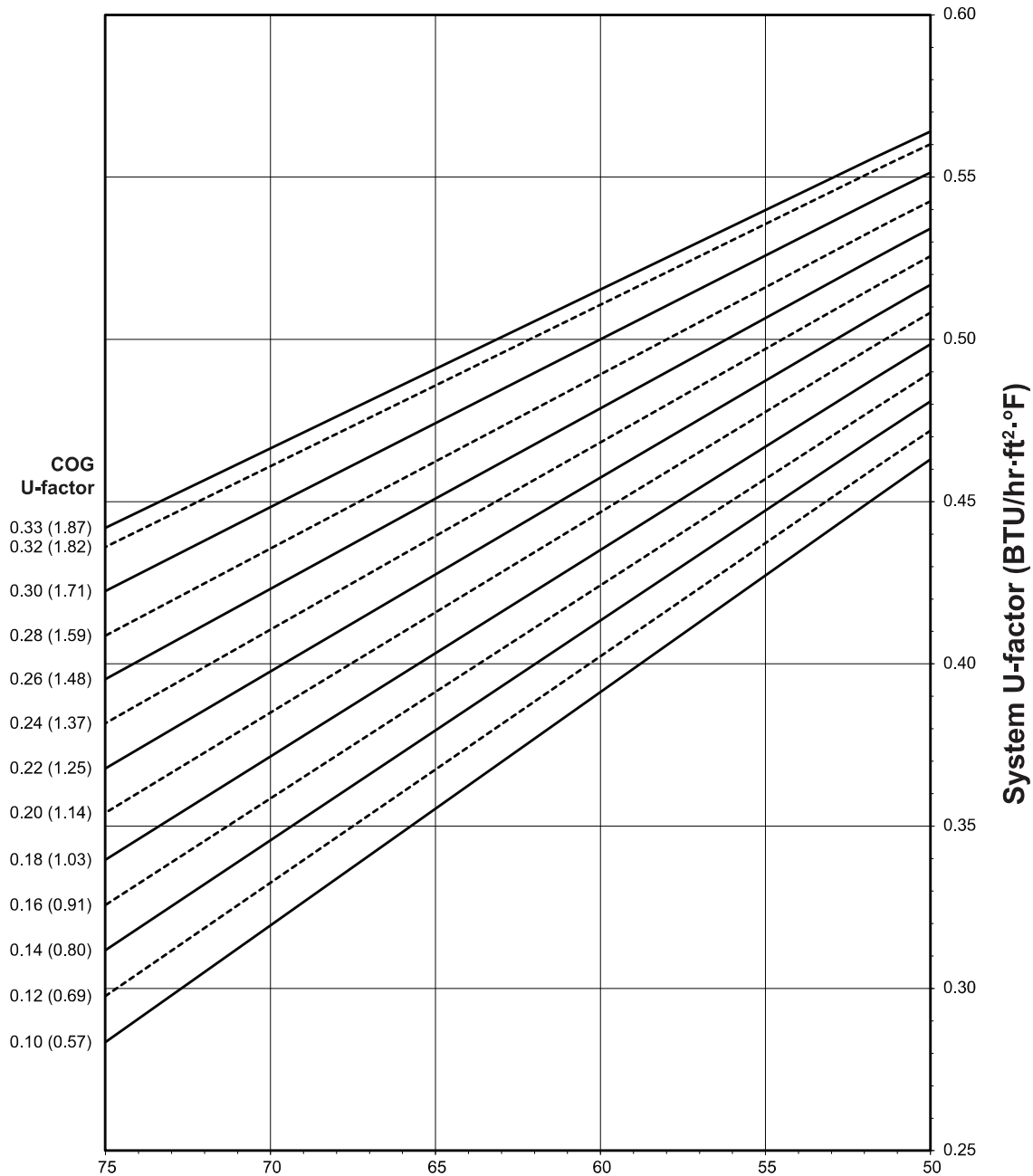
Glass SHGC ³	Overall SHGC ⁴
0.75	0.36
0.70	0.34
0.65	0.32
0.60	0.30
0.55	0.28
0.50	0.25
0.45	0.23
0.40	0.21
0.35	0.19
0.30	0.16
0.25	0.14
0.20	0.12
0.15	0.10
0.10	0.07
0.05	0.05

Visible Transmittance ²

Glass VT ³	Overall VT ⁴
0.75	0.34
0.70	0.31
0.65	0.29
0.60	0.27
0.55	0.25
0.50	0.22
0.45	0.20
0.40	0.18
0.35	0.16
0.30	0.13
0.25	0.11
0.20	0.09
0.15	0.07
0.10	0.04
0.05	0.02

**500T SINGLE DOOR / PAIR OF DOORS
(1-1/2" Triple Glazed)**

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.

