



**THERMAL  
WINDOWS, INC.**

**Commercial Product Catalog  
with Specifications and CAD details**

**Thermal Windows, Inc.  
12805 E. 31st Street  
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# Single Hung Windows



## Commercial Single Hung Windows for Retrofit and New Construction



(top) The Banks, Cincinnati, OH - Series 500, Light Gray  
(bottom) The Paramount at Reston, Reston, VA - Series 500, Satin Gray

(top) Two Metropolitan Park, Arlington, VA - Series 500, Dark Gray  
(bottom) Avalon Mosaic, Fairfax, VA - Series 500, Black

Manufactured by Thermal Windows, Inc. • 12805 E. 31<sup>st</sup> Street • Tulsa, OK 74146 • (800) 259-7580 • Fax (918) 665-2197  
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## **SINGLE HUNG WINDOWS**

### **Standard Features**

- Custom Sizes
- 2<sup>5</sup>/<sub>8</sub>" frame depth (4" in Series 4100)
- Integral Thermal Barrier throughout frame and sash
- Spiral balances (Block and tackle on Series 4100)
- AAMA 2604 organic powder coat finish
- 5 standard powder coat finish colors (see 'Finishes' section)
- Tested to AAMA specifications
- 7/8" Insulated glass (1" in Series 4100)
- Extruded screen frame with fiberglass mesh
- Operable sash tilts in for easy cleaning (Side load in Series 4100)

### **Available Options**

- 3<sup>1</sup>/<sub>4</sub>" frame depth (in selected models)
- Ultra-lift balances; Block and tackle balances
- Dual seal insulated glass
- Anodized finishes
- AAMA 2605 high-performance finishes
- Hundreds of special colors
- Hurricane-resistant glazing available in some models
- Low-E glass; tinted glass; obscure (frosted) glass
- Spandrel glass; Insulating panels
- Wire screen mesh
- Hurricane screens
- Security screens
- Panning, receptor systems, subsills, snap trim and other accessories
- Internal, external and special angled mullions
- Eyebrows (arched tops)
- Nailing fin
- Front flanged frame
- Lock-out tilt latches
- Internal muntins

# SERIES 500H 2-5/8" SINGLE HUNG (CW30)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 500H" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 500H" is a single hung with thermally improved frame and sash consisting of an operable, tilt lower sash and a fixed upper lite. The specifications and materials for the "Series 500H" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 2.625" in depth. Horizontal sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded sill latch for the sash.

Balances - Sash will be balanced by field adjustable spirally wound spring sash balances attached to the main frame by pivot sash shoes of nylon. Balances shall hold the sash stationary in any position along the full range of sash travel. Where weight of sash requires, double sash balances will be used. Balances shall meet the requirements of AAMA 902.2.

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail. A dual vinyl bulb seal will be used at the sill.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable sash shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The fixed upper lite shall be inside glazed, using a rigid vinyl glazing bead. The insulated glass units shall be .875" overall thickness with two panes of double strength glass, separated

by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be half length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The lower sash is operable on the "Series 500H" Single Hung window and will raise for ventilation. The lower sash is equipped with a release latch so that it will tilt in for cleaning and is removable from the interior for ease of maintenance.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, PG-CW30 specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 57 / 50.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

### V. INSTALLATION:

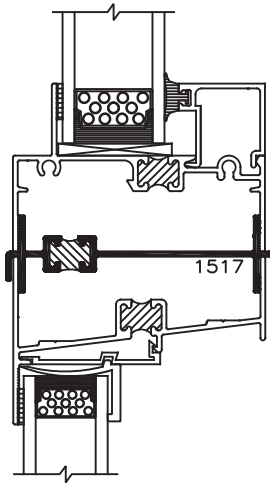
Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

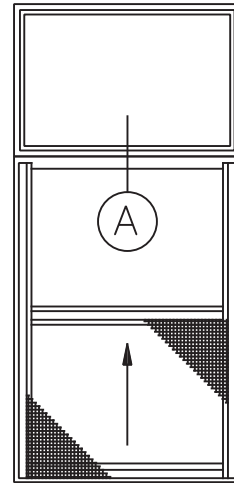


# SERIES 500H 2-5/8" SINGLE HUNG (CW30)

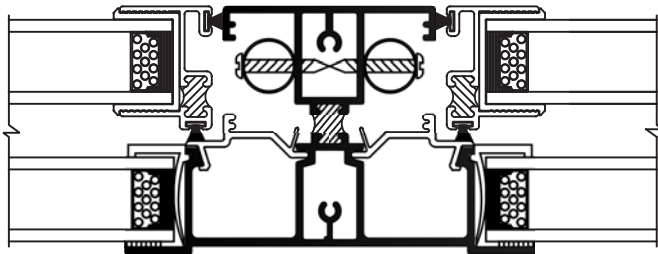
## Typical Configurations (Scale: Half Size)



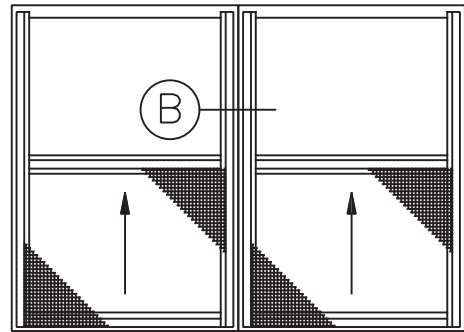
(A) 500-550



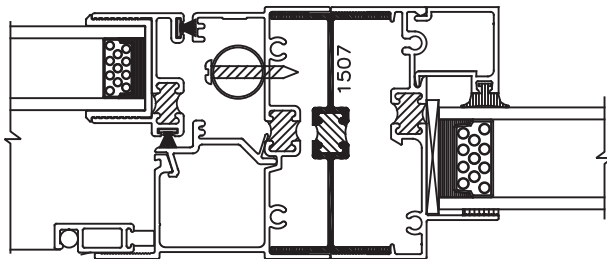
500-550



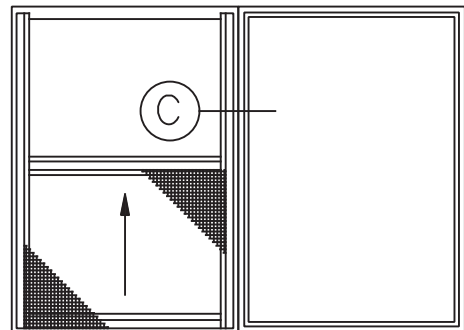
(B) COMMON JAMB



500-500



(C) 500-550

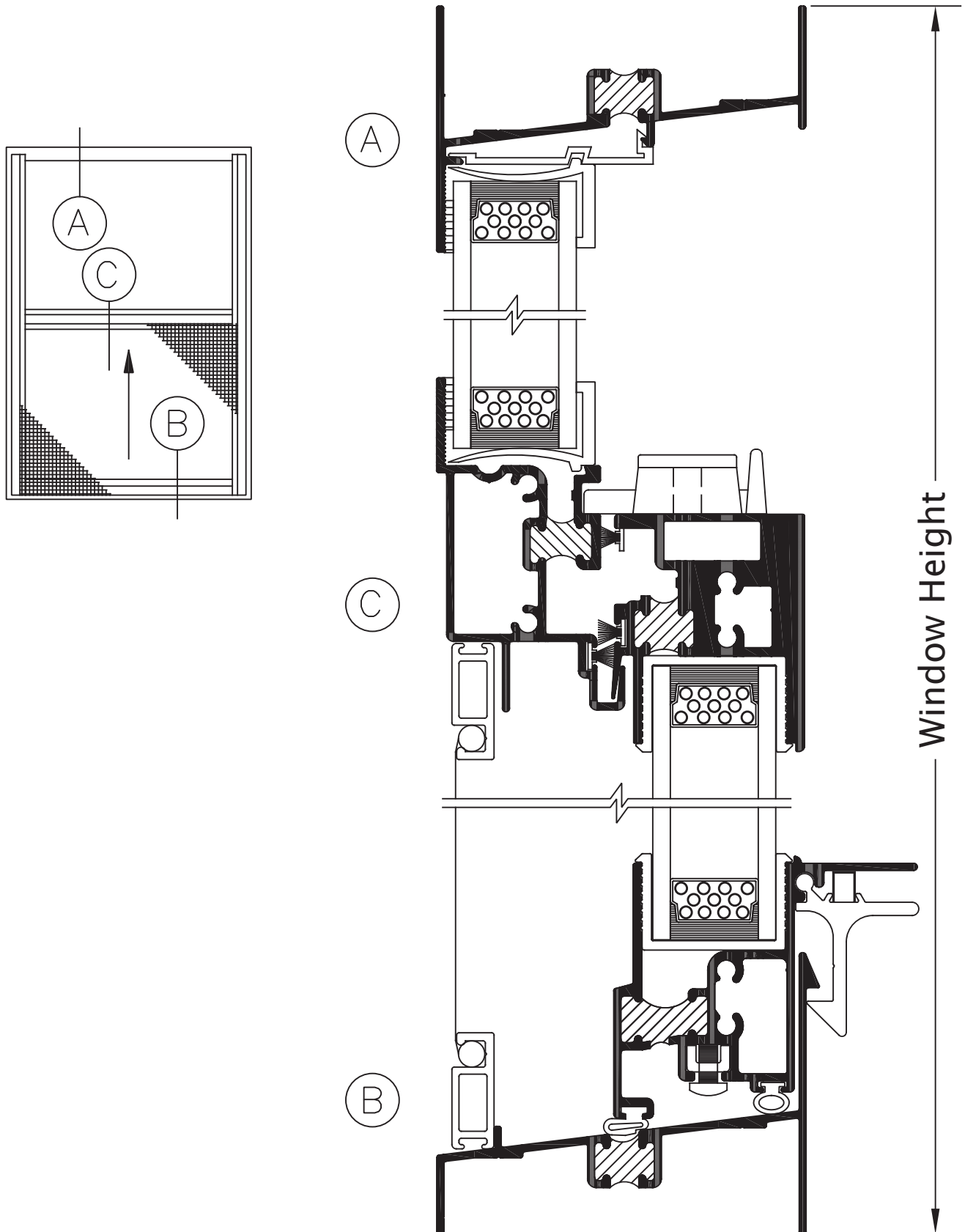


500-550

See Accessories section for additional options

# SERIES 500H 2-5/8" SINGLE HUNG (CW30)

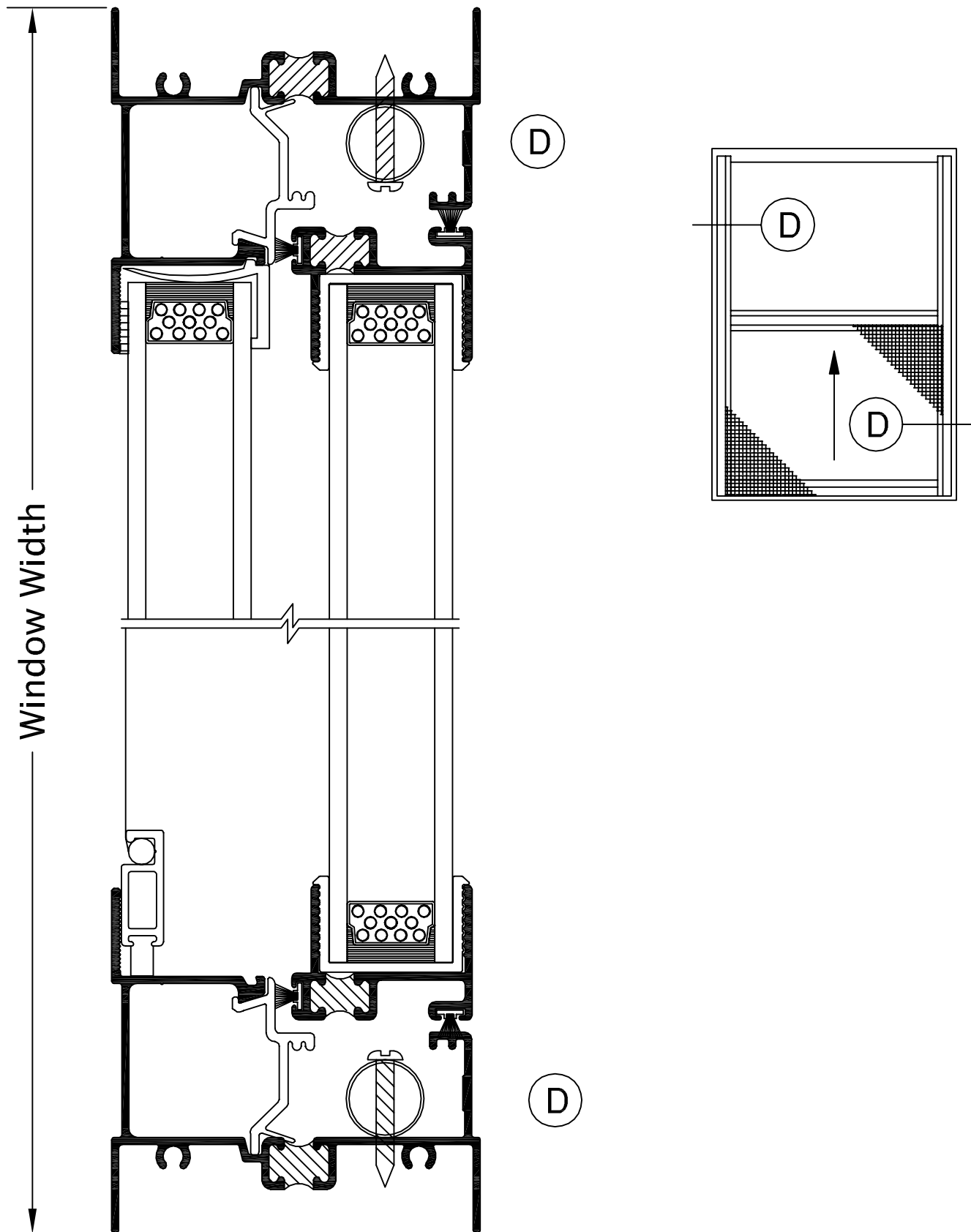
Product Details (Scale: Full Size)





# SERIES 500H 2-5/8" SINGLE HUNG (CW30)

Product Details (Scale: Full Size)



# SERIES 500H 3-1/4" SINGLE HUNG (CW30)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 500H" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 500H" is a single hung with thermally improved frame and sash consisting of an operable, tilt lower sash and a fixed upper lite. The specifications and materials for the "Series 500H" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 3.250" in depth. Horizontal sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded sill latch for the sash.

Balances - Sash will be balanced by field adjustable spirally wound spring sash balances attached to the main frame by pivot sash shoes of nylon. Balances shall hold the sash stationary in any position along the full range of sash travel. Where weight of sash requires, double sash balances will be used. Balances shall meet the requirements of AAMA 902.2.

Weatherstripping - Shall be .250" polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail. A dual vinyl bulb seal will be used at the sill.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable sash shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The fixed upper lite shall be inside glazed, using a rigid vinyl glazing bead. The insulated glass units shall be .875" overall thickness with two panes of double strength glass, separated

by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be half length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The lower sash is operable on the "Series 500H" Single Hung window and will raise for ventilation. The lower sash is equipped with a release latch so that it will tilt in for cleaning and is removable from the interior for ease of maintenance.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, PG-CW30 specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 57 / 50.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

### V. INSTALLATION:

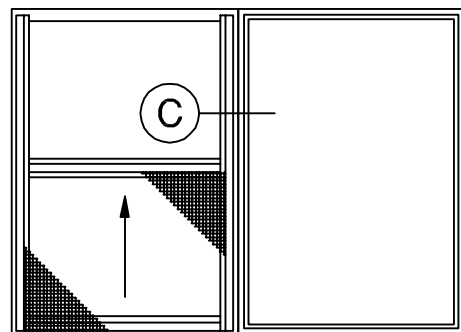
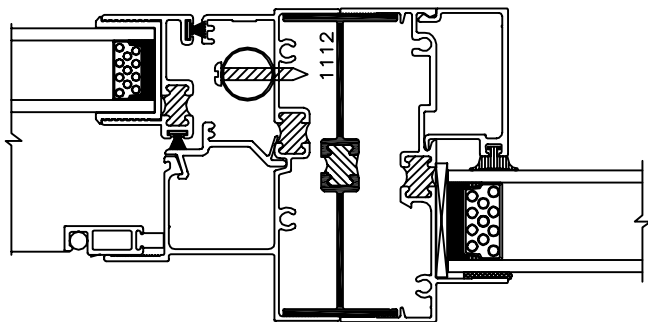
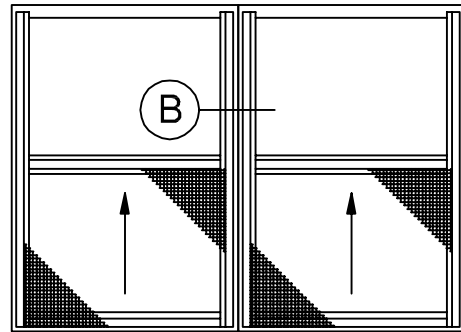
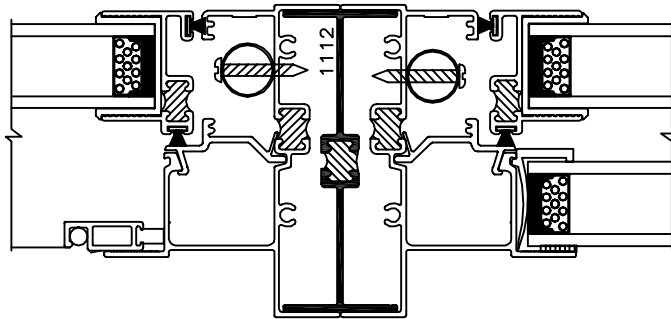
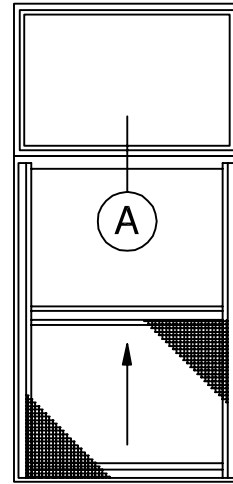
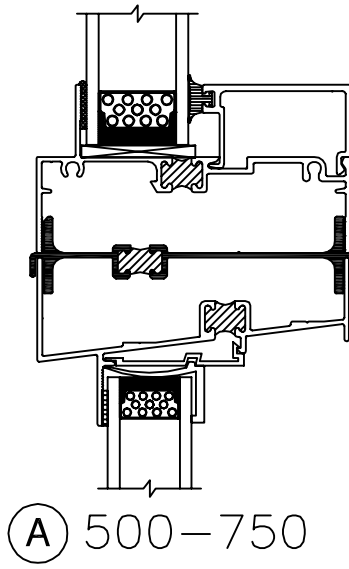
Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.



# SERIES 500H 3-1/4" SINGLE HUNG (CW30)

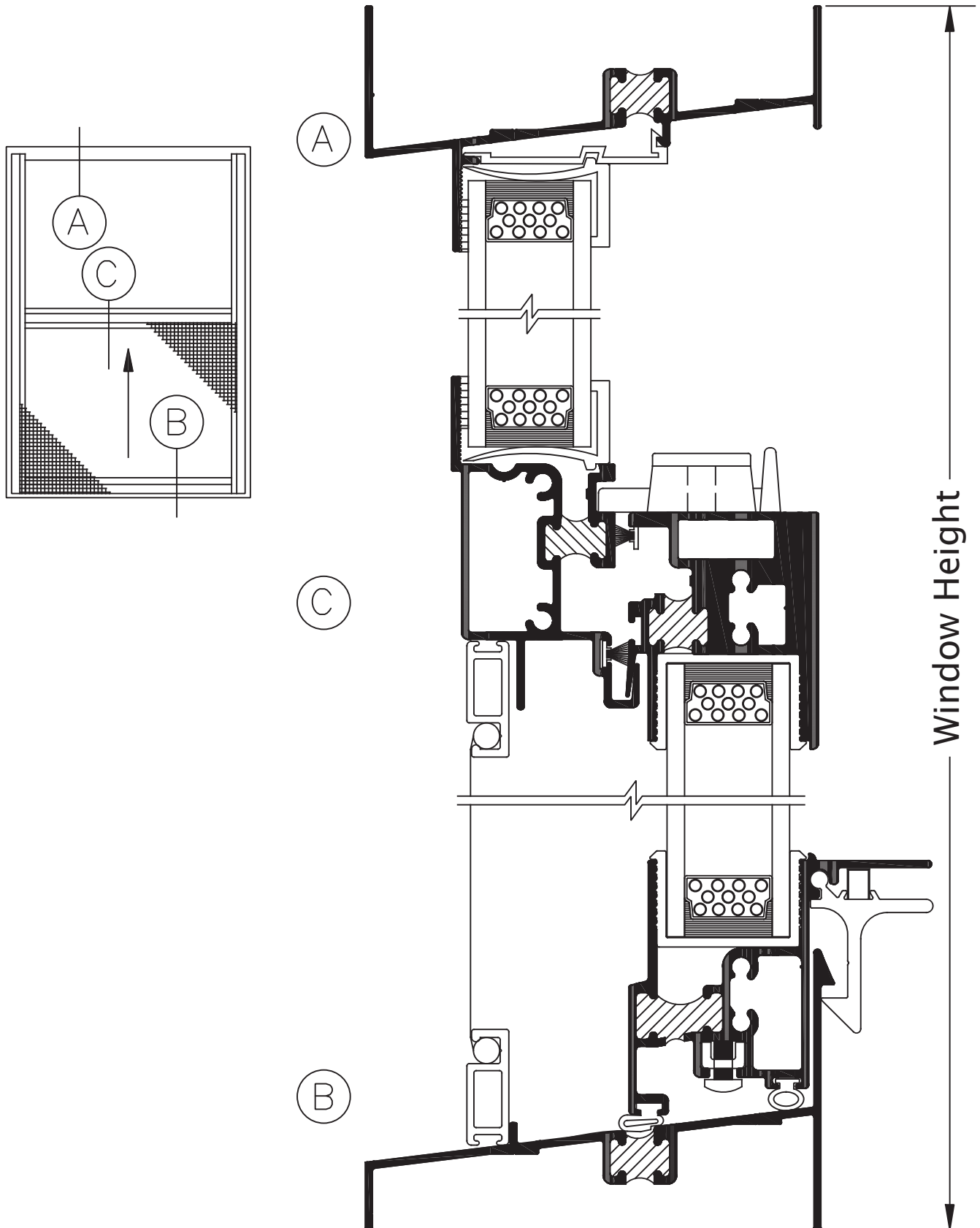
## Typical Configurations (Scale: Half Size)



See Accessories section for additional options

# SERIES 500H 3-1/4" SINGLE HUNG (CW30)

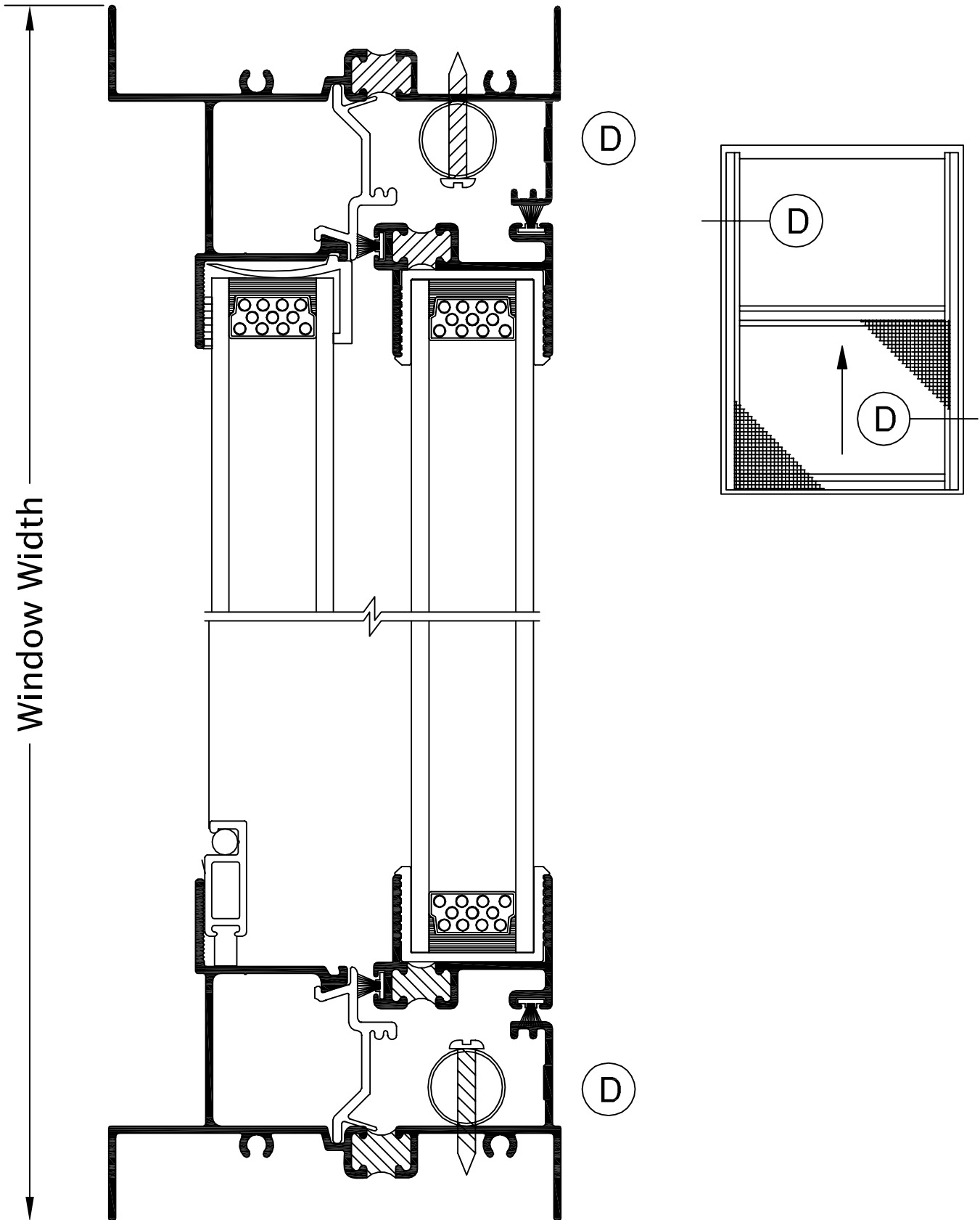
Product Details (Scale: Full Size)





# SERIES 500H 3-1/4" SINGLE HUNG (CW30)

Product Details (Scale: Full Size)



# SERIES 515 2-5/8" SINGLE HUNG (CW50)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 515" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 515" is a single hung with thermally improved frame and sash consisting of an operable, tilt lower sash and a fixed upper lite. The specifications and materials for the "Series 515" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 2.625" in depth. Horizontal sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded latch for the sash.

