J. SUSSMAN, INC.

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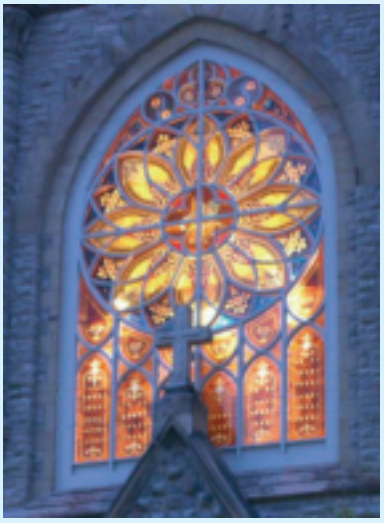
SINCE 1906

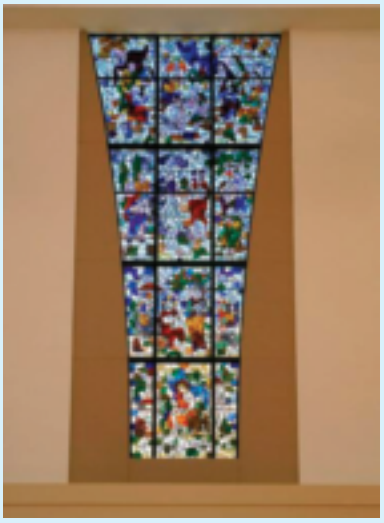
ELECTRONIC CATALOG

Last updated 02/28/2009

America's Finest Custom Aluminum Windows for

Churches, Chapels, Synagogues, Memorial Buildings, Schools, Hotels, Office Buildings, Libraries, Restaurants,etc.





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J. SUSSMAN, INC.

Since 1906

MANUFACTURERS OF AMERICA'S FINEST ARCHITECTURAL METAL PRODUCTS AND SERVICES

Cover Photos:

1 | 2
5
4 | 3 | 1

1. St. Thomas Moore Church
St John's University, Queens NY
Rohlf's Stained Glass, Mt. Vernon NY
Architect: Martin A. DeSapio, AIA
Photo: Taylor Photo

2. St Martin's Episcopal Church
Houston TX
Willet Hauser Architectural Glass, Winona MN
Glazing Contractor: Admiral Glass, Houston TX
Jackson & Ryan Architects, Houston TX

3. St Lawrence Church
Cincinnati OH
Harmon Inc., Cincinnati OH
Thomas Gormley
GBBN Architects, Cincinnati, OH 45202
BeauVerre/Riordan Studios, Middletown OH
Photo courtesy of The Catholic Telegraph

4. Foster Family Chapel at
Congregation Beth Israel, San Diego CA
Discount Glass, San Diego CA
Austin Veum Robbins Parshalle, Architects
Photos: Stuart Simmons

5. Southwestern Baptist Theological
Seminary Convention Center, Ft. Worth TX
Foster Stained Glass, Bryan TX

J. Sussman, Inc. windows can be produced in virtually any shape or size, with or without thermal breaks and with true muntins. They can be configured with combinations of fixed, projected and casements. Our 300 Series is even available with the historical church window standard, the Horizontally Center Pivoted ventilator.

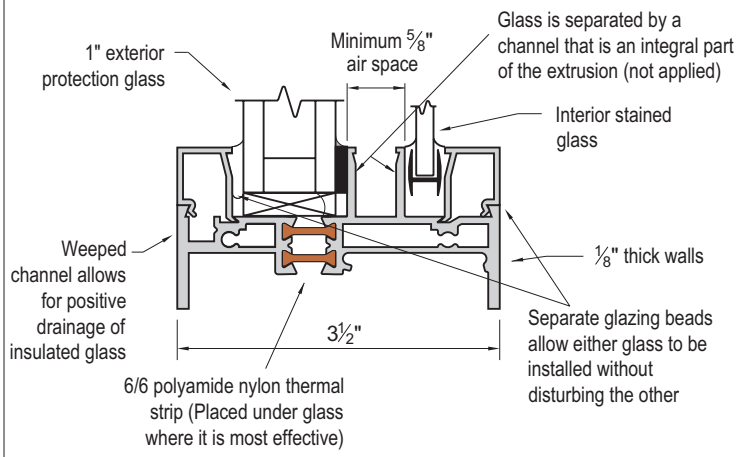
J. Sussman, Inc. has the largest selection of systems specifically designed for church windows providing the best product in the right price range to suit every budget.

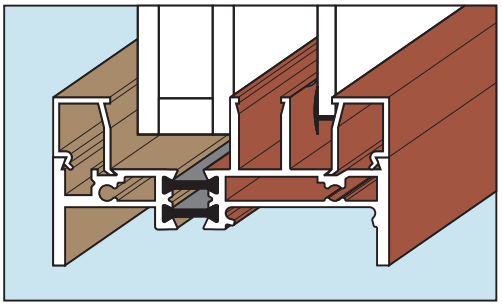
With an ever-increasing emphasis on color and aesthetics in the construction industry, **J. Sussman, Inc.** has developed two new window systems to help meet this demand. **J. Sussman, Inc.** now has the in house ability to produce windows with different colors and finishes to the exterior and interior. This is done with the use of *Thermal Strip© technology.* Two different aluminum extrusions can be finished independent of each other and then joined together with two 6/6 polyamide nylon thermal strips. Besides being thermally efficient, these high strength strips have the same coefficient of expansion as aluminum so that dry shrinkage is eliminated and the structural integrity of the window is intact. The result is a stronger thermally improved window with capability of different colors and finishes inside and out.

Yeshiva of Spring Valley, Spring Valley NY
Glazing Contractor: Ailamos, Bronx NY

Triple Glazed Thermal Church Windows for Stained and Insulated Protective Glass

6400 Series - 3½" Deep (replaces 5600 Series)





Our in-house Thermal Strip system gives us Dual Color finishing capability. **(Interior / Exterior)**

- Main frame and sash members are a full 3½" deep with double tubular ventilators, frame, muntins and meeting rails.
- Triple glazed thermal barrier design that can accommodate 1" protective insulated glass with another 5/8" airspace between the art glass insulates the cold outside temperatures from the warmer inside temperature and helps eliminate condensation and noise infiltration. Insurance costs can be substantially lower as a result.
- The separation of art and protective glass is achieved by a channel that is an integral part of the extrusion. *(Not an add on piece.)* This channel acts as a condensation gutter and helps prevent air and water infiltration.
- Separate glazing beads allow either glass to be installed without disturbing the other. Protective glass can be installed at time of erection and art glass can be installed at the owner's convenience. *(Stained glass can be an excellent fund raiser)*
- Ventilators have 3 rows of continuous weatherstripping.
- Windows can also accommodate interior faceted glass and an exterior protective glass or ¼" protective glass and stained glass.
- **Special Feature:** Large sections of insulated glass can be installed on the exterior and for the art glass special narrow siteline muntins can be placed in the interior of the frame in virtually any shape or size to suit the design and help keep costs down. *(These interior muntins can also be installed at a later date to fit the design.)*

J. SUSSMAN, INC. CUSTOM WINDOWS

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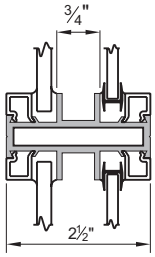
BuyLine 0888

Double Glazed Custom Church Windows for Stained and Protective Glass

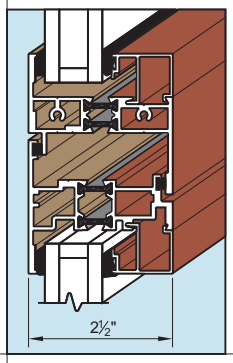
300 Series - 2½" Deep



- 2 1/2" Deep
- Designed to recieve protection glass on the exterior and art glass on the interior with a minimum 3/4" air space in between.
- Either glass can be installed or replaced without disturbing the other.
- Glass is separated by a channel that is an integral part of the extrusion and also acts as a condensation gutter.
- Narrow sightlines to maximize the exposure of art glass.

Dual Color Thermal Windows

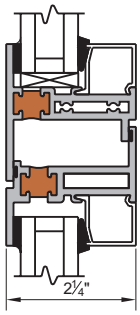
4200 Series - 2½" Deep



- Full 2 1/2" deep frame with double tubular sash, muntins and intermediate rails. *(Consult factory for full specifications)*
- Thermal Strip technology for added strength and Dual Color finishing capability. **(Interior / Exterior)**
- All corners are fastened on each side of the thermal break. Sash corners are mitered, heavy angle reinforced and hydraulically crimped and epoxy welded.
- Flush design eliminates dust shelves and water traps and helps create a clean, neat appearance.

Monumental Custom Thermal Windows

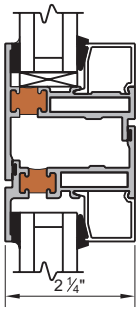
3600 Series - 2¼" Deep



- Full 2 1/4" deep frame with 1/8" walls and tubular sash will meet and/or exceed AAMA HC-65 and GS-001 monumental performance specifications.
- One piece extrusion with poured in place structural polyurethane thermal barrier placed closest to exterior will insulate best and help eliminate condensation.
- All muntins and intermediate rails are tubular.
- Flush design eliminates dust shelves and water traps and helps create a clean, neat appearance.

Custom Thermal Windows

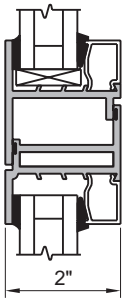
3200 Series - 2¼" Deep



- Full 2 1/4" deep frame with tubular sash will meet and/or exceed AAMA HC-65 and GS-001 monumental performance specifications.
- Metal strategically placed to give maximum strength.
- One piece extrusion with poured in place structural polyurethane thermal barrier placed closest to exterior will insulate best and help eliminate condensation.
- All muntins and intermediate rails are tubular.
- Flush design eliminates dust shelves and water traps and helps create a clean, neat appearance.

Monumental Non-Thermal Windows

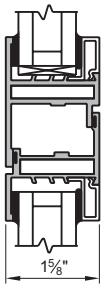
2400 Series - 2" Deep



- Full 2" deep frame with 1/8" walls and tubular sash will meet and/or exceed AAMA HC-65 and GS-001 monumental performance specifications.
- All corners are either fully welded or heavy angle reinforced, epoxy welded and hydraulically crimped.
- Flush design eliminates dust shelves and water traps and helps create a clean, neat appearance.
- Windows can accept up to 1" thick insulated glass or slab glass (dalle de verre).

Non-Thermal Custom Windows

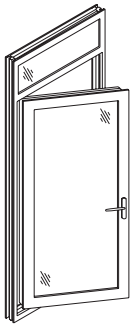
200X Series - 1⅝" Deep



- Full 1 5/8" deep frame with tubular sash will meet and/or exceed AAMA C-50 commercial performance specifications.
- Metal strategically placed to give maximum strength.
- All muntins and intermediate rails are tubular.
- Flush design eliminates dust shelves and helps create a clean, neat appearance.

Thermal Terrace Doors

4800 Series



- Full 2 1/2" deep tubular frame and door sash
- Thermal Strip technology for added strength and Dual Color finishing capability. **(Interior / Exterior)**
- Door corners are mitered, heavy angle reinforced, epoxy welded and hydraulically crimped.
- Flush design eliminates dust shelves and helps create a clean, neat appearance.
- Multi-point locking system with three way adjustable hinges.

J. Sussman, Inc.'s other services and products include **Custom Glass and Metal Bending, Skylights, Walkways, and Sunbilt Sunrooms.**

For more information see us on the internet at **www.jsussmaninc.com**

Immaculate Heart of Mary Catholic Church
Grand Junction, CO
Bratton Window and Door, Grand Junction CO
Slater-Paul & Associates, Denver, CO

Installations

J. Sussman, Inc. manufactures windows for renovation work in standard as well as landmark buildings. In addition, from St. Patrick's Cathedral in New York City to The Most Holy Mother of God Parish in Vladivostock, Russia there are many thousands of specialized Sussman church windows installed throughout the world. The following is a partial list of recent installations. For further assistance Call, Write, Fax or E-mail us.

Madison St. United Methodist Church, Clarksville, TN
Wall Bros. Glass, Inc., Clarksville, TN
Architect: Everton, Oglesby, Askew Architects

First United Methodist Church, Fort Payne, AL
Groat Construction Company, Inc., Fort Payne, AL
Architect: Alan L. Williamson

Saint Kathryn's Church, Hudson, NH
Saint Michel Liturgical Arts, Inc., Norwood, MA
Architect: Keefe Associates, Inc. Architects

Beth Shalom Congregation, Rockville, MD
Rure Associates, Middlesex, NJ
Architect: Levin/Brown and Associates Inc.

St. Augustine Church, Barberton OH
Conrad Schmitt Studios, New Berlin, WI
Architect: Zita Smith

Family Court, Philadelphia PA Keystone
Aluminum and Glass Co., Penndel, PA
Architect: Murphy Quigley Co., Inc

St. Boniface Church, Lidgerwood, ND
Glass Unlimited Inc., Fargo, ND
Architect: Curtis Construction

Mary Queen of the Universe Shrine, Orlando, FL
Rogers, Lovelock and Fritz, Inc., Winter Park, FL
Architect: Jack Rogers of R.L.F. Architects Inc.

St. Thomas Moore Church St.
John's University, Queens NY
Rohlf's Stained Glass
Architect: Martin A. DeSapio, AIA

Our Lady of Sorrows C.C., Victoria, TX
Mitchell Glass Co., Victoria, TX
Architect: Rawley McCoy and Associates

Grace Lutheran Church, New Orleans, LA
City Glass and Mirror Co., New Orleans, LA
Architect: The Mathes Group

St. Gregory the Great, Seward, NE
Builders Inc., Lincoln, NE
Architect: Sinclair Hille and Associates Inc.

Sam Nunn Federal Center, Atlanta, GA
Quaking Aspen Stained Glass, Porter, ME

Ascension of Our Lord Catholic Church, Laplace, LA
Southern Wall and Windows, New Orleans, LA
Architect: Blitch/Knevel Architects

Cathedral of the Madeline, Salt Lake City, UT
Intermountain Glass, Salt Lake City, UT
Architect: Beyer, Blinder, Belle

Episcopal Church of the Nativity, Dothan, AL
Dothan Glass Company, Dothan, AL
Architect: Barganier, Davis, Sims

St. Ann's Parish Church, Kaneohe, HI
Fuller Glass Co., Inc., Honolulu, HI
Architect: Matsushita and Associates

St. Bridget of Ireland, Berryville, VA
Roy's Glass Service, Inc., Kearneysville, WV
Architect: Balzer and Associates

White's Chapel United Methodist Church, Southlake, TX
DGB Glass Inc., Aledo, TX
Architect: Hesson Andrews Sotomeyer Sprinkle/Robey

The Salvation Army, Brooklyn Park, MN
United Glass Inc., Roseville, MN
Architect: Timothy O'Brien and Associates Architects

St. Mary's Church, Huntley, IL
Century Art Glass Co., St. Louis, MO
Architect: Charles E. Pease

St. Martin's Episcopal Church, Houston, TX
Admiral Glass, Houston, TX
Willet Hauser Architectural Glass, Winona MN
Architect: Jackson and Ryan Architects

New Chapel for Dominican Sisters, Fair Lawn, NJ
Midway Glass and Metal Installers, Inc., Fair Lawn, NJ
Architect: Martin Holub Architects and Planners

Immaculate Conception Parish, Pittsburgh, PA
Hunt Studios, Pittsburgh, PA
Architect: Belli & Belli

St. Thomas Moore Church, Lake Ariel, PA
Mesko Glass Co., East Stroudsburg, PA
Architect: V.S.Riggi A.I.A.

Ward Presbyterian Church, Northville, MI
Huron Valley Glass, Ypsilanti, MI
Architect: Lindhout Associates A.I.A. P.C.

St. Thomas A. Becket Church, Eugene, OR
Beyer Stained Glass, Philadelphia, PA

Congregation Beth Israel, San Diego, CA
Discount Glass & Mirror, San Diego, CA
Architect: Austin Veum Robbins Parshalle

Catholic Church of Christ The King, Singapore
Derix Art Glass , Oakland, CA
Designer: John Calligan

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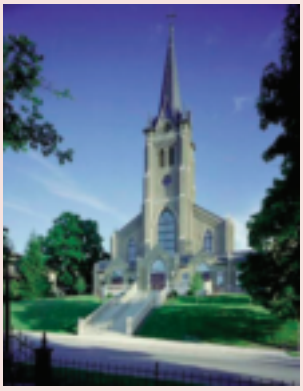

The Cathedral of St. Mary, Lafayette, IN
Kaleidoscope Stained Glass, Inc., Lafayette, IN
Architect: Scholer Corporation

St. Elizabeth Annseton Chapel, Whiting, NJ
Hiemer & Co., Clifton, NJ
Architect: Mlloy, Duffe, and Foran

Holy Family Catholic Church, Port St. Lucie, FL
Chauncey's Glass Co., Fort Pierce, FL
Architect: Moreu and Associates P.A.

St. Joseph's Church, Marksville, LA
Mobile Glass Service, Inc., Marksville, LA
Architect: Weimer and Boudreaux Architects

St. Killian's Parish, Farmingdale, NY
Durhan Studios, West Hempstead, NY
Architect: Ira Haspel, Architects, P.C.

Seventh Day Adventist Church, Berrien Springs, MI
Midwest Glass & Mirror, Stevensville, MI
Architect: Helard and Helard Architects

United Methodist Church, Genera, IL
Franklin Glass, Glendale Heights, IL
Architect: Cone-Kalb-Wonderlick

Upton Baptist Church, Upton, KY
Peter K. Eichorn Stained Glass, Louisville, KY
Architect: George Torello

All Saint's Church, Knoxville, TN
Holston Glass Co., Kingsport, TN
Architect: G.C. Blaine Construction

St. Catherine's House, Charleston, MA
Burnham and Laroche Associates, Medford, MA
Architect: Kevin M. Bryan

St. Joseph Parish, Cottleville, MO
Missouri Valley Glass Co., St. Charles, MO
Architect: LePique and Orne Architects

Mid City Church, Midland, TX
Foster Stained Glass, Bryan, TX
Architect: Heath Aikan

First United Methodist Church, Oklahoma City, OK
Karen Hendrix and Associates, Oklahoma City, OK

Lake Magdalene United Methodist Church, Tampa, FL
Precise Construction, Inc., Tampa, FL
Architect: R.B.K. Architect Inc.

and thousands more. . .

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J. SUSSMAN, INC.

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Tel: 718-297-0228 Fax: 718-297-3090

TABLE OF CONTENTS

General Introduction

J. Sussman, Inc. is proud to offer you this Architectural Detail and Design Guidebook. We believe it is the most complete window design guide available for the art glass trade. Within these pages you will find the widest variety of window systems designed for churches, synagogues and any other building that requires custom windows. We have window systems ranging from an economical single glazed non thermal system to a high performance triple glazed thermally broken church window. Windows can be made in virtually any combination and configuration of fixed, projected and casement ventilators. The 300 Series is even available in the historically standard horizontally center pivoted ventilator. While we have tried to make this binder as complete as possible, it can not show the intangibles such as our experience, skill or craftsmanship.

If you have not used J. Sussman, Inc. in the past, please look through this Design Guide and specify a Sussman product on your next project. If you are one of our valued customers, we provide this to you for your convenience in the continued use of Sussman products.

Please note, because J. Sussman, Inc. is constantly adding new systems and modifying old ones, we ask that you always confirm with us when placing your order. We have many sections not shown. Customization and alternate details can be provided to fit your specific needs. If you have any questions about this Design Guide or any of the systems shown or ideas you have that are not shown, feel free to call us. We will be honored to help in any way we can.

Visit us online at www.jsussmaninc.com. Up to date information, a gallery of past projects, and important links/resources can be found there. The most recent version of this Guidebook can be downloaded at www.jsussmaninc.com/pdf/sussman.pdf. CAD details are available upon request.

Please register your copy of this Design Guide by filling out and mailing the enclosed registration card. It will help us to keep this binder up to date. J. Sussman reserves the right to change, alter, discontinue or add systems or specifications displayed in this catalog.

Registration Card

Name _____ Title _____

Company Name _____

Address _____

City _____ State _____ Zip _____

Type of Company: Art Glass ☐ Architectural and Engineering ☐

Glazing Contractor ☐ General Contractor ☐

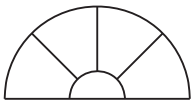
Other _____

J. Sussman, Inc

ELEVATIONS

Since 1906 America's finest custom windows

SOME TYPICAL ELEVATIONS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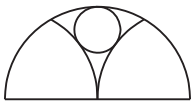
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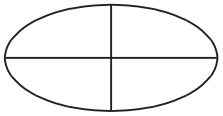
ROUND CORNERS


INVERTED ROUND CORNERS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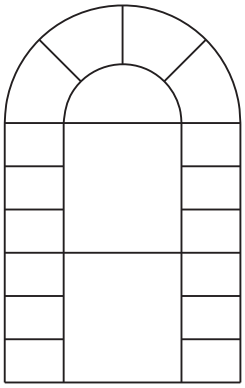
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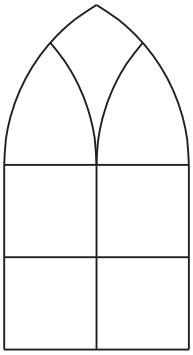
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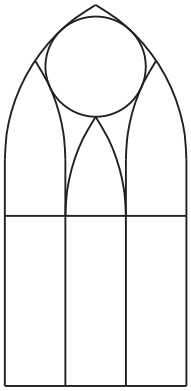
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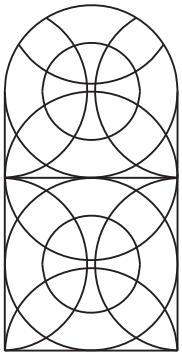
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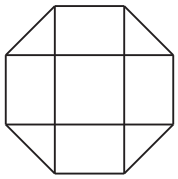
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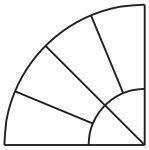
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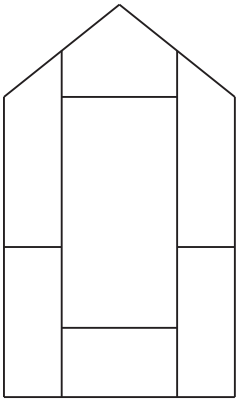
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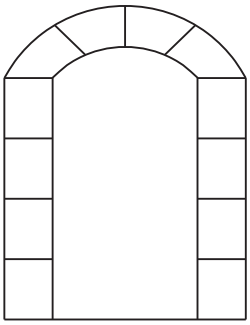
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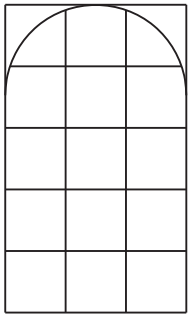
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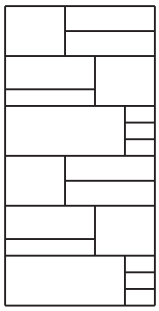
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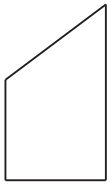
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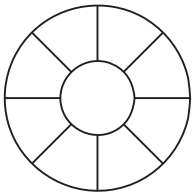
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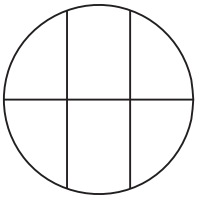
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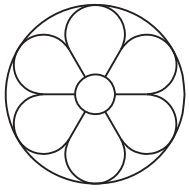

ROSE

NOTE: These are some representative examples of J. Sussman's custom capabilities. We are not limited to the above. Other configurations and combinations are available. Ventilators can be incorporated into all configurations.

NOT TO SCALE

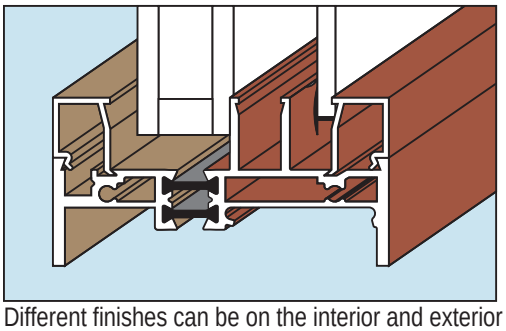
J. Sussman, Inc.

6400 Series

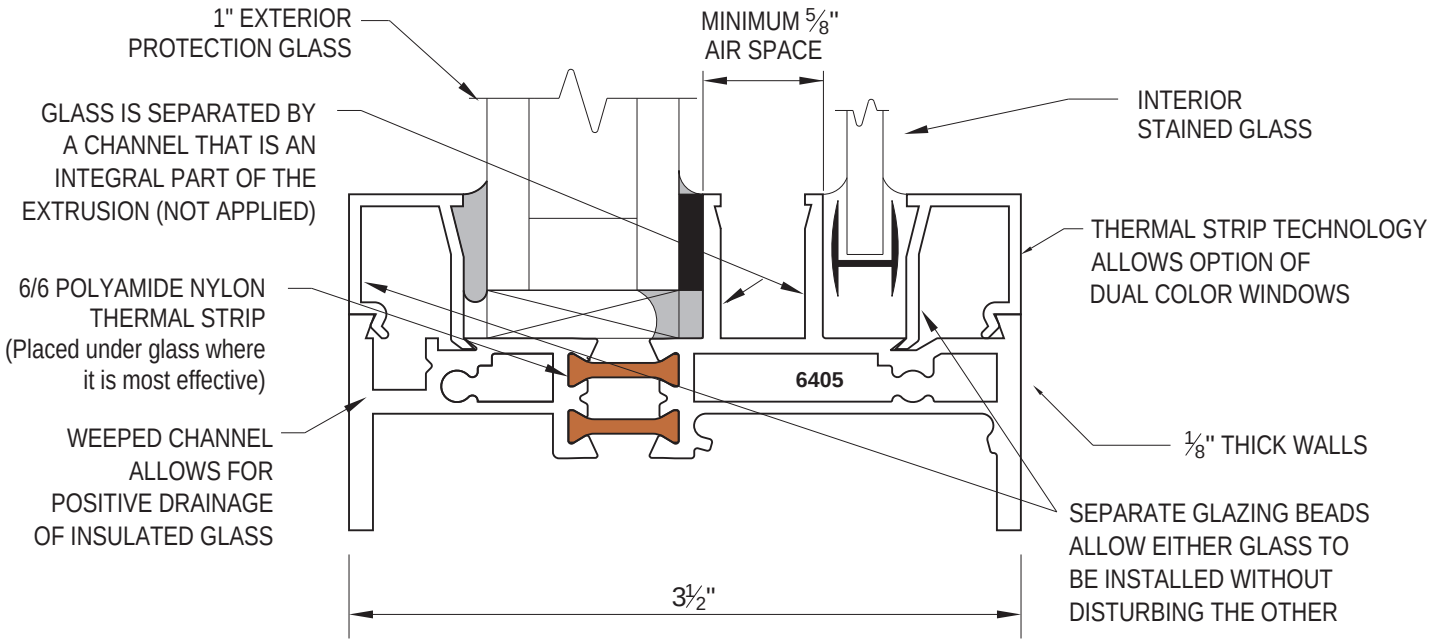
TRIPLE GLAZED THERMAL BREAK CHURCH WINDOWS

Since 1906 — America's finest custom windows

The 6400 Series is a heavy triple glazed church window incorporated into a 3½" thermally broken frame. The thermal break is achieved with the use of Thermal Strip technology©. Two different aluminum extrusions can be finished independent of each other and then joined with 6/6 polyamide nylon strips. The result is a stronger thermally improved window with the possibility of different finishes interior and exterior. This combination, along with triple contact weatherstripping in the ventilator, provides maximum condensation resistance and superior insulation making it the ideal choice for church windows when heating, condensation, noise and protection of stained glass are factors.



Different finishes can be on the interior and exterior

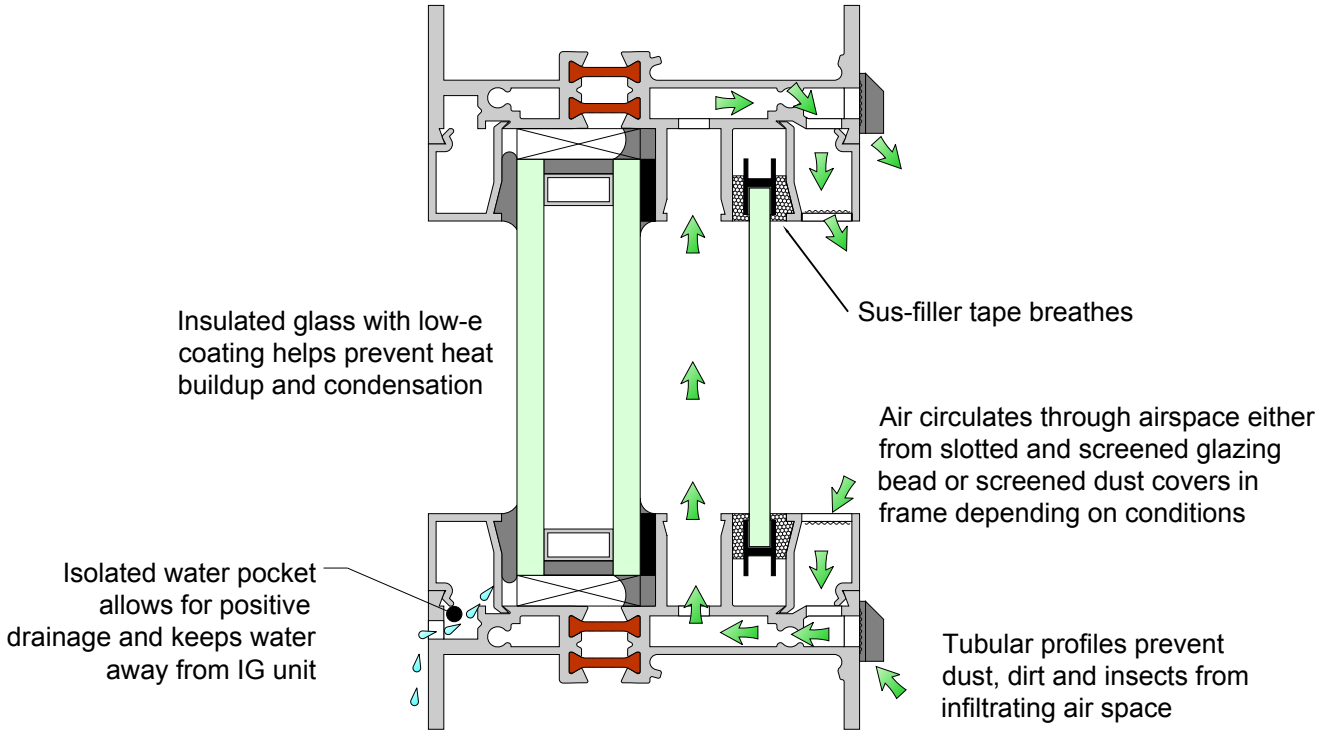


SCALE = FULL SIZE

Features:

- Main frame and sash members are a full 3½" deep. Ventilators, frame, muntins and meeting rails are double tubular and will meet or exceed AAMA HC-50 monumental performance specifications.
- Triple glazed thermal barrier design that can accommodate 1" protective insulated glass with another 5/8" airspace between the art glass insulates the cold outside temperatures from the warmer inside temperature and helps eliminate condensation and noise infiltration.
- The thermal strip is a specially formulated and constructed extrusion of glass fiber reinforced 6/6 polyamide nylon. Besides being thermally efficient, these high strength strips have the same coefficient of expansion as aluminum so that the structural integrity of the window is intact.
- The separation of art and protective glass is achieved by a channel that is an integral part of the extrusion. (Not an add on piece.) This channel acts as a condensation gutter and helps prevent air and water infiltration.
- Ventilators have 3 rows of continuous weatherstripping.
- Windows can also accommodate interior faceted glass and an exterior protective glass.
- **Special Feature:** Large sections of insulated glass can be installed on the exterior and for the art glass special narrow siteline muntins can be placed in the interior of the frame in virtually any shape or size to suit the design and help keep costs down. (These interior muntins can also be installed at a later date to fit the design.)

WEEPING AND VENTING



Weeping the exterior insulated glass to prevent glass failure.
The greatest cause of insulated glass failure is the seal around the glass breaking down. This is usually caused by water coming in direct contact with the seal. Water is the enemy of the seal and the seal will deteriorate without proper weepage. Insulated glass manufacturers will not warranty their glass if water is not weeped away from the glass. The 6400 Series church window features an isolated water pocket away from the glass to prevent the insulated glass from sitting in water. The system allows positive weepage away from the glass to the exterior.

Venting to reduce condensation and heat buildup.
Condensation and heat buildup between the protective glass and the stained glass can deteriorate the stained glass. There are many ways to combat condensation and heat buildup in a church window. The 6400 Series church window with insulated glass and its thermal break frame will be adequate in most cases. Due to variables such as location, altitude, climate, humidity and orientation to the sun some conditions will require additional measures. For more extreme conditions J. Sussman recommends the following options:

- Using SUS-FILLER tape to glaze the interior stained glass. SUS-FILLER is a single sided self adhesive open cell foam tape. It is used instead of caulking or glazing tape and allows the air space between the glasses to breathe yet will filter out dust, dirt and insects. The glass is dry set which makes for a simple, fast, clean and economical installation.

- Using high performance glass such as glass with a low-emittance (low-E) coating is an excellent way to reduce heat buildup between the glasses and condensation. Low-E glass coatings reduce solar heat gain while retaining high visible transmittance. Air conditioning and heating costs will be further reduced by using high performance protective glass.

- Venting within the window can be achieved by strategically placing special ventilation slots in the frame and glazing beads. Slots at the top and bottom allow air to circulate by natural convection. This cools off the airspace and helps eliminate condensation. The tubular profiles in the 6400 church window prevent dirt and dust around the perimeter from infiltrating the air space.

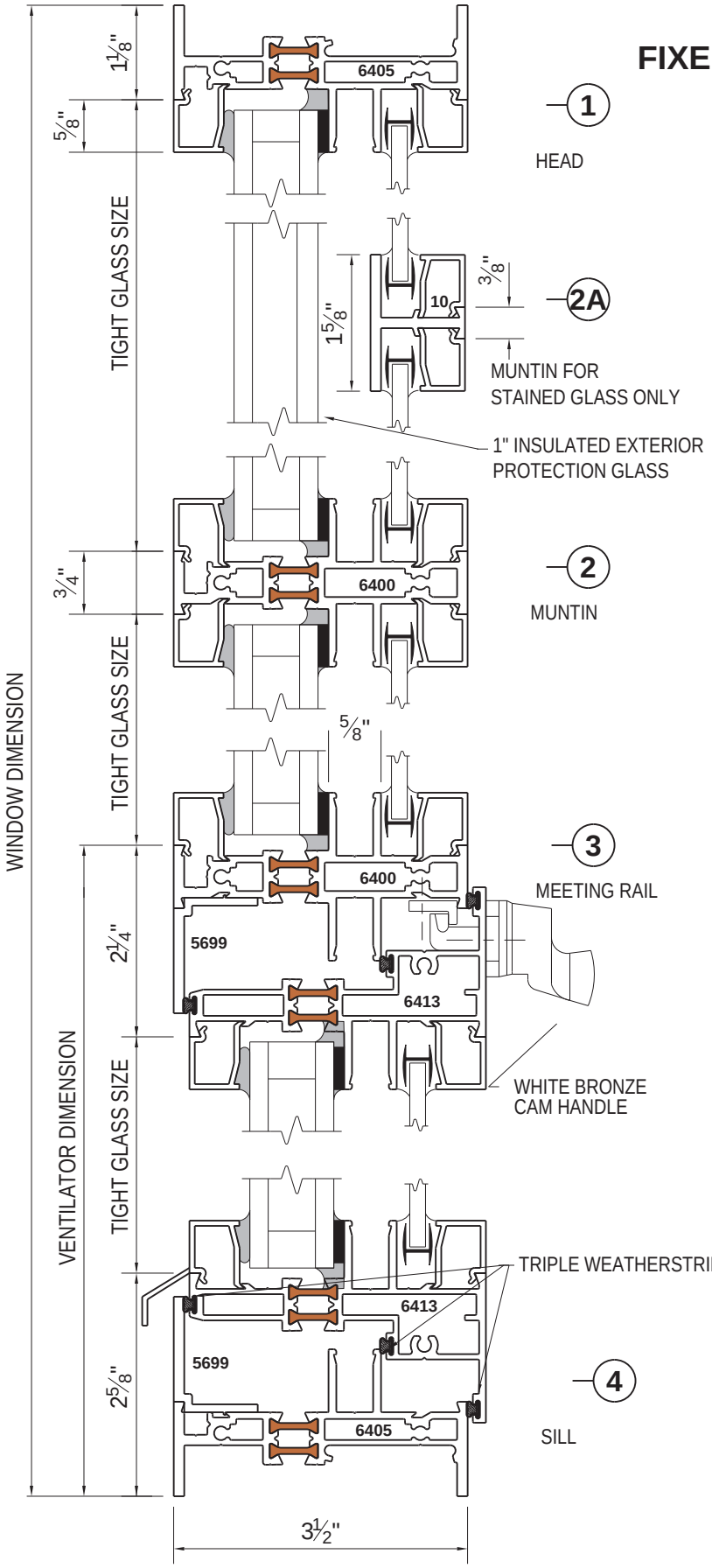
J. Sussman, Inc.

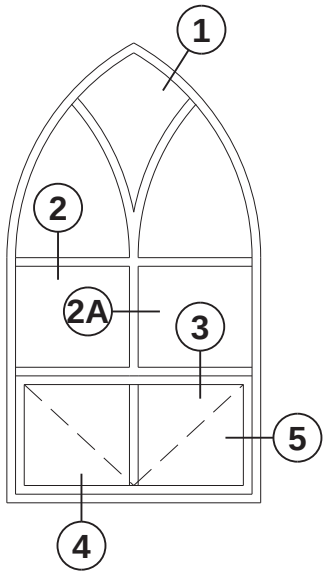
6400 Series

TRIPLE GLAZED THERMAL BREAK CHURCH WINDOWS

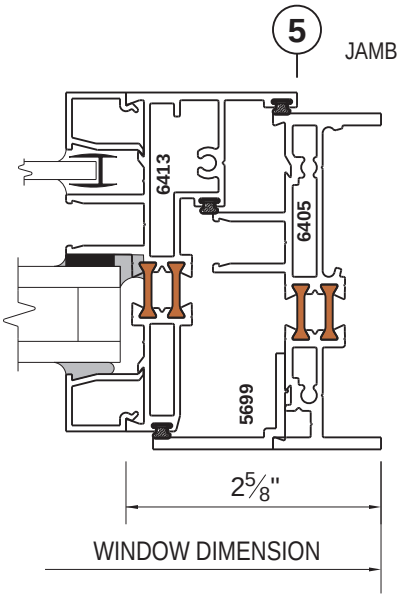
Since 1906 — America's finest custom windows

FIXED OVER PROJECT-IN VENT





Typical Elevation



SCALE = HALF SIZE

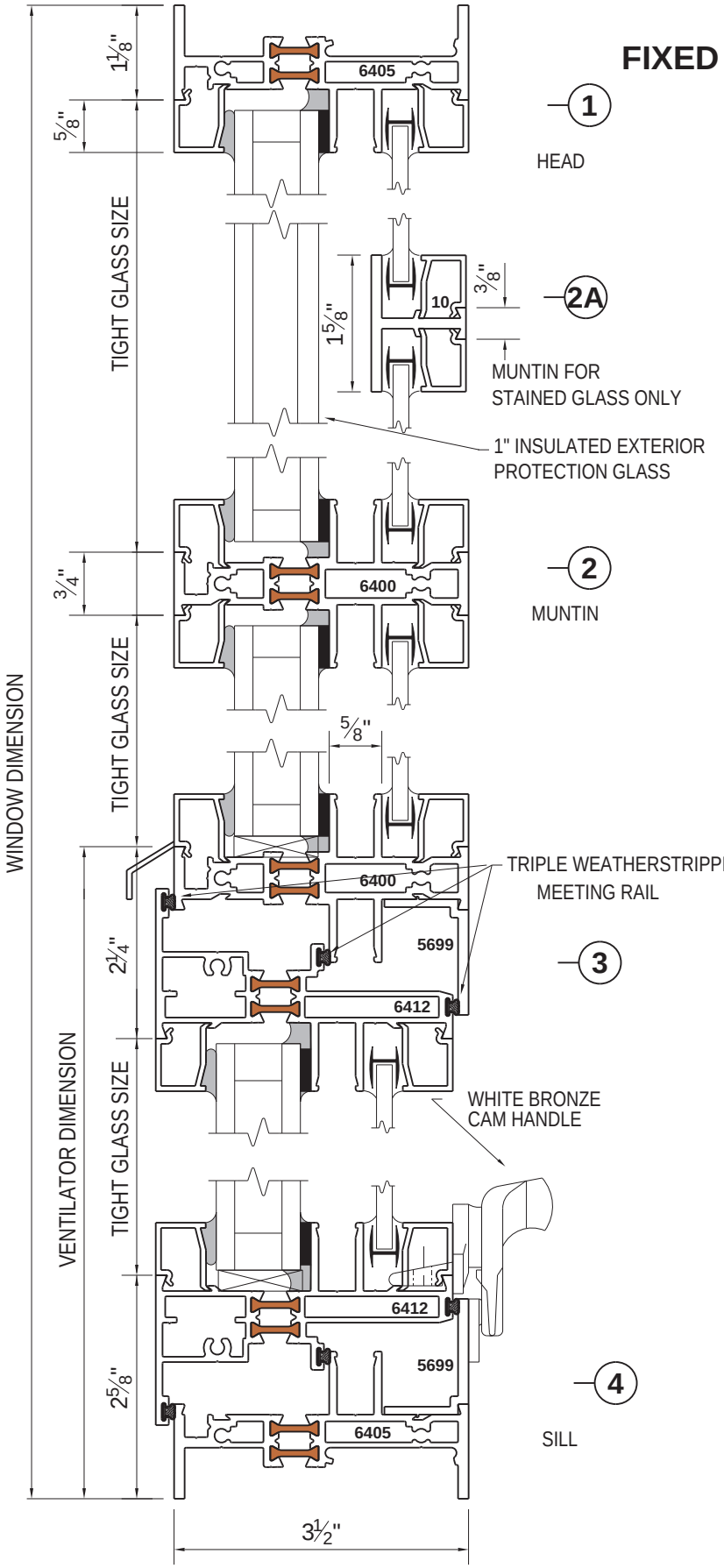
J. Sussman, Inc.

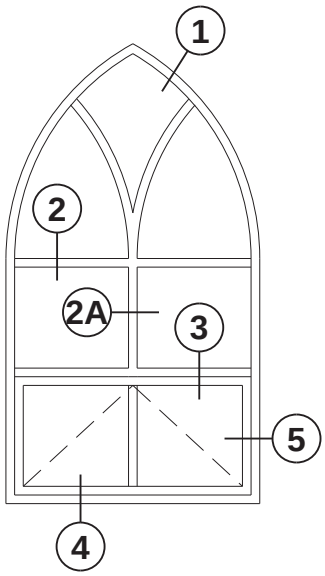
6400 Series

TRIPLE GLAZED THERMAL BREAK CHURCH WINDOWS

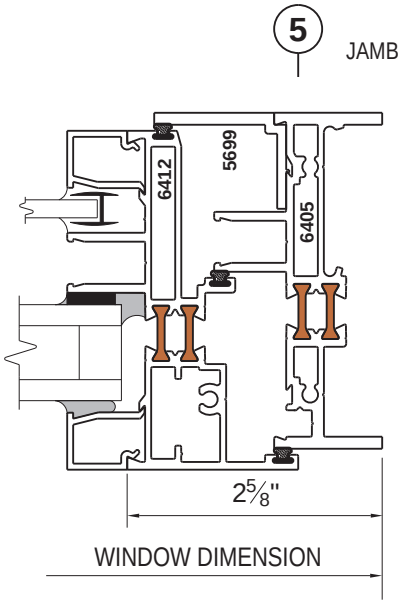
Since 1906 — America's finest custom windows

FIXED OVER PROJECT-OUT VENT





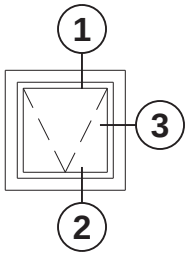
Typical Elevation

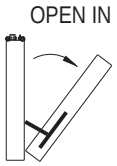


SCALE = HALF SIZE

PROJECT-IN

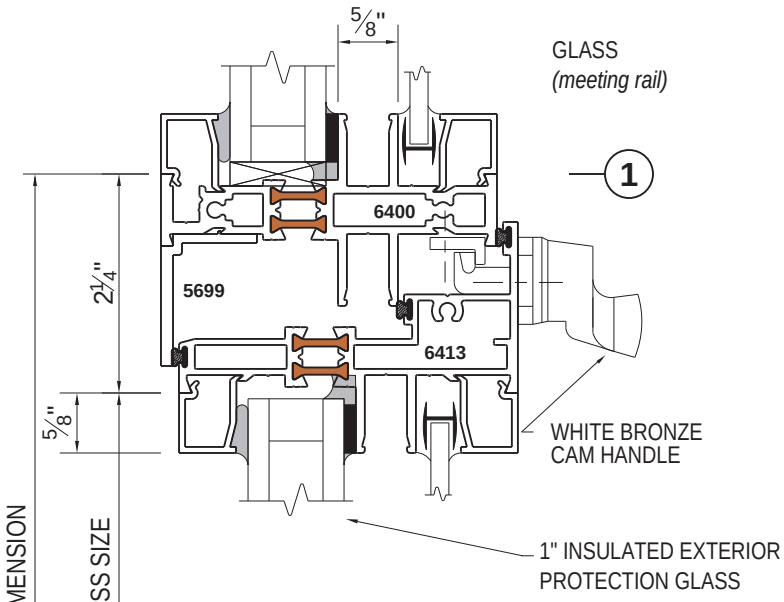
(Inswing casement similar)

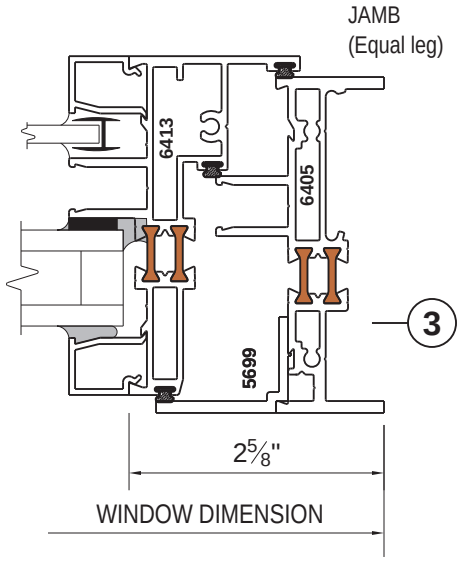


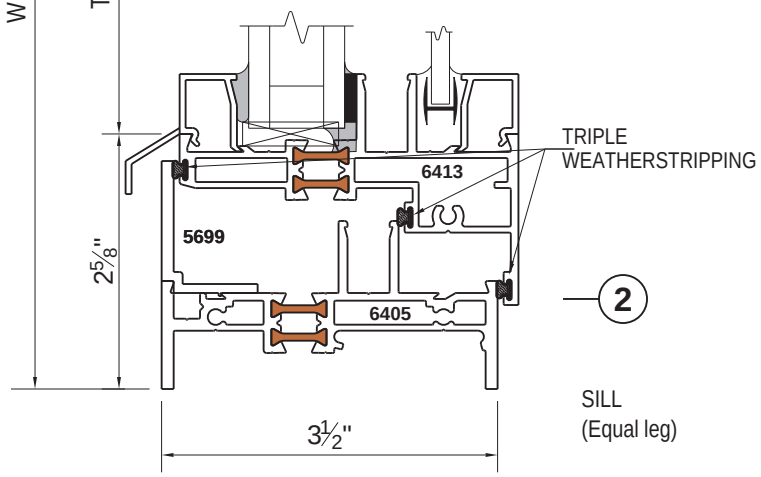


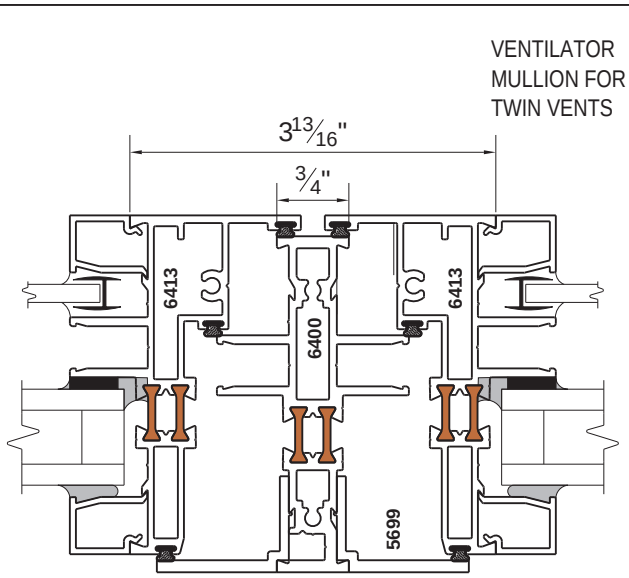
Standard Bottom Ventilator

(glass on top, equal leg jambs and sill)









SCALE = HALF SIZE

J. Sussman, Inc.

6400 Series

TRIPLE GLAZED THERMAL BREAK CHURCH WINDOWS

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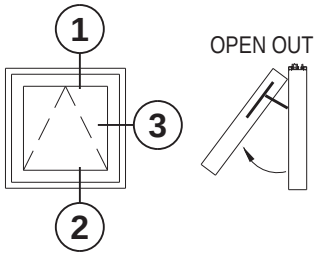
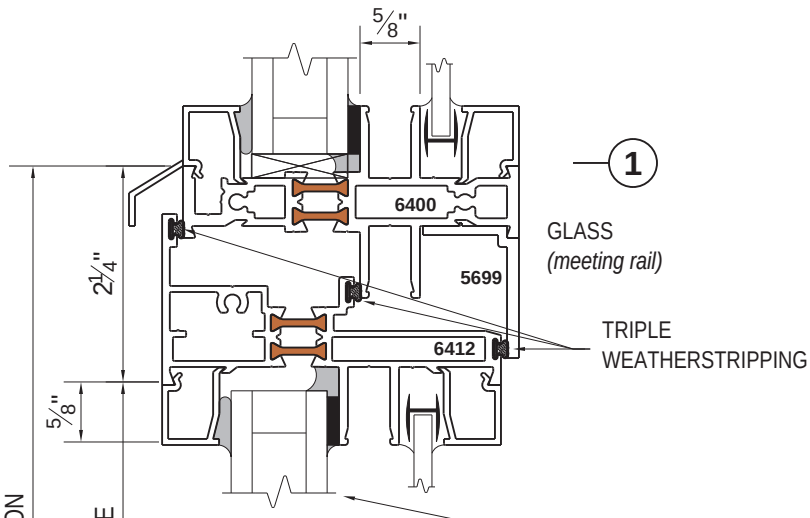
PROJECT-OUT

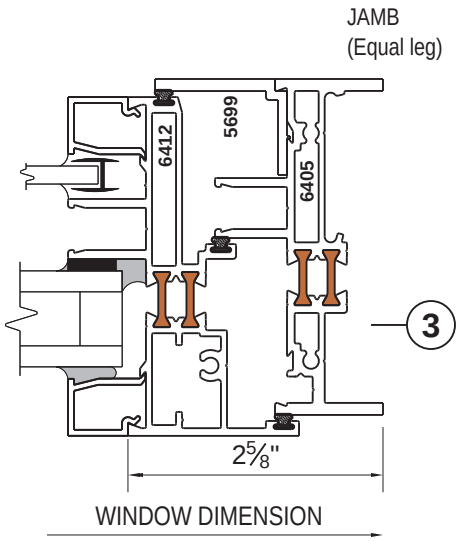
(Outswing casement similar)

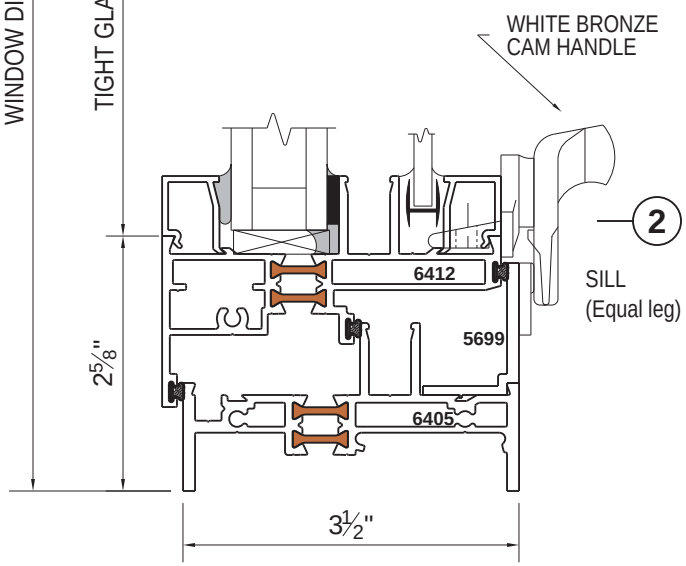


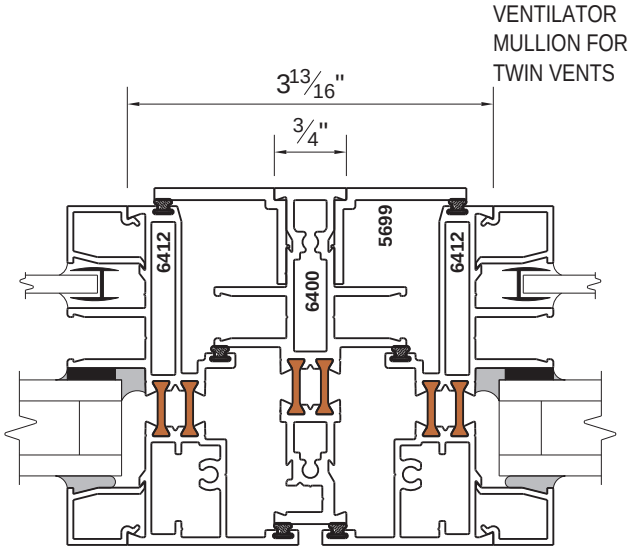
Standard Bottom Ventilator

(glass on top, equal leg jambs and sill)









SCALE = HALF SIZE

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6400 Series

TRIPLE GLAZED THERMAL BREAK CHURCH WINDOWS

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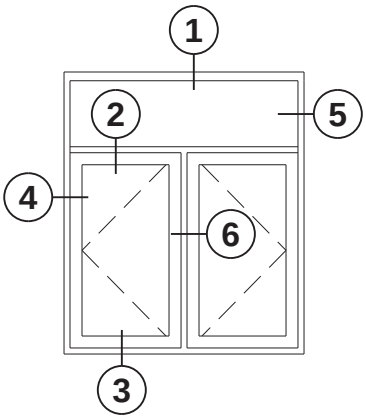
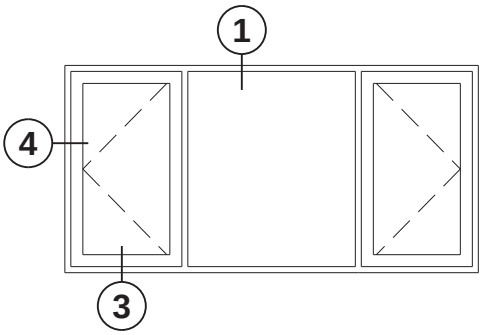
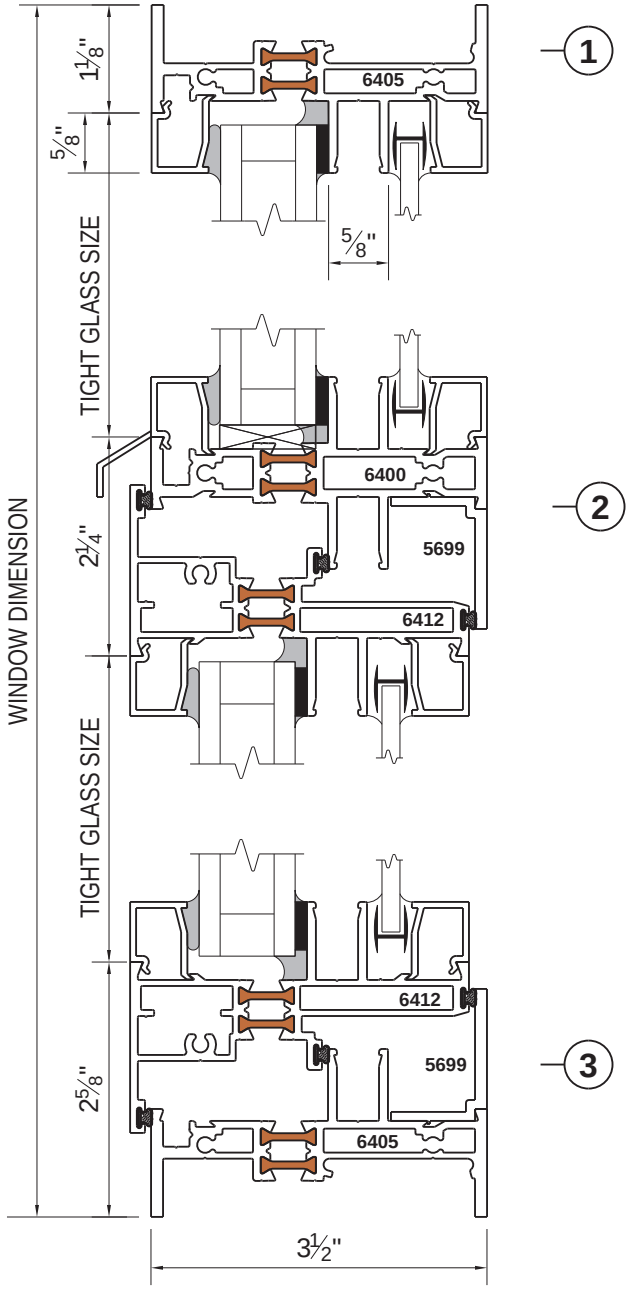
OUTSWING CASEMENT

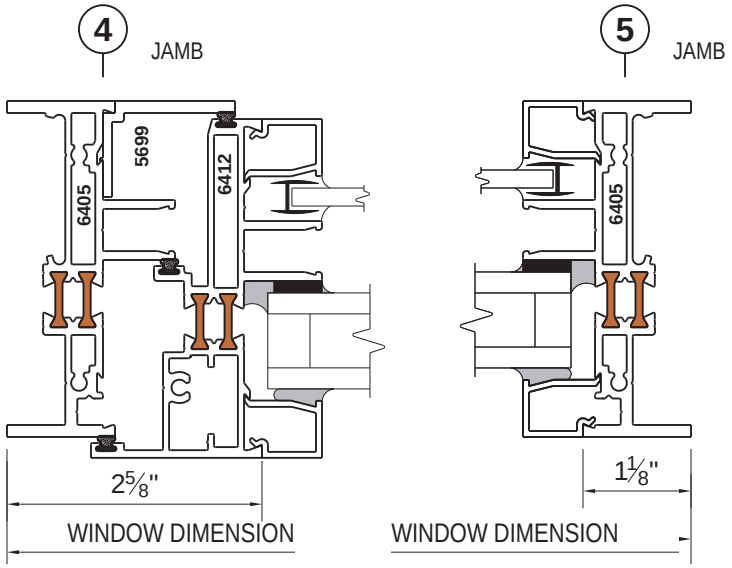
Push-pull operation with cam handles and stainless steel concealed 4 bar hinges are standard.

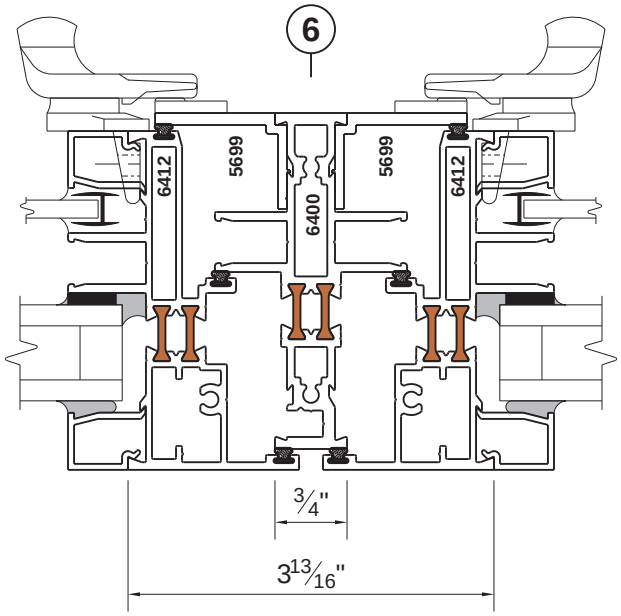




Typical Elevations







SCALE = HALF SIZE

J. Sussman, Inc.

6400 Series

TRIPLE GLAZED THERMAL BREAK CHURCH WINDOWS

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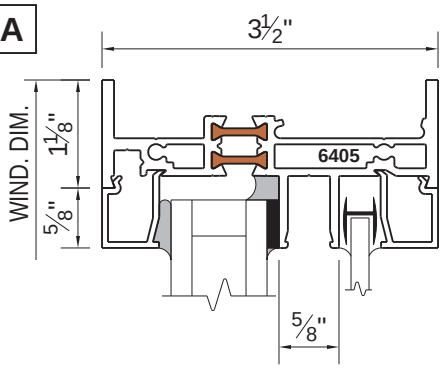
Fixed Perimeter Frame Sections

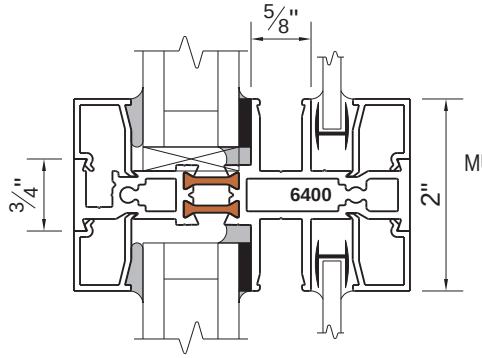
A



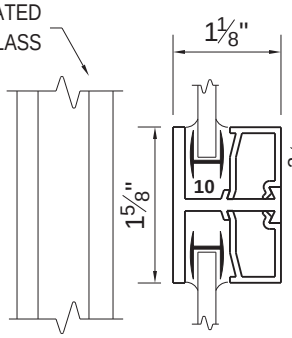
EQUAL LEG
(standard)

Muntins

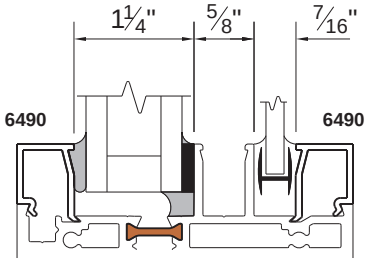
B



C

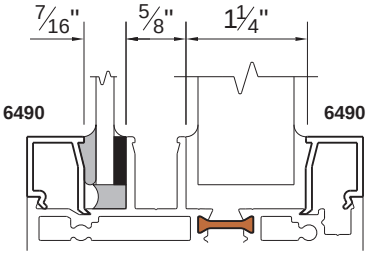


Glazing Options



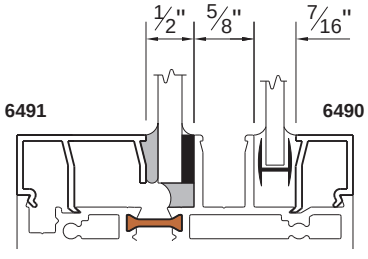
1" INSULATED PROTECTION GLASS EXTERIOR

STAINED GLASS INTERIOR
(standard)



MONOLITHIC PROTECTION GLASS EXTERIOR

FACETED GLASS INTERIOR



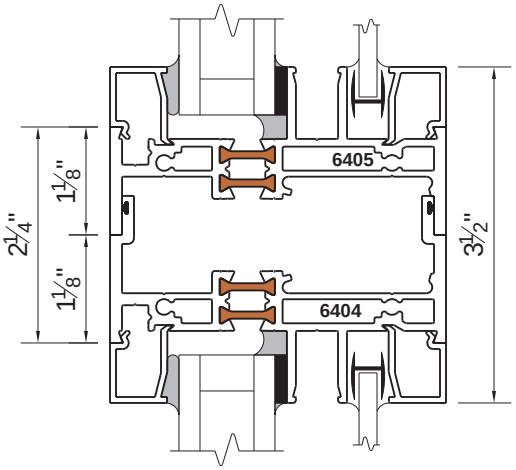
MONOLITHIC PROTECTION GLASS EXTERIOR

STAINED GLASS INTERIOR

Note: With different glazing gaskets and tapes, many more variations on glass thicknesses are available.

Vertical and Horizontal Stacking

D



SPLIT TUBE

SCALE = HALF SIZE

J. Sussman, Inc.

6440 Series

TRIPLE GLAZED THERMAL BREAK CHURCH WINDOWS

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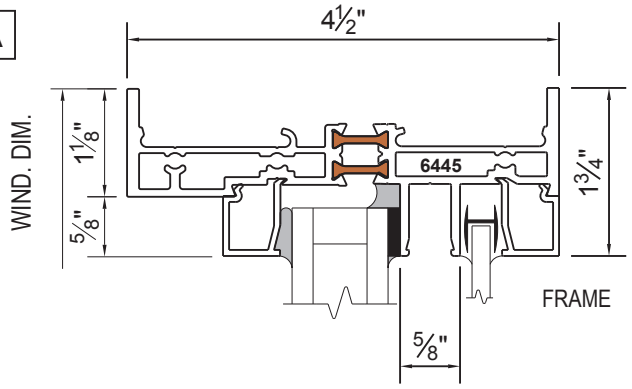
6440 Series - 4 1/2" Deep Windows

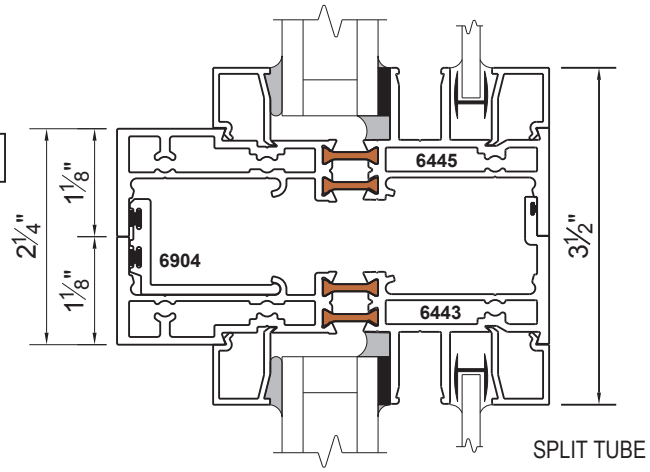
The 6440 Series is 4 ½" deep and is used for large windows or for design variation. The 6450 Series lines up with, and is interchangeable with the 6400 and 6450 Series. 6400 Series ventilators can easily be incorporated into the 6440 Series. All sections can be used horizontally or vertically.

Protruding On Exterior

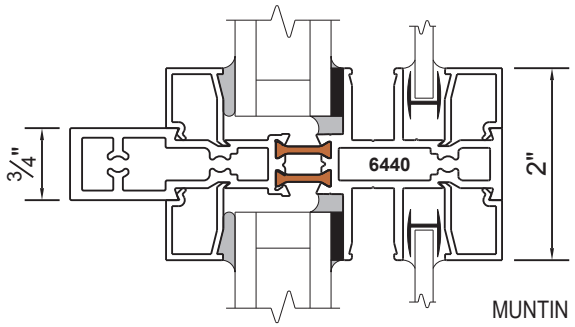
A



B

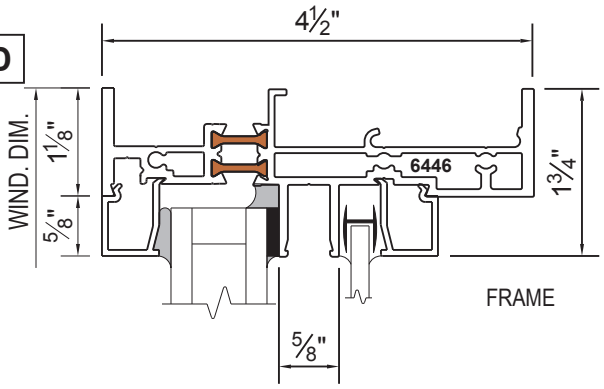


C

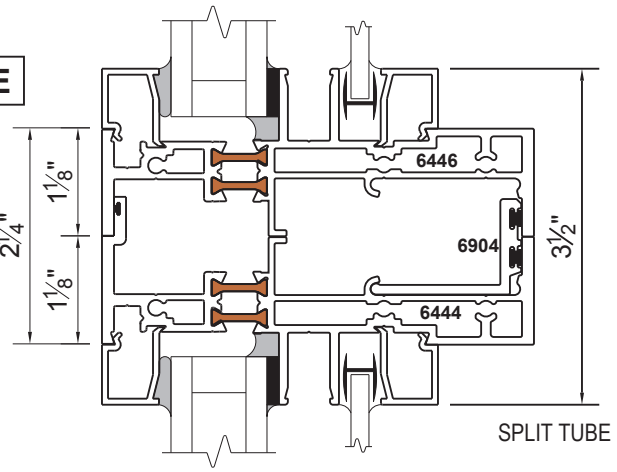


Protruding On Interior

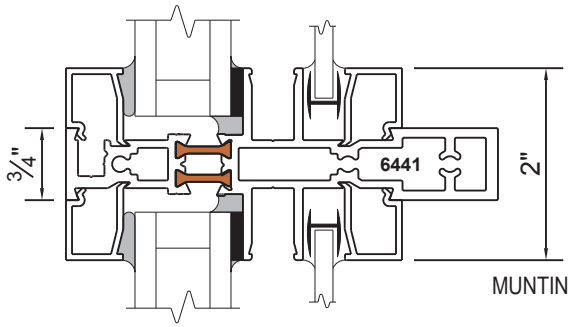
D



E



F



SCALE = HALF SIZE

J. Sussman, Inc.

6450 Series

TRIPLE GLAZED THERMAL BREAK CHURCH WINDOWS

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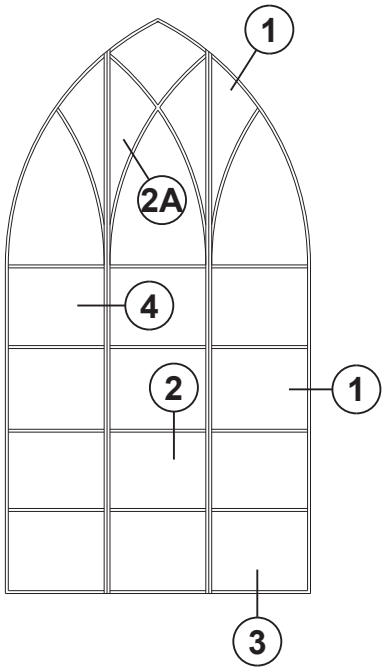
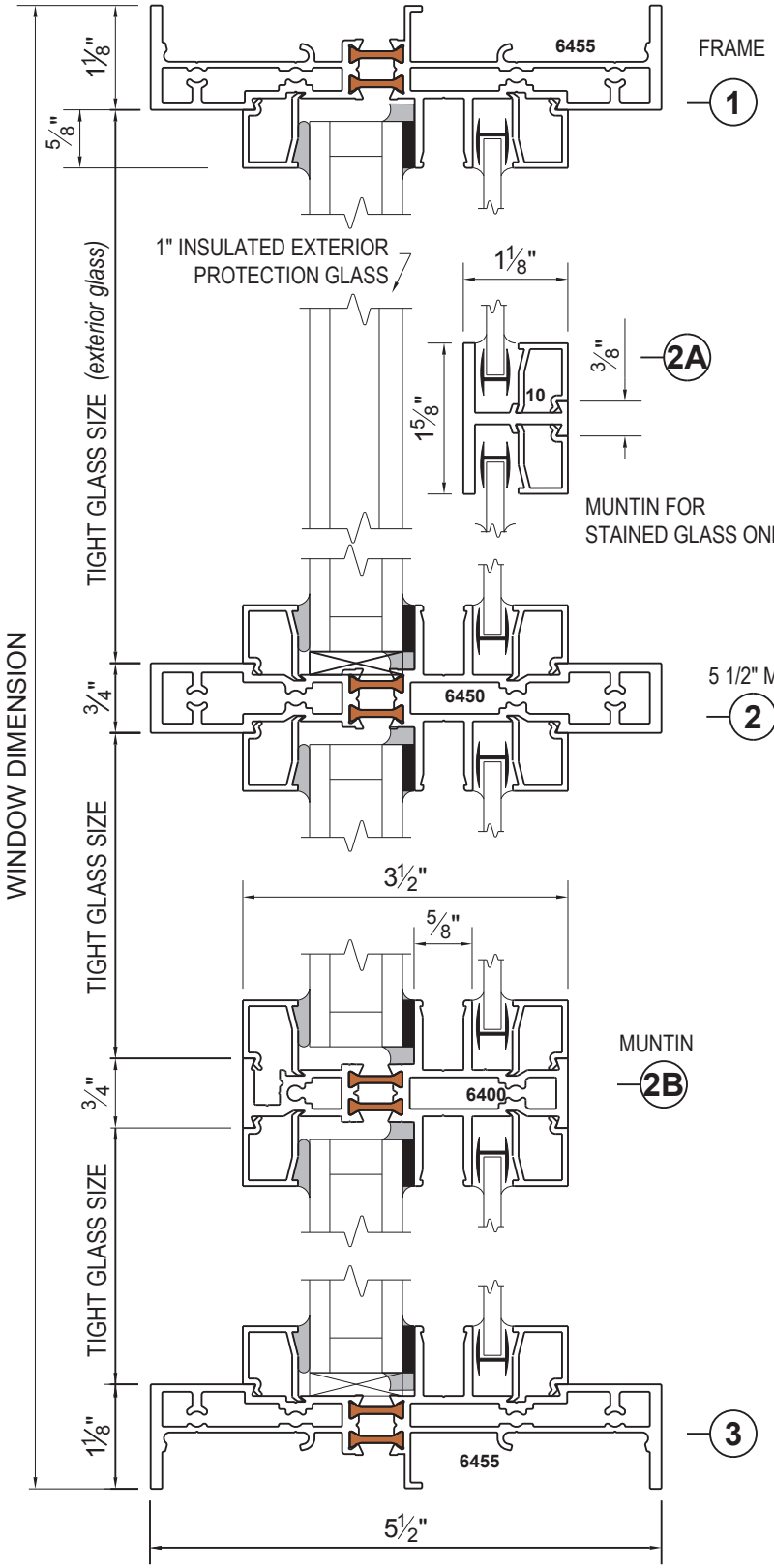
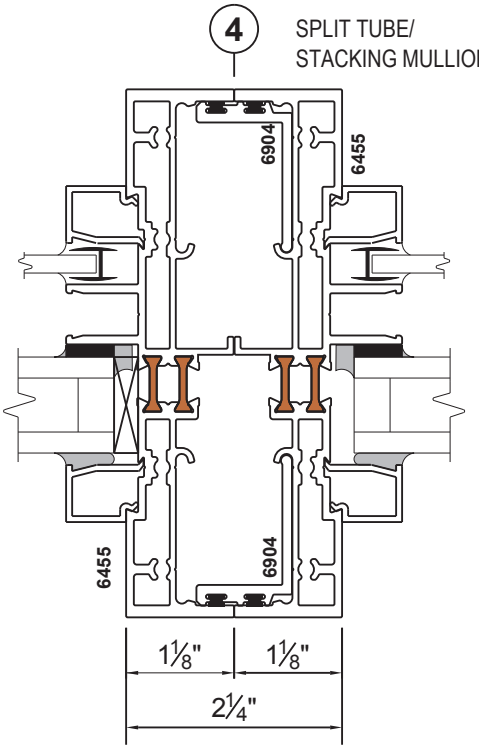
The 6450 Series is 5 ½" deep and is used for large windows or for design variation. The 6450 Series lines up with, and is interchangeable with the 6400 and 6440 Series. 6400 Series ventilators can easily be incorporated into the 6450 Series. All sections can be used horizontally or vertically.



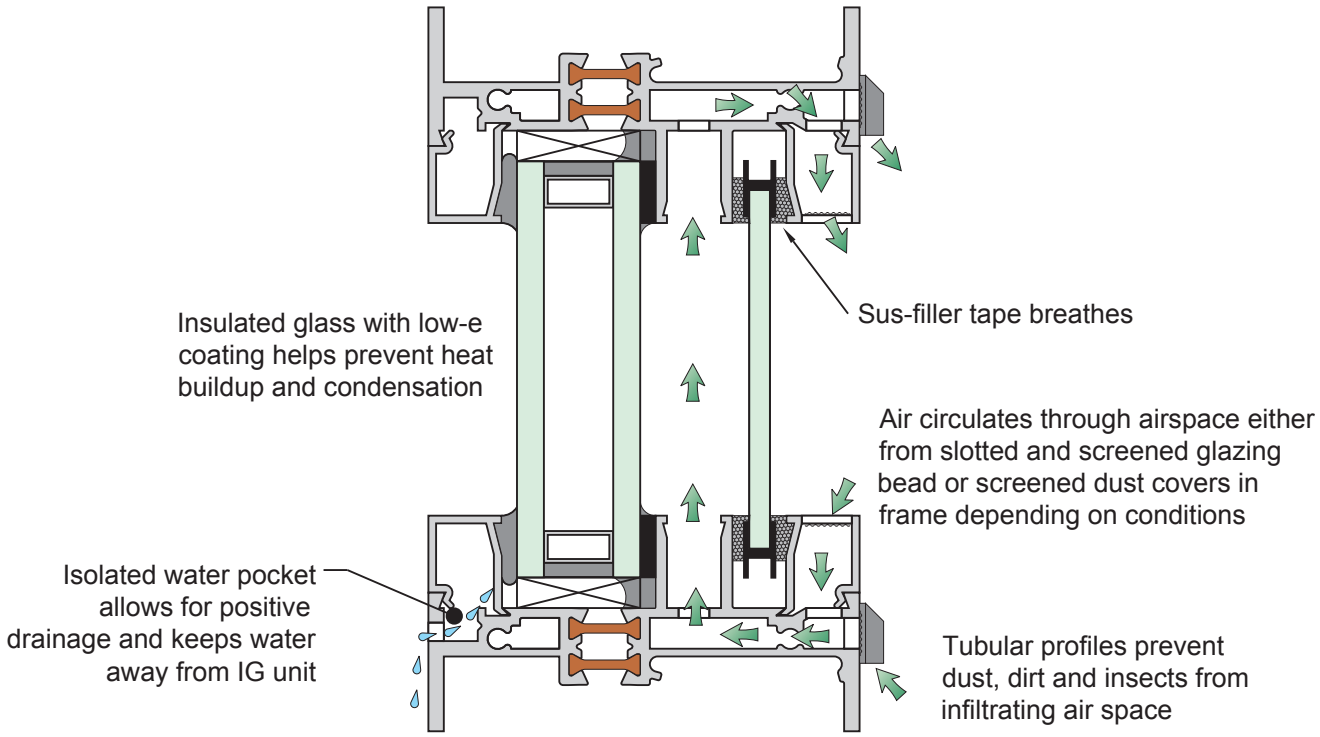
Typical Elevation





SCALE = HALF SIZE

WEEPING AND VENTING



Weeping the exterior insulated glass to prevent glass failure.
The greatest cause of insulated glass failure is the seal around the glass breaking down. This is usually caused by water coming in direct contact with the seal. Water is the enemy of the seal and the seal will deteriorate without proper weepage. Insulated glass manufacturers will not warranty their glass if water is not weeped away from the glass. The 6400 Series church window features an isolated water pocket away from the glass to prevent the insulated glass from sitting in water. The system allows positive weepage away from the glass to the exterior.