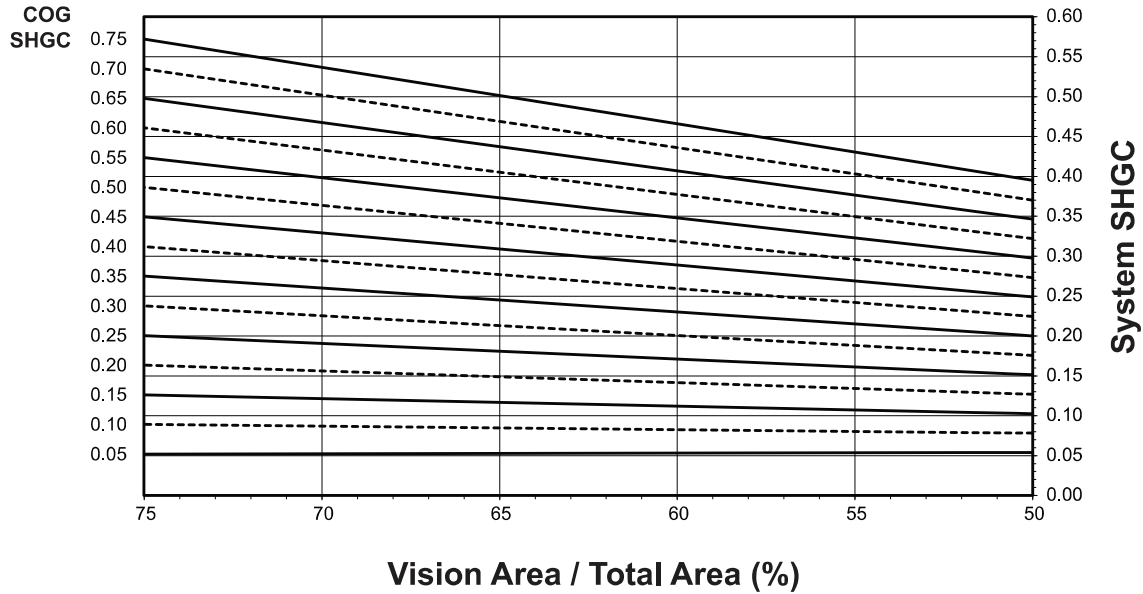
Glass properties are based on center of glass values and are obtained from your glass supplier.

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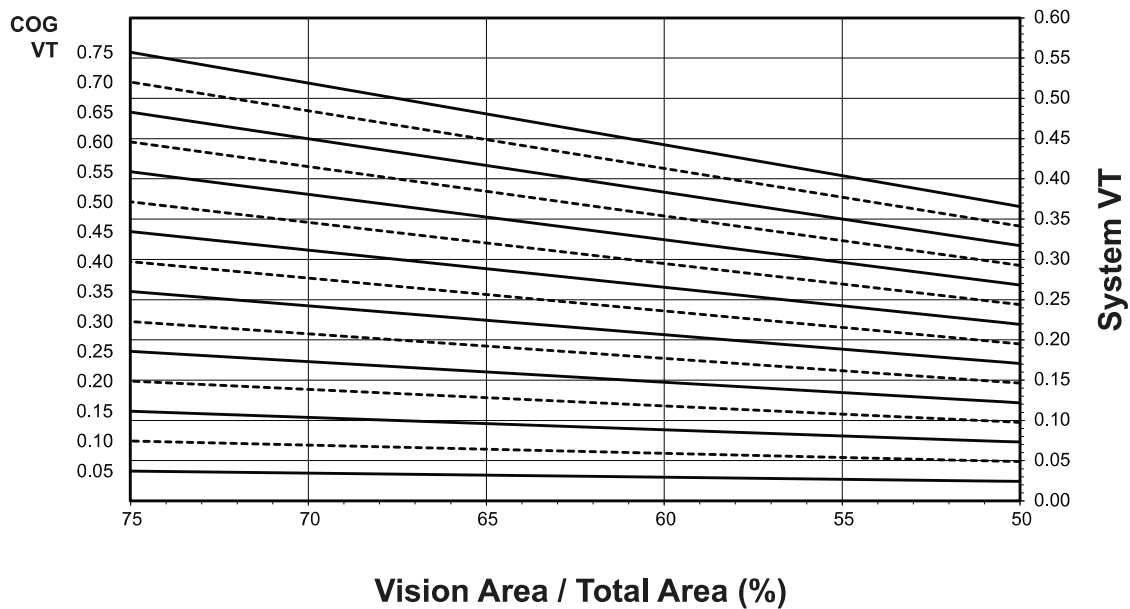
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500T SINGLE DOOR / PAIR OF DOORS (1-1/2" Triple Glazed)

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



System Visible Transmittance (VT) vs Percent of Vision Area



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