Balances - Sash will be balanced by field adjustable spirally wound spring sash balances attached to the main frame by pivot sash shoes of nylon. Balances shall hold the sash stationary in any position along the full range of sash travel. Where weight of sash requires, double sash balances will be used. Balances shall meet the requirements of AAMA 902.2.

Weatherstripping - Shall be .250" polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail. A dual vinyl bulb seal will be used at the sill.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable sash shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The fixed upper lite shall be inside glazed, using a rigid vinyl glazing bead. The insulated glass units shall be .875" overall thickness with two panes of double strength glass, separated

by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be half length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The lower sash is operable on the "Series 515" Single Hung window and will raise for ventilation. The lower sash is equipped with a release latch so that it will tilt in for cleaning and is removable from the interior for ease of maintenance.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-11, CW-PG50 specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 57 / 50.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

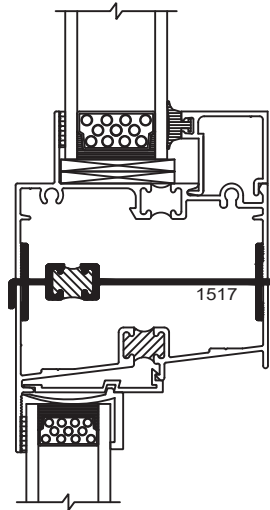
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

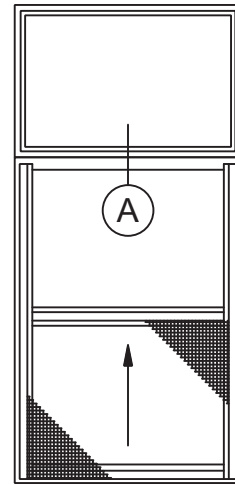
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 515 2-5/8" SINGLE HUNG (CW50)

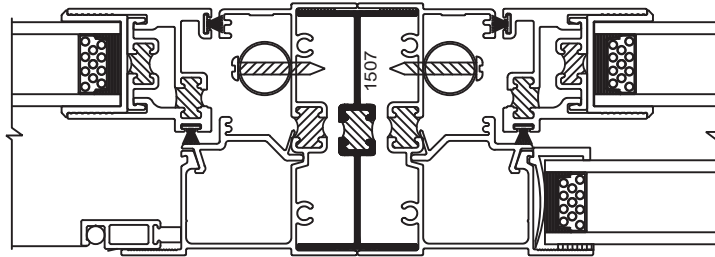
## Typical Configurations (Scale: Half Size)



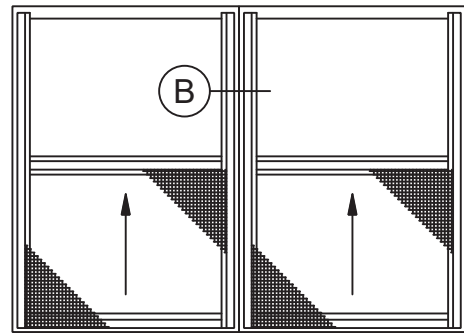
(A) 515-550



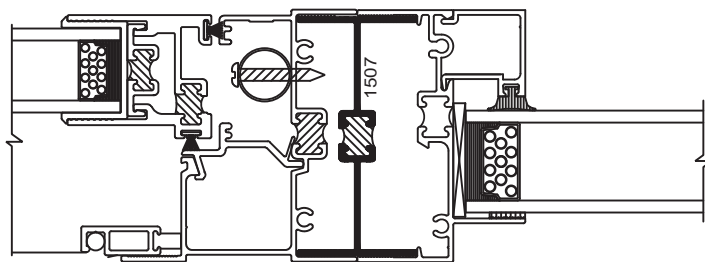
515-550



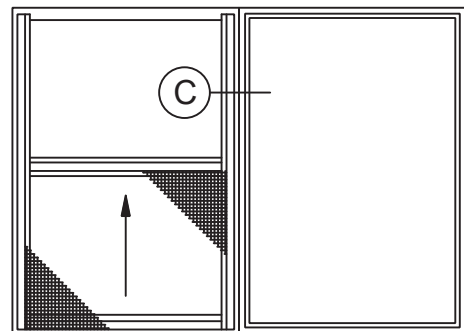
(B) 515-515



515-515



(C) 515-550



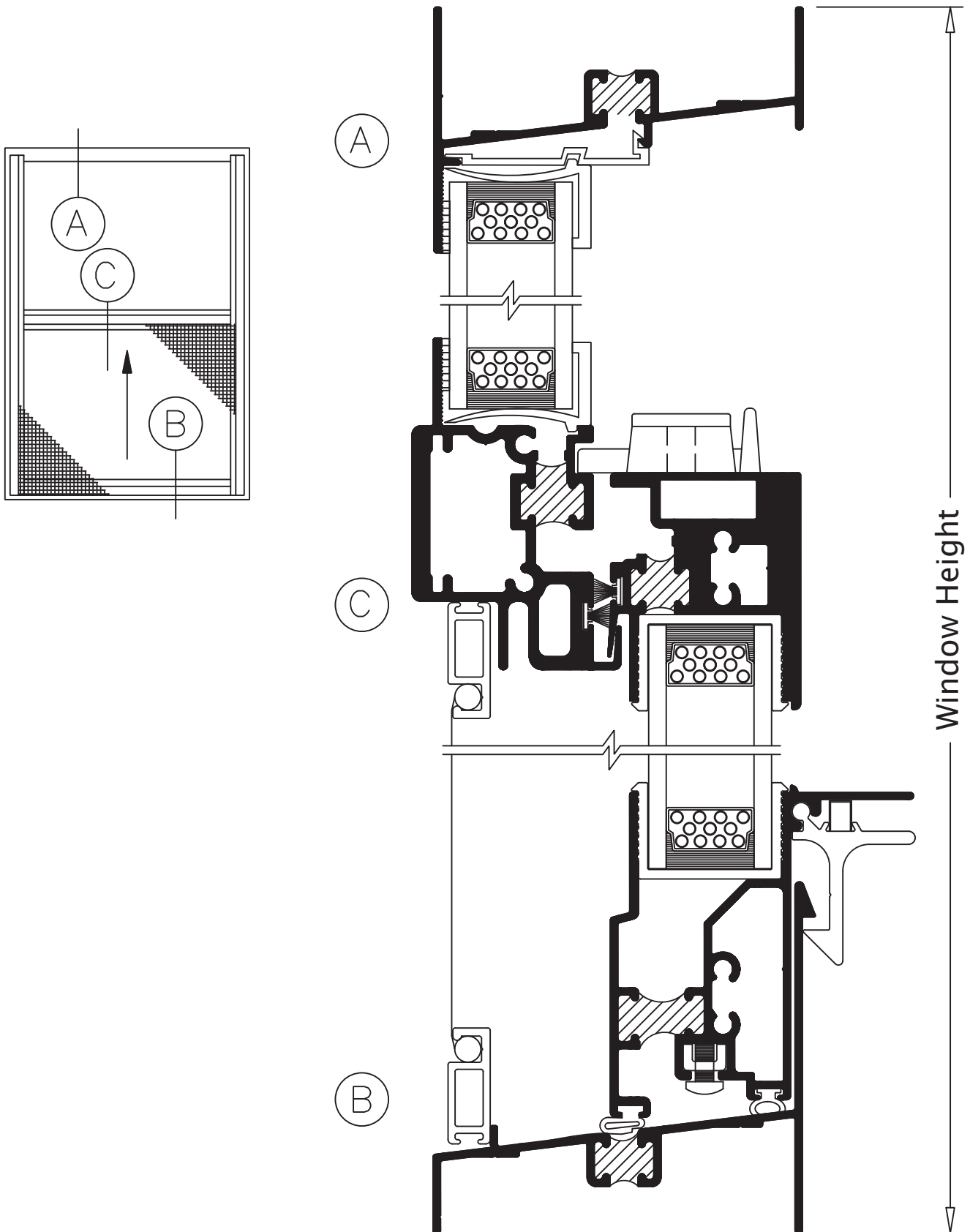
515-550

See Accessories section for additional options



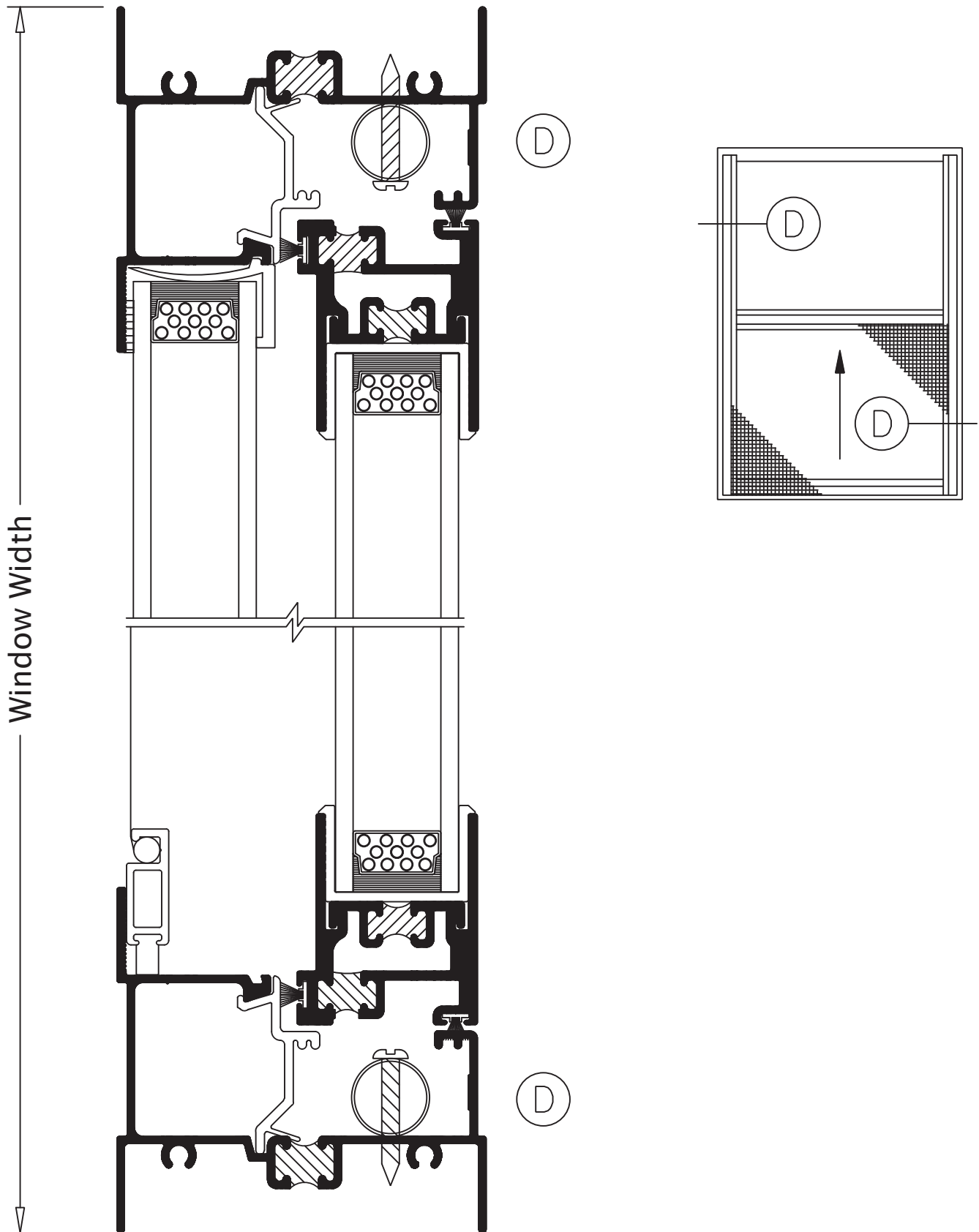
# SERIES 515 2-5/8" SINGLE HUNG (CW50)

Product Details (Scale: Full Size)



# SERIES 515 2-5/8" SINGLE HUNG (CW50)

Product Details (Scale: Full Size)



# SERIES 515 3-1/4" SINGLE HUNG (CW50)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 515" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 515" is a single hung with thermally improved frame and sash consisting of an operable, tilt lower sash and a fixed upper lite. The specifications and materials for the "Series 515" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 3.250" in depth. Horizontal sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded latch for the sash.

Balances - Sash will be balanced by field adjustable spirally wound spring sash balances attached to the main frame by pivot sash shoes of nylon. Balances shall hold the sash stationary in any position along the full range of sash travel. Where weight of sash requires, double sash balances will be used. Balances shall meet the requirements of AAMA 902.2.

Weatherstripping - Shall be .250" polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail. A dual vinyl bulb seal will be used at the sill.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable sash shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The fixed upper lite shall be inside glazed, using a rigid vinyl glazing bead. The insulated glass units shall be .875" overall thickness with two panes of double strength

glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be half length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The lower sash is operable on the "Series 515" Single Hung window and will raise for ventilation. The lower sash is equipped with a release latch so that it will tilt in for cleaning and is removable from the interior for ease of maintenance.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-11, CW-PG50 specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 57 / 50.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

### V. INSTALLATION:

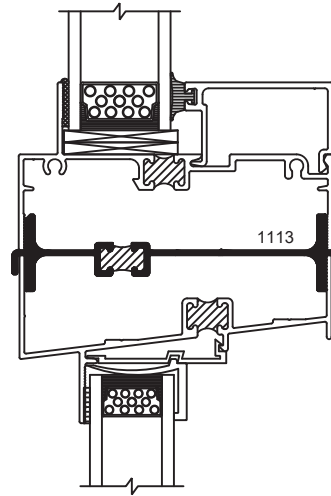
Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

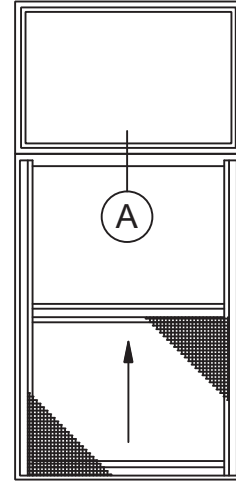


# SERIES 515 3-1/4" SINGLE HUNG (CW50)

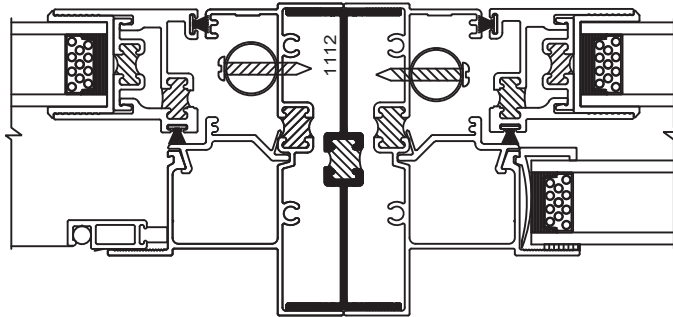
## Typical Configurations (Scale: Half Size)



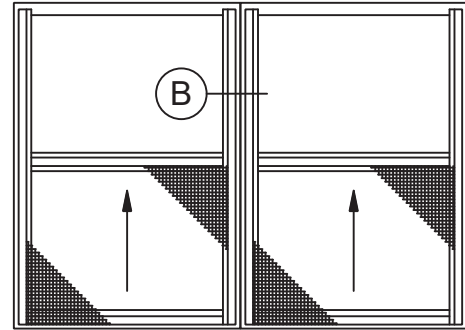
(A) 515-750



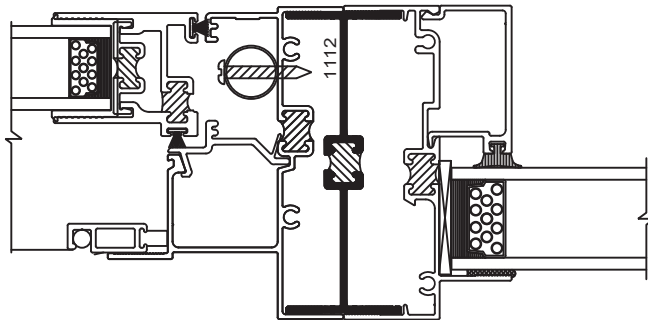
515-750



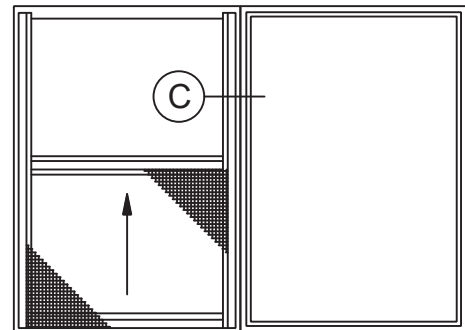
(B) 515-515



515-515



(C) 515-750

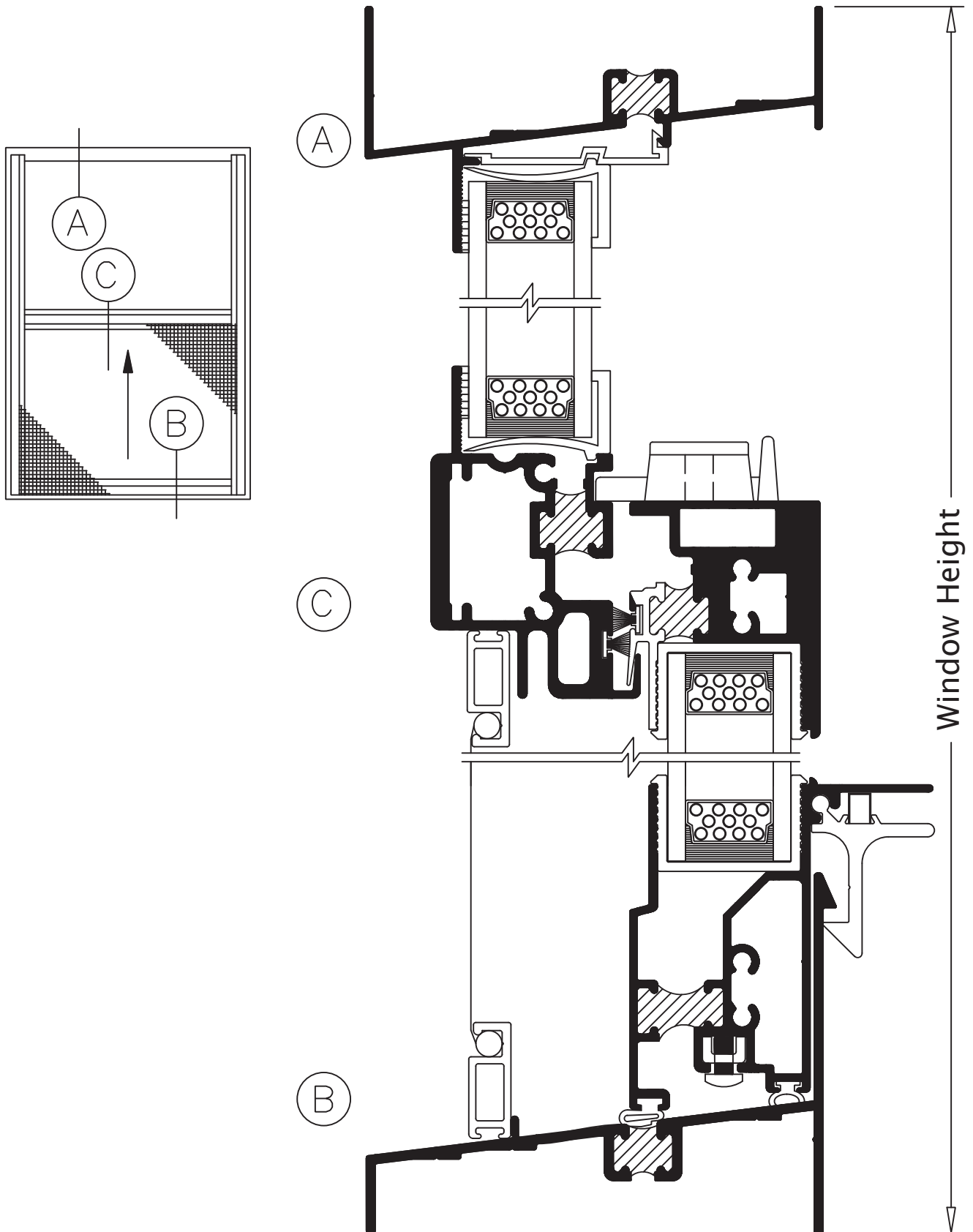


515-750

See Accessories section for additional options

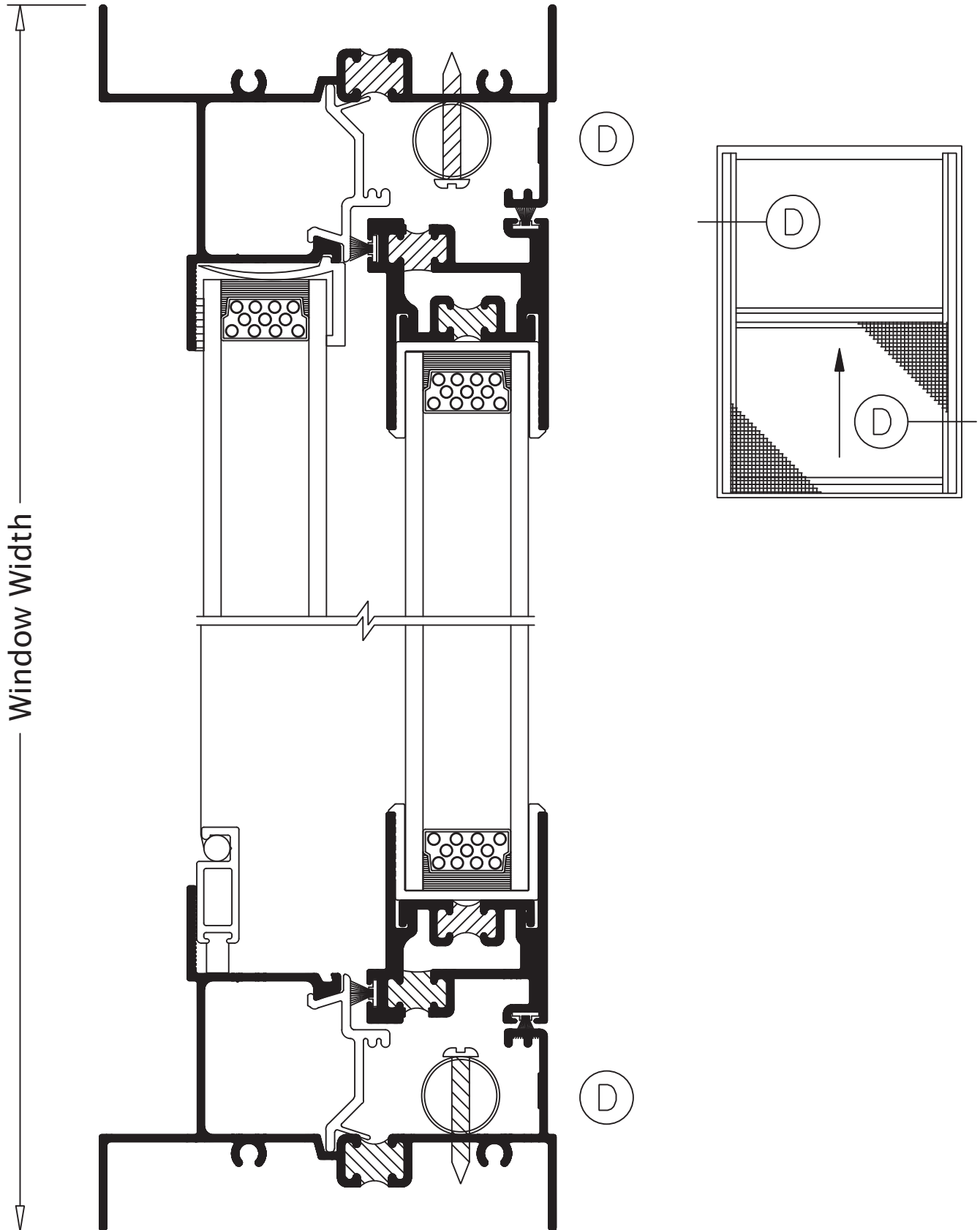
# SERIES 515 3-1/4" SINGLE HUNG (CW50)

Product Details (Scale: Full Size)



# SERIES 515 3-1/4" SINGLE HUNG (CW50)

Product Details (Scale: Full Size)



# SERIES 4100 4" SINGLE HUNG (AW75)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 4100" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 4100" is a single hung with thermally improved frame and sash consisting of an operable, "take-out" side load lower sash and a fixed upper lite. The specifications and materials for the "Series 4100" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 4.000" in depth. Horizontal sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a White Bronze cam latch and keeper at the interlocking meeting rail along with an independent spring loaded sill latch for each sash.

Balances - Sash will be balanced by standard block & tackle balances. Balances shall hold the sash stationary in any position along the full range of sash travel. Balances shall meet the requirements of AAMA 902.2.

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail. A dual vinyl bulb seal will be used at the sill.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass shall be factory glazed with an interior aluminium glazing bead with a wedge gasket. The insulated glass units shall be 1.000" overall thickness with two lites of .125" glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A". Options: Applied muntins with insulated glazing.

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be half length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Standard Tier I colors available are bronze, white, crème, sandstone, and almond. Bronze anodizing, clear anodizing and high performance AAMA 605.2 finishes are optional.

Operation - The lower sash is operable on the "Series 4100" Single Hung window and will raise for ventilation. The lower sash is equipped with a release latch so that it will side load "take-out" for ease of maintenance.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of ANSI/AAMA A440-08 HC/AW75 specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 57/52.

AT/FP - Shall meet the requirements of UFC 4-010-01. Engineering Calculations to ASTM F 2248-03 and/or Shock Tube Testing to ASTM F 1642/GSA TS01 Level 2/Minimal Hazard.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Life Cycle - Product meets the criteria including passing air and water tests at the conclusion of the cycle test requirements of AAMA 101 and AAMA 910.