Venting to reduce condensation and heat buildup.
Condensation and heat buildup between the protective glass and the stained glass can deteriorate the stained glass. There are many ways to combat condensation and heat buildup in a church window. The 6400 Series church window with insulated glass and its thermal break frame will be adequate in most cases. Due to variables such as location, altitude, climate, humidity and orientation to the sun some conditions will require additional measures. For more extreme conditions J. Sussman recommends the following options:

- Using SUS-FILLER tape to glaze the interior stained glass. SUS-FILLER is a single sided self adhesive open cell foam tape. It is used instead of caulking or glazing tape and allows the air space between the glasses to breathe yet will filter out dust, dirt and insects. The glass is dry set which makes for a simple, fast, clean and economical installation.

- Using high performance glass such as glass with a low-emittance (low-E) coating is an excellent way to reduce heat buildup between the glasses and condensation. Low-E glass coatings reduce solar heat gain while retaining high visible transmittance. Air conditioning and heating costs will be further reduced by using high performance protective glass.

- Venting within the window can be achieved by strategically placing special ventilation slots in the frame and glazing beads. Slots at the top and bottom allow air to circulate by natural convection. This cools off the airspace and helps eliminate condensation. The tubular profiles in the 6400 church window prevent dirt and dust around the perimeter from infiltrating the air space.

J. Sussman, Inc.

5650 Series

TRIPLE GLAZED THERMAL BREAK CHURCH WINDOWS

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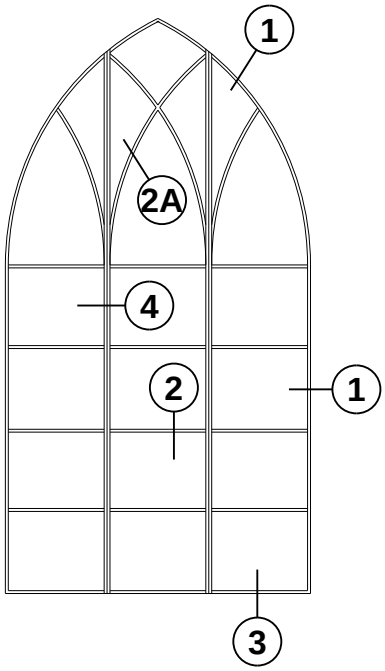
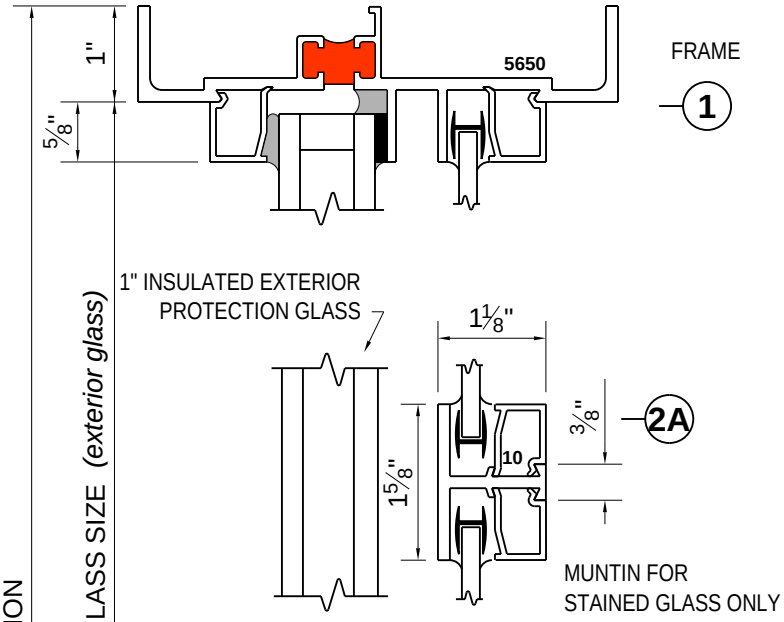
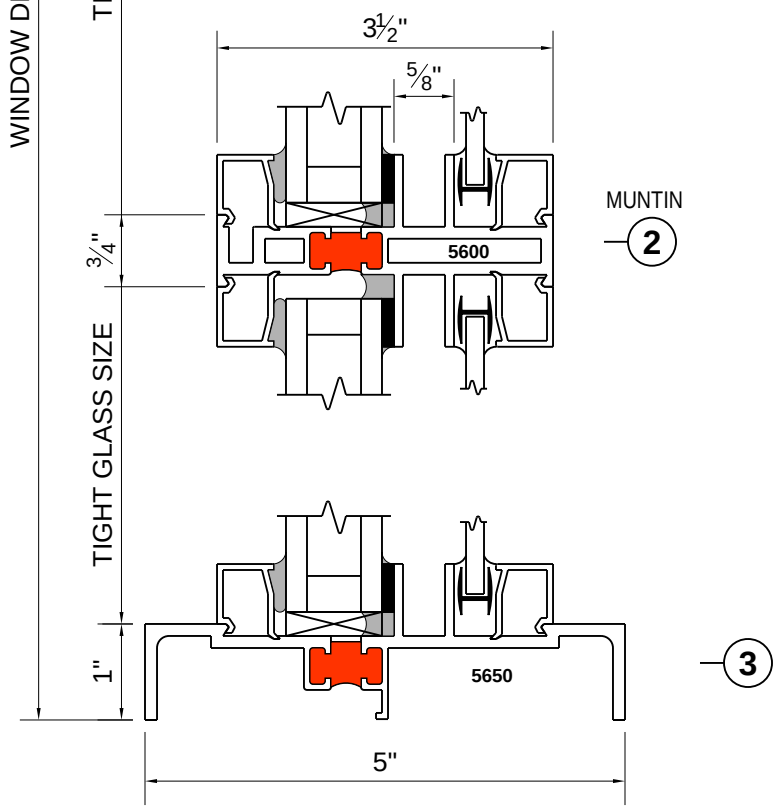
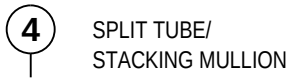
The 5650 Series is 5" deep and is used for large windows or for design variation. The 5650 Series lines up with, and is interchangeable with the 5600 and 5670 Series. 5600 Series ventilators can easily be incorporated into the 5650 Series. All sections can be used horizontally or vertically.

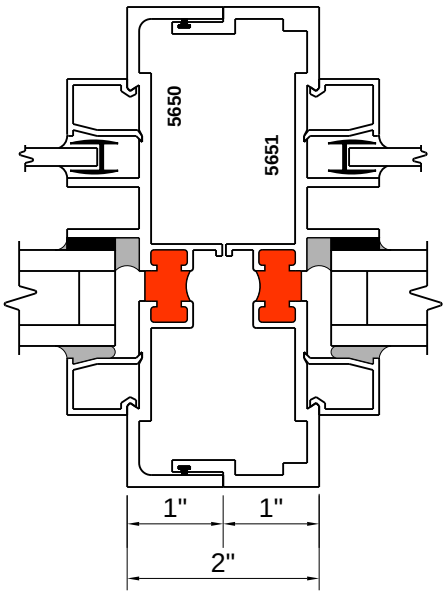


Typical Elevation









SCALE = HALF SIZE

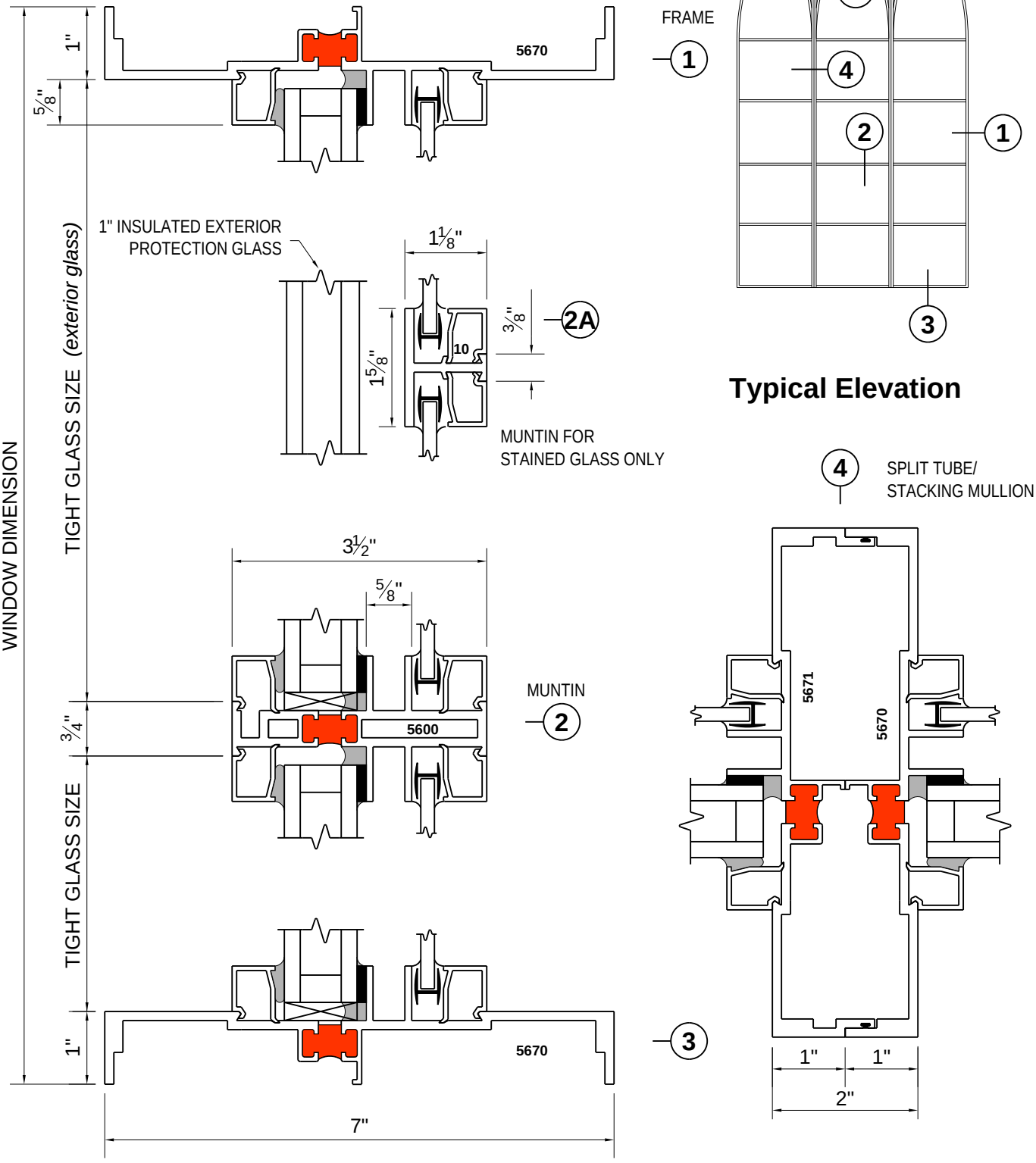
J. Sussman, Inc.

5670 Series

TRIPLE GLAZED THERMAL BREAK CHURCH WINDOWS

Since 1906 — America's finest custom windows

The 5670 Series is 7" deep and is used for large windows or for design variation. The 5670 Series lines up with, and is interchangeable with the 5600 and 5650 Series. 5600 Series ventilators can easily be incorporated into the 5670 Series. All sections can be used horizontally or vertically.



SCALE = HALF SIZE

J. SUSSMAN, INC.
Since 1906

109-10 180th St
Jamaica, NY 11433
718-297-0228
Fax 718-297-3090
www.jsussmaninc.com

6400/6440/6450 SERIES GUIDE SPECIFICATIONS
Fixed, Projected and Casement
SECTION 08 51 13 (08520) ALUMINUM WINDOWS

(Text in parentheses and italics are notes to spec writer and are not to be included in specification.)

Part 1 GENERAL

1.01 Work Included
- A. Furnish and install aluminum architectural windows complete with all necessary hardware and related components as shown on drawings and specified in this section.
- B. Glass and Glazing
  1. Refer to Section 08 81 00 – Glass and Glazing (08800) for glazing of window units.

1.02 Related Work
- A Section 07 92 00 – Joint Sealants (09715)
- B. Section 08 32 00 – Sliding Glass Doors (08314)
- C. Section 08 41 00 – Entrances and Storefronts (08400)
- D. Section 08 42 33 – Balanced Entrance Doors (08480)
- E Section 08 51 66 – Metal Window Screens (08586)
- F. Section 08 44 00 – Curtain Walls and Glazed Assemblies (08900)
- G Section 08 44 33 – Sloped Glazing Assemblies (08960)

1.03 References (See AAMA GS-001 and AAMA 101 For Current Applicable Listings)
- A. AAMA (American Architectural Manufacturers Association):
- B. ANSI (American National Standards Institute):
- C. ASTM (American Society for Testing and Materials):
- D. CPSC (Consumer Product Safety Commission):
- E. FGMA (Flat Glass Marketing Association):
- F. GSA (General Services Administration):

1.04 Items Installed But Not Furnished

(Enter description, e.g., louver supplied by others to be installed in new window)

1.05 Items Furnished But Not Installed

(Enter description, e.g., extra sash sets to be supplied and stored for the future)

1.06 Quality Assurance
- A. Test reports from an independent certified laboratory shall be available upon request.

1.07 Submittals
- A. The window manufacturer shall submit shop drawings, finish samples, test reports, warranties and maintenance manuals per the requirements of architect.

1.08 Delivery, Storage and Handling
- A. Store and handle windows and other components in strict compliance with manufacturer's instructions.
- B. Protect units against damage from the elements, construction activities and other hazards before, during, and after installation.

1.09 Warranties
- A. Submit written warranties from window manufacturer for the following:
  1. Windows: Windows furnished are certified as fully warranted against any defects in material or workmanship under normal use and service for a period of one (2) years from date of fabrication.
  2. Finish: The pigmented organic finishes on windows and component parts (such as panning, trim, mullions, and the like) are certified as complying fully with the requirements of the AAMA 260X

specification and fully warranted against chipping, peeling, cracking or blistering for a period of five (5) years from date of installation.

Part 2 PRODUCTS

2.01 Manufacturers

A. All windows shall be Series No. *(Architect to select either or any combination*)
6400 3 1/2" deep
6440 4 1/2" deep
6450 5 1/2" deep
thermally broken triple glazed church window designed to receive *(Architect to select either or any combination*)
1. 1" insulated protection glass on the exterior and art glass on the interior (Standard)
2. 1/4" monolithic protection glass on the exterior and art glass on the interior
3. 1/4" monolithic protection glass on the exterior and faceted glass on the interior
4. 1" insulated protection glass on the exterior and faceted glass on the interior *(6440 and 6450 Series only)*

as manufactured by J. Sussman, Inc. of 109-10 180 St., Jamaica NY 11433.

B. Other manufacturers desiring approval shall:
1. Furnish a sample window and valid test reports indicating full compliance with all performance requirements of this specification at least 10 days prior to bid date.
2. Have been engaged in the fabrication of aluminum windows for ten years and this type of window for 5 years and shall submit for review a list of similar completed projects.
3. Approval of "equal" products shall be in the form of a written addendum. Substitute products not pre-approved by the Architect via addenda will not be considered.
4 Base bid will be J. Sussman, Inc.

2.02 Materials

A. Extruded aluminum shall be 6063-T5 alloy and temper with a minimum ultimate tensile strength of 22,000 psi. Comply with ASTM B 221

B. Thermal barriers shall consist of two fiberglass reinforced 6/6 polyamide nylon strips mechanically crimped in knurled raceways in the exterior and interior extrusions. Poured and debridged urethane thermal barriers will not be permitted.

C Fasteners shall be aluminum, stainless steel or other materials warranted by the manufacturer to be non-corrosive and compatible with aluminum window members, trim, hardware, anchors and other components of the window units.

2.03 Fabrication

A. General
1. All main sections shall have a minimum depth of 3 1/2" with wall thicknesses ranging from .094 to .125. *(For the 6440 Series add the following: Frame and required muntins shall be 4 1/2" in depth.) (For the 6450 Series add the following: Frame and required muntins shall be 5 1/2" in depth.)*
2. Glazing rebates shall not be less than 5/8" in height.
3. Interior art glass muntins shall be 1 1/8" deep with 1/8" walls.
4. The airspace between the art and protection glass shall be a minimum of 5/8"
5. The extruded window members shall form a channel separating the glass which will also act as a condensation gutter.
6. This channel shall be an integral part of the aluminum extrusion. An add on piece will not be accepted.
7. Either glass shall be able to be removed or installed without disturbing the glass on the opposite side.
8. All main sections shall utilize a thermal barrier to separate the exterior and interior metal surfaces
9. Thermal barriers shall be a minimum 5/16" and shall align at all frame and sash corners. .
10. No hardware or fasteners of any kind shall bridge or penetrate the thermal barrier.
11. All muntins and meeting rails shall be double tubular.
12. All joints shall be cut to a hairline fit and be either fully sigma arc welded or shall be heavy angle reinforced, cold welded with epoxy adhesive and hydraulically crimped or double fastened with stainless steel fasteners.
13. All joints shall be factory sealed.

B. Ventilators
   1. Ventilators shall be project-in, project-out, in-swing casement, out-swing casement or combinations thereof as shown on the plans.
   2. All sash extrusions shall be double tubular.
   3. Each corner shall be mitered, heavy angle reinforced, cold welded epoxy adhesive and hydraulically crimped.
   4. Ventilators and frames must be on the same plane and present a flush interior and exterior surface. Overlap or extensions of ventilators beyond the frame will not be acceptable.
   5. Projected ventilators shall operate in two specially designed wear resistant weatherproof nylon glides independent of the hinge to insure both maximum alignment and weather tightness in the closed position.
   6. The void between the ventilator sash and frame shall be pressure equalized to outside conditions.

C. Glazing Beads
   1. Glazing beads shall be extruded from 6063-T5 alloy and be not less than .050 thick.
   2. The glazing beads will be snap in type to securely interlock into the extruded window members without extending underneath the glass.
   3. They shall be factory fitted and attached.
   4. Glazing beads shall also be secured with stainless steel fasteners where required.

D. Weatherstripping
   1. Each sash shall have 3 continuous rows of tested Schlegel Q-Lon weatherstripping installed in specially designed dovetail grooves.
   2. Weatherstripping shall have a rigid backing that will resist pullout. A single durometer vinyl or rubber weatherstripping will not be accepted.

E. Screens *(Optional)*
   1. Insect screens shall be constructed of extruded aluminum tubular frames. Roll formed screen frames will not be accepted.
   2. Screens for project in ventilators and in-swing casements shall be removable from the interior.
   3. Screens for project-out ventilators and push/pull operated out-swing casements shall be of the hinged wicket type. Screen frames shall be finished to match the windows.
   4. Screen cloth shall be 18x16 fiberglass mesh. (*Aluminum mesh optional.)*
   5. Screen spline shall be extruded vinyl, removable to permit re-screening.
   6. Screen mounting holes in the windows frame shall be factory drilled.

2.04 Hardware

A. Hardware shall conform to the requirements of the ventilator and shall be factory fitted and attached with stainless steel screws.
B. Locking handles for projecting ventilators shall be cam type and be solid white bronze with a US25D satin polished finish. *(Custodial locks and pole-operated handles are optional.)*
C. Projected ventilators shall operate on stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.

(Casements, in-swing or out-swing, are not usually recommended for this series. Consult factory)

D. Out-Swing Casements shall operate on *(choose one)*
   1. (Standard) stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.
   2. (Optional) 5 knuckle extruded aluminum butt hinges with 1/4" diameter stainless steel pins and nylon bushings and *(choose one)*
      a . (Option 1) Zinc die cast roto operators compatible with aluminum and shall meet ASTM E405.
      b. (Option 2) heavy duty stainless steel friction adjusters.
      c. (Option 3) stainless steel limit opening devices with release key.
E. In-Swing Casements shall operate on *(choose one)*
   1. (Standard) stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.
   2. (Optional) 5 knuckle extruded aluminum butt hinges with 1/4" diameter stainless steel pins and nylon bushings *(the following are optional with butt hinges)*
      a. (Option 1) and heavy duty stainless steel friction adjusters.

b. (Option 2) and stainless steel limit opening devices with release key.

2.05 Finish

A. The finish of the aluminum windows shall be *(Architect to select. Note: this series is available with finishes on the interior and exterior. If "two tone" finishing is desired, specified each side separately.) (Standard finishes are considerably less expensive and lead times for windows are much shorter with standard finishes.)*

1. Architectural Class II Anodic (204-R1) AA M12-C22-A31 Thickness to be .4 mil and shall conform to AAMA 611-98.
   a. Color: Clear Anodized *(Standard)*

2. Architectural Class I Anodic (215-R1) AA M12-C22-A41 Thickness to be .7 mil and shall conform to AAMA 611-98.
   a. Color: Clear Anodized *(Optional - Consult factory)*
3. Architectural Class I Anodic with electrostatically deposited color AA-M12-C22-A44. Thickness to be .7 mil and shall conform to AAMA 611-98.
   a. Color: Dark Bronze Anodized *(Standard)*
   b. Color: Black Anodized *(Standard)*
   c. Color: _____ *(Insert anodized color selected by Architect. Consult factory)*

4. Baked acrylic enamel organic finish electrostatically applied over pretreated aluminum. Finish shall be a one coat, one bake paint system with a .8 mil minimum overall dry film thickness and shall conform to AAMA 2603.
   a. Color: Bronze Paint *(Standard)*
   b. Color: White Paint *(Standard)*
   c. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

5. High performance organic finish electrostatically applied over pretreated aluminum. Finish shall be based on 50% fluoropolymer resin and be applied as a two coat, two bake paint system with a 1.2 mil minimum thickness and shall conform to AAMA 2604. *(Some colors may require a clear protective topcoat to protect the pigmented coating.*
   a. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

6. High performance organic finish electrostatically applied over pretreated aluminum. Finish shall be based on 70% fluoropolymer resin and be applied as a two coat, two bake paint system with a 1.2 mil minimum thickness and shall conform to AAMA 2605. *(Some colors may require a clear protective topcoat to protect the pigmented coating.*
   a. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

PART 3 EXECUTION

3.01 Inspection

A. Verify that openings are dimensionally correct and within allowable tolerances.
B. Openings must be plumb, level, and clean.
C. Provide a solid anchoring surface that is in accordance with approved shop drawings.

3.02 Installation

A. Use only skilled craftsmen for work to be done in accordance with the manufacturer's installation instructions and/or approved shop drawings and specifications.
B. Windows and materials must be set square and level.
C. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.
D. Adjust Windows for proper operation after installation has been completed.
E. Furnish and apply sealants to provide a weather tight installation at all joints and intersections and at opening perimeters. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.

3.03 Protection and Cleaning

A. After completion of window installation, all windows shall be inspected, adjusted, and left in working order.
B. Windows shall be cleaned to remove mortar, plaster, paint or other contaminants.
C. After cleaning, all work shall be protected against damage until it is accepted by the General Contractor.
D. Thereafter, it shall be the responsibility of the General Contractor to maintain protection and provide final cleaning.
E. Send to Architect, with copy to Owner, written recommendations for maintenance and protection of windows following Substantial Completion of Window Contract.

END OF SECTION

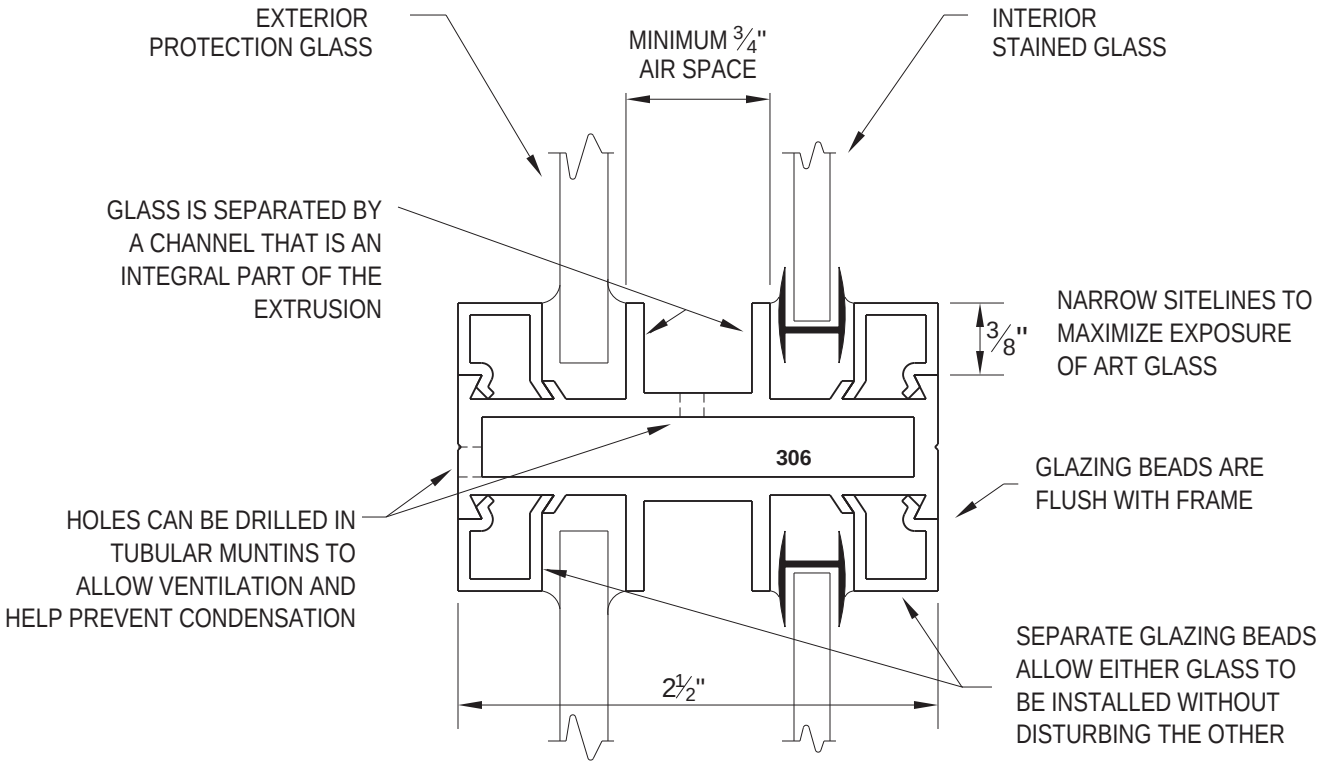
The above specifications are subject to change without notice.

J. Sussman, Inc.

300 Series
DOUBLE GLAZED CHURCH WINDOWS

Since 1906 — America's finest custom windows

The 300 series is the aluminum double glazed church window that has been the "standard" of the industry for over 50 years. It is specially designed to receive stained glass on the interior and protective glass on the exterior. This "Double Glazing" protects the stained glass from vandalism while also insulating from the heat and cold and reduces outside noise infiltration. The insurance and fuel costs can be substantially lower as a result of this "Double Glazing".



Features: **SCALE = FULL SIZE**

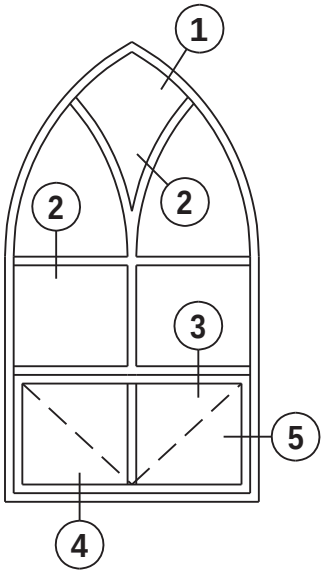
- All frame and sash members are a full 2½" deep.
- A minimum ¾" air space between the art and protection glass without the aid of back putty to maximize the benefit of Double Glazing *(anything less is a false economy).*
- The channel that separates the glass is an integral part of the extrusion that also acts as a condensation gutter, and helps prevent theft, and air and water leakage.
- Either glass can be installed or replaced without disturbing the other. The exterior glass can be installed at time of erection to close up the building and the stained glass installed at a later date of the churches own convenience or when the necessary funds are available.*(Art glass can be an excellent fund raiser.)*
- Ventilators are available as project-in, project-out and the standard horizontally center pivoted. *(Center pivoted vents are recommended because the weight of the sash is evenly balanced for ease of operation and chain operation is a safe alternative to window poles.)*
- All double glazed ventilators are of overlap design to minimize sitelines.

J. Sussman, Inc.

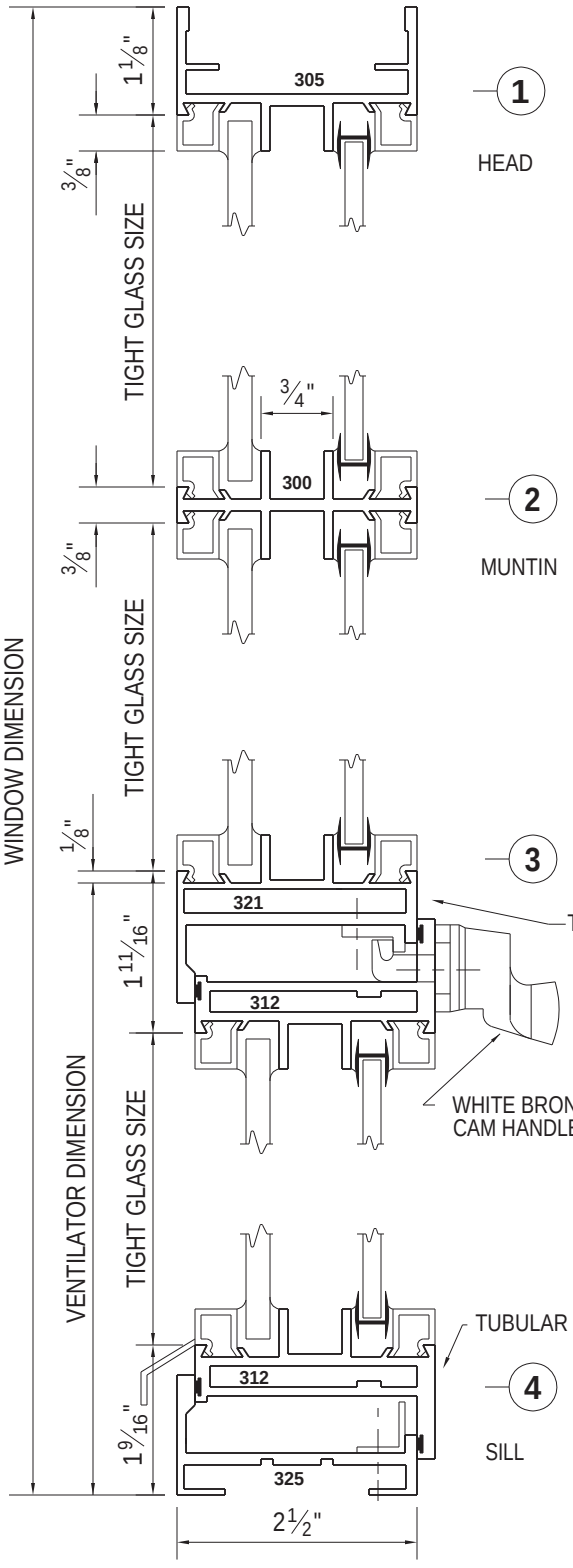
300 Series
DOUBLE GLAZED CHURCH WINDOWS

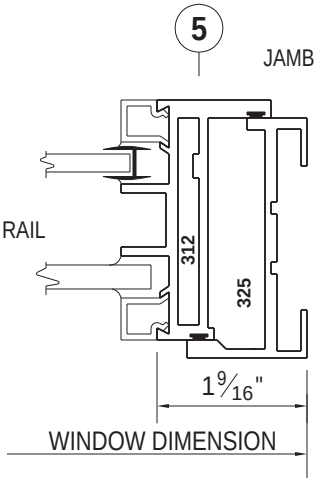
Since 1906 — America's finest custom windows

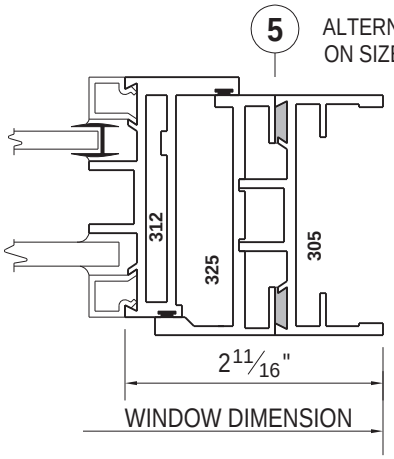
FIXED OVER PROJECT-IN VENT



Typical Elevation







SCALE = HALF SIZE

J. Sussman, Inc.

300 Series
DOUBLE GLAZED CHURCH WINDOWS

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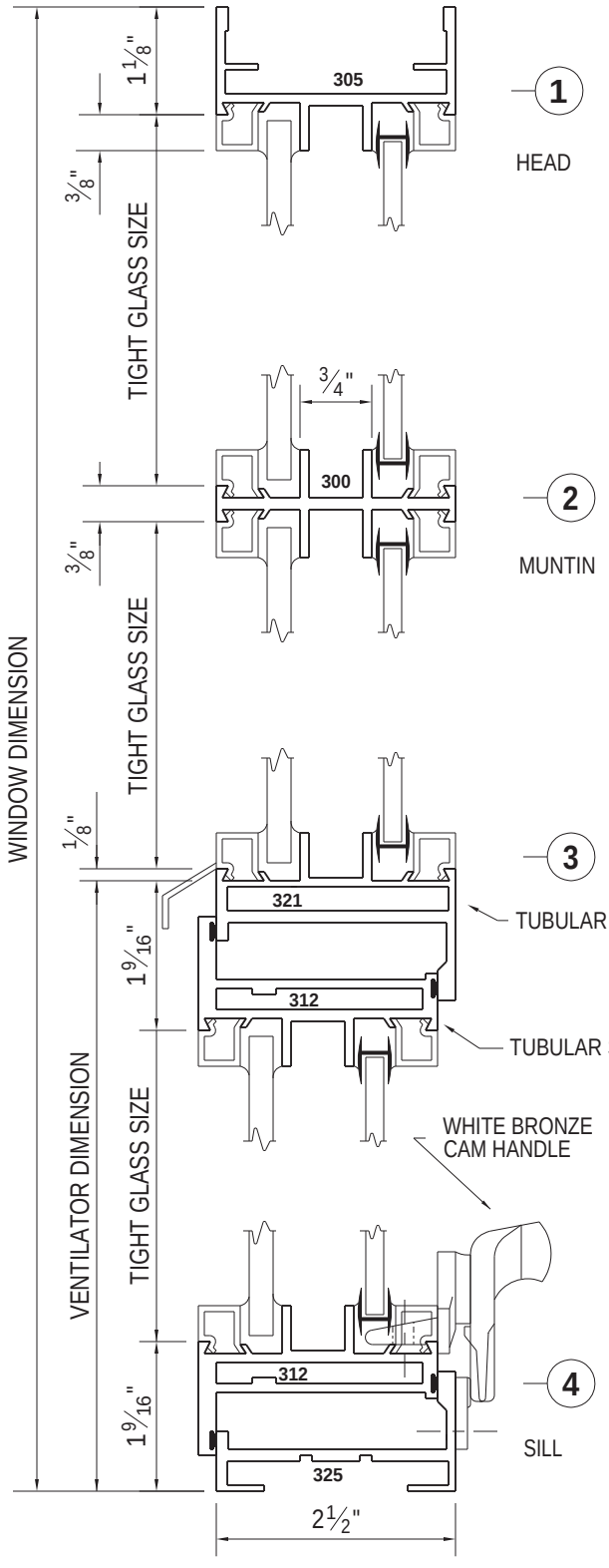
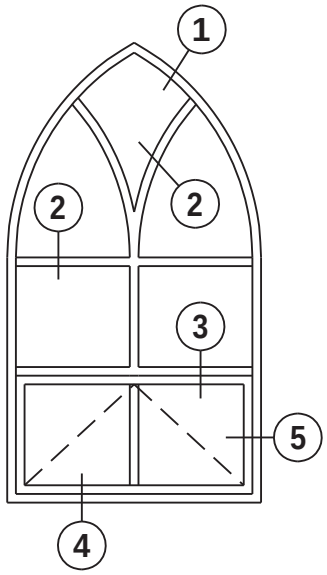
FIXED OVER PROJECT-OUT VENT





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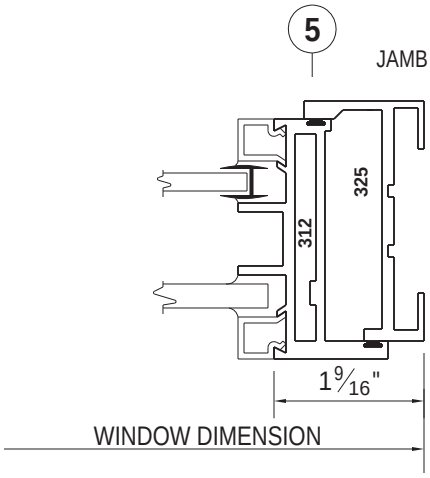

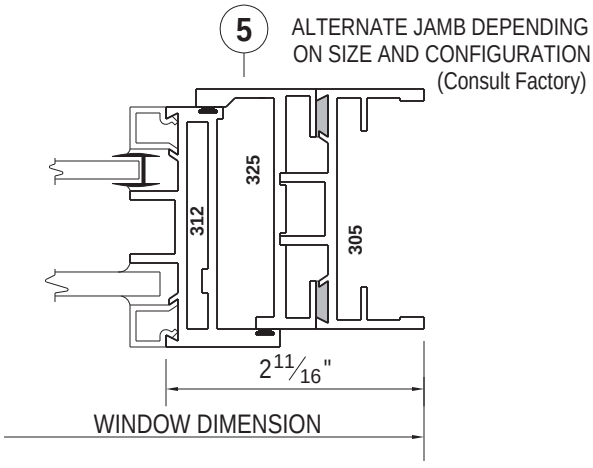

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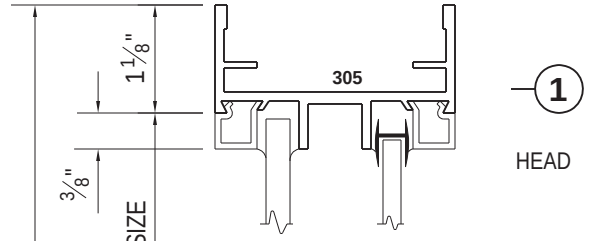
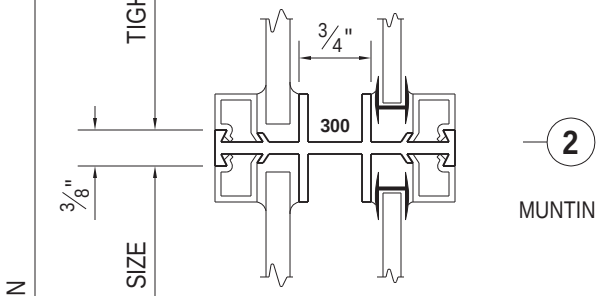
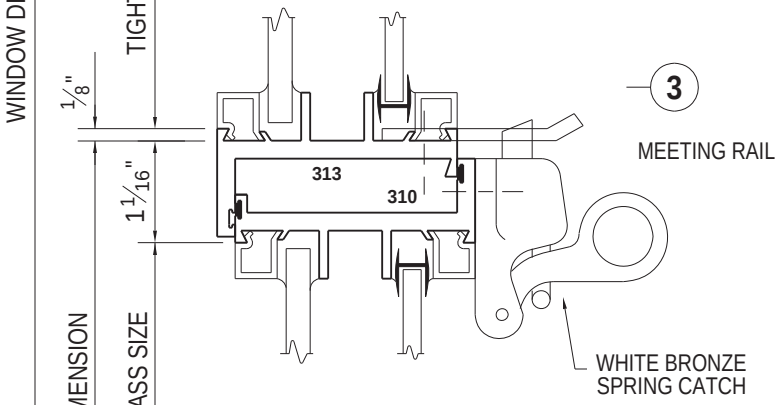
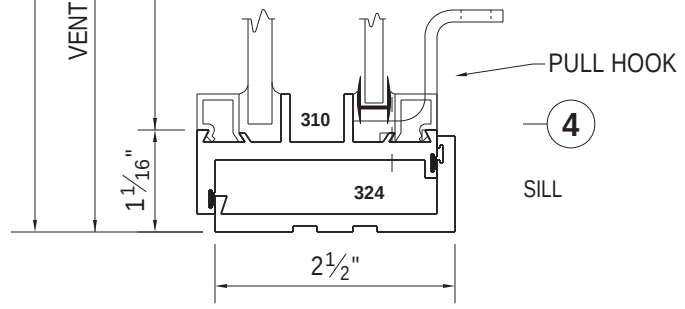
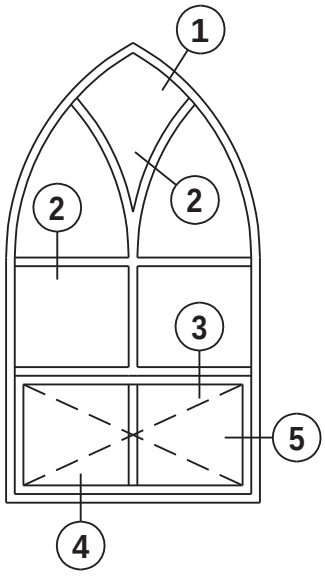
FIXED OVER CENTER-PIVOT VENT



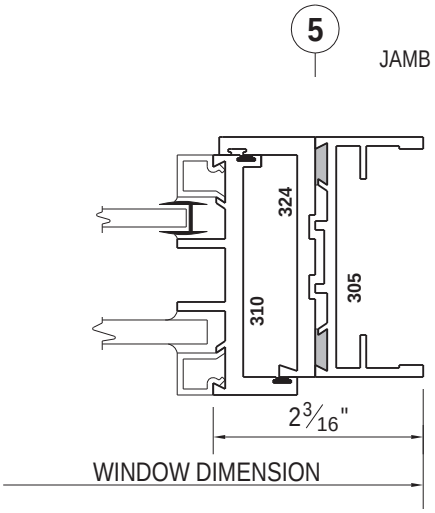








Typical Elevation



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J. Sussman, Inc.

300 Series
DOUBLE GLAZED CHURCH WINDOWS

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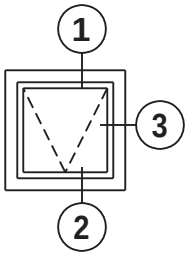
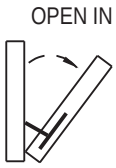
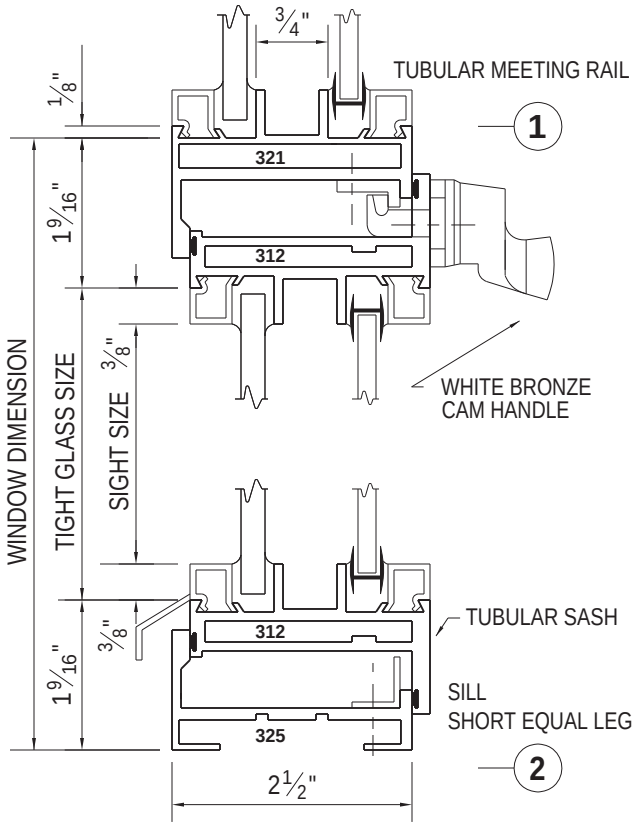
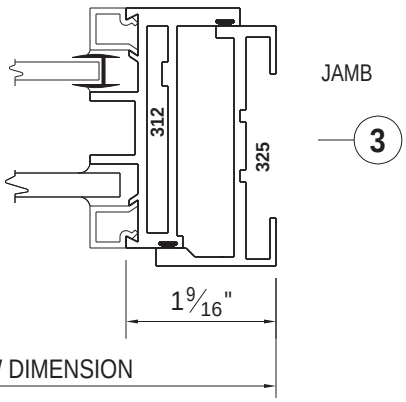
PROJECT-IN



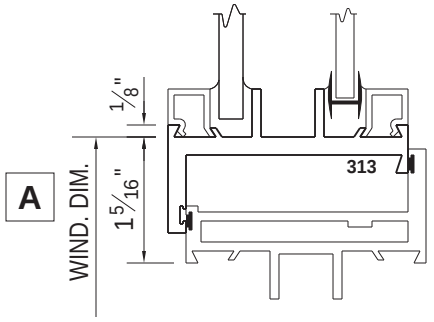


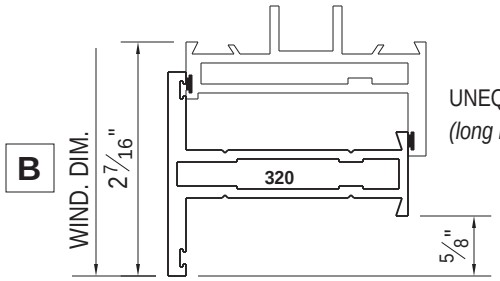
Standard Bottom Ventilator
(glass on top, equal leg jambs and sill)

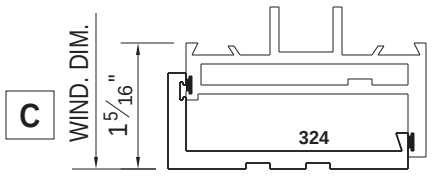


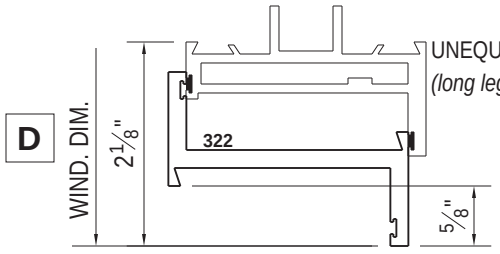


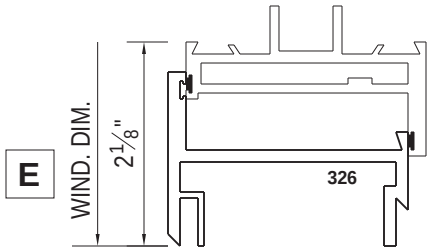
Alternate project-in ventilator sections that can be used at head, sill or jamb.

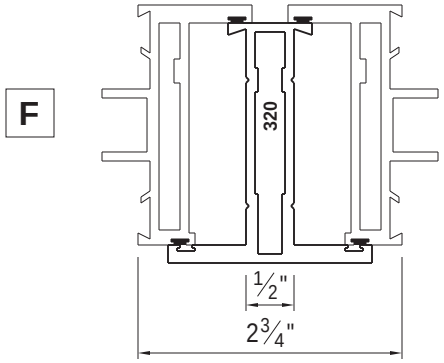












SCALE = HALF SIZE

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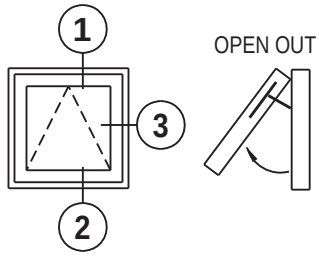
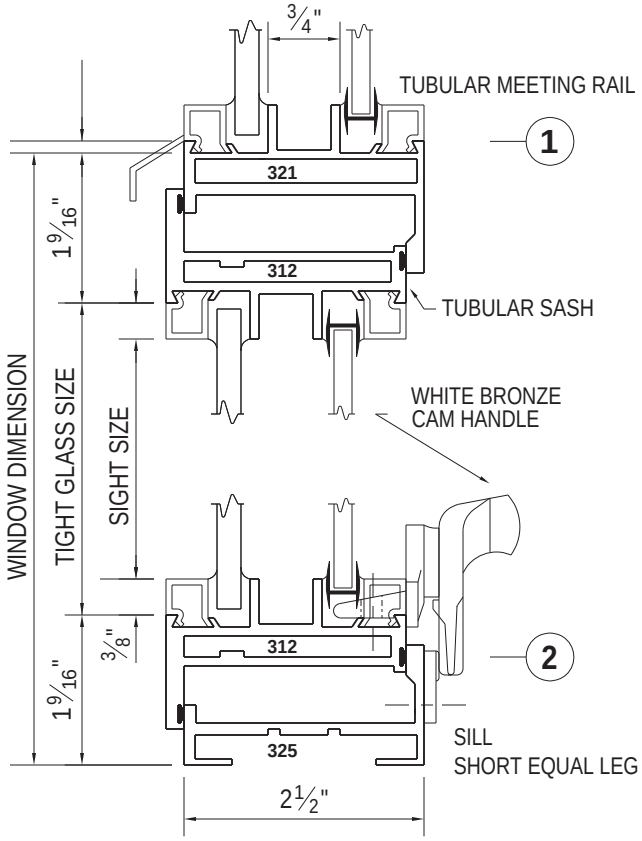
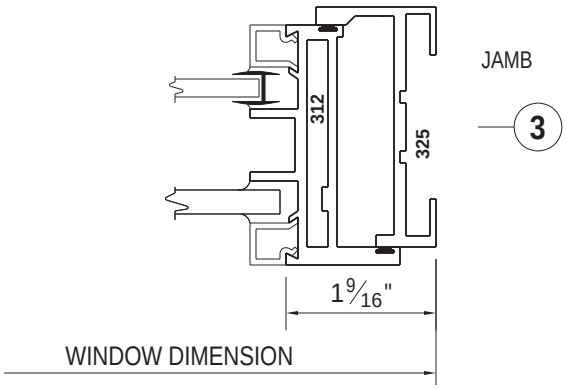
PROJECT-OUT

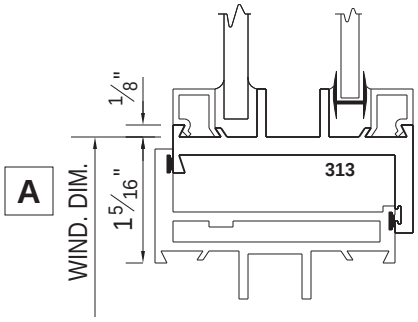


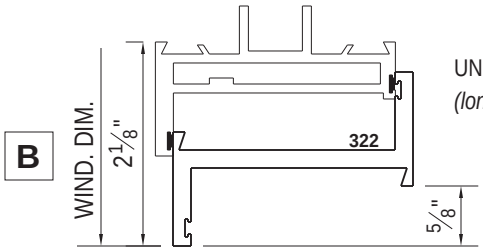
Standard Bottom Ventilator
(glass on top, equal leg jambs and sill)

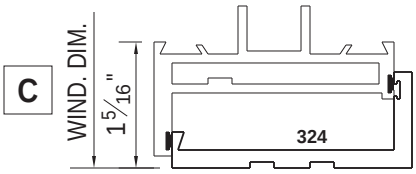


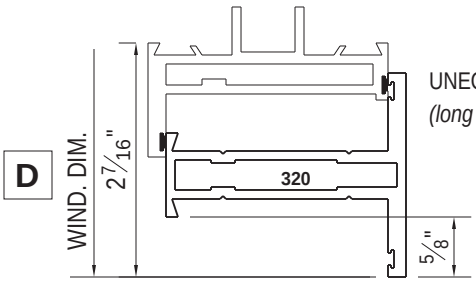


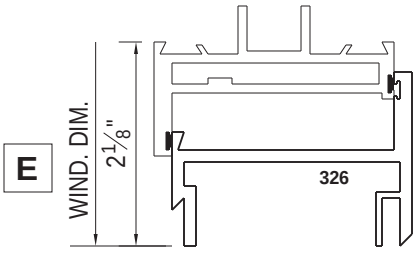
Alternate project-out ventilator sections that can be used at head, sill or jamb.

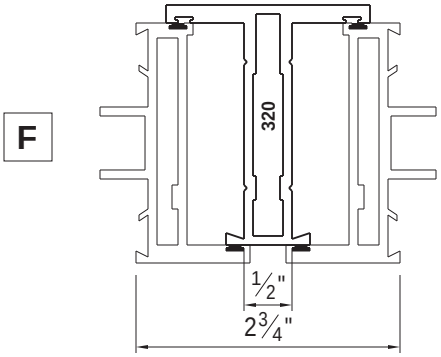












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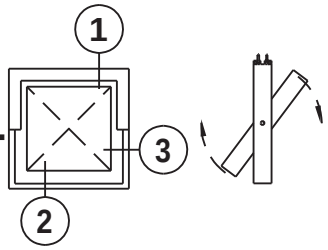
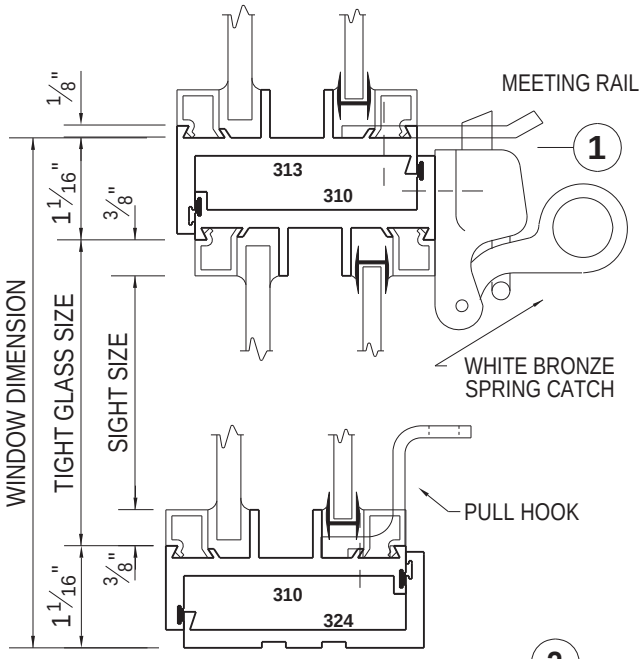
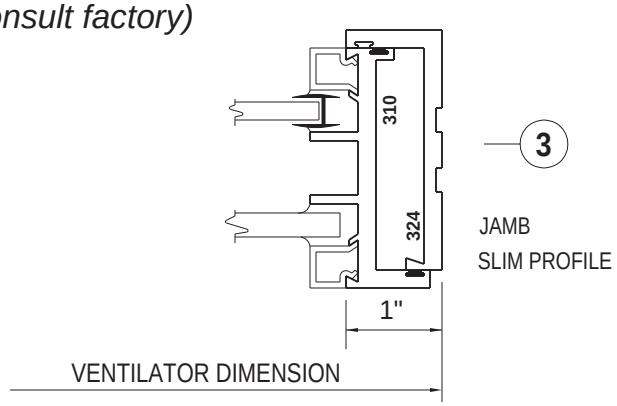
CENTER-PIVOT



Standard Bottom Ventilator
(glass on top, flat jambs and sill)

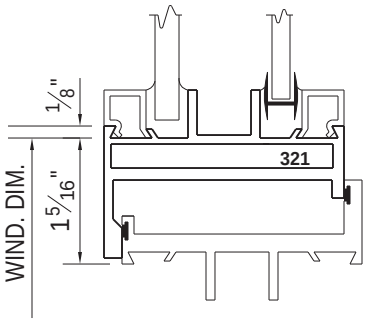


Center pivot ventilators can only use section # 324 at the jambs. *(Consult factory)*



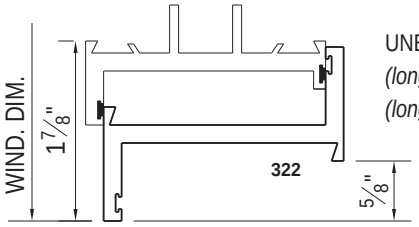
Alternate pivoted ventilator sections that can be used at head or sill.

A



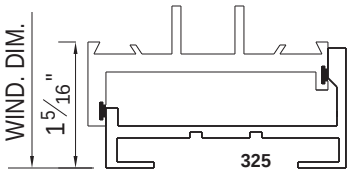
GLASS
(tubular meeting rail)

B



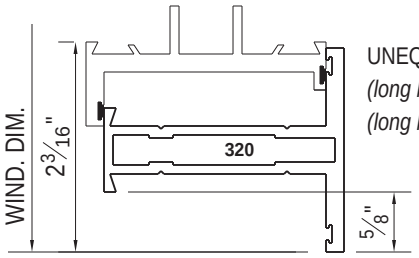
UNEQUAL LEG "Z"
(long leg outside @ sill)
(long leg inside @ head)

C



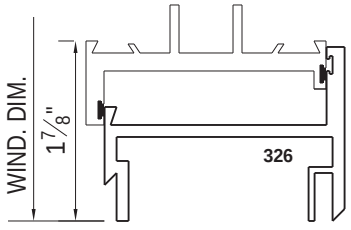
STANDARD EQUAL LEG

D



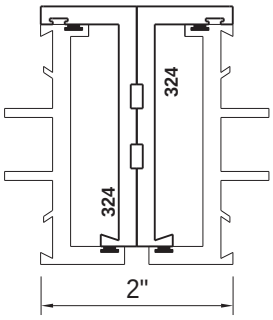
UNEQUAL LEG "T"
(long leg outside @ head)
(long leg inside @ sill)

E



LONGER EQUAL LEG

F



VENT MULLION

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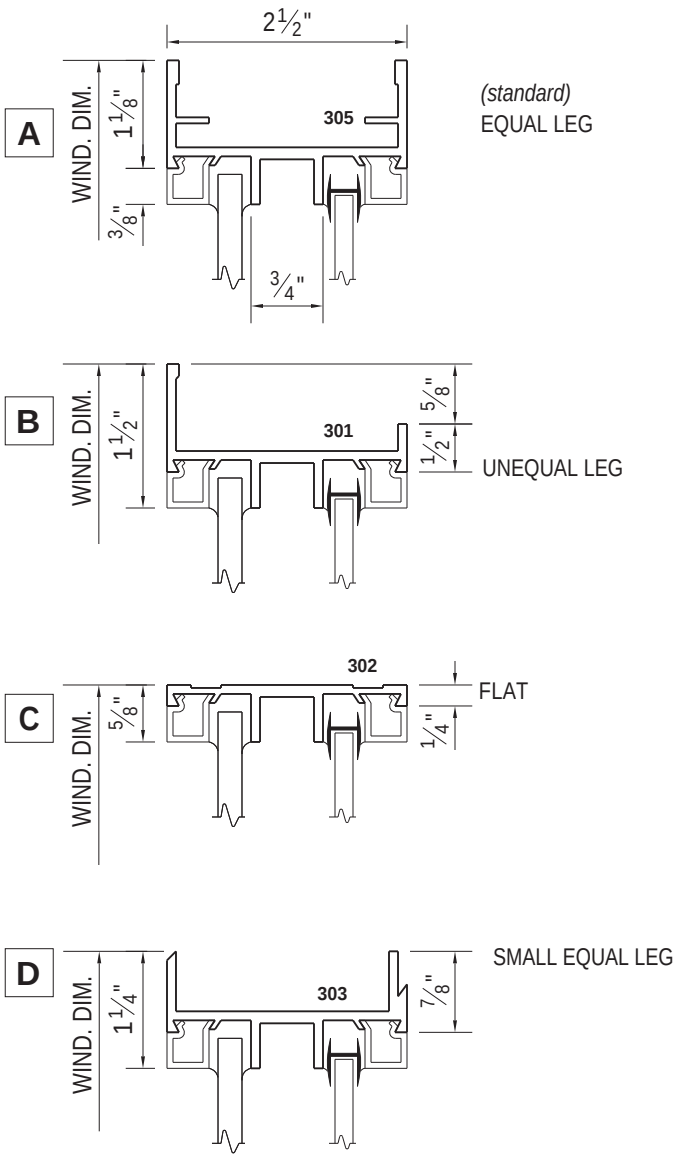
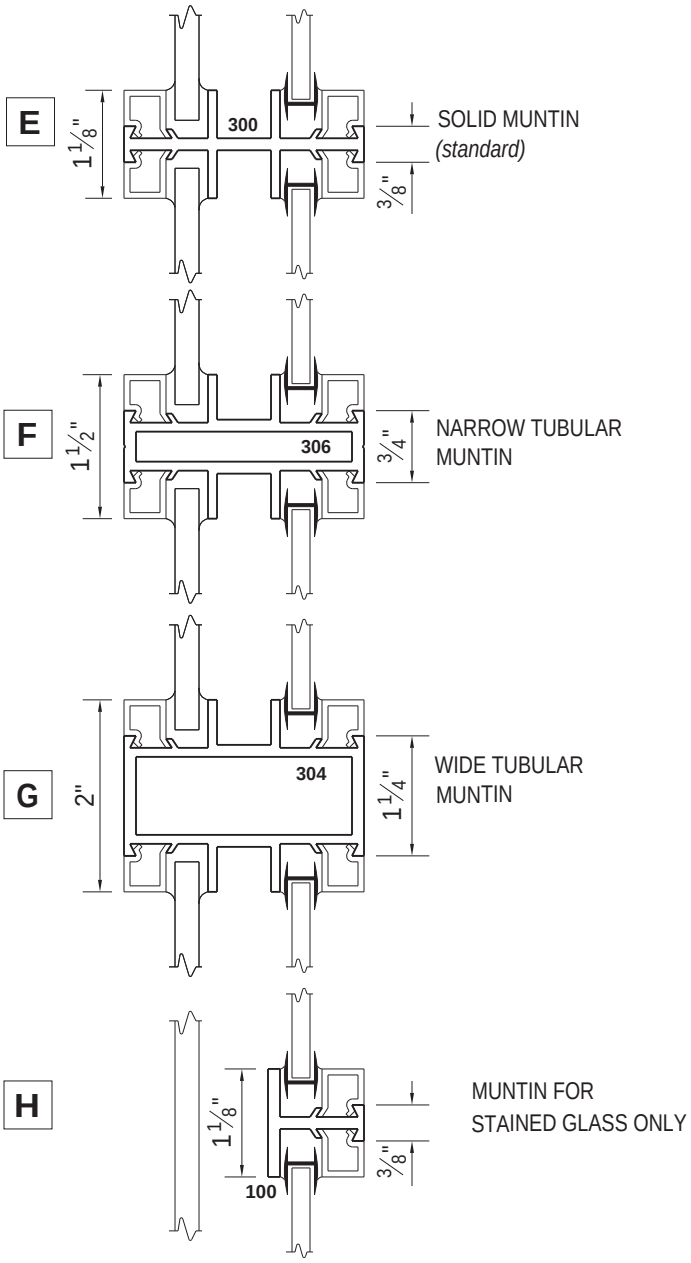
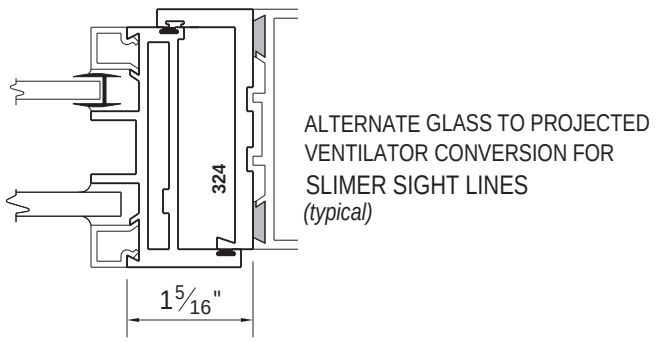
Fixed Perimeter Frame Sections

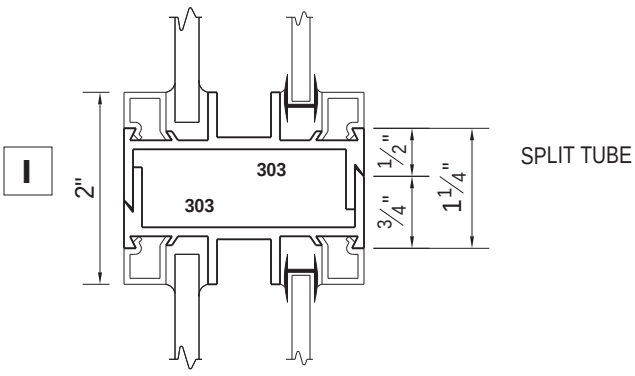


Muntins





Vertical and Horizontal Stacking



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400 Series
DOUBLE GLAZED CHURCH WINDOWS

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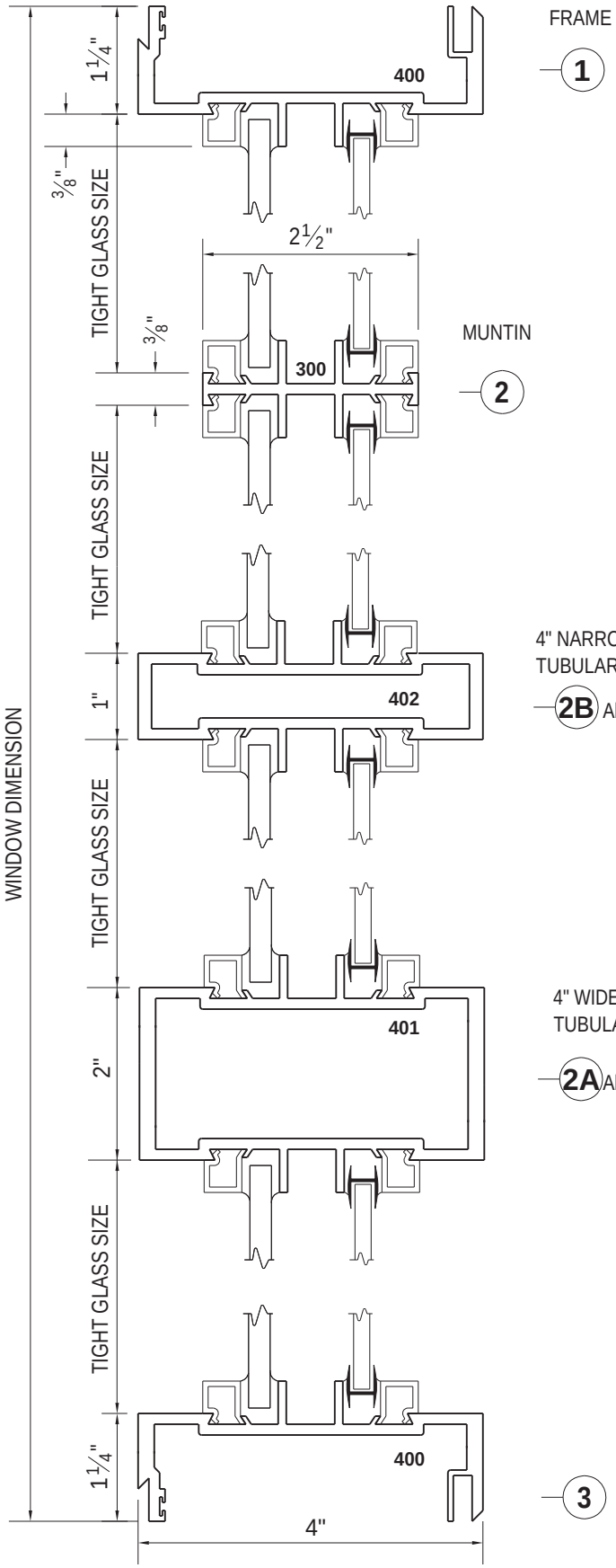
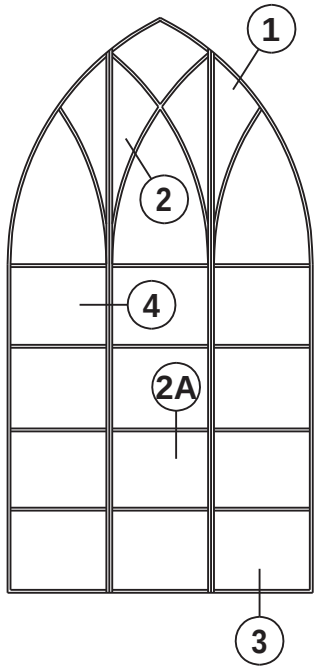
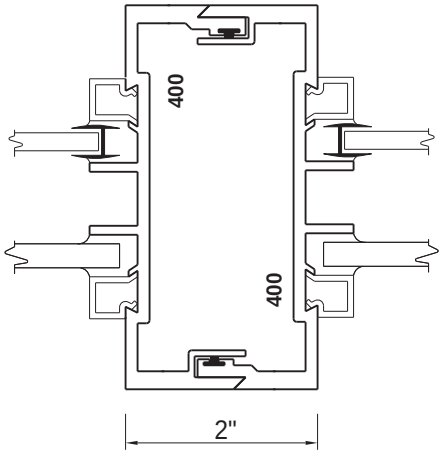


The 400 Series is 4" deep and is used for large windows or for design variation. The 400 Series lines up with, and is interchangeable with the 300, 500 and 600 Series. 300 Series ventilators can easily be incorporated into the 400 Series. All sections can be used horizontally or vertically.



Typical Elevation

4 SPLIT TUBE/
STACKING MULLION



SCALE = HALF SIZE

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500 Series
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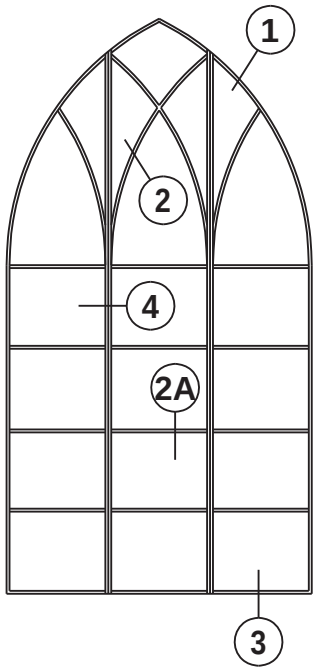
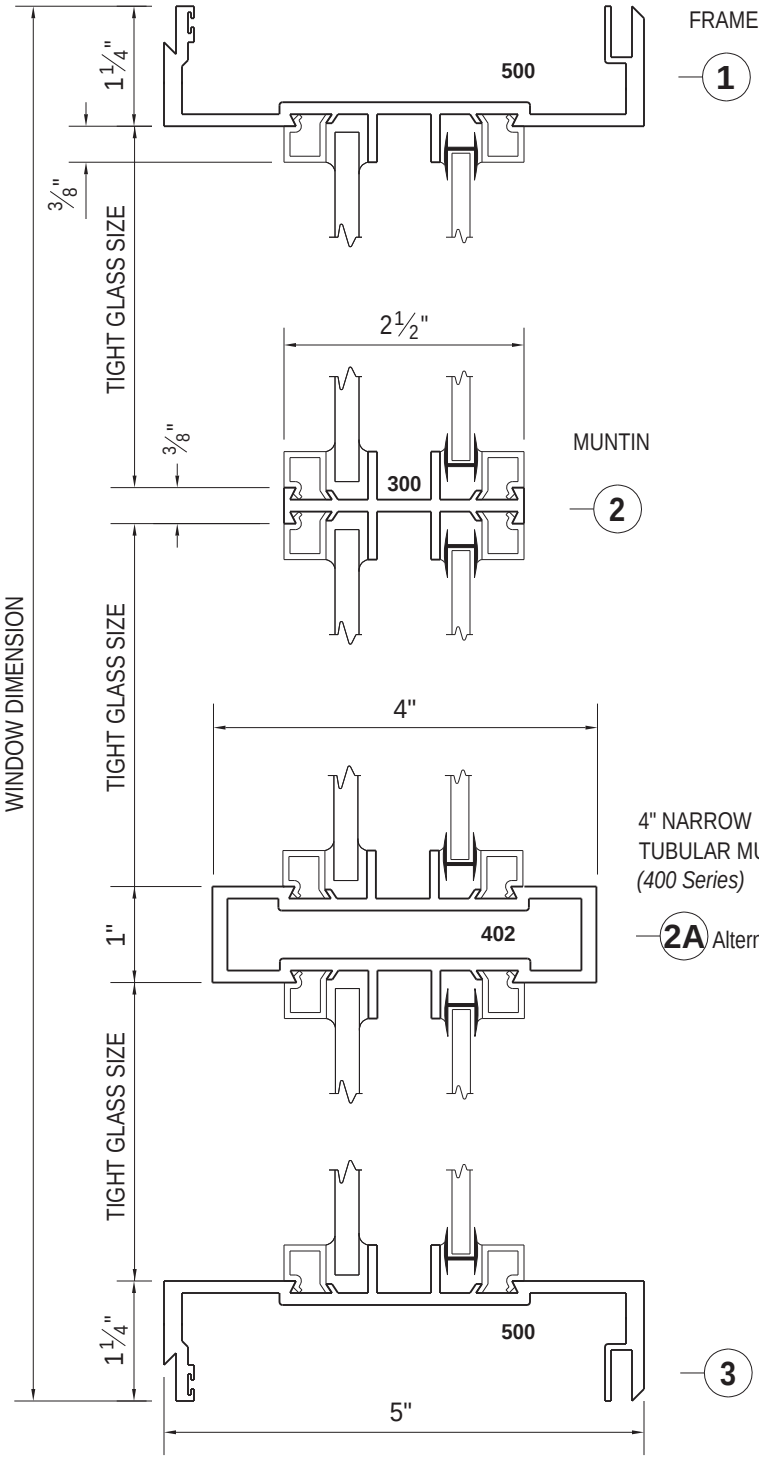
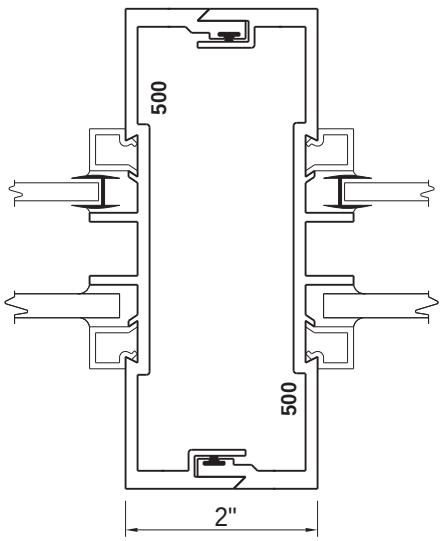
The 500 Series is 5" deep and is used for very large windows or for design variation. The 500 Series lines up with, and is interchangeable with the 300, 400 and 600 Series. 300 Series ventilators can easily be incorporated into the 500 Series. All sections can be used horizontally or vertically.