### V. INSTALLATION:

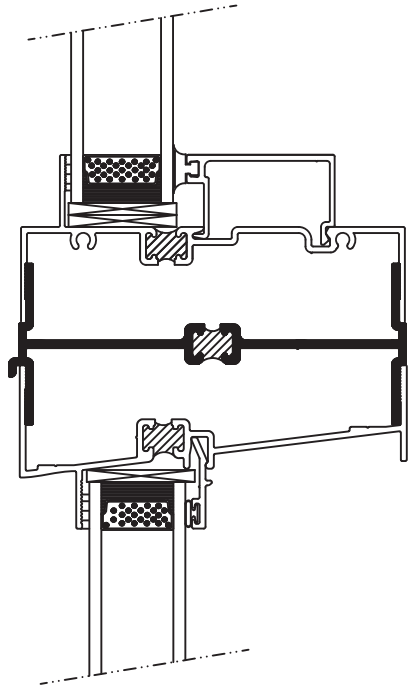
Qualifications - Only skilled mechanics with experience in this trade. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

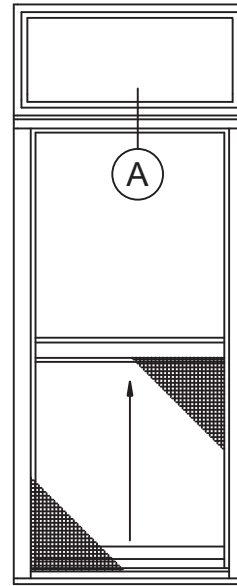


# SERIES 4100 4" SINGLE HUNG (AW75)

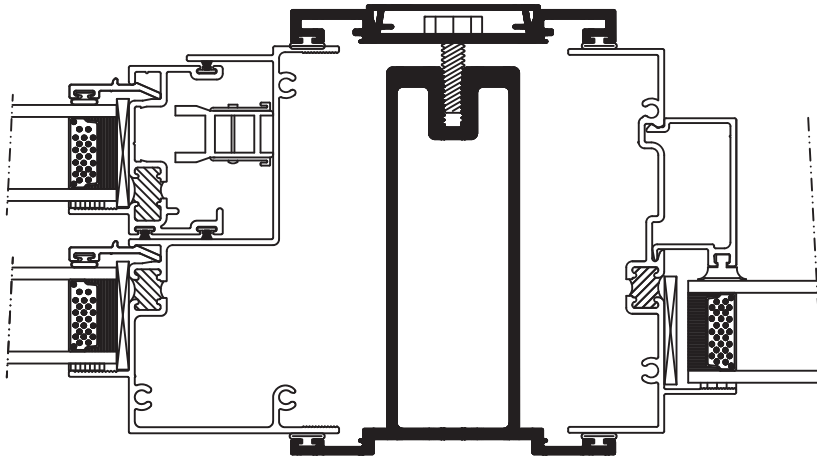
Typical Configurations (Scale: Half Size)



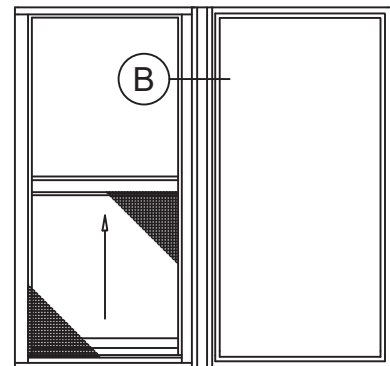
(A) 4100 - 4150



4100 - 4150



(B) 4100 - 4150

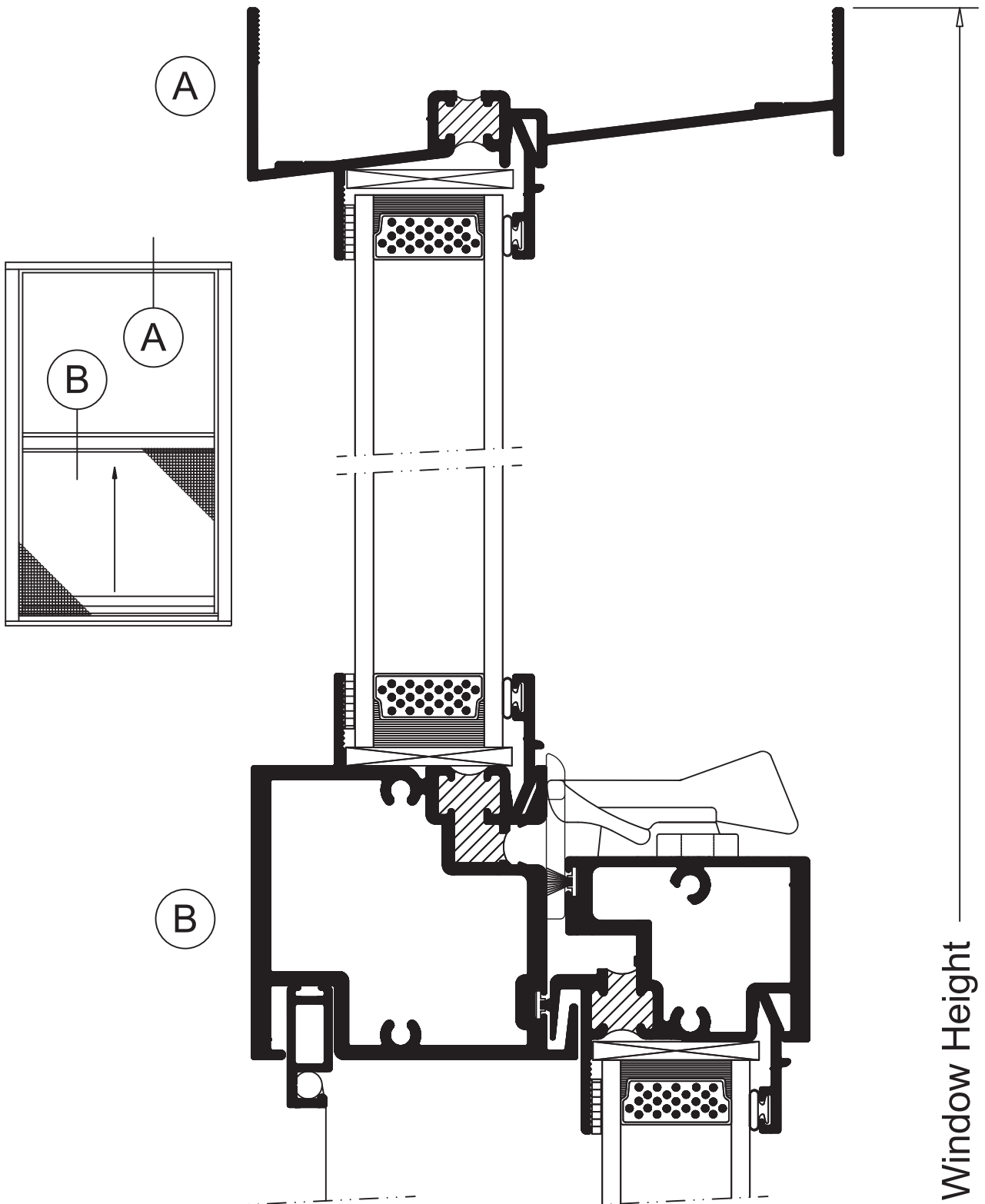


4100 - 4150

See Accessories section for additional options

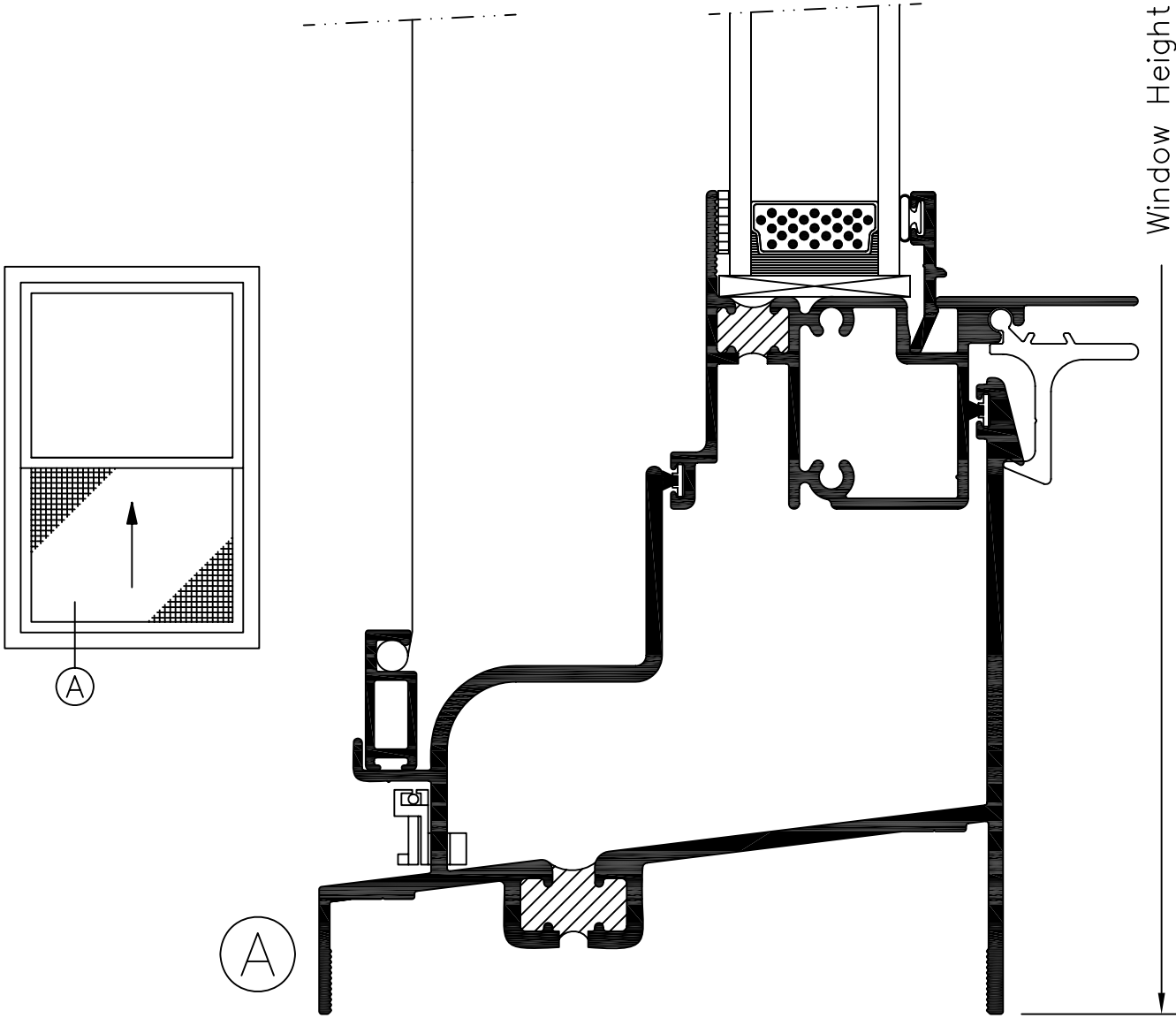
# SERIES 4100 4" SINGLE HUNG (AW75)

Product Details (Scale: Full Size)



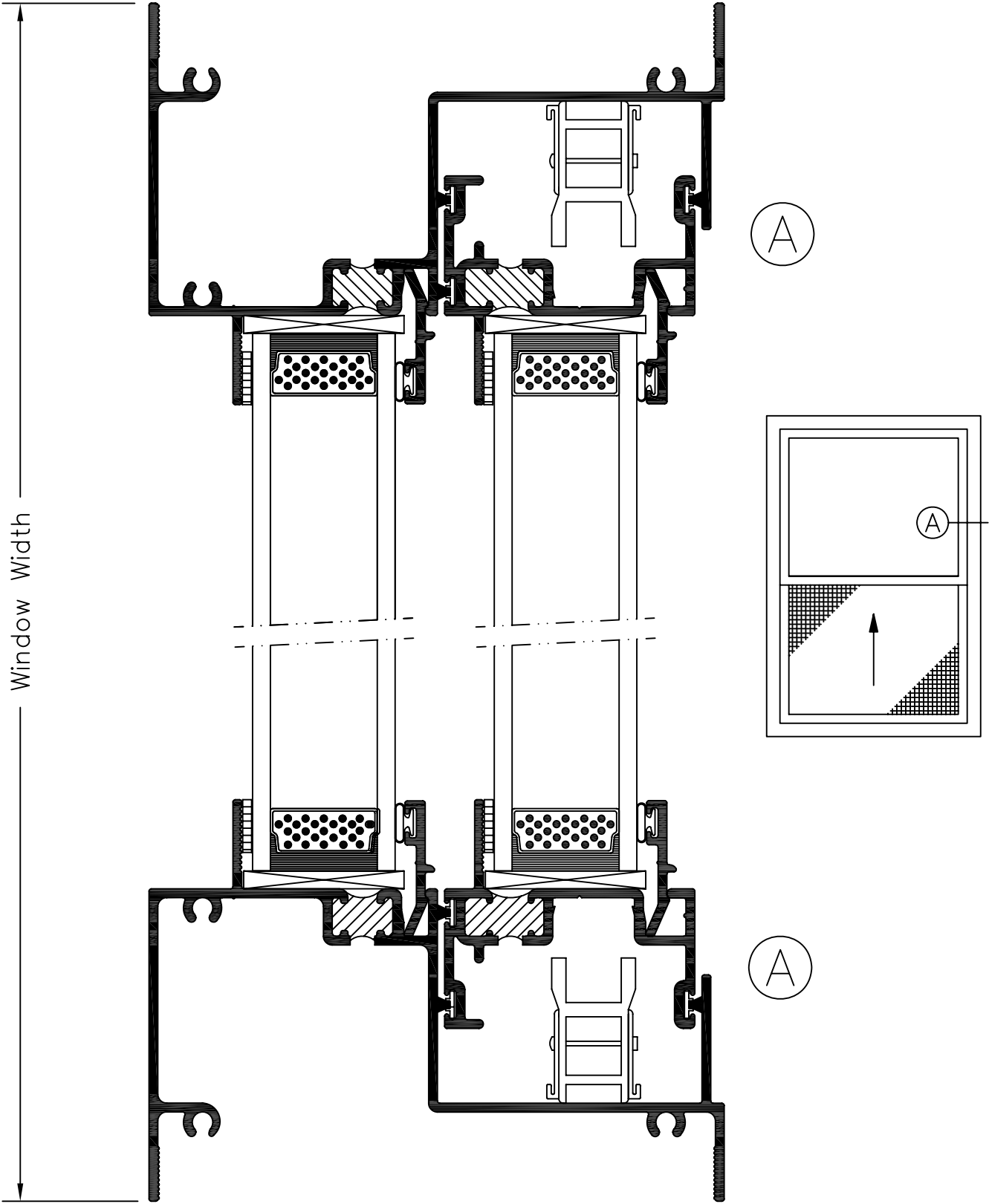
# SERIES 4100 4" SINGLE HUNG (AW75)

Product Details (Scale: Full Size)



# SERIES 4100 4" SINGLE HUNG (AW75)

Product Details (Scale: Full Size)



# SERIES 4100 4" SINGLE HUNG (AW75)

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Product Details (Scale: Full Size)

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# SERIES 4100HD 4" SINGLE HUNG (AW75 / IMPACT)

## SPECIFICATIONS

### I. GENERAL: Hurricane Impact Test - Double Glazed

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 4100HD" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 4100HD" is a single hung with thermally improved frame and sash consisting of an operable, "take-out" side load lower sash and a fixed upper lite. The specifications and materials for the "Series 4100HD" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 4.000" in depth. Horizontal sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a White Bronze cam latch and keeper at the interlocking meeting rail along with an independent spring loaded sill latch for the sash.

Balances - Sash will be balanced by standard block & tackle balances. Balances shall hold the sash stationary in any position along the full range of sash travel. Balances shall meet the requirements of AAMA 902.2.

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail. A dual vinyl bulb seal will be used at the sill.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass shall be factory glazed with an interior aluminum glazing bead with a wedge gasket. The glazing shall be in accordance with actual impact testing options. Glazing options include Insulated Glass Units with Polycarbonate Interlayer (Large & Small Missile). Optional Single Glazed Laminated Units. Single Glazed (Large & Small Missile).

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be half length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The lower sash is operable on the "Series 4100HD" Single Hung window and will raise for ventilation. The lower sash is equipped with a release latch so that it will side load "take-out" for ease of maintenance.

### IV. PERFORMANCE:

Impact - Shall meet the requirements of AAMA 506-08, ASTM E 1886 and ASTM E 1996.

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-05, HC/AW75 specification.

Thermal - Shall meet the requirements of AAMA 1503.1.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Life Cycle - Product meets the criteria including passing air and water tests at the conclusion of the cycle test requirements of AAMA 101 and AAMA 910.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

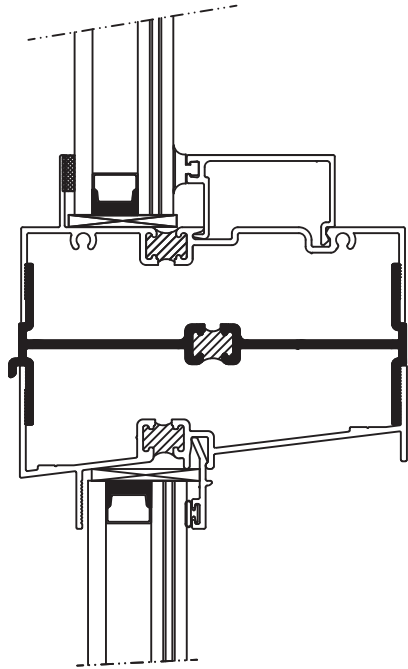
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction. All in accordance with actual test methods.

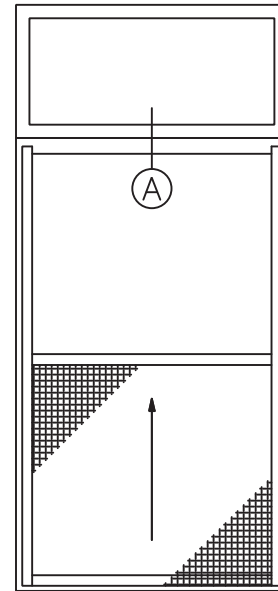
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window. All in accordance with actual test methods.

# SERIES 4100HD 4" SINGLE HUNG (AW75 / IMPACT)

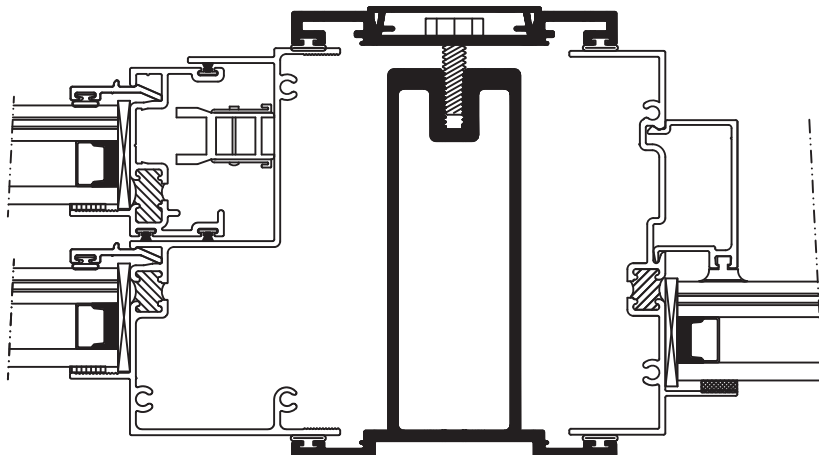
## Typical Configurations (Scale: Half Size)



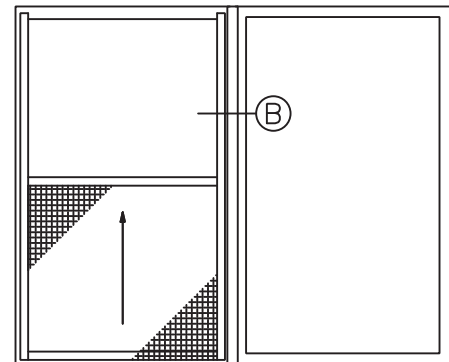
Ⓐ 4100-4150



4100-4150



Ⓑ 4100-4150

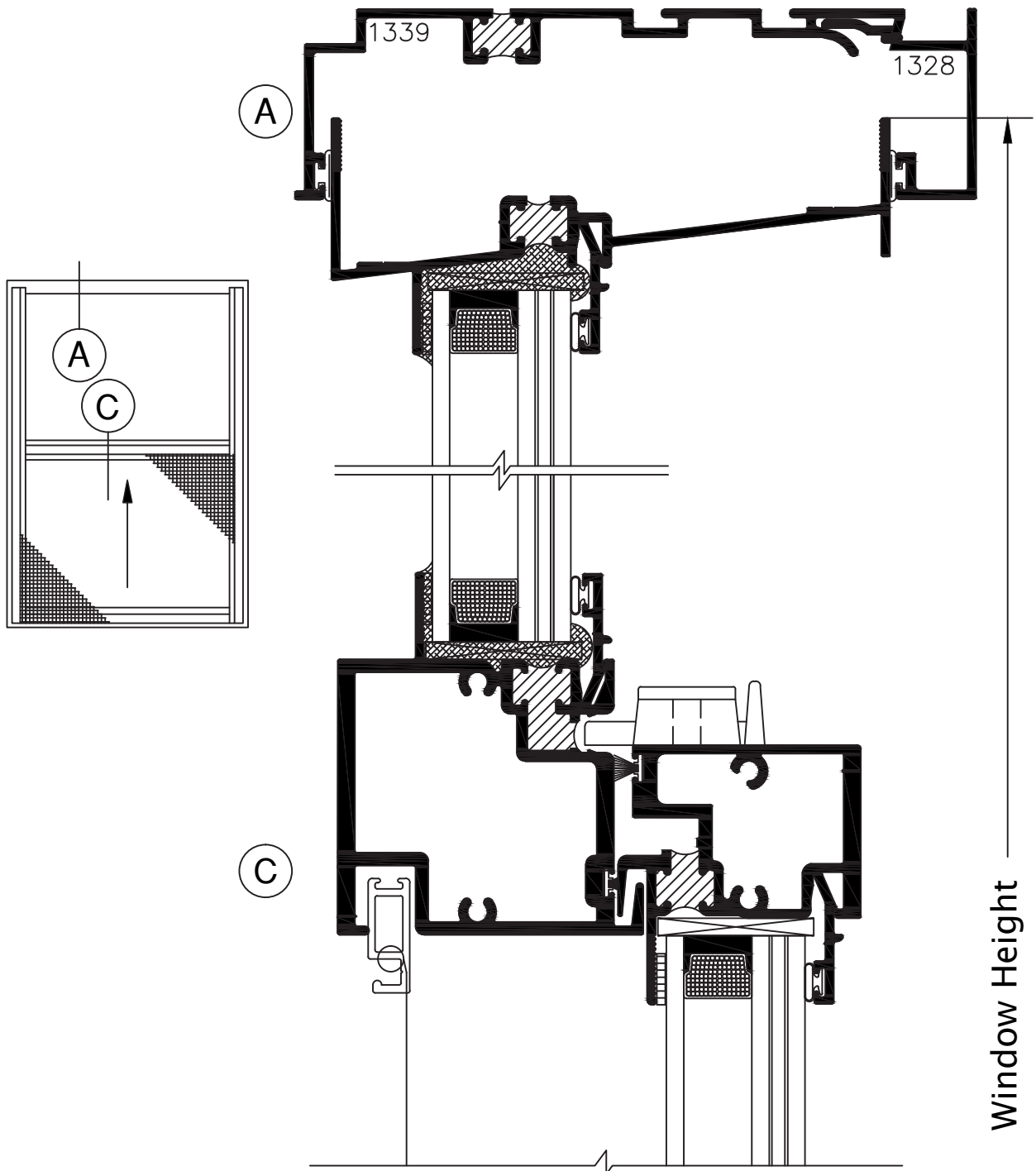


4100-4150

See Accessories section for additional options

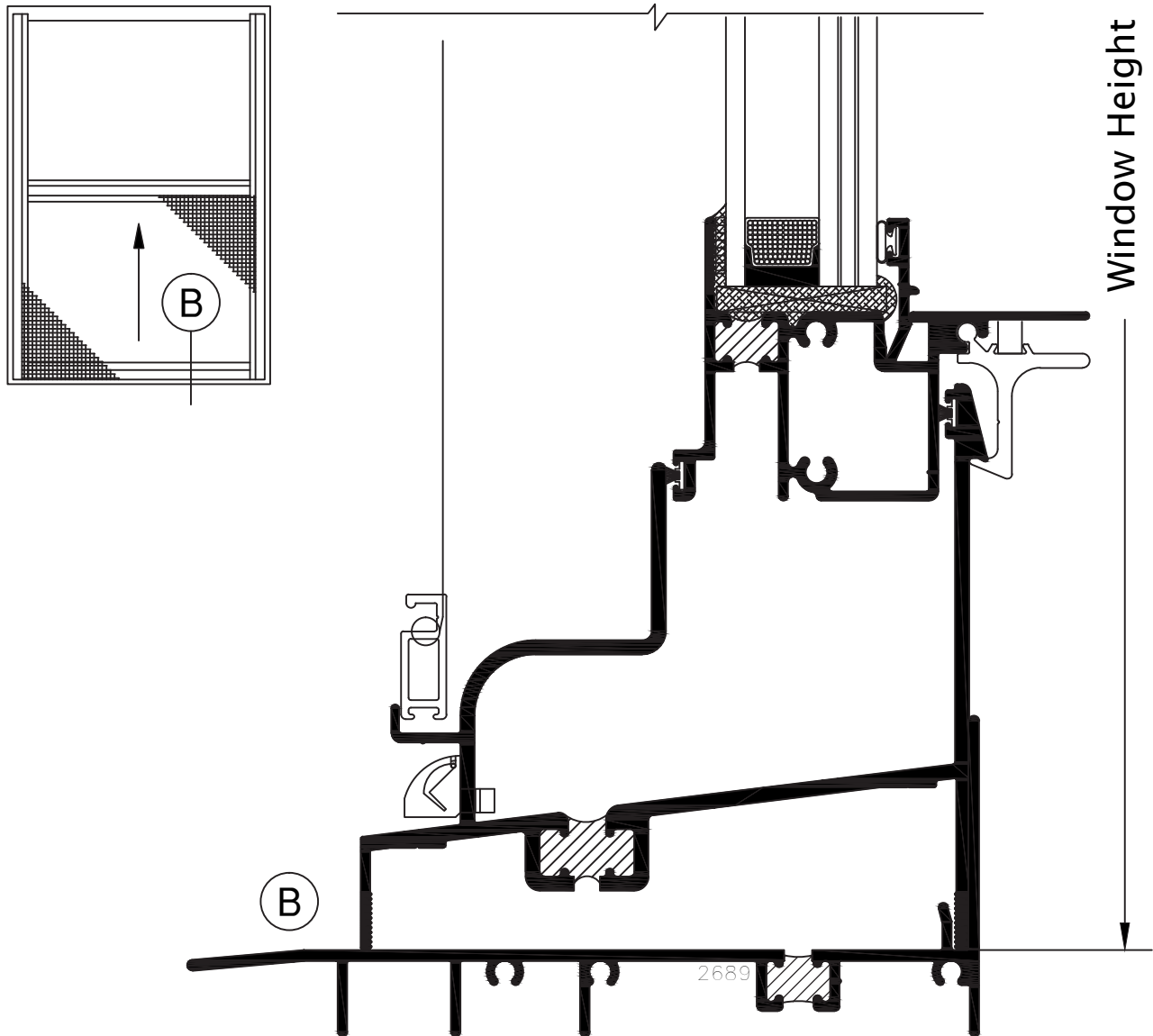
# SERIES 4100HD 4" SINGLE HUNG (AW75 / IMPACT)