Typical Elevation





SCALE = HALF SIZE

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600 Series
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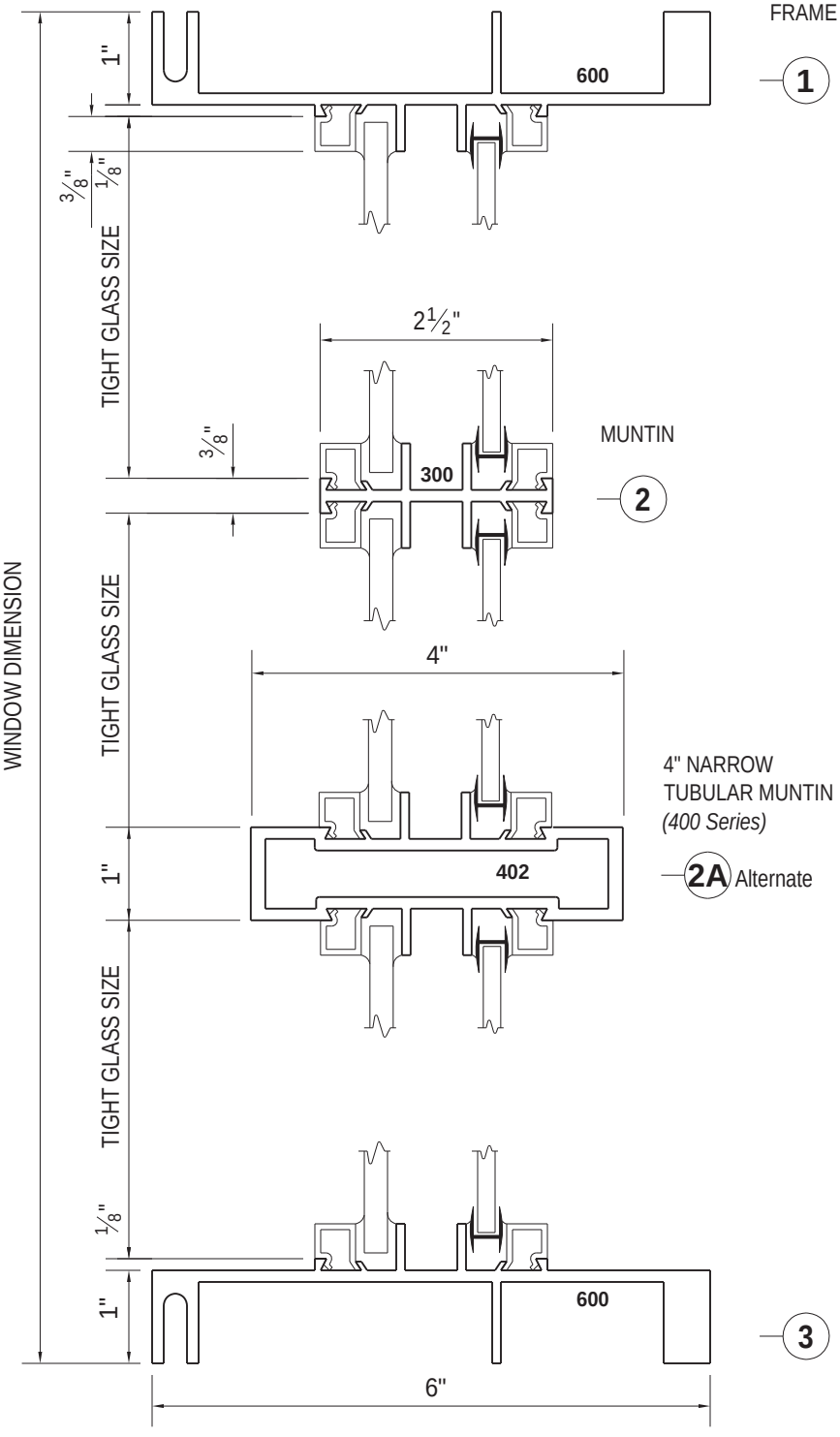
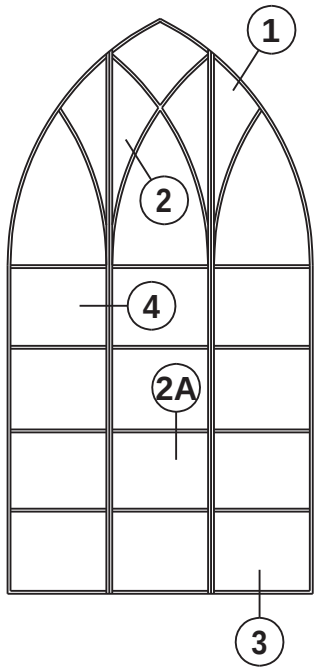
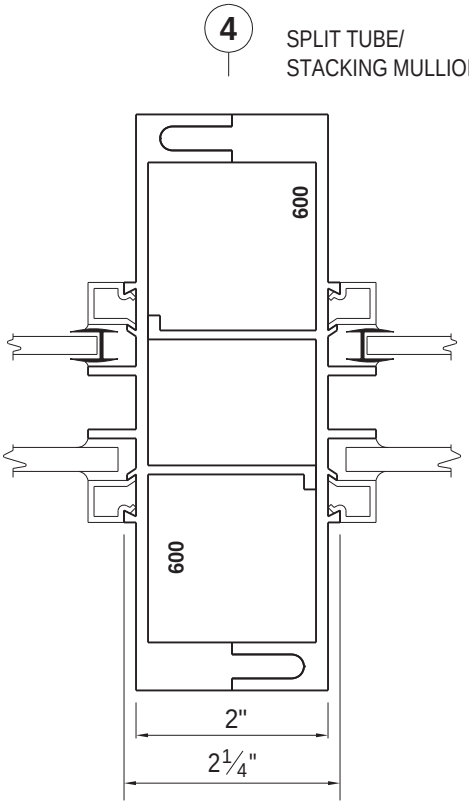
The 600 Series is 6" deep and is used for very large windows or for design variation. The 600 Series lines up with, and is interchangeable with the 300, 400 and 500 Series. 300 Series ventilators can be easily incorporated into the 600 Series. All sections can be used horizontally or vertically.





Typical Elevation



SCALE = HALF SIZE

J. SUSSMAN, INC.
Since 1906

109-10 180th St
Jamaica, NY 11433
718-297-0228
Fax 718-297-3090
www.jsussmaninc.com

300/400/500/600 SERIES GUIDE SPECIFICATIONS
Fixed, Projected, Casement and Center Pivoted
SECTION 08 51 13 ALUMINUM WINDOWS (08520)

(Text in parentheses and italics are notes to spec writer and are not to be included in specification.)

Part 1 GENERAL

1.01 Work Included
- A. Furnish and install aluminum architectural windows complete with all necessary hardware and related components as shown on drawings and specified in this section.
- B. Glass and Glazing
  1. Refer to Section 08 81 00 – Glass and Glazing (08800) for glazing of window units.

1.02 Related Work
- A Section 07 92 00 – Joint Sealants (09715)
- B. Section 08 32 00 – Sliding Glass Doors (08314)
- C. Section 08 41 00 – Entrances and Storefronts (08400)
- D. Section 08 42 33 – Balanced Entrance Doors (08480)
- E Section 08 51 66 – Metal Window Screens (08586)
- F. Section 08 44 00 – Curtain Walls and Glazed Assemblies (08900)
- G Section 08 44 33 – Sloped Glazing Assemblies (08960)

1.03 References (See AAMA GS-001 and AAMA 101 For Current Applicable Listings)
- A. AAMA (American Architectural Manufacturers Association):
- B. ANSI (American National Standards Institute):
- C. ASTM (American Society for Testing and Materials):
- D. CPSC (Consumer Product Safety Commission):
- E. FGMA (Flat Glass Marketing Association):
- F. GSA (General Services Administration):

1.04 Items Installed But Not Furnished

(Enter description, e.g., louver supplied by others to be installed in new window)

1.05 Items Furnished But Not Installed

(Enter description, e.g., extra sash sets to be supplied and stored for the future)

1.06 Testing and Performance Requirements
- A. Windows shall conform to all ANSI/AAMA 101-88 C50 requirements. In addition, the following specific performance requirements must be met.
- B. Test Procedure and Performance Requirements
  1. Air Infiltration: When tested in accordance with ASTM E 283-83, air infiltration shall not exceed 0.003 cfm/ft under a static pressure drop of 6.24 psf.
  2. Water Resistance: When tested in accordance with ASTM E 331-83 and ASTM E 547-83 there shall be no water leakage when the window is subjected to a pressure drop of 7.50 psf. (HC50).
  3. Uniform Structural Load Test: When tested in accordance with ASTM E 330-79 with a static pressure difference of 150 psf exterior (positive) and 150 psf interior (negative) there shall be no glass breakage, permanent damage to fasteners, hardware parts or actuating mechanisms which would cause the window to be inoperable. Permanent deformation of any frame or vent member shall not exceed .2% of its span. (HC100).

1.07 Quality Assurance
- A. Test reports from an independent certified laboratory shall be available upon request.

1.08 Submittals

A. The window manufacturer shall submit shop drawings, finish samples, test reports, warranties and maintenance manuals per the requirements of architect.

1.09 Delivery, Storage and Handling

A. Store and handle windows and other components in strict compliance with manufacturer's instructions.
B. Protect units against damage from the elements, construction activities and other hazards before, during, and after installation.

1.10 Warranties

A. Submit written warranties from window manufacturer for the following:
   1. Windows: Windows furnished are certified as fully warranted against any defects in material or workmanship under normal use and service for a period of one (2) years from date of fabrication.
   2. Finish: The pigmented organic finishes on windows and component parts (such as panning, trim, mullions, and the like) are certified as complying fully with the requirements of the AAMA 260X specification and fully warranted against chipping, peeling, cracking or blistering for a period of five (5) years from date of installation.

Part 2 PRODUCTS

2.01 Manufacturers

A. All windows shall be Series No. *(Architect to select either or any combination.)*
   300 2 1/2" deep
   400 4" deep
   500 5" deep
   600 6" deep
   double glazed church window designed to receive monolithic protection glass on the art glass on the interior as manufactured by J. Sussman, Inc. of 109-10 180 St., Jamaica NY 11433.
B. Other manufacturers desiring approval shall:
   1. Furnish a sample window and valid test reports indicating full compliance with all performance requirements of this specification at least 10 days prior to bid date.
   2. Have been engaged in the fabrication of aluminum windows for ten years and this type of window for 5 years and shall submit for review a list of similar completed projects.
   3. Approval of "equal" products shall be in the form of a written addendum. Substitute products not pre-approved by the Architect via addenda will not be considered.
   4 Base bid will be J. Sussman, Inc.

2.02 Materials

A. Extruded aluminum shall be 6063-T5 alloy and temper with a minimum ultimate tensile strength of 22,000 psi. Comply with ASTM B 221
B Fasteners shall be aluminum, stainless steel or other materials warranted by the manufacturer to be non-corrosive and compatible with aluminum window members, trim, hardware, anchors and other components of the window units.

2.03 Fabrication

A. General
   1. All main sections shall have a minimum depth of 2 1/2" with wall thicknesses ranging from .094 to .125. *(For the 400, 500, and 600 Series add the following depth that applies: Frame and required muntins shall be 4, 5, or 6" in depth.)*
   2. Glazing rebates shall not be less than 3/8" in height.
   3. Interior art glass muntins shall be 1 1/8" deep with 1/8" walls.
   4. The airspace between the art and protection glass shall be a minimum of 3/4" without the aid of back putty. *(Anything less than 3/4" minimizes the benefits of double glazing.)*
   5. The extruded window members shall form a channel separating the glass which will also act as a condensation gutter.
   6. This channel shall be an integral part of the aluminum extrusion. An applied piece will not be accepted.
   7. Either glass shall be able to be removed or installed without disturbing the glass on the opposite side.
   8. All joints shall be cut to a hairline fit and be either fully sigma arc welded or shall be heavy angle reinforced, cold welded with epoxy adhesive and hydraulically crimped.

9. All joints shall be factory sealed.

B. Ventilators
1. Ventilators shall be horizontally center pivoted *(standard)*, project-in, project-out, or combinations thereof as shown on plans. *(Horizontally center pivoted ventilators are recommended because they operate the easiest as the heavy leaded glass and the protection glass are balanced in the center thereby distributing the weight.)*
2. All sash extrusions for project-in and project-out ventilators shall be tubular.
3. .Each corner of projected ventilator sashes shall be mitered, heavy angle reinforced cold welded and hydraulically crimped.
4. Sash for center pivoted ventilators shall have a 3/16" nominal wall thickness and corner construction shall be fully welded by the sigma arc method.
5. Ventilators and frames must be on the same plane and present a flush interior and exterior surface. Overlap or extensions of ventilators beyond the frame will not be acceptable.
6. Projected ventilators shall operate in two specially designed wear resistant weatherproof nylon glides independent of the hinge to insure both maximum alignment and weather tightness in the closed position.
7. The void between the ventilator sash and frame shall be pressure equalized to outside conditions.

C. Glazing Beads
1. Glazing beads shall be extruded from 6063-T5 alloy and be not less than .050 thick.
2. The glazing beads will be snap in type to securely interlock into the extruded window members without extending underneath the glass.
3. They shall be factory fitted and attached.
4. Glazing beads shall also be secured with stainless steel fasteners where required.

D. Weatherstripping
1. Each sash shall have 3 continuous rows of tested Schlegel Q-Lon weatherstripping installed in specially designed dovetail grooves.
2. Weatherstripping shall have a rigid backing that will resist pullout. A single durometer vinyl or rubber weatherstripping will not be accepted.

E. Screens *(Optional)*
1. Insect screens shall be constructed of extruded aluminum tubular frames. Roll formed screen frames will not be accepted.
2. Screens for project in ventilators and in-swing casements shall be removable from the interior.
3. Screens for project-out ventilators and push/pull operated out-swing casements shall be of the hinged wicket type. Screen frames shall be finished to match the windows.
4. Screen cloth shall be 18x16 fiberglass mesh. (*Aluminum mesh optional.)*
5. Screen spline shall be extruded vinyl, removable to permit re-screening.
6. Screen mounting holes in the windows frame shall be factory drilled.

2.04 Hardware

A. Hardware shall conform to the requirements of the ventilator and shall be factory fitted and attached with stainless steel screws.
B. Locking handles for projecting ventilators shall be cam type and be solid white bronze with a US25D satin polished finish. *(Custodial locks and pole-operated handles are optional.)*
C. Projected ventilators shall operate on stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.

(Casements, in-swing or out-swing, are not usually recommended for this series. Consult factory)

D. Out-Swing Casements shall operate on *(choose one)*

1. *(Standard)* stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.
2. *(Optional)* 5 knuckle extruded aluminum butt hinges with 1/4" diameter stainless steel pins and nylon bushings and *(choose one)*
   a . *(Option 1)* Zinc die cast roto operators compatible with aluminum and shall meet ASTM E405.
   b. *(Option 2)* heavy duty stainless steel friction adjusters.
   c. *(Option 3)* stainless steel limit opening devices with release key.

E. In-Swing Casements shall operate on *(choose one)*
   1. *(Standard)* stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.
   2. *(Optional)* 5 knuckle extruded aluminum butt hinges with 1/4" diameter stainless steel pins and nylon bushings *(the following are optional with butt hinges)*
      a. *(Option 1)* and heavy duty stainless steel friction adjusters.
      b. *(Option 2)* and stainless steel limit opening devices with release key.

F. Center pivoted ventilators shall lock with a white bronze spring catch and have a hook at the bottom for chain operation.

G. Center pivoted ventilators shall operate on special aluminum pivots and shall be concealed and guaranteed not to wear out for the life of the ventilator.

2.05 Finish

A. The finish of the aluminum windows shall be *(Architect to select) (Standard finishes are considerably less expensive and lead times for windows are much shorter with standard finishes.)*
   1. Architectural Class II Anodic (204-R1) AA M12-C22-A31 Thickness to be .4 mil and shall conform to AAMA 611-98.
      a. Color: Clear Anodized *(Standard)*

   2. Architectural Class I Anodic (215-R1) AA M12-C22-A41 Thickness to be .7 mil and shall conform to AAMA 611-98.
      a. Color: Clear Anodized *(Optional - Consult factory)*
   3. Architectural Class I Anodic with electrostatically deposited color AA-M12-C22-A44. Thickness to be .7 mil and shall conform to AAMA 611-98.
      a. Color: Dark Bronze Anodized *(Standard)*
      b. Color: Black Anodized *(Standard)*
      c. Color: _____ *(Insert anodized color selected by Architect. Consult factory)*

   4. Baked acrylic enamel organic finish electrostatically applied over pretreated aluminum. Finish shall be a one coat, one bake paint system with a .8 mil minimum overall dry film thickness and shall conform to AAMA 2603.
      a. Color: Bronze Paint *(Standard)*
      b. Color: White Paint *(Standard)*
      c. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

   5. High performance organic finish electrostatically applied over pretreated aluminum. Finish shall be based on 50% fluoropolymer resin and be applied as a two coat, two bake paint system with a 1.2 mil minimum thickness and shall conform to AAMA 2604. *(Some colors may require a clear protective topcoat to protect the pigmented coating.*
      a. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

   6. High performance organic finish electrostatically applied over pretreated aluminum. Finish shall be based on 70% fluoropolymer resin and be applied as a two coat, two bake paint system with a 1.2 mil minimum thickness and shall conform to AAMA 2605. *(Some colors may require a clear protective topcoat to protect the pigmented coating.*
      a. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

PART 3 EXECUTION

3.01 Inspection

A. Verify that openings are dimensionally correct and within allowable tolerances.
B. Openings must be plumb, level, and clean.
C. Provide a solid anchoring surface that is in accordance with approved shop drawings.

3.02 Installation

A. Use only skilled craftsmen for work to be done in accordance with the manufacturer's installation instructions and/or approved shop drawings and specifications.

B. Windows and materials must be set square and level.
C. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.
D. Adjust Windows for proper operation after installation has been completed.
E. Furnish and apply sealants to provide a weather tight installation at all joints and intersections and at opening perimeters. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.

3.03 Protection and Cleaning

A. After completion of window installation, all windows shall be inspected, adjusted, and left in working order.
B. Windows shall be cleaned to remove mortar, plaster, paint or other contaminants.
C. After cleaning, all work shall be protected against damage until it is accepted by the General Contractor.
D. Thereafter, it shall be the responsibility of the General Contractor to maintain protection and provide final cleaning.
E. Send to Architect, with copy to Owner, written recommendations for maintenance and protection of windows following Substantial Completion of Window Contract.

END OF SECTION

The above specifications are subject to change without notice.

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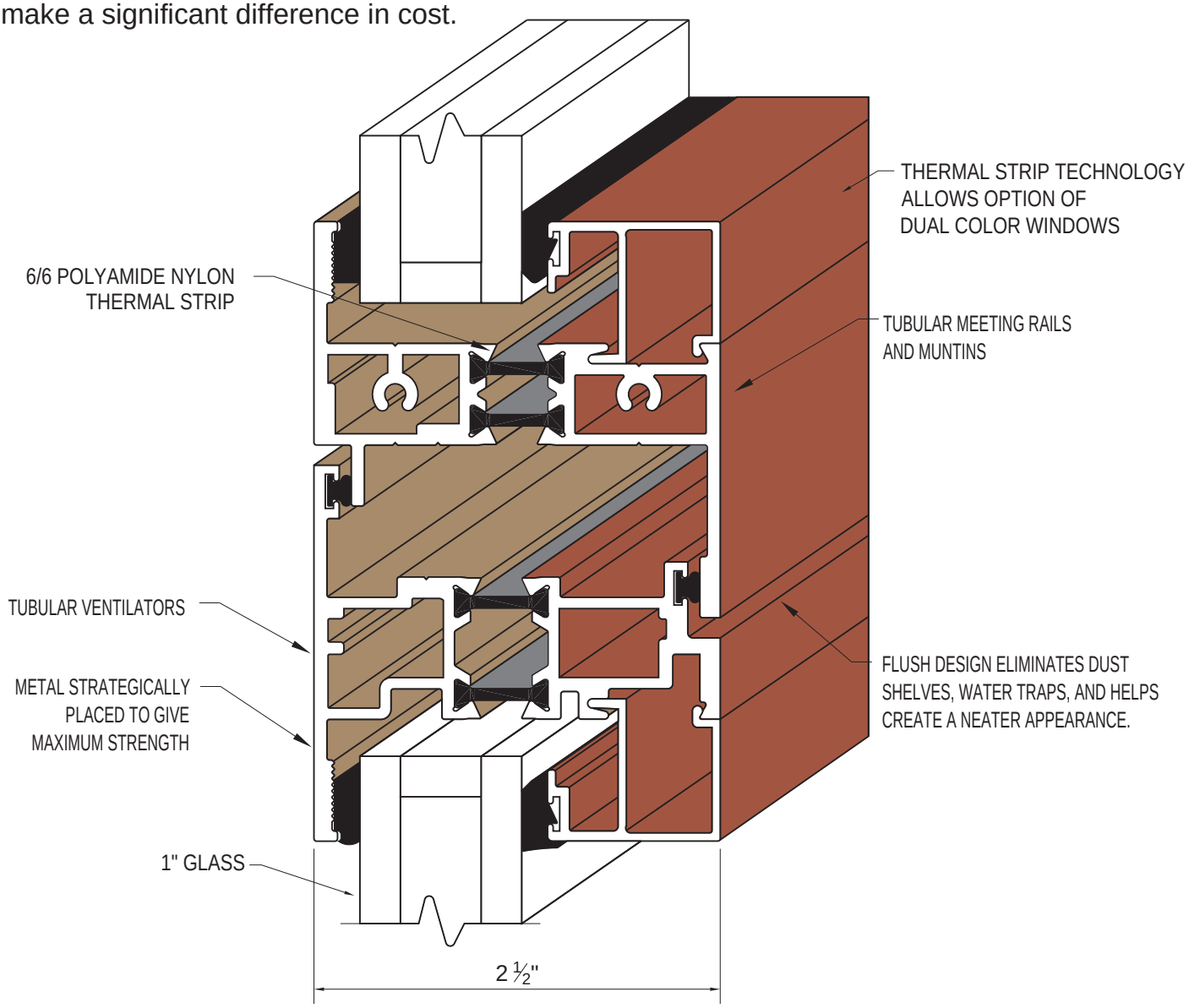
4200 Series
THERMAL STRIP CUSTOM WINDOWS

Since 1906 — America's finest custom windows

The 4200 series is a lighter weight thermally broken window utilizing Thermal Strip technology©. This series has been designed with metal strategically placed so that it is heavy enough to meet or exceed all HC performance specifications, yet light enough to make a significant difference in cost.



SCALE = FULL SIZE

Features:

- Full 2 1/2" deep frame with double tubular sash, muntins and intermediate rails. *(Consult factory for full specifications)*
- Thermal Strip technology for added strength and Dual Color finishing capability. **(Interior / Exterior)**
- All corners are fastened on each side of the thermal break. Sash corners are mitered, heavy angle reinforced and hydraulically crimped and epoxy welded.
- Flush design eliminates dust shelves and water traps and helps create a clean, neat appearance.
- Each ventilator has two wear resistant nylon glides independant of the hinge to insure maximum alignment and weather tightness.

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THERMAL STRIP CUSTOM WINDOWS

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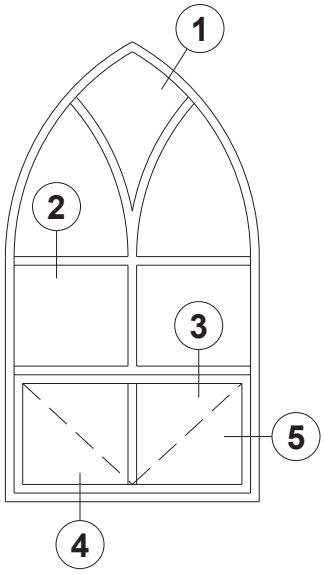
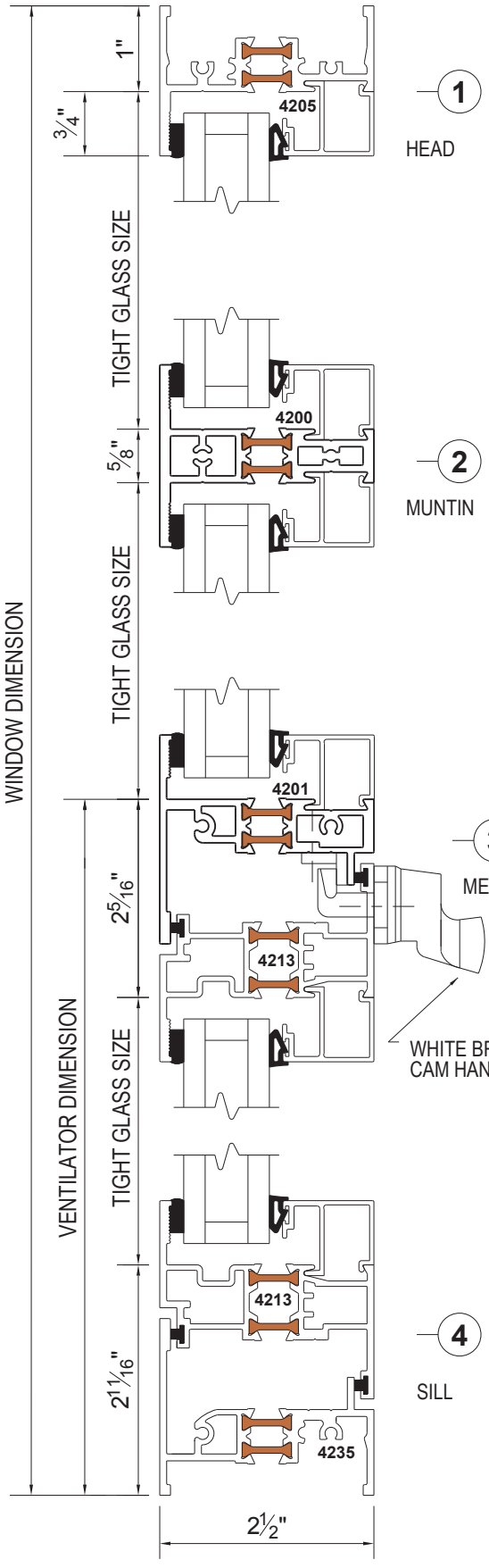
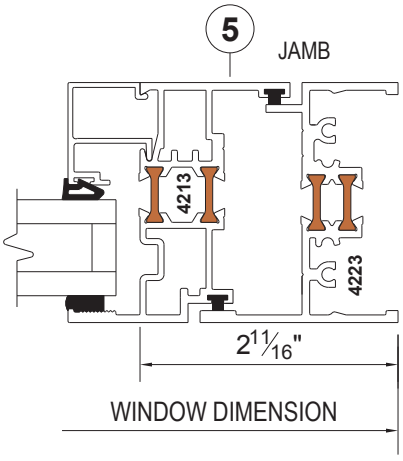
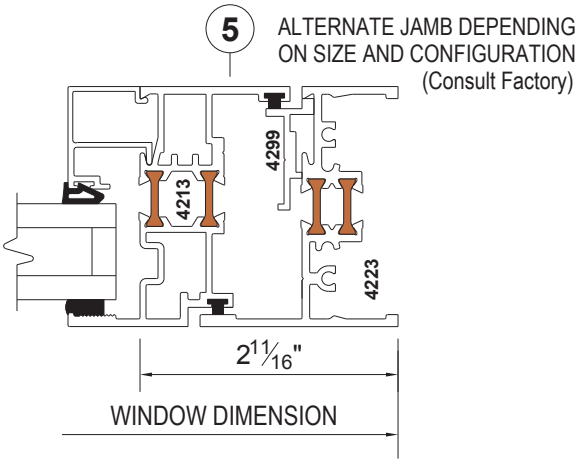
FIXED OVER PROJECT-IN



Typical Elevation







SCALE = HALF SIZE

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4200 Series
THERMAL STRIP CUSTOM WINDOWS

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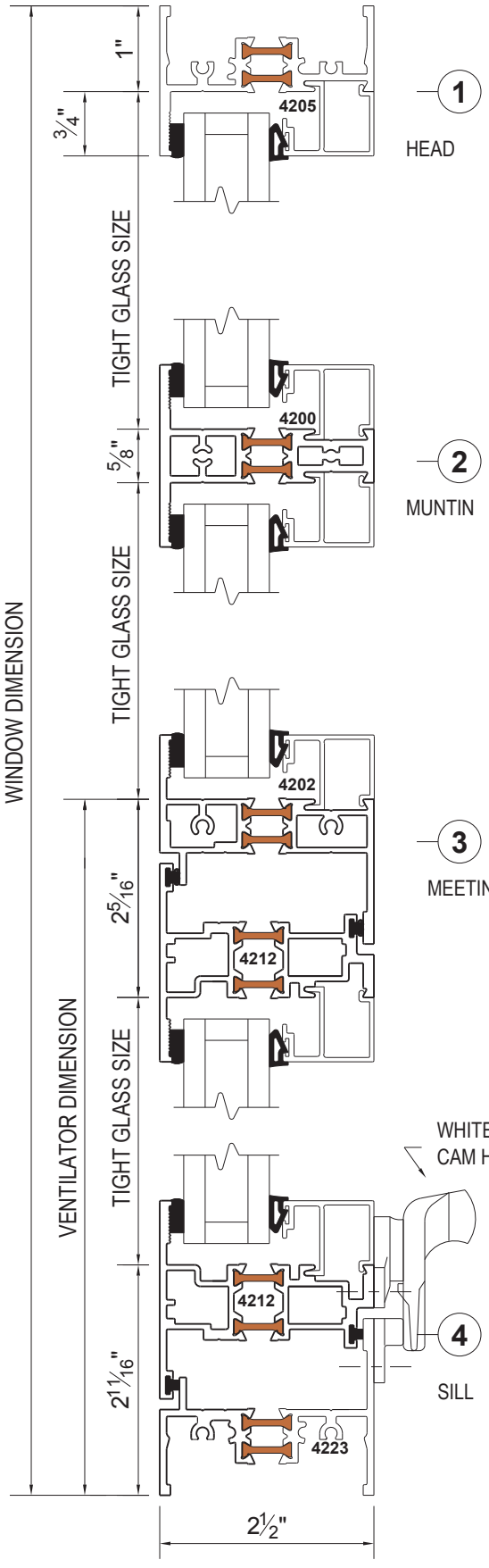
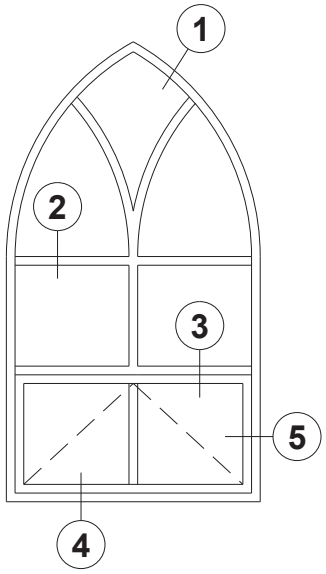
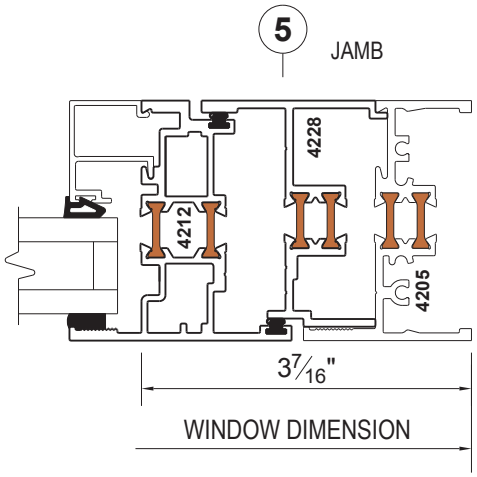
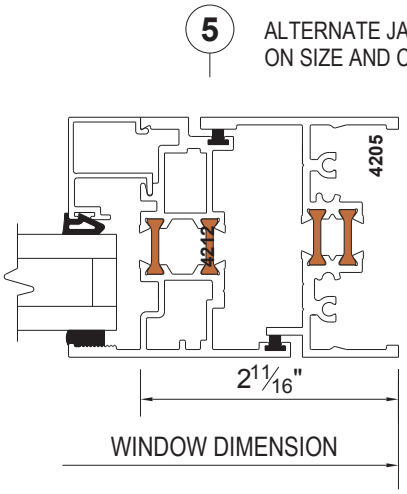
FIXED OVER PROJECT-OUT





Typical Elevation





SCALE = HALF SIZE

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THERMAL STRIP CUSTOM WINDOWS

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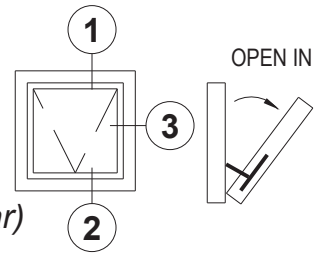
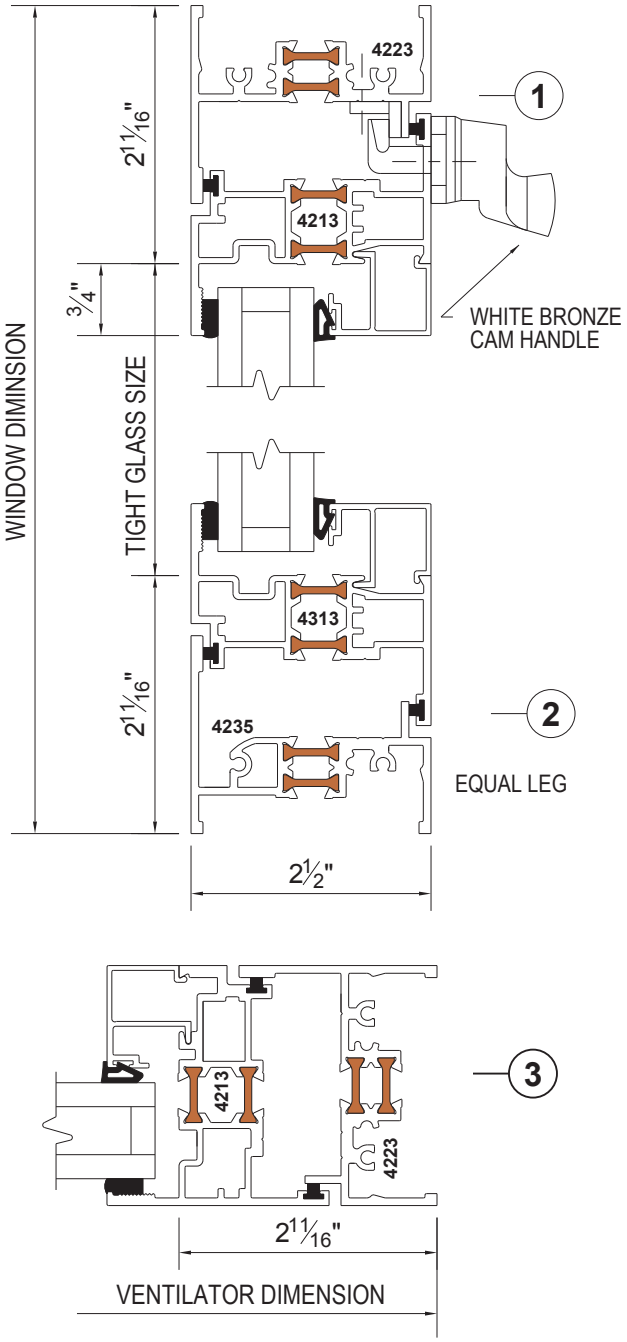
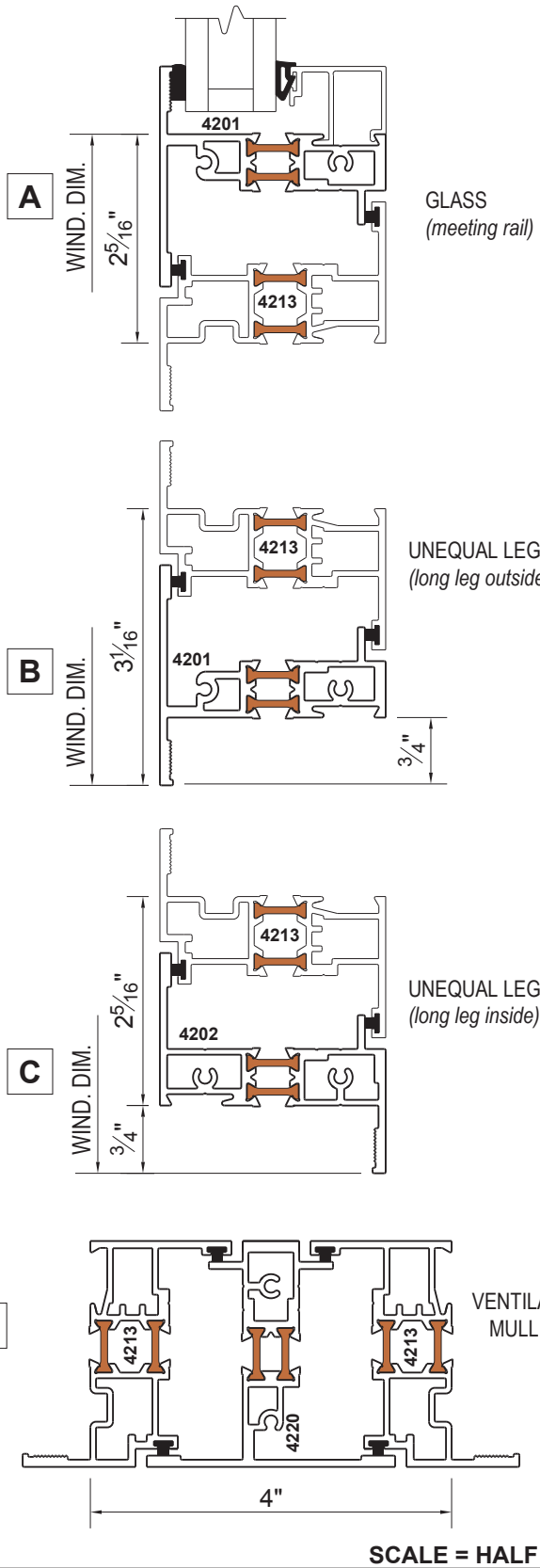
PROJECT-IN
(Inswing casement similar)



Standard Ventilator
(equal leg frame)



Alternate project-in ventilator sections that can be used at head, sill or jamb.



SCALE = HALF SIZE

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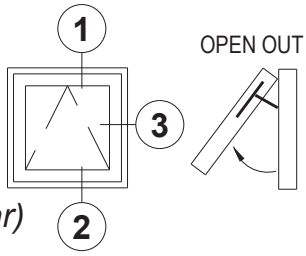
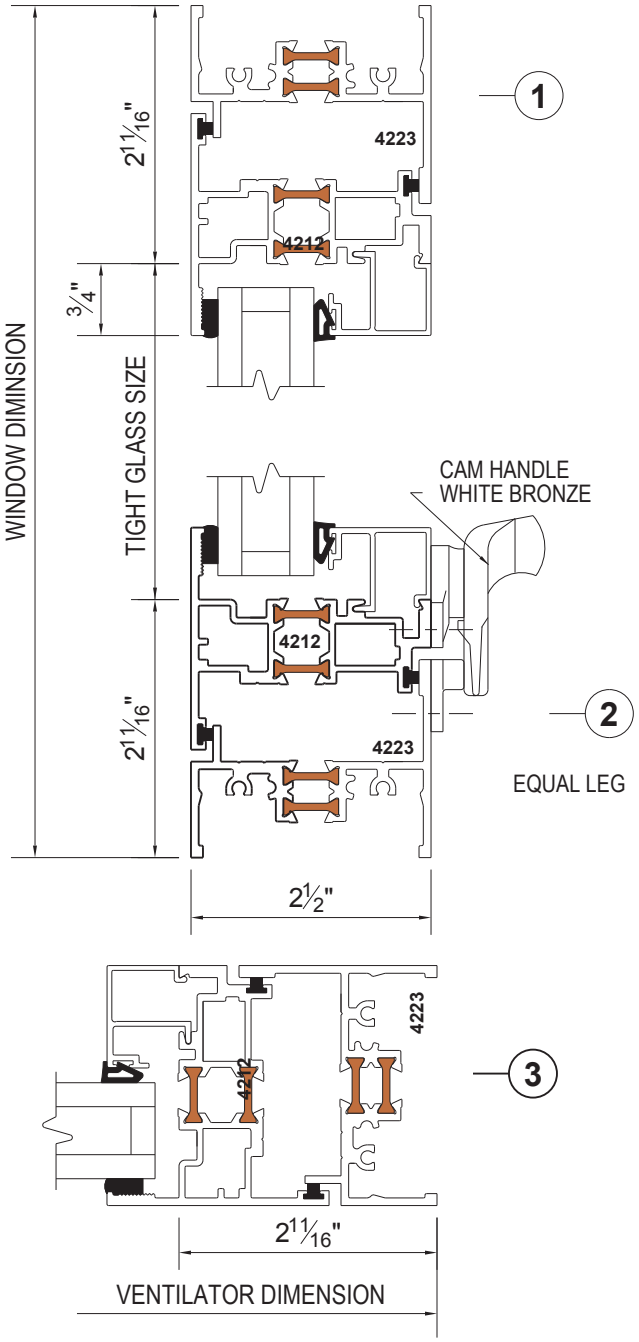
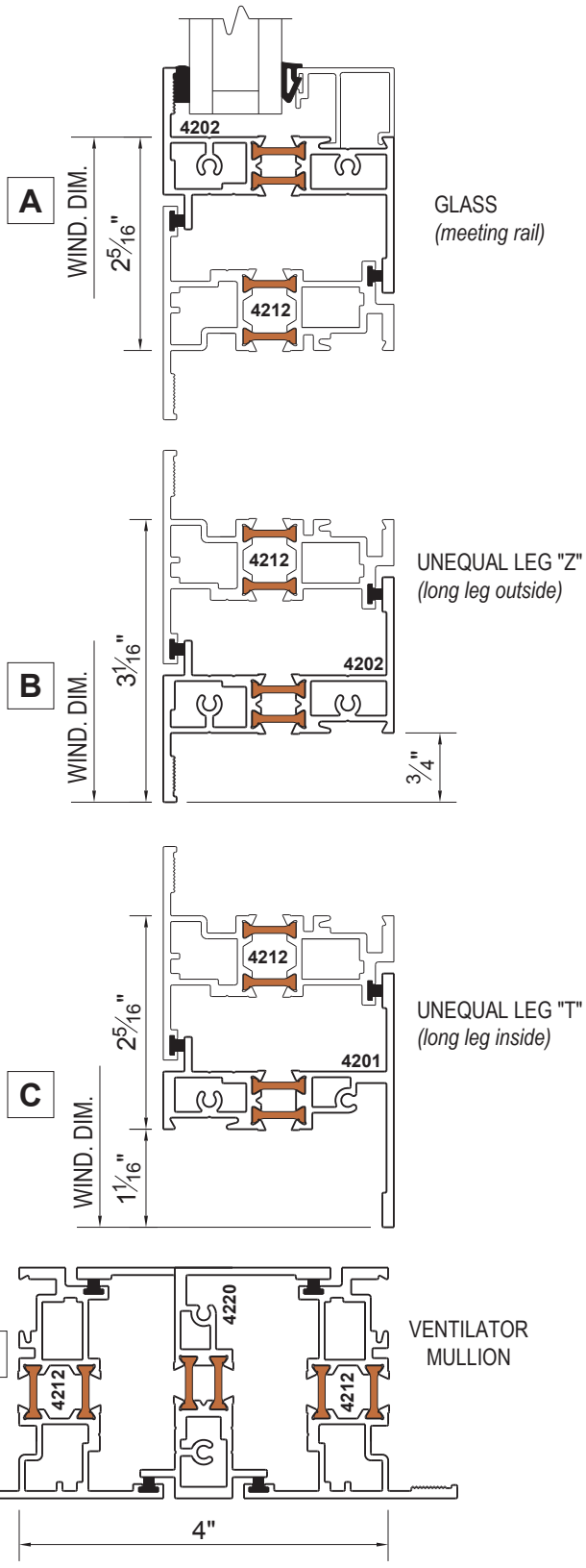


PROJECT-OUT
(Outswing casement similar)

Standard Ventilator
(equal leg frame)



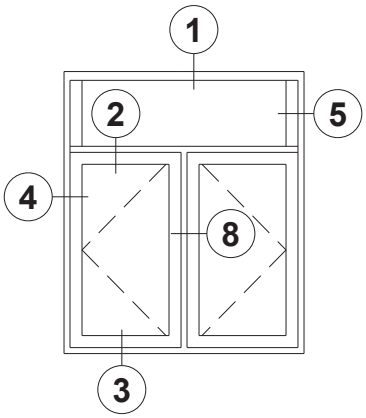
Alternate project-out ventilator sections that can be used at head, sill or jamb.

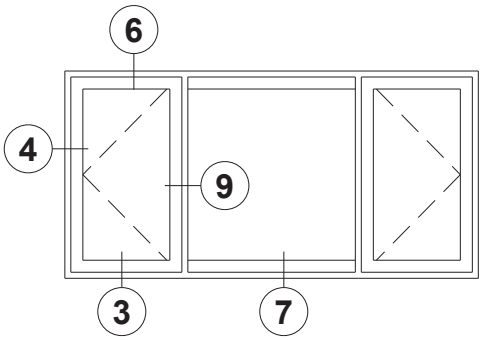


SCALE = HALF SIZE

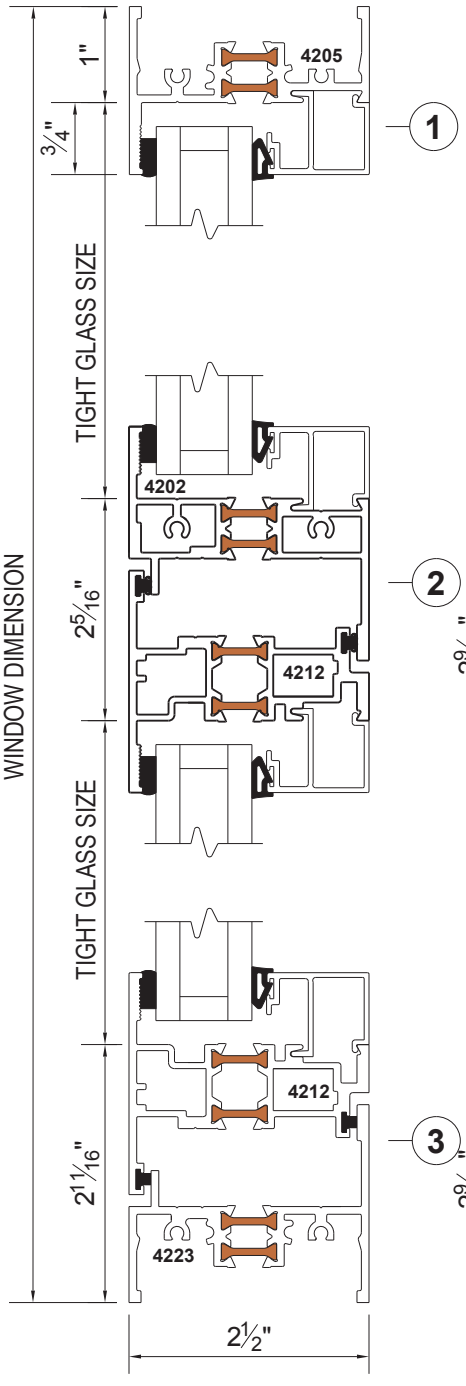
OUTSWING CASEMENT

Hardware not shown. Push-pull operation with cam handles and stainless steel concealed 4 bar hinges are standard. Crank operation with rotos and 5 knuckle extruded aluminum butt hinges are optional.

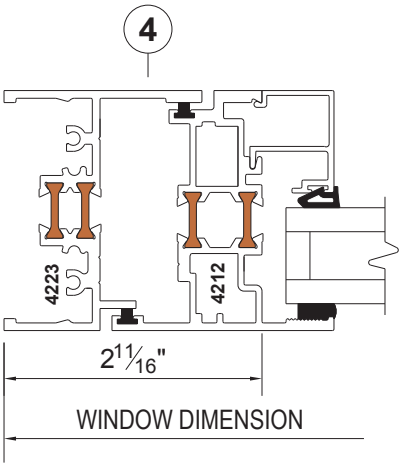


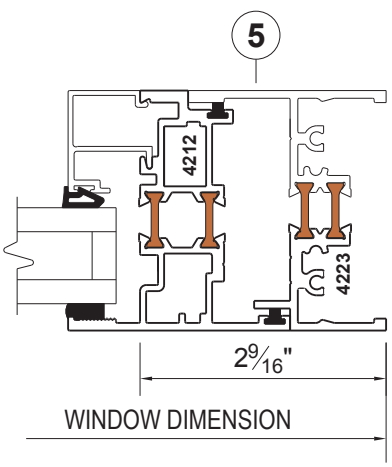


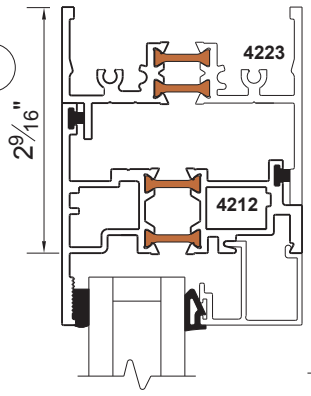
(equal leg frame)

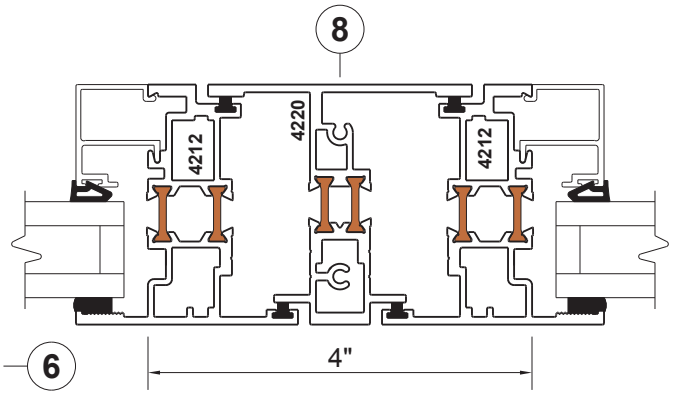


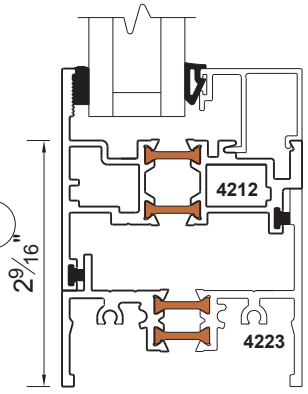
Typical Elevations

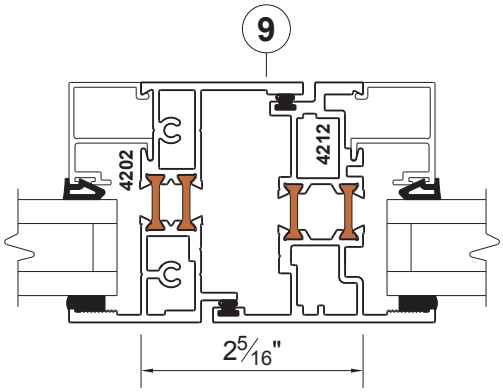








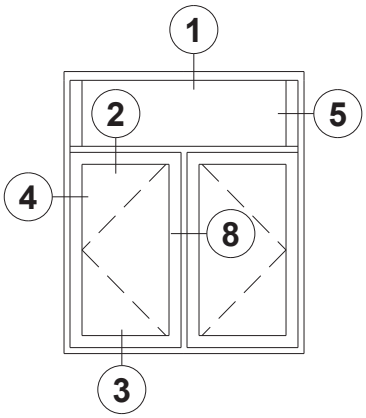


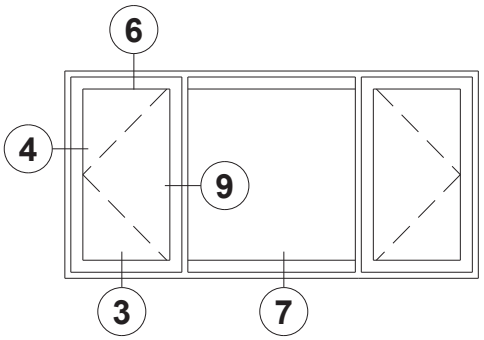


SCALE = HALF SIZE

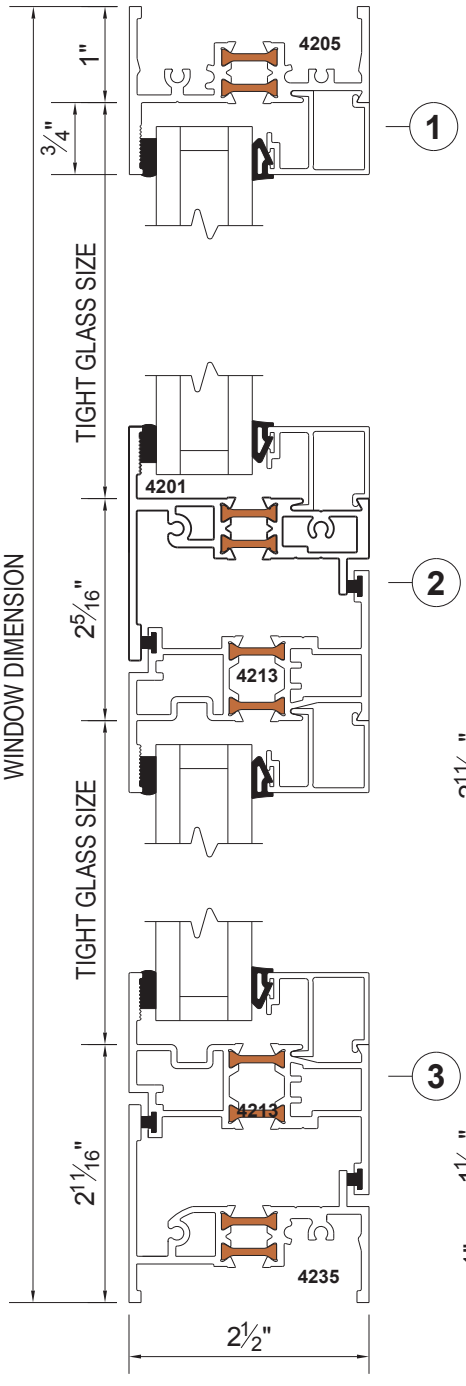
INSWING CASEMENT

Hardware not shown. Push-pull operation with cam handles and stainless steel 4 bar hinges are standard. 5 knuckle extruded aluminum butt hinges are optional.

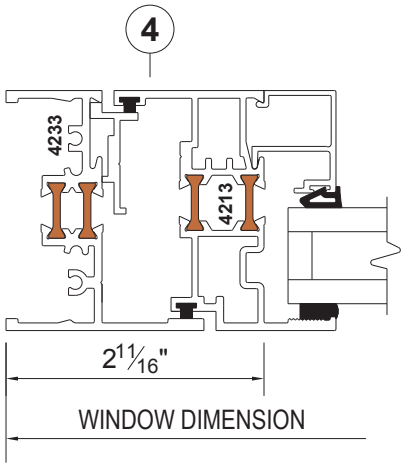


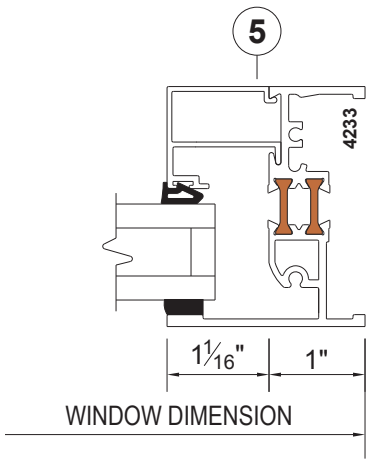


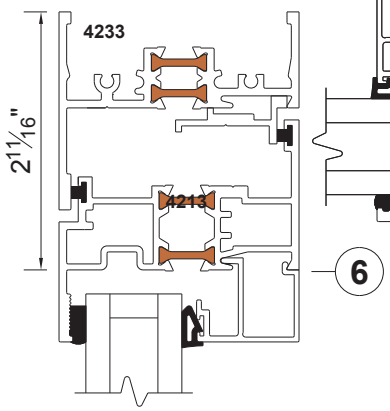
(equal leg frame)

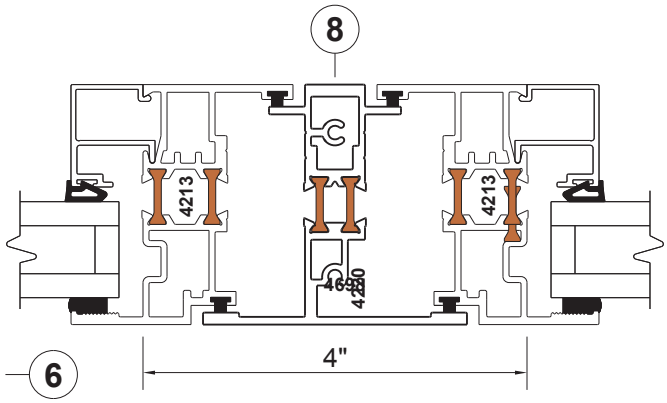


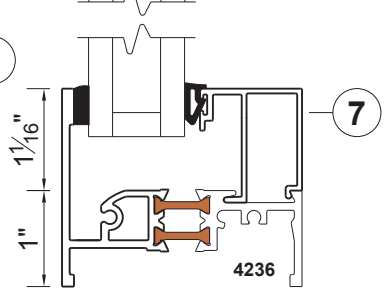
Typical Elevations

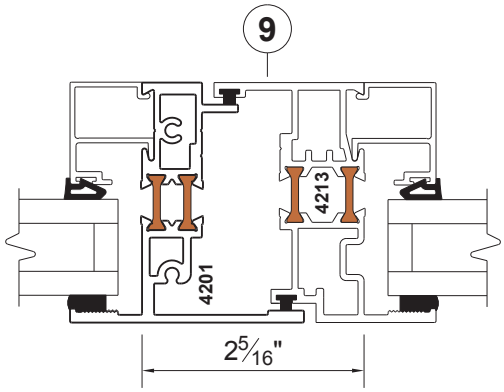












SCALE = HALF SIZE

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4200 Series
THERMAL STRIP CUSTOM WINDOWS

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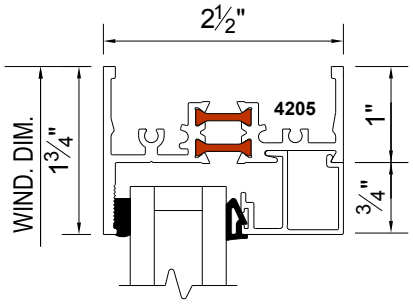
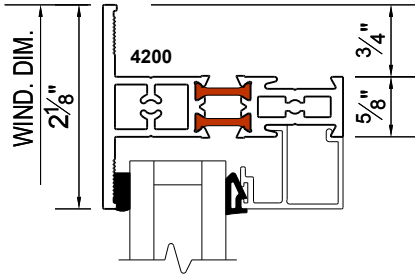
Fixed Perimeter Frame Sections

A



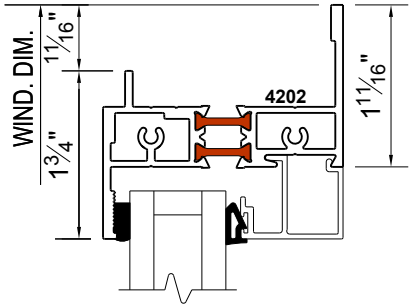
EQUAL LEG
(standard)

B



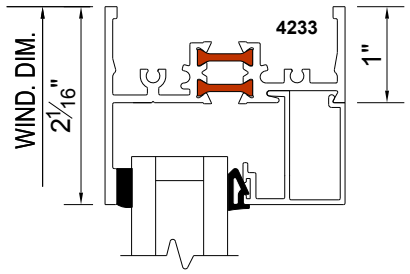
UNEQUAL LEG "T"
(long leg outside)

C

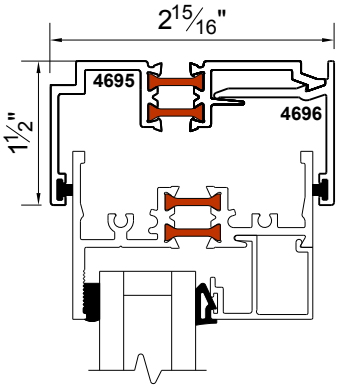


UNEQUAL LEG "Z"
(long leg inside)

D



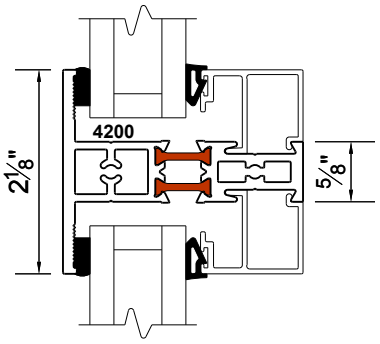
E



RECEPTOR

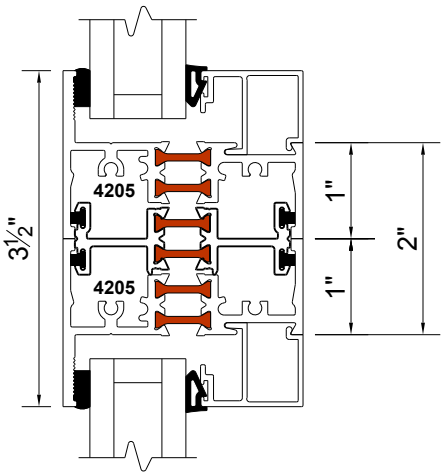
Muntin

F



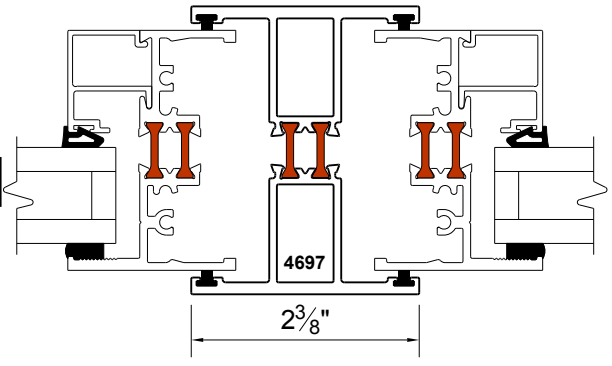
Vertical and Horizontal Stacking

G



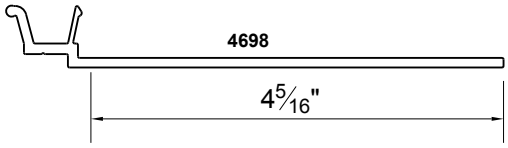
SPLIT TUBE
(standard)

H



I

SNAP IN ANCHOR



SCALE = HALF SIZE

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4200 Series
THERMAL STRIP CUSTOM WINDOWS

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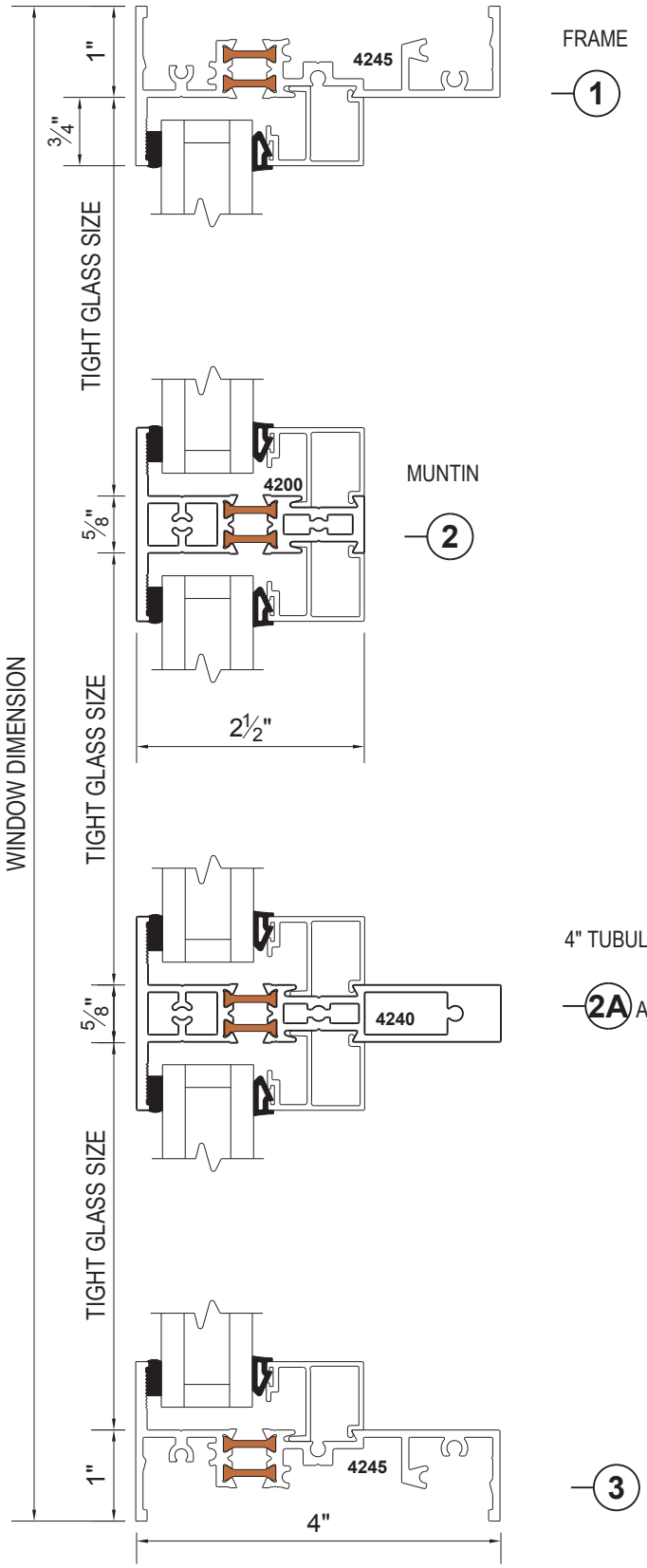
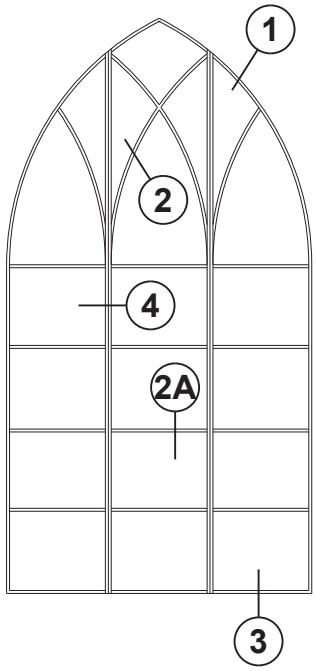
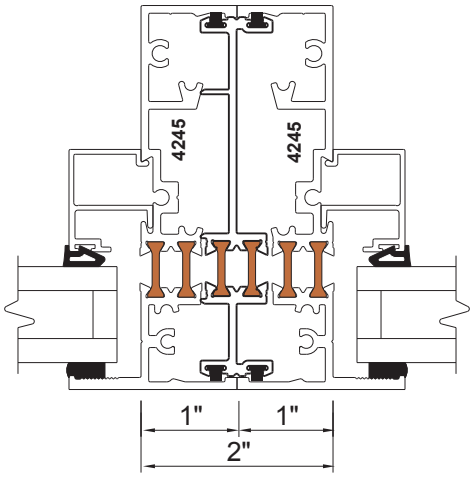
The 4240 Series is 4" deep and is used for large windows or for design variation. The 4240 Series lines up with, and is interchangeable with the 4200 Series. 4200 Series ventilators can easily be incorporated into the 4220 Series. All sections can be used horizontally or vertically.





Typical Elevation

4 SPLIT TUBE/ STACKING MULLION



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Since 1906

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4200 SERIES GUIDE SPECIFICATIONS
Fixed, Projected and Casement
SECTION 08 51 13 (08520) ALUMINUM WINDOWS

(Text in parentheses and italics are notes to spec writer and are not to be included in specification.)

Part 1 GENERAL

1.01 Work Included
- A. Furnish and install aluminum architectural windows complete with all necessary hardware and related components as shown on drawings and specified in this section.
- B. Glass and Glazing
  1. Refer to Section 08 81 00 – Glass and Glazing (08800) for glazing of window units.

1.02 Related Work
- A Section 07 92 00 – Joint Sealants (09715)
- B. Section 08 32 00 – Sliding Glass Doors (08314)
- C. Section 08 41 00 – Entrances and Storefronts (08400)
- D. Section 08 42 33 – Balanced Entrance Doors (08480)
- E Section 08 51 66 – Metal Window Screens (08586)
- F. Section 08 44 00 – Curtain Walls and Glazed Assemblies (08900)
- G Section 08 44 33 – Sloped Glazing Assemblies (08960)

1.03 References (See AAMA GS-001 and AAMA 101 For Current Applicable Listings)
- A. AAMA (American Architectural Manufacturers Association):
- B. ANSI (American National Standards Institute):
- C. ASTM (American Society for Testing and Materials):
- D. CPSC (Consumer Product Safety Commission):
- E. FGMA (Flat Glass Marketing Association):
- F. GSA (General Services Administration):

1.04 Items Installed But Not Furnished

(Enter description, e.g., louver supplied by others to be installed in new window)

1.05 Items Furnished But Not Installed

(Enter description, e.g., extra sash sets to be supplied and stored for the future)

1.06 Quality Assurance
- A. Test reports from an independent certified laboratory shall be available upon request.

1.07 Submittals
- A. The window manufacturer shall submit shop drawings, finish samples, test reports, warranties and maintenance manuals per the requirements of architect.

1.08 Delivery, Storage and Handling
- A. Store and handle windows and other components in strict compliance with manufacturer's instructions.
- B. Protect units against damage from the elements, construction activities and other hazards before, during, and after installation.

1.09 Warranties
- A. Submit written warranties from window manufacturer for the following:
  1. Windows: Windows furnished are certified as fully warranted against any defects in material or workmanship under normal use and service for a period of one (2) years from date of fabrication.
  2. Finish: The pigmented organic finishes on windows and component parts (such as panning, trim, mullions, and the like) are certified as complying fully with the requirements of the AAMA 260X

specification and fully warranted against chipping, peeling, cracking or blistering for a period of five (5) years from date of installation.

Part 2 PRODUCTS

2.01 Manufacturers

A. All windows shall be Series No. 4200 2 1/2" deep thermally broken custom window as manufactured by J. Sussman, Inc. of 109-10 180 St., Jamaica NY 11433.

B. Other manufacturers desiring approval shall:
   1. Furnish a sample window and valid test reports indicating full compliance with all performance requirements of this specification at least 10 days prior to bid date.
   2. Have been engaged in the fabrication of aluminum windows for ten years and this type of window for 5 years and shall submit for review a list of similar completed projects.
   3. Approval of "equal" products shall be in the form of a written addendum. Substitute products not pre-approved by the Architect via addenda will not be considered.
   4 Base bid will be J. Sussman, Inc.

2.02 Materials

A. Extruded aluminum shall be 6063-T5 alloy and temper with a minimum ultimate tensile strength of 22,000 psi. Comply with ASTM B 221

B. Thermal barriers shall consist of two fiberglass reinforced 6/6 polyamide nylon strips mechanically crimped in knurled raceways in the exterior and interior extrusions. Poured and debridged urethane thermal barriers will not be permitted.

C Fasteners shall be aluminum, stainless steel or other materials warranted by the manufacturer to be non-corrosive and compatible with aluminum window members, trim, hardware, anchors and other components of the window units.

2.03 Fabrication

A. General
   1. All main sections shall have a minimum depth of 2 1/2" with a nominal wall thickness of .125 to .080.
   2. Glazing rebates shall not be less than 3/4" in height.
   3. Window members must incorporate the glazing legs as an integral part of the frame, sash, and muntin bar design. Mechanically applied glazing legs will not be accepted.
   4. All main sections shall utilize a thermal barrier to separate the exterior and interior metal surfaces
   5. Thermal barriers shall be positioned at the center of every section and align at all frame and sash corners.
   6. No hardware or fasteners of any kind shall bridge or penetrate the thermal barrier.
   7. All muntins, meeting rails and ventilator sash shall be double tubular.
   8. All joints shall be cut to a hairline fit and be either fully sigma arc welded, heavy angle reinforced, cold welded and hydraulically crimped, double fastened with stainless steel screws or any combination thereto.
   9. All joints shall be factory sealed.

B. Ventilators
   1. Ventilators shall be project-in, project-out, in-swing casement, out-swing casement or combinations thereof as shown on the plans.
   2. All sash extrusions shall be double tubular.
   3. Each corner shall be mitered, heavy angle reinforced, cold welded epoxy adhesive and hydraulically crimped.
   4. Ventilators and frames must be on the same plane and present a flush interior and exterior surface. Overlap or extensions of ventilators beyond the frame will not be acceptable.
   5. Projected ventilators shall operate in two specially designed wear resistant weatherproof nylon glides independent of the hinge to insure both maximum alignment and weather tightness in the closed position.
   6. The void between the ventilator sash and frame shall be pressure equalized to outside conditions.

C. Glazing Beads
   1. Glazing beads shall be extruded from 6063-T5 alloy and be not less than .050 thick.

2. The glazing beads will be snap in type to securely interlock into the extruded window members without extending underneath the glass.
3. They shall be factory fitted and attached.
4. Glazing beads shall also be secured with stainless steel fasteners where required.

D. Weatherstripping
1. Each sash shall have 2 continuous rows of tested Schlegel Q-Lon weatherstripping installed in specially designed dovetail grooves.
2. Weatherstripping shall have a rigid backing that will resist pullout. A single durometer vinyl or rubber weatherstripping will not be accepted.

E. Screens *(Optional)*
1. Insect screens shall be constructed of extruded aluminum tubular frames. Roll formed screen frames will not be accepted.
2. Screens for project in ventilators and in-swing casements shall be removable from the interior.
3. Screens for project-out ventilators and push/pull operated out-swing casements shall be of the hinged wicket type. Screen frames shall be finished to match the windows.
4. Screen cloth shall be 18x16 fiberglass mesh. (*Aluminum mesh optional.)*
5. Screen spline shall be extruded vinyl, removable to permit re-screening.
6. Screen mounting holes in the windows frame shall be factory drilled.

2.04 Hardware

A. Hardware shall conform to the requirements of the ventilator and shall be factory fitted and attached with stainless steel screws.
B. Locking handles for projecting ventilators shall be cam type and be solid white bronze with a US25D satin polished finish. *(Custodial locks and pole-operated handles are optional.)*
C. Projected ventilators shall operate on stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.
D. Out-Swing Casements shall operate on *(choose one)*
1. *(Standard)* stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.
2. *(Optional)* 5 knuckle extruded aluminum butt hinges with 1/4" diameter stainless steel pins and nylon bushings and *(choose one)*
a . *(Option 1)* Zinc die cast roto operators compatible with aluminum and shall meet ASTM E405.
b. *(Option 2)* heavy duty stainless steel friction adjusters.
c. *(Option 3)* stainless steel limit opening devices with release key.
E. In-Swing Casements shall operate on *(choose one)*
1. *(Standard)* stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.
2. *(Optional)* 5 knuckle extruded aluminum butt hinges with 1/4" diameter stainless steel pins and nylon bushings *(the following are optional with butt hinges)*
a. *(Option 1)* and heavy duty stainless steel friction adjusters.
b. *(Option 2)* and stainless steel limit opening devices with release key.

2.05 Finish

A. The finish of the aluminum windows shall be *(Architect to select. Note: this series is available with different finishes on the interior and exterior. If "two tone" finishing is desired, specified each side separately.) (Standard finishes are considerably less expensive and lead times for windows are much shorter with standard finishes.)*
1. Architectural Class II Anodic (204-R1) AA M12-C22-A31 Thickness to be .4 mil and shall conform to AAMA 611-98.
a. Color: Clear Anodized *(Standard)*

2. Architectural Class I Anodic (215-R1) AA M12-C22-A41 Thickness to be .7 mil and shall conform to AAMA 611-98.
a. Color: Clear Anodized *(Optional - Consult factory)*
3. Architectural Class I Anodic with electrostatically deposited color AA-M12-C22-A44. Thickness to be .7 mil and shall conform to AAMA 611-98.
a. Color: Dark Bronze Anodized *(Standard)*

b. Color: Black Anodized *(Standard)*
c. Color: _____ *(Insert anodized color selected by Architect. Consult factory)*

4. Baked acrylic enamel organic finish electrostatically applied over pretreated aluminum. Finish shall be a one coat, one bake paint system with a .8 mil minimum overall dry film thickness and shall conform to AAMA 2603.
   a. Color: Bronze Paint *(Standard)*
   b. Color: White Paint *(Standard)*
   c. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

5. High performance organic finish electrostatically applied over pretreated aluminum. Finish shall be based on 50% fluoropolymer resin and be applied as a two coat, two bake paint system with a 1.2 mil minimum thickness and shall conform to AAMA 2604. *(Some colors may require a clear protective topcoat to protect the pigmented coating.*
   a. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

6. High performance organic finish electrostatically applied over pretreated aluminum. Finish shall be based on 70% fluoropolymer resin and be applied as a two coat, two bake paint system with a 1.2 mil minimum thickness and shall conform to AAMA 2605. *(Some colors may require a clear protective topcoat to protect the pigmented coating.*
   a. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

PART 3 EXECUTION

3.01 Inspection

A. Verify that openings are dimensionally correct and within allowable tolerances.
B. Openings must be plumb, level, and clean.
C. Provide a solid anchoring surface that is in accordance with approved shop drawings.

3.02 Installation

A. Use only skilled craftsmen for work to be done in accordance with the manufacturer's installation instructions and/or approved shop drawings and specifications.
B. Windows and materials must be set square and level.
C. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.
D. Adjust Windows for proper operation after installation has been completed.
E. Furnish and apply sealants to provide a weather tight installation at all joints and intersections and at opening perimeters. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.

3.03 Protection and Cleaning

A. After completion of window installation, all windows shall be inspected, adjusted, and left in working order.
B. Windows shall be cleaned to remove mortar, plaster, paint or other contaminants.
C. After cleaning, all work shall be protected against damage until it is accepted by the General Contractor.
D. Thereafter, it shall be the responsibility of the General Contractor to maintain protection and provide final cleaning.
E. Send to Architect, with copy to Owner, written recommendations for maintenance and protection of windows following Substantial Completion of Window Contract.

END OF SECTION

The above specifications are subject to change without notice.