Product Details (Scale: Full Size)



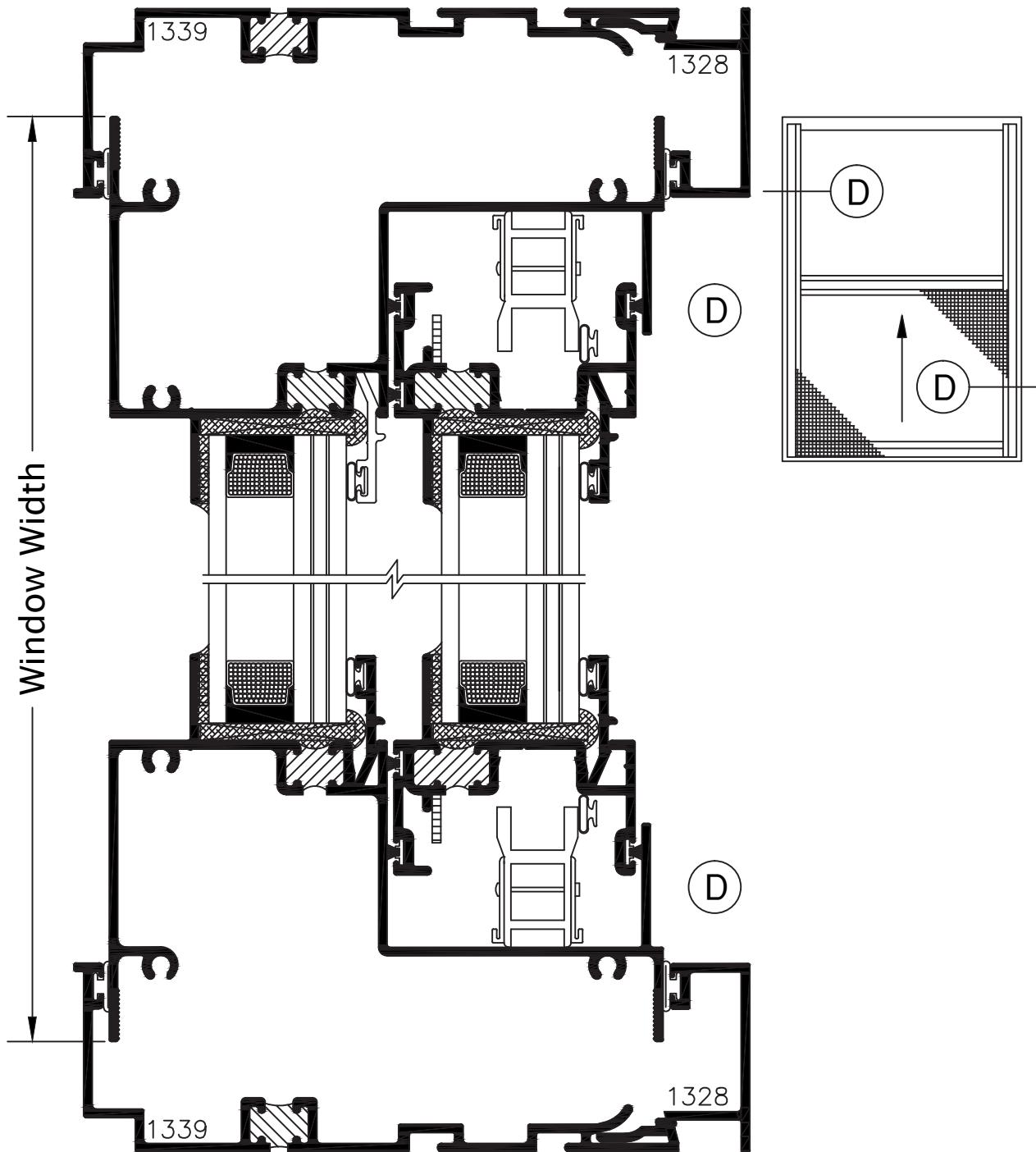
# SERIES 4100HD 4" SINGLE HUNG (AW75 / IMPACT)

Product Details (Scale: Full Size)



# SERIES 4100HD 4" SINGLE HUNG (AW75 / IMPACT)

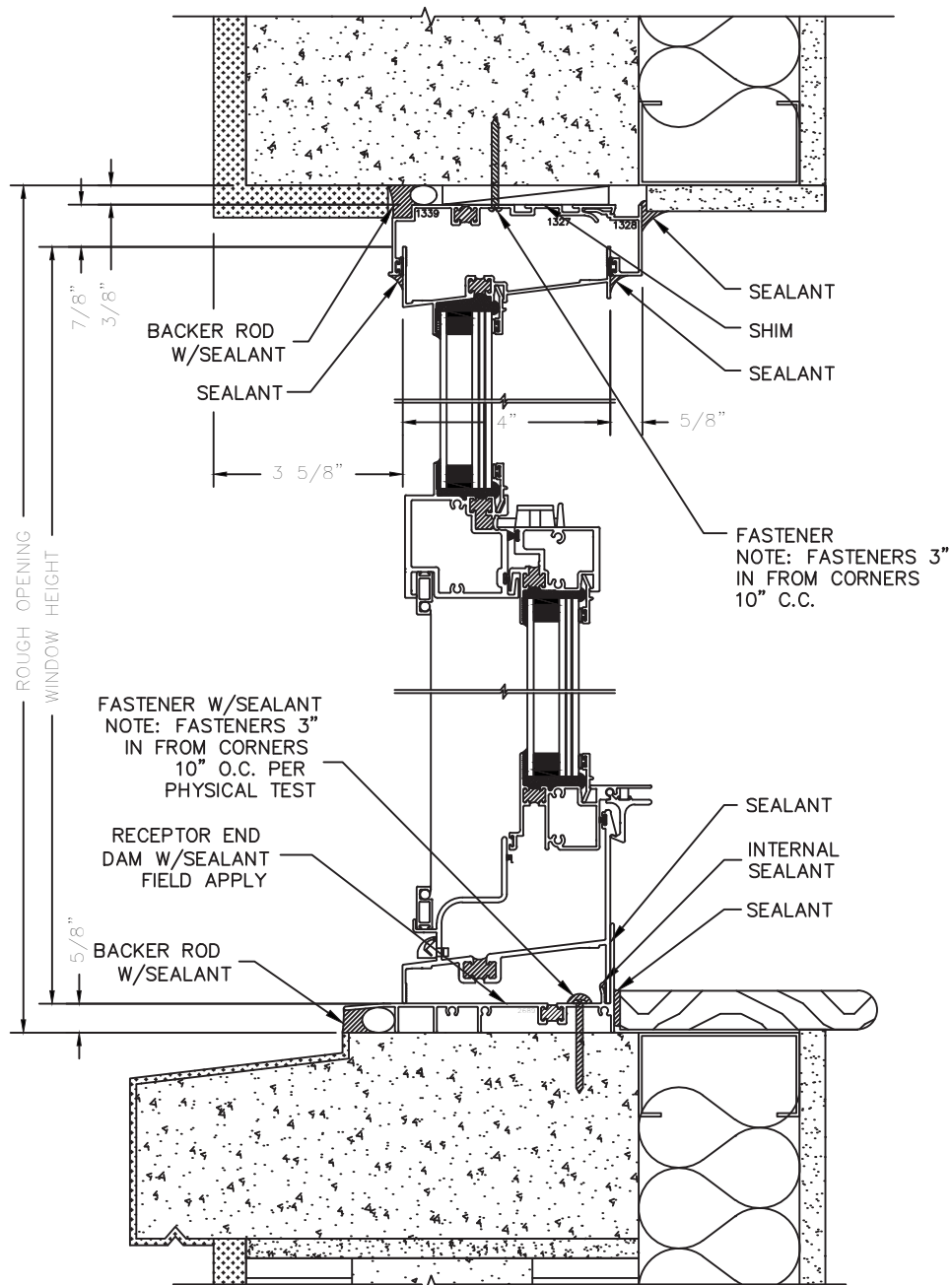
Product Details (Scale: Full Size)



# SERIES 4100HD 4" SINGLE HUNG (AW75 / IMPACT)

## Sample Installation Detail – Basic Installation

Scale: 5/16" = 1"





# Double Hung Windows



# THERMAL WINDOWS, INC.

## Commercial Double Hung Windows for Retrofit and New Construction



(top) Holland Apartments, Danville, IL - Series 700, Bronze  
(center) Westminster Canterbury, Richmond, VA - Series 700, Bone White  
(bottom) Bennett Hall, Oklahoma State University, Stillwater, OK - Series 700, White

(top) Douglas Ambassador Hotel, Wichita, KS - Series 710, Bronze  
(bottom) Gallery Place Apartments, Washington, DC - Series 700, Bronze

Manufactured by Thermal Windows, Inc. • 12805 E. 31<sup>st</sup> Street • Tulsa, OK 74146 • (800) 259-7580 • Fax (918) 665-2197  
Website: [www.thermalwindows.com](http://www.thermalwindows.com) Email: [info@thermalwindows.com](mailto:info@thermalwindows.com)



12805 E. 31st St • Tulsa, OK 74146  
(800) 259-7580 • Fax (918) 665-2197  
Email: [info@thermalwindows.com](mailto:info@thermalwindows.com)  
[www.thermalwindows.com](http://www.thermalwindows.com)

## **DOUBLE HUNG WINDOWS**

### **Standard Features**

- Custom Sizes
- 3¼" frame depth
- Integral Thermal Barrier throughout frame and sash
- Spiral balances
- AAMA 2604 organic powder coat finish
- 5 standard powder coat finish colors (see 'Finishes' section)
- Tested to AAMA specifications
- 7⁄8" Insulated glass
- Extruded screen frame with fiberglass mesh
- Operable sash tilts in for easy cleaning

### **Available Options**

- Ultra-lift balances; Block and tackle balances
- Dual seal insulated glass
- Anodized finishes
- AAMA 2605 high-performance finishes
- Tier 2 colors at no additional charge (minimums apply)
- Hundreds of special colors
- Single glazing
- Low-E glass; tinted glass; obscure (frosted) glass
- Spandrel glass; Insulating panels
- External applied muntins available on most models
- Wire screen mesh
- Panning, receptor systems, subsills, snap trim and other accessories
- Internal, external and special angled mullions
- Nailing fin
- Front flanged frame
- Lock-out tilt latches
- Internal muntins



# SERIES 700 3-1/4" DOUBLE HUNG (CW30)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 700" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 700" is a double hung with thermally improved frame and sash consisting of an operable, tilt lower sash as well as an operable, tilt upper sash. The specifications and materials for the "Series 700" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 3.250" in depth. Horizontal sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded latch for each sash (upper and lower).

Balances - Sash will be balanced by field adjustable spirally wound spring sash balances attached to the main frame by pivot sash shoes of nylon. Balances shall hold the sash stationary in any position along the full range of sash travel. Where weight of sash requires, double sash balances will be used. Balances shall meet the requirements of AAMA 902.2.

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail. A dual vinyl bulb seal will be used at the sill.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass in each operable sash shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The insulated glass units shall be .875" overall thickness with two panes of double strength glass, separated by a .625" air space for optimum insulation. All insulated glass units shall

meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be aluminum wire or fiberglass secured with a vinyl spline. Screens shall be full length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The lower and upper sash are operable on the "Series 700" Double Hung window and will raise and / or lower for ventilation. Each sash is equipped with a release latch so that it will tilt in for cleaning and is removable from the interior for ease of maintenance.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, CW-PG30-H specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 56 / 59.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

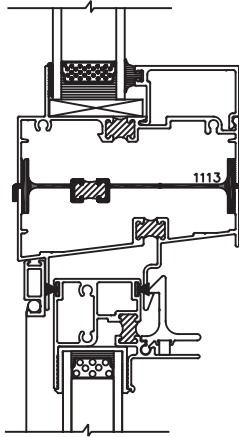
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

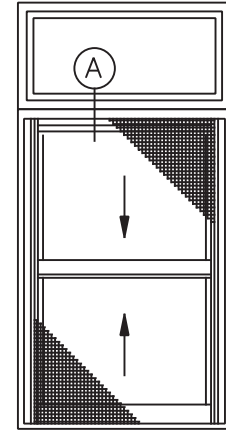
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 700 3-1/4" DOUBLE HUNG (CW30)

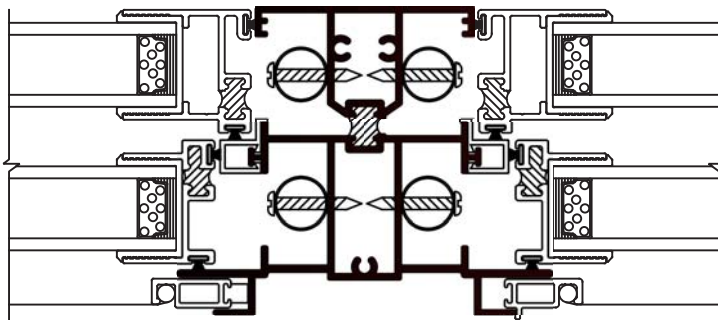
Typical Configurations (Scale: Half Size)



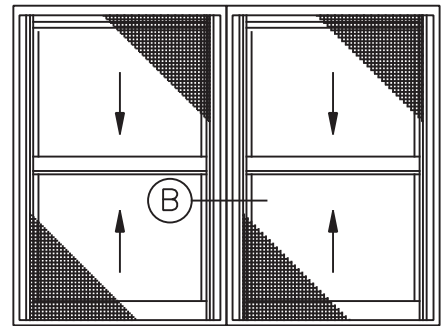
(A) 750 PW - 700



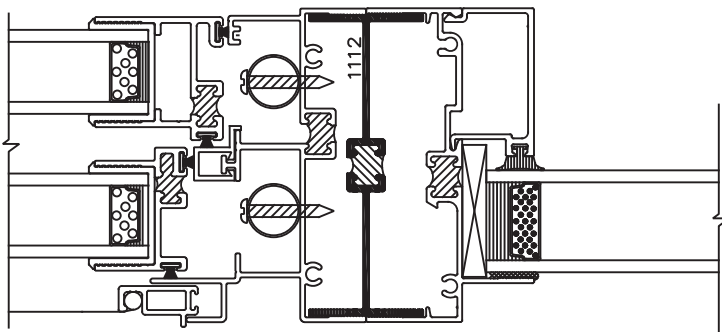
750 PW - 700



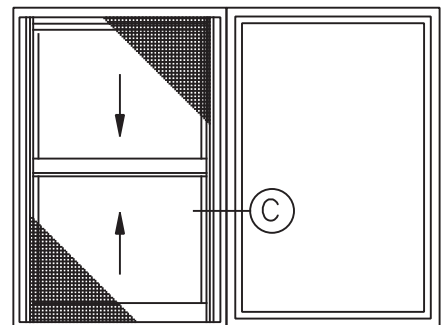
(B) COMMON JAMB



700 - 700



(C) 700 - 750 PW

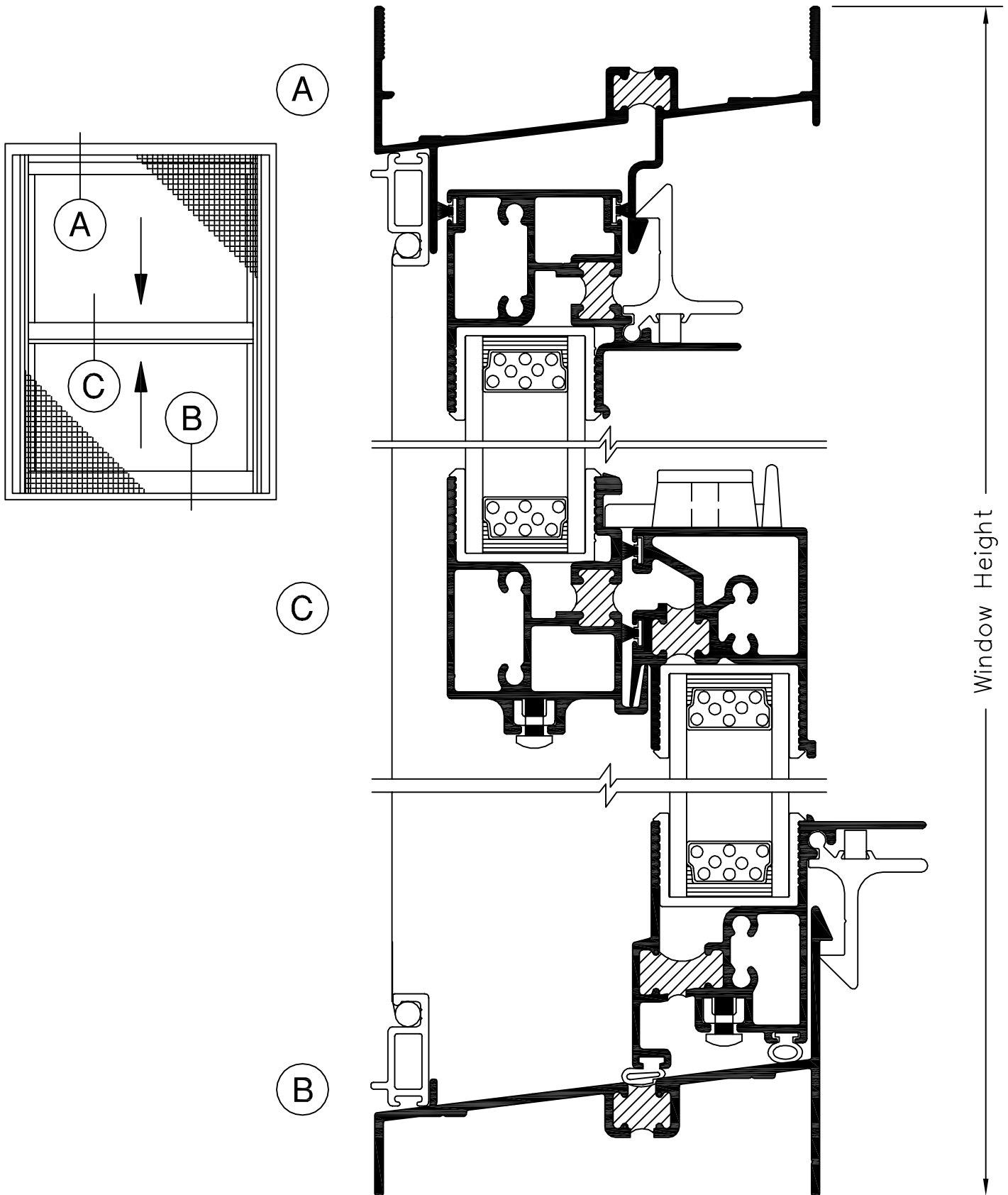


700 - 750 PW

See Accessories section for additional options

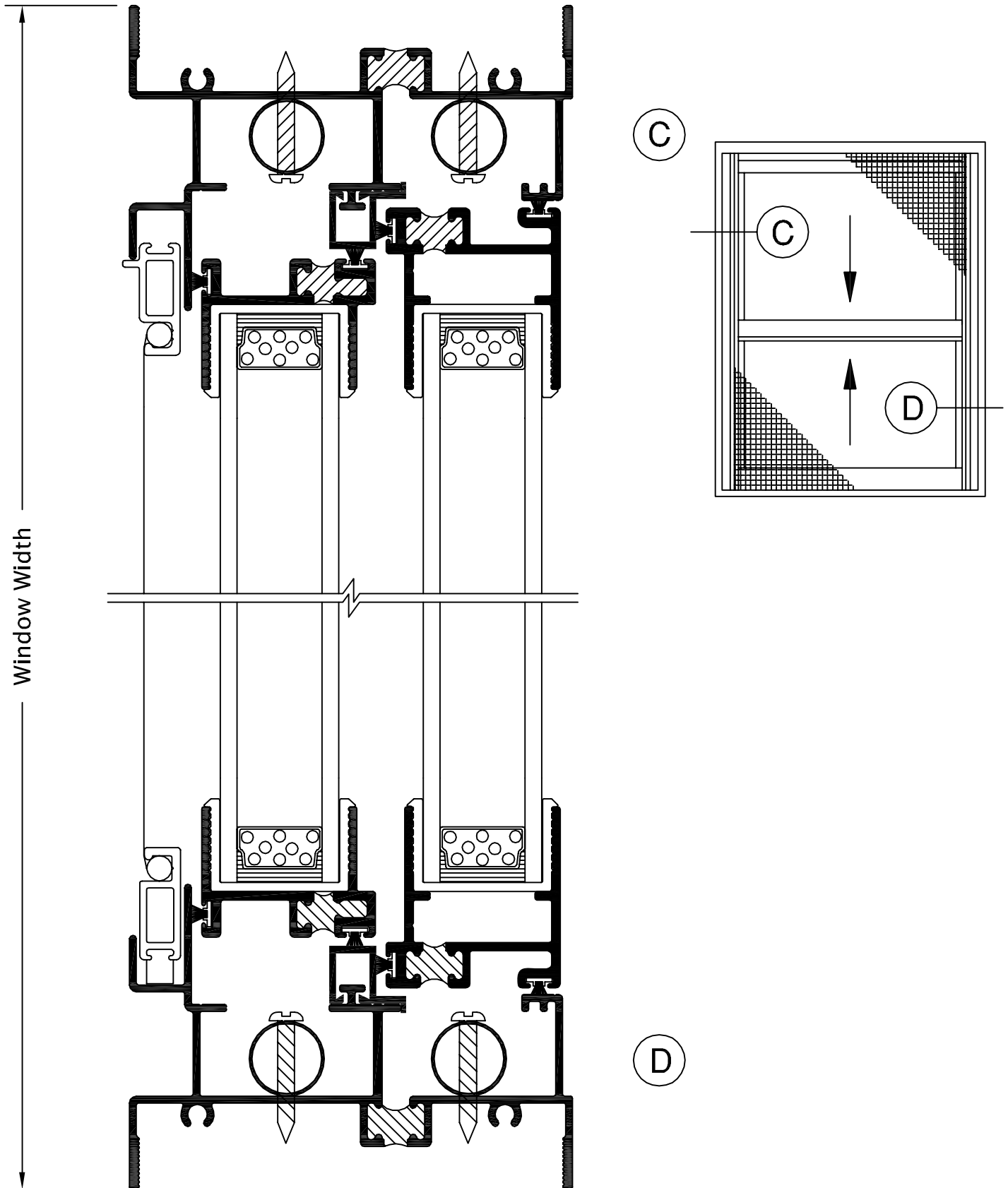
# SERIES 700 3-1/4" DOUBLE HUNG (CW30)

Product Details (Scale: Full Size)



# SERIES 700 3-1/4" DOUBLE HUNG (CW30)

Product Details (Scale: Full Size)





# SERIES 710 3-1/4" DOUBLE HUNG (CW40)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 710" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 710" is a double hung with thermally improved frame and sash consisting of an operable, tilt lower sash as well as an operable, tilt upper sash. The specifications and materials for the "Series 710" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101-93. Main frame shall be 3.250" in depth. Horizontal sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

\* Optional Framing includes: Integral 2" offset "flanged" frame".

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded latch for each sash (upper and lower).

Balances - Sash will be balanced by field adjustable spirally wound spring sash balances attached to the main frame by pivot sash shoes of nylon. Balances shall hold the sash stationary in any position along the full range of sash travel. Where weight of sash requires, double sash balances will be used. Balances shall meet the requirements of AAMA 902.2.

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail. A dual vinyl bulb seal will be used at the sill.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports. Optional Framing assembly includes: Continuous head and sill Main Framing members with Integral Common jamb/mullion in center.