J. Sussman, Inc.

2400 Series
MONUMENTAL CUSTOM WINDOWS

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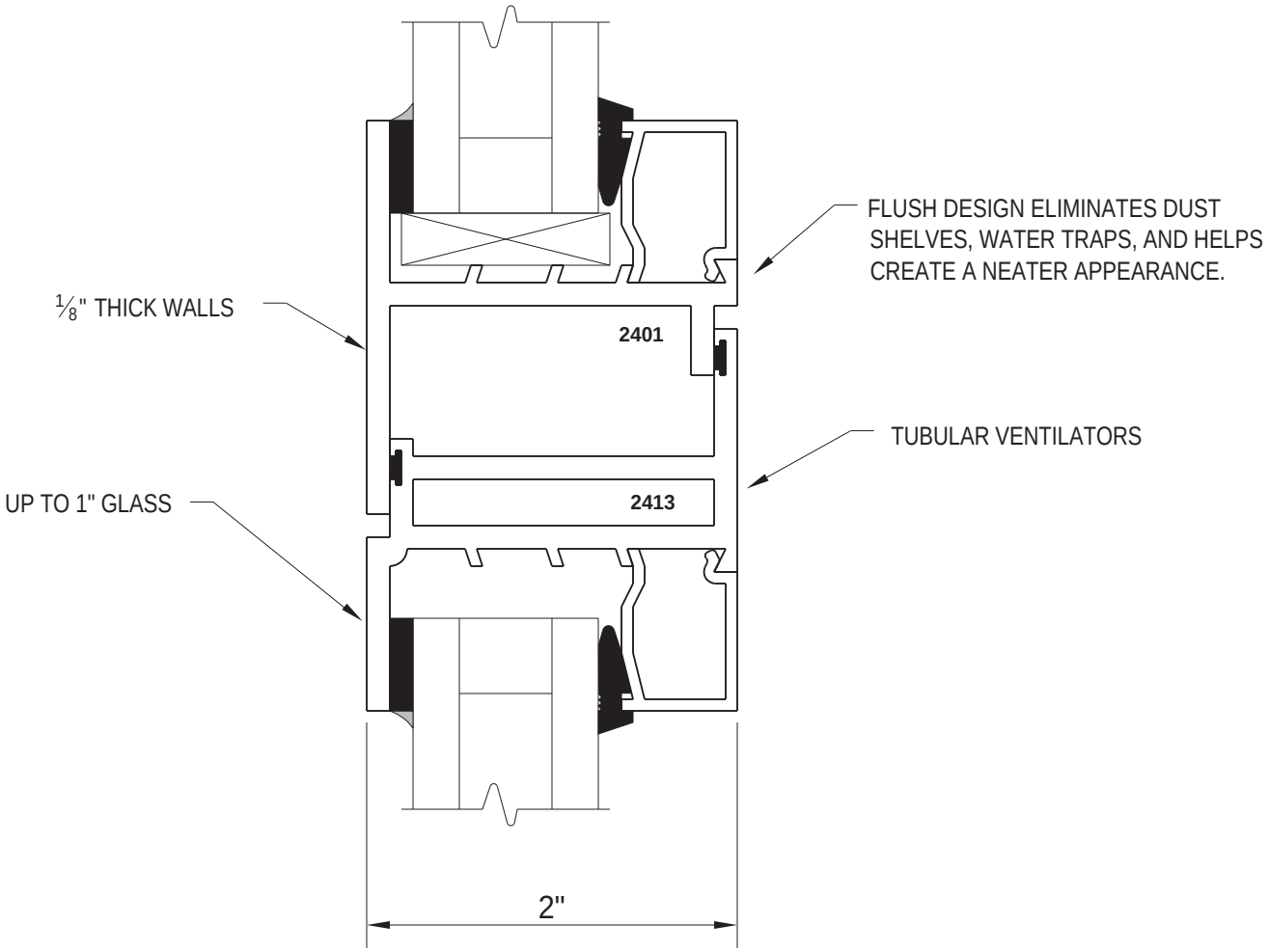
The 2400 Series is a high quality heavy duty monumental performance window. This series is available as project-in, project-out, casement and fixed units. These non-thermal windows can be fabricated into rectangular as well as unusual designs that will keep the integrity of virtually any opening.

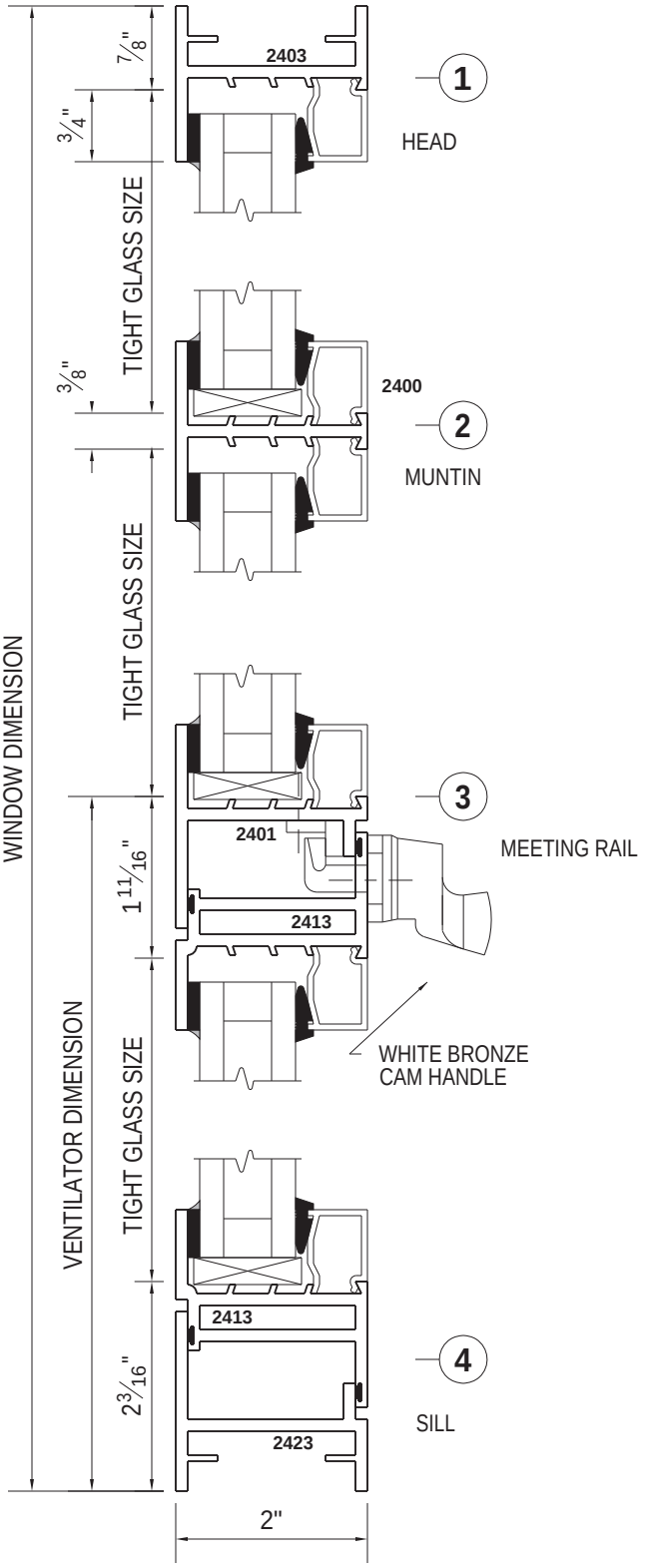


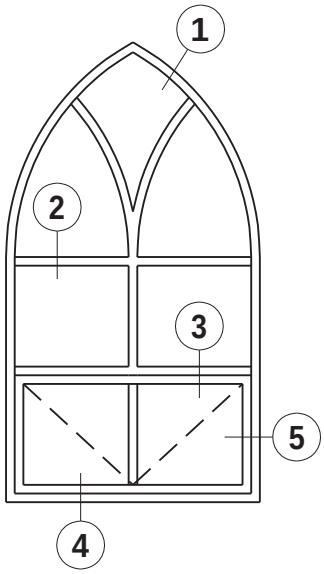
SCALE = FULL SIZE

Features:

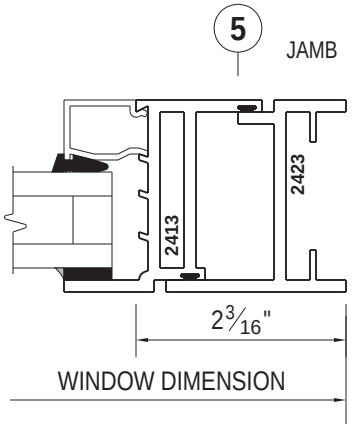
- Full 2" deep frame with ⅛" thick walls will meet or exceed AAMA HC-60 and GS-001 monumental performance specifications.
- Glazing up to 1" can be accomodated.
- Frame corners have tightly fitted hairline joints that are factory sealed.
- Frame and sash corners are either fully welded or heavy angle reinforced, epoxy welded and hydraulically crimped.
- Each ventilator has two wear resistant nylon glides independant of the hinge to insure maximum alignment and weather tightness.
- The 2400 Series is interchangeable with and lines up with the 2440 Series .

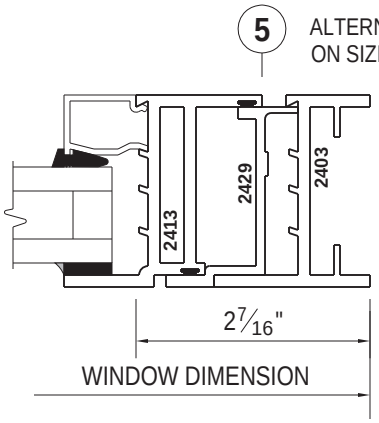
FIXED OVER PROJECT-IN VENT





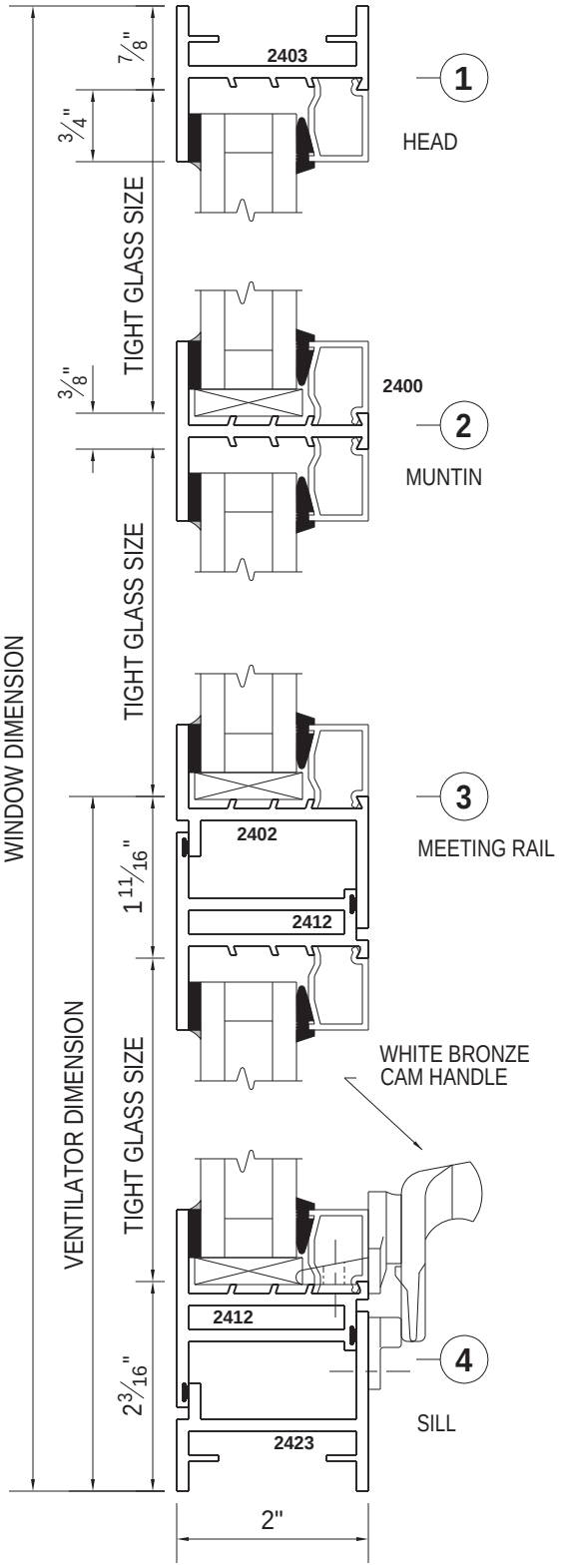
Typical Elevation

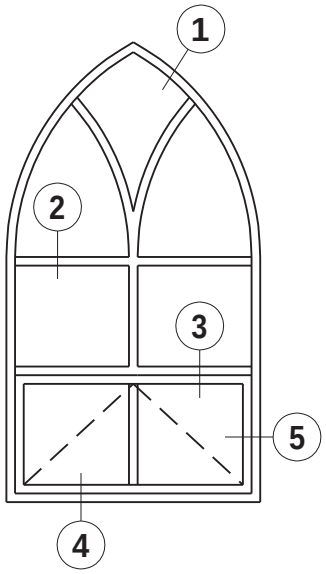




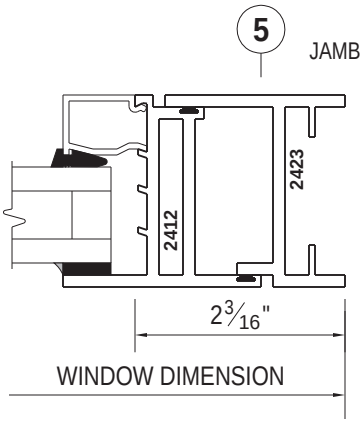
SCALE = HALF SIZE

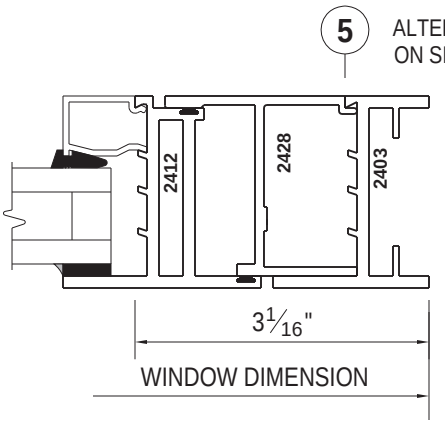
FIXED OVER PROJECT-OUT





Typical Elevation





SCALE = HALF SIZE

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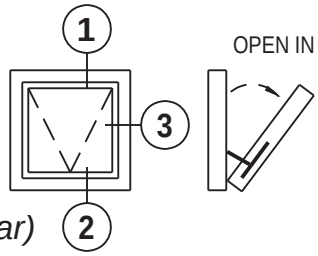
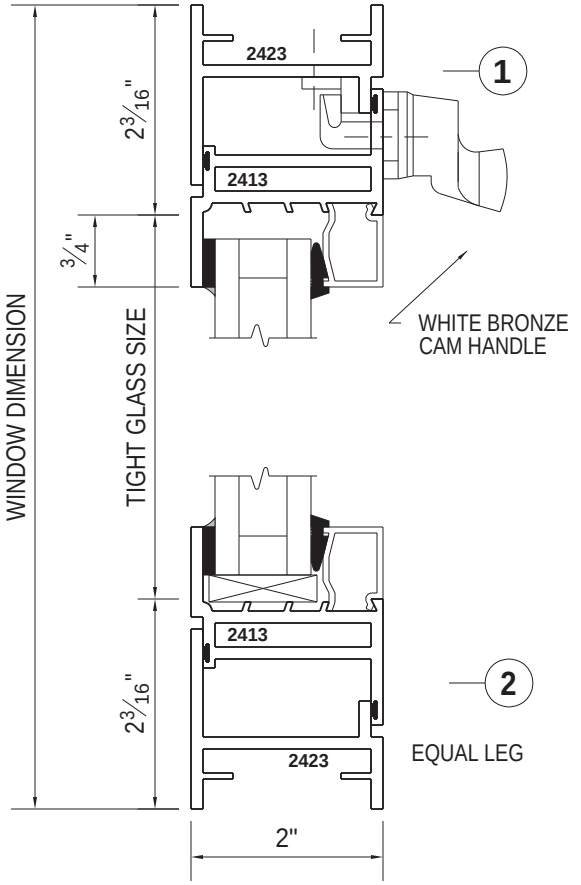
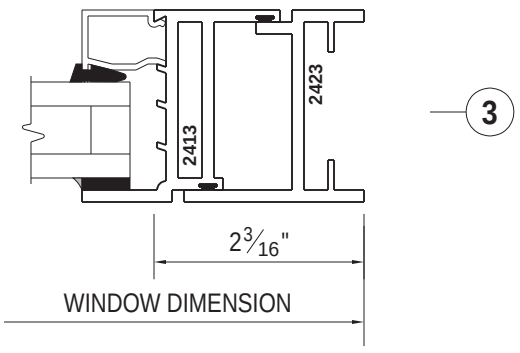
PROJECT-IN
(Inswing casement similar)

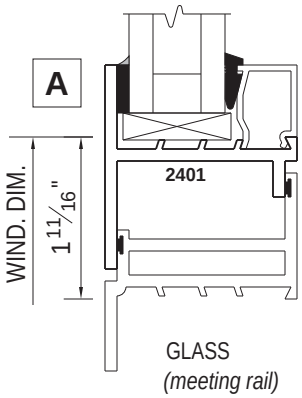


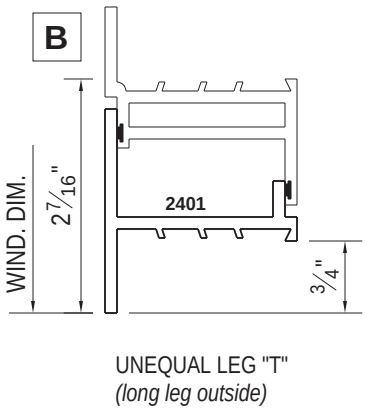
Standard Ventilator
(equal leg frame)

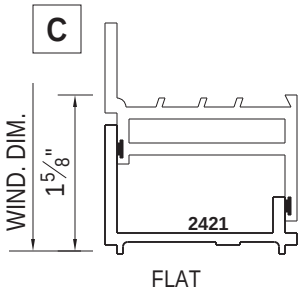


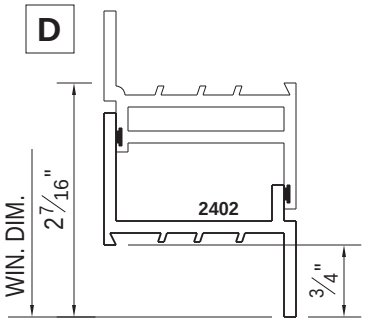


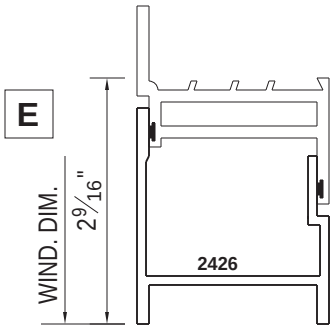
Alternate project-in ventilator sections that can be used at head, sill or jamb.

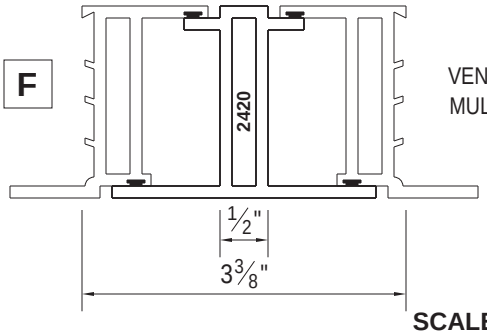












SCALE = HALF SIZE

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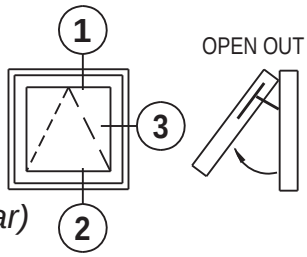
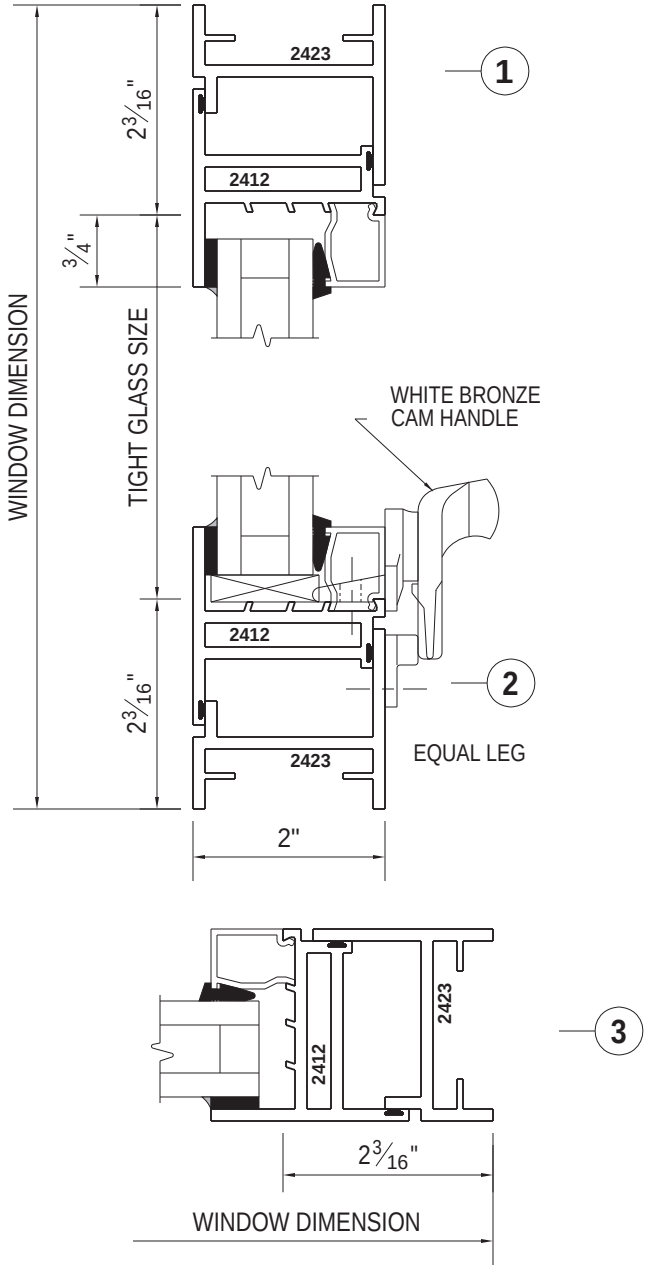
PROJECT-OUT

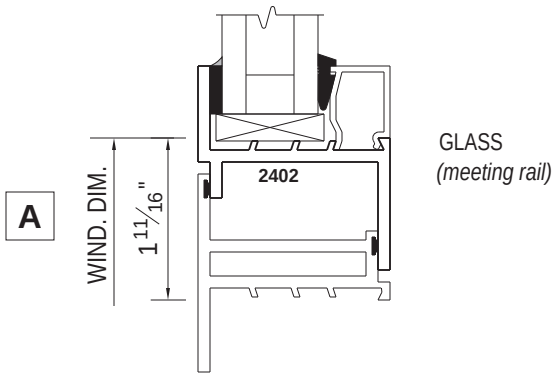


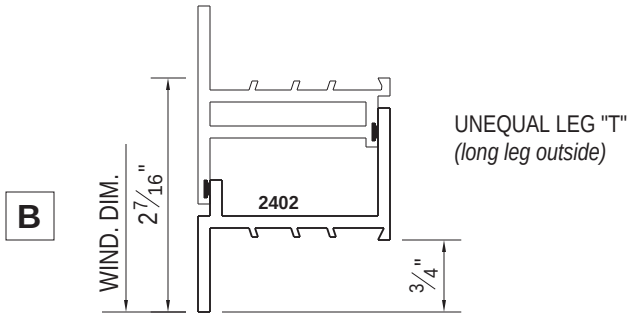
(Outswing casement similar)

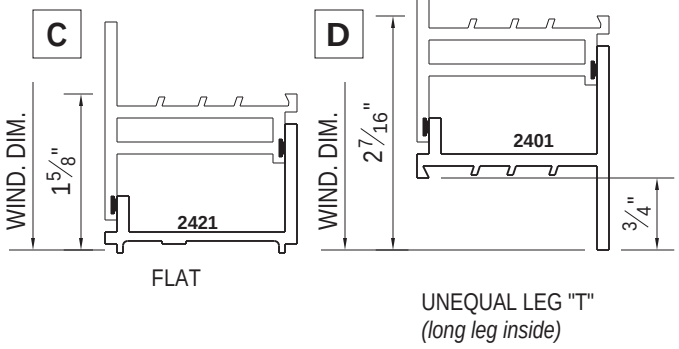
Standard Ventilator
(equal leg frame)

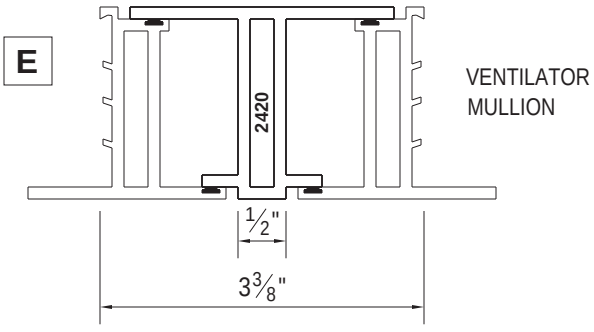


Alternate project-out ventilator sections that can be used at head, sill or jamb.









SCALE = HALF SIZE

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2400 Series
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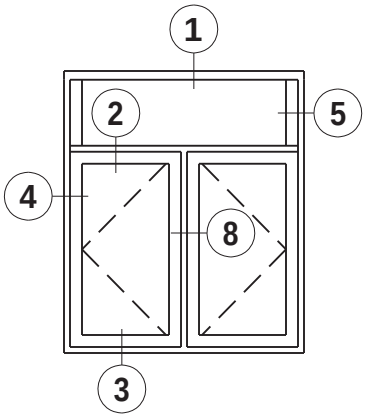
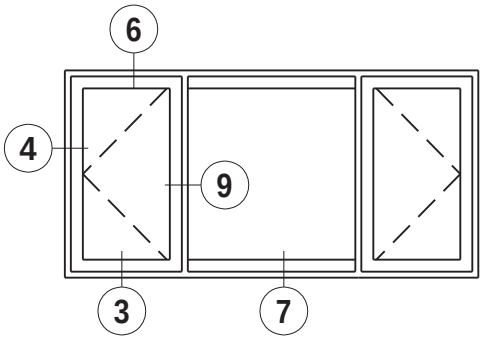
OUTSWING CASEMENT

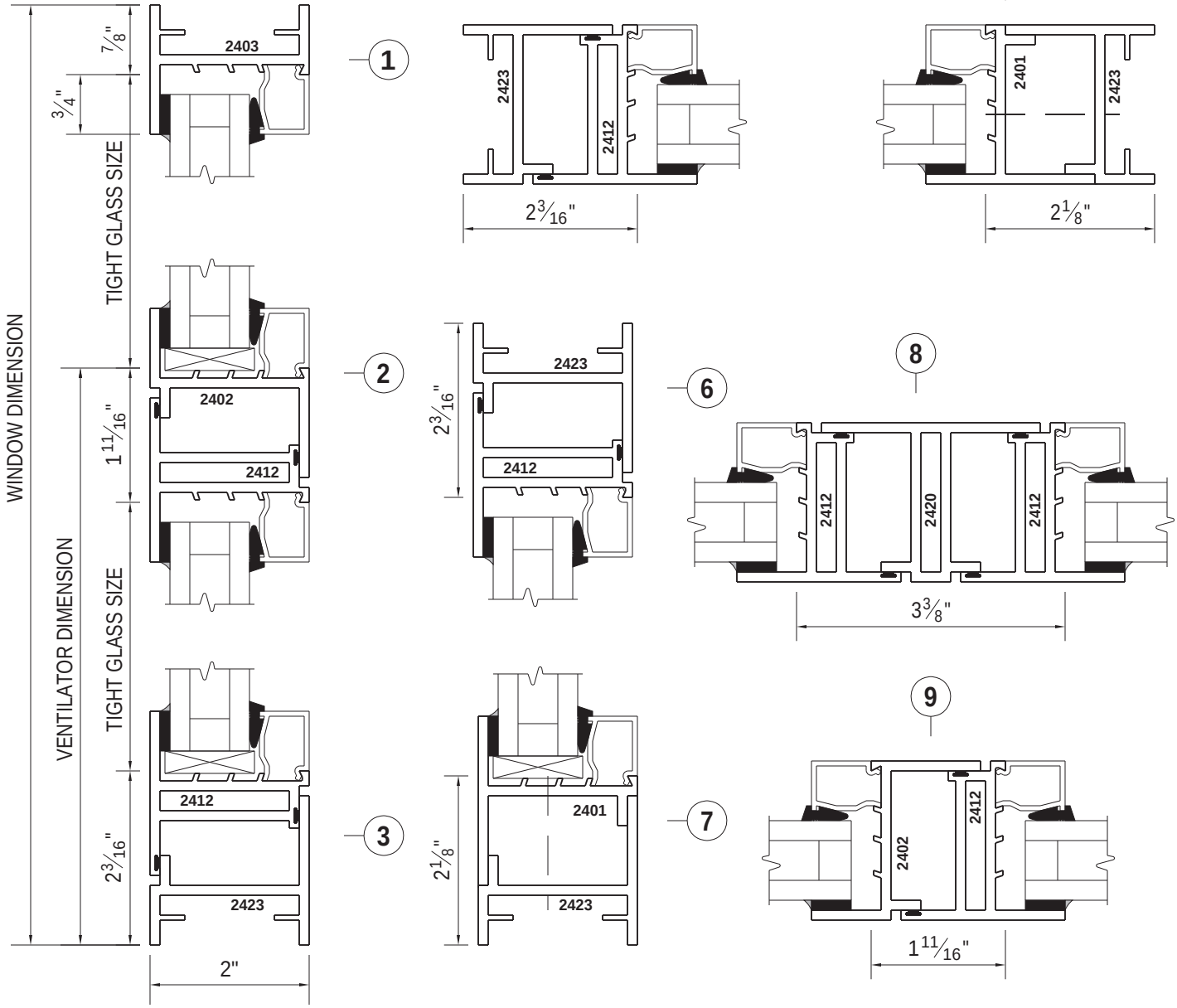
Hardware not shown. Push-pull operation with cam handles and stainless steel concealed 4 bar hinges are standard. Crank operation with rotos and 5 knuckle extruded aluminum butt hinges are optional.

(equal leg frame)





Typical Elevations



SCALE = HALF SIZE

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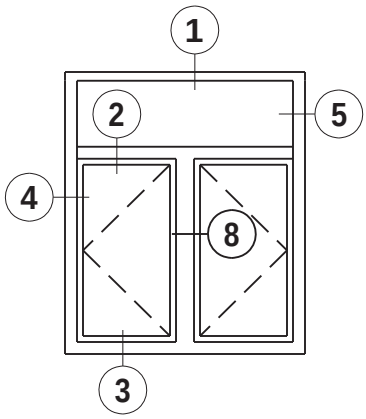
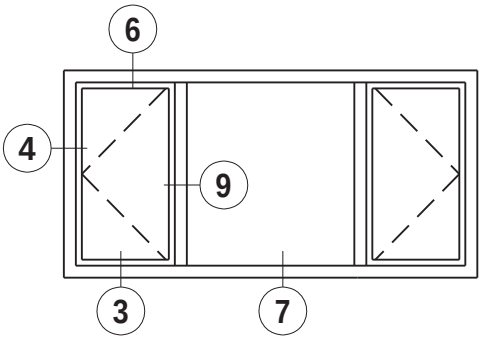
INSWING CASEMENT

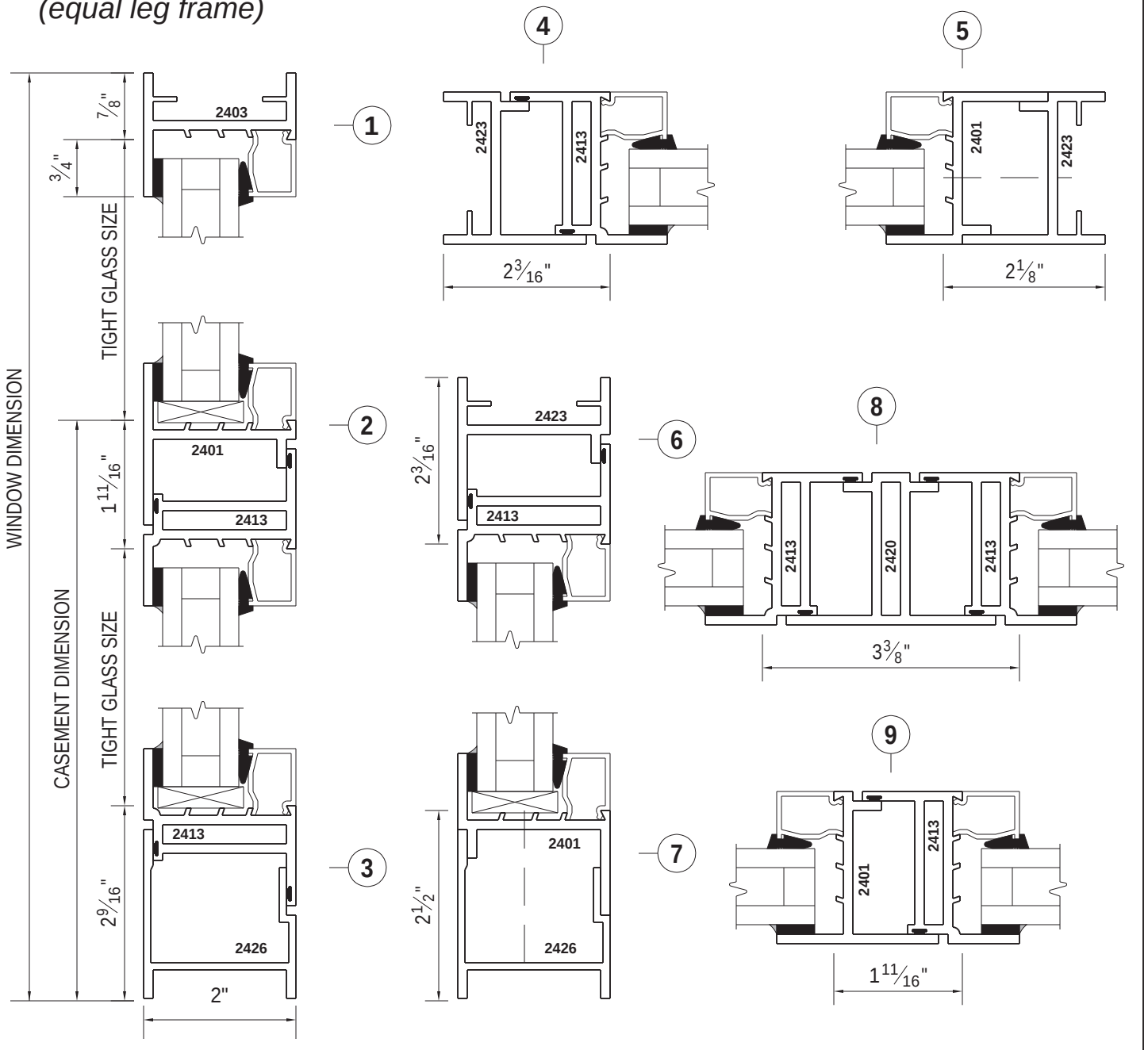
Hardware not shown. Push-pull operation with cam handles and stainless steel 4 bar hinges are standard. 5 knuckle extruded aluminum butt hinges are optional.





Typical Elevations

(equal leg frame)



SCALE = HALF SIZE

J. Sussman, Inc.

2400 Series
MONUMENTAL CUSTOM WINDOWS

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Fixed Perimeter Frame Sections

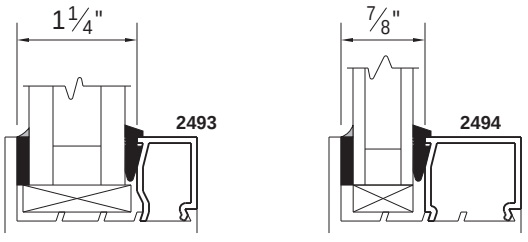
A — WIND. DIM. 1 5/8" — 2403 — 7/8" / 3/4" — EQUAL LEG *(standard)*

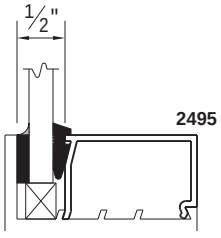
B — WIND. DIM. 1 7/8" — 2400 — 3/4" / 3/8" — UNEQUAL LEG "T" (long leg outside)

C — WIND. DIM. 1 1/8" — 2405 — 3/8" — FLAT

D — WIND. DIM. 3/4" + 1 3/8" — 2402 — 1 3/8" — UNEQUAL LEG "Z" *(long leg inside)*

Glazing Options





Note: With different glazing gaskets and tapes, many more variations on glass thicknesses are available.

Muntins

E — 1 7/8" — 2400 — 3/8" — SOLID MUNTIN

F — 2 1/4" — 2407 — 3/4" — TUBULAR MUNTIN

Vertical and Horizontal Stacking

(glass not shown)

G — 2 5/8" — 2403 / 2405 — 7/8" / 1/4" — 1 1/8" — NARROW SPLIT TUBE

H — 3 1/4" — 2406 — 7/8" / 7/8" — 1 3/4" — WIDE SPLIT TUBE

I — 3 3/8" — 2403 / 2460 / 2403 — 7/8" / 7/8" — 1 7/8" — REINFORCED SPLIT TUBE

SCALE = HALF SIZE

J. Sussman, Inc.

2440 Series
MONUMENTAL CUSTOM WINDOWS

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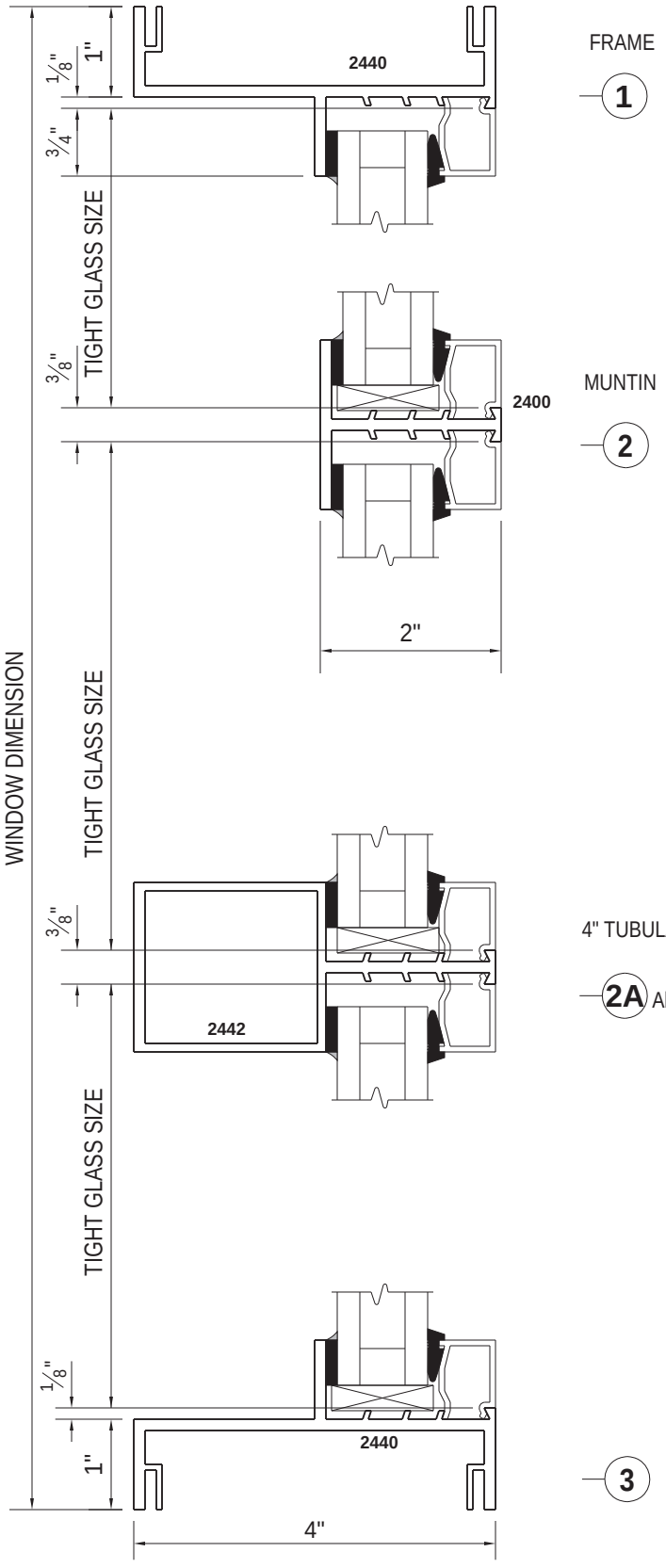
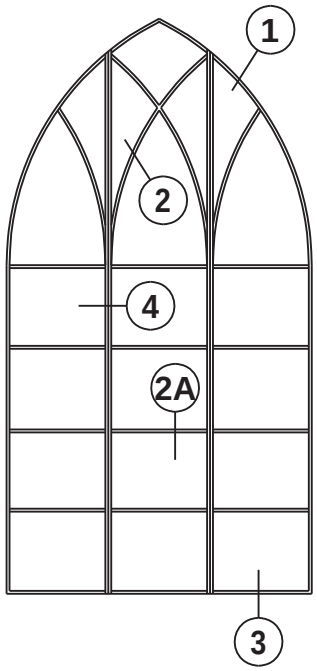
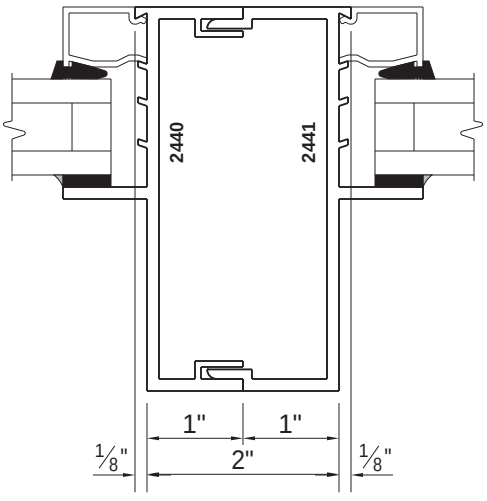
The 2440 Series is 4" deep and is used for large windows or for design variation. The 2440 Series lines up with, and is interchangeable with the 2400 Series. 2400 Series ventilators can easily be incorporated into the 2440 Series. All sections can be used horizontally or vertically.





Typical Elevation

4 SPLIT TUBE/ STACKING MULLION



SCALE = HALF SIZE

J. SUSSMAN, INC.
Since 1906

109-10 180th St
Jamaica, NY 11433
718-297-0228
Fax 718-297-3090
www.jsussmaninc.com

2400/2440 SERIES GUIDE SPECIFICATIONS
Fixed, Projected and Casement
SECTION 08 51 13 (08520) ALUMINUM WINDOWS

(Text in parentheses and italics are notes to spec writer and are not to be included in specification.)

Part 1 GENERAL

1.01 Work Included
- A. Furnish and install aluminum architectural windows complete with all necessary hardware and related components as shown on drawings and specified in this section.
- B. Glass and Glazing
  1. Refer to Section 08 81 00 – Glass and Glazing (08800) for glazing of window units.

1.02 Related Work
- A Section 07 92 00 – Joint Sealants (09715)
- B. Section 08 32 00 – Sliding Glass Doors (08314)
- C. Section 08 41 00 – Entrances and Storefronts (08400)
- D. Section 08 42 33 – Balanced Entrance Doors (08480)
- E Section 08 51 66 – Metal Window Screens (08586)
- F. Section 08 44 00 – Curtain Walls and Glazed Assemblies (08900)
- G Section 08 44 33 – Sloped Glazing Assemblies (08960)

1.03 References (See AAMA GS-001 and AAMA 101 For Current Applicable Listings)
- A. AAMA (American Architectural Manufacturers Association):
- B. ANSI (American National Standards Institute):
- C. ASTM (American Society for Testing and Materials):
- D. CPSC (Consumer Product Safety Commission):
- E. FGMA (Flat Glass Marketing Association):
- F. GSA (General Services Administration):

1.04 Items Installed But Not Furnished

(Enter description, e.g., louver supplied by others to be installed in new window)

1.05 Items Furnished But Not Installed

(Enter description, e.g., extra sash sets to be supplied and stored for the future)

1.06 Testing and Performance Requirements
- A. Windows shall conform to all ANSI/AAMA 101-88 HC60 and GS-001 requirements. In addition, the following specific performance requirements must be met.
- B. Test Procedure and Performance Requirements
  1. Air Infiltration: When tested in accordance with ASTM E 283-83, air infiltration shall not exceed 0.001 cfm/ft under a static pressure drop of 6.24 psf.
  2. Water Resistance: When tested in accordance with ASTM E 331-83 and ASTM E 547-83 there shall be no water leakage when the window is subjected to a pressure drop of 10.50 psf
  3. Uniform Structural Load Test: When tested in accordance with ASTM E 330-79 with a static pressure difference of 90 psf exterior (positive) and 90 psf interior (negative) there shall be no glass breakage, permanent damage to fasteners, hardware parts or actuating mechanisms which would cause the window to be inoperable. Permanent deformation of any frame or vent member shall not exceed .2% of its span

1.07 Quality Assurance
- A. Test reports from an independent certified laboratory shall be available upon request.

1.08 Submittals

A. The window manufacturer shall submit shop drawings, finish samples, test reports, warranties and maintenance manuals per the requirements of architect.

1.09 Delivery, Storage and Handling

A. Store and handle windows and other components in strict compliance with manufacturer's instructions.
B. Protect units against damage from the elements, construction activities and other hazards before, during, and after installation.

1.10 Warranties

A. Submit written warranties from window manufacturer for the following:
   1. Windows: Windows furnished are certified as fully warranted against any defects in material or workmanship under normal use and service for a period of one (2) years from date of fabrication.
   2. Finish: The pigmented organic finishes on windows and component parts (such as panning, trim, mullions, and the like) are certified as complying fully with the requirements of the AAMA 260X specification and fully warranted against chipping, peeling, cracking or blistering for a period of five (5) years from date of installation.

Part 2 PRODUCTS

2.01 Manufacturers

A. All windows shall be Series No. *(Architect to select either or any combination.)*
   2400 2" deep
   2440 4" deep
   custom window as manufactured by J. Sussman, Inc. of 109-10 180 St., Jamaica NY 11433.
B. Other manufacturers desiring approval shall:
   1. Furnish a sample window and valid test reports indicating full compliance with all performance requirements of this specification at least 10 days prior to bid date.
   2. Have been engaged in the fabrication of aluminum windows for ten years and this type of window for 5 years and shall submit for review a list of similar completed projects.
   3. Approval of "equal" products shall be in the form of a written addendum.
   4. Substitute products not pre-approved by the Architect via addenda will not be considered.
   5 Base bid will be J. Sussman, Inc.

2.02 Materials

A. Extruded aluminum shall be 6063-T5 alloy and temper with a minimum ultimate tensile strength of 22,000 psi. Comply with ASTM B 221
B Fasteners shall be aluminum, stainless steel or other materials warranted by the manufacturer to be non-corrosive and compatible with aluminum window members, trim, hardware, anchors and other components of the window units.

2.03 Fabrication

A. General
   1. All main sections shall have a minimum depth of 2" with a nominal wall thickness of .125. *(For the 2440 Series add the following: Frame and required muntins shall be 4" in depth.)*
   2. Glazing rebates shall not be less than 3/4" in height.
   3. Window members must incorporate the glazing legs as an integral part of the frame, sash, and muntin bar design. Mechanically applied glazing legs will not be accepted.
   4. All joints shall be cut to a hairline fit and be either fully sigma arc welded or shall be heavy angle reinforced, cold welded with epoxy adhesive and hydraulically crimped.
   5. All joints shall be factory sealed.

B. Ventilators
   1. Ventilators shall be project-in, project-out, in-swing casement, out-swing casement or combinations thereof as shown on the plans.
   2. All sash extrusions shall be tubular.
   3. Each corner shall be mitered, heavy angle reinforced, cold welded epoxy adhesive and hydraulically crimped.
   4. Ventilators and frames must be on the same plane and present a flush interior and exterior surface. Overlap or extensions of ventilators beyond the frame will not be acceptable.

5. Projected ventilators shall operate in two specially designed wear resistant weatherproof nylon glides independent of the hinge to insure both maximum alignment and weather tightness in the closed position.
6. The void between the ventilator sash and frame shall be pressure equalized to outside conditions.

C. Glazing Beads
1. Glazing beads shall be extruded from 6063-T5 alloy and be not less than .050 thick.
2. The glazing beads will be snap in type to securely interlock into the extruded window members without extending underneath the glass.
3. They shall be factory fitted and attached.
4. Glazing beads shall also be secured with stainless steel fasteners where required.

D. Weatherstripping
1. Each sash shall have 2 continuous rows of tested Schlegel Q-Lon weatherstripping installed in specially designed dovetail grooves.
2. Weatherstripping shall have a rigid backing that will resist pullout. A single durometer vinyl or rubber weatherstripping will not be accepted.

E. Screens *(Optional)*
1. Insect screens shall be constructed of extruded aluminum tubular frames. Roll formed screen frames will not be accepted.
2. Screens for project in ventilators and in-swing casements shall be removable from the interior.
3. Screens for project-out ventilators and push/pull operated out-swing casements shall be of the hinged wicket type. Screen frames shall be finished to match the windows.
4. Screen cloth shall be 18x16 fiberglass mesh. (*Aluminum mesh optional.)*
5. Screen spline shall be extruded vinyl, removable to permit re-screening.
6. Screen mounting holes in the windows frame shall be factory drilled.

2.04 Hardware

A. Hardware shall conform to the requirements of the ventilator and shall be factory fitted and attached with stainless steel screws.
B. Locking handles for projecting ventilators shall be cam type and be solid white bronze with a US25D satin polished finish. *(Custodial locks and pole-operated handles are optional.)*
B. Projected ventilators shall operate on stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.
C. Out-Swing Casements shall operate on *(choose one)*
1. (Standard) stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.
2. (Optional) 5 knuckle extruded aluminum butt hinges with 1/4" diameter stainless steel pins and nylon bushings and *(choose one)*
a . (Option 1) Zinc die cast roto operators compatible with aluminum and shall meet ASTM E405.
b. (Option 2) heavy duty stainless steel friction adjusters.
c. (Option 3) stainless steel limit opening devices with release key.
D. In-Swing Casements shall operate on *(choose one)*
1. (Standard) stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.
2. (Optional) 5 knuckle extruded aluminum butt hinges with 1/4" diameter stainless steel pins and nylon bushings *(the following are optional with butt hinges)*
a. (Option 1) and heavy duty stainless steel friction adjusters.
b. (Option 2) and stainless steel limit opening devices with release key.

2.05 Finish

A. The finish of the aluminum windows shall be *(Architect to select) (Standard finishes are considerably less expensive and lead times for windows are much shorter with standard finishes.)*
1. Architectural Class II Anodic (204-R1) AA M12-C22-A31 Thickness to be .4 mil and shall conform to AAMA 611-98.
a. Color: Clear Anodized *(Standard)*

2. Architectural Class I Anodic (215-R1) AA M12-C22-A41 Thickness to be .7 mil and shall conform to AAMA 611-98.

a. Color: Clear Anodized *(Optional - Consult factory)*

3. Architectural Class I Anodic with electrostatically deposited color AA-M12-C22-A44. Thickness to be .7 mil and shall conform to AAMA 611-98.
   a. Color: Dark Bronze Anodized *(Standard)*
   b. Color: Black Anodized *(Standard)*
   c. Color: _____ *(Insert anodized color selected by Architect. Consult factory)*

4. Baked acrylic enamel organic finish electrostatically applied over pretreated aluminum. Finish shall be a one coat, one bake paint system with a .8 mil minimum overall dry film thickness and shall conform to AAMA 2603.
   a. Color: Bronze Paint *(Standard)*
   b. Color: White Paint *(Standard)*
   c. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

5. High performance organic finish electrostatically applied over pretreated aluminum. Finish shall be based on 50% fluoropolymer resin and be applied as a two coat, two bake paint system with a 1.2 mil minimum thickness and shall conform to AAMA 2604. *(Some colors may require a clear protective topcoat to protect the pigmented coating.*
   a. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

6. High performance organic finish electrostatically applied over pretreated aluminum. Finish shall be based on 70% fluoropolymer resin and be applied as a two coat, two bake paint system with a 1.2 mil minimum thickness and shall conform to AAMA 2605. *(Some colors may require a clear protective topcoat to protect the pigmented coating.*
   a. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

PART 3 EXECUTION

3.01 Inspection

A. Verify that openings are dimensionally correct and within allowable tolerances.
B. Openings must be plumb, level, and clean.
C. Provide a solid anchoring surface that is in accordance with approved shop drawings.

3.02 Installation

A. Use only skilled craftsmen for work to be done in accordance with the manufacturer's installation instructions and/or approved shop drawings and specifications.
B. Windows and materials must be set square and level.
C. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.
D. Adjust Windows for proper operation after installation has been completed.
E. Furnish and apply sealants to provide a weather tight installation at all joints and intersections and at opening perimeters. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.

3.03 Protection and Cleaning

A. After completion of window installation, all windows shall be inspected, adjusted, and left in working order.
B. Windows shall be cleaned to remove mortar, plaster, paint or other contaminants.
C. After cleaning, all work shall be protected against damage until it is accepted by the General Contractor.
D. Thereafter, it shall be the responsibility of the General Contractor to maintain protection and provide final cleaning.
E. Send to Architect, with copy to Owner, written recommendations for maintenance and protection of windows following Substantial Completion of Window Contract.

END OF SECTION

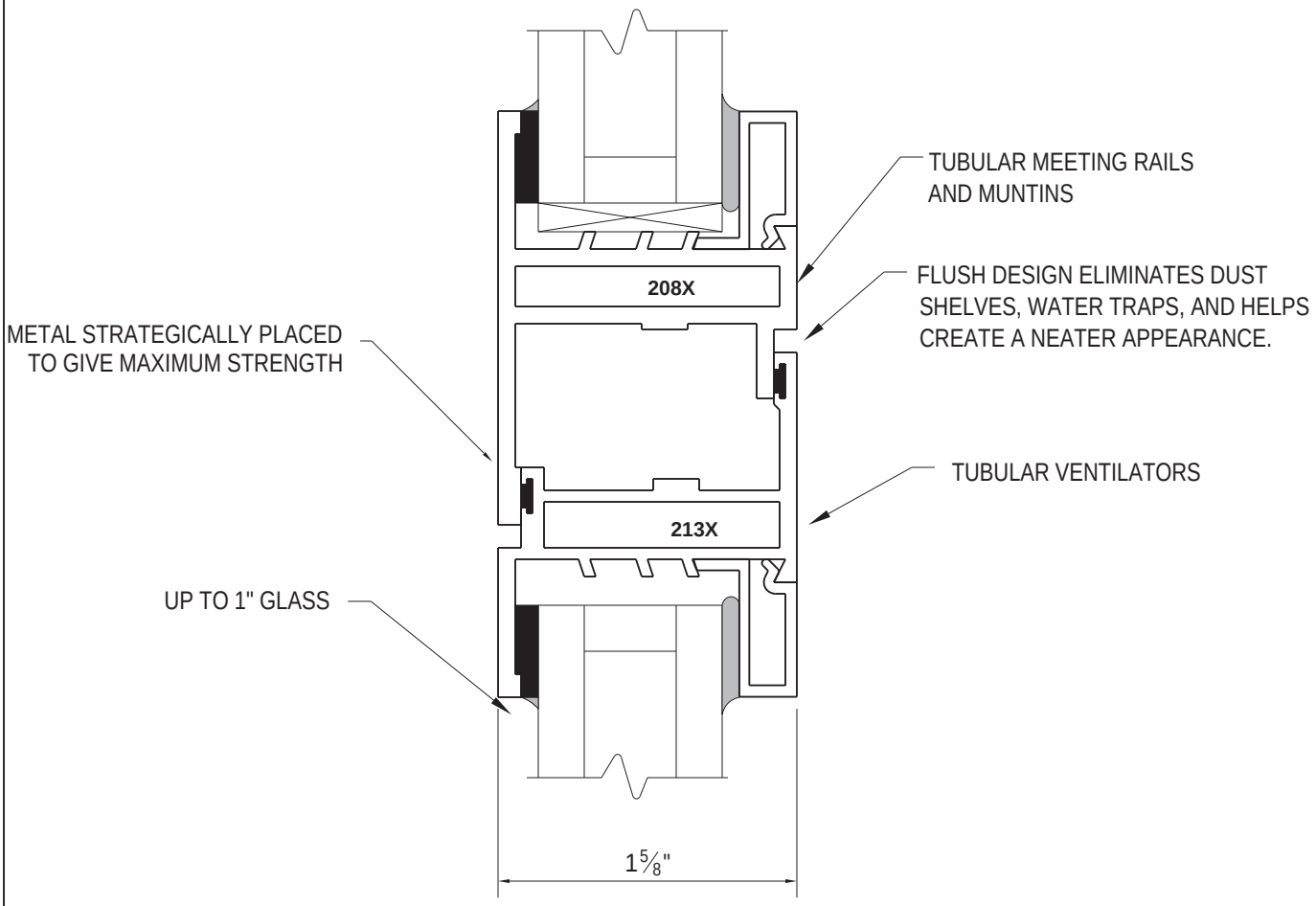
The above specifications are subject to change without notice.

J. Sussman, Inc.

200X Series
STANDARD CUSTOM WINDOWS

Since 1906 — America's finest custom windows

The 200X Series is the economy window that does not sacrifice high quality design or craftsmanship. It is available as project-in, project-out, casement and fixed units (picture window) that can be fabricated into an unlimited number of designs.

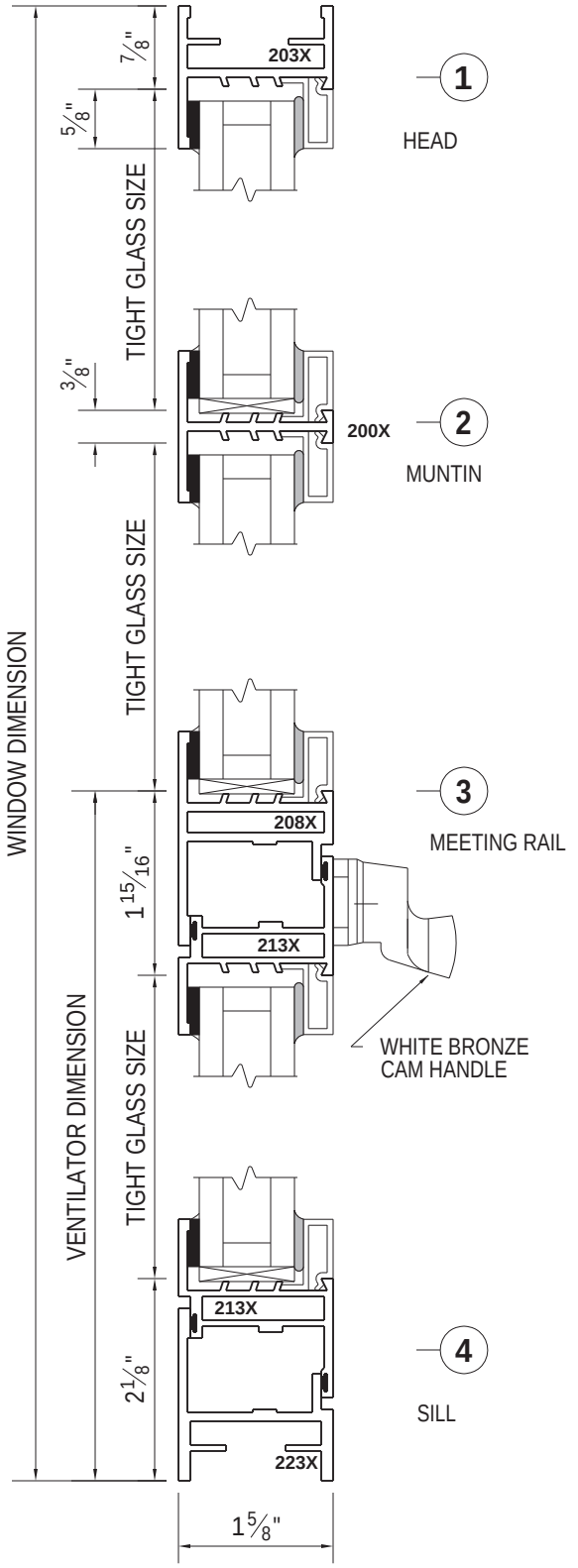


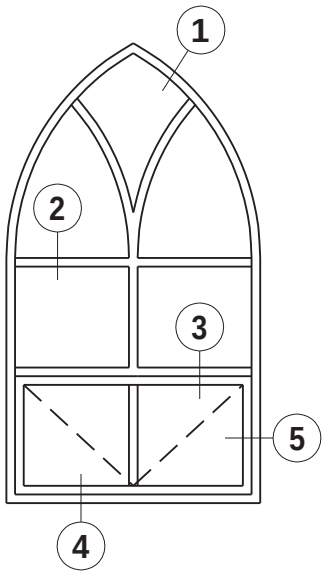
SCALE = FULL SIZE

Features:

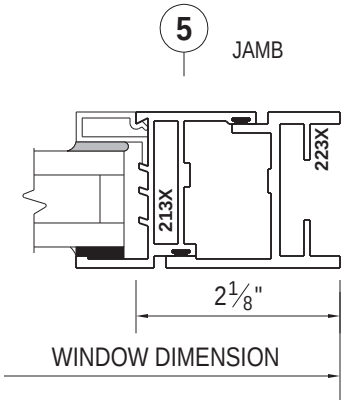
- Full 1⅝" deep sections with tubular sash and meeting rails will meet or exceed AAMA C-50 commercial performance specifications.
- All corners are either fully welded or heavy angle reinforced, epoxy welded and hydraulically crimped.
- Metal is strategically placed to give maximum strength yet light enough to make a substantial difference in price.
- Glazing up to 1" can be accomodated.
- Each ventilator has two wear resistant nylon glides independant of the hinge to insure maximum alignment and weather tightness.
- The 200X Series is interchangeable with and lines up with the 240X Series.

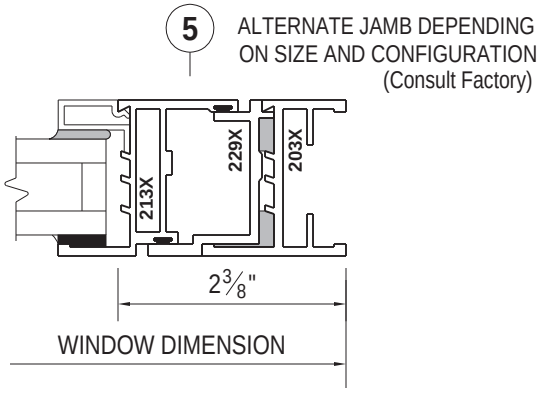
FIXED OVER PROJECT-IN VENT





Typical Elevation





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200X Series
STANDARD CUSTOM WINDOWS

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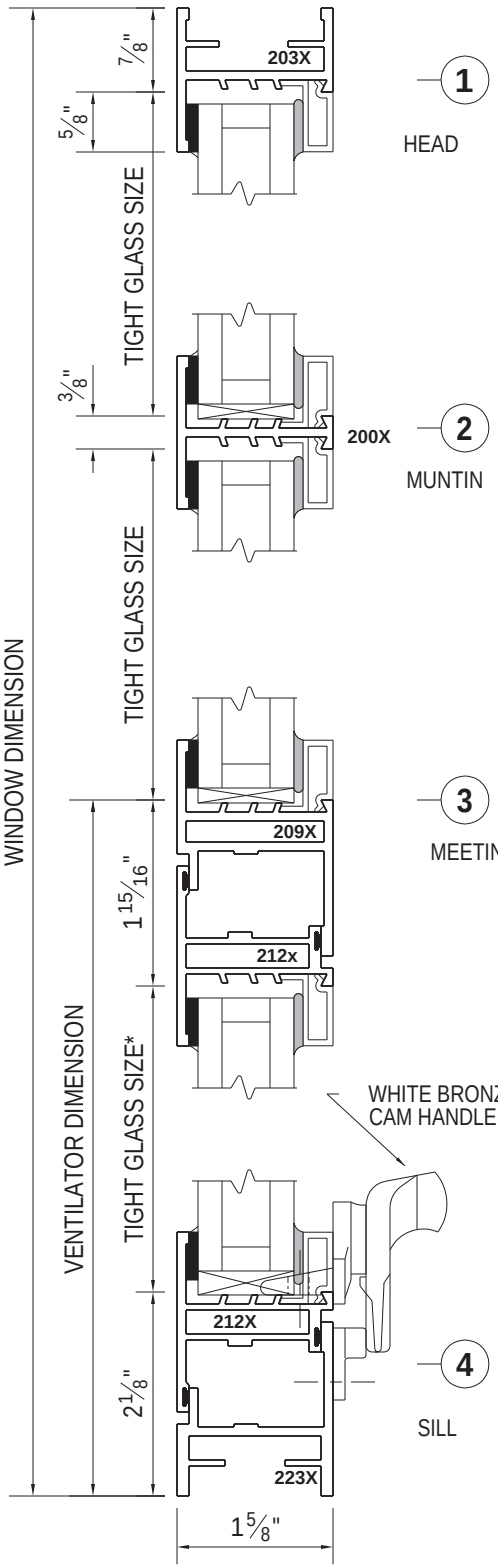
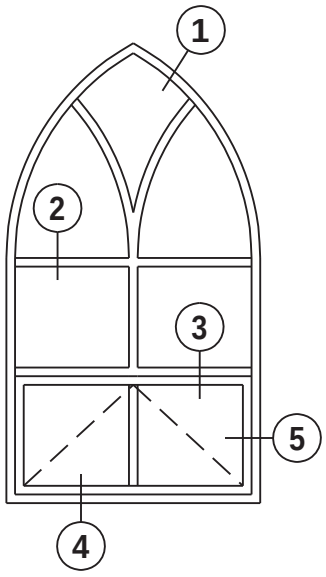
FIXED OVER PROJECT-OUT





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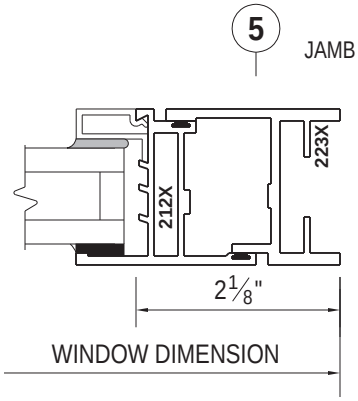

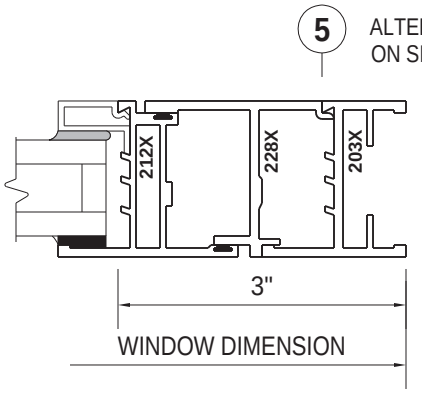

*When figuring glass size for 1" glass, allow extra clearance for angle base handle

SCALE = HALF SIZE

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200X Series
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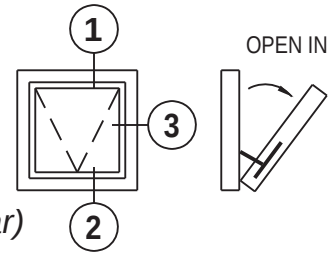
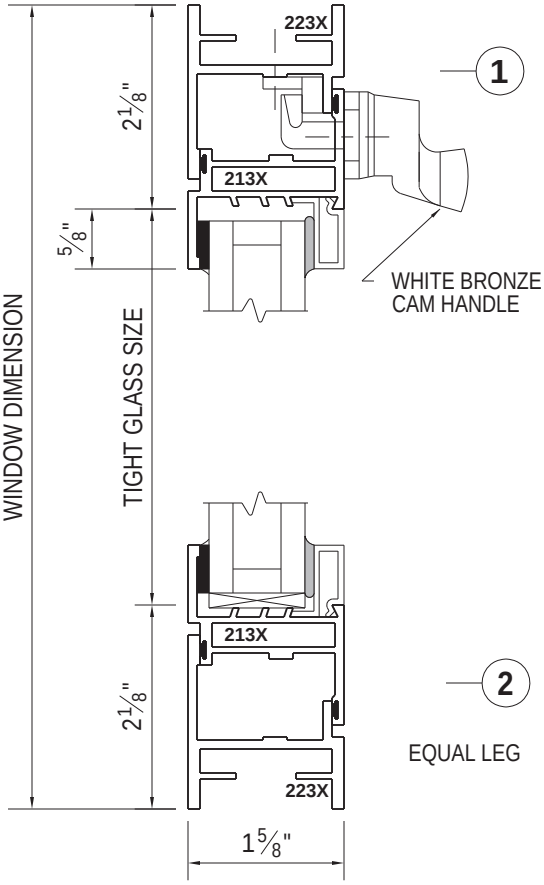
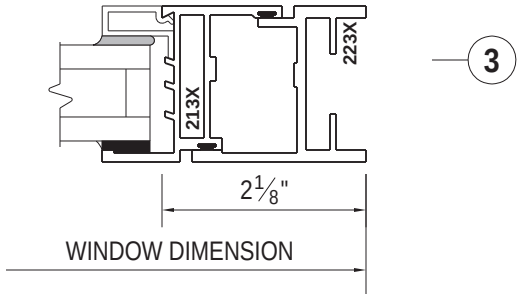


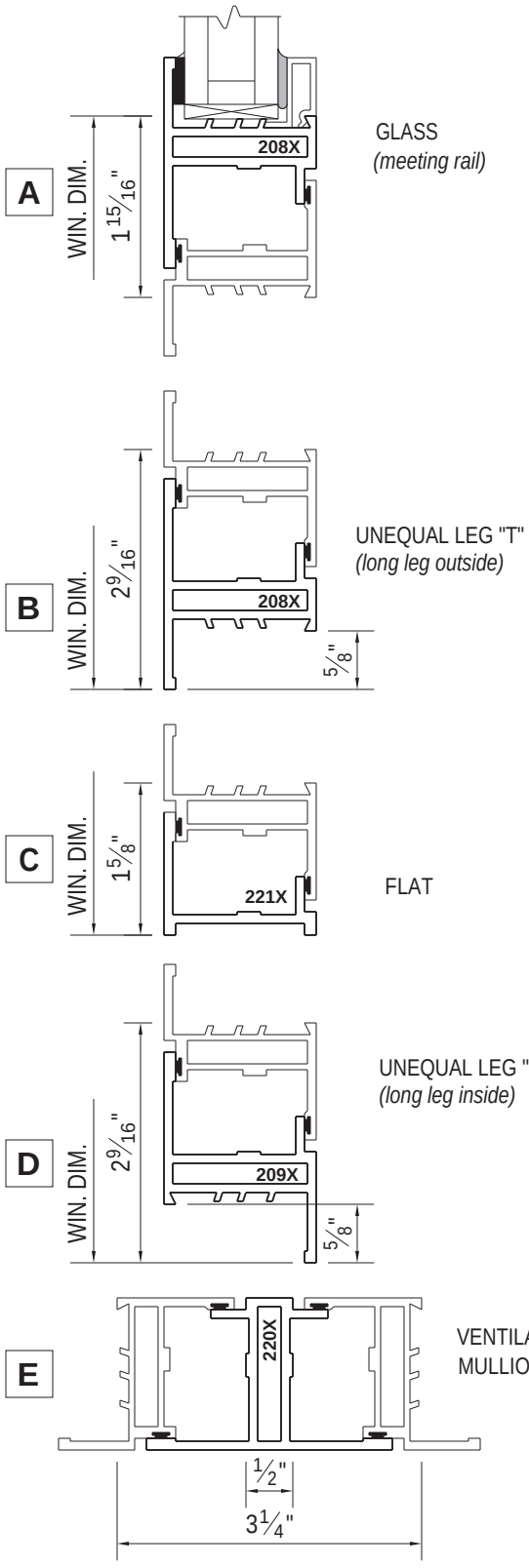
PROJECT-IN
(Inswing casement similar)

Standard Ventilator
(equal leg frame)





Alternate project-in ventilator sections that can be used at head, sill or jamb.



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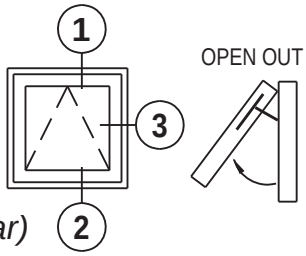
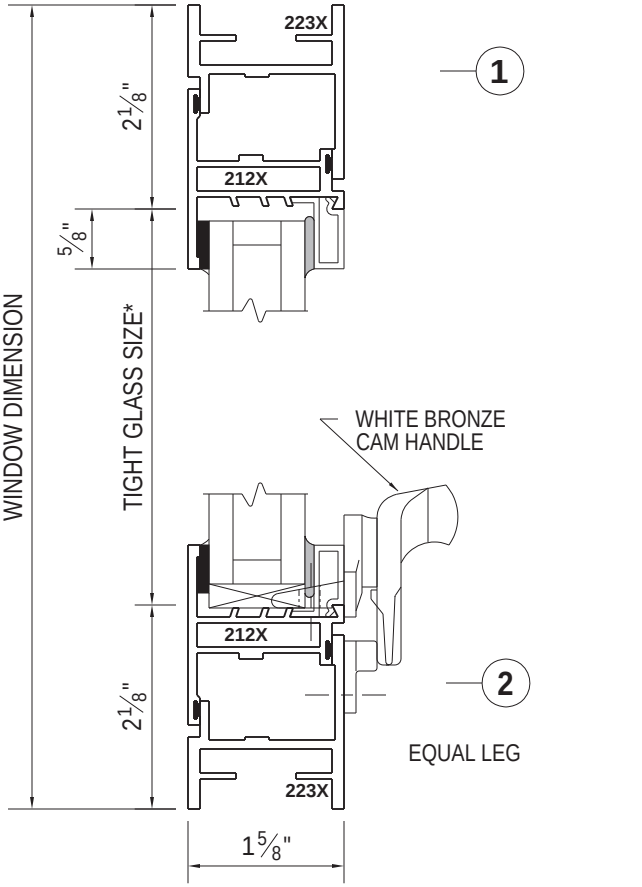
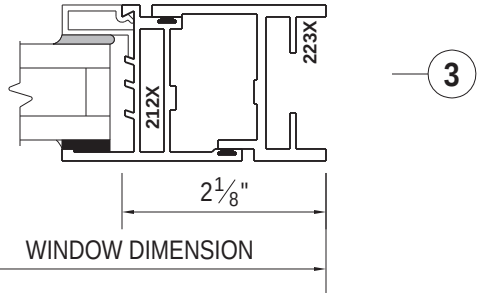


PROJECT-OUT
(Outswing casement similar)

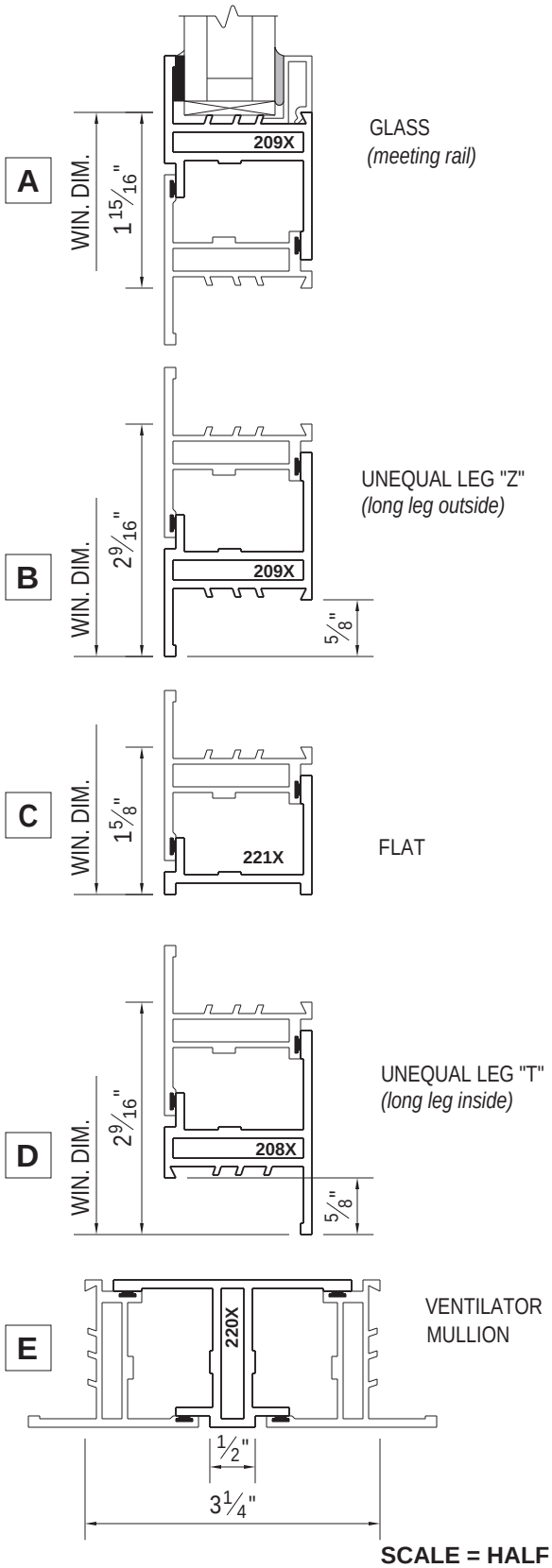
Standard Ventilator
(equal leg frame)





*When figuring glass size for 1" glass, allow extra clearance for angle base handle

Alternate project-out ventilator sections that can be used at head, sill or jamb.

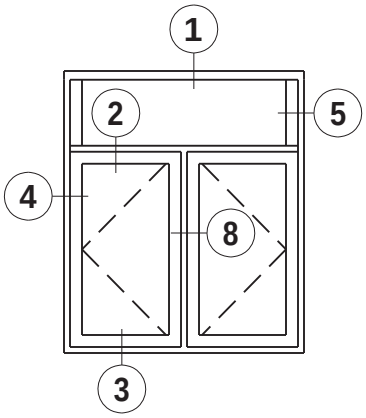


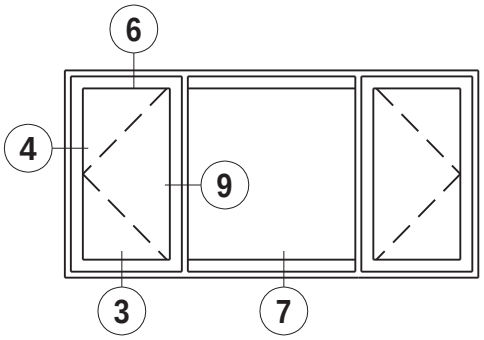
SCALE = HALF SIZE

OUTSWING CASEMENT

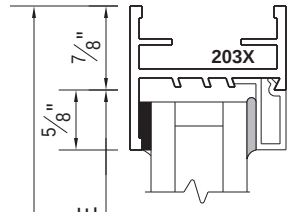
Hardware not shown. Push-pull operation with cam handles and stainless steel concealed 4 bar hinges are standard. Crank operation with rotos and 5 knuckle extruded aluminum butt hinges are optional.