Glazing - Glass in each operable sash shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The insulated glass units shall be .875" overall thickness with

two panes of double strength glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be full length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The lower and upper sash are operable on the "Series 710" Double Hung window and will raise and / or lower for ventilation. Each sash is equipped with a release latch so that it will tilt in for cleaning and is removable from the interior for ease of maintenance.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-11 Class CW40-H specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 56 / 59.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

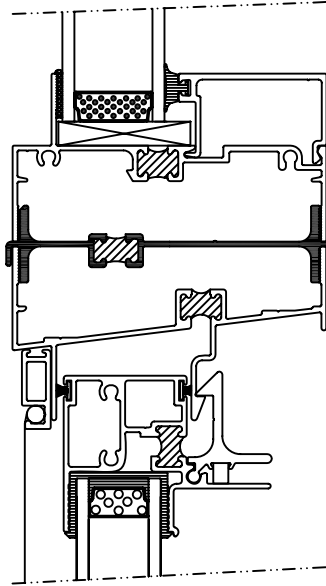
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

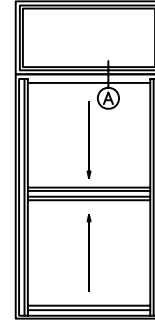
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 710 3-1/4" DOUBLE HUNG (CW40)

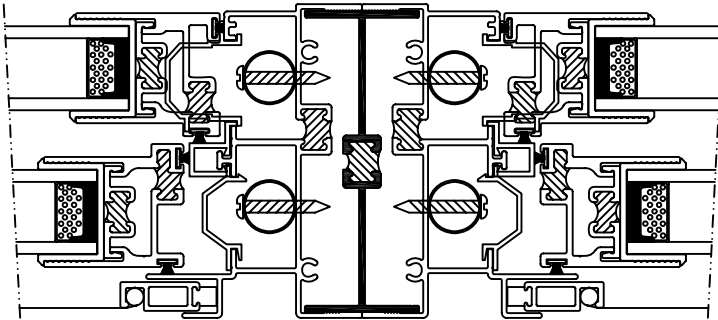
## Typical Configurations (Scale: Half Size)



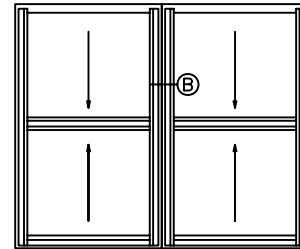
Ⓐ 750-710



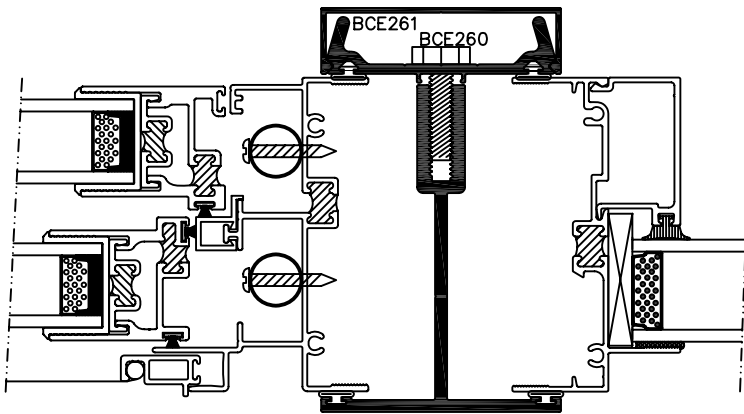
750-710



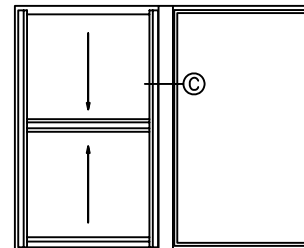
Ⓑ 710-710



710-710



Ⓒ 710-750

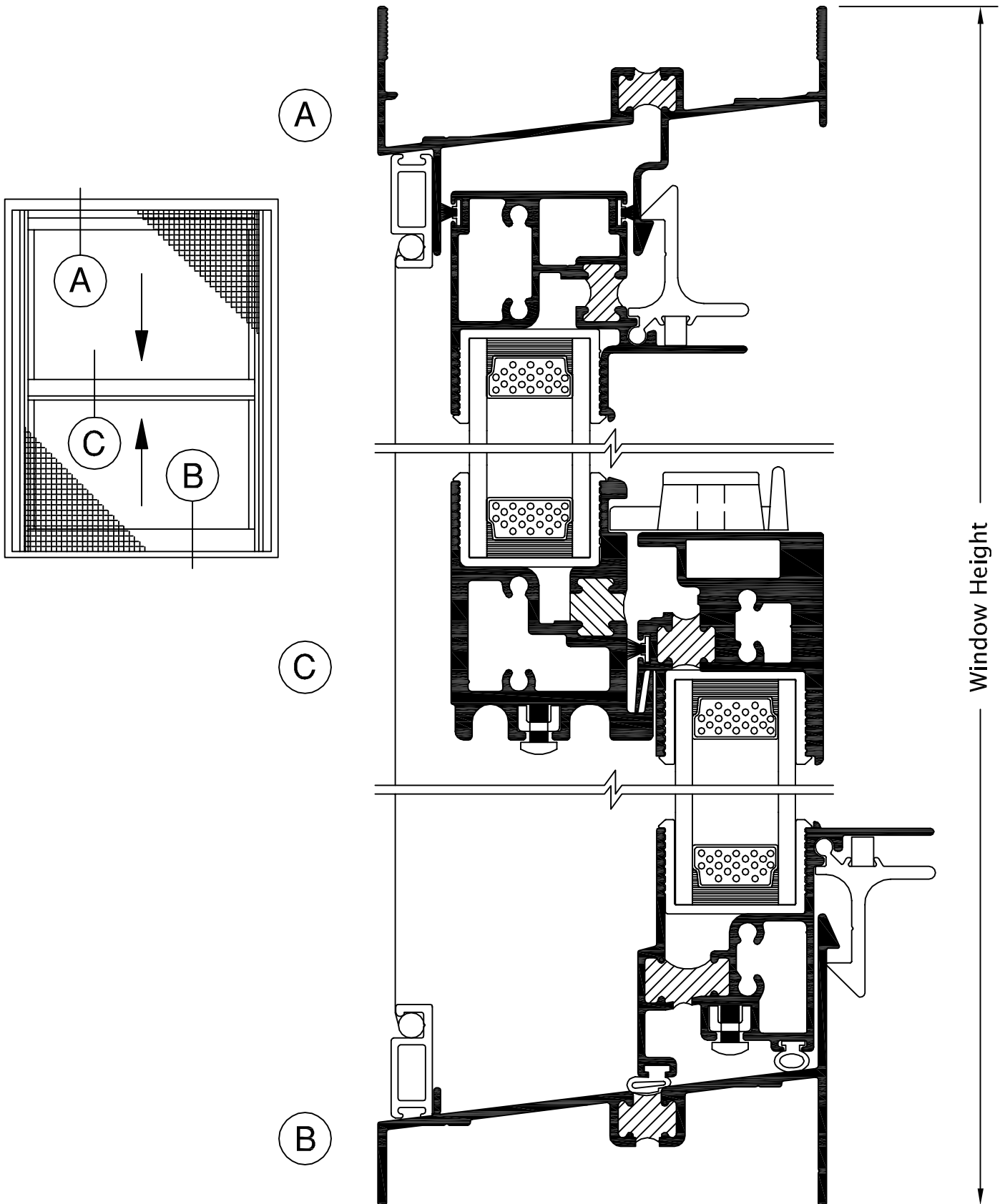


710-750

See Accessories section for additional options

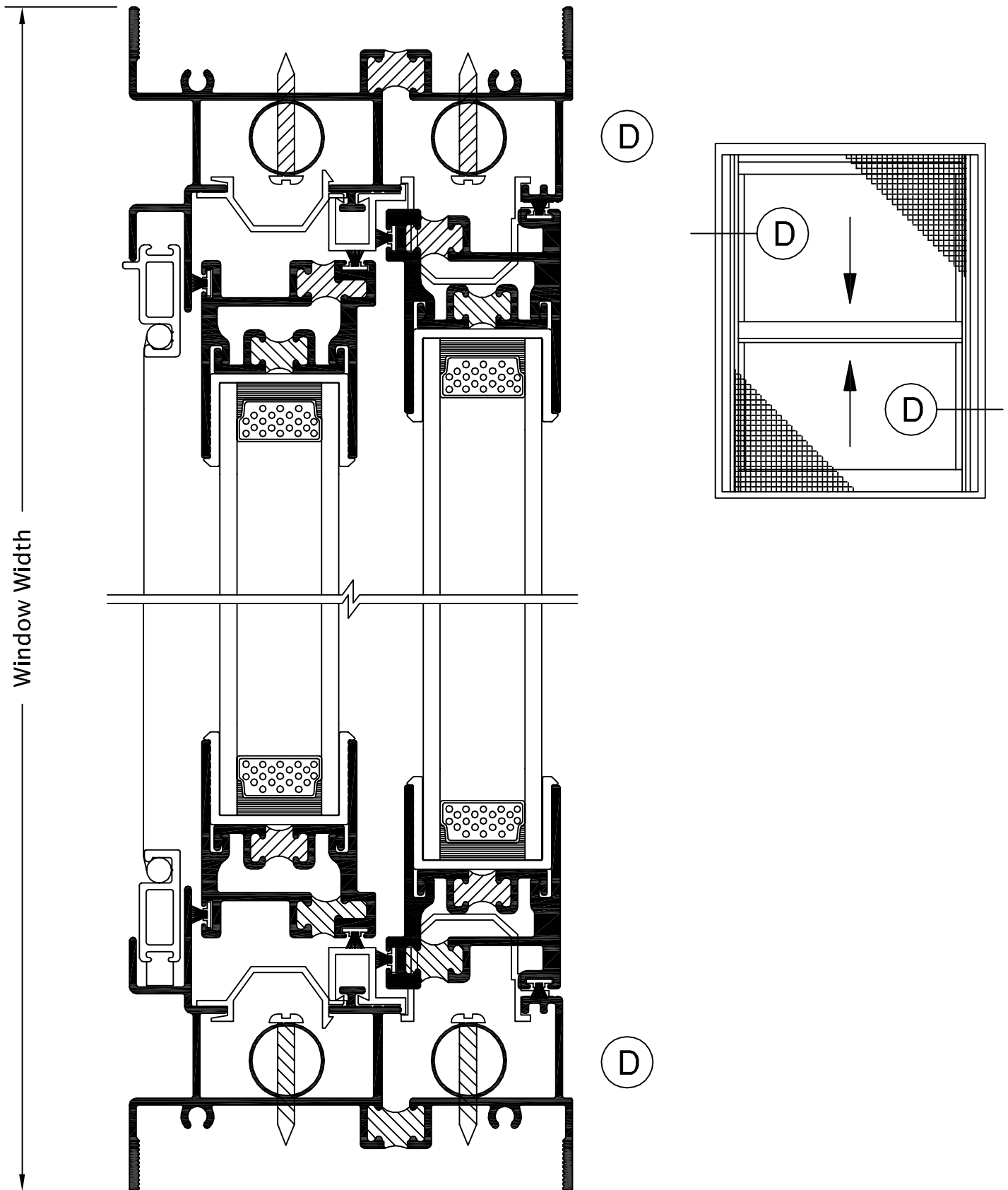
# SERIES 710 3-1/4" DOUBLE HUNG (CW40)

Product Details (Scale: Full Size)



# SERIES 710 3-1/4" DOUBLE HUNG (CW40)

Product Details (Scale: Full Size)



# SERIES 715 3-1/4" DOUBLE HUNG (CW60)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 715" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 715" is a double hung with thermally improved frame and sash consisting of an operable, tilt lower sash as well as an operable, tilt upper sash. The specifications and materials for the "Series 715" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101-93. Main frame shall be 3.250" in depth. Horizontal sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded latch for each sash (upper and lower).

Balances - Sash will be balanced by field adjustable spirally wound spring sash balances attached to the main frame by pivot sash shoes of nylon. Balances shall hold the sash stationary in any position along the full range of sash travel. Where weight of sash requires, double sash balances will be used. Balances shall meet the requirements of AAMA 902.2.

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail. A dual vinyl bulb seal will be used at the sill.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass in each operable sash shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The insulated glass units shall be .875" overall thickness with two panes of double strength glass, separated by a .625" air

space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be full length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The lower and upper sash are operable on the "Series 715" Double Hung window and will raise and / or lower for ventilation. Each sash is equipped with a release latch so that it will tilt in for cleaning and is removable from the interior for ease of maintenance.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-11 Class CW60-H specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 56 / 59.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

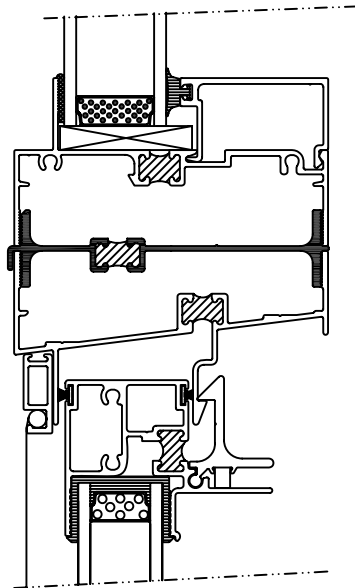
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

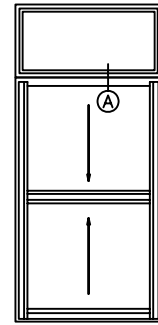
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 715 3-1/4" DOUBLE HUNG (CW60)

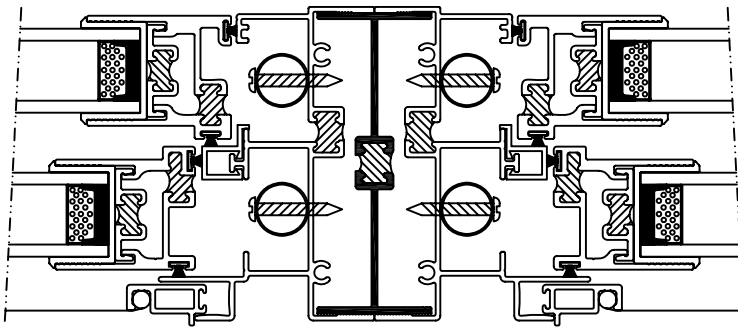
Typical Configurations (Scale: Half Size)



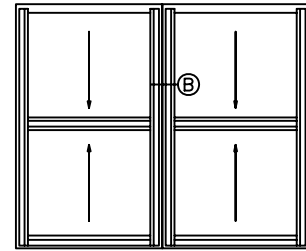
Ⓐ 750-715



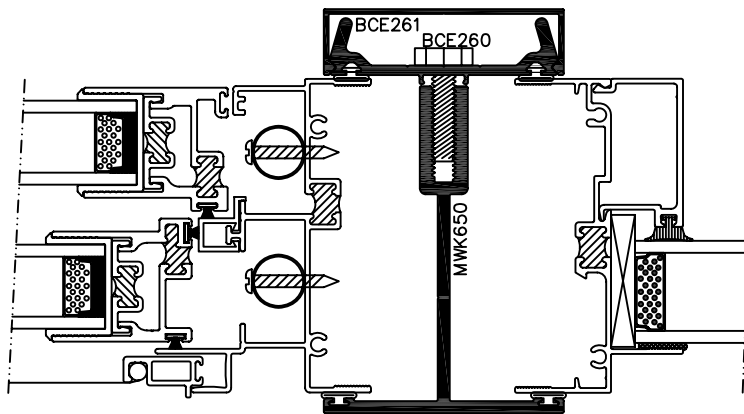
750-715



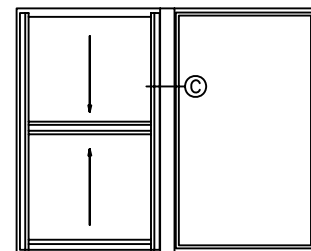
Ⓑ 715-715



715-715



Ⓒ 715-750



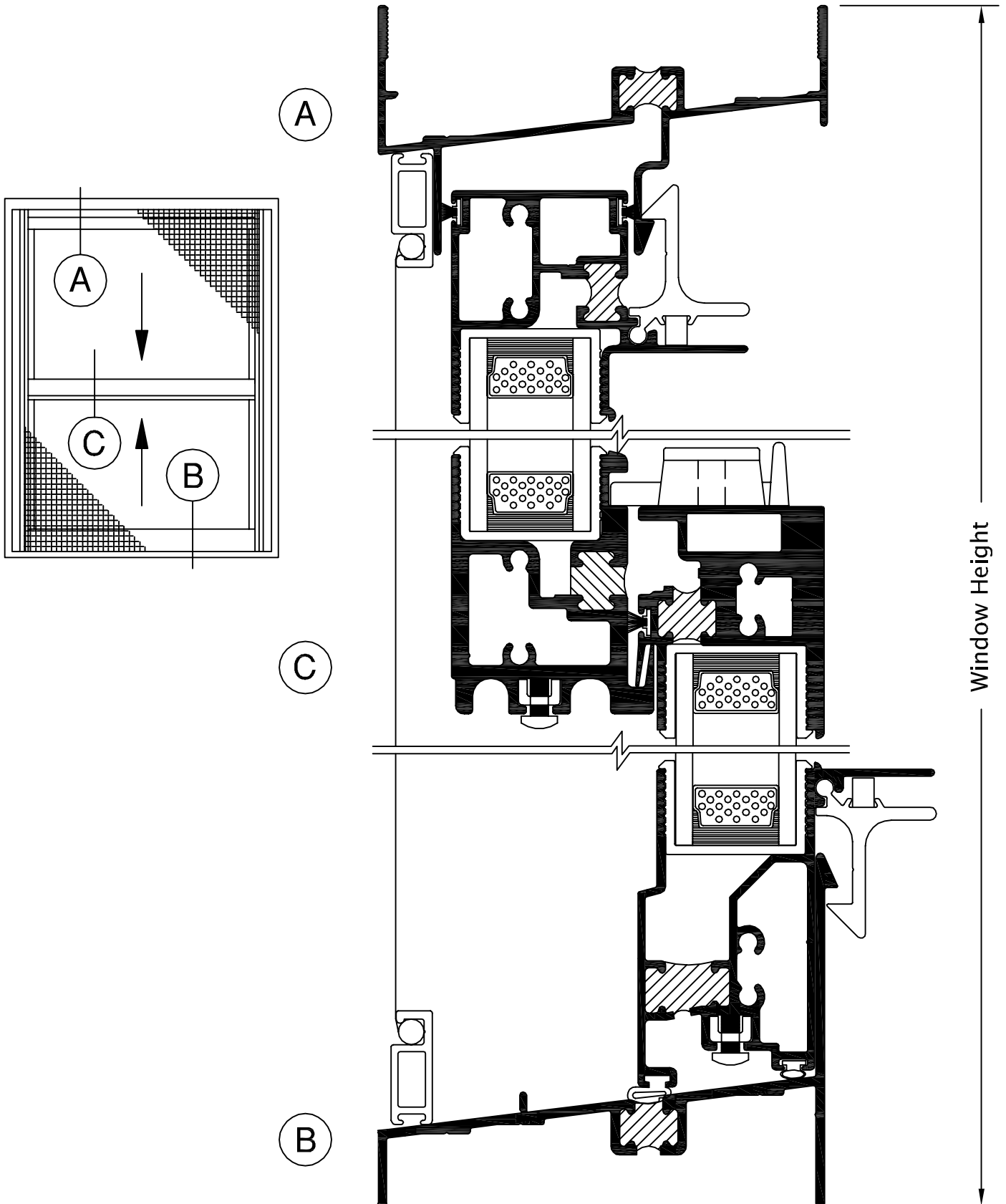
715-750

See Accessories section for additional options



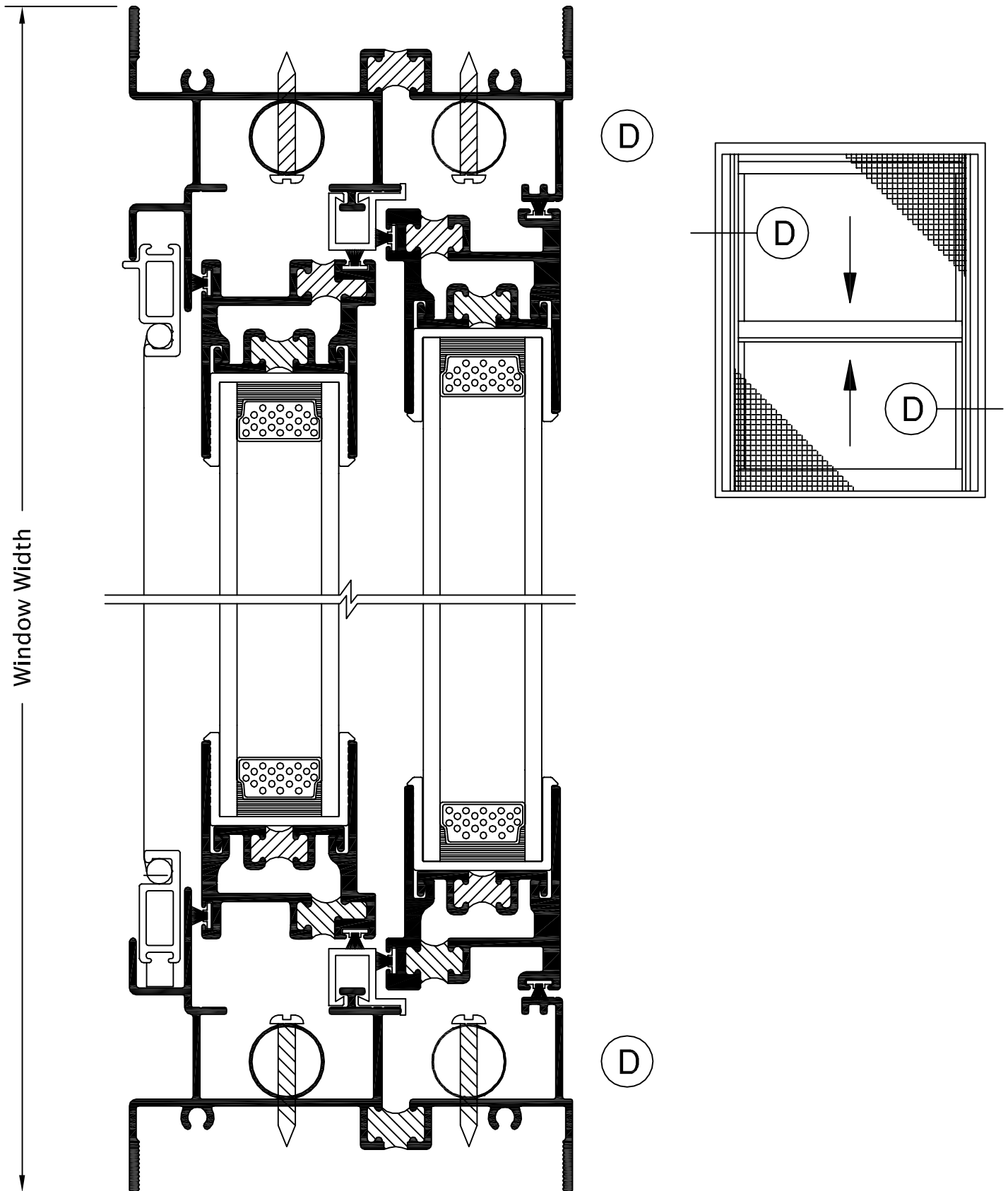
# SERIES 715 3-1/4" DOUBLE HUNG (CW60)

Product Details (Scale: Full Size)



# SERIES 715 3-1/4" DOUBLE HUNG (CW60)

Product Details (Scale: Full Size)





# Horizontal Sliding Windows



# THERMAL WINDOWS, INC.

## Commercial Horizontal Sliding Windows for Retrofit and New Construction



(top) Parc Reston, Reston, VA - Series 526, Medium Bronze and Light Gray  
(bottom) Writ Rosslyn, Arlington, VA - Series 525, Creme

(top) Parc Meridian, Washington, DC - Series 527B, Light Gray and Dark Gray  
(bottom) Meridian at Eisenhower, Washington, DC - Series 527, Almond

Manufactured by Thermal Windows, Inc. • 12805 E. 31<sup>st</sup> Street • Tulsa, OK 74146 • (800) 259-7580 • Fax (918) 665-2197  
Website: [www.thermalwindows.com](http://www.thermalwindows.com) Email: [info@thermalwindows.com](mailto:info@thermalwindows.com)



12805 E. 31st St • Tulsa, OK 74146  
(800) 259-7580 • Fax (918) 665-2197  
Email: [info@thermalwindows.com](mailto:info@thermalwindows.com)  
[www.thermalwindows.com](http://www.thermalwindows.com)

## **HORIZONTAL SLIDING WINDOWS**

### **Standard Features**

- Custom Sizes
- Integral Thermal Barrier throughout frame and sash
- AAMA 2604 organic powder coat finish
- 5 standard powder coat finish colors (see 'Finishes' section)
- Tested to AAMA specifications
- 7/8" Insulated glass (1" in Series 4125)
- Extruded screen frame with fiberglass mesh
- Operable sash lifts out for easy cleaning

### **Available Options**

- Several models available in 2<sup>5</sup>/<sub>8</sub>" or 3<sup>1</sup>/<sub>4</sub>" frame depth
- Dual seal insulated glass
- Anodized finishes
- AAMA 2605 high-performance finishes
- Tier 2 colors at no additional charge (minimums apply)
- Hundreds of special colors
- Low-E glass; tinted glass; obscure (frosted) glass
- Spandrel glass; Insulating panels
- External applied muntins available on most models
- Wire screen mesh
- Panning, receptor systems, subsills, snap trim and other accessories
- Louvered stacking units
- Internal, external and special angled mullions
- Nailing fin
- Front flanged frame (Series 525/530/535; Series 526 Head/Jamb only)
- Internal muntins



# SERIES 525H 2-5/8" HORIZONTAL SLIDING WINDOW (CW30)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 525H" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 525H" is a horizontal single slider with thermally improved frame and sash consisting of an operable, removable, sliding sash and a fixed side lite. The specifications and materials for the "Series 525H" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 2.625" in depth. Vertical sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded latch for the sash.

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sashes shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable sashes shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The fixed side lite shall be inside glazed, using a rigid vinyl glazing bead. The insulated glass units shall be .875" overall thickness with two panes of double strength glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be half length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The "X" sashes are operable on the "Series 525H" horizontal single slider window and will slide open for ventilation. The sash rolls on four non-adjustable, bronze roller bearings and is removable from the interior for ease of maintenance.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-11, CW-PG30-HS specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 51 / 54.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

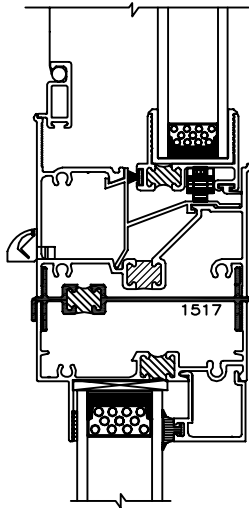
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

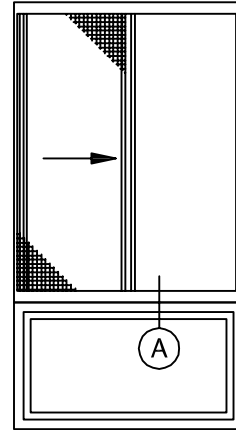
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 525H 2-5/8" HORIZONTAL SLIDING WINDOW (CW30)

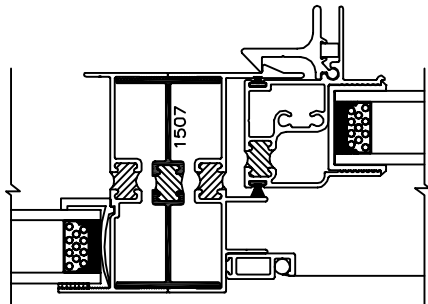
## Typical Configurations (Scale: Half Size)



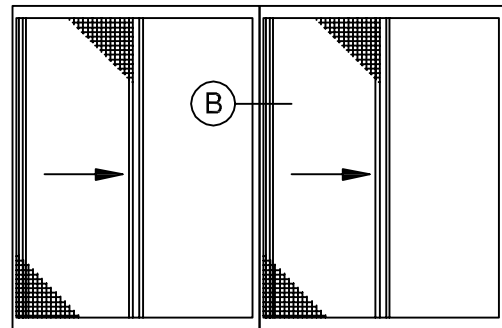
(A) 525 HS - 550 PW



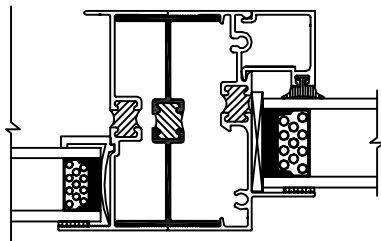
525 HS - 550 PW



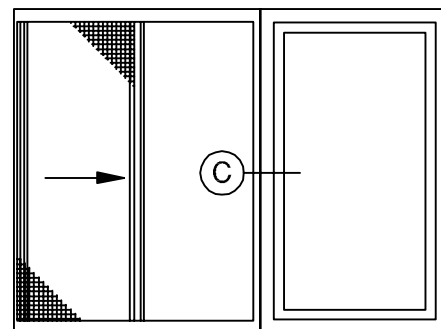
(B) 525 HS - 525 HS



525 HS - 525 HS



(C) 525 HS - 550 PW

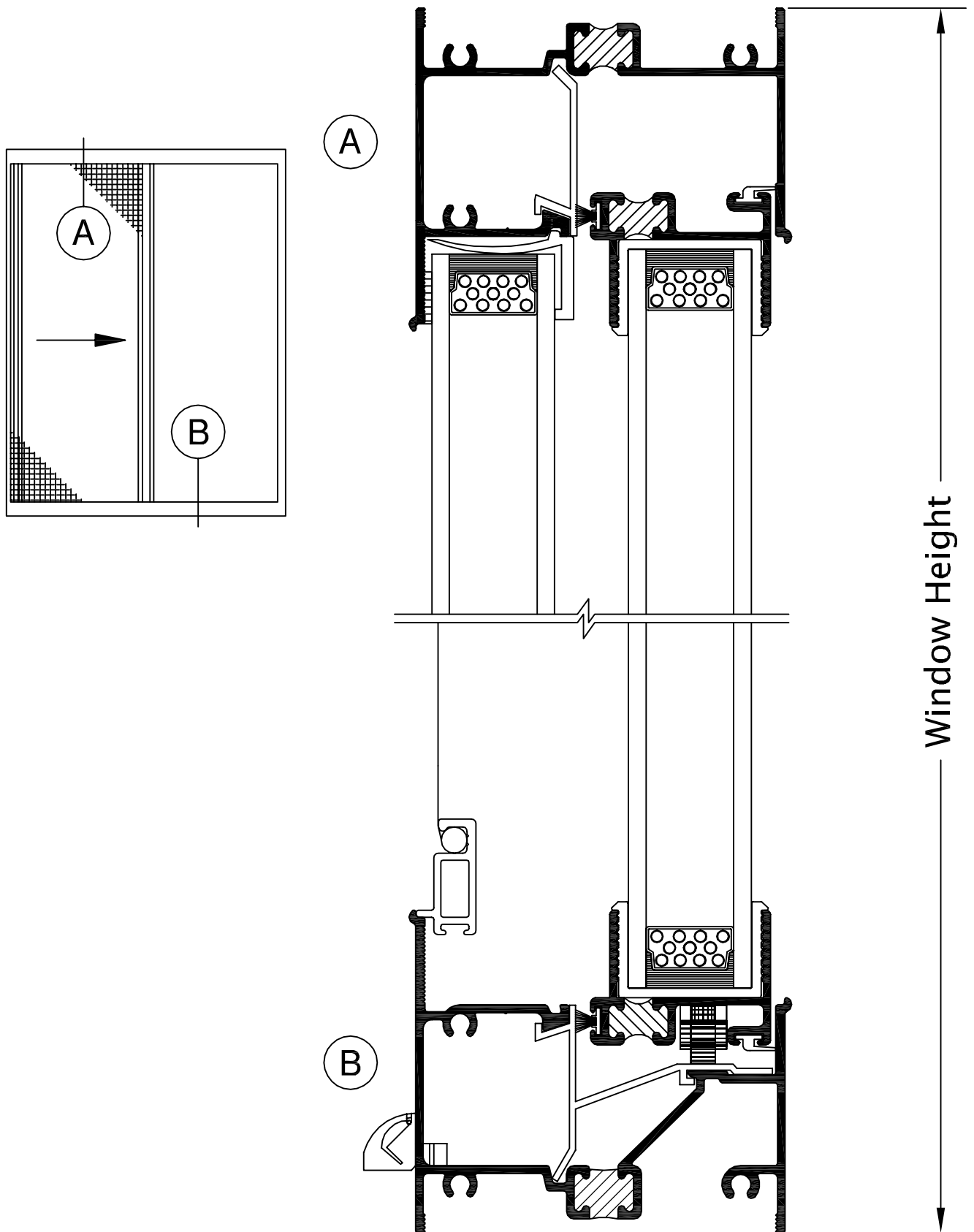


525 HS - 550 PW

See Accessories section for additional options

# SERIES 525H 2-5/8" HORIZONTAL SLIDING WINDOW (CW30)

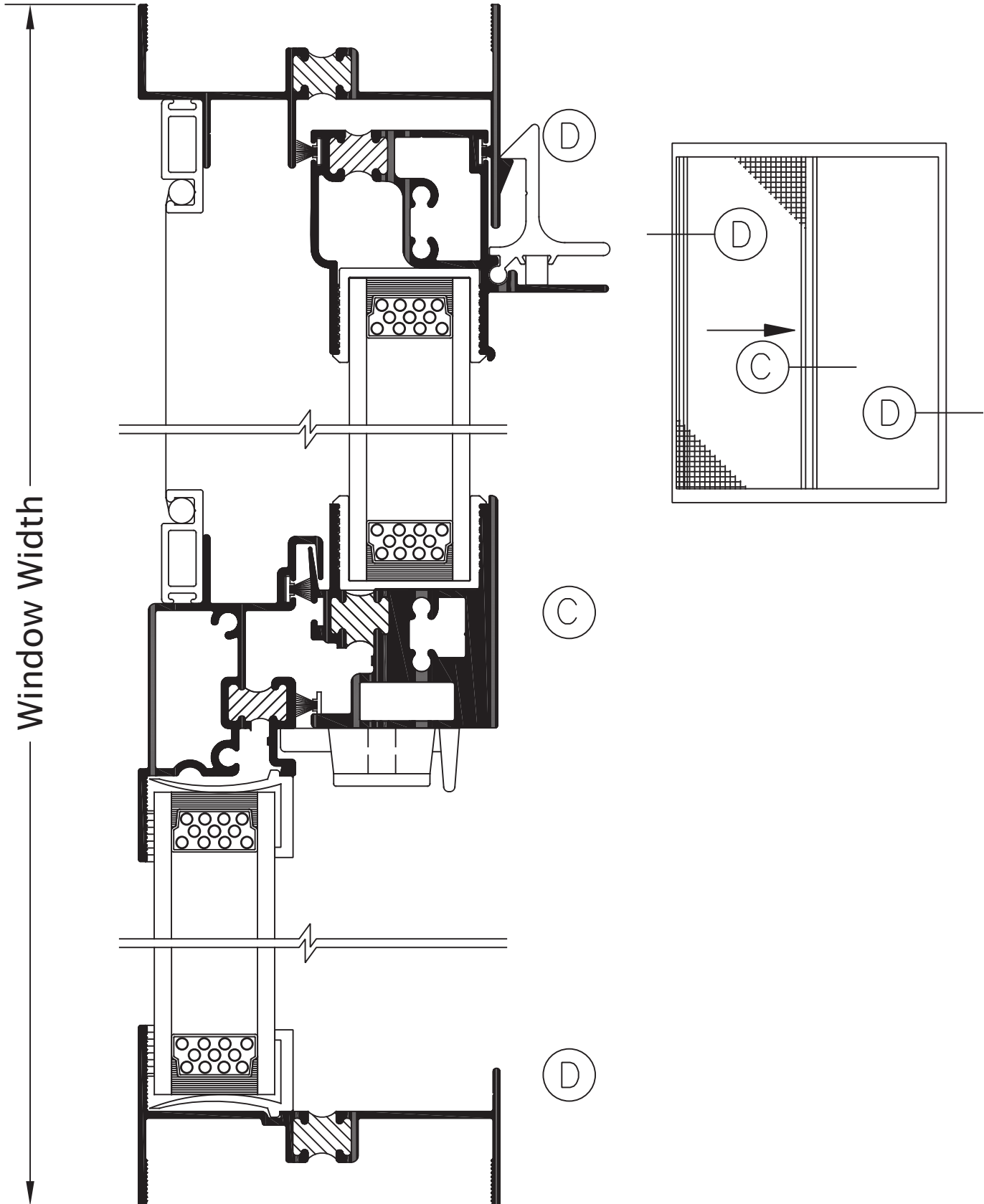
Product Details (Scale: Full Size)





# SERIES 525H 2-5/8" HORIZONTAL SLIDING WINDOW (CW30)

Product Details (Scale: Full Size)



# SERIES 525H 3-1/4" HORIZONTAL SLIDING WINDOW (CW30)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 525H" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 525H" is a horizontal single slider with thermally improved frame and sash consisting of an operable, removable, sliding sash and a fixed side lite. The specifications and materials for the "Series 525H" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 3.250" in depth. Vertical sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded latch for the sash.

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sashes shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable sashes shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The fixed side lite shall be inside glazed, using a rigid vinyl glazing bead. The insulated glass units shall be .875" overall thickness with two panes of double strength glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be half length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The "X" sashes are operable on the "Series 525H" horizontal single slider window and will slide open for ventilation. The sash rolls on four non-adjustable, bronze roller bearings and is removable from the interior for ease of maintenance.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-11, CW-PG30-HS specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 51 / 54.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

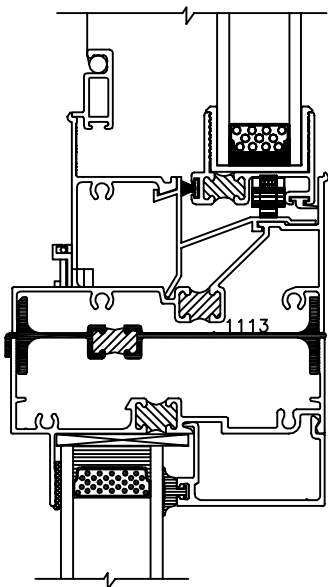
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

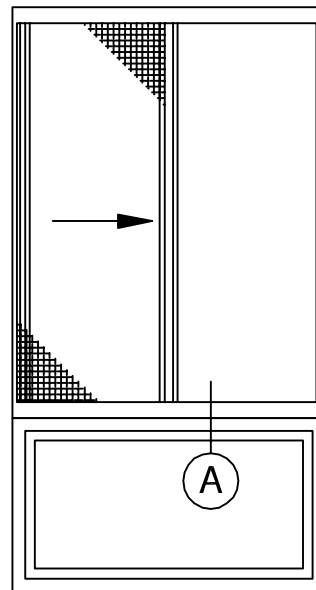
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 525H 3-1/4" HORIZONTAL SLIDING WINDOW (CW30)

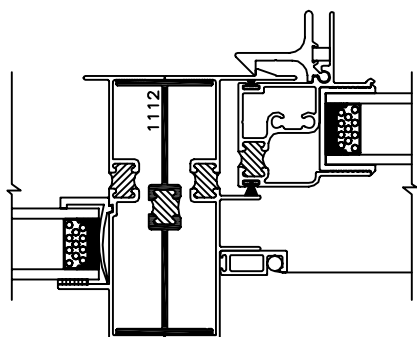
## Typical Configurations (Scale: Half Size)



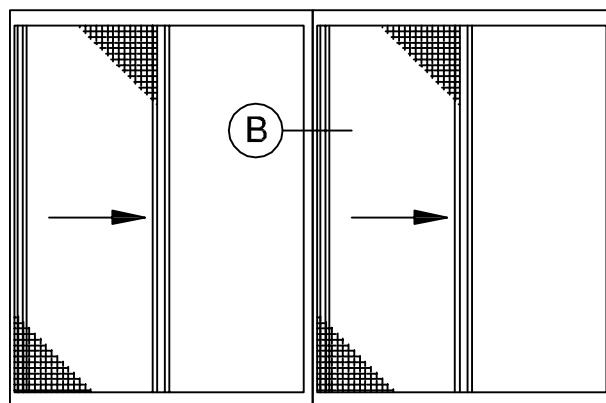
Ⓐ 525 HS - 750 PW



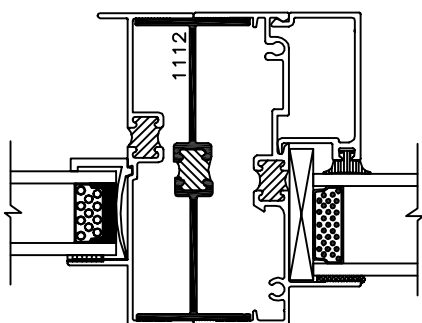
525 HS - 750 PW



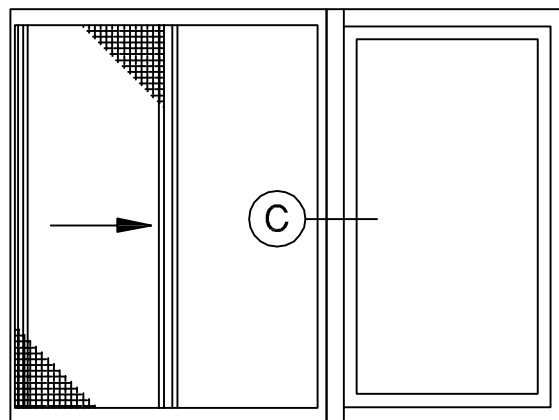
Ⓑ 525 HS - 525 HS



525 HS - 525 HS



Ⓒ 525 HS - 750 HS

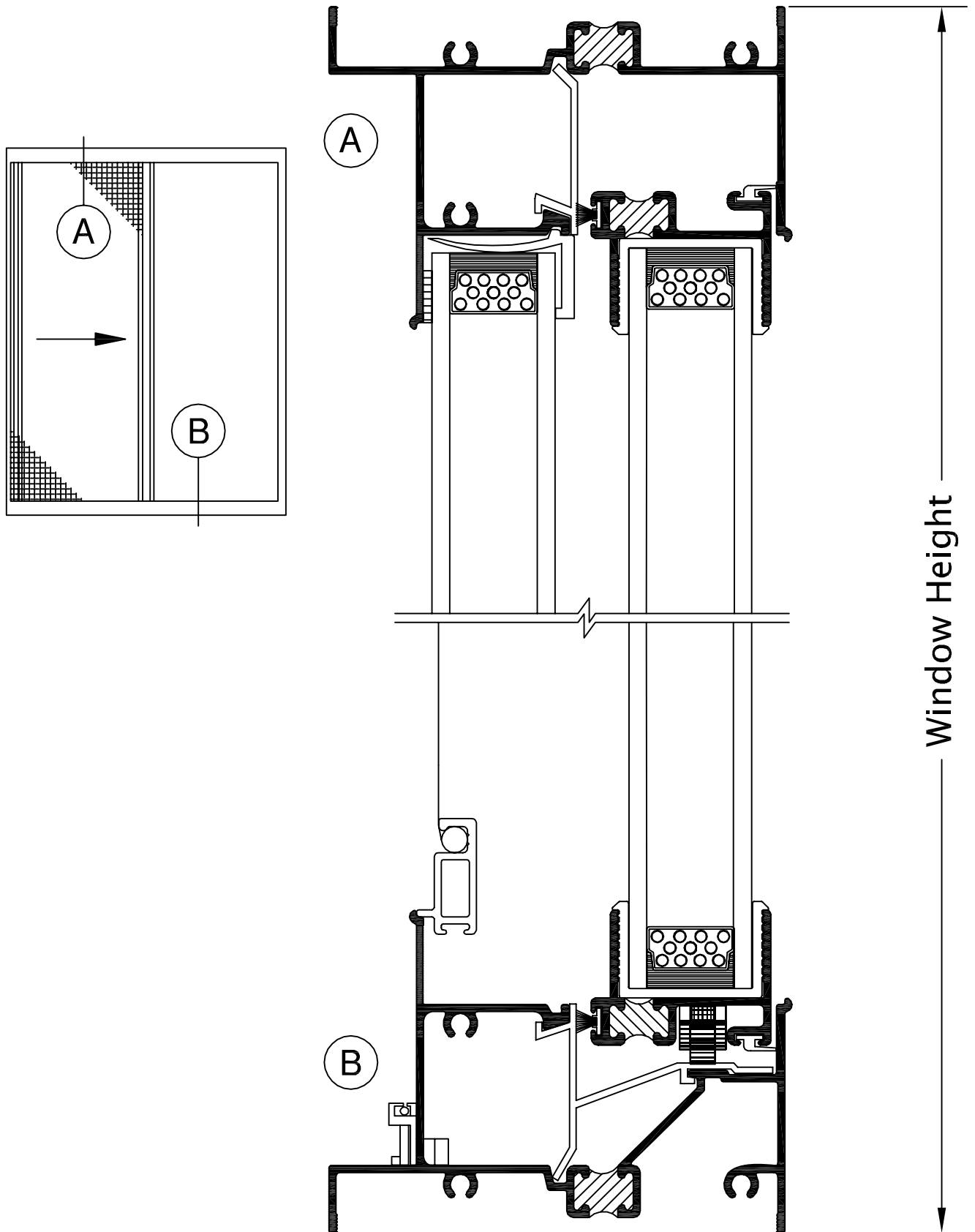


525 HS - 750 PW

See Accessories section for additional options

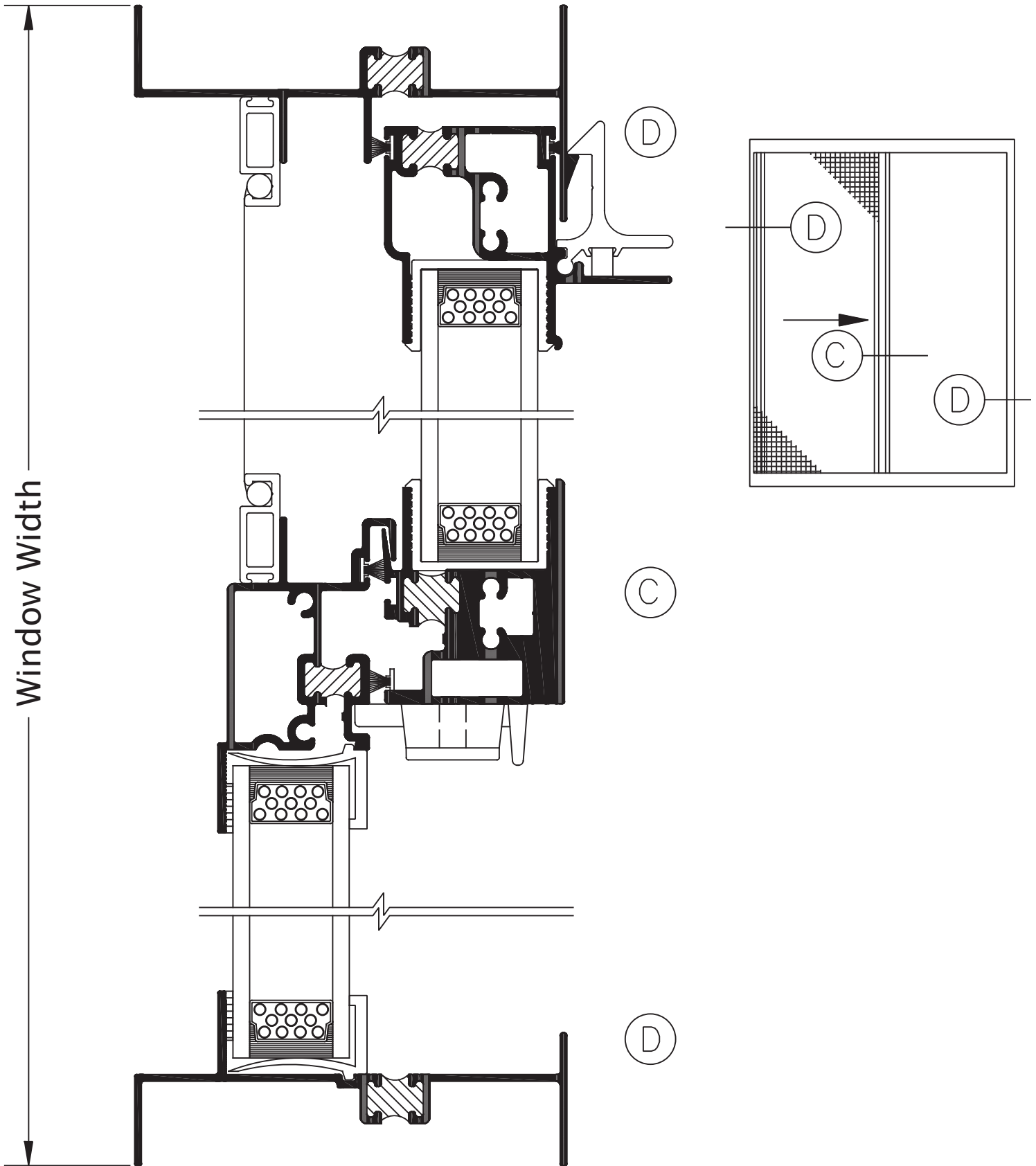
# SERIES 525H 3-1/4" HORIZONTAL SLIDING WINDOW (CW30)

Product Details (Scale: Full Size)



# SERIES 525H 3-1/4" HORIZONTAL SLIDING WINDOW (CW30)

Product Details (Scale: Full Size)



# SERIES 526 2-5/8" HORIZONTAL SLIDING WINDOW (C55)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 526" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 526" is a horizontal single slider with thermally improved frame and sash consisting of an operable, removable, sliding sash and a fixed side lite. The specifications and materials for the "Series 526" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 2.625" in depth. Vertical sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded latch for each sash.

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable vent shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The insulated glass units shall be .875" overall thickness with two lites of .125" glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass secured with a vinyl spline. Screens shall be half length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Standard Tier I colors available are bronze, white, creme, sandstone, and almond. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The "X" sash is operable on the "Series 526" horizontal single slider window and will slide open for ventilation. The sash rolls on four non-adjustable, bronze roller bearings and is removable from the interior for ease of maintenance. The "Series 526" is available in XO or OX configurations.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-05, HS-C55

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 51 / 54.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

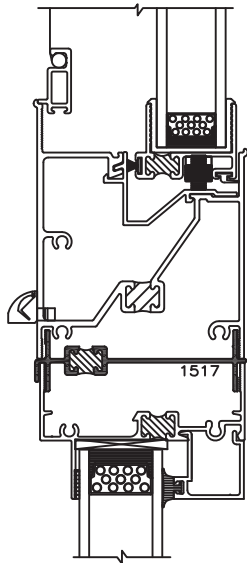
### V. INSTALLATION:

Qualifications - Only skilled mechanics with experience in this trade. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

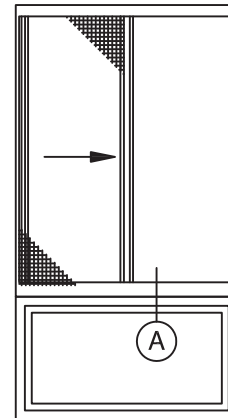
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 526 2-5/8" HORIZONTAL SLIDING WINDOW (C55)

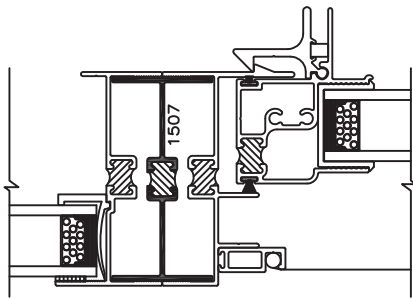
Typical Configurations (Scale: Half Size)