(equal leg frame)





Typical Elevations



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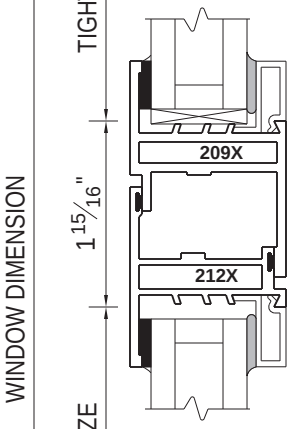

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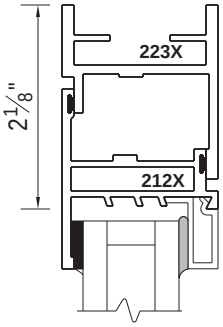

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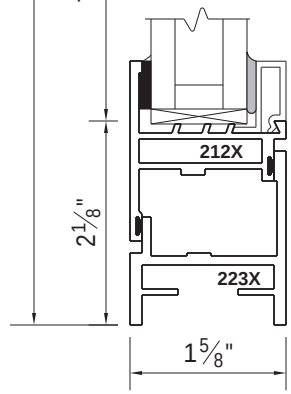

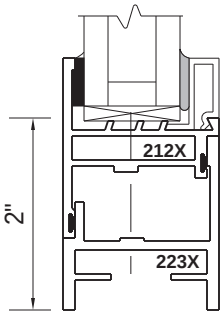

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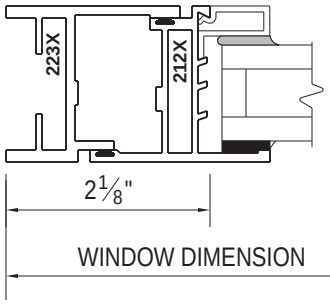

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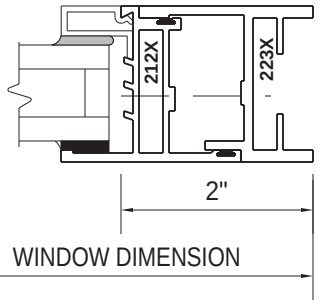

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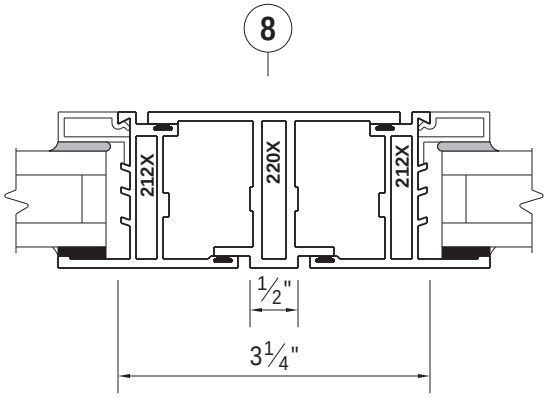

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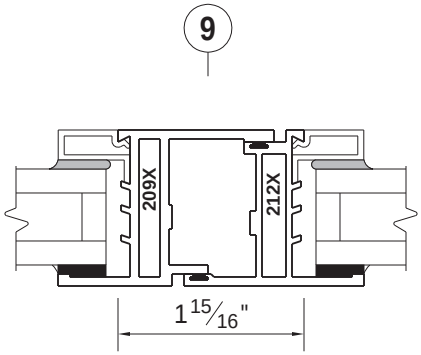

SCALE = HALF SIZE

J. Sussman, Inc.

200X Series
STANDARD CUSTOM WINDOWS

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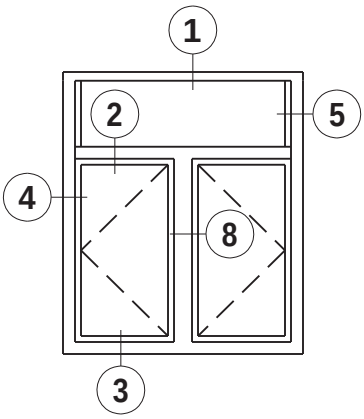
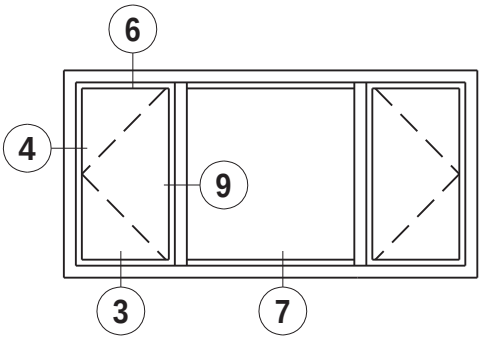
INSWING CASEMENT

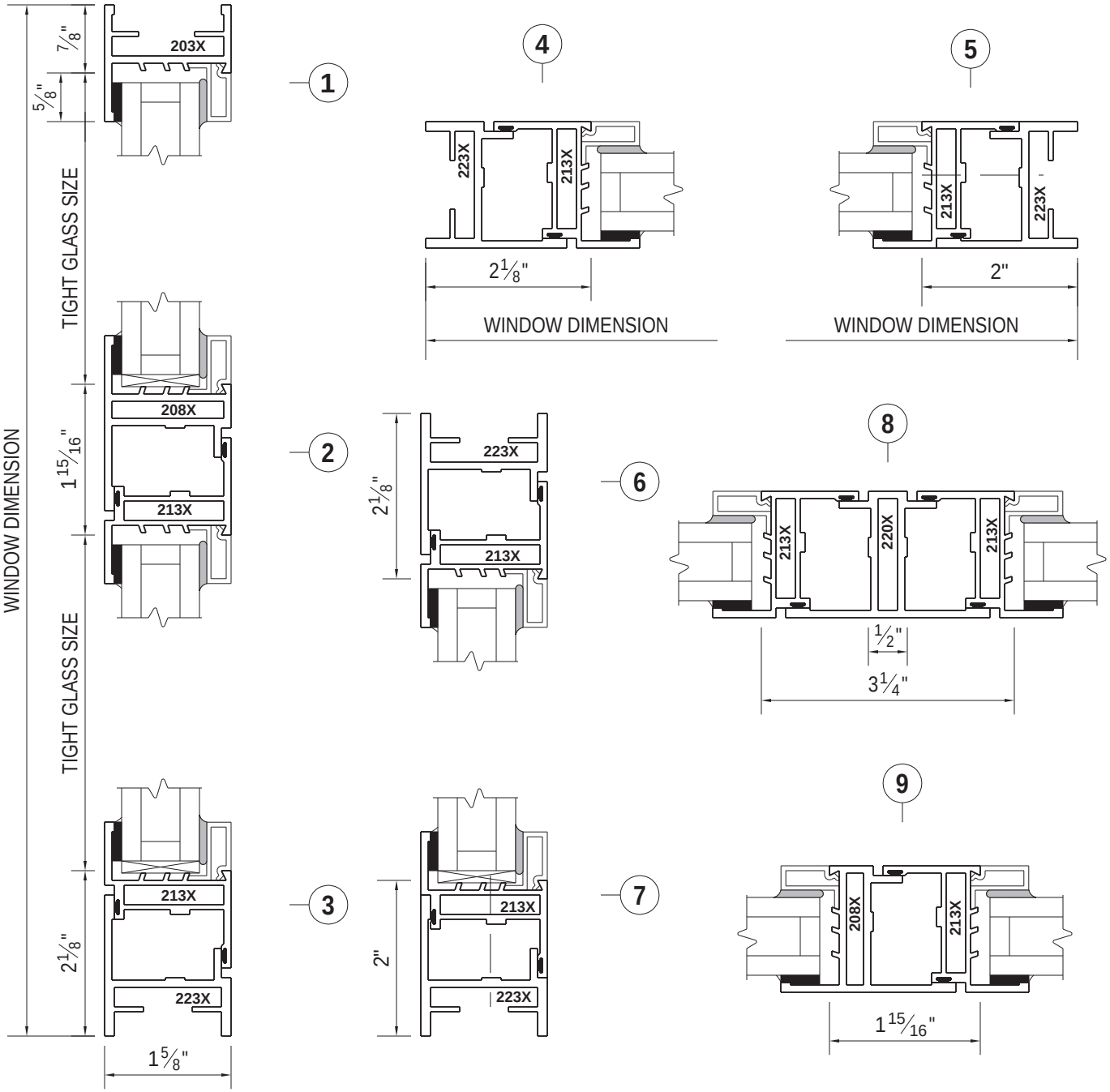
Hardware not shown. Push-pull operation with cam handles and stainless steel 4 bar hinges are standard. 5 knuckle extruded aluminum butt hinges are optional.





(equal leg frame)

Typical Elevations



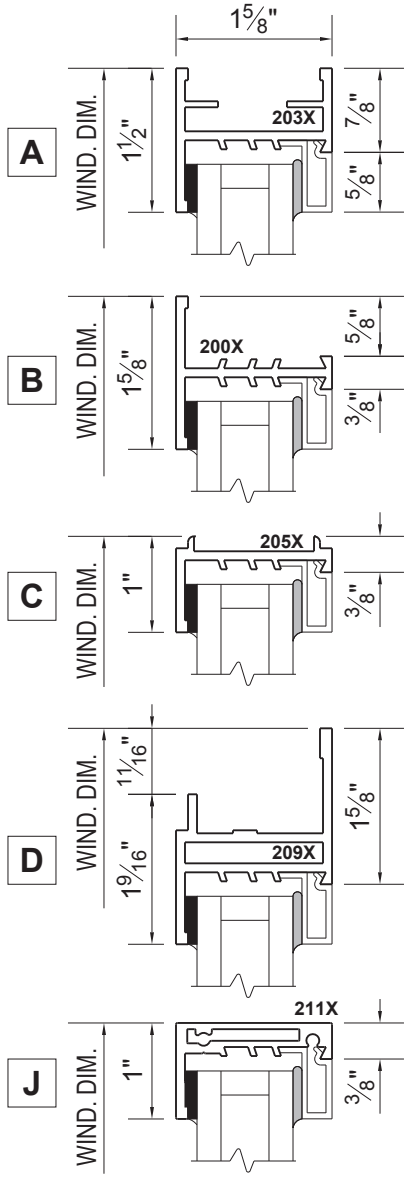
SCALE = HALF SIZE

J. Sussman, Inc.

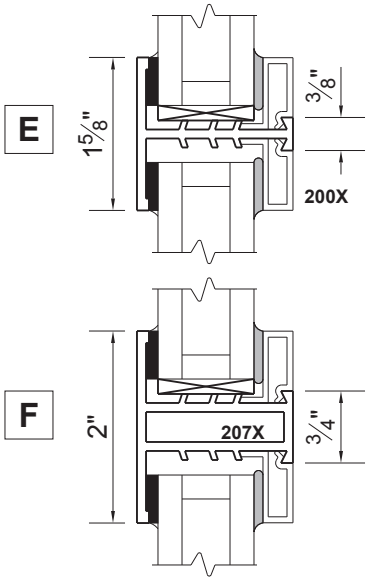
200X Series
STANDARD CUSTOM WINDOWS

Since 1906 — America's finest custom windows

Fixed Perimeter Frame Sections

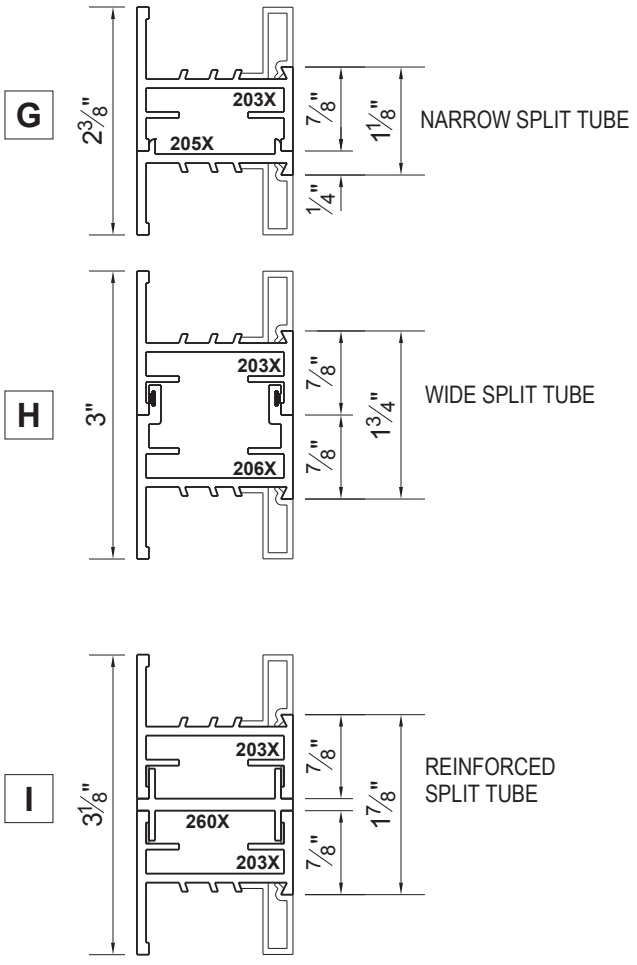


Muntins

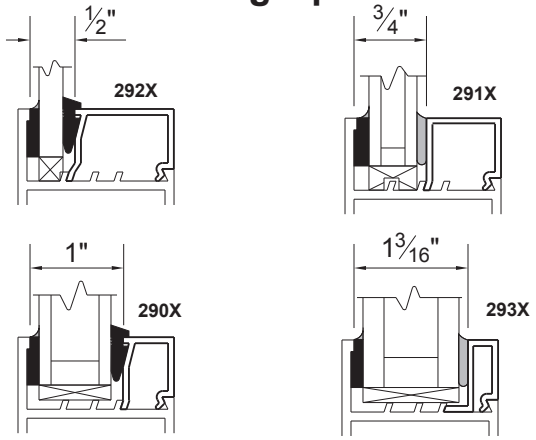


Vertical and Horizontal Stacking

(glass not shown)



Glazing Options



Note: With different glazing gaskets and tapes, many more variations on glass thicknesses are available.

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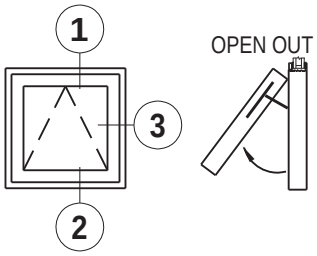
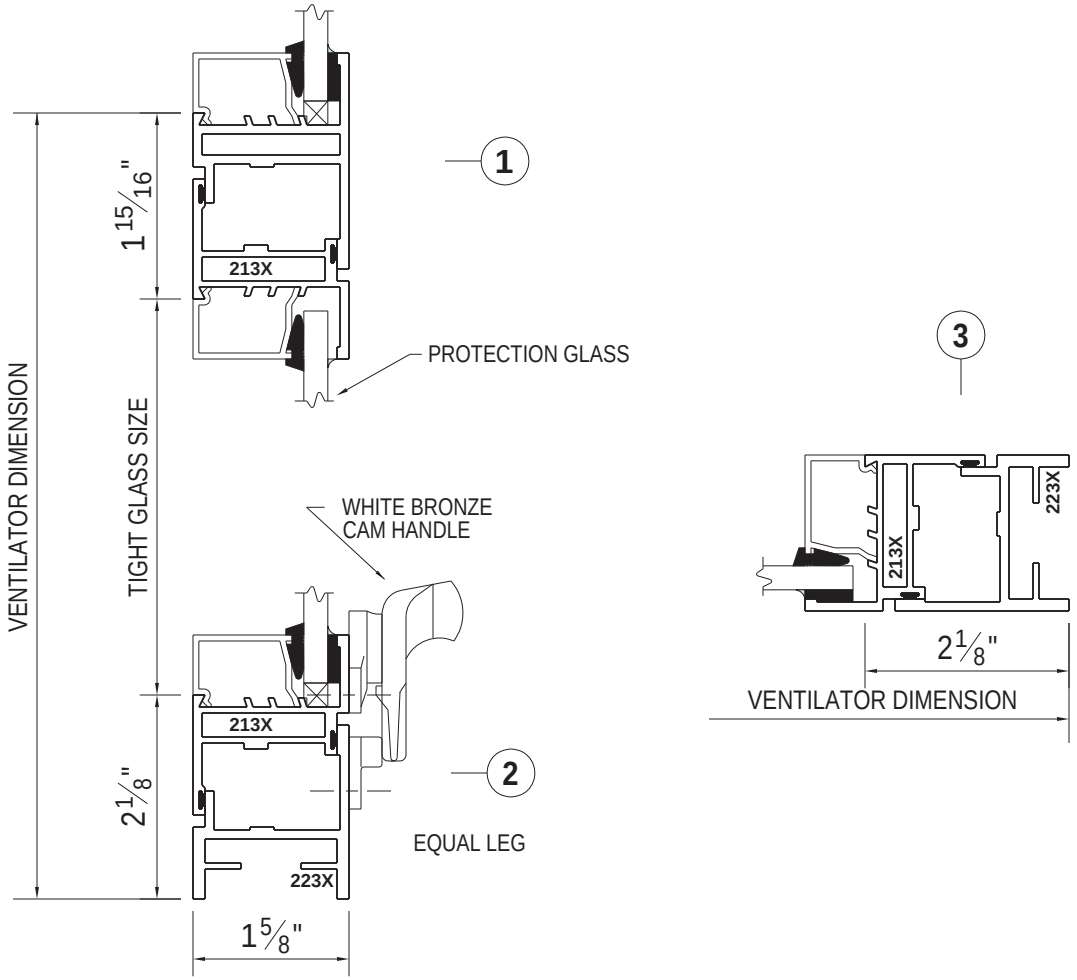
PROJECT-OUT



Standard Bottom Protection Ventilator
(glass on top, outside glazed)

This ventilator is used to protect an existing stained glass double hung window. It is mounted to the exterior of the double hung. The existing double hung window can be pushed up and the protection ventilator can be pushed out for ventilation.



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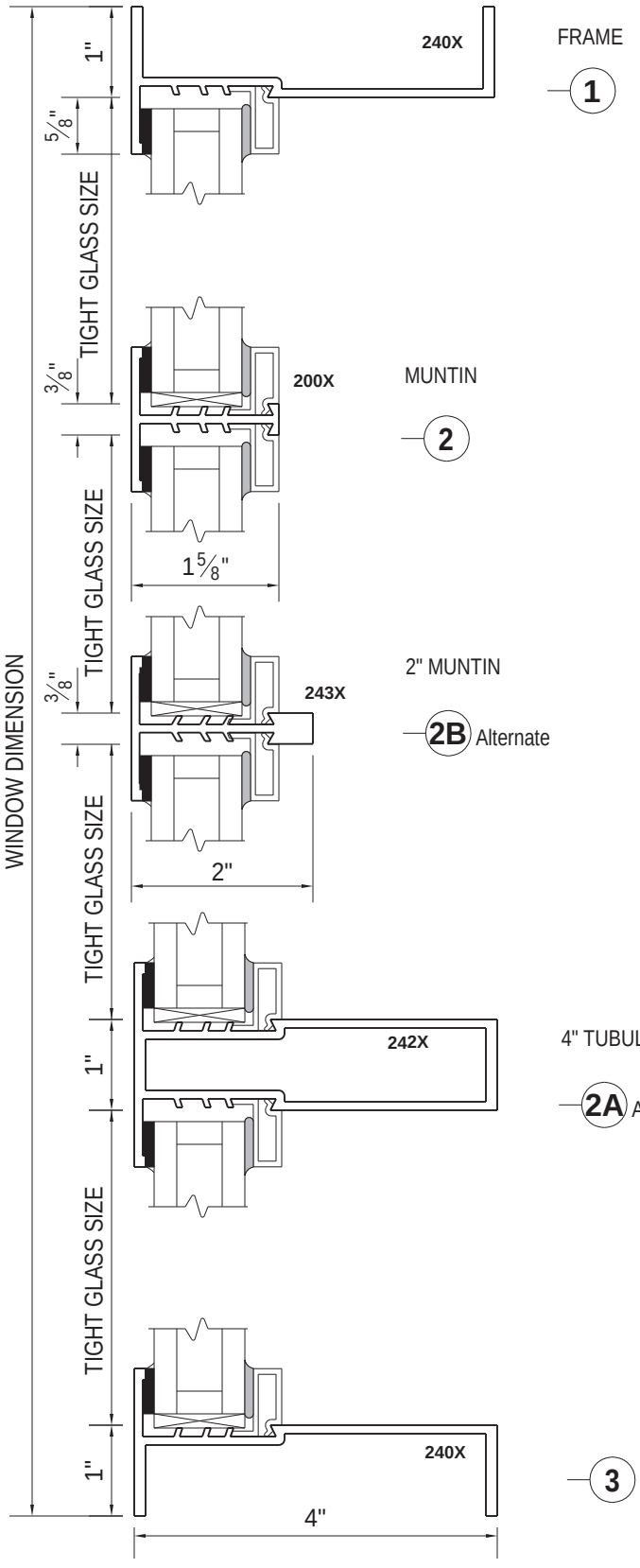
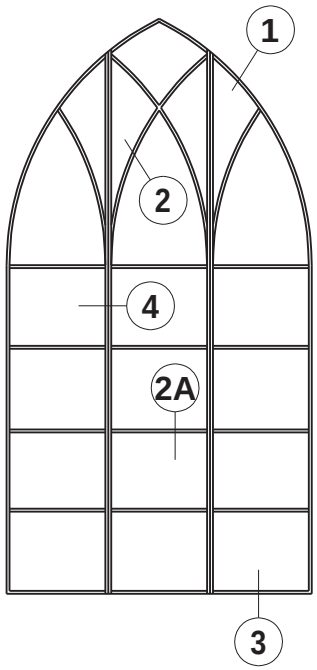
J. Sussman, Inc.

240X Series
STANDARD CUSTOM WINDOWS

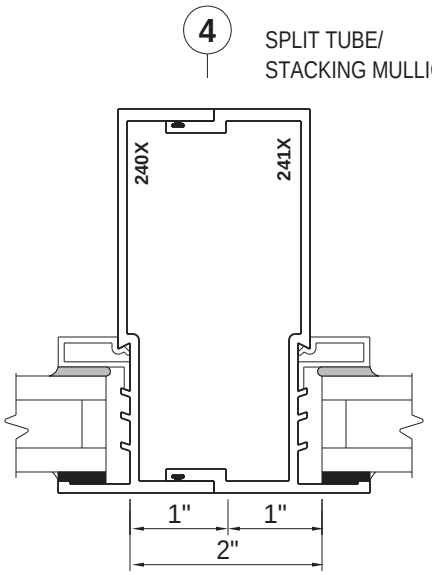
Since 1906 — America's finest custom windows

The 240X Series is 4" deep and is used for large windows or for design variation. The 240X Series lines up with, and is interchangeable with the 200X Series. 200X Series ventilators can easily be incorporated into the 240X Series. All sections can be used horizontally or vertically.





Typical Elevation



SCALE = HALF SIZE

J. SUSSMAN, INC.
Since 1906

109-10 180th St
Jamaica, NY 11433
718-297-0228
Fax 718-297-3090
www.jsussmaninc.com

200X/240X SERIES GUIDE SPECIFICATIONS
Fixed, Projected and Casement
SECTION 08 51 13 (08520) ALUMINUM WINDOWS

(Text in parentheses and italics are notes to spec writer and are not to be included in specification.)

Part 1 GENERAL

1.01 Work Included
- A. Furnish and install aluminum architectural windows complete with all necessary hardware and related components as shown on drawings and specified in this section.
- B. Glass and Glazing
  1. Refer to Section 08 81 00 – Glass and Glazing (08800) for glazing of window units.

1.02 Related Work
- A Section 07 92 00 – Joint Sealants (09715)
- B. Section 08 32 00 – Sliding Glass Doors (08314)
- C. Section 08 41 00 – Entrances and Storefronts (08400)
- D. Section 08 42 33 – Balanced Entrance Doors (08480)
- E Section 08 51 66 – Metal Window Screens (08586)
- F. Section 08 44 00 – Curtain Walls and Glazed Assemblies (08900)
- G Section 08 44 33 – Sloped Glazing Assemblies (08960)

1.03 References (See AAMA GS-001 and AAMA 101 For Current Applicable Listings)
- A. AAMA (American Architectural Manufacturers Association):
- B. ANSI (American National Standards Institute):
- C. ASTM (American Society for Testing and Materials):
- D. CPSC (Consumer Product Safety Commission):
- E. FGMA (Flat Glass Marketing Association):
- F. GSA (General Services Administration):

1.04 Items Installed But Not Furnished

(Enter description, e.g., louver supplied by others to be installed in new window)

1.05 Items Furnished But Not Installed

(Enter description, e.g., extra sash sets to be supplied and stored for the future)

1.06 Testing and Performance Requirements
- A. Windows shall conform to all ANSI/AAMA 101-88 C50 requirements. In addition, the following specific performance requirements must be met.
- B. Test Procedure and Performance Requirements
  1. Air Infiltration: When tested in accordance with ASTM E 283-83, air infiltration shall not exceed 0.02 cfm/ft under a static pressure drop of 6.24 psf.
  2. Water Resistance: When tested in accordance with ASTM E 331-83 and ASTM E 547-83 there shall be no water leakage when the window is subjected to a pressure drop of 7.5 psf. (HC50)
  3. Uniform Structural Load Test: When tested in accordance with ASTM E 330-79 with a static pressure difference of 90 psf exterior (positive) and 90 psf interior (negative) there shall be no glass breakage, permanent damage to fasteners, hardware parts or actuating mechanisms which would cause the window to be inoperable. Permanent deformation of any frame or vent member shall not exceed .2% of its span. (HC95)

1.07 Quality Assurance
- A. Test reports from an independent certified laboratory shall be available upon request.

1.08 Submittals

A. The window manufacturer shall submit shop drawings, finish samples, test reports, warranties and maintenance manuals per the requirements of architect.

1.09 Delivery, Storage and Handling

A. Store and handle windows and other components in strict compliance with manufacturer's instructions.
B. Protect units against damage from the elements, construction activities and other hazards before, during, and after installation.

1.10 Warranties

A. Submit written warranties from window manufacturer for the following:
   1. Windows: Windows furnished are certified as fully warranted against any defects in material or workmanship under normal use and service for a period of one (2) years from date of fabrication.
   2. Finish: The pigmented organic finishes on windows and component parts (such as panning, trim, mullions, and the like) are certified as complying fully with the requirements of the AAMA 260X specification and fully warranted against chipping, peeling, cracking or blistering for a period of five (5) years from date of installation.

Part 2 PRODUCTS

2.01 Manufacturers

A. All windows shall be Series No. *(Architect to select either or any combination.)*
   200X 1 5/8" deep
   240X 4" deep
   custom window as manufactured by J. Sussman, Inc. of 109-10 180 St., Jamaica NY 11433.
B. Other manufacturers desiring approval shall:
   1. Furnish a sample window and valid test reports indicating full compliance with all performance requirements of this specification at least 10 days prior to bid date.
   2. Have been engaged in the fabrication of aluminum windows for ten years and this type of window for 5 years and shall submit for review a list of similar completed projects.
   3. Approval of "equal" products shall be in the form of a written addendum.
   4. Substitute products not pre-approved by the Architect via addenda will not be considered.
   5 Base bid will be J. Sussman, Inc.

2.02 Materials

A. Extruded aluminum shall be 6063-T5 alloy and temper with a minimum ultimate tensile strength of 22,000 psi. Comply with ASTM B 221
B Fasteners shall be aluminum, stainless steel or other materials warranted by the manufacturer to be non-corrosive and compatible with aluminum window members, trim, hardware, anchors and other components of the window units.

2.03 Fabrication

A. General
   1. All main sections shall have a minimum depth of 1 5/8" with a nominal wall thickness of .125 to .080. *(For the 240X Series add the following: Frame and required muntins shall be 4" in depth.)*
   2. Glazing rebates shall not be less than 5/8" in height.
   3. Window members must incorporate the glazing legs as an integral part of the frame, sash, and muntin bar design. Mechanically applied glazing legs will not be accepted.
   4. All joints shall be cut to a hairline fit and be either fully sigma arc welded or shall be heavy angle reinforced, cold welded with epoxy adhesive and hydraulically crimped.
   5. All joints shall be factory sealed.

B. Ventilators
   1. Ventilators shall be project-in, project-out, in-swing casement, out-swing casement or combinations thereof as shown on the plans.
   2. All sash extrusions shall be tubular.
   3. Each corner shall be mitered, heavy angle reinforced, cold welded epoxy adhesive and hydraulically crimped.
   4. Ventilators and frames must be on the same plane and present a flush interior and exterior surface. Overlap or extensions of ventilators beyond the frame will not be acceptable.

5. Projected ventilators shall operate in two specially designed wear resistant weatherproof nylon glides independent of the hinge to insure both maximum alignment and weather tightness in the closed position.
6. The void between the ventilator sash and frame shall be pressure equalized to outside conditions.

C. Glazing Beads
1. Glazing beads shall be extruded from 6063-T5 alloy and be not less than .050 thick.
2. The glazing beads will be snap in type to securely interlock into the extruded window members without extending underneath the glass.
3. They shall be factory fitted and attached.
4. Glazing beads shall also be secured with stainless steel fasteners where required.

D. Weatherstripping
1. Each sash shall have 2 continuous rows of tested Schlegel Q-Lon weatherstripping installed in specially designed dovetail grooves.
2. Weatherstripping shall have a rigid backing that will resist pullout. A single durometer vinyl or rubber weatherstripping will not be accepted.

E. Screens *(Optional)*
1. Insect screens shall be constructed of extruded aluminum tubular frames. Roll formed screen frames will not be accepted.
2. Screens for project in ventilators and in-swing casements shall be removable from the interior.
3. Screens for project-out ventilators and push/pull operated out-swing casements shall be of the hinged wicket type. Screen frames shall be finished to match the windows.
4. Screen cloth shall be 18x16 fiberglass mesh. (*Aluminum mesh optional.)*
5. Screen spline shall be extruded vinyl, removable to permit re-screening.
6. Screen mounting holes in the windows frame shall be factory drilled.

2.04 Hardware

A. Hardware shall conform to the requirements of the ventilator and shall be factory fitted and attached with stainless steel screws.
B. Locking handles for projecting ventilators shall be cam type and be solid white bronze with a US25D satin polished finish. *(Custodial locks and pole-operated handles are optional.)*
C. Projected ventilators shall operate on stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.
D. Out-Swing Casements shall operate on *(choose one)*
1. (Standard) stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.
2. (Optional) 5 knuckle extruded aluminum butt hinges with 1/4" diameter stainless steel pins and nylon bushings and *(choose one)*
a . (Option 1) Zinc die cast roto operators compatible with aluminum and shall meet ASTM E405.
b. (Option 2) heavy duty stainless steel friction adjusters.
c. (Option 3) stainless steel limit opening devices with release key.
E. In-Swing Casements shall operate on *(choose one)*
1. (Standard) stainless steel four bar heavy duty concealed friction hinges conforming to AAMA 904.1.
2. (Optional) 5 knuckle extruded aluminum butt hinges with 1/4" diameter stainless steel pins and nylon bushings *(the following are optional with butt hinges)*
a. (Option 1) and heavy duty stainless steel friction adjusters.
b. (Option 2) and stainless steel limit opening devices with release key.

2.05 Finish

A. The finish of the aluminum windows shall be *(Architect to select) (Standard finishes are considerably less expensive and lead times for windows are much shorter with standard finishes.)*
1. Architectural Class II Anodic (204-R1) AA M12-C22-A31 Thickness to be .4 mil and shall conform to AAMA 611-98.
a. Color: Clear Anodized *(Standard)*

2. Architectural Class I Anodic (215-R1) AA M12-C22-A41 Thickness to be .7 mil and shall conform to AAMA 611-98.

a. Color: Clear Anodized *(Optional - Consult factory)*

3. Architectural Class I Anodic with electrostatically deposited color AA-M12-C22-A44. Thickness to be .7 mil and shall conform to AAMA 611-98.
   a. Color: Dark Bronze Anodized *(Standard)*
   b. Color: Black Anodized *(Standard)*
   c. Color: _____ *(Insert anodized color selected by Architect. Consult factory)*

4. Baked acrylic enamel organic finish electrostatically applied over pretreated aluminum. Finish shall be a one coat, one bake paint system with a .8 mil minimum overall dry film thickness and shall conform to AAMA 2603.
   a. Color: Bronze Paint *(Standard)*
   b. Color: White Paint *(Standard)*
   c. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

5. High performance organic finish electrostatically applied over pretreated aluminum. Finish shall be based on 50% fluoropolymer resin and be applied as a two coat, two bake paint system with a 1.2 mil minimum thickness and shall conform to AAMA 2604. *(Some colors may require a clear protective topcoat to protect the pigmented coating.*
   a. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

6. High performance organic finish electrostatically applied over pretreated aluminum. Finish shall be based on 70% fluoropolymer resin and be applied as a two coat, two bake paint system with a 1.2 mil minimum thickness and shall conform to AAMA 2605. *(Some colors may require a clear protective topcoat to protect the pigmented coating.*
   a. Color: _____ *(Insert custom paint color selected by Architect. Consult factory)*

PART 3 EXECUTION

3.01 Inspection

A. Verify that openings are dimensionally correct and within allowable tolerances.
B. Openings must be plumb, level, and clean.
C. Provide a solid anchoring surface that is in accordance with approved shop drawings.

3.02 Installation

A. Use only skilled craftsmen for work to be done in accordance with the manufacturer's installation instructions and/or approved shop drawings and specifications.
B. Windows and materials must be set square and level.
C. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.
D. Adjust Windows for proper operation after installation has been completed.
E. Furnish and apply sealants to provide a weather tight installation at all joints and intersections and at opening perimeters. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.

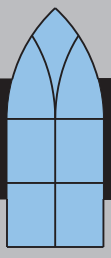
3.03 Protection and Cleaning

A. After completion of window installation, all windows shall be inspected, adjusted, and left in working order.
B. Windows shall be cleaned to remove mortar, plaster, paint or other contaminants.
C. After cleaning, all work shall be protected against damage until it is accepted by the General Contractor.
D. Thereafter, it shall be the responsibility of the General Contractor to maintain protection and provide final cleaning.
E. Send to Architect, with copy to Owner, written recommendations for maintenance and protection of windows following Substantial Completion of Window Contract.

END OF SECTION

The above specifications are subject to change without notice.

Custom Skylights, Walkways, Sunrooms and Dome Systems



www.jsussmaninc.com

J. SUSSMAN, INC.

Since 1906

MANUFACTURERS OF AMERICA'S FINEST ARCHITECTURAL METAL PRODUCTS AND SERVICES

Custom Skylights, Walkways, Sunrooms & Dome Systems

INTRODUCTION

Almost a century of experience and three generations of the same family management has resulted in **J. SUSSMAN'S** proven leadership in the architectural metal trade. Our modern 80,000 square foot facilities and "state of the art" machinery are available for the most challenging and innovative skylight projects.

J. SUSSMAN'S energy saving skylight, walkway, sunroom, and dome systems hold a natural affinity for our custom window systems and architectural aluminum and glass bending services. This diversity has added depth to all **J. SUSSMAN'S** products and has given us worldwide acceptance where fine architectural metal products and services are desired.

CUSTOM DESIGNS

J. SUSSMAN will customize any project to fit the requirements of the job. Endless design variations are available to suit individual budgetary, aesthetic and functional considerations.

Among **J. SUSSMAN'S** design capabilities for glazed enclosures are barrel vaults, domes, lean-to's, ridge types, canopies, solariums, shelters, walkways, sunrooms, ceiling lights, sidewalk cafes and many others limited only by the architect's imagination

ENGINEERING ASSISTANCE

J. SUSSMAN'S skylight systems are fully engineered and designed to meet proper performance specifications. An experienced and dedicated staff is available to assist you with all your skylight requirements. Shop drawings and structural calculations will be furnished when required.

GLAZING AND GLAZING MATERIALS

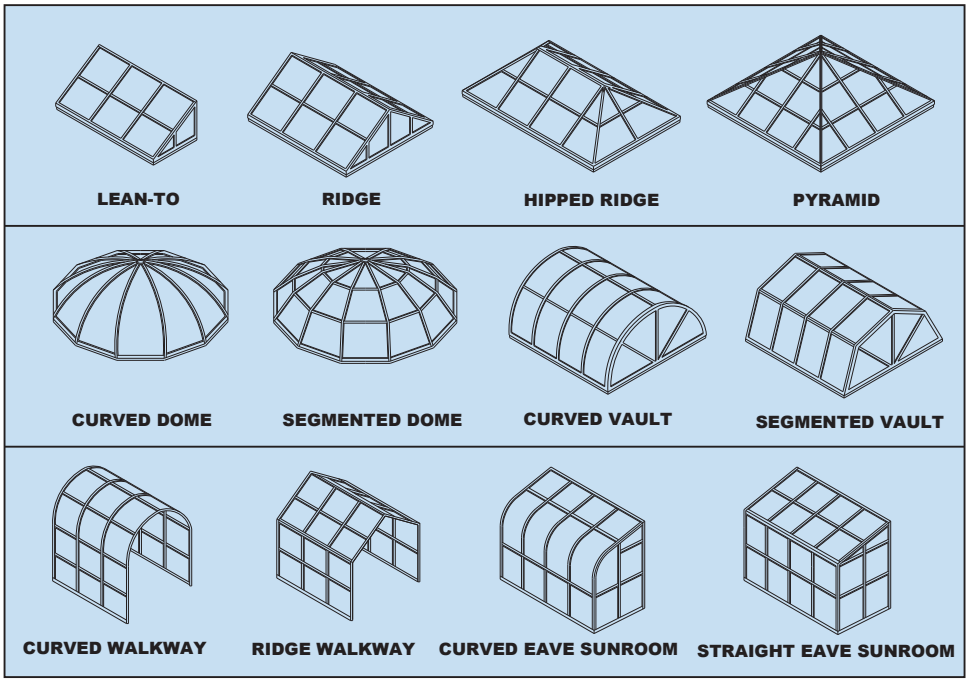
J SUSSMAN'S skylight systems are designed to accommodate all kinds of glazing materials in numerous design situations. Consideration is given to the difference in thermal movement of glazing material and the aluminum framing system. Proper edge clearance, glazing bite and glass rest are fundamental to each design situation.

The proper glazing material is a major decision in the design of any skylight project. Safety, aesthetics and performance are all factors governing proper glazing material selection. **J SUSSMAN'S** experienced staff is qualified to assist you with your selection.

Generally, we recommend all overhead glazing to be safety glass, acrylic or polycarbonate.

When glass is desired for single glazing, laminated safety glass should be used. Laminated safety glass, unlike heat strengthened or tempered glass, will resist fallout in case of breakage. This safety consideration is of paramount importance in all skylight projects. For insulated glass units, we recommend the inner lite to be laminated safety glass and the outer lite to be heat strengthened or fully tempered. Laminated glass can be curved very effectively.

Acrylic and polycarbonate are especially effective for curved enclosures. They can usually be cold formed at the job or thermoformed when necessary. Double glazing can be achieved nicely with the use of a spacer between both lites of plastic. Hermetically sealed units are not recommended because of the high rate of water vapor transmission and greater thermal expansion that is characteristic of plastic.



CUSTOM SKYLIGHTS, WALKWAYS, SUNROOMS & DOME SYSTEMS

J. SUSSMAN, INC.

Since 1906

Yeshiva of Spring Valley, Spring Valley, NY
Contractor: Ailamos Contracting

FEATURES

- Tubular rafters and purlins
- Both primary and secondary condensation gutters
- Concealed fasteners
- Accomodates all types and thickness of glazing
- Thermally broken framing members
- Various rafter depths available to meet proper load requirements
- Clean and narrow sight lines
- Continuous sill members with integral water barrier that promotes positive drainage and ease of installation

FINISHES

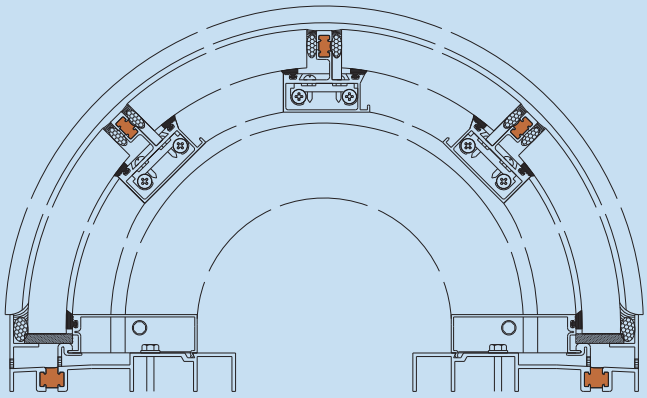
The following finishes are available:

- Mill finish
- Clear anodized, Bronze Anodized
- Baked Enamels
- Fluoropolymer based paints

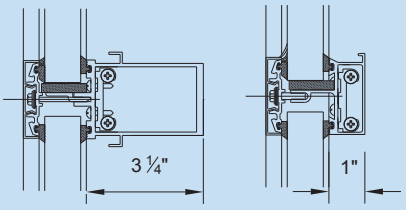
METAL AND GLASS BENDING CAPABILITIES

Through **J. SUSSMAN'S** nationwide contract bending service we curve numerous glass and metal systems accurately and economically.

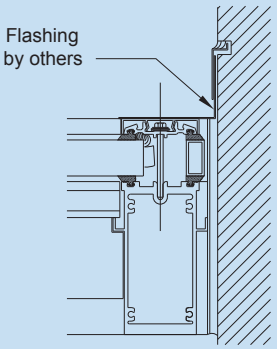
Utilizing the principles of stretch bending, compression bending and roll forming, **J. SUSSMAN'S** bending department can form aluminum extrusions to true circles, compound radii, with straight legs on one or both sides of a curve, and with curves on both sides of a straight. Our computerized glass curving equipment can form glass accurately to specifications and we can laminate and insulate the glass after curving to meet appropriate requirements.



BARREL VAULT



CROSS BARS



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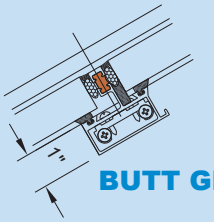
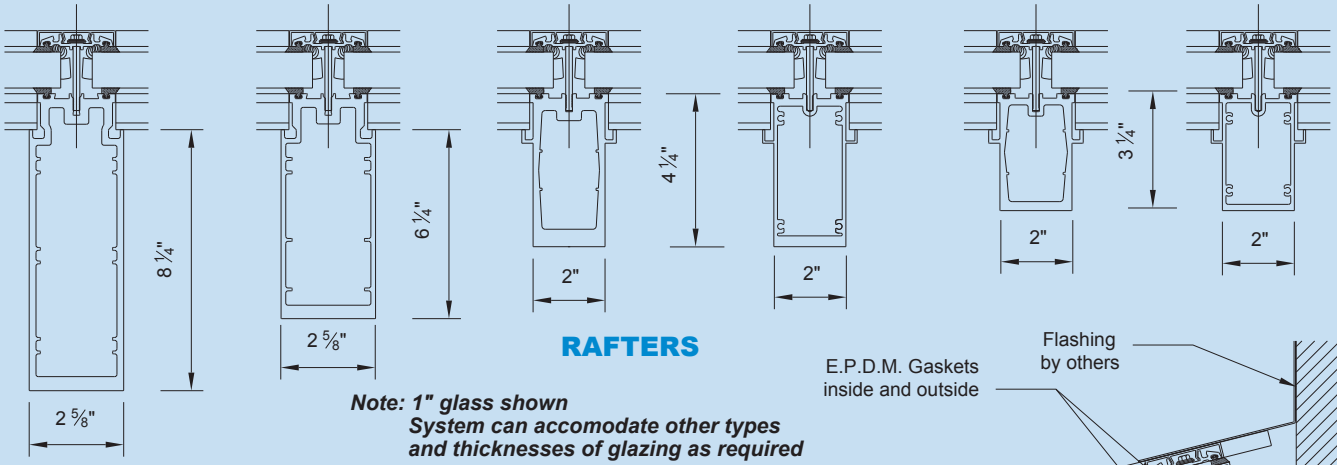
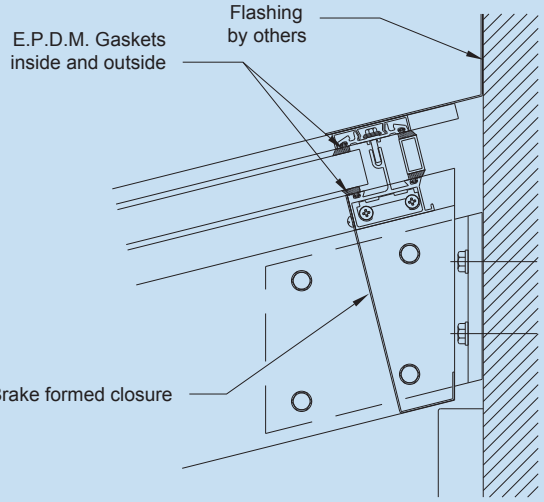


BUTT GLAZED CROSS BAR

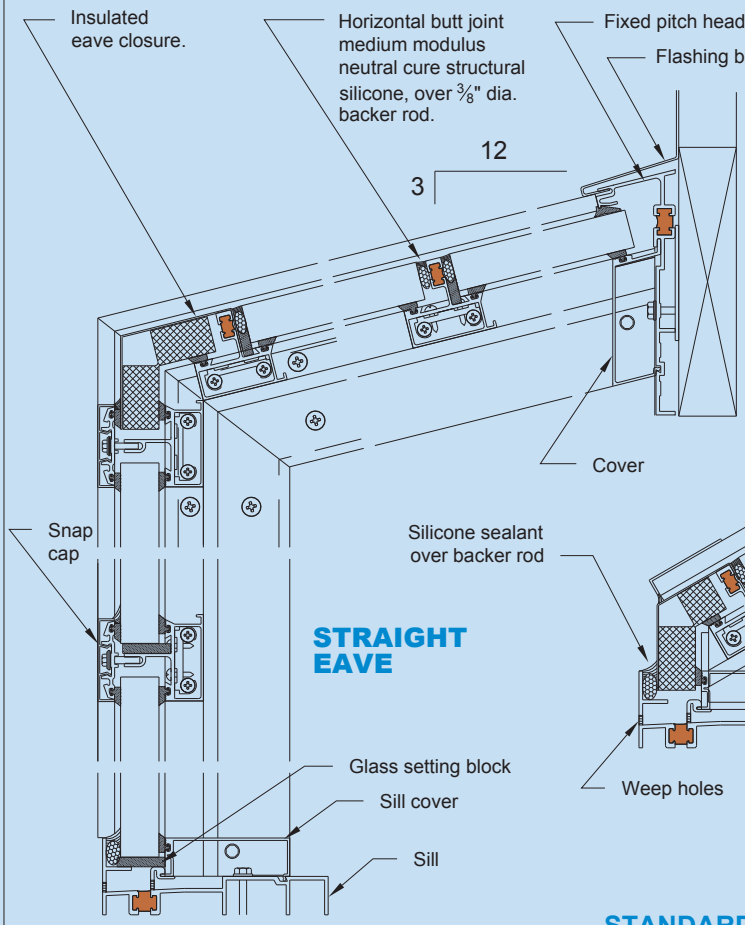


RAFTERS

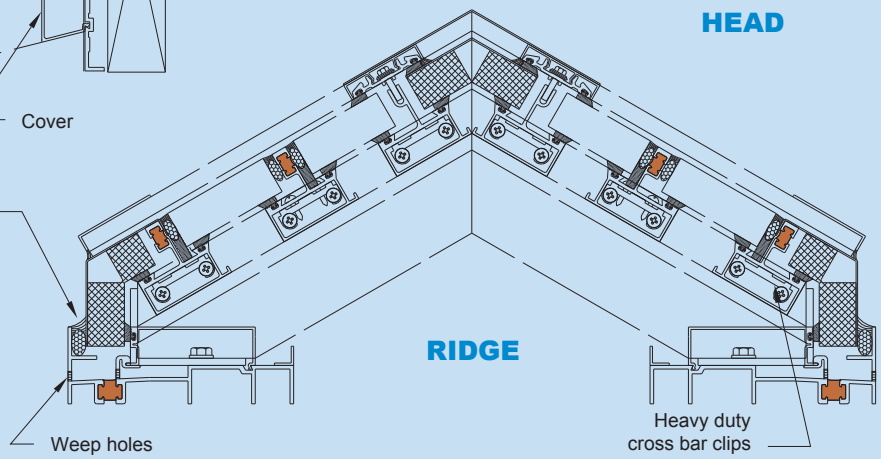
Note: 1" glass shown
System can accomodate other types and thicknesses of glazing as required



HEAD



STRAIGHT EAVE



RIDGE

STANDARD DETAILS

J. SUSSMAN, INC.
Since 1906

Installations Worldwide...

SPECIFICATIONS

PART 1: GENERAL

1.1 SCOPE

a. This section includes all work necessary for completion of custom skylights, walkways, sunrooms and dome systems hereafter referred to as skylight(s). Furnish all necessary labor, materials and equipment for the complete installation of custom skylight work as shown on drawings and herein specified.

b. The work includes, but is not limited to the following:

1. Design, fabrication and erection of aluminum framing systems.
2. Glass and Glazing.
3. Perimeter flashing as required.

c. Related work specified elsewhere:

1. Structural support of framing system.
2. Flashing and counter flashing except as indicated by skylight manufacturer.
3. Final cleaning and protection of skylight.
4. Other (as specified by architect).

1.2 QUALIFICATIONS

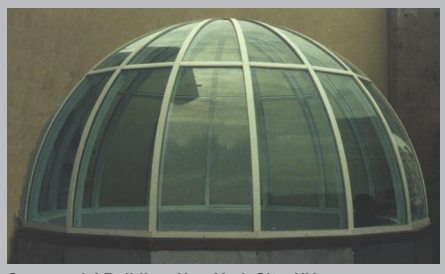
The skylight(s) shall be J. SUSSMAN'S extruded aluminum tubular system series SK 5000 as manufactured by J. SUSSMAN INC. 109-10 180th Street, Jamaica, NY. 11433 Tel (718) 297-0228, Fax (718) 297-3090 or approved equal.

1.3 LOADING REQUIREMENTS

Aluminum framing system(s) shall be designed to support _____lbs/sq. ft. live load and_____lbs/sq. ft. wind load.

1.4 GUARANTEE

The skylight system(s) supplied under this section shall be guaranteed, for a period of one year after acceptance, against leakage, defective design, defective materials and construction. The guarantee is limited to repair or replacement of materials supplied and does not include consequential damages.



Commercial Building, New York City, NY
Contractor: Sunshine Quality Const.

PART 2: MANUFACTURE

2.1 MATERIALS

a. Extruded aluminum framing members shall be 6063-T5 or suitable alloy and temper for adequate structural characteristics and specified finishing. Shape and thickness of aluminum shall be dependent upon performance requirements.

b. Aluminum flashing shall be of alloy and temper to make it compatible with specified finish.

c. Finish: (Architect to specify clear anodized, bronze anodized, baked enamels, fluoropolymer based paints, other.)

d. All exposed fasteners shall be stainless steel. Unexposed fasteners shall be cadmium plated steel.

e. Rafters and purlin members shall be tubular and have condensation gutters which drain moisture to exterior. Fastenings shall be concealed.

f. All sill members shall be extruded and shall run continuously past rafter members to provide a positive drainage gutter with weep holes at every rafter. Sill members shall have no exposed fasteners.

g. All clamping bars shall be fastened by No. 10 stainless steel screws located at a maximum of 12" on center. Screws shall be sealed and then concealed by means of an extruded aluminum snap in channel.

h. Glazing:

1. Exterior glazing (Architect to specify clear, insulated glass monolithic, acrylic or polycarbonate, other.)
2. Interior glazing as required.

i. Gaskets shall be extruded neoprene or EPDM 50 to 60 durometer above and below glass or plastic.

j. Sealants used shall be a one part silicone.

PART 3: EXECUTION

3.1 INSTALLATION

a. Erection shall be done only by qualified personnel, in strict accordance with manufacturers instructions.

Visit our web site:www.jsussmaninc.com

See Sweets 08505/SUS/BuyLine 0888 for J. Sussman's Custom Window Catalog

Cover: Residence, Long Island, NY
Architect: P.H. Taun Associates
Contractor: Levitt Bros.

Residence, Long Island, NY
Contractor: Sunshine Quality Const.

Paolucci's Restaurant, Millbrook, NY
Contractor: Empire Supply Co.

Residence, Westhampton Beach, NY
Architect: MOJO - Stummer
Contractor: Williamson Alum.

MANUFACTURERS OF AMERICA'S FINEST ARCHITECTURAL METAL PRODUCTS AND SERVICES

J. SUSSMAN, INC.

Since 1906

109-10 180th Street, Jamaica, New York 11433
Tel: 718-297-0228 Fax: 718-297-3090

Specifications Subject to Change Without Notice

sunbilt™ creative sunrooms

At last, a prefabricated, high quality sunroom designed and engineered for commercial and residential use.

No doubt about it, the building boom is on. Americans are renovating, rebuilding and refurbishing like never before. And whether they're hotel owners or homeowners, professional builders or "do it yourselfers," they've got one common goal: getting the utmost value for their money.

A glass enclosure from **Sunbilt** offers them just that. Designed for maximum energy savings, weather tightness and durability, **Sunbilt sunrooms** provide the highest grade structural components and glass available. They offer the buyer unmatched beauty and versatility—at a price that's substantially less than adding on a conventional room.

Most important, **Sunbilt** *guarantees* that its glass enclosures are the strongest, most durable designs on the market. For example, **Sunbilt's** heavy duty tubular framing weighs *twice* that of most competitive systems. That's a claim to quality no other manufacturer can match!

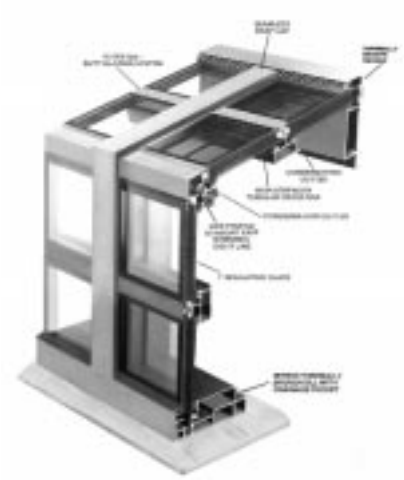
We're willing to go the extra distance to make sure our customers get the utmost in relability, value and service. That's why quality **Sunbilt** products are sold and installed only by professionals who possess the highest industry standards.

sunbilt™

Sunbilt Solar Products is an affiliated company of J. Sussman Inc., a family-owned company famous for its quality glass and metal products. Since 1906, tens of thousands of custom Sussman windows, skylights, domes and other products have been designed and assembled in our modern 80,000 square foot manufacturing facilities, and have been used in applications ranging from landmark buildings and offices to restaurants, hotels and homes worldwide.

Features:

- ☐ High strength tubular rafters and cross bars to sustain wind load and snow load requirements.
- ☐ Heavy duty extruded anchor clips and shear blocks at all connections.
- ☐ Exterior stainless steel screws.
- ☐ Neoprene bonded washers used with all pressure plate screws to prevent water seepage through screw holes.
- ☐ Entire system is thermally broken aluminum to insulate the cold temperature outside from a warmer temperature inside and to help eliminate condensation.
- ☐ 1″ insulated tempered glass is standard for all vertical glass.
- ☐ 1″ insulated tempered over laminated safety glass optional for all roof glass.
- ☐ Large 40¼″ radius (as opposed to approximate 24″ radius by other manufacturers) on all curved eave models enhances the beauty of the sunroom.
- ☐ Concealed fasteners and connecting clips.
- ☐ No unsightly inner or outer seams on structural components.
- ☐ ⅞″ rabbet depth covering glass promoting greater weathertightness and reducing glass sealant damage from the sun's ultraviolet rays.
- ☐ ¼″ edge clearance between metal and glass at perimeter of the glass panels to promote moisture dehydration at insulated glass edges.
- ☐ Dual glazing system of the finest E.P.D.M. rubber gaskets with a secondary exterior wet sealant around the perimeter of all glass panels to prevent air and water infiltration.
- ☐ Both primary and secondary condensation gutters to channel any condensation to the exterior.
- ☐ Continuous thermally broken sill with integral water barrier that promotes positive water drainage eliminating water accumulation under the glass, a major cause of glass sealant failure.
- ☐ The all new KLEERTEK™ Glazing System for curved and straight eave units eliminates exterior caps. See next page for full description.
- ☐ Full ½″ wide cushioned bearing surface for insulating glass, reducing the possibility of glass failure.



KLEERTEK™ GLAZING SYSTEM

The new **KLEERTEK**™ Glazing System is available in both curved and straight eave models. This new **Sunbilt** design creates a crystalline illusion of one sheet of glass top to bottom. The straight eave model has a low profile eave with a minimal site line.

- ☐ Eliminates exterior cross caps creating a more pleasing appearance.
- ☐ Prevents unsightly accumulation of dirt and water.
- ☐ Thermally efficient.
- ☐ Maintenance free.

Sunbilt Solar Products have full capabilities to customize all sunroom projects. Through its affiliated company, J. Sussman Inc. Sunbilt offers custom skylights, barrel vaults, walkways, domes and other types of glass enclosures. Custom windows and projected vents are also available.

MOBILE CHEMICAL BUILDING, *Edison, N.J.*
Glazing Contractor: Union County Plate Glass
Architect: CUH2A
Photographer: Wolfgang Hoyt/ESTO

commercial

Looking for room to grow? Consider a quality glass enclosure from **Sunbilt.** Our prefabricated units are more than just beautiful…they're beautifully designed inside and out. Thermally broken, watertight construction. Plus structural components substantially stronger and heavier than comparable systems. For today's most advanced and durable sunrooms, remember **Sunbilt…**the key to profitability for growing businesses.

POINT PLEASANT HOSPITAL, *Point Pleasant, N.J.*
Glazing Contractor: Newark Glass
Architect: Ferrenz & Taylor, Inc.

LONG ISLAND RESIDENCE, *New York*
Glazing Contractor: Levitt Bros.
Architect: P.H. Taun Associates

RESIDENCE, *Connecticut*
Glazing Contractor: Sunrooms etc.

residential

Make the most of your living space with a prefabricated glass enclosure from **Sunbilt.** Our sunrooms are structurally stronger *and* heavier than comparable systems by more than 50%. And they cost less than building on a conventional room! For the highest quality, most durable sunroom available, specify **Sunbilt.** The people who design products to fit your lifestyle…beautifully.

STRAIGHT EAVE SUNBILT SUNROOM, *Michigan*
Glazing Contractor: Transparent Solutions

LONG ISLAND RESIDENCE, *New York*
Glazing Contractor: FCP Contracting
Architect: Norman Wax

NICK'S CHAR PIT, *Connecticut*
Glazing Contractor: Sunrooms etc.

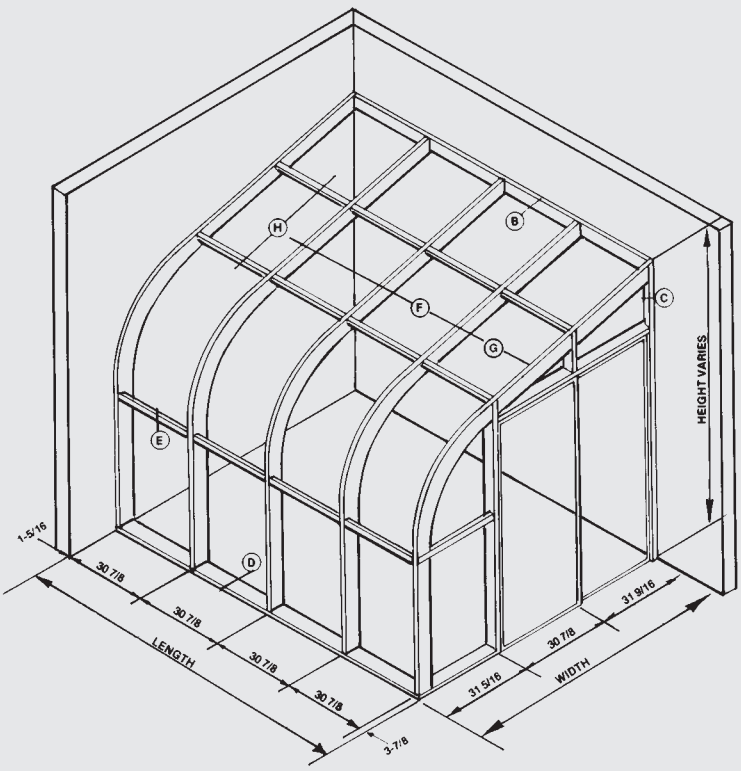
COLONY INN, *New Haven, Conn.*
Glazing Contractor: Suntech of Conn.
Architect: Richard M. Bellamy

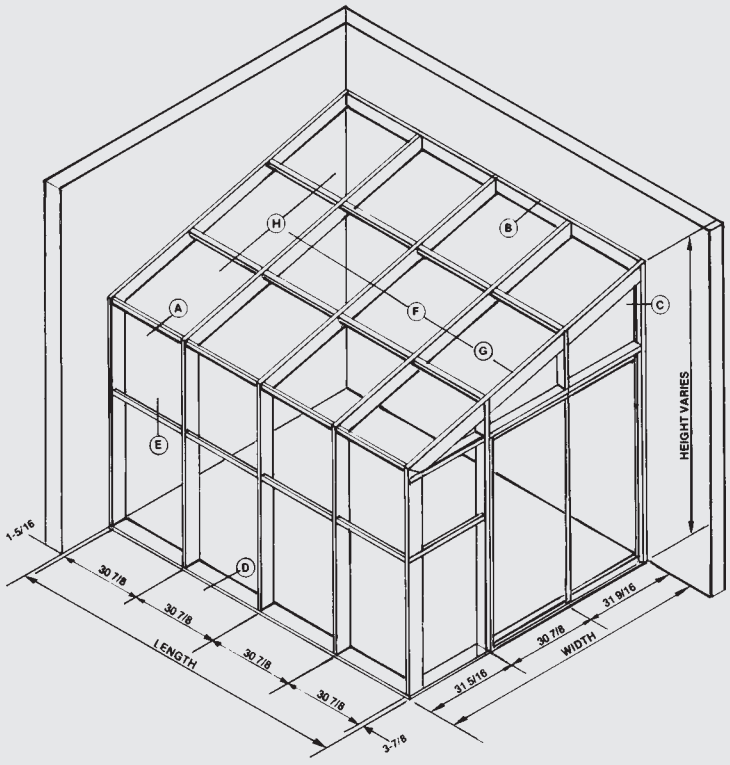
PIZZA HUT, *Bellerose, New York*
Glazing Contractor: Clearview Plate Glass

restaurants

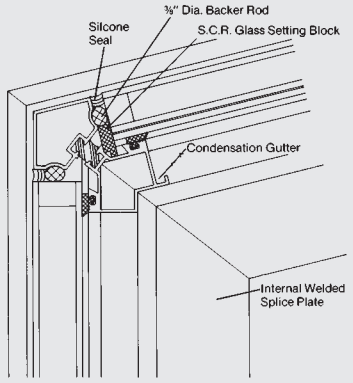
Hungry for more business? Add-on an elegant **Sunbilt** dining enclosure and attract diners to your restaurant 48% faster. Our prefabricated units are energy-efficient and virtually maintenance-free. Sunbilt glass enclosures. Quality and reliability you can rely on…without reservation.

PAOLUCCI'S RESTAURANT, *Millbrook, New York*
Glazing Contractor: Empire Supply Co.

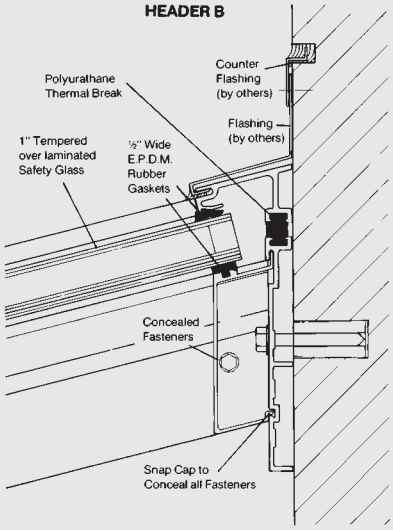




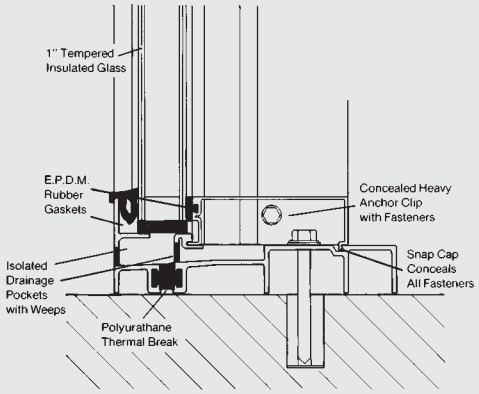
STRAIGHT EAVE A



HEADER B

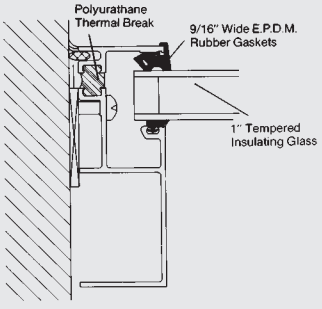


SILL D

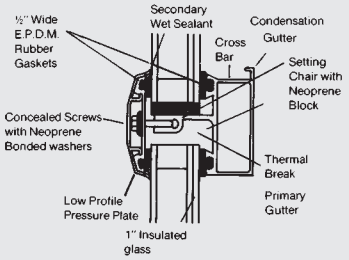


¼ FULL SIZE

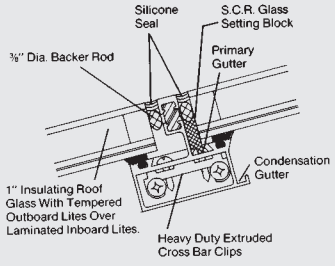
WALL BAR C



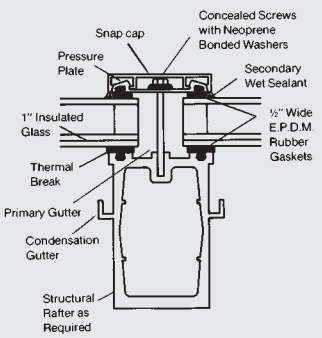
CROSS BAR E



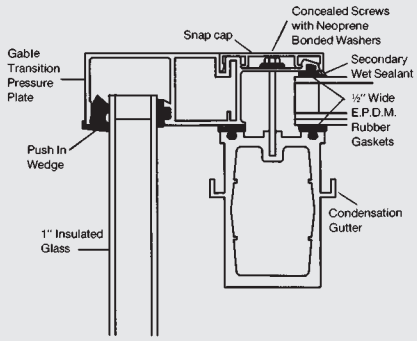
CROSS BAR H



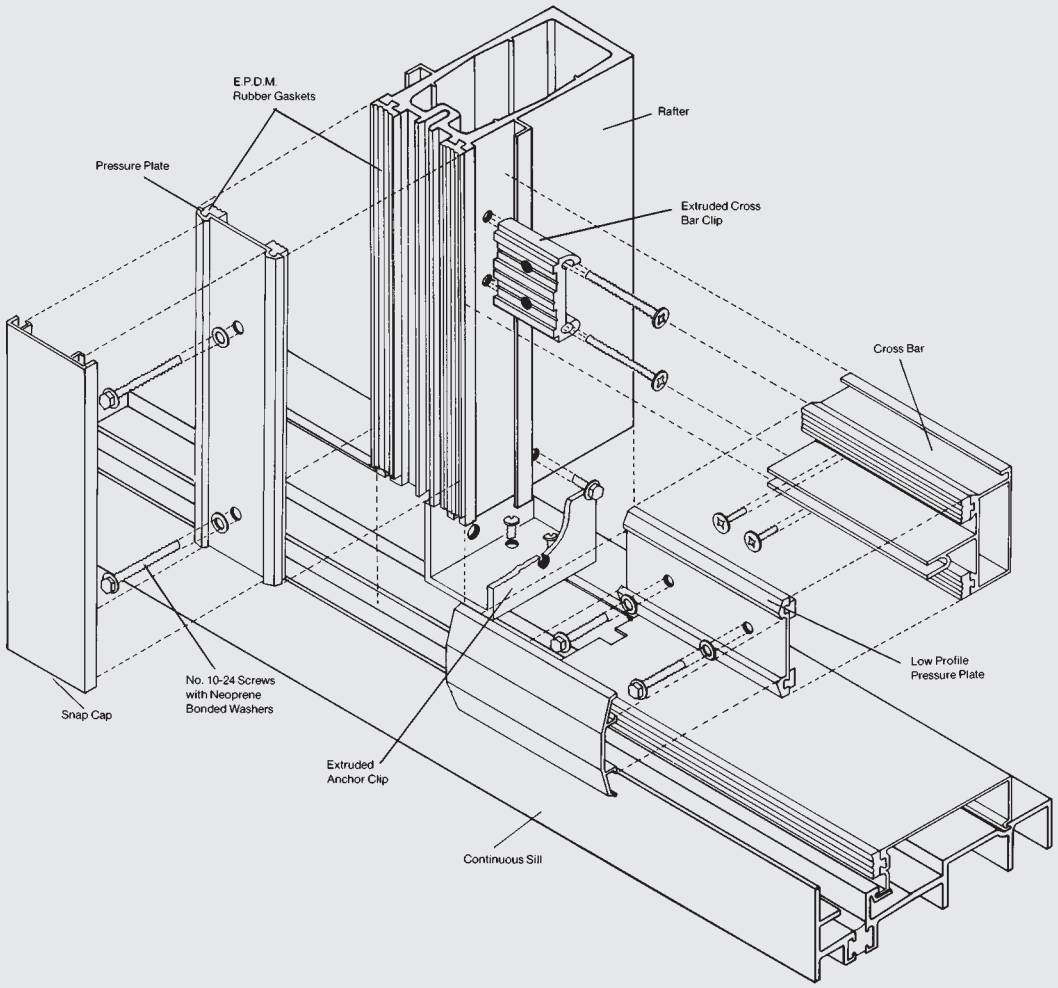
RAFTER F



GLAZED END G

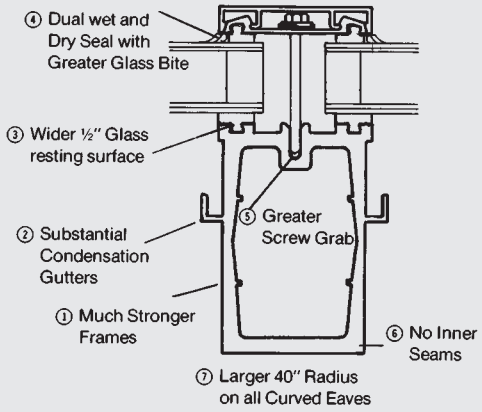


BLOWUP ISOMETRIC

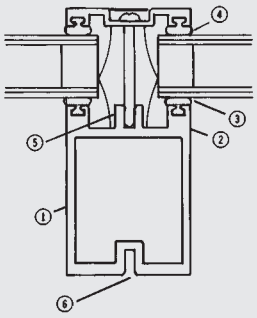


COMPARISON RAFTER

SUNBILT



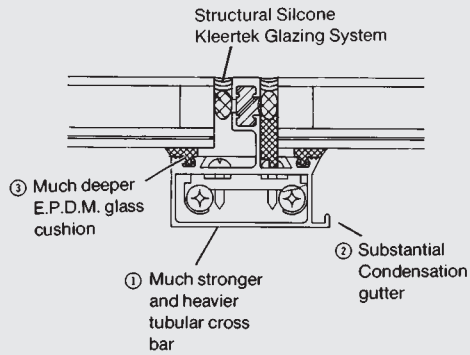
Other



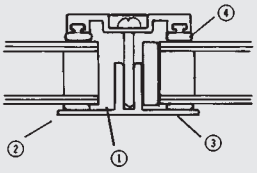
① Substantially lighter and weaker frame
② Small less effective condensation gutter and no condensation gutter
③ Narrow glass resting surface
④ Single seal with minimal glass bite
⑤ Smaller grab on pressure screws
⑥ Unsightly inner seams
⑦ Small 24" radii on curved eaves

COMPARISON CROSS BARS

SUNBILT



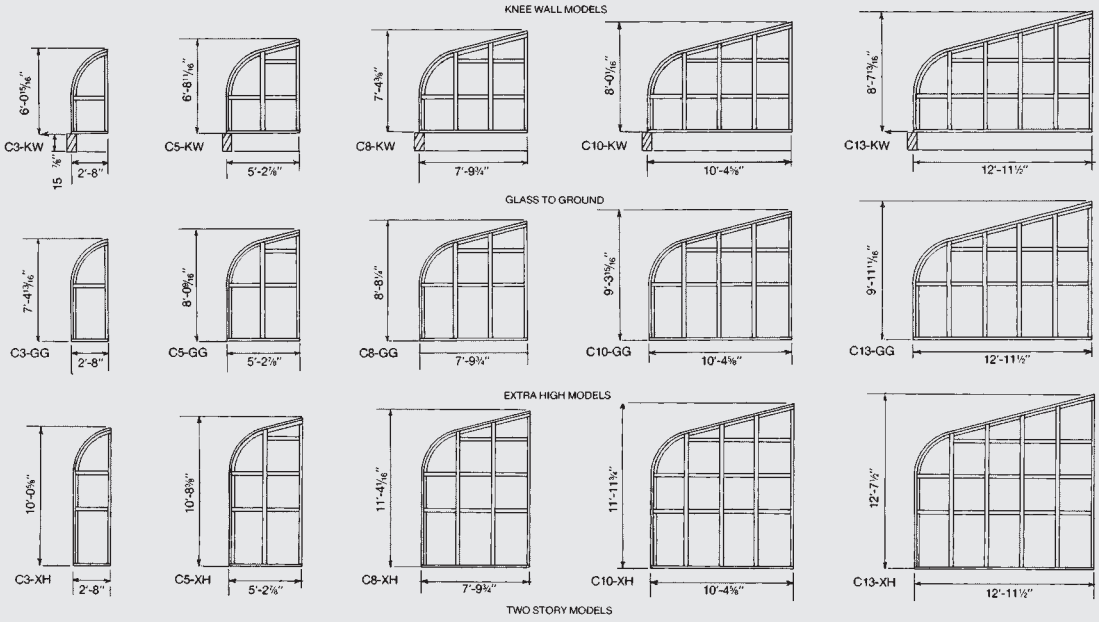
Other



① Much weaker non-tubular cross bars
② Minimal condensation gutter and no condensation gutter
③ Extremely shallow glass cushion
④ Single seal with minimal glass bite

In the interest of product improvement, all specifications are subject to change without notice.

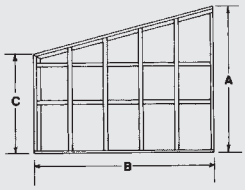
STANDARD CURVED MODELS



STRAIGHT EAVE MODELS

All curved models are available with straight eaves. All straight eave models listed below and extra high curved eave models can accommodate a sliding door in the front.

Model	A	B	C
S3-GG	8′-½″	2′-8″	7′-4 5⁄16″
S5-GG	8′-8¼″	5′-2⅞″	7′-4 5⁄16″
S8-GG	9′-3 15⁄16″	7′-9¾″	7′-4 5⁄16″
S10-GG	9′-11 11⁄16″	10′-4⅝″	7′-4 5⁄16″
S13-GG	10′-7⅜″	12′-11½″	7′-4 5⁄16″



SUNBILT ACCESSORIES & OPTIONAL FEATURES

GLASS: Clear glass is standard. Bronze tinted and solar cool glass is available at an additional cost. Other types of glass can also be supplied when required.

FRAME: PPG electrostatically applied and baked enamel in bronze finish is standard. Painted white and clear or bronze anodized finishes can be supplied at an additional cost when required.

DOORS: Five ft. wide sliding door *100%* thermally broken with 1″ tempered insulated glass. A2HP rating exceeds most residential construction requirements and is ideal for commercial and industrial installations. Tandem steel rollers are standard. Includes screen.

WINDOWS: Thirty inches high project in or out. J. Sussman ventilators *100%* thermally broken with 1″ tempered insulated glass designed to fit between bays. Exceeds PA3 HP performance specifications (highest standard in the industry). Far superior to any double hung window in preventing air infiltration. White bronze handle with patented heavy duty four bar steel hinges help make this the finest sunroom window on the market. Casement windows are also available. Includes screen.

FANS: Vent Axia fans are the finest energy efficient sunroom fans on the market. They are quiet, reliable, and attractive offering the perfect solution to your ventilating needs. The fan is easily mounted on the roof or gable ends of the sunroom into an insulated glass unit with a hole in it.

SHADES: Window Quilt® Sunroom System insulating shades in a wide variety of colors are available. Special lexan tracking system with heavy duty motor allows smooth and easy operation. Shades can be included at time of sunroom purchase or can be added at a later date. Other kinds of shading is also available.

www.sunbilt.com

sunbilt™

Sunbilt Solar Products by Sussman Inc.
109-10 180th St. Jamaica, N.Y. 11433
(718) 297-6040 Telefax No. 718-297-3090

See Sweets 08500/SUS/Buyline 0888 for the custom windows catalog of Sunbilt's affiliated company, J. Sussman, Inc.

Printed in U.S.A.