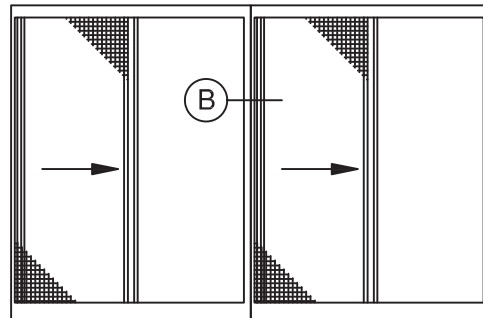
(A) 526 HS - 550 PW



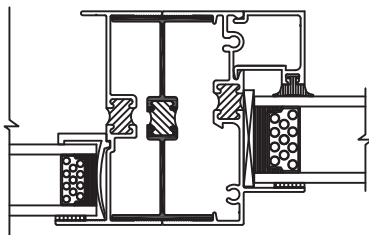
526 HS - 550 PW



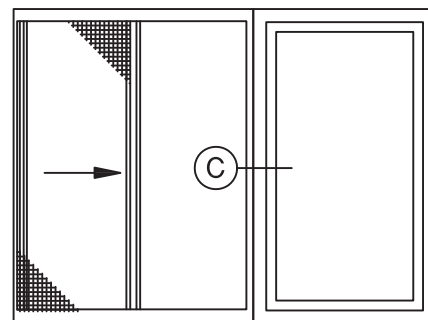
(B) 526 HS - 550 PW



526 HS - 550 PW



(C) 526 HS - 550 PW



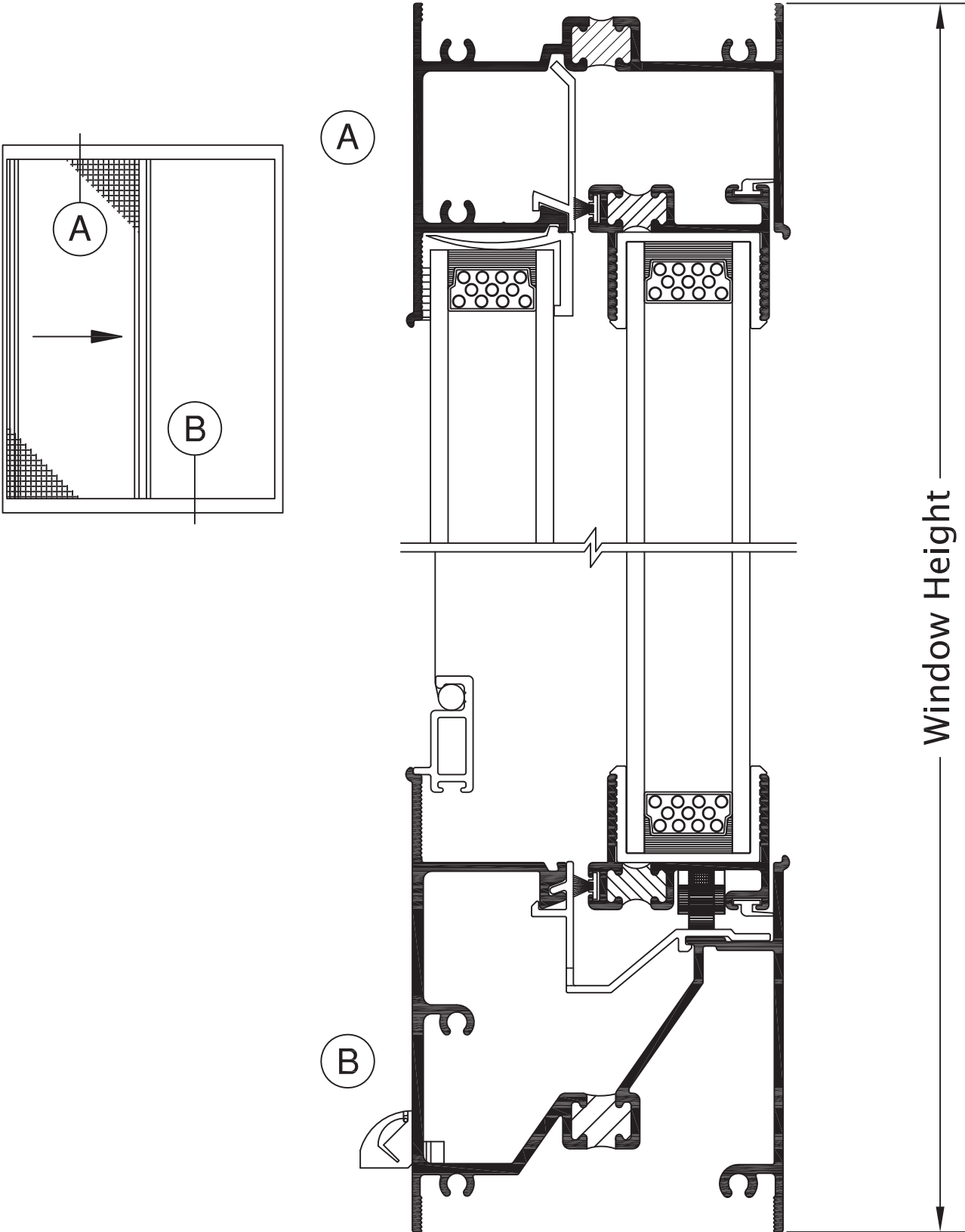
526 HS - 550 PW

See Accessories section for additional options



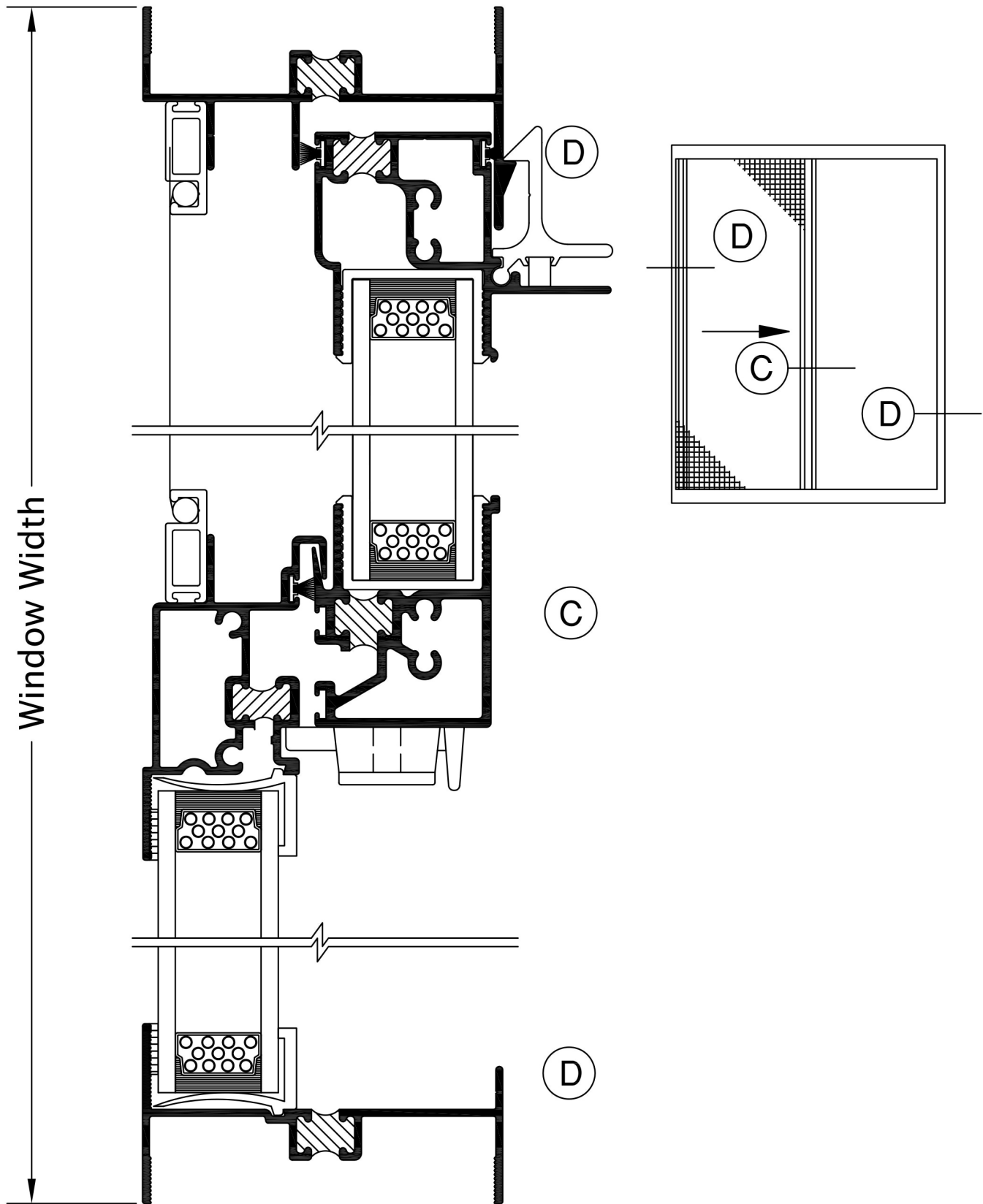
# SERIES 526 2-5/8" HORIZONTAL SLIDING WINDOW (C55)

Product Details (Scale: Full Size)



# SERIES 526 2-5/8" HORIZONTAL SLIDING WINDOW (C55)

Product Details (Scale: Full Size)



# SERIES 526B 2-5/8" HORIZONTAL SLIDING WINDOW (C70)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 526B" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 526B" is a horizontal single slider with thermally improved frame and sash consisting of an operable, removable, sliding sash and a fixed side lite. The specifications and materials for the "Series 526B" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 2.625" in depth. Vertical sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded latch for each sash.

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable vent shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The insulated glass units shall be .875" overall thickness with two lites of .125" glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass secured with a vinyl spline. Screens shall be half length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Standard Tier I colors available are bronze, white, creme, sandstone, and almond. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The "X" sash is operable on the "Series 526B" horizontal single slider window and will slide open for ventilation. The sash rolls on four non-adjustable, bronze roller bearings and is removable from the interior for ease of maintenance. The "Series 526B" is available in XO or OX configurations.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-05, HS-C70.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 51 / 54.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

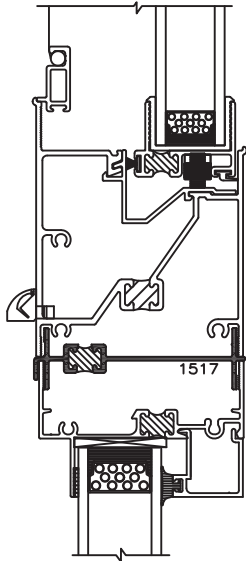
### V. INSTALLATION:

Qualifications - Only skilled mechanics with experience in this trade. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

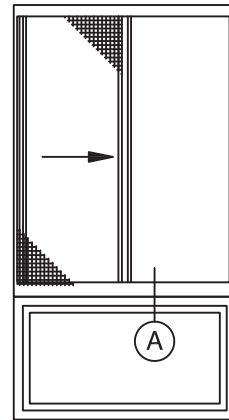
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 526B 2-5/8" HORIZONTAL SLIDING WINDOW (C70)

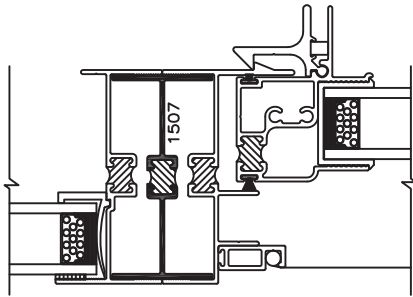
Typical Configurations (Scale: Half Size)



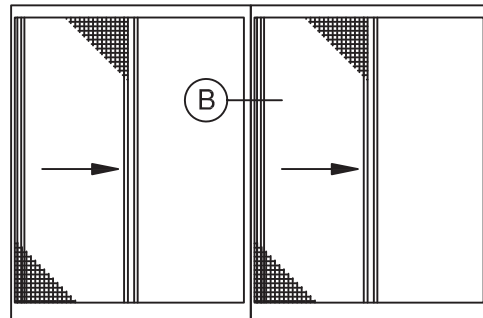
(A) 526B HS - 550 PW



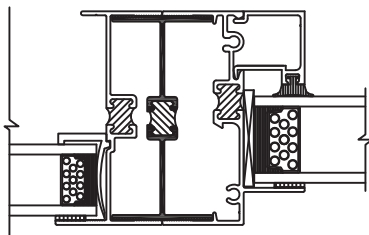
526B HS - 550 PW



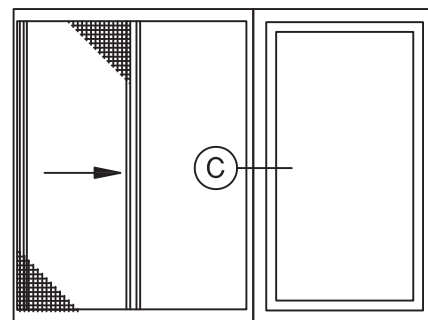
(B) 526B HS - 550 PW



526B HS - 550 PW



(C) 526B HS - 550 PW

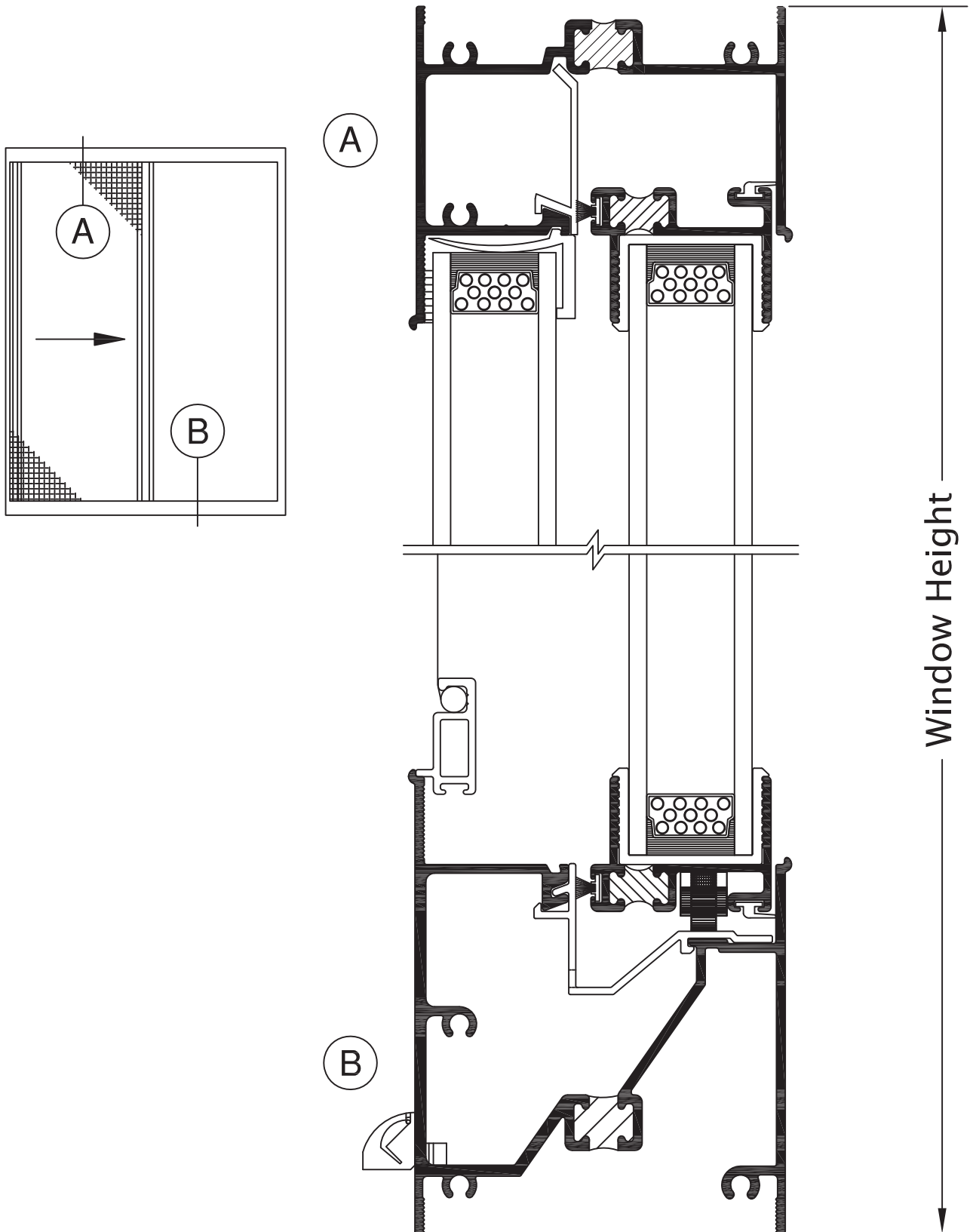


526B HS - 550 PW

See Accessories section for additional options

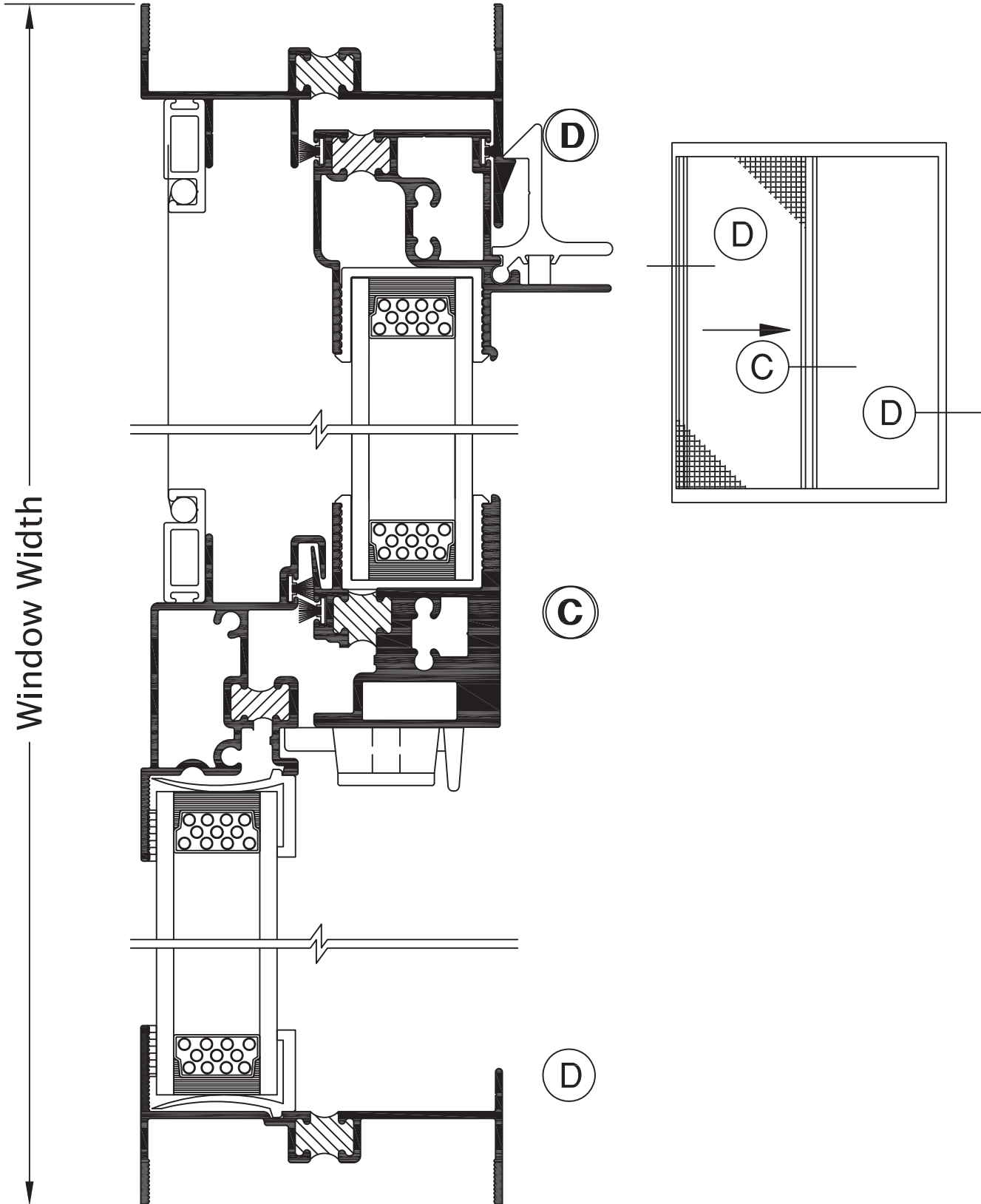
# SERIES 526B 2-5/8" HORIZONTAL SLIDING WINDOW (C70)

Product Details (Scale: Full Size)



# SERIES 526B 2-5/8" HORIZONTAL SLIDING WINDOW (C70)

Product Details (Scale: Full Size)





# SERIES 526C 2-5/8" HORIZONTAL SLIDING WINDOW (CW40)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 526" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 526" is a horizontal single slider with thermally improved frame and sash consisting of an operable, removable, sliding sash and a fixed side lite. The specifications and materials for the "Series 526" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 2.625" in depth. Vertical sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded latch for each sash.

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable vent shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The insulated glass units shall be .875" overall thickness with two lites of .125" glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass secured with a vinyl spline. Screens shall be half length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Standard Tier I colors available are bronze, white, creme, sandstone, and almond. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The "X" sash is operable on the "Series 526" horizontal single slider window and will slide open for ventilation. The sash rolls on four non-adjustable, bronze roller bearings and is removable from the interior for ease of maintenance. The "Series 526" is available in XO or OX configurations.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, CW-PG40-HS.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 51 / 54.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

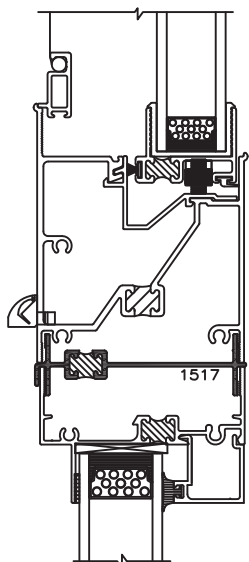
### V. INSTALLATION:

Qualifications - Only skilled mechanics with experience in this trade. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

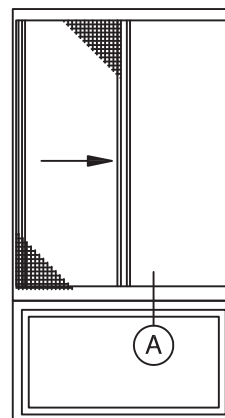
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 526C 2-5/8" HORIZONTAL SLIDING WINDOW (CW40)

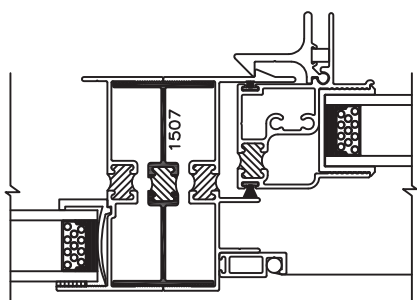
Typical Configurations (Scale: Half Size)



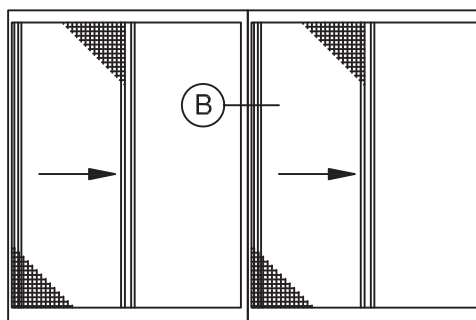
(A) 526C HS - 550 PW



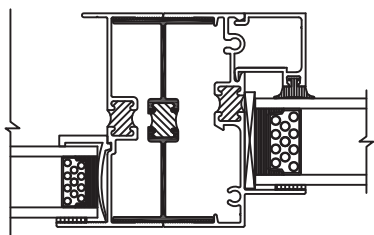
526C HS - 550 PW



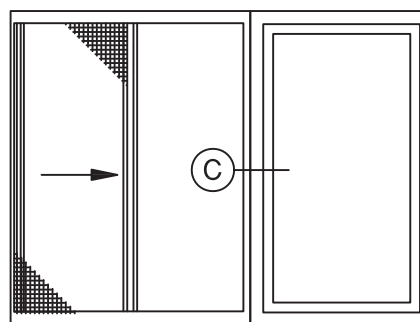
(B) 526C HS - 550 PW



526C HS - 550 PW



(C) 526C HS - 550 PW

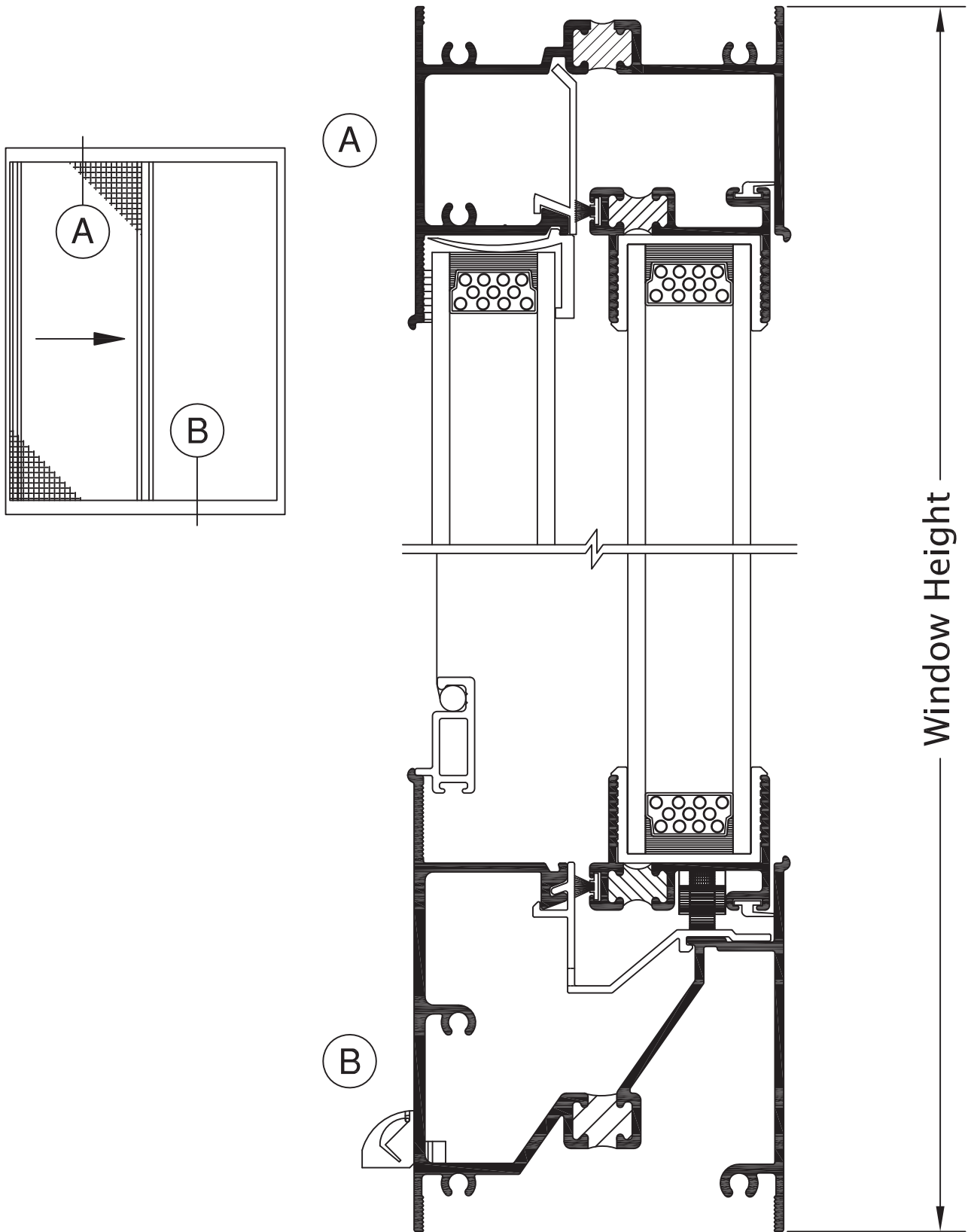


526C HS - 550 PW

See Accessories section for additional options

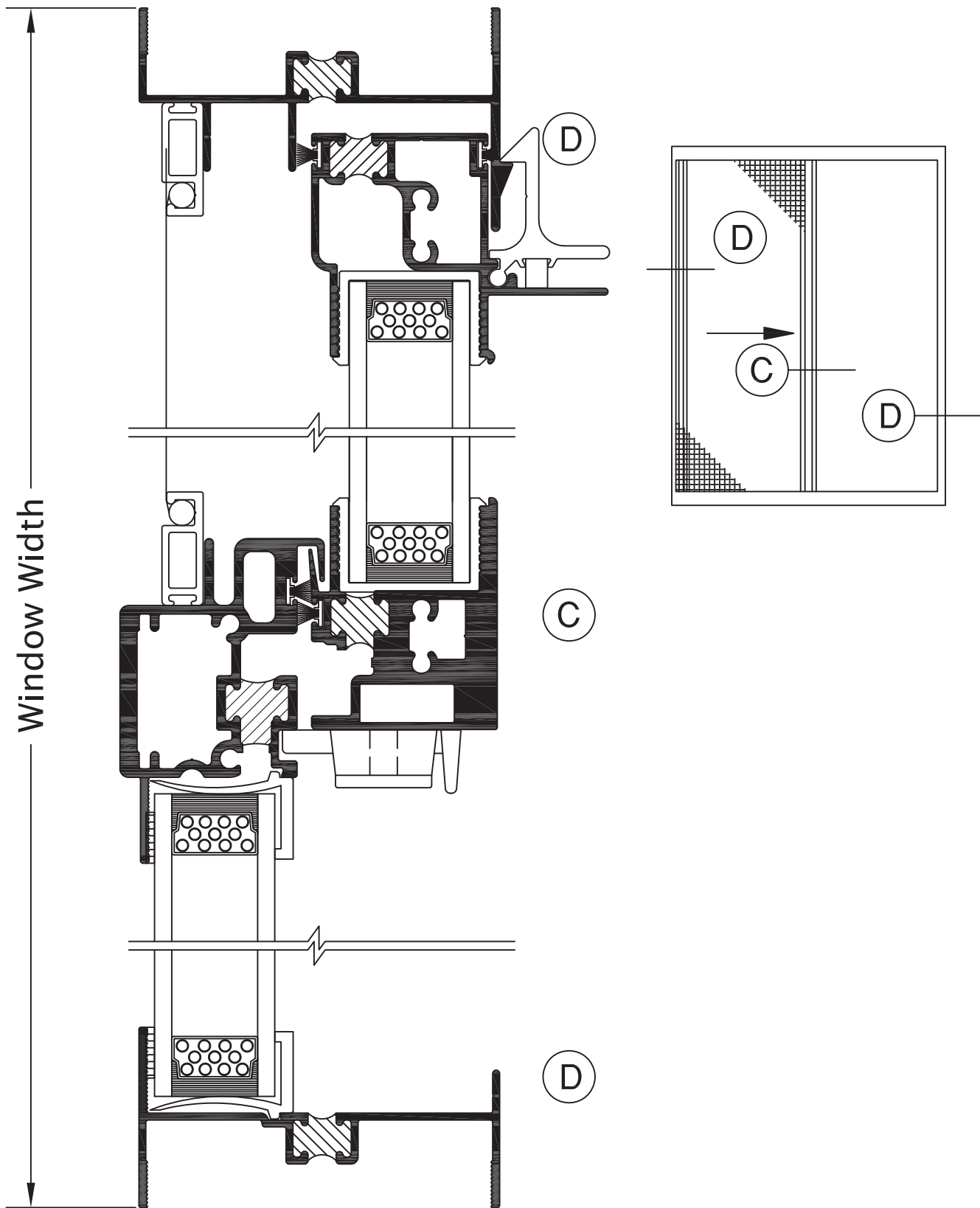
# SERIES 526C 2-5/8" HORIZONTAL SLIDING WINDOW (CW40)

Product Details (Scale: Full Size)



# SERIES 526C 2-5/8" HORIZONTAL SLIDING WINDOW (CW40)

Product Details (Scale: Full Size)



# SERIES 527 2-5/8" HORIZONTAL SLIDING WINDOW (C55)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 527" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 527" is a horizontal single slider with thermally improved frame and sash consisting of an operable, removable, sliding sash and a fixed side lite. The specifications and materials for the "Series 527" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 2.625" in depth. Vertical sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded latch for the sash.