Features

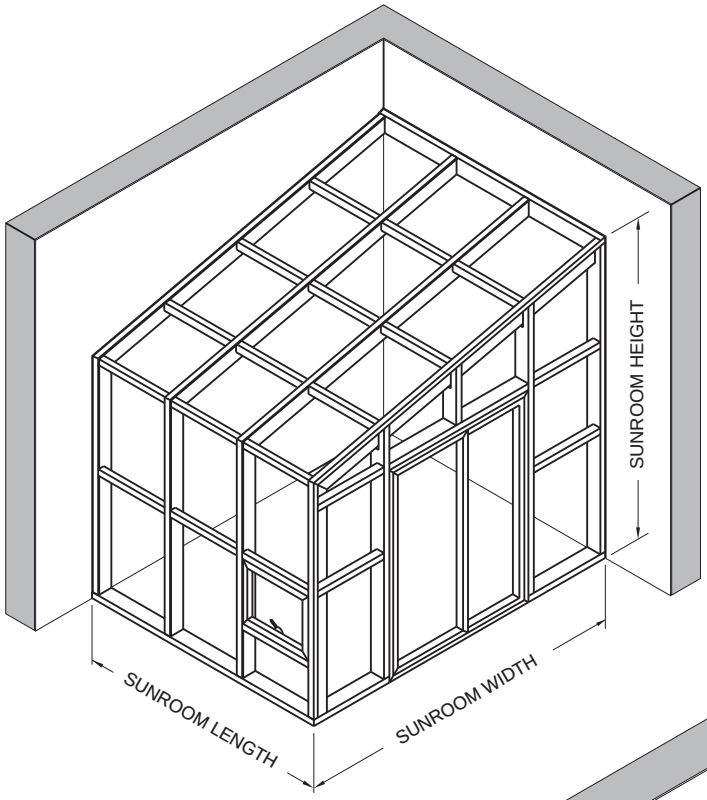
- High strength tubular rafters and cross bars to sustain wind load and snow load requirements.
- Heavy duty extruded anchor clips and shear blocks at all connections.
- Exterior stainless steel screws.
- Neoprene bonded washers used with all pressure plate screws to prevent water seepage through screw holes.
- Entire system is thermally broken aluminum to insulate the cold temperature outside from a warmer temperature inside and to help eliminate condensation.
- 1" insulated tempered glass is standard.
- Large 40 1/4" radius (as opposed to approximate 24" radius by other manufacturers) on all curved eave models enhances the beauty of the sunroom.
- Concealed fasteners and connecting clips.
- No unsightly inner or outer seams on structural components.
- 7/8" rabbet depth covering glass promoting greater weather-tightness and reducing glass sealant damage from the sun's ultraviolet rays.
- 1/4" edge clearance between metal and glass at perimeter of the glass panels to promote moisture dehydration at insulated glass edges.
- Dual glazing system of the finest E.P.D.M. rubber gaskets with a secondary exterior wet sealant around the perimeter of all glass panels to prevent air and water infiltration.
- Both primary and secondary condensation gutters to channel any condensation to the exterior.
- Continuous thermally broken sill with integral water barrier that promotes positive water drainage eliminating water accumulation under the glass, a major cause of glass sealant failure.
- The all new **KLEERTEK**(TM) Glazing system for curved and straight eave units eliminates exterior roof caps.
- Full 1/2" wide cushioned bearing surface for insulating glass, reducing the possibility of glass failure.

Sunbilt Accessories & Optional Features

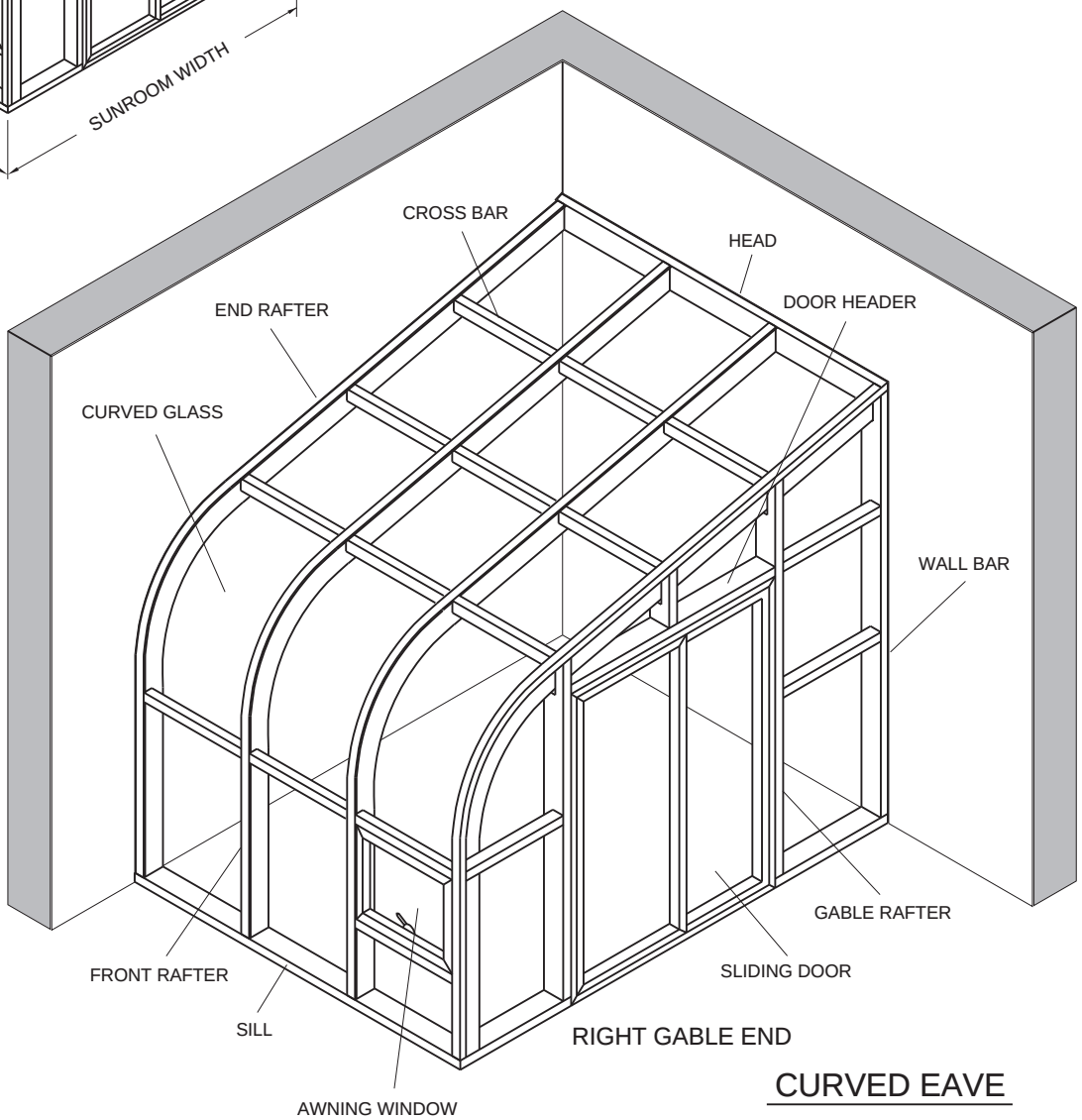
- **GLASS:** Clear glass is standard. Bronze tinted and LOW-E glass is available at an additional cost. Other types of glass can also be supplied when required.
- **FRAME:** PPG electrostaticaly applied and baked enamel in bronze or white finish is standard.
- **WINDOWS:** Thirty inches high project in or out, J. Sussman ventilators 100 % thermally broken with 1" tempered insulated glass designed to fit between bays. Exceeds Heavy Commercial Architectural performance specifications (highest standard in the industry). Far superior to any double hung window in preventing air infiltration. White bronze handle with patented heavy duty four bar steel hinges help make this the finest sunroom window on the market. Casement windows are also available. Includes screen.
- **FANS:** Sunbilt fans are the finest energy efficient sunroom fans on the market. They are quiet, reliable, and attractive offering the perfect solution to your ventilating needs. The fan is easily mounted on the roof or gable ends of the sunroom.
- **SHADES:** Window Quilt Sunroom System insulating shades in a wide variety of colors are available. Special polycarbonate tracking system with heavy duty motor allows smooth and easy operation. Shades can be included at time of sunroom purchase or can be added at a later date.
- **DOORS:** Five ft. wide sliding door 100 % thermally broken with 1" tempered insulated glass. A2HP rating exceeds most residential construction requirements and is ideal for commercial and industrial installations. Tandem steel rollers are standard. Includes screen.

NOMENCLATURE

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



STRAIGHT EAVE



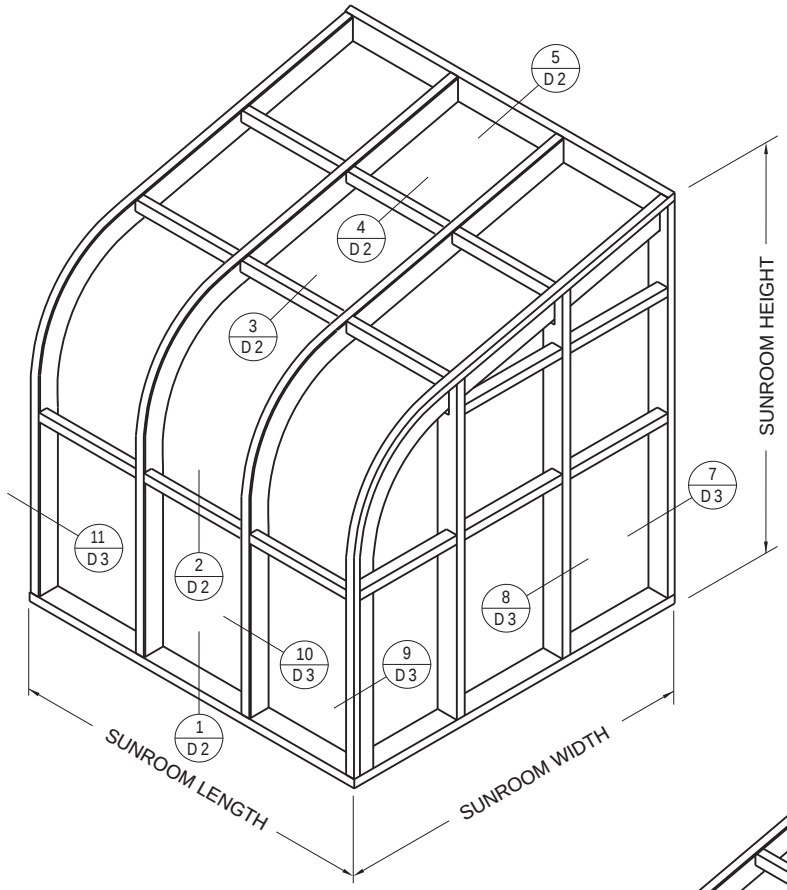
RIGHT GABLE END

CURVED EAVE

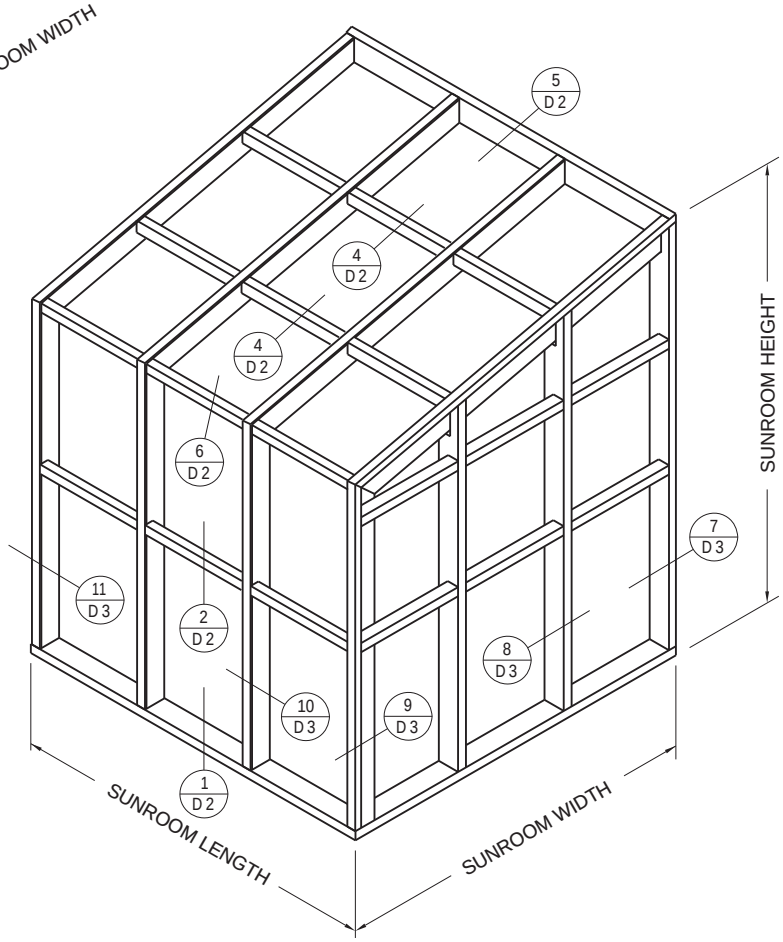
NO SCALE

STANDARD SCHEMATIC

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



CURVED EAVE



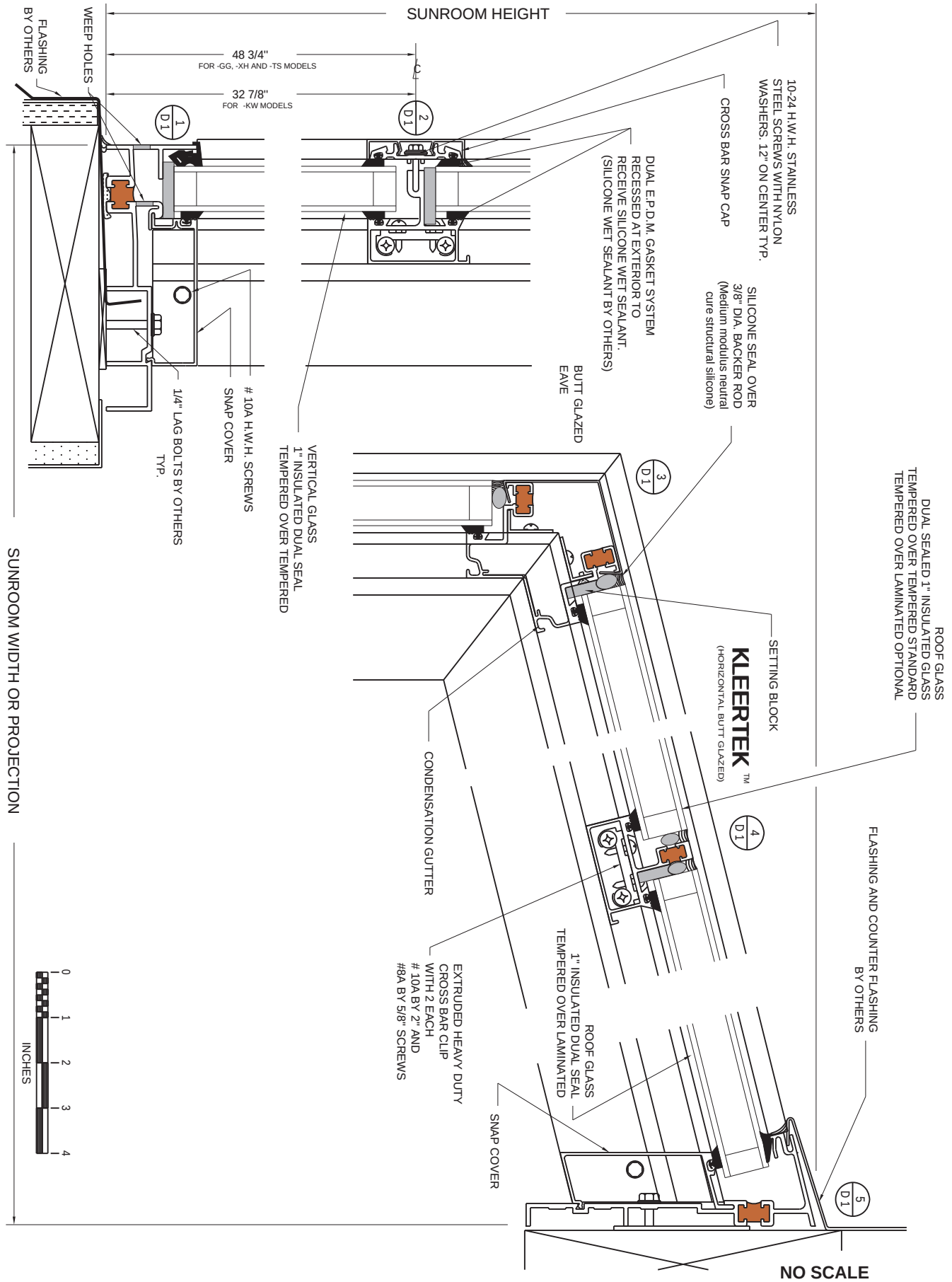
STRAIGHT EAVE

NO SCALE

109-10 180 St. Jamaica, NY 11433 ● Tel: 718-297-6040 ● Fax: 718-297-3090 ● www.sunbilt.com

STANDARD DETAILS 1

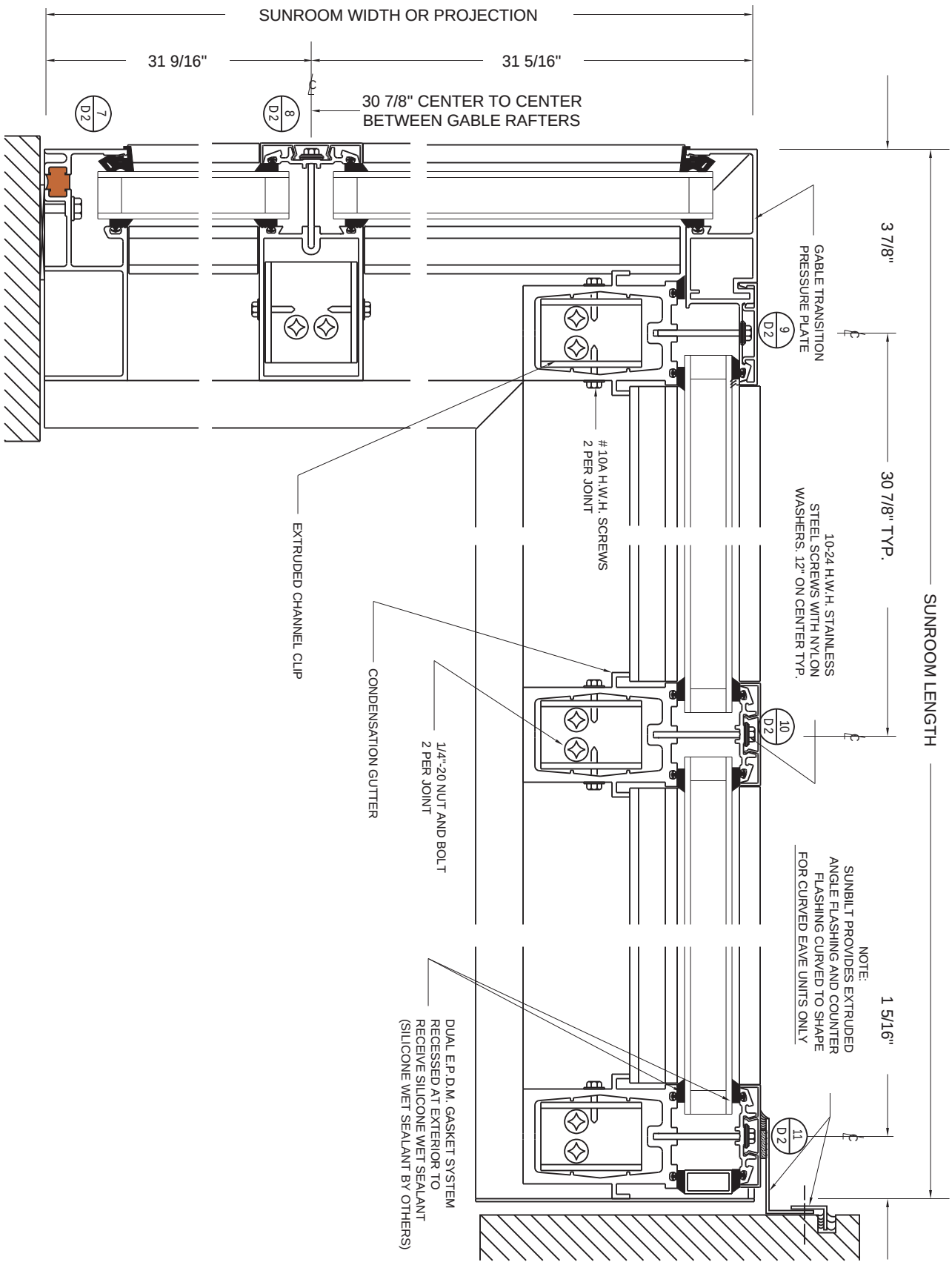
Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



NO SCALE

STANDARD DETAILS 2

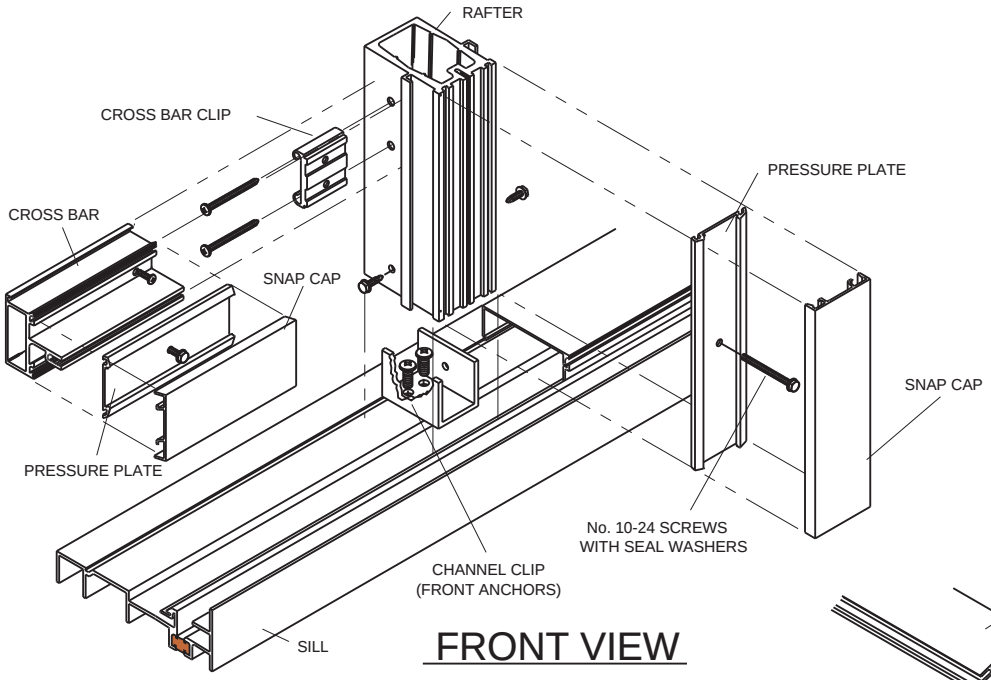
Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



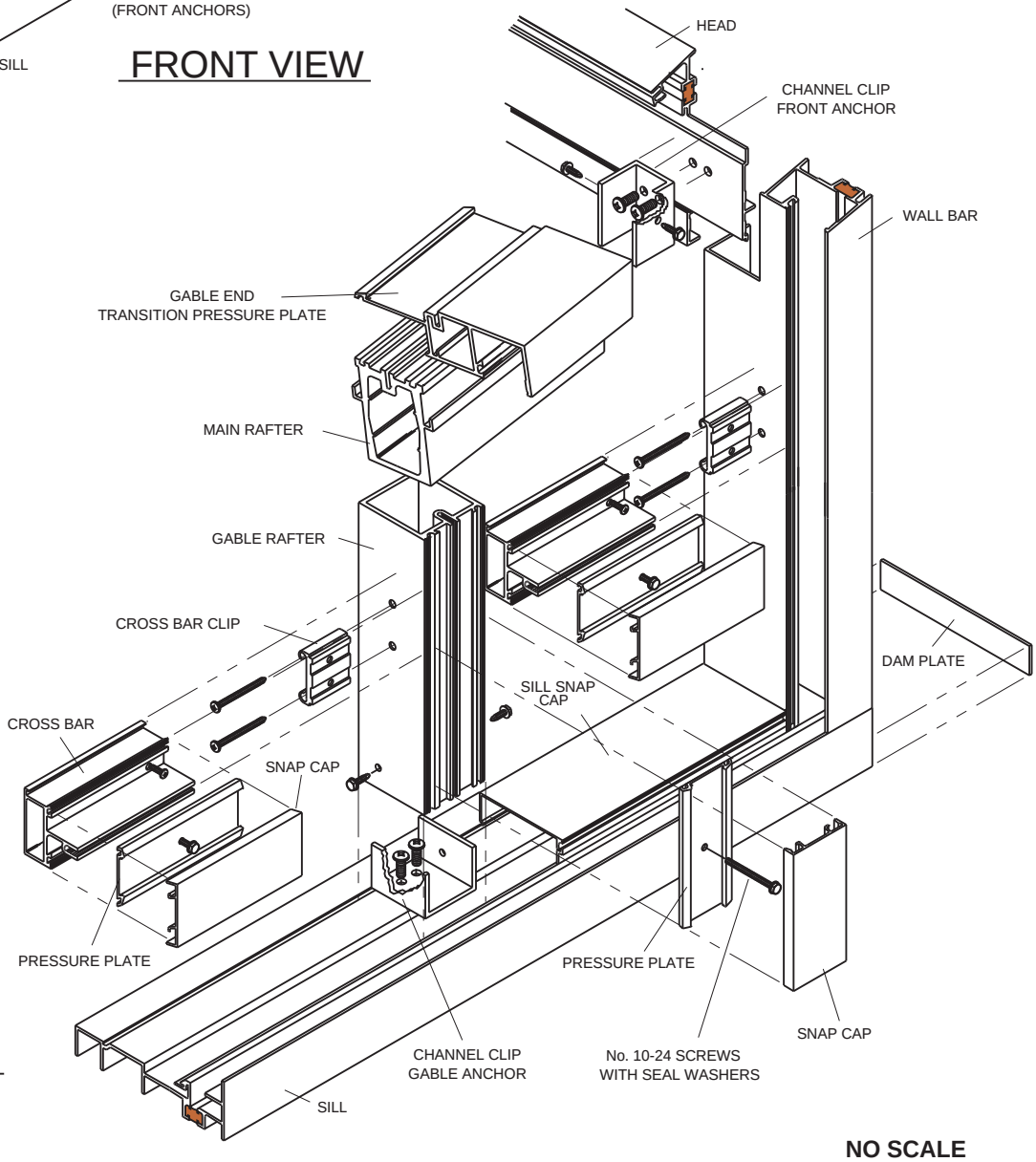
NO SCALE

EXPLODED ASSEMBLY

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



FRONT VIEW

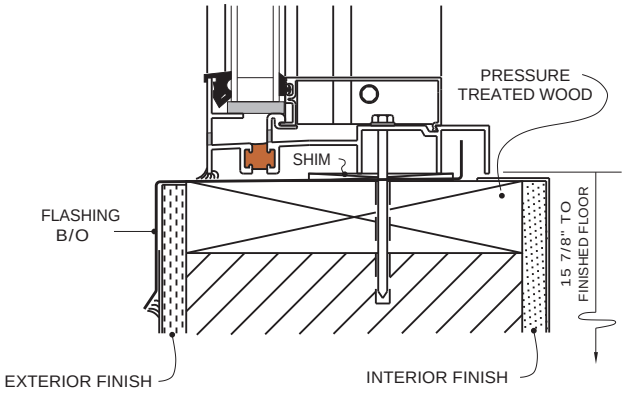


GABLE VIEW

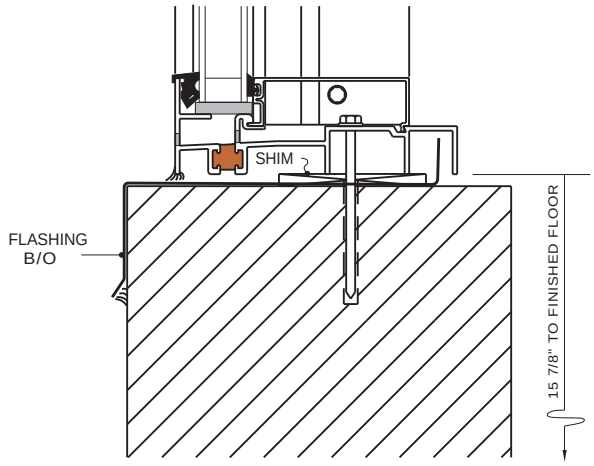
NO SCALE

TYPICAL SILL INSTALLATIONS

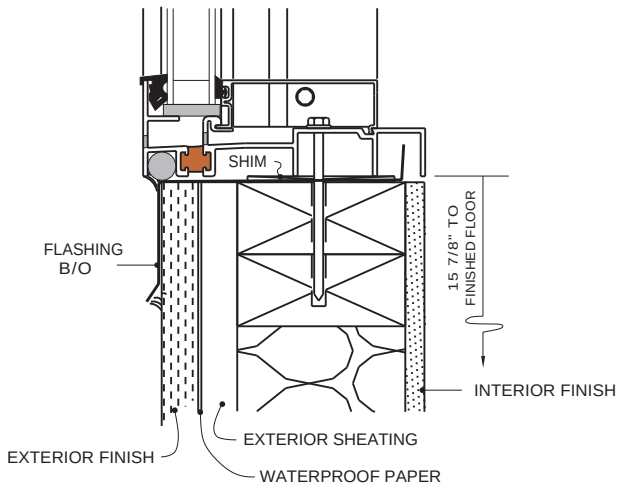
Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



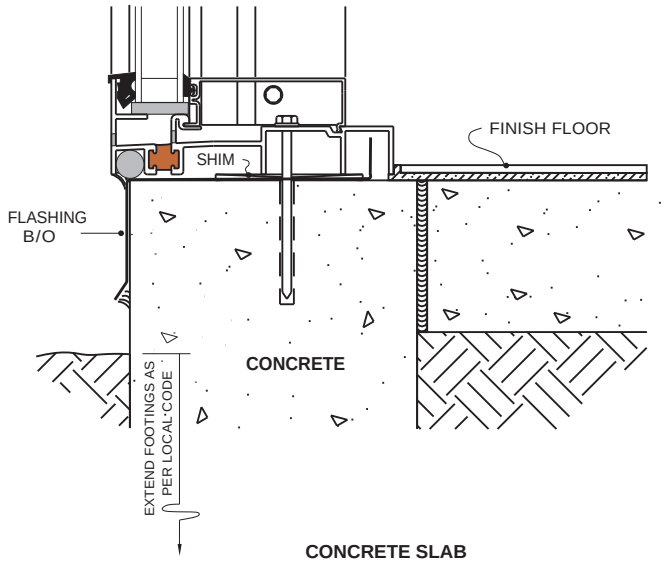
MASONRY KNEEWALL



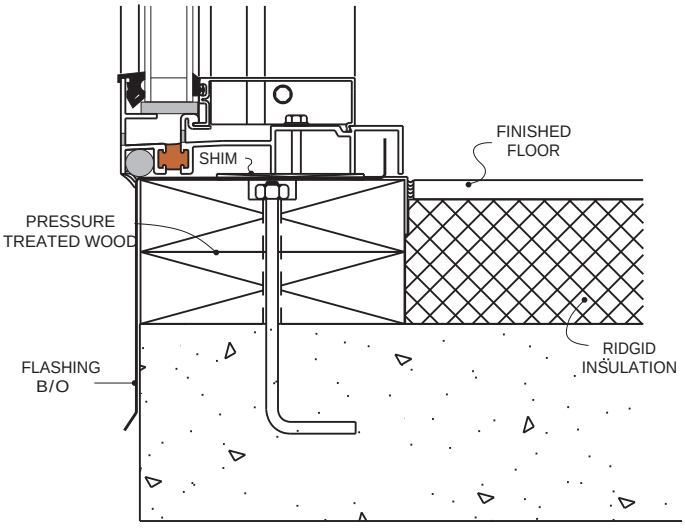
MASONRY KNEEWALL



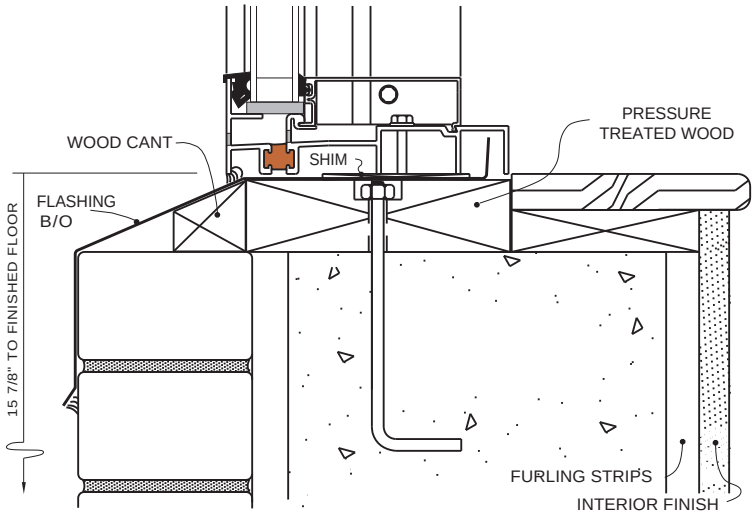
STUDED DRYWALL



CONCRETE SLAB



CONCRETE DECK



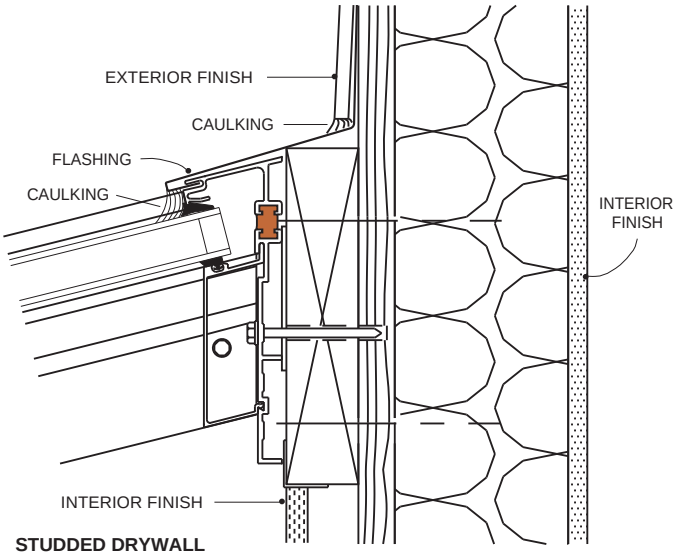
BRICK & CONCRETE BLOCK WALL

1/4 SIZE DETAILS

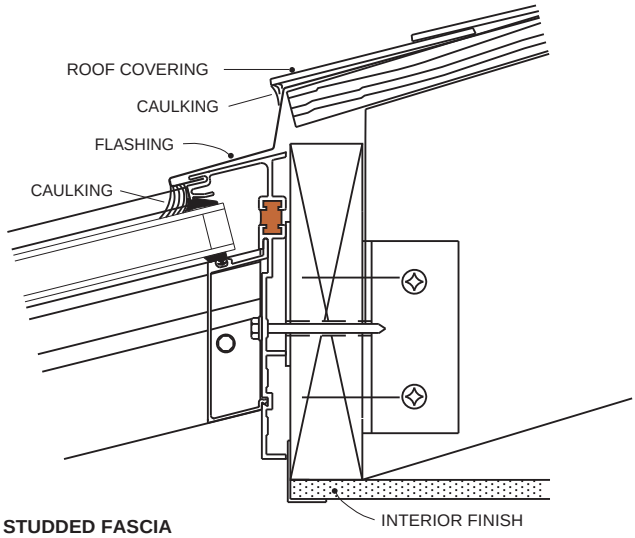
109-10 180 St. Jamaica, NY 11433 ● Tel: 718-297-6040 ● Fax: 718-297-3090 ● www.sunbilt.com

TYPICAL HEAD INSTALLATIONS

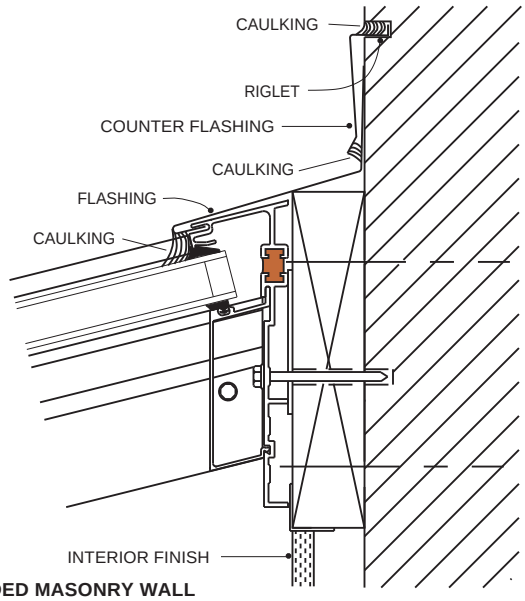
Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



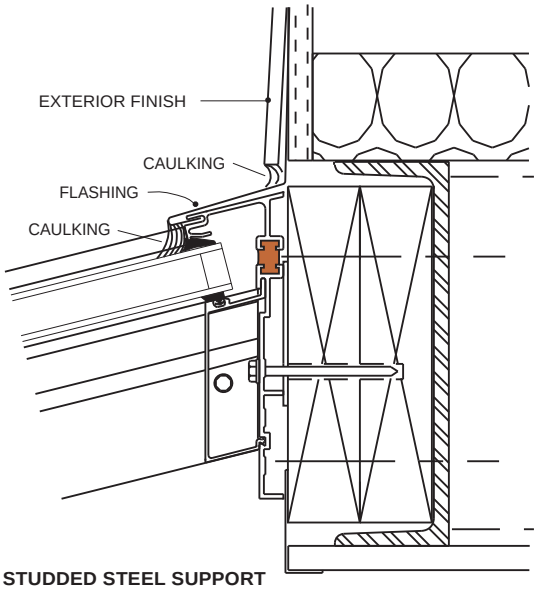
STUDDED DRYWALL



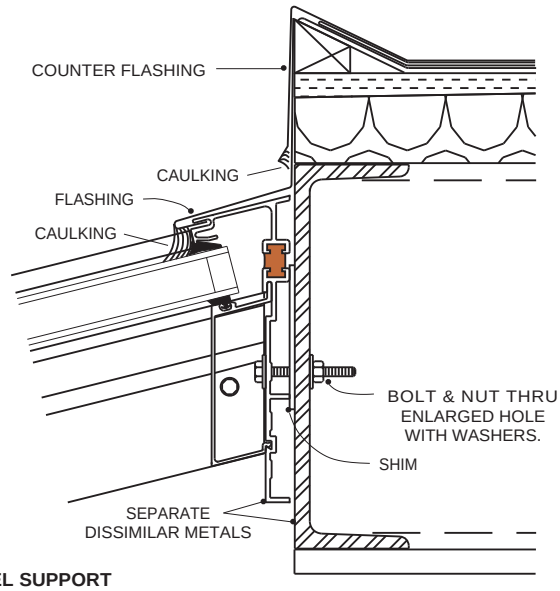
STUDDED FASCIA



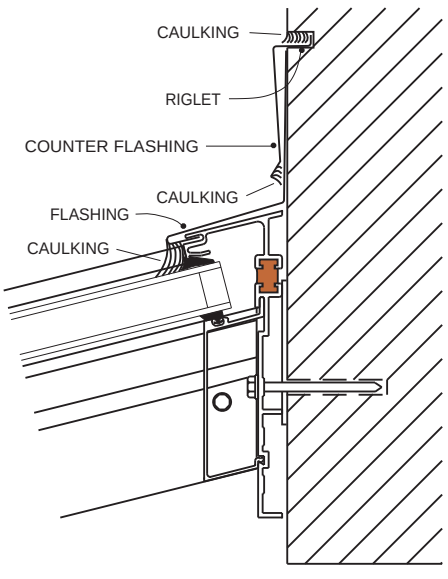
STUDDED MASONRY WALL



STUDDED STEEL SUPPORT



STEEL SUPPORT



MASONRY WALL

1/4 SIZE DETAILS

CURVED EAVE MODELS

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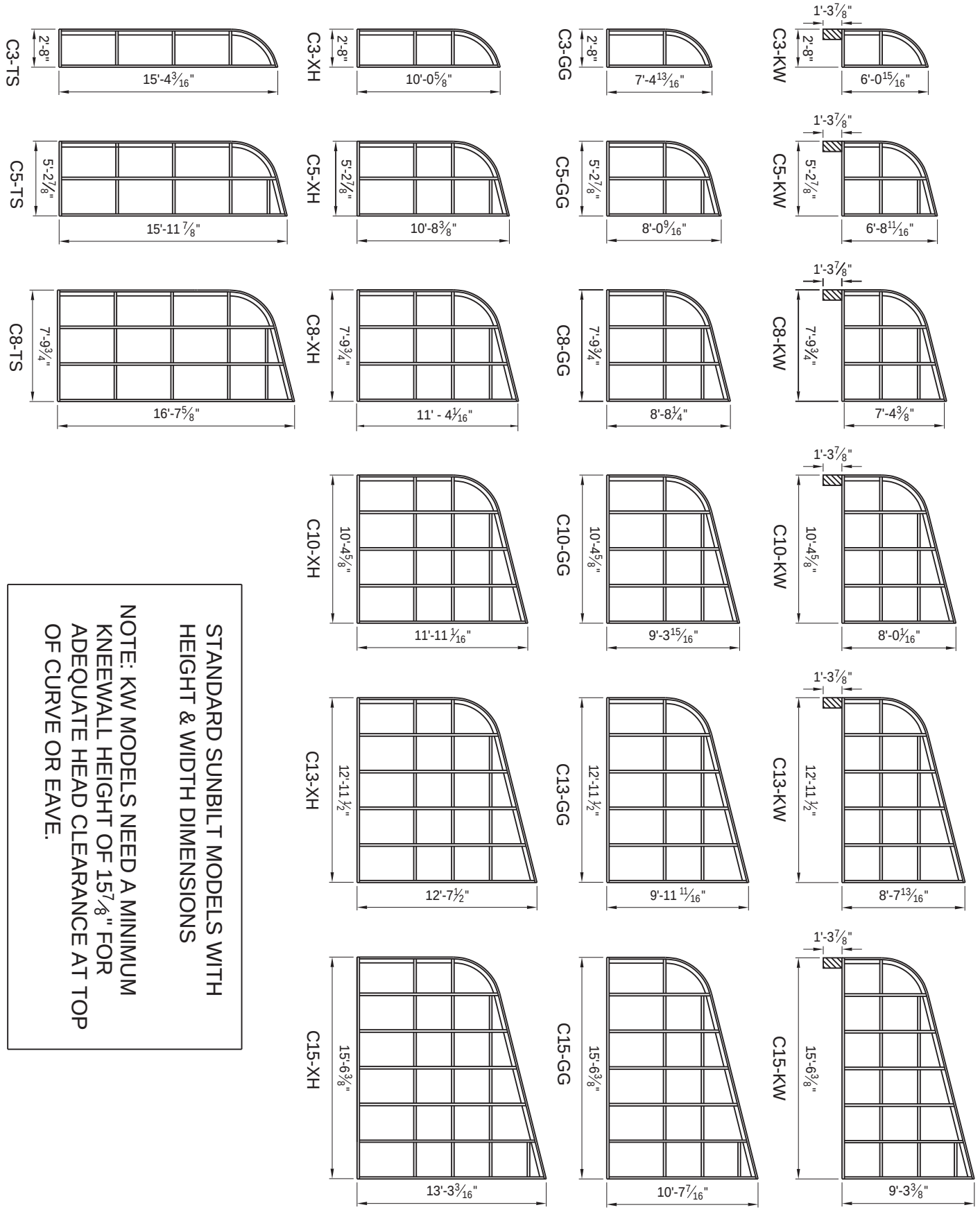

STANDARD SUNBILT MODELS WITH HEIGHT & WIDTH DIMENSIONS

NOTE: KW MODELS NEED A MINIMUM KNEEWALL HEIGHT OF 15 7/8" FOR ADEQUATE HEAD CLEARANCE AT TOP OF CURVE OR EAVE.

NO SCALE

STRAIGHT EAVE MODELS

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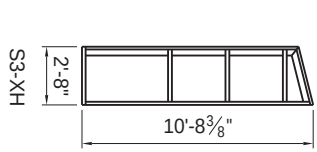
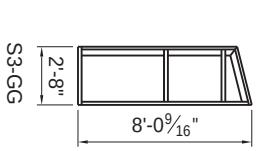
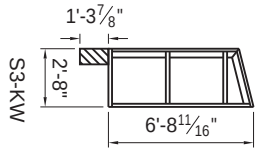
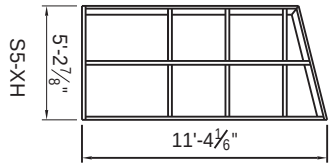
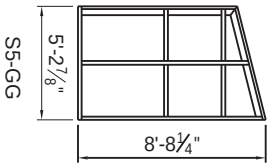
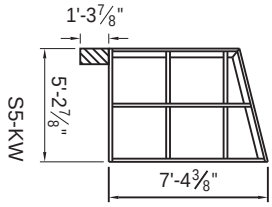


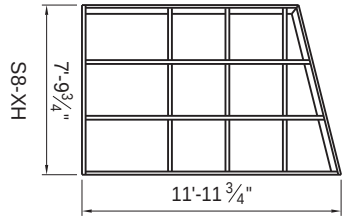


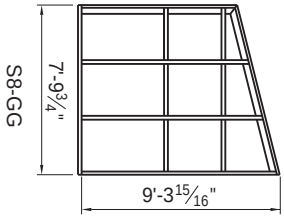


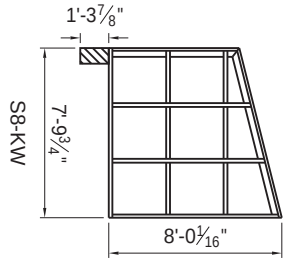


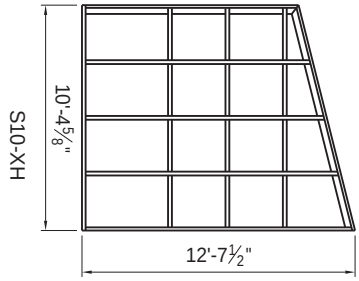


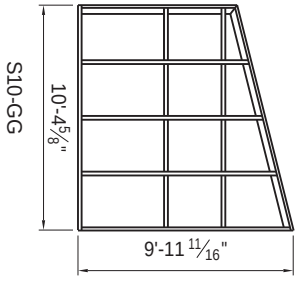


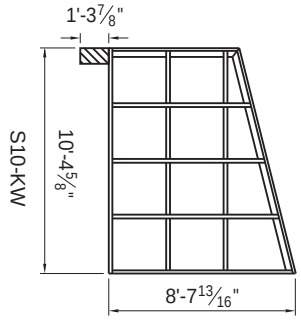


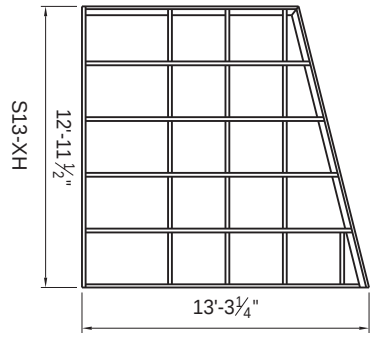


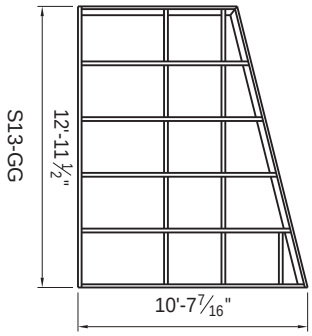


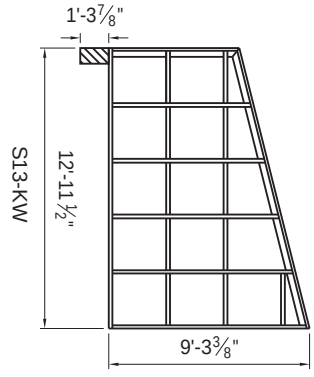


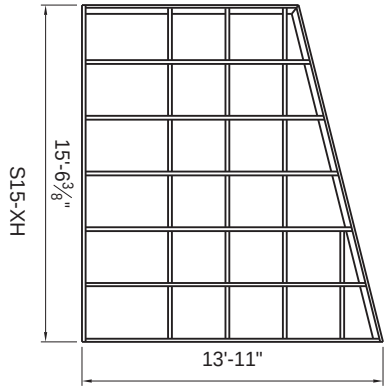


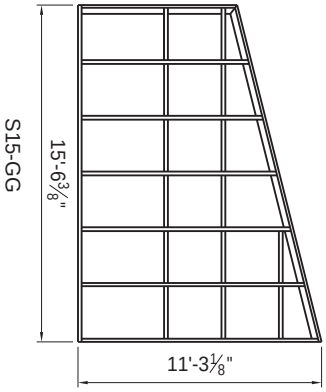


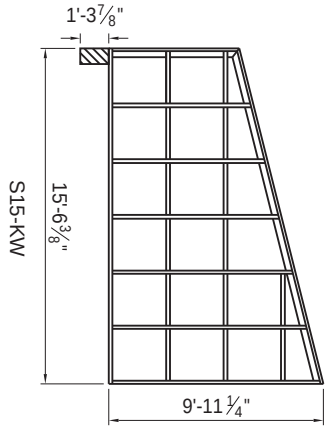












STANDARD SUNBILT MODELS WITH HEIGHT & WIDTH DIMENSIONS

NOTE: KW MODELS NEED A MINIMUM KNEEWALL HEIGHT OF 1'-3 7/8" FOR ADEQUATE HEAD CLEARANCE AT TOP OF CURVE OR EAVE.

KW MODELS DOOR LOCATIONS

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.

Note: Knee wall height must be 15⅞". Dimensions shown are to ouside of sill, if sill is to be placed in or out from outside of knee wall add or subtract from dimensions given.

NO SCALE

109-10 180 St. Jamaica, NY 11433 ● Tel: 718-297-6040 ● Fax: 718-297-3090 ● www.sunbilt.com

BASE LENGTH SIZES

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.

SUNROOM WITH NO GABLES		SUNROOM WITH ONE GABLE (left or right)		SUNROOM WITH TWO GABLES	
No. of Bays	BASE LENGTH	No. of Bays	BASE LENGTH	No. of Bays	BASE LENGTH
3	7' - 11 1/4"	3	8' - 1 13/16"	3	8' - 4 3/8"
4	10' - 6 1/8"	4	10' - 8 11/16"	4	10' - 11 1/4"
5	13' - 1"	5	13' - 3 9/16"	5	13' - 6 1/8"
6	15' - 7 7/8"	6	15' - 10 7/16"	6	16' - 1
7	18' - 2 3/4"	7	18' - 5 5/16"	7	18' - 7 7/8"
8	20' - 9 5/8"	8	21' - 0 3/16"	8	21' - 2 3/4"
9	23' - 11 3/8"	9	23' - 7 1/16"	9	23' - 9 5/8"
10	25' - 11 3/8"	10	26' - 1 15/16"	10	26' - 4 1/2"
11	28' - 6 1/4"	11	28' - 8 13/16"	11	28' - 11 3/8"
12	31' - 1 1/8"	12	31' - 3 11/16"	12	31' - 6 1/4"
13	33' - 8"	13	33' - 10 9/16"	13	34' - 1 1/16"
14	36' - 2 7/8"	14	36' - 5 7/16"	14	36' - 8"
15	38' - 9 3/4"	15	39' - 0 5/16"	15	39' - 2 7/8"
16	41' - 4 5/8"	16	41' - 7 3/16"	16	41' - 9 3/4"
17	43' - 11 1/2"	17	44' - 2 1/16"	17	44' - 4 5/8"
18	46' - 6 3/8"	18	46' - 8 15/16"	18	46' - 11 1/2"
19	49' - 1 1/4"	19	49' - 3 13/16"	19	49' - 6 3/8"
20	51' - 8 1/8"	20	51' - 10 11/16"	20	52' - 1 1/4"
21	54' - 3"	21	54' - 5 9/16"	21	54' - 8 1/8"
22	56' - 9 7/8"	22	57' - 0 7/16"	22	57' - 3
23	59' - 4 3/4"	23	59' - 7 5/16"	23	59' - 9 7/8"
24	61' - 11 5/8"	24	62' - 2 3/16"	24	62' - 4 3/4"
25	64' - 6 1/2"	25	64' - 9 1/16"	25	64' - 11 5/8"
26	67' - 1 3/8"	26	67' - 3 15/16"	26	67' - 6 1/2"
27	69' - 8 1/4"	27	69' - 10 13/16"	27	70' - 1 3/8"
28	72' - 3 1/8"	28	72' - 5 11/16"	28	72' - 8 1/4"
29	74' - 10"	29	75' - 0 9/16"	29	75' - 3 1/8"
30	77' - 4 7/8"	30	77' - 7 7/16"	30	77' - 10"
31	79' - 11 3/4"	31	80' - 2 5/16"	31	80' - 4 7/8"
32	82' - 6 5/8"	32	82' - 9 3/16"	32	82' - 11 3/4"
33	85' - 1 1/2"	33	85' - 4 1/16"	33	85' - 6 5/8"
34	87' - 8 3/8"	34	87' - 10 15/16"	34	88' - 1 1/2"
35	90' - 3 1/4"	35	90' - 5 13/16"	35	90' - 8 3/8"
36	92' - 10 1/8"	36	93' - 0 11/16"	36	93' - 3 1/4"
37	95' - 5"	37	95' - 7 9/16"	37	95' - 10 1/8"
38	97' - 11 7/8"	38	98' - 2 7/16"	38	98' - 5"
39	100' - 6 3/4"	39	100' - 9 5/16"	39	100' - 11 7/8"
40	103' - 1 5/8"	40	103' - 4 3/16"	40	103' - 6 3/4"

NOTE: FOR SIZES OVER 40 BAYS IN LENGHT ADD 2' - 6 7/8" PER ADDITIONAL BAY, TO ABOVE 40 BAY DIMENSIONS

HIP CORNER BASE DIMENSIONS

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.

3 ft. Models

No. of BAYS	A	B	C
2	5'-4 11/16"	5'-7 1/4"	N/A
3	7'-11 9/16"	8'-2 1/8"	7'-11 7/8"
4	10'-6 7/16"	10'-9"	10'-6 3/4"
5	13'-1 5/16"	13'-3 7/8"	13'-1 5/8"
6	15'-8 3/16"	15'-10 3/4"	15'-8 1/2"
7	18'-3 1/16"	18'-5 5/8"	18'-3 3/8"
8	20'-9 15/16"	21'-0 1/2"	20'-10 1/4"
9	23'-4 13/16"	23'-7 3/8"	23'-5 1/8"
10	25'-11 11/16"	26'-2 1/4"	26'-0"
11	28'-6 9/16"	28'-9 1/8"	28'-6 7/8"
12	31'-1 7/16"	31'-4"	31'-1 3/4"

5 ft. Models

No. of BAYS	A	B	C
2	N/A	N/A	N/A
3	7'-11 9/16"	8'-2 1/8"	N/A
4	10'-6 7/16"	10'-9"	N/A
5	13'-1 5/16"	13'-3 7/8"	13'-1 5/8"
6	15'-8 3/16"	15'-10 3/4"	15'-8 1/2"
7	18'-3 1/16"	18'-5 5/8"	18'-3 3/8"
8	20'-9 15/16"	21'-0 1/2"	20'-10 1/4"
9	23'-4 13/16"	23'-7 3/8"	23'-5 1/8"
10	25'-11 11/16"	26'-2 1/4"	26'-0"
11	28'-6 9/16"	28'-9 1/8"	28'-6 7/8"
12	31'-1 7/16"	31'-4"	31'-1 3/4"

8 ft. Models

No. of BAYS	A	B	C
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	10'-6 7/16"	10'-9"	N/A
5	13'-1 5/16"	13'-3 7/8"	N/A
6	15'-8 3/16"	15'-10 3/4"	N/A
7	18'-3 1/16"	18'-5 5/8"	18'-3 3/8"
8	20'-9 15/16"	21'-0 1/2"	20'-10 1/4"
9	23'-4 13/16"	23'-7 3/8"	23'-5 1/8"
10	25'-11 11/16"	26'-2 1/4"	26'-0"
11	28'-6 9/16"	28'-9 1/8"	28'-6 7/8"
12	31'-1 7/16"	31'-4"	31'-1 3/4"

10 ft. Models

No. of BAYS	A	B	C
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	13'-1 5/16"	13'-3 7/8"	N/A
6	15'-8 3/16"	15'-10 3/4"	N/A
7	18'-3 1/16"	18'-5 5/8"	N/A
8	20'-9 15/16"	21'-0 1/2"	N/A
9	23'-4 13/16"	23'-7 3/8"	23'-5 1/8"
10	25'-11 11/16"	26'-2 1/4"	26'-0"
11	28'-6 9/16"	28'-9 1/8"	28'-6 7/8"
12	31'-1 7/16"	31'-4"	31'-1 3/4"

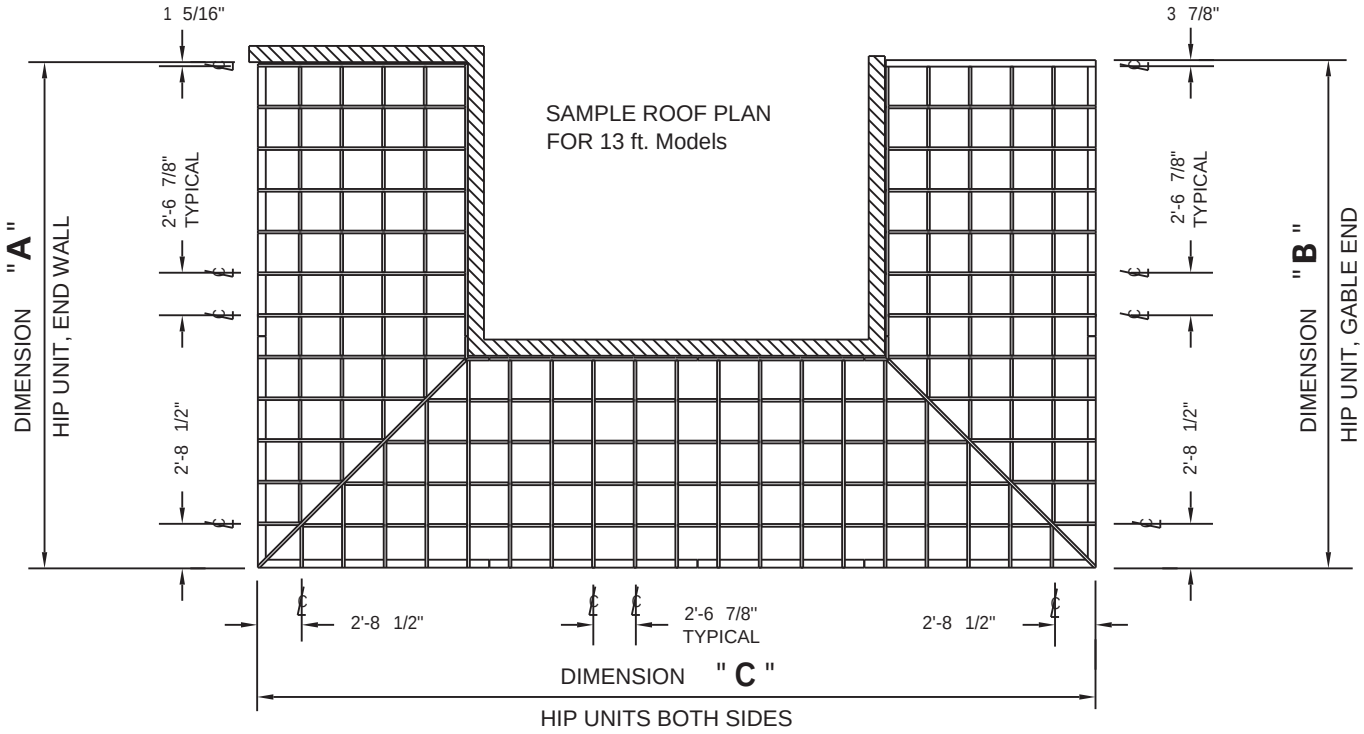
13 ft. Models

No. of BAYS	A	B	C
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	15'-8 3/16"	15'-10 3/4"	N/A
7	18'-3 1/16"	18'-5 5/8"	N/A
8	20'-9 15/16"	21'-0 1/2"	N/A
9	23'-4 13/16"	23'-7 3/8"	N/A
10	25'-11 11/16"	26'-2 1/4"	N/A
11	28'-6 9/16"	28'-9 1/8"	28'-6 7/8"
12	31'-1 7/16"	31'-4"	31'-1 3/4"

15 ft. Models

No. of BAYS	A	B	C
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	N/A	N/A	N/A
7	18'-3 1/16"	18'-5 5/8"	N/A
8	20'-9 15/16"	21'-0 1/2"	N/A
9	23'-4 13/16"	23'-7 3/8"	N/A
10	25'-11 11/16"	26'-2 1/4"	N/A
11	28'-6 9/16"	28'-9 1/8"	N/A
12	31'-1 7/16"	31'-4"	N/A

FOR DIMENSIONS OVER 12 BAYS ADD 2'-6 7/8" TO ABOVE 12 BAY DIMENSION FOR EACH BAY ADDED



NO SCALE

MAIN RAFTER

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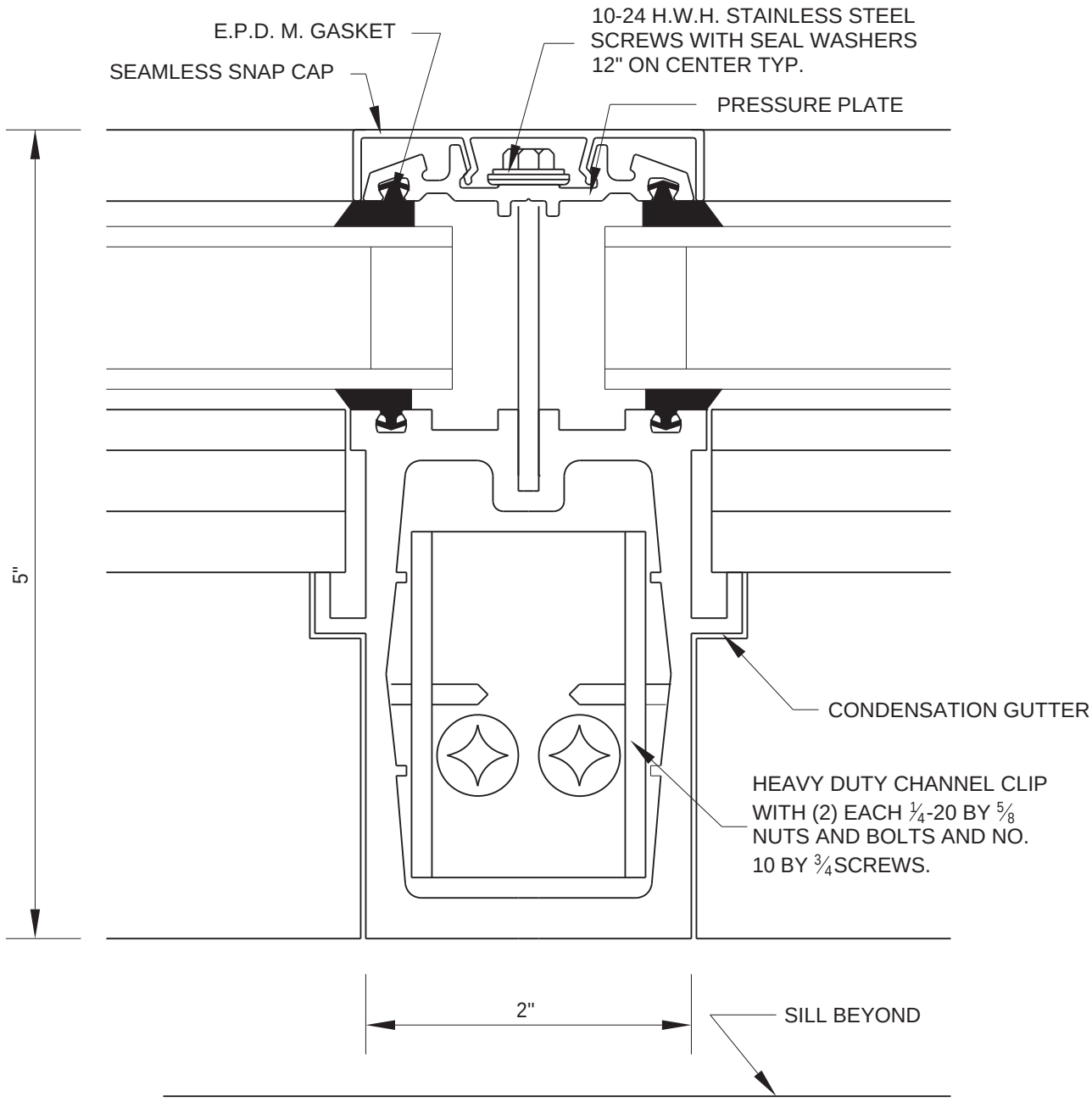
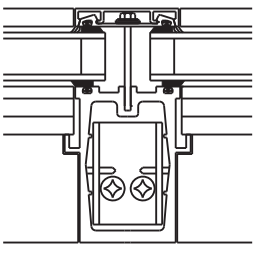


MAIN RAFTER (UP-TO 13 FT. MODELS)

First and foremost the rafter must be strong enough to support the wind load and additional live and dead loads required of a sloped glazed system. Excessive deflection of the main rafter can cause glass breakage, water leakage and sealant failure of the insulated glass. The maximum deflection allowed for the Sunbilt rafter is L/175 of the entire span of the rafter. This is not to be confused with L/175 of the relative midpoint of the glass. While the latter standards will usually minimize glass breakage, it in no way accounts for water leakage and sealant failure as do the more stringent former requirements.

Assurance of weather tightness and minimal stress on the insulated glass is provided by proper glass cushioning (1/2") and clearance space between glass and metal (Minimum of 1/8" with 20% compression of gaskets). In addition, proper edge clearance of glass minimizes potential glass dam- age and proper glass bite prevents ultraviolet degradation of the sealant and glass spacers. Although condensation is minimized due to a completely thermally broken framework, it cannot be totally eliminated if there is excessive humidity in the air. Condensation gutters provide a necessary backup to any sloped glazed system. Rafters are supported by anchor clips at head and sill with nuts and bolts to prevent undue stressfrom negative windloading.



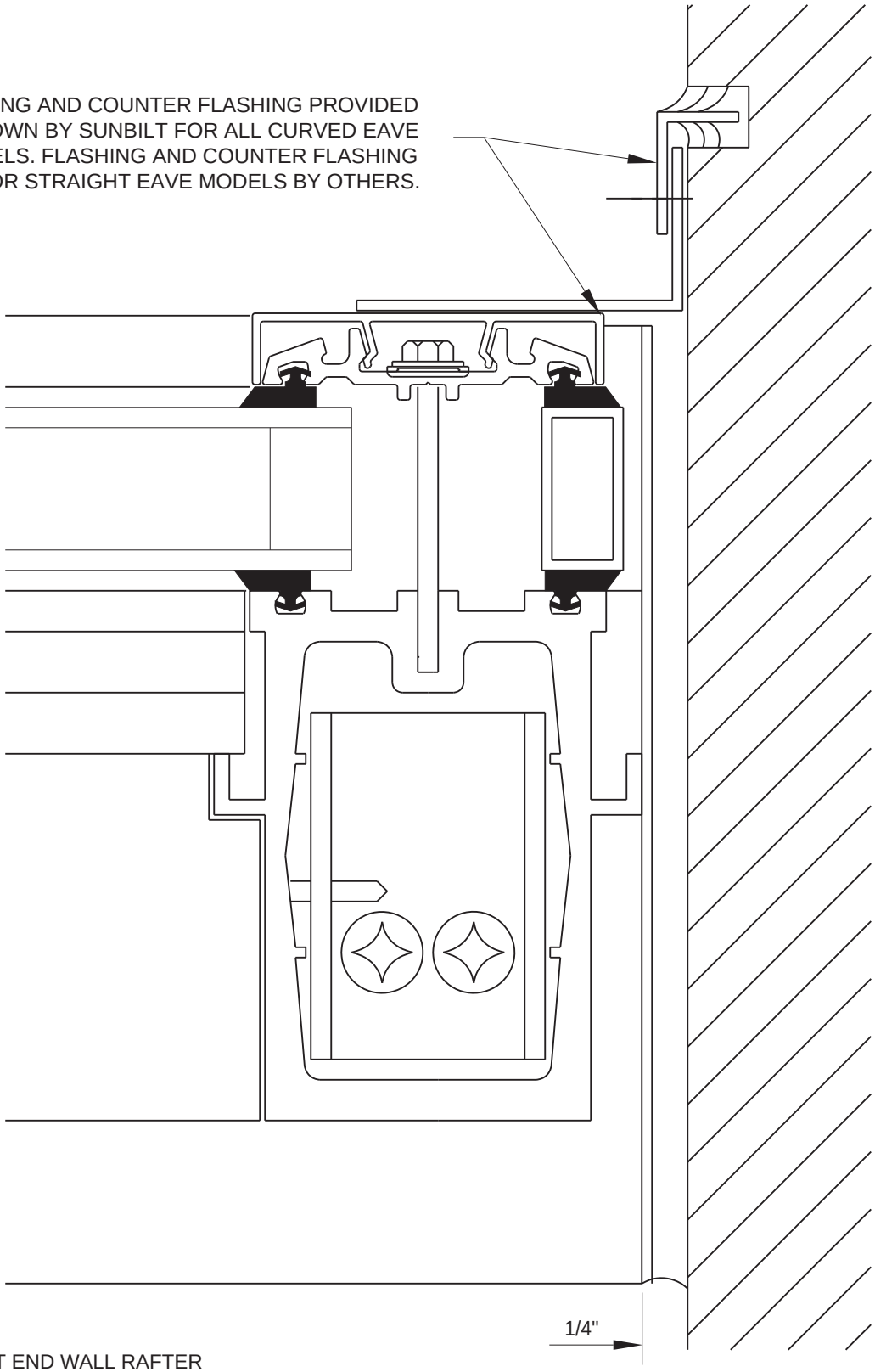
1/4 SIZE DETAIL

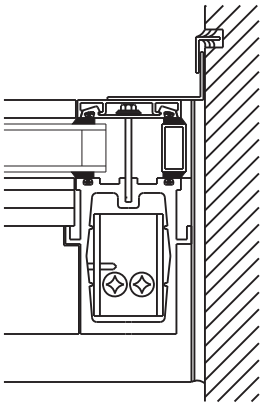
FULL SIZE DETAIL

LEFT END RAFTER

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.

FLASHING AND COUNTER FLASHING PROVIDED AS SHOWN BY SUNBILT FOR ALL CURVED EAVE MODELS. FLASHING AND COUNTER FLASHING FOR STRAIGHT EAVE MODELS BY OTHERS.





1/4 SIZE DETAIL

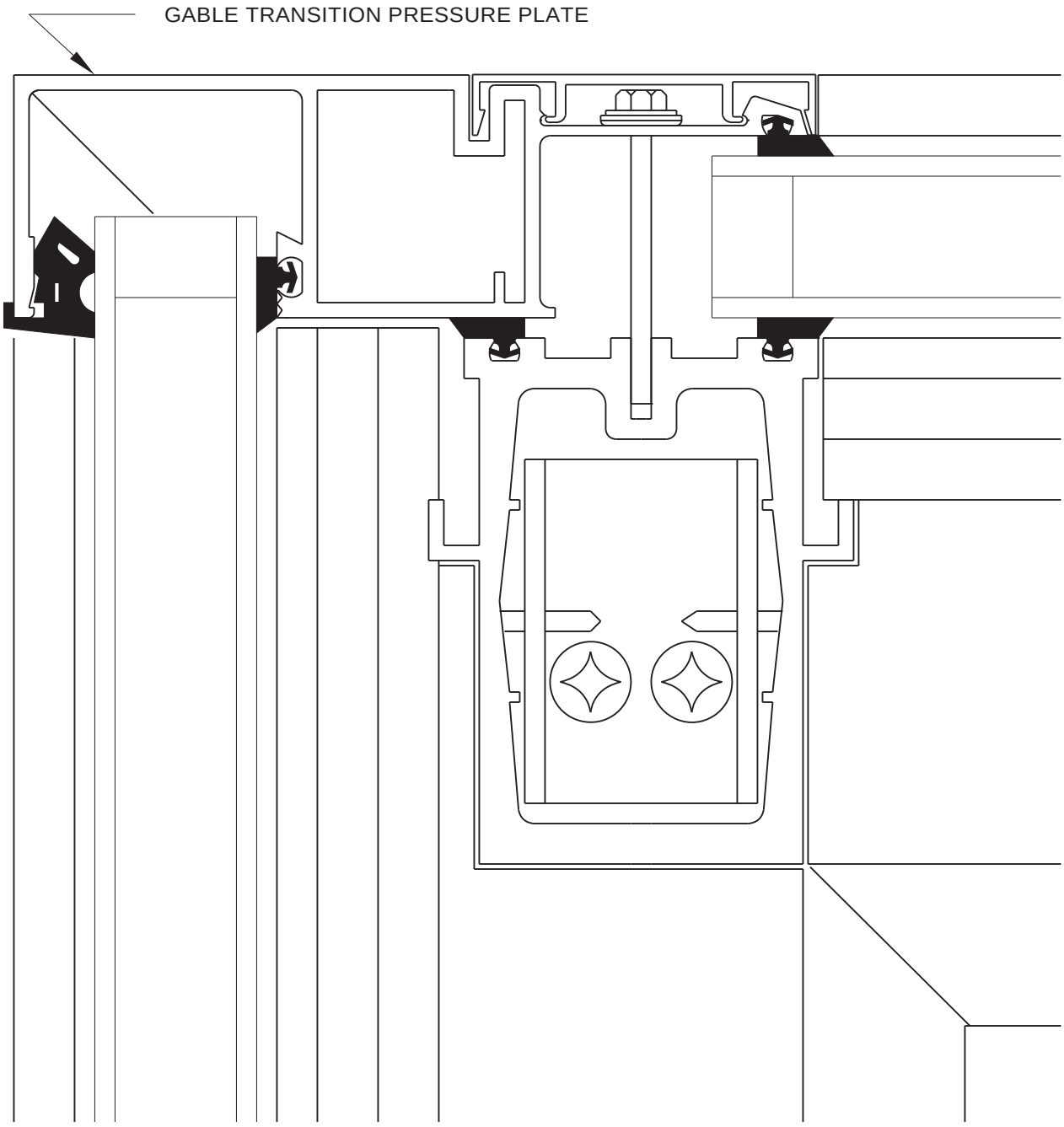
LEFT END WALL RAFTER

A critical part of the wall rafter is proper clearance space & flashing to compensate for the difference in material movement. A minimum of 1/4" clearance per end wall should be accounted for. Curved flashing & counter-flashing is provided by SUNBILT to assure maximum weather-tightness in this critical area & to maintain a neat appearance.

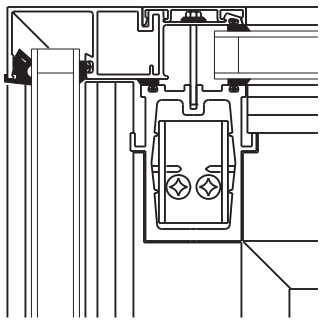
FULL SIZE DETAIL

RIGHT GLAZED END RAFTER

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



RIGHT GLAZED END RAFTER
It is important that the glazed end provide a neat and harmonious transition from the front of the sunroom and around to the gable end. Aesthetic details are important here and seams, splice joints and exposed fasteners are AVOIDED.

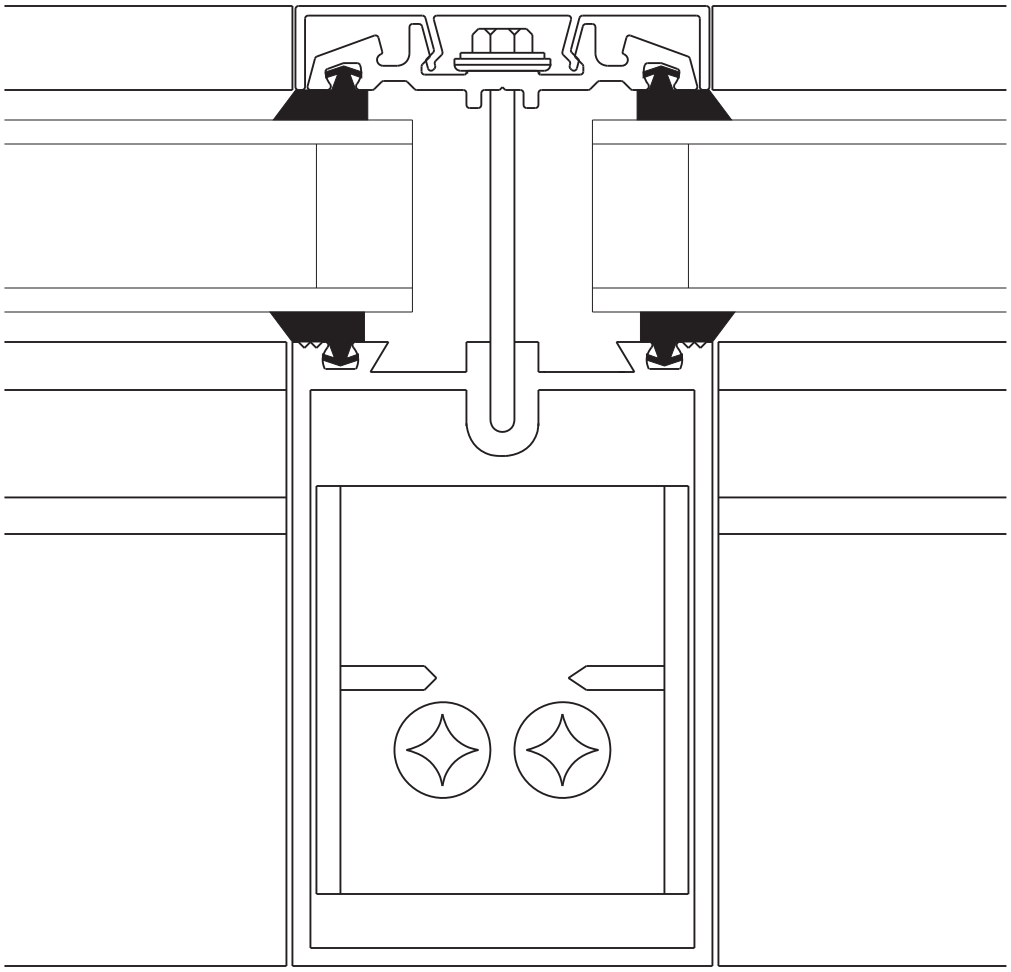


1/4 SIZE DETAIL

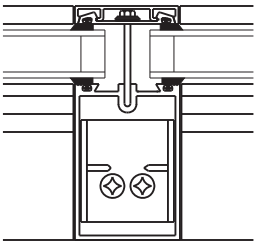
FULL SIZE DETAIL

GABLE RAFTER

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



GABLE SILL BEYOND



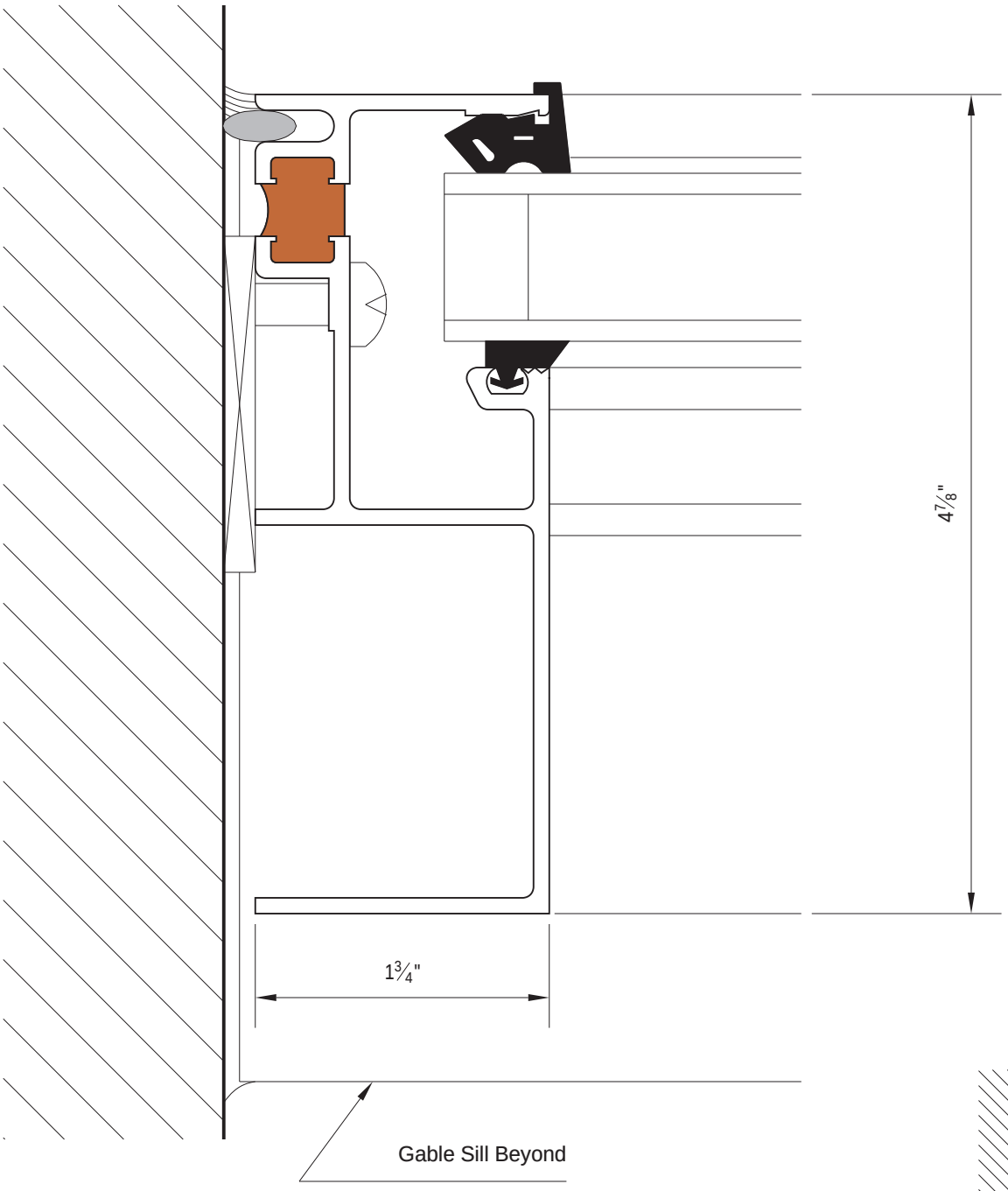
1/4 SIZE DETAIL

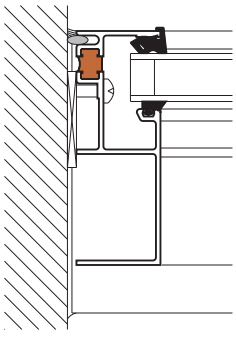
GABLE RAFTER The gable rafter must adequately support necessary windloads. It is notched out on top to give the gable end a neat finished appearance. All gable rafters are designed to line up with overhead cross bars.

FULL SIZE DETAIL

GABLE WALL BAR

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.





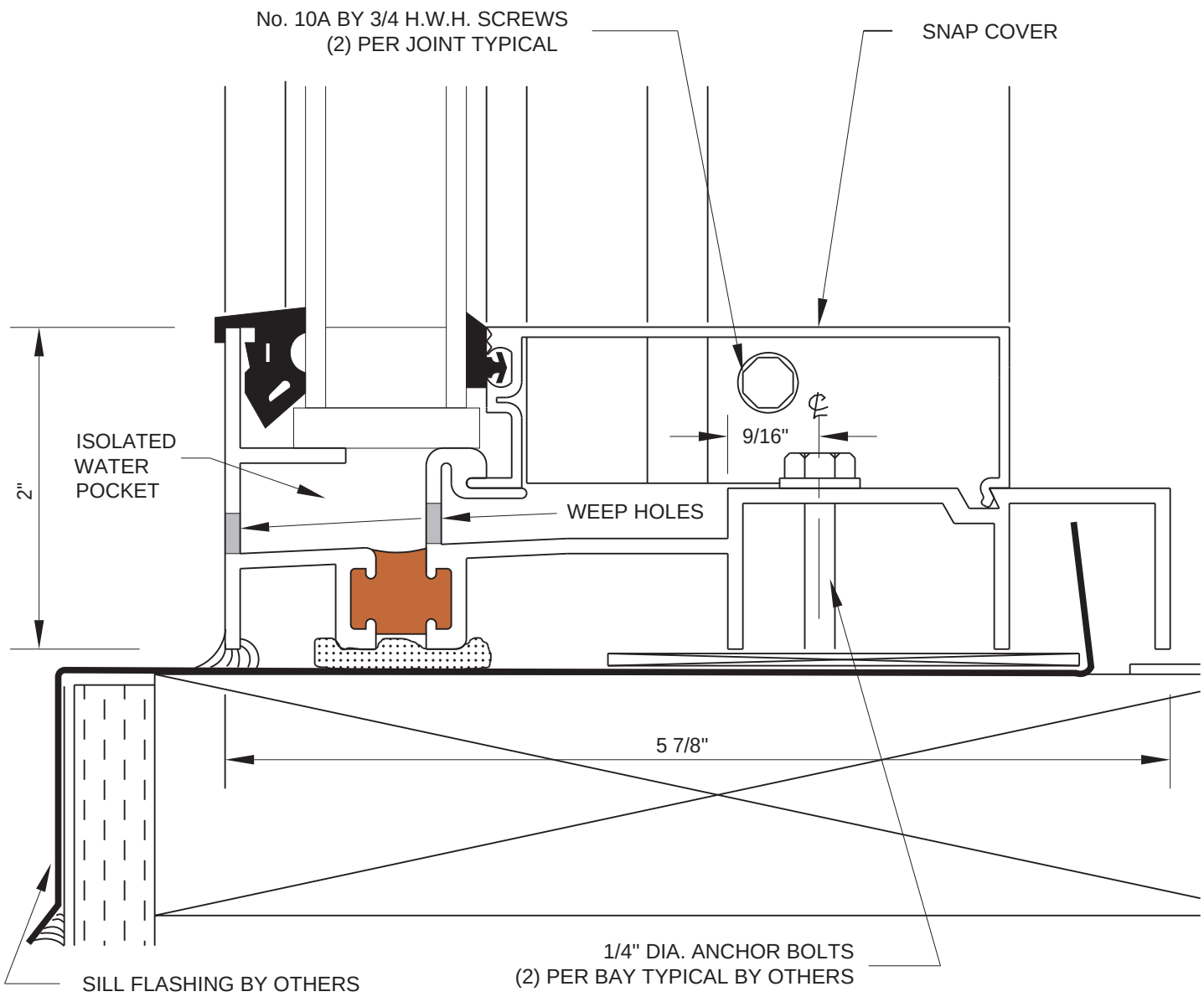
1/4 SIZE DETAIL

GABLE WALL BAR (Right gable shown)
The wall bar is tied in at the gable end to the wall. It lines up neatly with the gable rafter and is notched at top for a neat finished appearance. It is important to shim and caulk the wall bar to eliminate air and water infiltration. Fasteners are concealed within the channel of the wall bar.

FULL SIZE DETAIL

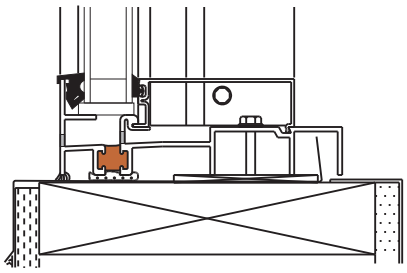
STANDARD SILL

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



STANDARD SILL

The sill must act as a receptor for all internal drainage before it is weeped to the exterior, as well as a mediary to properly transfer all design loads to the resting surface of the sunroom. The isolated water pocket prevents any water from ever resting directly under the glass. Proper leverage is accounted for by placement of anchor bolts, in an area other than the main drainage gutter, so as not to cause any lifting of the sill. Snap covers are provided to conceal all fasteners. "Z" flashing is tucked under the sill without crossing the polyurathane thermal barrier and thereby causing a short circuit. Sills are also mitred at corners rather than butted to maintain the thermal break and to give the unit a neat finished appearence. Built in expansion joints are provided every 15 lineal feet of sill to account for excessive movement between materials.

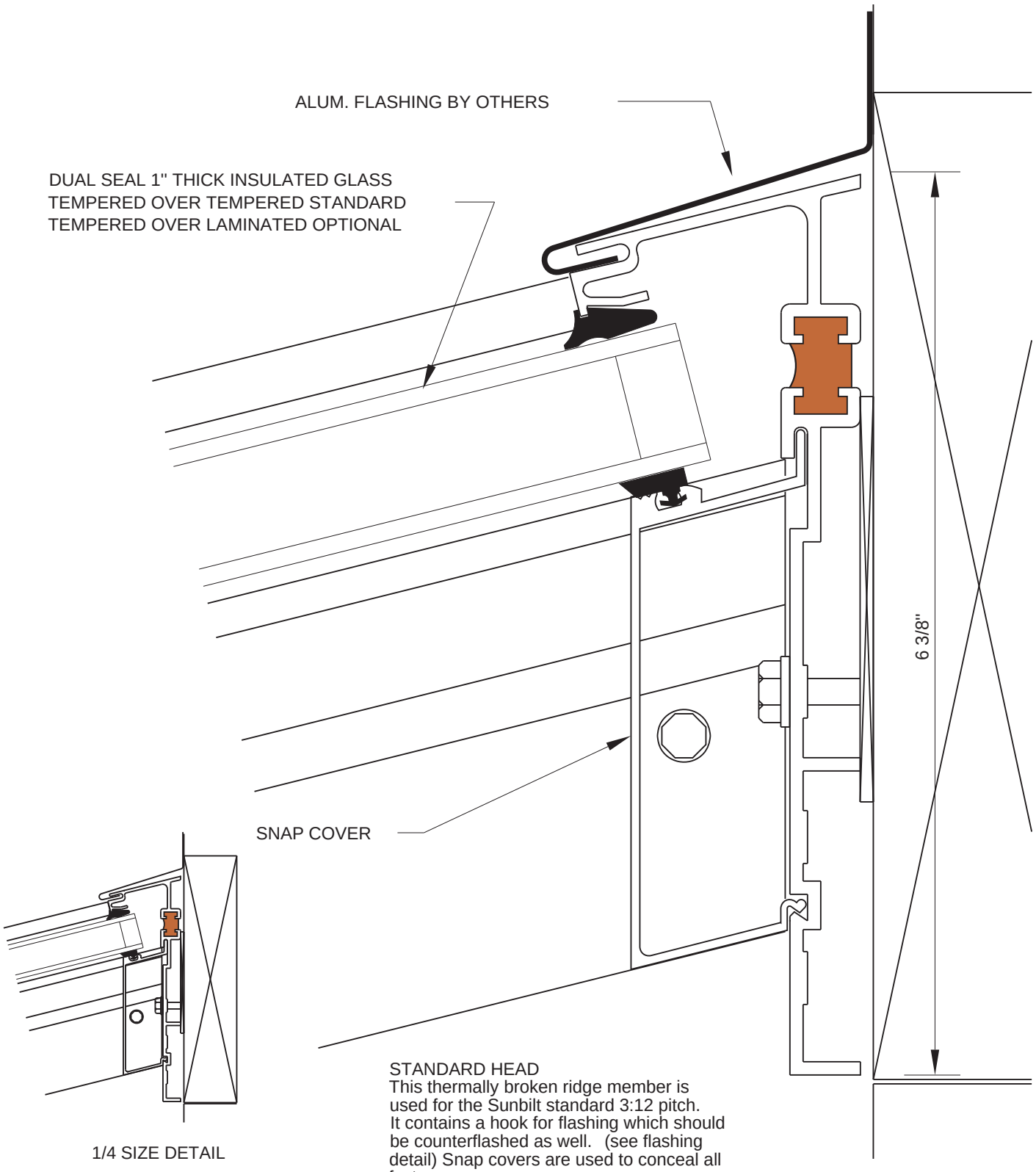


1/4 SIZE DETAIL

FULL SIZE DETAIL

STANDARD HEAD

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



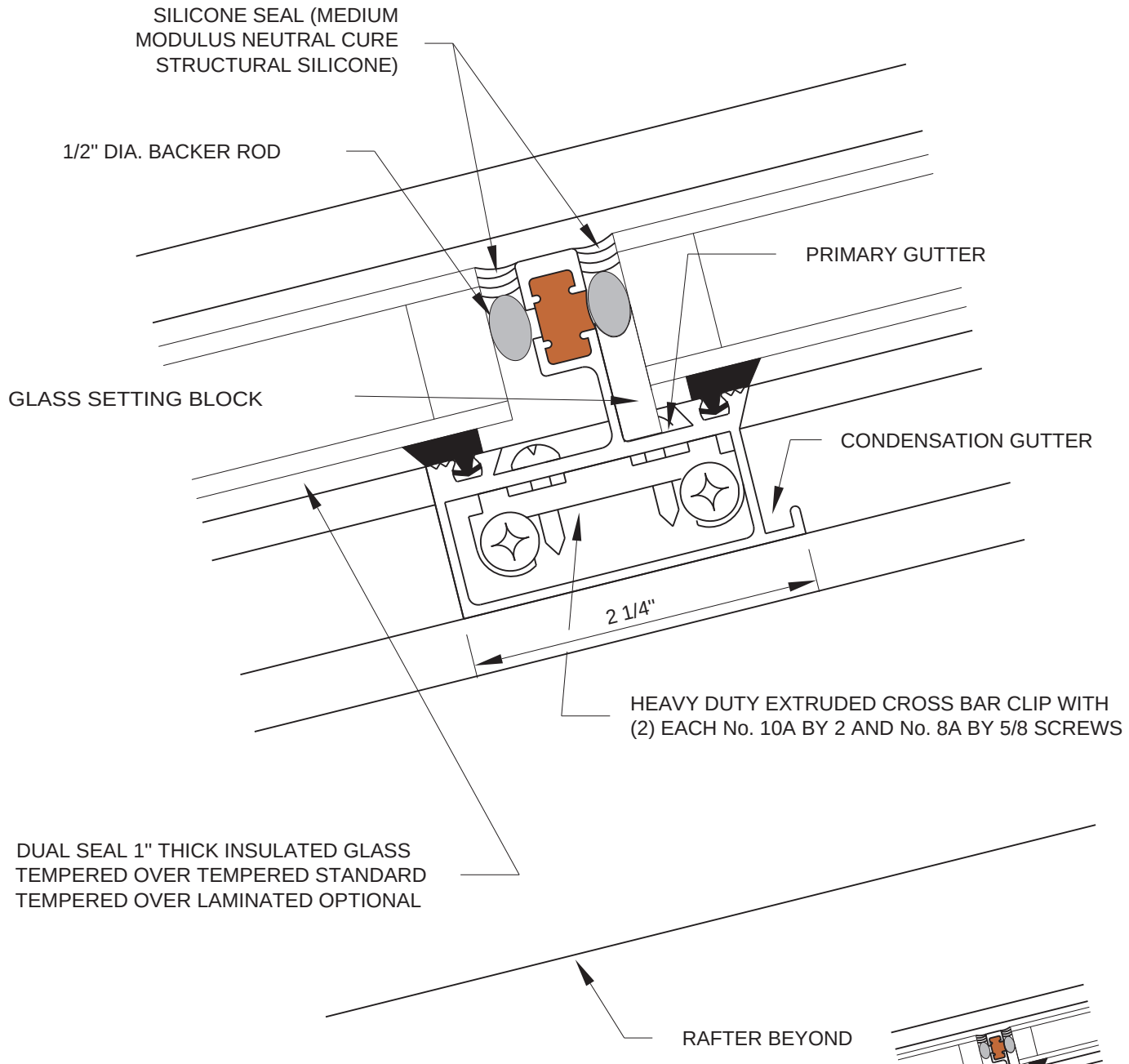
1/4 SIZE DETAIL

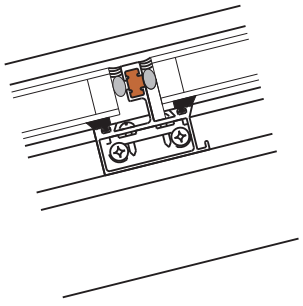
STANDARD HEAD
This thermally broken ridge member is used for the Sunbilt standard 3:12 pitch. It contains a hook for flashing which should be counterflashed as well. (see flashing detail) Snap covers are used to conceal all fasteners.

FULL SIZE DETAIL

BUTT GLAZED CROSS BAR

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.





1/4 SIZE DETAIL

BUTT GLAZED CROSS BAR (KLEERTEK T.M.)

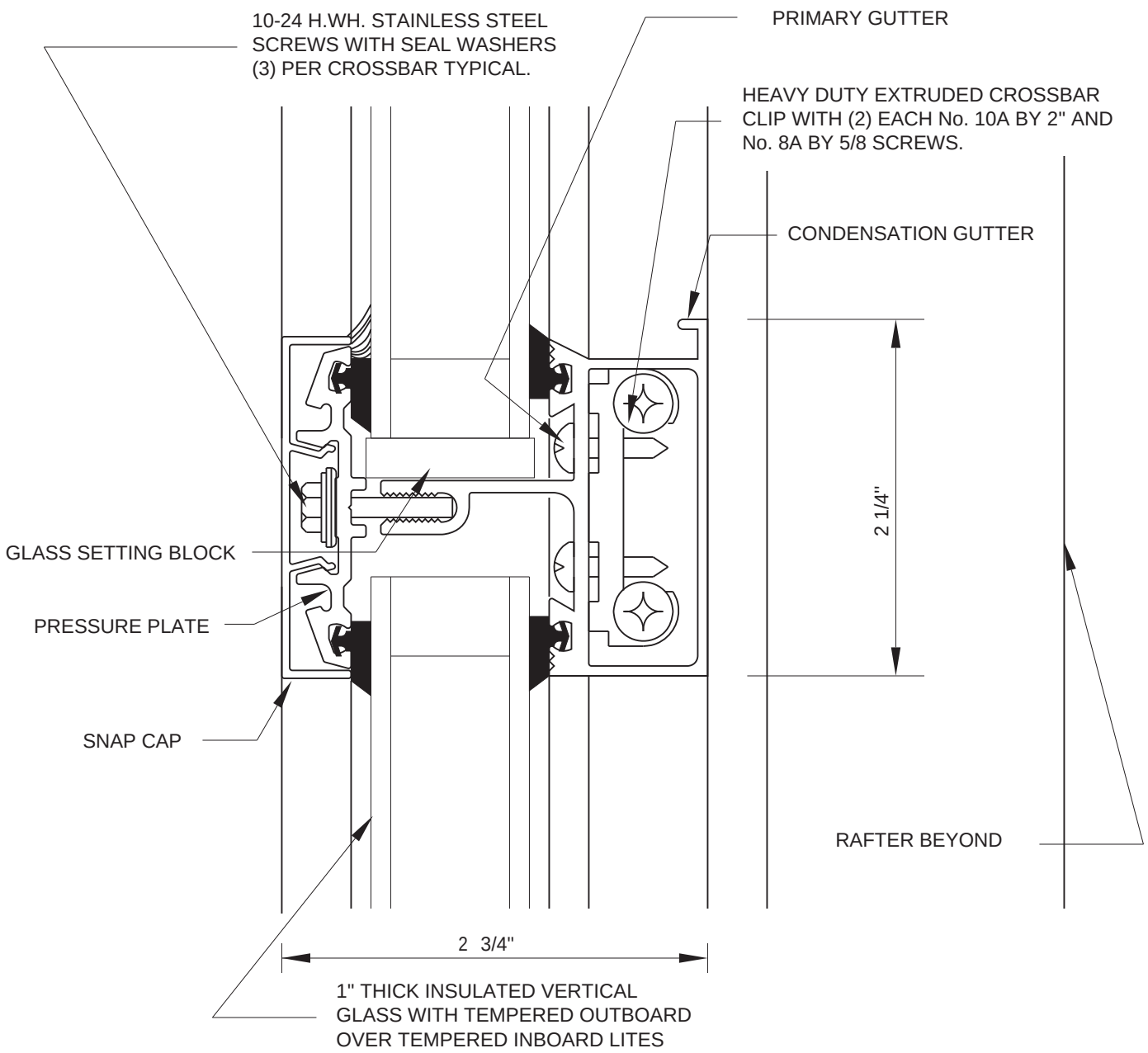
Aesthetically this offers the exterior a crystalline appearance of one sheet of glass from top to bottom of the sunroom. Its superior performance results from the total elimination of all horizontal protruding surfaces. This is particularly important in the roof area where water and dirt can accumulate above exterior caps. Thermal efficiency is also improved due to a minimal exterior exposed metal surface. All glass utilized with this system must contain a primary seal of polyisobutelene with a secondary seal of silicone. This is specified in order to be compatible with the outside silicone weather seal.

Because of aesthetics and superior performance, this system is standard for overhead glazing. It is available as an option for vertical glazing.

FULL SIZE DETAIL

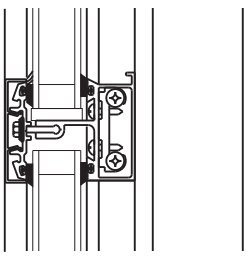
EXTERIOR CAPPED CROSS BAR

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



EXTERIOR CAPPED CROSS BAR

Unlike a window, a sunroom is susceptible to great lateral stress because of its three dimensional design and its large gable ends. A very important function of the cross bar is to serve as bridging between rafters and to prevent this great lateral stress. A deeper TUBULAR cross bar is necessary to perform this task adequately. The cross bar should contain both a primary gutter and a horizontal condensation gutter that will drain to the rafters gutter. This will assure complete drainage of any condensate from the glass or the frame. Having the horizontal condensation gutter directly overlapping the rafters gutter not only maximizes performance of the gutters but adds strength to the entire system. Slotted holes are utilized at all cross bar connections to allow adequate expansion allowance for the difference in movement between materials.

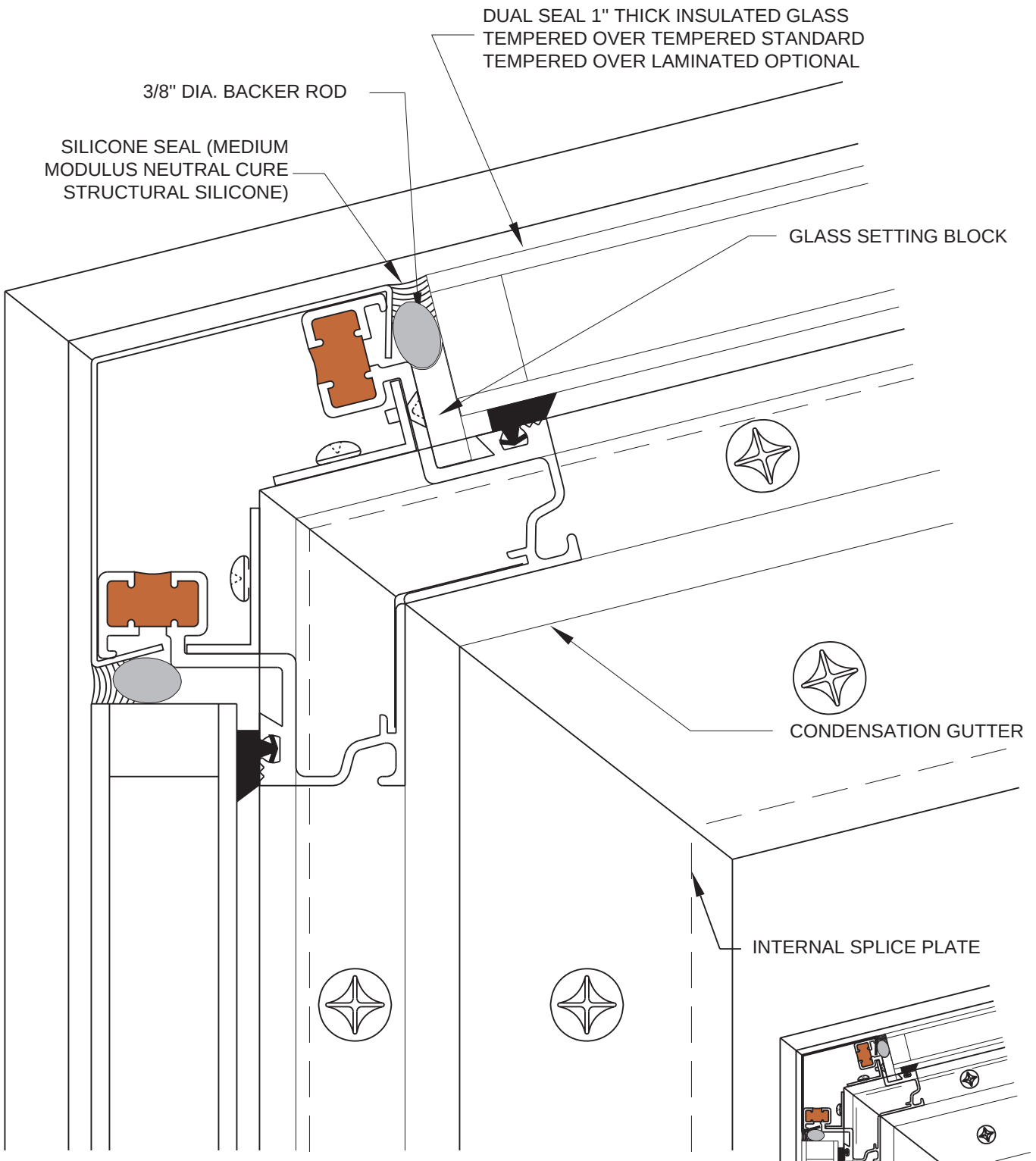


1/4 SIZE DETAIL

FULL SIZE DETAIL

BUTT GLAZED EAVE

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



1/4 SIZE DETAIL

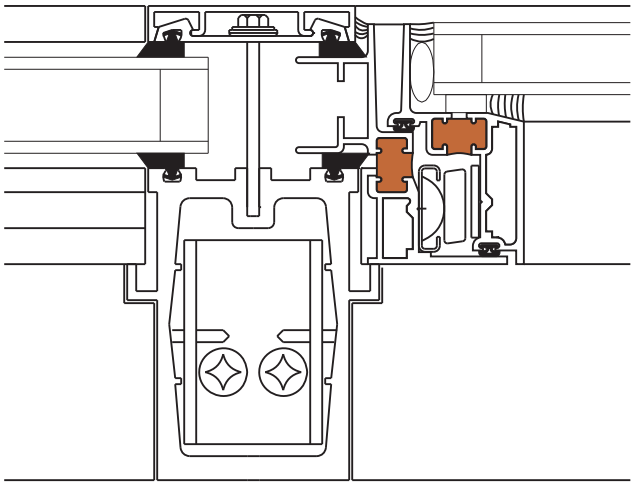
BUTT GLAZED EAVE (Standard)

Similar in structural requirements to the cross bar, the butt glazed eave is tubular to give lateral support to the frame. The butt glazed (KLEERTEK) system is standard because of its ideal use in keeping the eave sightline minimal both inside and out. It also eliminates any possible water accumulation above any caps.

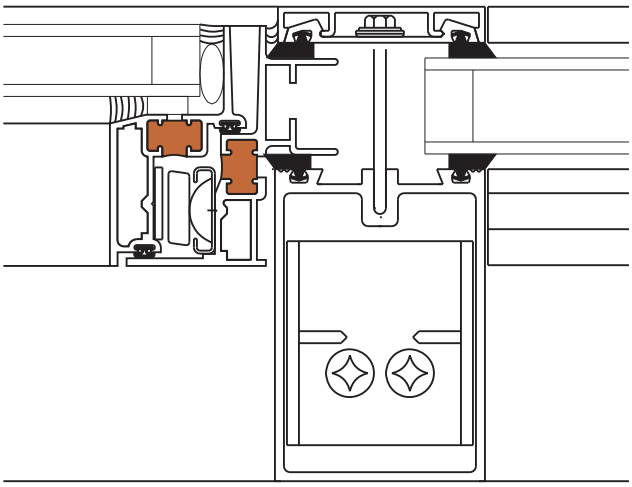
FULL SIZE DETAIL

STANDARD VENTILATOR

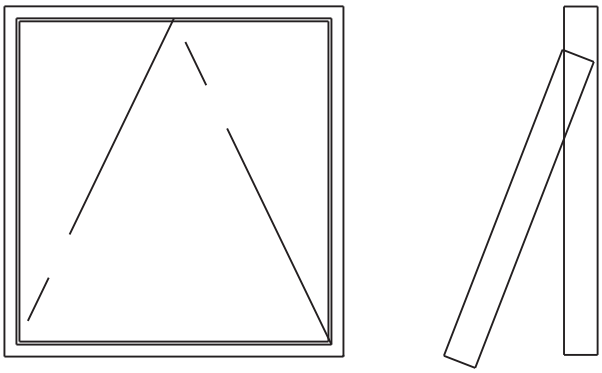
Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.



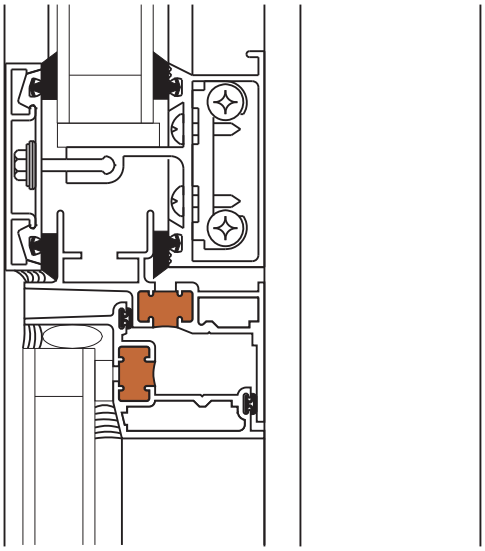
FRONT RAFTER



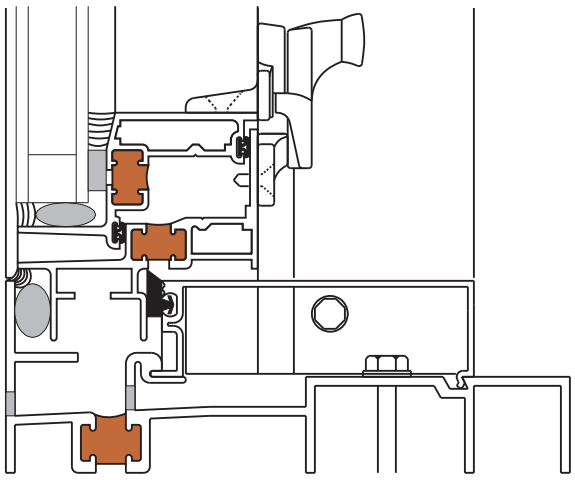
GABLE RAFTER



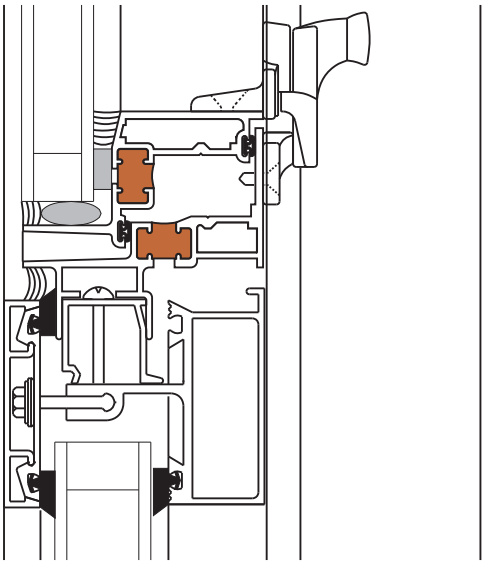
SUNBILT KLEERTEK ™
FOUR SIDED BUTT GLAZED
PROJECTED VENTILATORS.



TOP CROSS BAR



SILL

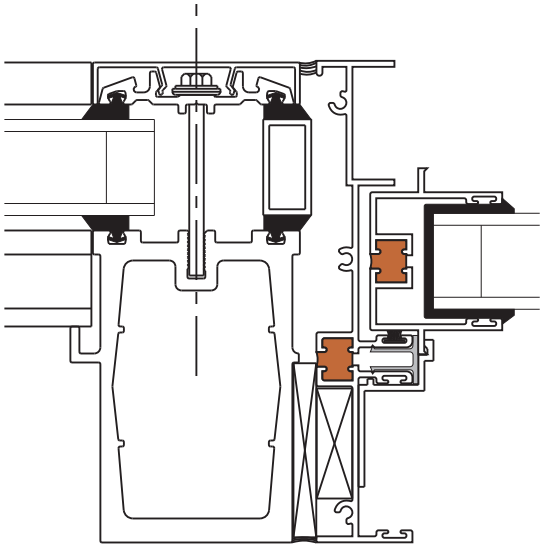


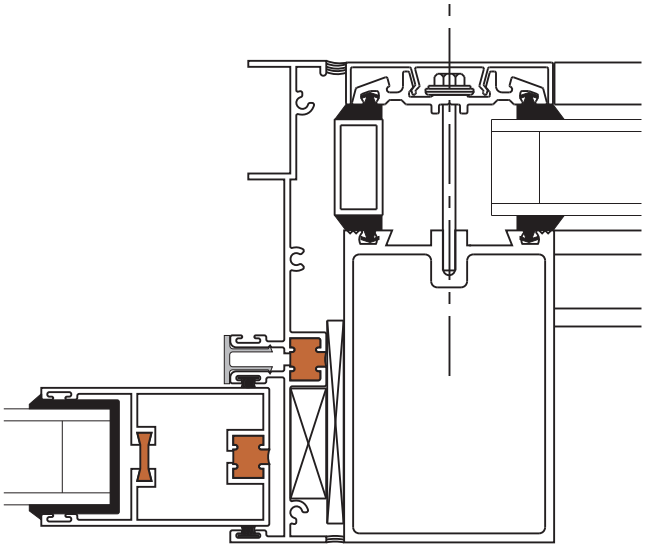
BOTTOM CROSS BAR

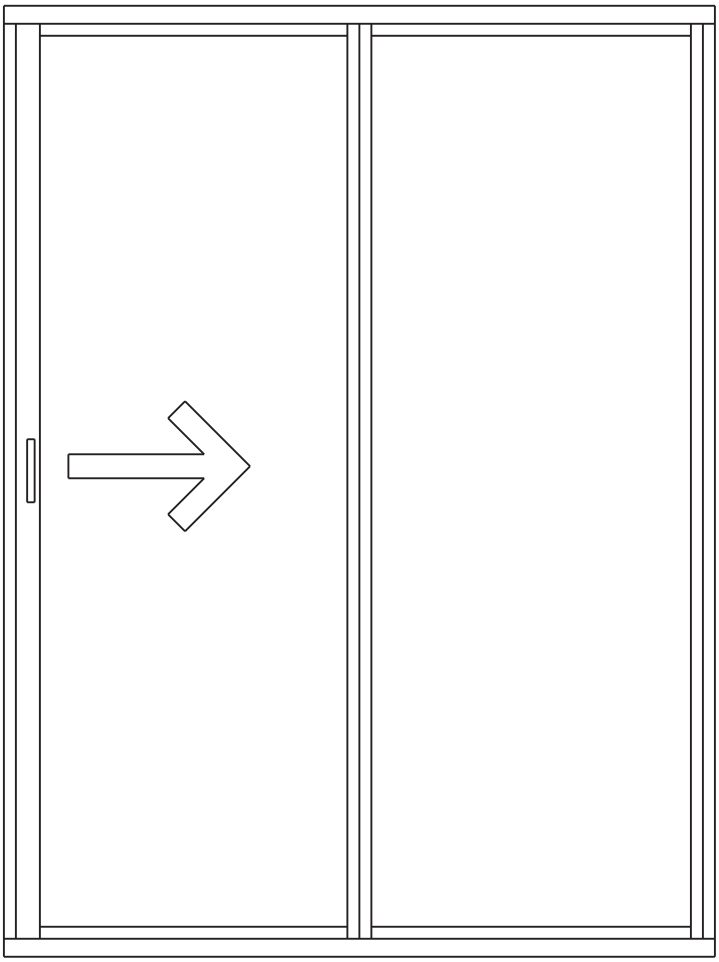
HALF SIZE DETAILS

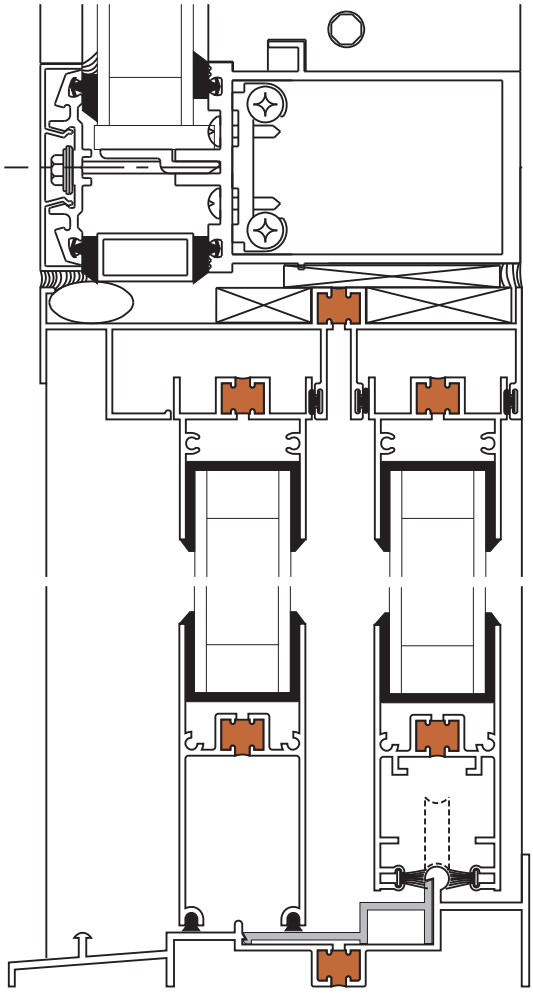
STANDARD DOOR

Creative Sunrooms | Sunbilt Solar Products by Sussman, Inc.









1/2 SIZE DETAILS

SUNROOM ACCESSORIES

PATIO DOORS
Sunbilt's NEW IMPROVED 5 foot wide sliding door is 100% thermally broken with 1" tempered insulating glass. The commercial performance rating exceeds most residential construction requirements and is ideal for commercial and industrial installations. Tandem steel rollers are standard. A NEW specially designed heavy duty tubular extruded screen is included. Available with clear or bronze tinted glass (standard). Low E and reflective glass can be ordered special.

SWING DOOR
Sunbilt does not provide doors other than our Patio door. When other kinds of doors are required Sunbilt will provide the proper opening to incorporate the desired door type. Specify size and location.

PROJECTED WINDOWS
Sunbilt's 30" high project out Kleertek © ventilator offers minimal horizontal and vertical sightlines enhancing the aesthetics of the sunroom. The ventilators are 100% thermally broken and exceed heavy commercial performance specifications (highest standard in the industry). They contain white bronze handles and heavy duty four bar concealed hinges to make them attractive, easy to operate and weathertight. All ventilators come with extruded screens. Available with clear or bronze tinted glass (standard). Low E and reflective glass can be ordered special. Project-in and casement ventilators are also available at additional cost.

FANS
Vent-Axia fans are the finest energy efficient sunroom fans on the market. They are quiet, reliable, and attractive, offering the perfect solution to your ventilating needs. Backed by a 2 year warranty. Includes thermostat (switches not included). When ordered with the sunroom it includes special glass with hole cut out to accommodate the fan. Surface or flush mounted 3 speed controllers are available at additional cost, providing 645/833/950 cfm performance.

WES TC1000T fans are roof mounted, 2 speed, 500/800 cfm energy efficient and quiet exhaust fans. Available in bronze or white. Includes internal and external thermostats. Requires hard wiring. 60HZ, 115V.

SKYLIGHTS
A thermally broken operating roof skylight designed to glaze in place of a fixed lite. Available in clear, bronze tint or Low E bronze tinted glass. Includes screen. Available in 2 standard sizes: 28 1/2" X 29 1/2" and 28 1/2" X 61 1/2".

GABLE ENDFILLER KIT
Used to fill in area under roof overhang. Kit includes two gable end rafters, cross bars and all hardware necessary to fill an opening up to 32 inches wide and 10 feet high. Obtain required glass from local glazier or your authorized Sunbilt Dealer.

GLASS OPTIONS & PERFORMANCE VALUES

CURVED GLASS
Standard curves are tempered over tempered and are supplied with the same glass type as the front except when Low E bronze glass is specified for the front, bronze curves are supplied. Special laminated glass curves and solar cool tempered curves are available at additional cost.

FLAT GLASS
Clear Glass - Tempered over tempered 1" insulated dual sealed glass with bronze spacers is standard.

Bronze Tinted Glass - A bronze tint impregnated in the glass to enhance the color of indoor and outdoor objects while reducing glare.

Low Emissivity Glass - A "state of the art" high performance glass that can add year round comfort and energy savings. The glass contains a transparent coating on the inner light of glass that acts like a mirror. In the winter it bounces heat back into the room that might readily escape but in the summer it provides cooler indoor temperatures by preventing outdoor heat from entering the room. Available with bronze tinted glass to reduce glare. Low E glass is a highly recommended option.

Eclipse Bronze Reflective Glass - An outside coating of a transparent oxide with a permanent light and heat reflective surface that will provide cooler indoor temperatures and also reduce glare. This is highly recommended in warmer climates where cooler indoor temperatures and excessive glare from the sun is a primary concern. Available only with 1/4" tempered over 1/4" laminated safety glass.

Tempered Glass - Standard with all sunrooms. It is 5 times stronger than annealed glass. Unlike annealed glass, tempered glass will break into tiny fragments. It can not be cut after tempering.

Laminated Glass - Composed of two lights of glass with a .030 vinyl sheet bonded between them. If a roof panel should break the laminated light will prevent the glass from falling out of the opening. Sunbilt offers an added cost option of tempered over laminated glass on all roof glass. Consult your local building code for roof glass requirements.

Insulated Panels - 1" insulated aluminum stucco panels are available in lieu of glass at an additional cost. Available with white or bronze paint finish.

GLASS PERFORMANCE VALUES

	"U" VALUE		"R" VALUE		Shading	% Light Transmittance		% Light Reflectance		Relative
DESCRIPTION	Winter	Summer	Winter	Summer	Coefficient	Visible	Solar	Visible	Solar	Heat Gain
Clear 1/8" over Clear 1/8"	0.50	0.54	2.0	1.85	0.91	82	74	15	14	190
Bronze 1/8" over Clear 1/8"	0.50	0.55	2.0	1.82	0.76	62	59	11	11	160
Bronze 1/8" over Low E 1/8"	0.33	0.36	3.03	2.78	0.66	57	45	12	12	137
Clear 1/8" over Clear 1/4" Laminated	0.50	0.57	2.0	1.75	0.86	77	67	18	16	180
Bronze 1/8" over Clear 1/4" Laminated	0.50	0.58	2.0	1.72	0.72	59	53	13	12	152
Bronze 1/8" over Low E 1/4" Laminated	0.33	0.39	3.03	2.56	0.62	54	39	14	13	130
Eclipse Bronze 1/4"ov Clear 1/4" Laminated	0.48	0.55	2.08	1.82	0.37	23	25	45	37	81

5 YEAR LIMITED WARRANTY

GENERAL INFORMATION

The Sunbilt Sunroom prices include the aluminum structure, glass and all required hardware and accessories. Not included in the Sunbilt Sunroom price list are: installation costs, flashing, heating equipment, foundations, masonry or wood framed walls, electrical wiring or plumbing and flashing.

The manufacturer of Sunbilt Sunrooms reserves the right to change prices, designs and specifications without notice. All orders are subject to approval by the home office of Sunbilt Solar Products by Sussman, Inc. 109-10 180th Street, Jamaica, New York 11433.

TERMS OF SALE & DELIVERY

A minimum 25% deposit is required on all Sunbilt Sunrooms and accessories with the balance C.O.D. or paid for before delivery. Once production has started the deposit becomes nonrefundable. A larger deposit will be required on custom sunrooms. Shade systems must be fully paid for when order is placed. Customer must pay balance for unit upon completion or will be responsible for reasonable storage and service charges (consult home office for schedule of charges). All Sunbilt Sunrooms and accessories are shipped freight collect, F.O.B. Jamaica, New York unless other arrangements are made in advance. Accessories such as fans and shade systems may be shipped via UPS or common carrier F.O.B. shipping point and may not arrive with the Sunroom. All freight costs are the responsibility of customer. If delivery is to customer's job site, make certain someone is at job site to receive all materials and pay all charges or you may be charged for redelivery. We will ask delivering carrier to notify you in advance before attempting delivery. Provide us with a phone number where you can be reached.

All Sunbilt Sunrooms are sold F.O.B Jamaica, New York. Delivery to the initial carrier constitutes delivery to the customer. Upon delivery to the initial carrier this corporation's responsibility ceases and goods are shipped at the customer's risk.

FREIGHT CLAIMS

It is the customer's responsibility to examine all deliveries carefully before signing transportation receipts. If goods are visibly damaged or short, customer should insist that written confirmation of the damage or shortage be noted on the freight bill by the agent of the carrier. If damage is discovered after unpacking, the carrier should be notified at once, so that inspection can be made and the claimed damage substantiated by the carrier no later than 10 days after delivery.

5 YEAR LIMITED WARRANTY

Sunbilt Sunrooms are warranted to the original purchaser to be free of defects in material and / or workmanship under normal use and service for a period of five years from the date of delivery. The warranty includes the aluminum framework, and the factory seal on all factory insulating glass panels including tempered and laminated curved glass. No warranty protection is afforded against glass damage or breakage. All accessories including fans, doors, and shade systems carry the specific manufacturers warranty. Sunbilt's obligation under this warranty is limited to the repair or replacement, at Sunbilt's option, of any defective Sunbilt Sunroom parts. Sunbilt reserves the right to determine whether a defect exists under the terms of this warranty. Written authorization is required for all returns. If the part is determined to be defective the original purchaser must return the defective part(s), shipping charges prepaid to Sunbilt. Sunbilt will then ship a replacement part back freight prepaid.

This warranty does not cover the replacement of parts, accessories or equipment due to misuse, accident, alteration, negligence or lack of reasonable and proper installation or maintenance. This warranty does not cover loss of time, inconvenience, loss of use of the product or damage incurred by the products performance or improper installation, nor does it cover delays or construction costs for late or damaged delivery or incidental or consequential damage.

Sunbilt does not authorize any person, representative, dealer or distributor to create any obligation or liability in connection with the Sunbilt product. There shall be no other warranty, express or implied, due to the many varied conditions for which this product may be used. This warranty shall be governed by and construed in accordance with the laws of New York. It is agreed that any controversy arising out of this warranty be submitted for settlement by arbitration to and under the rules of the American Arbitration Association in New York, New York. When purchased through an authorized Sunbilt dealer, all warranty claims shall be submitted to that dealer.

ANY IMPLIED WARRANTY APPLICABLE TO THESE PRODUCTS IS LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY. SUNBILT SOLAR PRODUCTS BY SUSSMAN, INC. SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY.

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LIMITATIONS ON DURATION OF IMPLIED WARRANTIES, SO THE ABOVE LIMITATIONS AND/OR EXCLUSIONS MAY NOT APPLY TO YOU.

Sunbilt Sunrooms are designed to meet or exceed all known building code requirements. Please note, however, that Sunbilt's responsibility for compliance with any building code is limited to supplying what the customer ordered.

The customer should be aware that different localities may have varying requirements and interpretations for sunroom parts and accessories. This includes glass types (tempered, laminated, plastic or other) and definitions (sloped glazing, vertical, or curved glass) as well as requirements for other sunroom parts.

Interpretation of building code criteria is the responsibility of the customer or his agent(s). For this reason, Sunbilt Solar Products by Sussman, Inc. shall not be held liable for damages resulting from noncompliance in any way with applicable local or national building code glazing or other requirements.

This warranty does not cover labor costs to install the replaced parts, equipment or accessories or other costs or expenses that might be incurred as a result of defective parts, equipment or accessories.

THIS WARRANTY DOES NOT COVER THE INSTALLATION OF PRODUCTS UNLESS SUCH INSTALLATION IS CONTRACTED WITH SUNBILT AT ITS HOME OFFICE.

In the event that the buyer makes any claim against Sunbilt Solar Products By Sussman, Inc. which results in any proceeding and that claim is dismissed or no judgment is entered against Sunbilt, or such claim is otherwise resolved in favor of Sunbilt., the buyer shall pay all costs and expenses and attorneys fees incurred by Sunbilt in the defense of that claim.

PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

PART I: GENERAL

1.1 SCOPE

a. This section includes all work necessary for completion of custom skylight, walkway, greenhouse and dome systems hereafter referred to as skylight(s). Furnish all necessary labor materials and equipment for the complete installation of custom skylight work as shown on drawings and herein specified.

b. The work includes, but is not limited to the following:
   1. Design, fabrication, and erection of aluminum framing system.
   2. Glass and glazing
   3. Perimeter flashing as required

c. Related work specified elsewhere
   1. Structural support of framing system
   2. Flashing and counter flashing except as indicated by skylight manufacturer
   3. Final cleaning and protection of skylight
   4. Other (as specified by architect)

1.2 QUALIFICATIONS

The skylight(s) shall be J. SUSSMAN'S extruded aluminum tubular system model SK 5000 as manufactured by: J. SUSSMAN INC., 109-10 180th Street, Jamaica, NY or approved equal.

1.3 LOADING REQUIREMENTS

Aluminum framing system(s) shall be designed to support _____lbs/sq. ft. live load and_____ lbs/sq. ft. wind load.

1.4 GUARANTEE

The skylight systems(s) supplied under this section shall be guaranteed for a period of one year after acceptance, against leakage, defective design, defective materials and construction. The guarantee is limited to repair or replacement of materials supplied and does not include consequential damages.

PART II: MANUFACTURE

2.1 MATERIALS

a. Extruded aluminum framing members shall be 6063-T5 or suitable alloy and temper for adequate structural characteristics and specified finishing. Shape and thickness of aluminum shall be dependent upon performance requirements.

b. Aluminum flashing shall be of alloy and temper to make it compatible with specified finish.

c. Finish: (Architect to specify clear anodized, integral color anodizing, baked enamels, Kynar, other.)

d. All exposed fasteners shall be stainless steel. Unexposed fasteners shall be cadmium plated steel.

e. Rafters and purlin members shall be tubular and have condensate gutters which shall drain moisture to exterior. Fastenings shall be concealed.

f. All sill members shall be extruded and shall run continuously past rafter members to provide a positive drainage gutter with weep holes at every rafter. Vertical sill members shall have no exposed fasteners.

g. All clamping bars shall be fastened by No. 10 stainless steel screws located at a maximum of 12" on center. Screws shallbe sealed and then concealed by means of an extruded aluminum snap in channel.

h. Glazing
   1. Exterior glazing (architect to specify clear, tinted, reflective, tempered, wired, laminated, insulated glass, acrylic or polycarbonate, other.)
   2. Interior glazing as required.

i Gaskets shall be extruded neoprene or EPDM of 50 to 60 durometer above and below glass or plastic.

J Sealants used shall be a one part silicone.

PART III: EXECUTION

1.2 INSTALLATION

Erection shall be done only by qualified personnel, in strict accordance with manufactures instructions.

In the interest of product improvement, all specifications are subject to change without notice.

sunbilt™ Quote/Order Form

Creative Sunrooms — Sunbilt Solar Products by Sussman, Inc.

DATE: _____

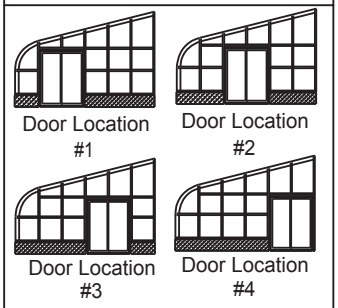
Purchaser: _____ P.O. # _____ Job: _____

Ship to: _____

Phone: _____ Fax: _____ Att.: _____

DESC.	ITEM	QTY.	EA.	TOTAL
FRAME				
Model _____	Base (3 bays)	1		
No. of Bays _____	Added Bays			
Gables _____	Left Gable _____			
Bronze Painted ☐	Right Gable _____			
White Painted ☐				
Filler Kit ☐				
Clear CL — Frame with clear glass →			1	
GLASS OPTIONS				
Bz. Tinted BZ	Front BZ LE			
Low "E" LE	Roof BZ LE EC			
Eclipse Roof EC (Laminated)	Gables BZ LE			
Lami. Roof	Laminated Roof			
S/C Curves	Solar Cool Curves			
Glass Options →			2	
WINDOWS DOORS				
Location _____ If door in front specify bay	Std Sliding Patio Door			
	Other Specify:			
Standard ☐	Std. Project-Out			
Other ☐	Other Specify:			
Doors and Windows →			3	
*** SKYLIGHTS * FANS**				
Bronze ☐	Std. Manual			
White ☐	Extension			
Type of Glass	Motor			
* Roof Fan Bronze ☐	TC1000T			
Roof Fan White ☐				
Vent-Axia Fans ☐				
Location _____ and Gable _____				
Controller ☐	Surface ☐ Flush ☐			
Skylights and Fans →			4	
*** SHADES**				
Color _____	Manual (May not retract fully)			
Newport ☐ Aspen ☐	Motorized			
Manual ☐	Motors			
* Motorized ☐	Valences			
Shades →			5	

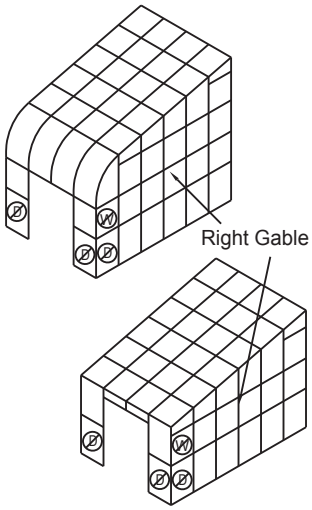
DOOR LOCATIONS



Door in Left Gable ☐

Door in Right Gable ☐

Door in Front ☐ (specify bay location)



Ⓓ This bay will not accomodate door.

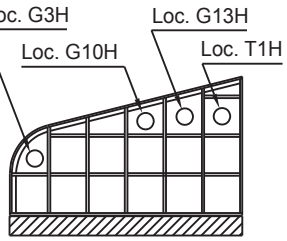
Ⓦ This bay will not accomodate window.

Note: Only XH or TS curve eave models can accomodate a door in front.

KW model with door in front must be on 48" knee wall.

GG model with door in front must be on 32" knee wall.

VENT AXIA FAN LOCATIONS



Specify right or left gable

NOTE: Limited Supply, Call Factory.

PRICE SUMMARY

Frame	1	
Glass Options	2	
Doors/Windows	3	
Skylights/Fans	4	
Shades	5	
Total for Order		
Total Net Amount		
Sales Tax		
Total Amount		
* 25% DEPOSIT		
Balance		

Ship ASAP ☐

Hold, Ship on _____ (specify date) ☐

Ship COD (cash or certified check) ☐

* Accessories must be paid in full at time of order plus 25% deposit of the balance.

Shades and fans are shipped separately.

Freight cost is responsibility of customer.

All orders F. O. B. Jamaica, New York.

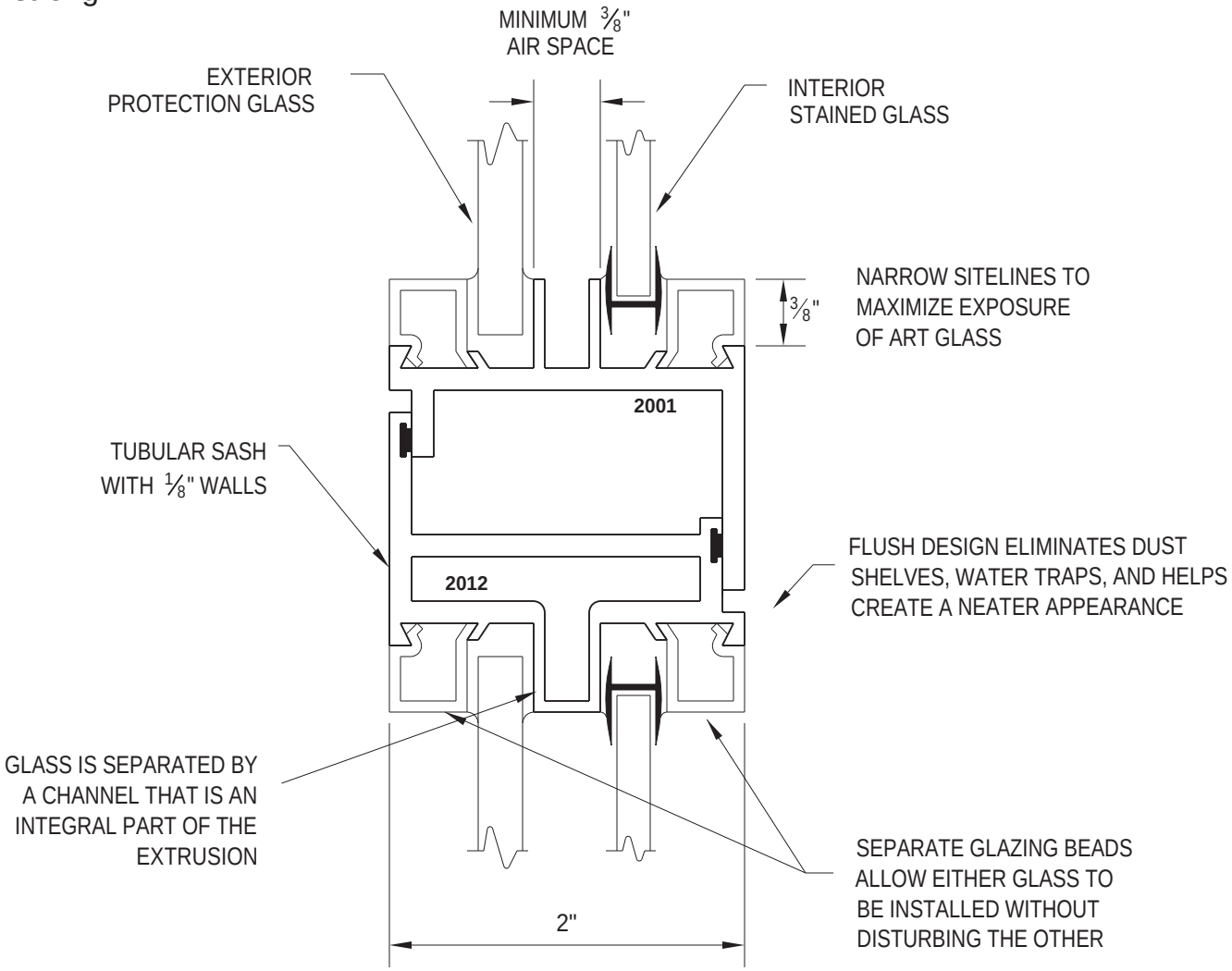
Prices and specifications subject to change without notice.

J. Sussman, Inc.

2000 Series
DOUBLE GLAZED CHURCH WINDOWS

Since 1906 — America's finest custom windows

The 2000 series is the economy line of double glazed ventilators. They are available as project-in, project-out, or casement. Its tubular sash with 1/8" walls makes it exceptionally strong.



SCALE = FULL SIZE

Features:

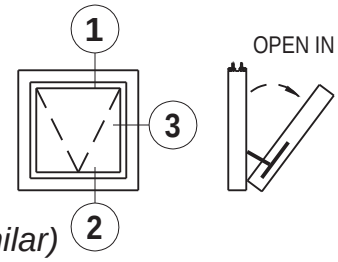
- All frame and sash members are a full 2" deep.
- Ventilators are tubular on all four sides. Vent corners are accurately mitered, angle reinforced, epoxy welded and hydraulically crimped.
- The channel that separates the glass is an integral part of the extrusion and will help prevent theft and air and water leakage.
- Either glass can be installed or replaced without disturbing the other.
- .001 CFM air infiltration at 6.24 PSF (50 MPH winds) and no water leakage at 10.5 PSF.

J. Sussman, Inc.

2000 Series
DOUBLE GLAZED CHURCH WINDOWS

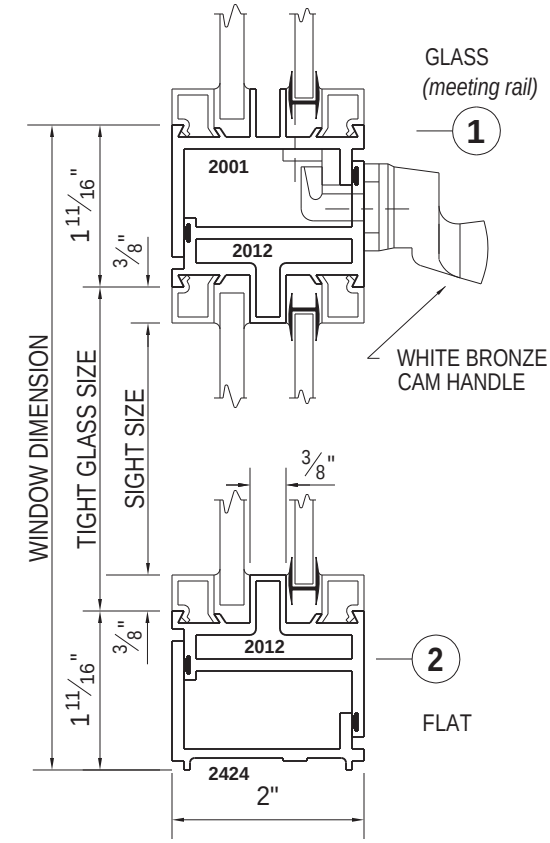
Since 1906 — America's finest custom windows

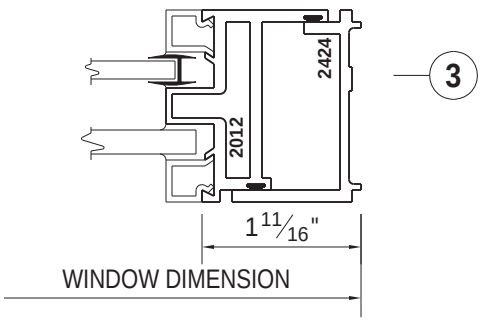
PROJECT-IN



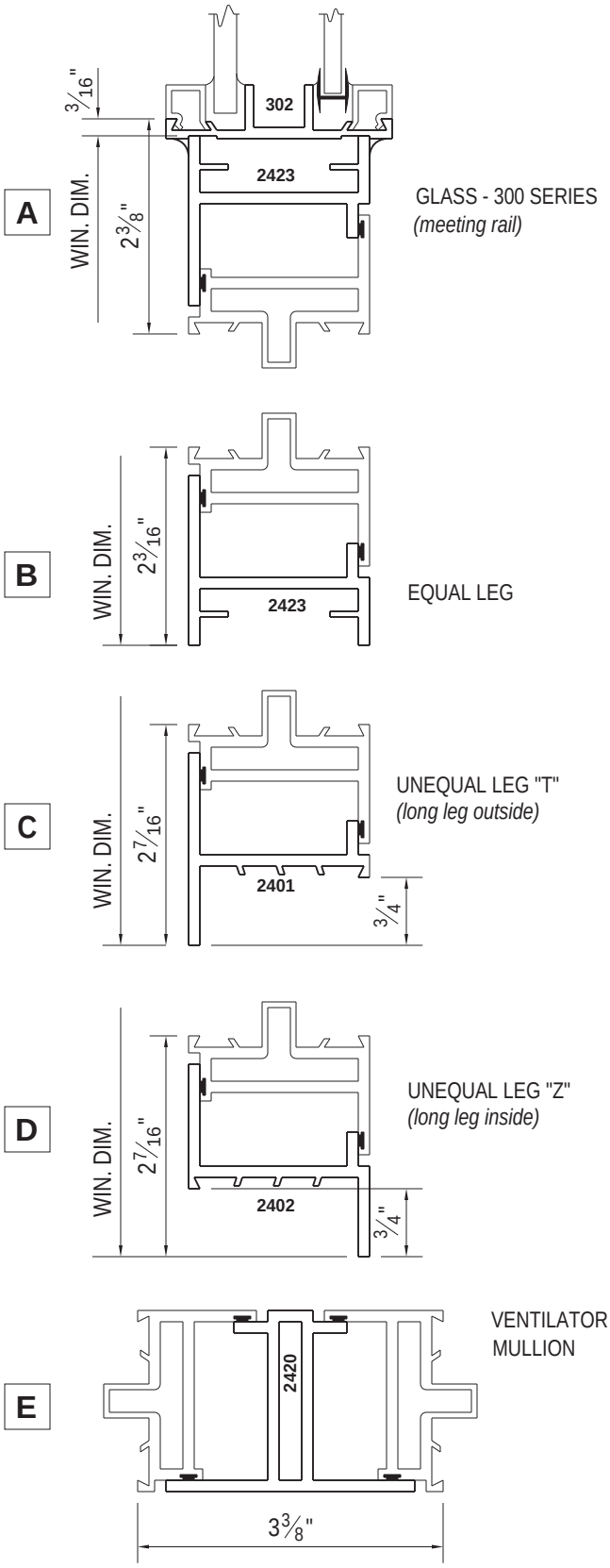
(Inswing Casement similar)

Standard Bottom Ventilator
(glass on top, flat jambs and sill)





Alternate project-in ventilator sections that can be used at head, sill or jamb.



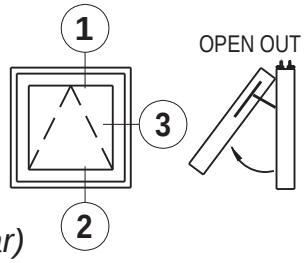
SCALE = HALF SIZE

J. Sussman, Inc.

2000 Series
DOUBLE GLAZED CHURCH WINDOWS

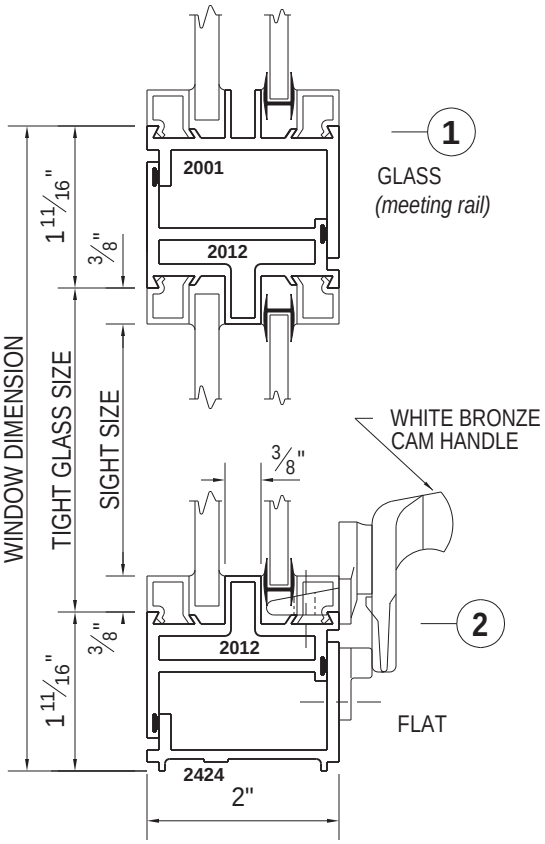
Since 1906 — America's finest custom windows

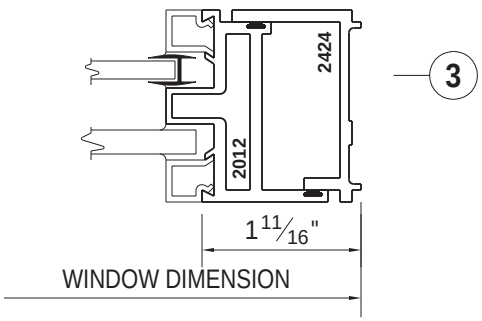
PROJECT-OUT



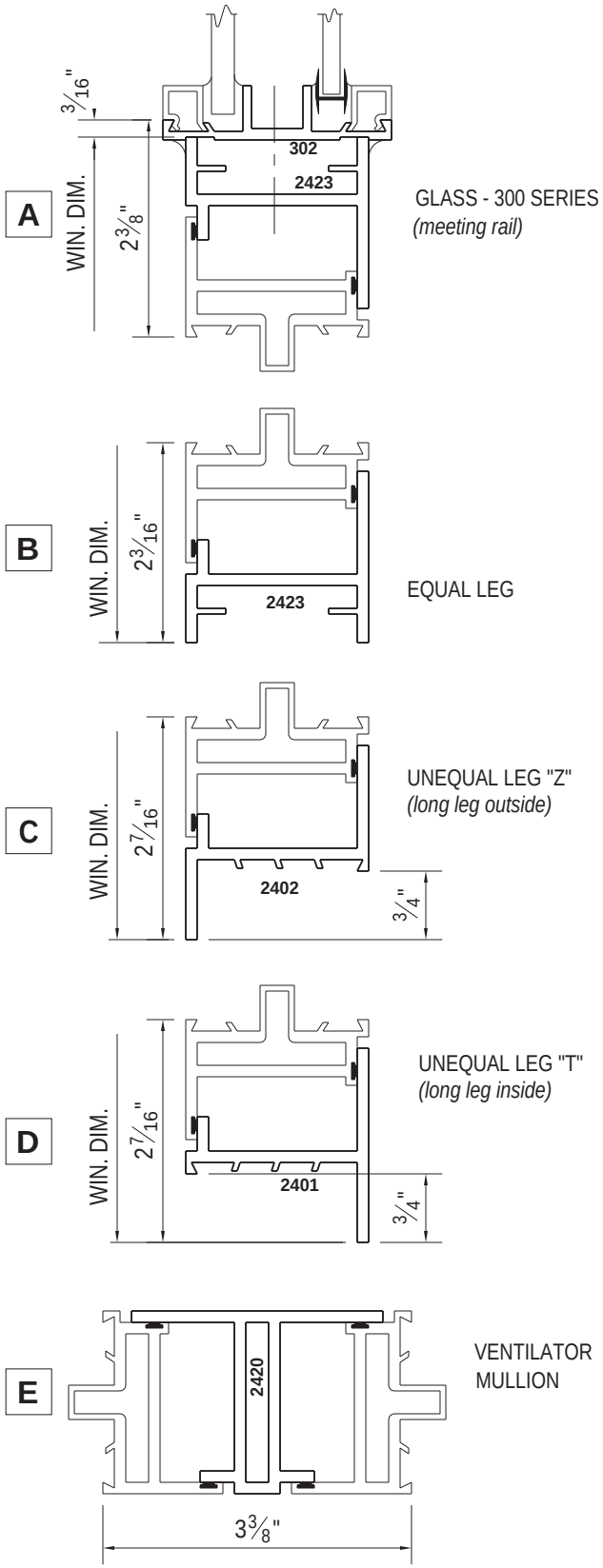
(Outswing Casement similar)

Standard Bottom Ventilator
(glass on top, flat jambs and sill)





Alternate project-out ventilator sections that can be used at head, sill or jamb.

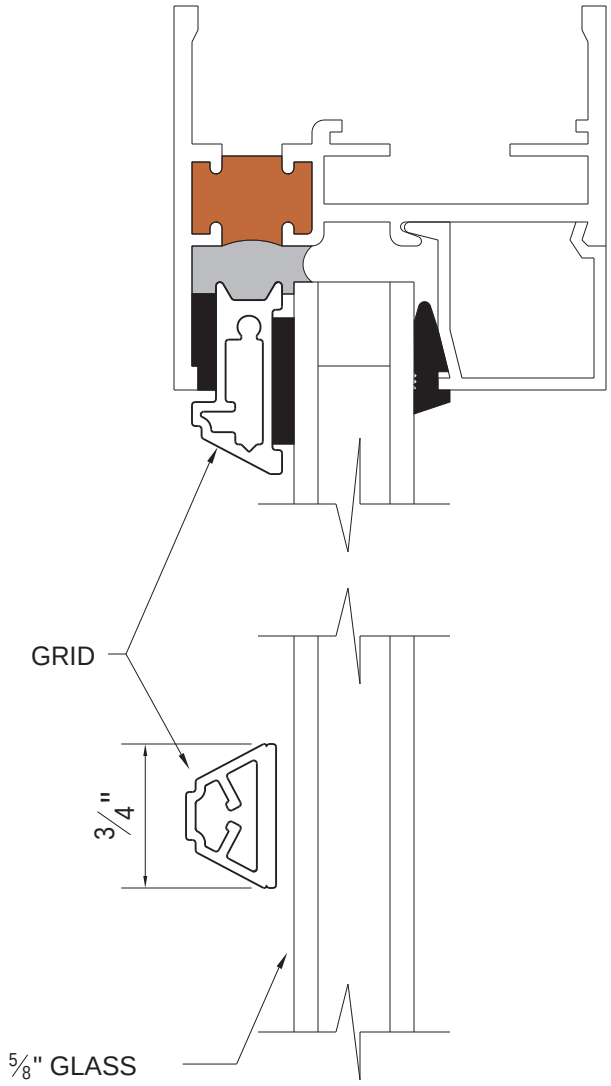


SCALE = HALF SIZE

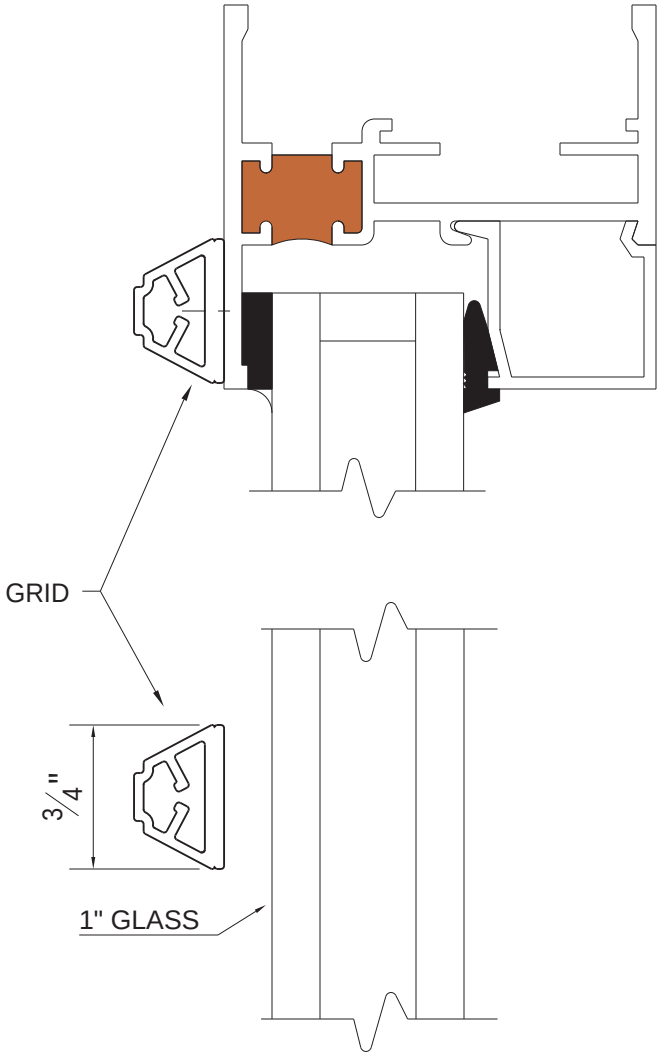
J. SUSSMAN, INC.

EXTERNAL GRID
(WITH 3200 SERIES)

Since 1906 — America's finest custom windows

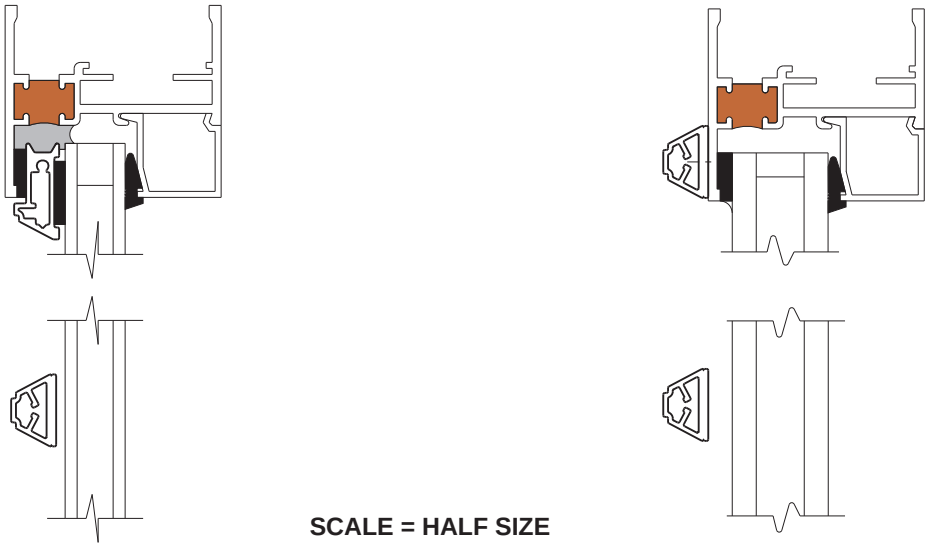


Installation type A



Installation type B

SCALE = FULL SIZE



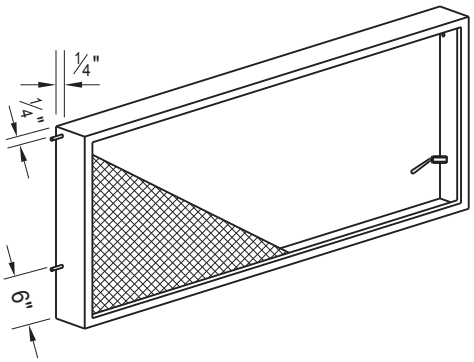
SCALE = HALF SIZE

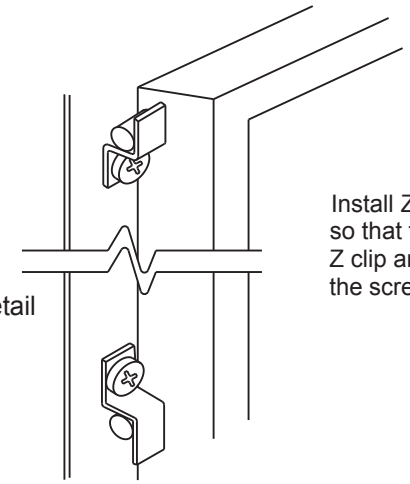
J. Sussman, Inc.

Screens

PROJECT-IN VENTILATOR APPLICATION

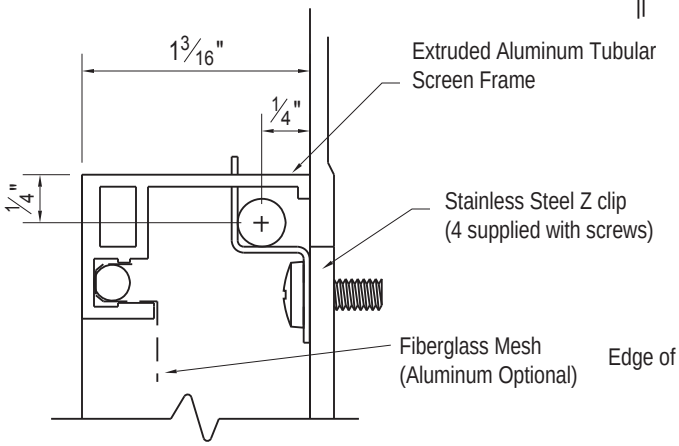
Since 1906 | America's finest custom windows

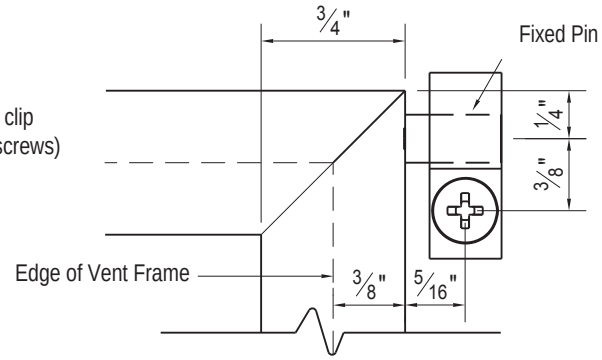


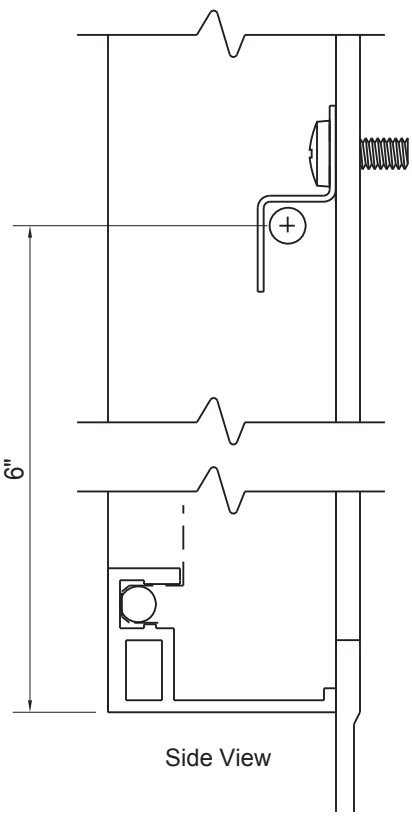


Clip Detail

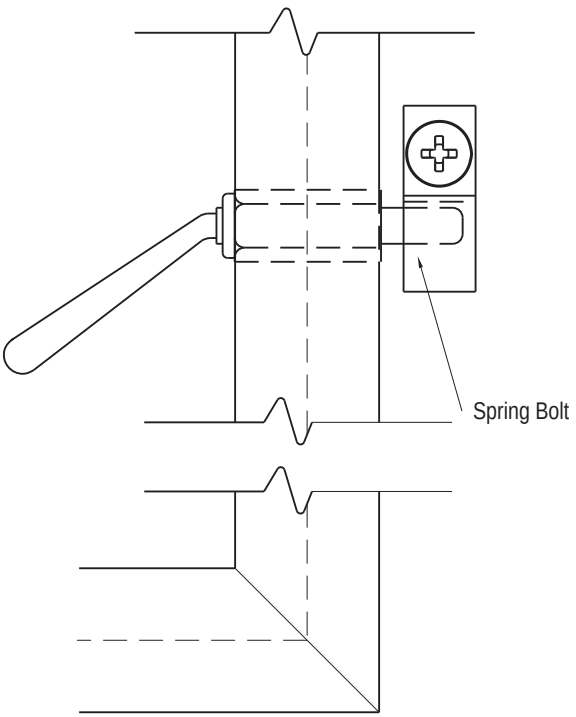
Install Z clips opposing each other so that fixed pin hangs on upper Z clip and bottom Z clip prevents the screen from rising.







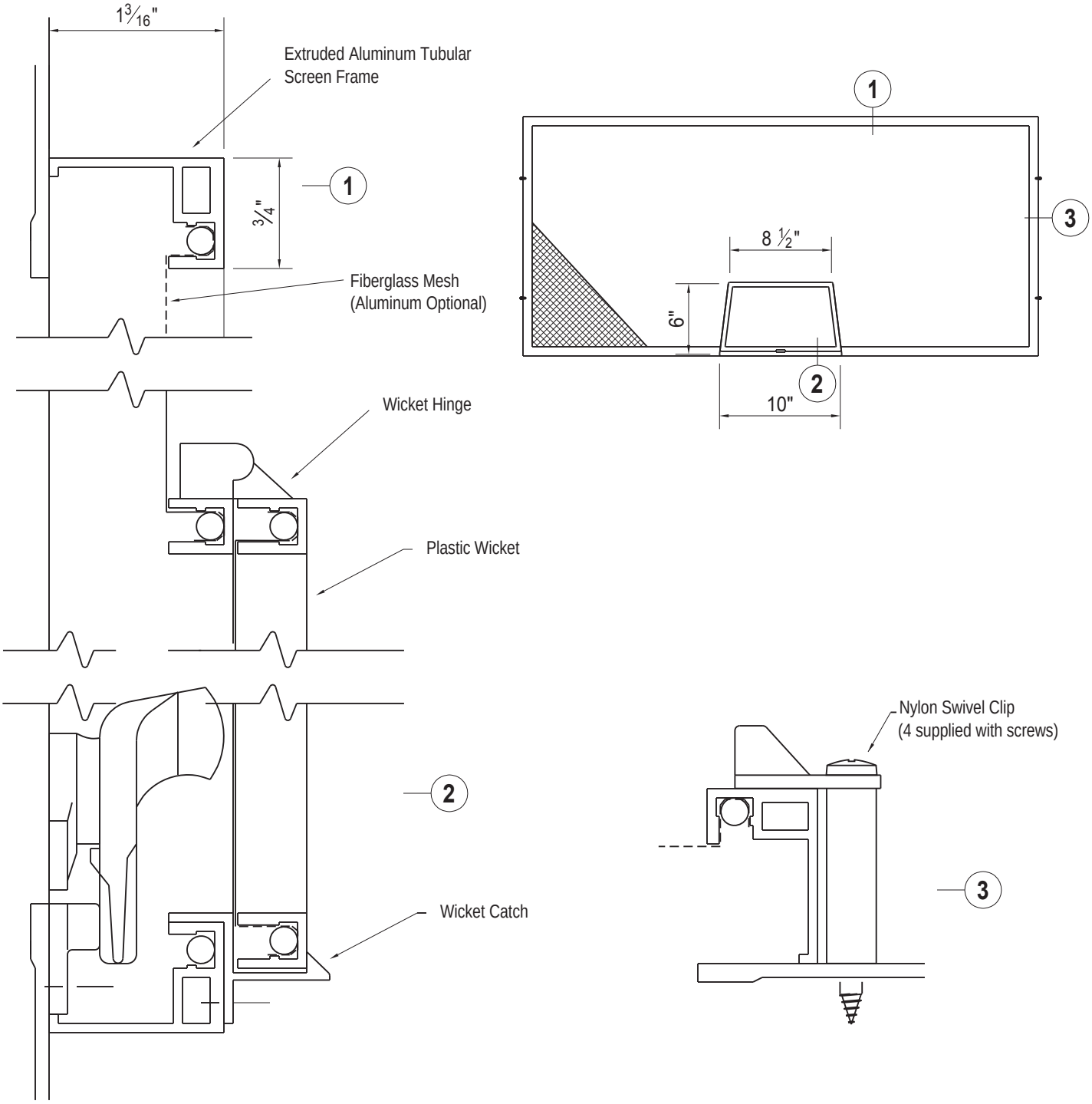
Side View



Front View

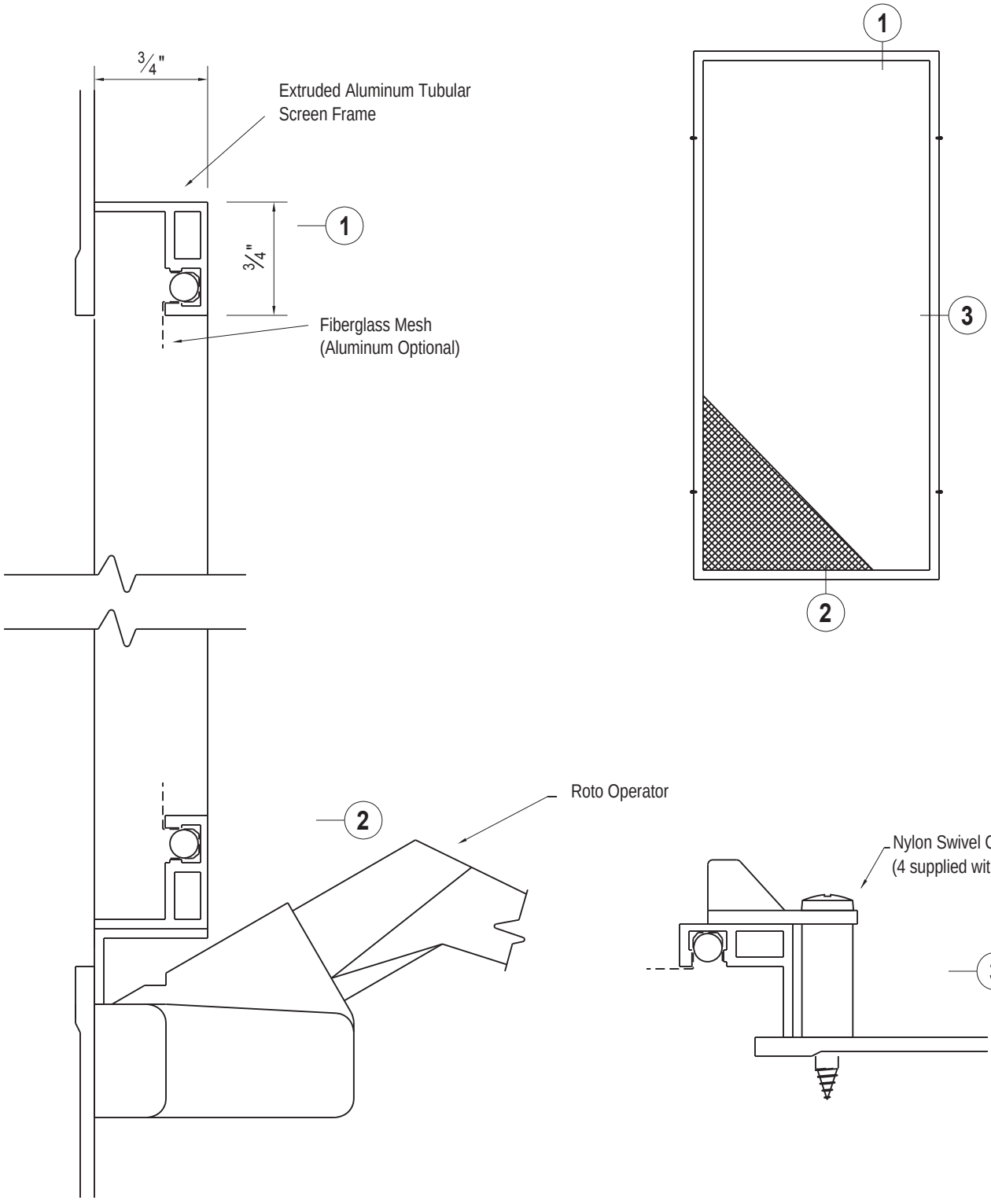
SCALE = FULL SIZE

HINGED WICKET SCREEN FOR PROJECT-OUT VENTILATOR



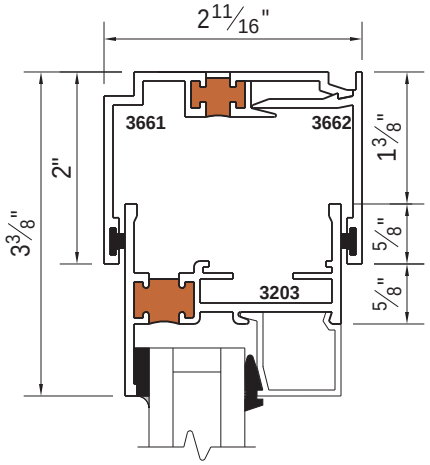
SCALE = FULL SIZE

"FLAT" SCREEN FOR ROTO OPERATED CASEMENTS

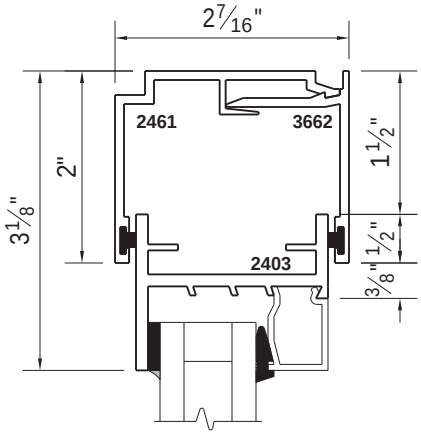


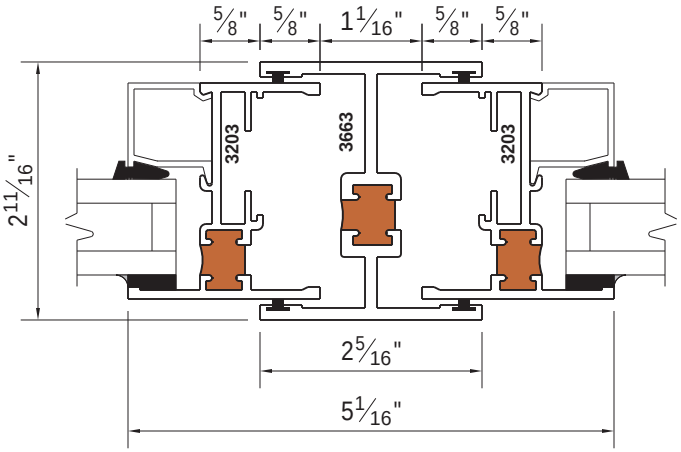
SCALE = FULL SIZE

Receptor shown with 3200 Series.
3600 Series similar.



Receptor shown with 2400 Series.





SCALE = HALF SIZE

J. Sussman, Inc.

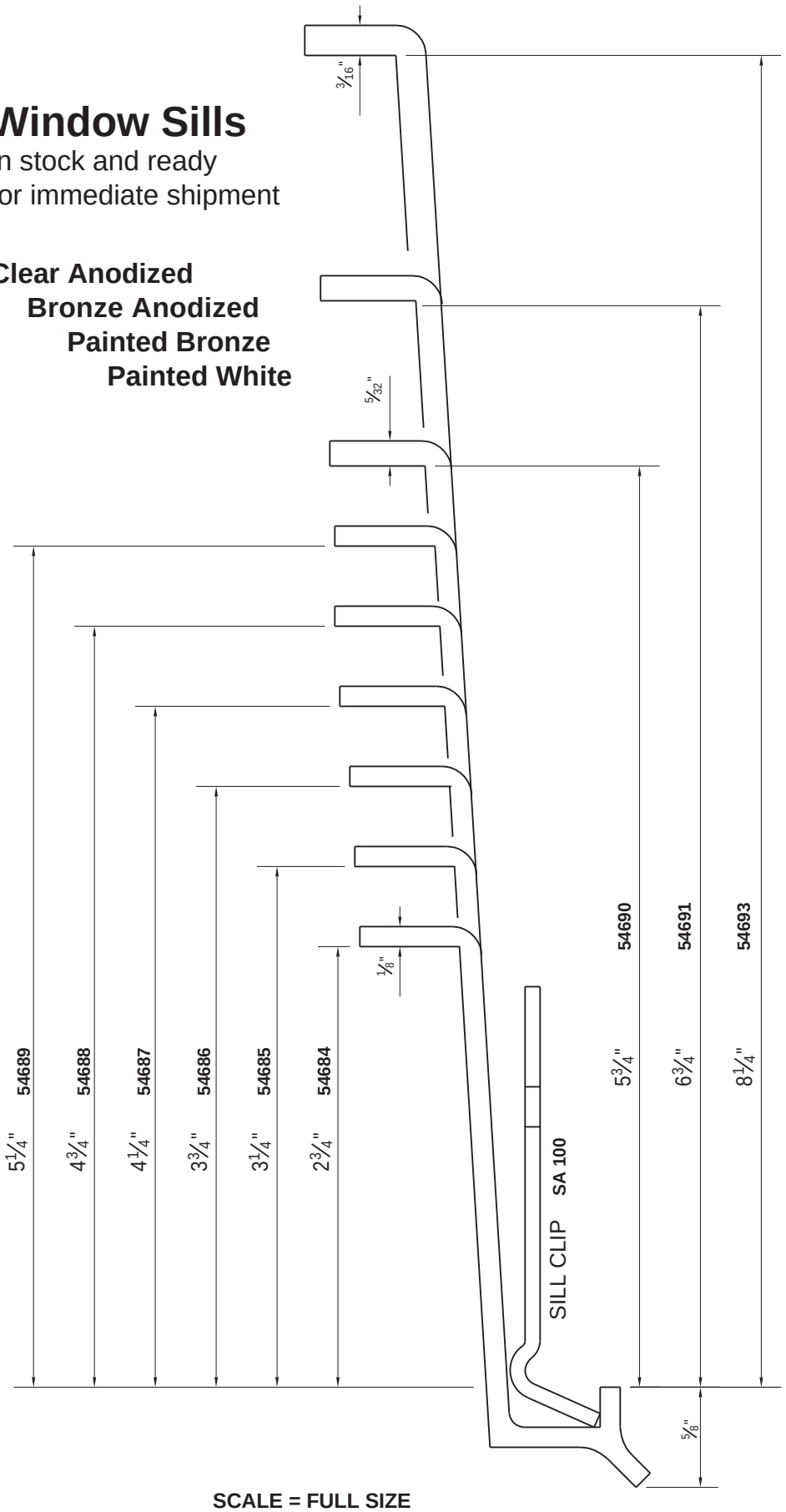
EXTRUDED ALUMINUM SILLS

Since 1906 — America's finest custom windows

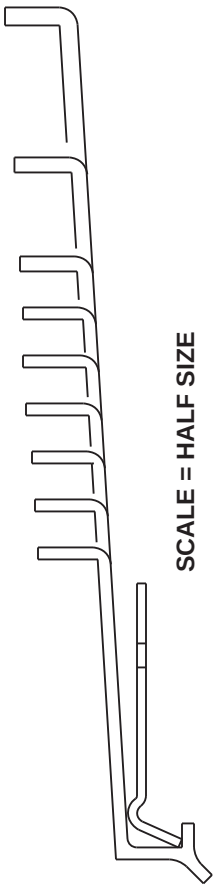
Window Sills

In stock and ready
for immediate shipment

Clear Anodized
Bronze Anodized
Painted Bronze
Painted White

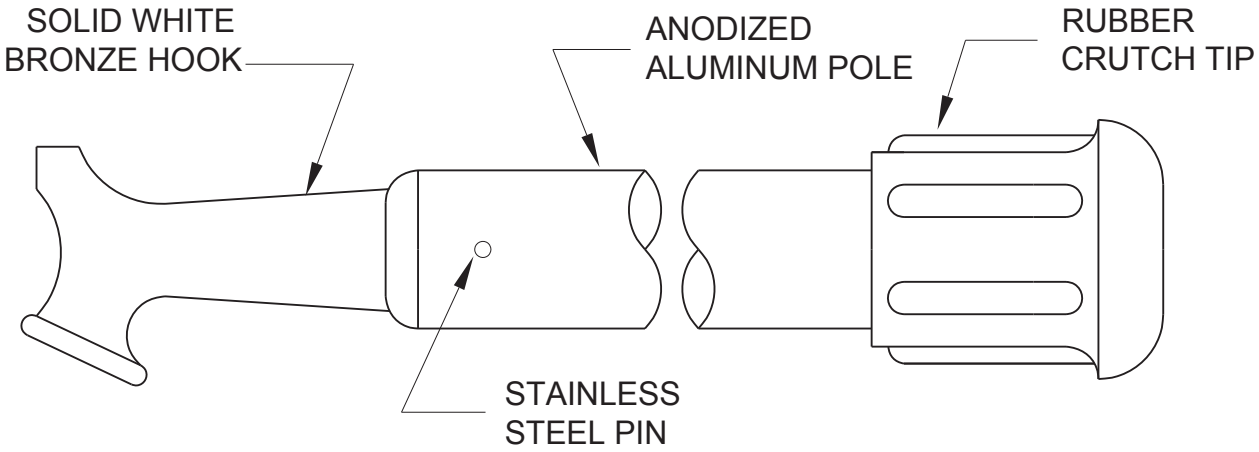


SCALE = FULL SIZE



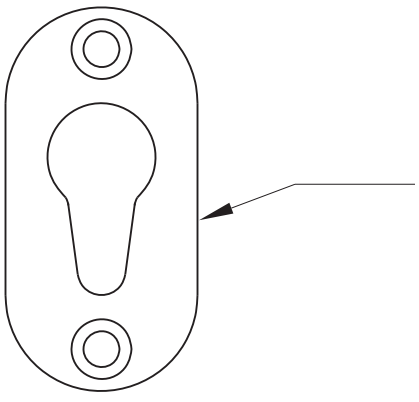
SCALE = HALF SIZE

ALUMINUM WINDOW POLES



IN STOCK READY FOR IMMEDIATE SHIPMENT:

4 Ft., 6 Ft., 8 Ft., 10 Ft., 12 Ft.



POLE HANGERS
WHITE BRONZE SATIN FINISH
(SCREWS NOT INCLUDED)

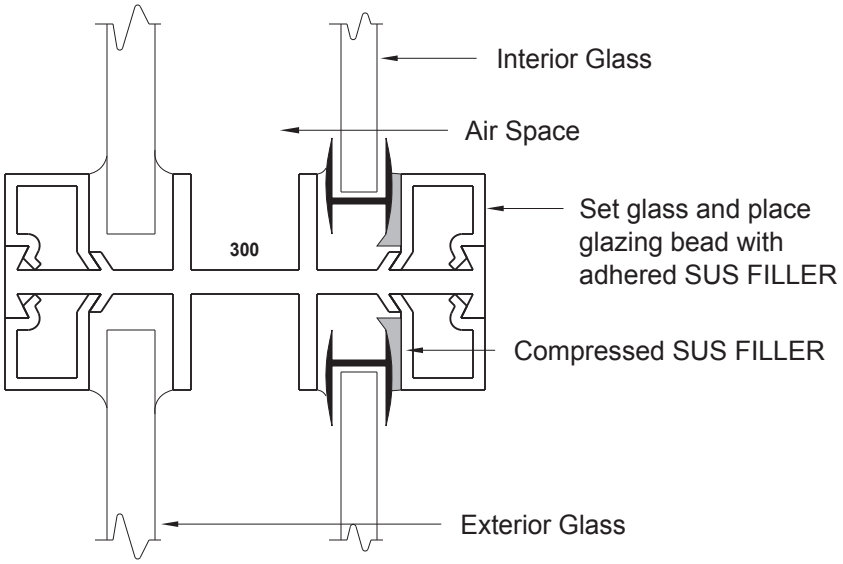
SUS FILLER

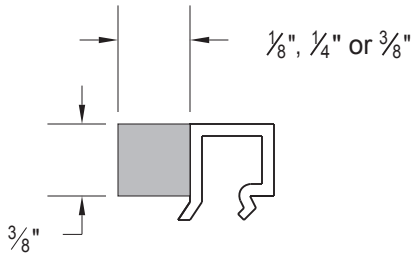
SUS FILLER is a single sided self adhesive foam tape that is ideally suited for glazing the interior glass of double or triple glazing (stained and protective glass). It is used instead of putty and allows the air space in between the double glazing to breathe. It is neither air nor water resistant and should never be used for exterior glazing. The tape is easily applied to the glazing bead or directly on to the lead or glass in the shop. The glass is "dry set" which makes for a simple, fast, clean and economical installation.

Available Sizes (Thickness X Width):

⅛" X ⅜", ¼" X ⅜", ⅜" x ⅜"

SUS FILLER APPLICATION





SUS FILLER adhered to glazing bead

METAL AND GLASS CURVING

THE COMPLETE SOURCE

Since 1906, **J. Sussman, Inc.** has been a pioneer in the advancement of metal curving technology. Our innovative processes have resulted in many thousands of highly successful projects that continue to stand the test of time. As a result of our metal curving experience it was natural for **J. Sussman, Inc.** to add glass curving to our extensive metal and glass services.

Today, **J. Sussman, Inc.** is a full service supplier of both curved metal and curved glass. This assures you of a single source responsibility for all your glass and metal curving needs. In addition, we also offer completely engineered systems for windows, skylights, sunrooms, storefronts and other architectural metal and glass specialties. These systems have been designed for the most accurate and cost effective curving - giving our customers a tremendous competitive advantage when curving is required.

Of course, we also have the ability to curve most other architectural metal and glass systems and have done extensive curving of handrails, lighting fixtures, signs, shower doors, furniture, transportation parts and a host of other products for numerous industries.

Unparalleled Service

As a supplier and fabricator we can provide faster and more complete service than is offered anywhere. Utilizing the most efficient computerized curving equipment, together with our "state of the art" 80,000 square foot manufacturing facilities, **J. Sussman, Inc.** can offer a service time of one to two weeks for most orders.

We can either curve your material or, with over 1 million pounds of aluminum plus a large supply of glass in stock, we can often supply the material and save you delivery costs and shipping time. In addition, our years of experience in metal curving for leading metal suppliers has enabled us to accumulate a large inventory of tooling which will also minimize your costs and delivery time.

Technical assistance and price quotations are provided by our highly trained engineering and estimating staff with the aid of the most advanced equipment. Computerized shop drawings and engineering can be supplied.

Versatility And Capability

With our various methods of metal curving, **J. Sussman, Inc.** has the ability to curve virtually all metals to an unlimited variety of shapes and sizes. No job is too large or small. We regularly curve aluminum angles, channels, rectangular and round tubes, pressure plates and caps, thermal break extrusions and brake metal shapes. They can be formed to circles, segments and ovals and can usually have tangents when required. In addition to aluminum we can curve brass, steel, bronze and other metals.

Our glass curving capabilities are constantly increasing as we strive to have the most complete glass and metal curving services in the industry. In addition to curving glass up to 3/4” thick we laminate and insulate as well. When curved metal is required for our curved glass we carefully check the fit which gives us full control over the accuracy and quality of the job. Having only one full source curved metal and glass supplier also saves precious time and is more economical.

As a leading architectural metals and glass manufacturer, **J. Sussman, Inc.** has the capabilities of complete fabrication. Our experience in fabricating curved materials often makes the job more cost effective and accurate when we do the fabrication. It is often advantageous for a **J. Sussman, Inc.** engineered system to be submitted for the curved part of the job.

METAL CURVING

The following information should be specified when placing orders or requesting quotations:

1. Material to be Curved

Include the manufacturer and part number, if any, as well as a cross section detail with overall dimensions and thicknesses. Not all material can be curved satisfactorily, however, with our experience we can suggest alternative solutions if necessary. In addition, our large inventory of channels, angles, tubes and specialized extrusions for the window, skylight and storefront trade can be used.

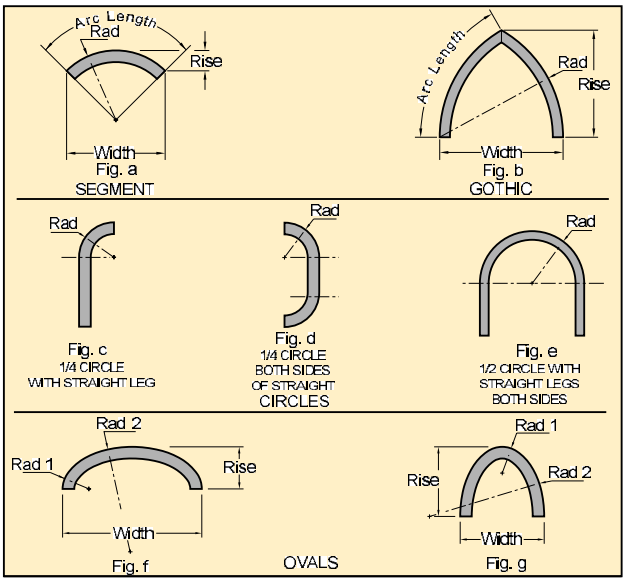
6063-T5 Aluminum alloy and temper is standard. We can curve almost any aluminum alloy and temper depending upon the limitations of the material. The alloy and type of metal should be specified. Thermal break material can usually be curved but **J. Sussman, Inc.** should be consulted prior to ordering.

2. Finish

For economy it is preferable to have the metal curved with the finish on it. Extrusions can be curved in bronze and clear anodized as well as various painted finishes.

Most extrusions are curved prefinished with excellent results, however, we cannot guarantee the finish. Crazing, peeling and blemishes may occur due to the nature of the curving process and the material and finish involved. A test curve is advisable if doubt exists.

3. Curving Axis

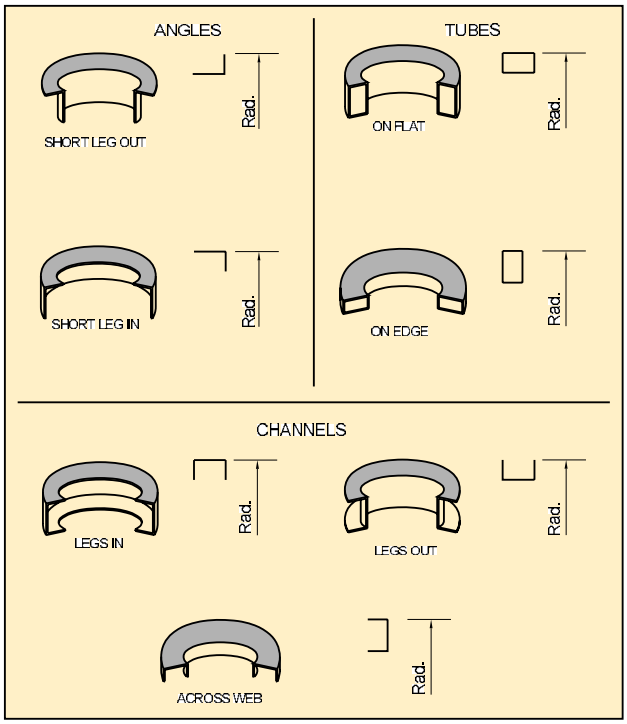


4. Shape and Radius

For full circles, half circles and quarter circles the outside radius need only be specified and a template will be supplied by **J. Sussman, Inc.** (Figure a). For segments and gothics the outside radius, rise, width and arc length should be supplied. (Figure a, b).

When straight legs are required they must be tangent to the curve with no break. (Figure c, d, e). They are recommended when the legs are short. When the legs are longer it often pays to mechanically fasten the straight leg on one side only. (Figure c, d).

An oval is wherever there are two or more different radii in the same shape. (Figure f, g). Because of the difficulty in bending ovals they may have to be made in two or more pieces and later spliced together by the customer. Templates must be supplied for ovals. For quotations the rise, width, arc length and radii should be supplied.



5. Quantity

Our diverse curving processes allow us to produce small quantities as well as large production runs. Similar extrusions and shapes should be combined where possible for quantity pricing.

When supplying your own material be sure to consult **J. Sussman, Inc.** to determine proper size and quantity of lengths needed to accommodate waste and set up.

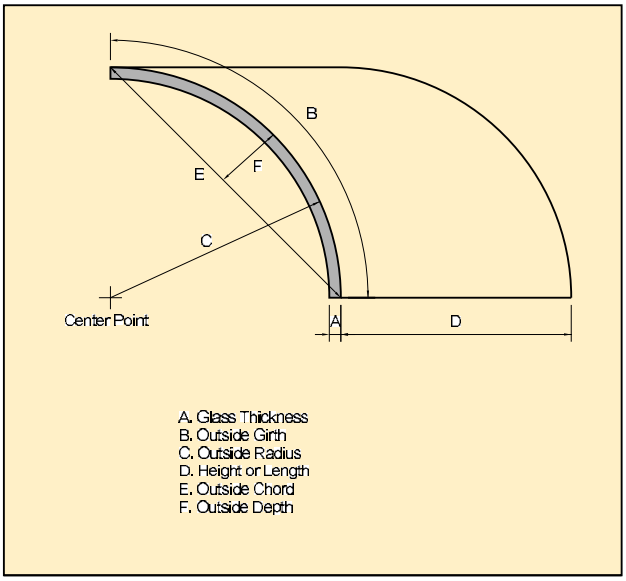
6. Additional Fabrication

Unless otherwise specified all curves will be shipped for field cutting, fitting and drilling. **J. Sussman, Inc.** has the facilities for complete fabrication when desired.

GLASS CURVING

Please furnish the following information for pricing and ordering curved glass.

1. Measurements



In order to curve glass accurately we require the girth(B), height(D) and the radius(C). It is also a good idea to give us the chord(E) and rise(F) so we can double check your radius(C) and girth(B) dimensions mathematically. The chord(E) and rise(F) can also be used to determine the radius(C) if not known. This applies only if the shape contains one radius. Also, we must know if your measurements are to the inside of the curved glass or to the outside. The difference is the thickness of glass. If there are any doubts about the above it is always good to send us a pattern if possible.

2. Thickness and Composition

Our “state of the art” curving facilities are capable of curving glass from 1/8” to 3/4” thick. In addition we can laminate and insulate curved glass when required.

We regularly curve monolithic, laminated and insulated glass. For most architectural applications 1/8”, 3/16” and 1/4” thickness of glass are used with combinations of the above if laminating and insulating is required. The overall thickness must be specified as well as the glass combination for laminated and insulated glass.

It is important to use sufficient thickness glass to assure adequate strength of the curved unit. Our technical staff can help you determine the proper thickness and composition.

It is also the responsibility of the purchaser to make sure the glass meets all local and Federal building codes for the particular glass application. Laminated safety glass is usually required for sloped applications such as solariums and skylights. It may also be required depending upon proximity to doors and height from the ground as well as other circumstances.

3. Type of Glass

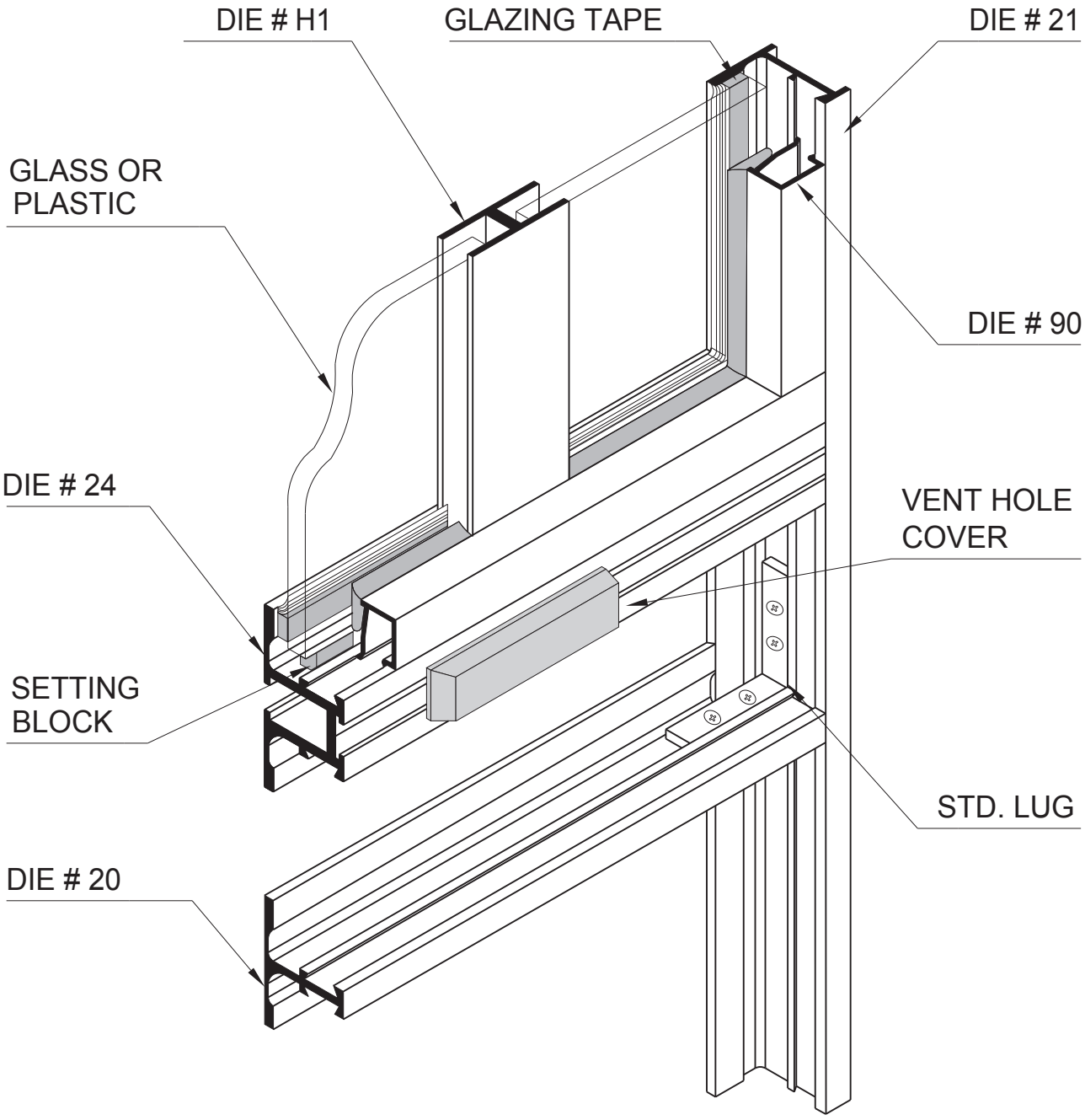
J. Sussman, Inc. has the capability to curve all types of uncoated glass whether clear or tinted. We also bend reflective and Low-E glass with a pyrolytic coating as well as spandrel and patterned glass. If there is a coating, specify which side of the glass has the coating and identify which lites are tinted for laminated and insulated units.

4. Quantity

J. Sussman, Inc. is set up for small quantities as well as larger orders. Wherever possible quantities should be batched together by radii to minimize mold costs and set up charges.

STOCK LENGTHS

Aluminum Extrusions Designed Specially for the Stained and Art Glass Trade



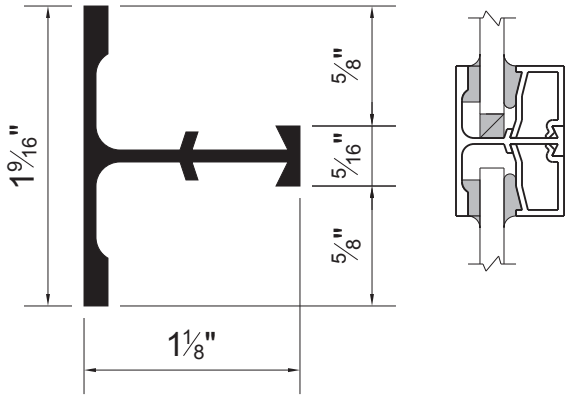
J. SUSSMAN, INC.

Since 1906

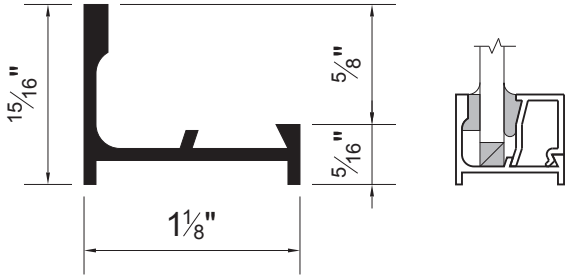
MANUFACTURERS OF AMERICA'S FINEST ARCHITECTURAL METAL PRODUCTS AND SERVICES

20 SERIES

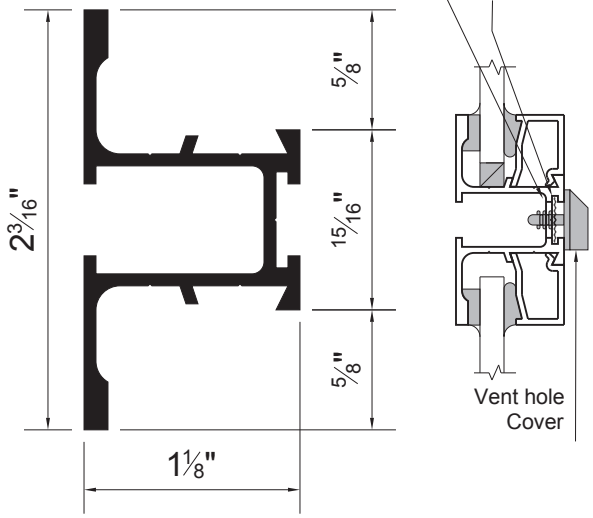
DIE # 20



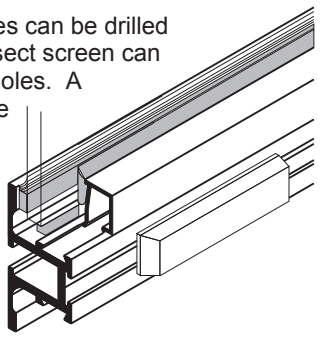
DIE # 21



DIE # 24

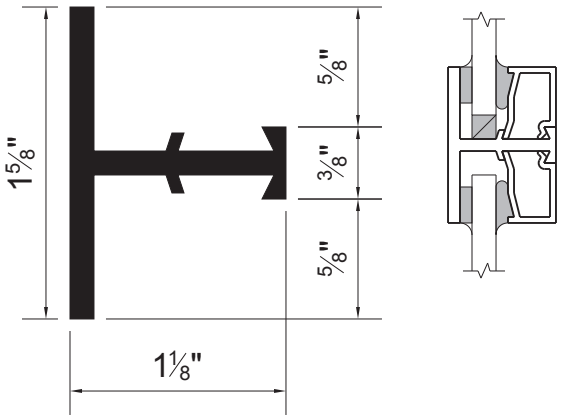


Die# 24 is a "Venting Tee". Holes can be drilled into the "Tee" and a dust and insect screen can be inserted in a grove over the holes. A nylon vent hole cover is available to hide the holes and prevent water infiltration.

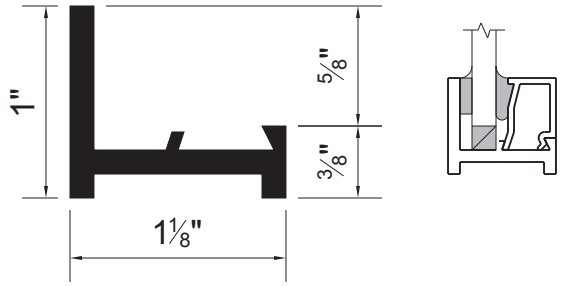


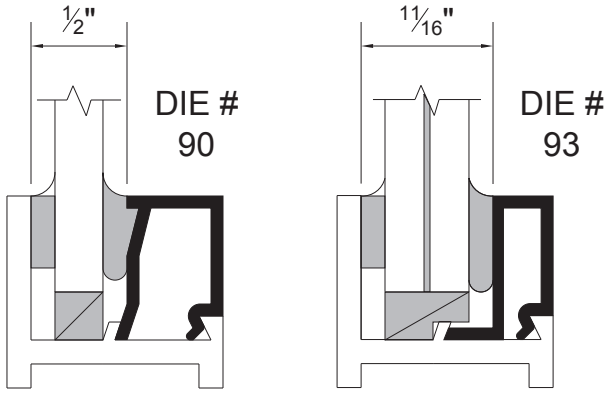
10 SERIES

DIE # 10



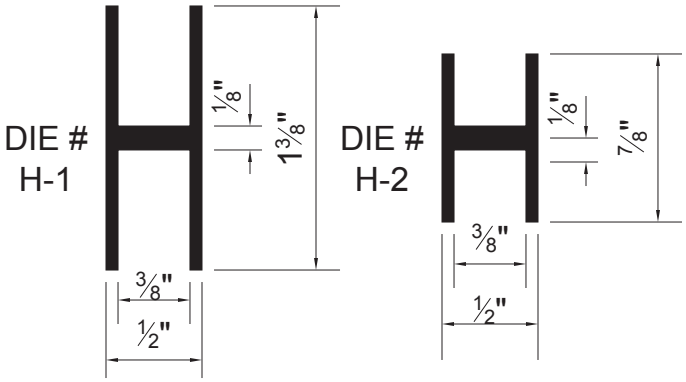
DIE # 11





Die# 90 and 93 fits with the 10 and 20 Series

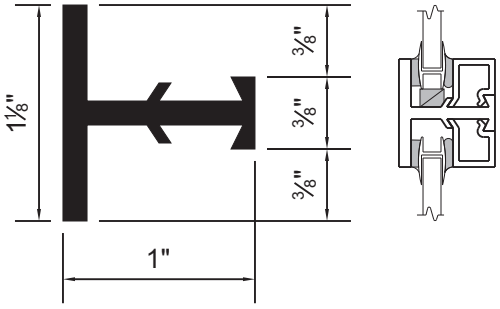
H SERIES



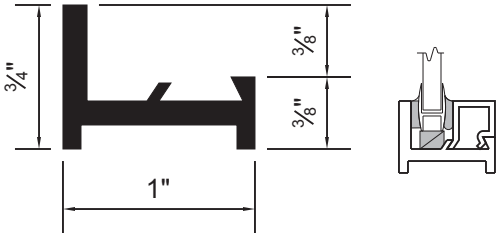
The H Series fits with the 10, 20, 100 and 200X Series

100 SERIES

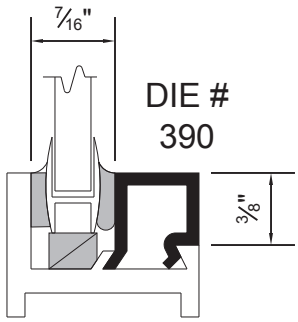
DIE # 100



DIE # 101

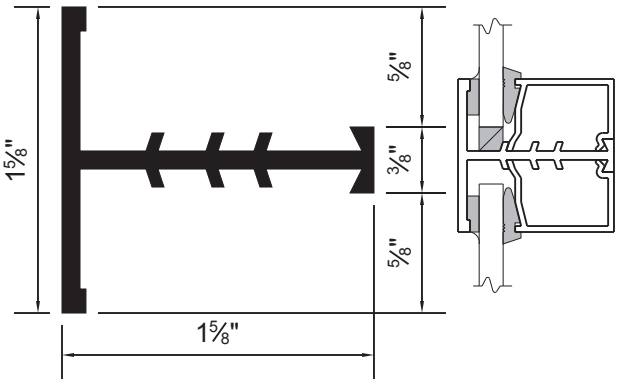


DIE # 390

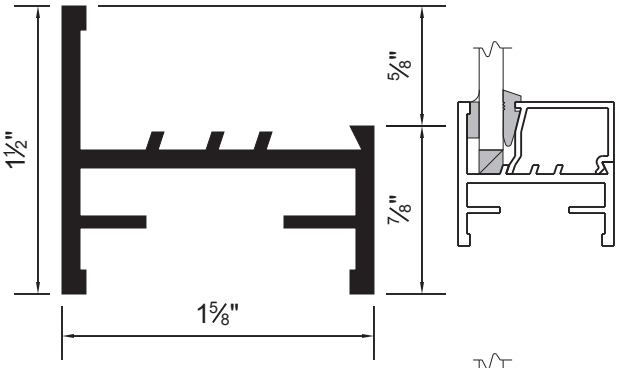


200X SERIES

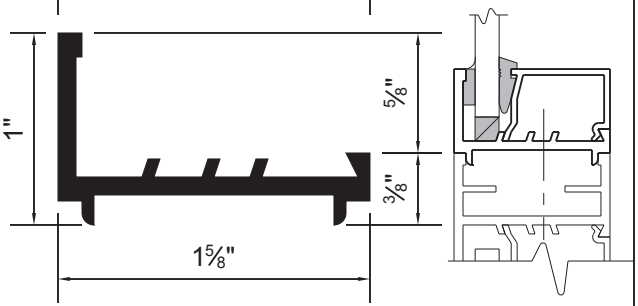
DIE # 200X



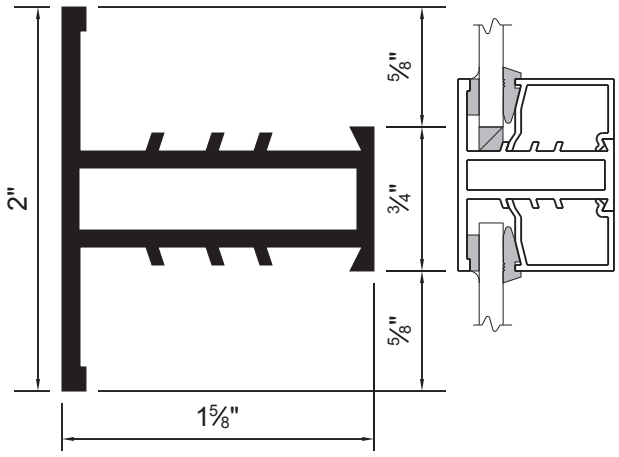
DIE # 203X



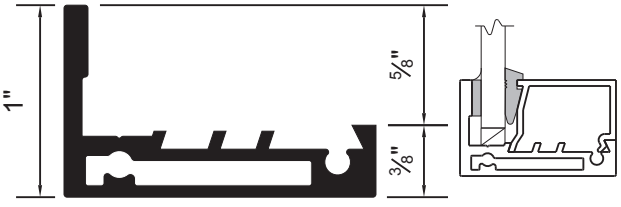
DIE # 205X



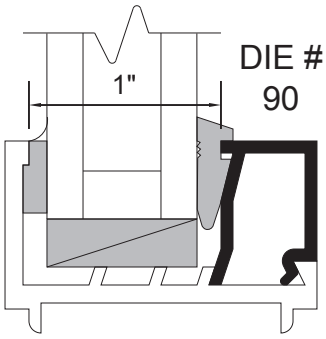
DIE # 207X



DIE # 211X

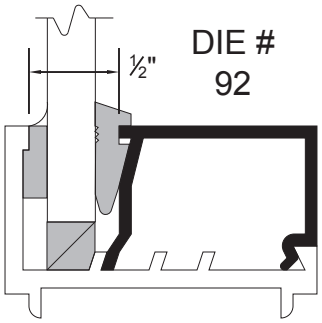


DIE # 90

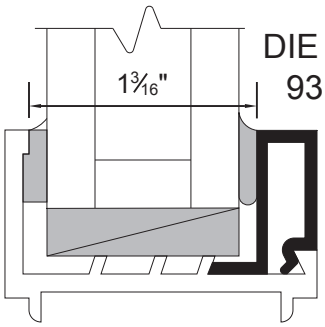


With the use of various glazing tapes and wedges, any thickness glass between 1/8" and 1" can be accommodated.

DIE # 92



DIE # 93



Many more sections are available in the 200X series. Consult factory.

DIE #	LENGTH*	PCS/BUNDLE
20	15'	20
24	15'	10
21	15'	20
90	15'	40
93	15'	40
10	15'	20
11	15'	20
100	15'	25
101	15'	25
390	15'	50
H-1	15'	20
H-2	15'	25
200X	24'	Packed to order
207X	24'	Packed to order
203X	24'	Packed to order
205X	24'	Packed to order
211X	24'	Packed to order
92	24'	Packed to order

* All aluminum extrusions can be factory cut to size for shipping or job requirements.

SELECTION GUIDE

- **The 20 Series** is designed for protective glazing. These sections have the deep rabbet necessary to take the expansion and contraction of plastics and large pieces of glass. These sections have lighter walls and are more economically priced. Die# 24 has the added feature that holes can be drilled into it to ventilate the space between the protective and art glass. A screen and vent hole cover are available.

- **The 10 Series**, like out 20 Series, is designed for protective glazing. These sections have heavy 1/8" thick walls to give this series additional strength.

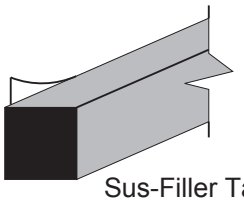
- **The 100 Series** was introduced over 35 years ago and has become the standard for the stained and art glass industry. This series was designed for maximum strength and minimum sitelines to enhance the beauty of the art glass.

- **The 200X Series** was designed for versatility and strength, and can be used for many different purposes. The 1 5/8" depth combined with it's heavy walls gives this series the strength necessary for most situations. With its various glazing beads it can accommodate glass or panels up to 1" thick.

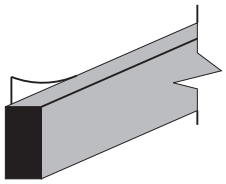
All sections are stocked in mill, painted bronze, painted white, clear anodized and bronze anodized finishes. Other finishes are obtainable.

J. Sussman, Inc. stocks over a million pounds of aluminum. Besides the shapes in this brochure, we have thermal break window systems, double and triple glazed thermal break church window systems, and a large asortment of Alcoa sills, angles, channels and tubes. We welcome your inquiries.

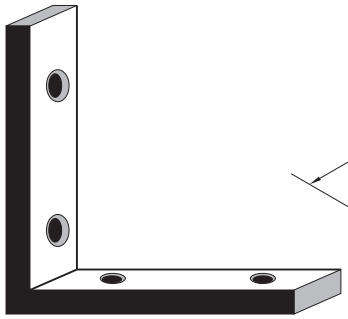
ACCESSORIES



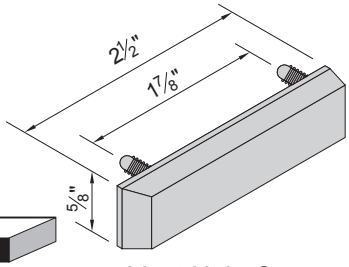
Sus-Filler Tape
(A single sided self adhesive foam tape ideal for glazing the interior glass of double glazing. Not for exterior use.)



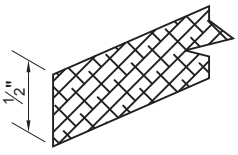
Glazing Tape



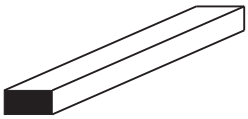
Corner Brackets or Lugs with Stainless Steel Screws



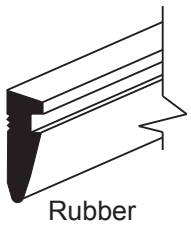
Vent Hole Cover



Screen



Neoprene Setting Blocks



Rubber Glazing Wedge

MANUFACTURERS OF AMERICA'S FINEST ARCHITECTURAL METAL PRODUCTS AND SERVICES

J. SUSSMAN, INC.

Since 1906

109-10 180th Street, Jamaica, New York 11433
Tel: 718-297-0228 Fax: 718-297-3090 www.jsussmaninc.com

HARDWARE [i]

Due to the wide range of environments our hardware is used in, some cleaning may be required. Wind blown dust and dirt can cause the windows to be more difficult to operate, as well as cause the hardware to wear or corrode faster.

We recommend the window hardware be inspected at time of installation and once a year thereafter (more if necessary). Clear off dirt and grime build up. Particular attention should be given to cleaning dirt from slides in hinges.

Fasteners

The tightness of all screws should be checked. Any screw found loose should be re-tightened.

Cleaning

Clean water should be used when possible to flush the hardware clean. A mild (hand wash) dish soap and water mixture can be used to loosen stubborn dirt. Always rinse the hardware with clean water. Allow the hardware to dry completely before lubricating.

Cleaners to AVOID
DO NOT USE THE FOLLOWING:

Vinegar Based Cleaners
Citrus Based Cleaners (Lemon, etc.)
Industrial Strength Cleaners
Abrasive Cleaners

These types of cleaners will not only remove the lubricants from the hardware, they can also remove the corrosion resistant coatings.

Warning: Glass cleaners and brick/siding washes, with the above ingredients, must not come in contact with the hardware for the reasons listed above.

Lubrication

After the hardware is clean and dried it must be lubricated to restore the smooth operation, and in some cases corrosion resistance. There are a number of commercially available products which can be used. It is recommended that the replacement lubricant be similar to what was removed. (If the gears were coated with grease before you cleaned them, relubricate only with grease, not a spray such as WD40, etc.) The following list of products will help you know where each should be used.

Lithium Grease	Use on all gear drivers; such as operators and locks. Best choice due to waterproofness.
WD40 or CD2	Use on all siding or rotating joints; such as rollers, hinges and chains. Doesn't last as long as oil.
Automotive Grease or Petroleum Jelly	Will work in same areas as White Grease, but is not as waterproof and it will attract dust. Be careful when applying grease since it will stain and wood it contacts.
Light Oil such as 3 in 1 Oil:	Can be used on sliding or rotating joints. Care must be used when applying due to possible staining of wood parts.
Graphite	Can be used on sliding or rotating joints. Also works good on cam locks and hinges.

Warning: Avoid the use of silicone based sprays or lubricants. Silicone can cause some plastic parts to become brittle

There are many other products which can be used which will give equal results. Care must be used when applying any lubricants to avoid staining and/or damage to window parts. Since lubricants only work if present, periodic checks should be done to ensure the function of the hardware.

Aluminum Finishes[ii]

CARE AFTER INSTALLATION OF ANODIZED ALUMINUM

GENERAL CONSIDERATIONS

Building owners and managers, along with the architects who have designed the buildings, have always been concerned about the appearance of the exterior wall. The attractiveness of the wall design and the continued excellent appearance of a properly located building brings in and keeps satisfied tenants. The architect who has specified anodized aluminum wall and window components has done so first because of the beauty which can be achieved with such anodized finishes and second because of the long life, durability, and low maintenance that these finishes provide. It then becomes the responsibility of the building owner or manager to see that the original beauty of the building exterior is maintained in order to preserve the desirability and profitability of the property.

The American Architectural Manufacturers Association, recognizing the need for the aluminum industry to provide information on the care and maintenance of exterior wall finishes, released a publication entitled "Voluntary Guide Specification for Cleaning and Maintenance of Architectural Anodized Aluminum, AAMA609. This specification outlines methods equipment, and materials to clean anodized aluminum after construction and for subsequent, periodic maintenance. The methods outlined are applicable to architectural products fabricated from both rolled and extruded shapes, including window and door frames, store fronts, and entrances, curtain walls, mullions, hand rails, flag poles, and hardware, The information provided in the specification is useful to building owners, managers, architects, contractors, and others in the building industry who are interested in the proper care and maintenance of anodized aluminum.

As with any finished building material, aluminum requires reasonable care prior to and during installation and periodic cleaning and maintenance after installation. Although anodized aluminum is exceptionally resistant, to corrosion, discoloration and wear, it natural beauty can be marred by harsh chemicals, abuse or neglect. Such conditions usually affect only the surface finish but do not reduce the service life of the aluminum. All exterior surfaces collect varying amounts of soil and dirt, depending on geographic area, environmental conditions, finish and location of the building. These factors and the owner's attitude regarding surface appearance determine the type and frequency of cleaning required. The aluminum cleaning schedule should be integrated with other cleaning schedules for efficiency and economy. For example, both the glass and the aluminum curtain wall can be cleaned at the same time.

Cleaning may be required more often in one geographic area than another when appearance is of prime importance. More frequent cleaning will be required in heavy industrialized areas than in rural areas. Seasonal rainfall can affect washing frequency by removing water soluble deposits and less adherent soil. In foggy coastal regions, frequent cycles of condensation and drying can create a heavy buildup of atmospheric salts and dirt which may adhere tenaciously. In climates where the rainfall is low, the opportunity for atmospheric washing of the surface is minimal. Los Angeles, for example, with its unique combination of limited rainfall, temperature fluctuation, smog and condensation, requires that aluminum be cleaned more frequently than in other metropolitan areas with more frequent rainfall.

In both wet and dry climates, recessed and sheltered areas usually become more heavily soiled because of the lack of rain washing. More frequent and longer periods of condensation also occur in protected areas, increasing the adhesion of the soil. This is particularly true of soffit areas on overhangs, bottoms of facia panels, sheltered column covers and the like. Periodic maintenance inhibits long term accumulation of soil which, under certain conditions, can accelerate weathering of the finish.

CLEANING PROCEDURES

Cleaning procedures for aluminum should be initiated as soon as practical after completion of installation to remove construction soils and accumulated environmental soils and discoloration.

For light soils, the simplest procedure is to flush the surface with water using moderate pressure. If soil is still present after air drying the surface, scrubbing with a brush or sponge and concurrent spraying with water should be tried. It sols still adhere, than a mild detergent cleaner should be used with brushing or sponging. Washing should be done with uniform pressure, first horizontally then vertically. Following the washing, the surfaces must be thoroughly rinsed by spraying with clean water.

If it is necessary to remove oil, wax, polish, or other similar material, MEK or an equivalent solvent is recommended for clean up. Extreme care must be exercised when solvents of this type are used since they may damage organic sealants, gaskets and finishes. These solvents should never be used on anodic finishes protected by clear organic coatings unless the organic coating has deteriorated and should be removed. Solvents can be dangerous if used improperly or without adequate ventilation. They should be used only by trained professionals following procedures established by the solvent manufacturer.

Removing heavy surface soil may require the use of an abrasive cleaning pad. In this procedure the pad is thoroughly soaked with clean water or a mild detergent cleaner and the metal surface is hand scrubbed with uniform pressure. scrubbing action should be in the direction of the metal grain.

Scrubbing with a nylon cleaning pad impregnated with a surface protectant material is also recommended for removing stubborn soils and stains. After scrubbing, the surface should be rinsed thoroughly with clean water to remove all residue.

In some circumstances it may be desirable to wipe the surface with a solvent. The surface is then permitted to air dry or is wiped dry with a chamois, squeegee or lint-free cloth.

Using power cleaning tools may be necessary to remove unusually heavy soils from large areas including panels and column covers. When using such tools, the surface must be continually flushed with clean water or a mild detergent cleaning solution to provide lubrication and a medium for carrying away the dirt. After an area has been machine scrubbed, it must be rinsed with clean water and thoroughly scrubbed with a fairly stiff bristle brush. The surface may then be air dried or wiped dry.

INSPECTION

It is suggested that the building owner or manager provide an engineer or other qualified representative to inspect the cleaning work. Care must be taken to see that metal seams, crevices, sills and other areas that may trap water, cleaner, or dirt are carefully cleaned and dried. A final inspection to ensure that no discoloration or stains remain on the surface is recommended.

CLEANING PRECAUTIONS

Certain precautions must be taken when cleaning anodized aluminum surfaces. Aluminum finishes must first be identified to select the appropriate cleaning method. Aggressive alkaline or acid cleaners must never be used. Cleaning hot, sun-heated surfaces should be avoided since possible chemical reactions will be highly accelerated and cleaning non-uniformity could occur. Strong organic solvents, while not affecting anodized aluminum, may extract stain-producing chemicals from sealants and may affect the function of the sealants. Strong cleaners should not be used on window glass and other components where it is possible for the cleaner to come in contact with the aluminum. Excessive abrasive rubbing should not be used since it could damage the finish.

FIELD PROTECTION AND MAINTENANCE

Field protection and maintenance of cleaned surfaces is of particular interest. A wipe on surface protectant is now available which is estimated to provide protection for 12 to 24 months in the harshest environment. This protectant is applied to a thoroughly cleaned and dried anodized surface with a lint-free cloth or felt pad. The benefits of such an application are two-fold; first, it protects the finish, and second, it makes subsequent maintenance easier. Subsequent maintenance may well be reduced to simply flushing the surface with water, permitting it to dry

CARE AFTER INSTALLATION OF PAINTED ALUMINUM

GENERAL CONSIDERATIONS

Care and maintenance guidelines for anodized aluminum also apply to painted aluminum. The architect depends on the finish to provide the beauty in the building he has designed. The building owner and manager want to preserve this beauty thereby preserving the desirability and profitability of the property.

As in the case of anodized aluminum, the American Architectural Manufacturers Association released a publication entitled "Voluntary Guide Specification for Cleaning and Maintenance of Painted Aluminum Extrusions and Curtain Wall Panels, AAMA 610.1". This specification covers procedures to be used for sheet and extruded aluminum products found in curtain wall, window and storefront construction.

Organic aluminum coatings do not normally show an appreciable amount of dirt accumulation. In many atmospheres, dirt and soil would not be detrimental to the coating, but cleaning and surface care may be desirable for the sake of appearance. In areas where heavy industrial deposits have dulled the surface; where materials from construction processes have soiled the surface; or where cleaner has run-down from other surfaces, surface cleaning is desirable.

Climatic conditions affect the cleanliness of organic coatings in the same way they affect anodized coatings. In some areas rainfall may be sufficient to keep exterior surfaces looking clean and bright. In areas of low rainfall or in heavily industrialized areas, periodic cleaning will be necessary. This is also true of foggy coastal regions with frequent cycles of condensation and drying which may cause a build up of atmospheric salts and dirt. In any climate, sheltered areas under overhangs may become soiled from lack of rain washing. Cleaning painted aluminum components in the exterior wall may be scheduled along with cleaning the glass.

If automatic wall cleaning equipment is to be used on a building, a test should be made early in the equipment design to ensure that the cleaning solutions and brushes, as well as the frequency of cleaning, will have no detrimental effect on the coating.

CLEANING MATERIALS

Painted surfaces should be cleaned as soon as possible after installation to remove construction soils and accumulated environmental soils. Ideally, a forceful water rinse from the top down should be employed before applying anycleaner. Some type of surface agitation helps. A low volume of water at moderate pressure is better than a high volume at low pressure. Rubbing the surface with soft brushes, sponges or cloth during the rinsing also helps.

If a simple water rinse with brushing, sponging, or rubbing with a cloth is not sufficient to remove the soil, a mild detergent or mild soap will be necessary.

Washing with a mild detergent or mild soap should be done by, brushing or sponging with a uniform pressure, first horizontally, then vertically. Following the washing, the surfaces must be thoroughly rinsed with clean water. If the cleaner has bean permitted to dry, it may be necessary to sponge the surfaces while rinsing. Rinsed surfaces may be permitted to air dry or may be wipeddry with a chamois, squeegee or lint-free cloth.

Cleaner run-down should be minimized and those areas subject to run down should be rinsed immediately, and as long as necessary, to lessen the probability of streaking.

Cleaning chemicals must not be allowed to collect on surfaces, to "puddle" on horizontal surfaces or to collect in joints and crevices. These surfaces, joints and crevices should be thoroughly flushed with water and dried.

Mild detergents and soaps, which are safe for bare hands, should be safe for coated aluminum. Stronger detergents, such as some dishwater detergents, should be carefully spot tested. Some of the latter would necessitate using rubber gloves and long handled brushes. Some mild cleaning solutions are available for automatic building washing machines.

removed with a clean cloth. Remaining residue should be washed with mild soap and rinsed with water. Use solvent cleaners sparingly.

Since solvents may extract materials from sealants which could stain the painted surface or could prove harmful to sealants, their possible effects must be considered. Test a small area first.

If cleaning heavy tenacious surface soil or stubborn stains has been postponed, a more aggressive cleaner and technique may be required. Cleaner and technique should be matched to the soil and the painted finish. Some local manual cleaning may be needed at this point. Always follow the recommendations of the cleaner manufacturer as to proper cleaner and concentration. Test clean a small area first. Cleaners should not be used indiscriminately. Do not use excessive, abrasive rubbing since it may alter surface texture or impart a "shine" to the surface.

Dried concrete spillage on the painted surface may be quite stubborn to remove. Special cleaners and/or vigorous rubbing with non-abrasive brushes or plastic scrapers may be necessary.

Diluted solutions of Muriatic Acid (under 10%) may be effective in removing dried concrete stains and effective proprietary cleaners for concrete and mortar staining are available; however, a test area should be tried first and proper handling precautions must be exercised for safety reasons.

Mixing cleaners may not only be ineffective, but also very dangerous. For example, mixing chlorine containing materials such as bleaches,with other cleaning compounds containing ammonia, can produce poison gas.

Always rinse the surface after removing heavy surface soil.

SUMMARY OF CLEANING TIPS

· Overcleaning or excessive rubbing can do more harm than good.

· Strong solvents (MEK for example) or strong cleaner concentrations can cause damage to painted surfaces.

· Avoid abrasive cleaners. Do not use household cleaners that contain abrasives on painted surfaces.

· Abrasive materials such as steel wool, abrasive brushes, etc., can wear and harm finishes.

· Avoid drips and splashes. Remove run-downs as quickly as possible.

· Avoid temperature extreme. Heat accelerates chemical reactions and may evaporate water from solution. Extremely low temperature may give poor cleaning results. Cleaning under adverse conditions may result in streaking or staining. Ideally, cleaning should be done in shade at moderate temperature.

· Do not substitute a heavy duty cleaner for a frequently used, mild cleaner.

· Do not scour painted surfaces.

· Never use paint removers, aggressive alkaline, acid or abrasive cleaners. Do not use trisodium phosphate or highly alkaline or highly acid cleaners. Always do a test surface.

· Follow manufacturers recommendations for mixing and diluting cleaners.

· Never mix cleaners.

· To prevent marring, make sure cleaning sponges, cloth etc., are grit free.

· "An ounce of prevention is worth a pound of cure."

· In addition to the foregoing, consideration must be given to the effects run-down may have on shrubbery, personnel, equipment and other items located below. Such considerations may affect the timing in the cleaning schedule.

INSPECTION

It is suggested that the building owner or manager provide a qualified inspector to see that the cleaning operations are carried out in accordancewith the recommended procedures.

If the above steps are followed, the hardware and finish on your windows should give years of dependable service. If you have any questions on cleaning or lubricating of Sussman products, please call the Technical Service Department of J. Sussman, Inc. at 718-297-0228

[i] Truth/Anderberg Tech Notes #10 1996
[ii] Reprinted from AAMA CW10 1997

J. Sussman, Inc.

Paint Comparisons

Since 1906 — America's finest custom windows

Film Characteristics	AAMA 2605[1] Paragraph number and performance requirements	AAMA 2604[2] Paragraph number and performance requirements. *(Formerly AAMA 605.2)*	AAMA 2603[3] Paragraph number and performance requirements. *(Formerly AAMA 603.8)*
Dry Film Thickness	**4.3** 1.2 mils minimum (2 coats) 1.6 mils minimum (3 coats) 2.6 mils minimum (4 coats)	**4.3** 1.2 mils minimum (2 coats)	**4.3** 0.8 mil minimum
Color Uniformity	**7.1** visually controlled	**7.1** visually controlled	**6.1** visually controlled
60° Gloss ASTM[4] D-523	**7.2** high, medium and low	**7.2** high, medium and low	**6.2** high, medium and low
Hardness: Berol Eagle Turquoise Pencil	**7.3** F minimum	**7.3** F minimum	**6.3** H minimum
Adhesion: 1/16" Cross Hatching Wet and Dry	**7.4** no removal	**7.4** no removal	**6.4** no removal
Direct Impact 1/10" Distortion	**7.5** no removal	**7.5** no removal	**6.5** no removal
Abrasion Resistance ASTM D-968	**7.6** Abrasion Coefficient Value 40 min.	**7.6** Abrasion Coefficient Value 20 min.	
Acid Resistance 10% Muriatic Acid Spot Test	**7.7** 15 minutes - no attack	**7.7** 15 minutes - no attack	**6.6.1** 15 minutes - no attack
Alkali Resistance Mortar Pat Test	**7.7** 24 hours - no attack	**7.7** 24 hours - no attack	**6.6.2** 24 hours - no attack
Detergent Resistance (3%) Immersion @ 100° F	**7.7** 72 hours - no attack	**7.7** 72 hours - no attack	**6.6.3** 72 hours - no attack
Resistance to Acid Pollutants	**7.7** Max 5DE Units (Hunter) Color Change	**7.7** Max 5DE Units (Hunter) Color Change	
Humidity Resistance 100% RH @100° F	**7.8** few #8 blisters max. 4000 hours exposure	**7.8** few #8 blisters max. 3000 hours exposure	**6.7.1** few #8 blisters max. 1500 hours exposure
Salt Spray Resistance 5% Salt @100° F	**7.8** 1/16" max. undercutting 4000 hours exposure	**7.8** 1/16" max. undercutting 3000 hours exposure	**6.7.2** 1/16" max. undercutting 1500 hours exposure
Weathering Color Retention ASTM D-2244	**7.9** Max 5DE Units (Hunter) Color Change 10 yrs. 45° South Florida	**7.9** Max 5DE Units (Hunter) Color Change 5 yrs.	**Weather Exposure** **6.8** 1000 hours Weather-O-Meter and 1 year South Florida exposure; no loss of adhesion, minimal color change
Chalk Resistance ASTM D-4214	**7.9** Max Rating 8, 10 yrs. 45° South Florida	**7.9** Max Rating 8, 5 yrs. 45° South Florida	
Erosion	**7.9** Max 10% loss, 10 yrs. 45° South Florida	**7.9** Max 10% loss, 5 yrs. 45° South Florida	

[1] American Architectural Manufacturers Association, Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels." Publication No. AAMA 2605

[2] American Architectural Manufacturers Association, Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels." Publication No. AAMA 2604

[3] American Architectural Manufacturers Association, Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels." Publication No. AAMA 2604

[4] ASTM American Society for Testing and Materials

Specifications are subject to change without notice.

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J. Sussman, Inc.

Decimal Equivalents

Since 1906 — America's finest custom windows

FRACTION	DECIMAL	MILLIMETERS	FRACTION	DECIMAL	MILLIMETERS
1/64	0.016	0.4	33/64	0.516	13.1
1/32	0.031	0.8	17/32	0.531	13.5
3/64	0.047	1.2	35/64	0.547	13.9
1/16	0.063	1.6	9/16	0.563	14.3
5/64	0.078	2.0	37/64	0.578	14.7
3/32	0.094	2.4	19/32	0.594	15.1
7/64	0.109	2.8	39/64	0.609	15.5
1/8	0.125	3.2	5/8	0.625	15.9
9/64	0.141	3.6	41/64	0.641	16.3
5/32	0.156	4.0	21/32	0.656	16.7
11/64	0.172	4.4	43/64	0.672	17.1
3/16	0.188	4.8	11/16	0.688	17.5
13/64	0.203	5.1	45/64	0.703	17.8
7/32	0.219	5.5	23/32	0.719	18.2
15/64	0.234	6.0	47/64	0.734	18.6
1/4	0.250	6.3	3/4	0.750	19.0
17/64	0.266	6.7	49/64	0.766	19.4
9/32	0.281	7.1	25/32	0.781	19.8
19/64	0.297	7.5	51/64	0.797	20.2
5/16	0.313	7.9	13/16	0.813	20.6
21/64	0.328	8.3	53/64	0.828	21.0
11/32	0.344	8.7	27/32	0.844	21.4
23/64	0.359	9.1	55/64	0.859	21.8
3/8	0.375	9.5	7/8	0.875	22.2
25/64	0.391	9.9	57/64	0.891	22.6
13/32	0.406	10.3	29/32	0.906	23.0
27/64	0.422	10.7	59/64	0.922	23.4
7/16	0.438	11.1	15/16	0.938	23.8
29/64	0.453	11.5	61/64	0.953	24.2
15/32	0.469	11.9	31/32	0.969	24.6
31/64	0.484	12.3	63/64	0.984	25.0
1/2	0.500	12.7	1	1.000	25.4