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable sash shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The fixed side lite shall be inside glazed, using a rigid vinyl glazing bead. The insulated glass units shall be .875" overall thickness with two panes of double strength glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be half length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The "X" sash is operable on the "Series 527" horizontal single slider window and will slide open for ventilation. The sash rolls on four non-adjustable, bronze roller bearings and is removable from the interior for ease of maintenance. The "Series 527" is available in XO or OX configurations.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-05, HS-C55 specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 51 / 54.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

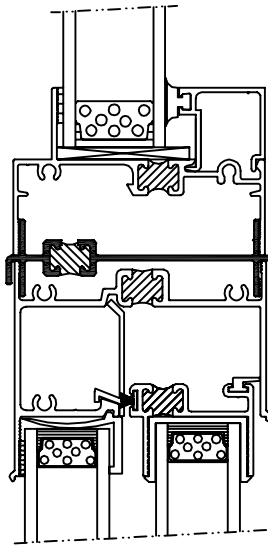
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

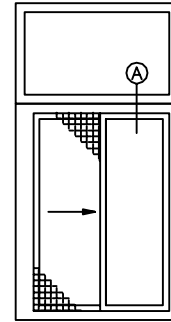
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 527 2-5/8" HORIZONTAL SLIDING WINDOW (C55)

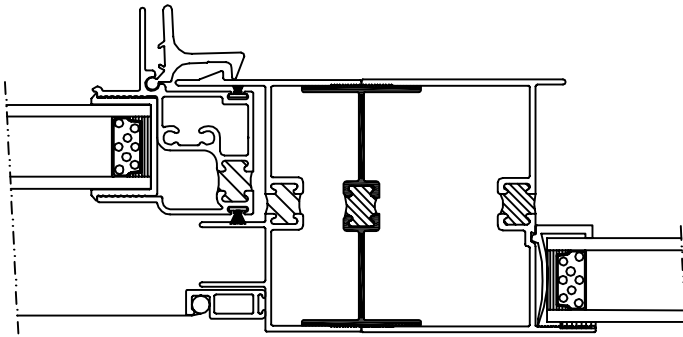
## Typical Configurations (Scale: Half Size)



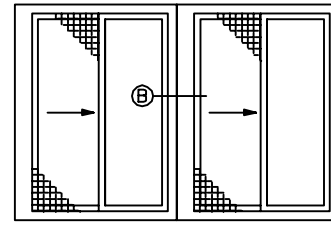
Ⓐ 550-527



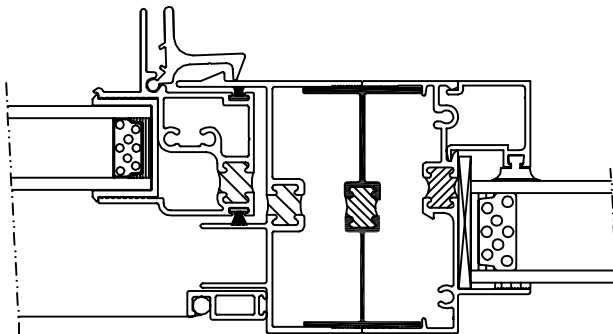
Ⓐ 550-527



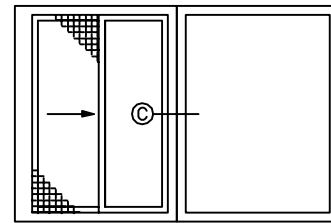
Ⓑ 527-527



Ⓑ 527-527



Ⓒ 527-550



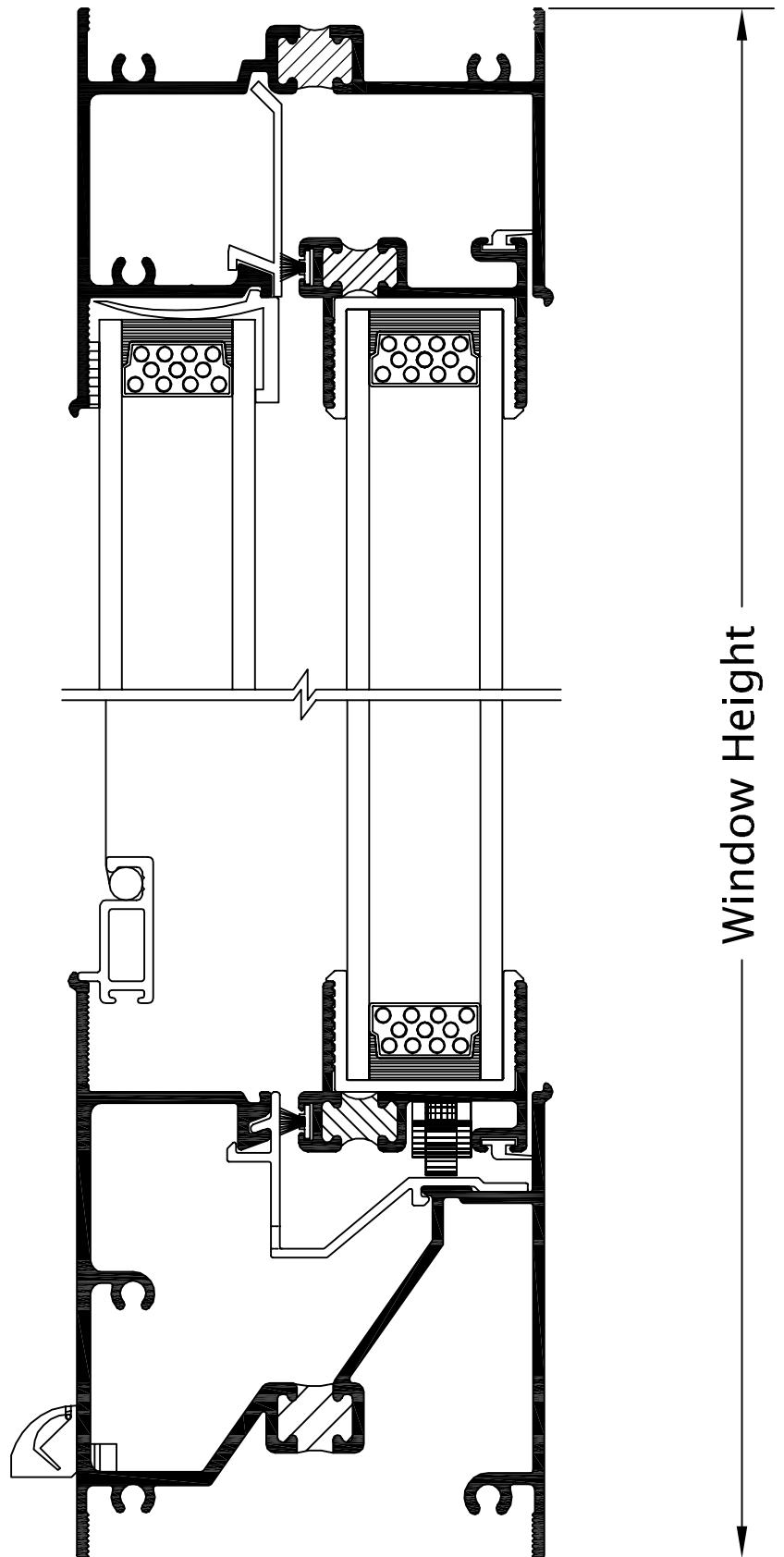
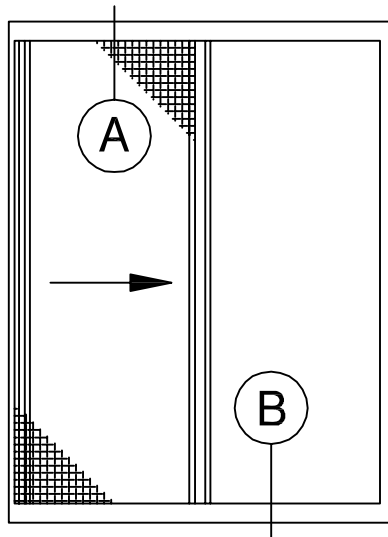
515-550

See Accessories section for additional options



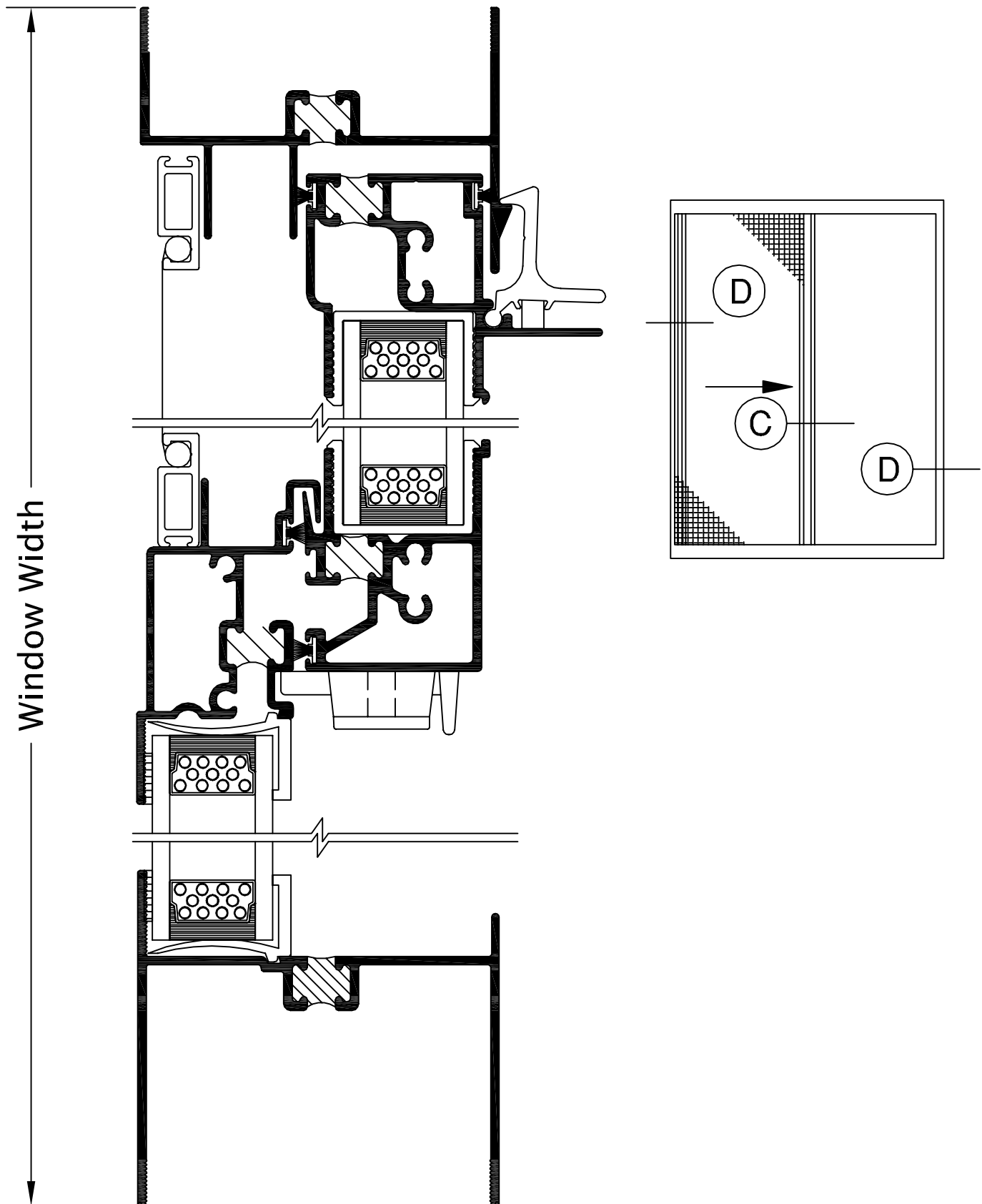
# SERIES 527 2-5/8" HORIZONTAL SLIDING WINDOW (C55)

Product Details (Scale: Full Size)



# SERIES 527 2-5/8" HORIZONTAL SLIDING WINDOW (C55)

Product Details (Scale: Full Size)



# SERIES 725 3-1/4" HORIZONTAL SLIDING WINDOW (CW30)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 725" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 725" is a horizontal double slider with thermally improved frame and sash consisting of two operable, removable and sliding sash. The specifications and materials for the "Series 725" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 3.25" in depth. Vertical sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a cam latch at the interlocking meeting rail along with an independent spring loaded latch for each sash

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable sash shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The insulated glass units shall be .875" overall thickness with two panes of double strength glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be full length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - Each sash is operable on the "Series 725" horizontal double slider window and will slide open for ventilation. Both sash roll on four non-adjustable, bronze roller bearings and are removable from the interior for ease of maintenance.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-11, CW-PG30-HS.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 53 / 45.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

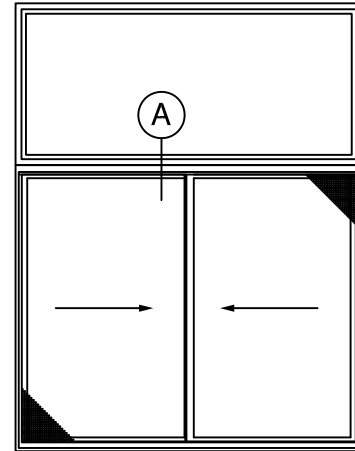
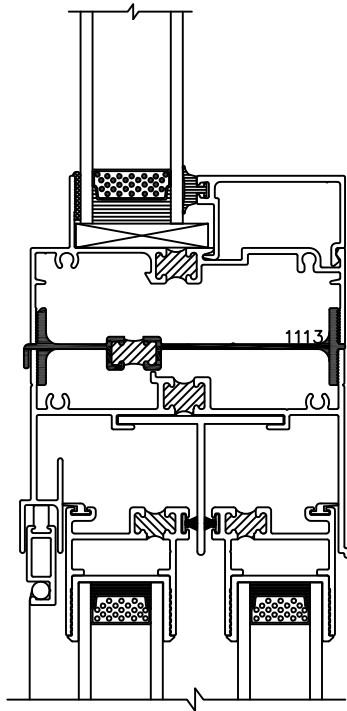
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

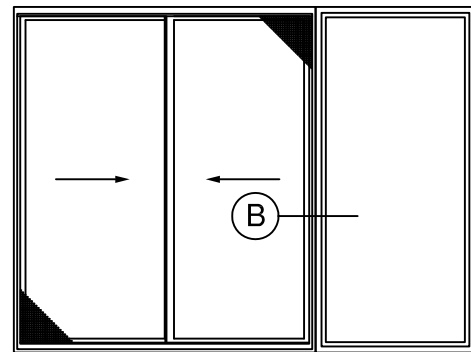
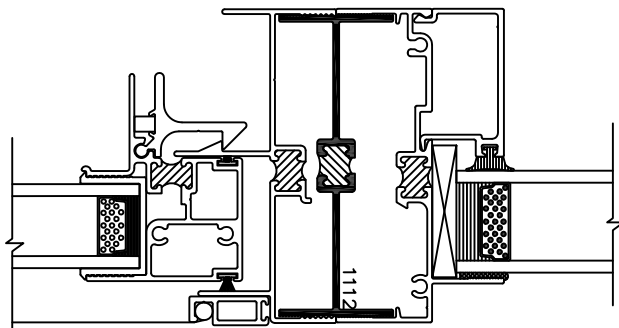
# SERIES 725 3-1/4" HORIZONTAL SLIDING WINDOW (CW30)

Typical Configurations (Scale: Half Size)



725 - 750 PW

(A) 725 - 750 PW



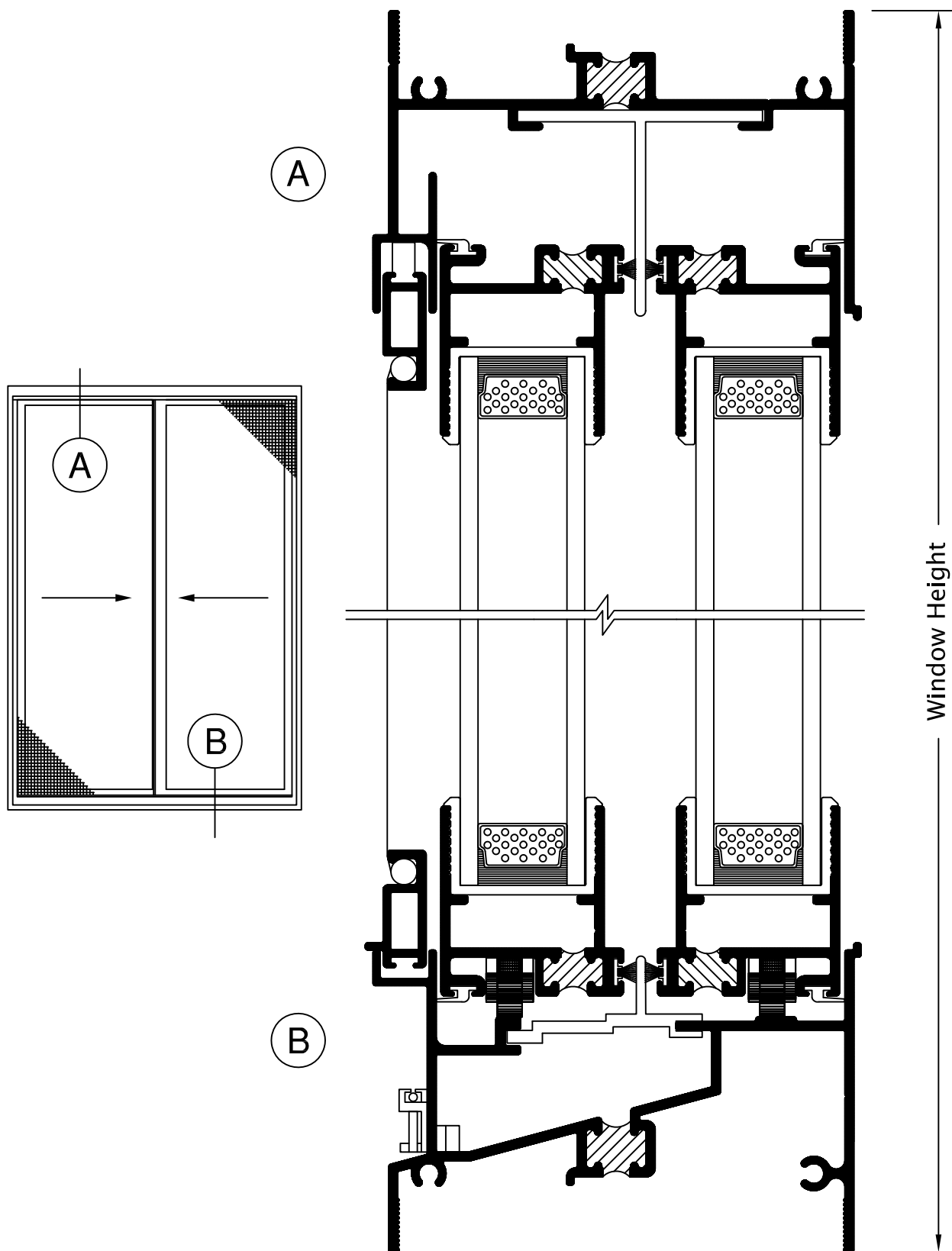
725 - 750 PW

(B) 725 - 700 PW

See Accessories section for additional options

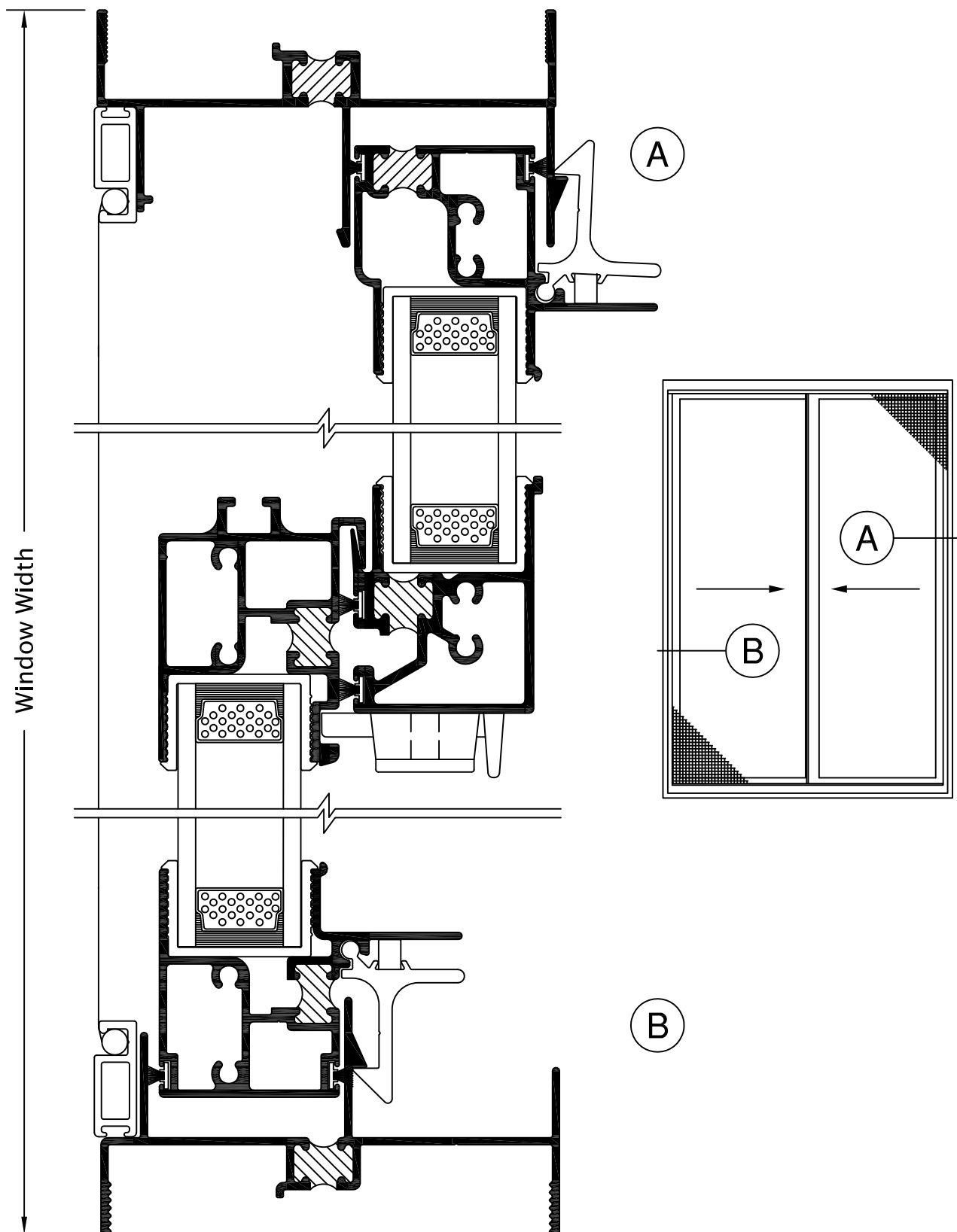
# SERIES 725 3-1/4" HORIZONTAL SLIDING WINDOW (CW30)

Product Details (Scale: Full Size)



# SERIES 725 3-1/4" HORIZONTAL SLIDING WINDOW (CW30)

Product Details (Scale: Full Size)





# SERIES 4125 4" HORIZONTAL SLIDING WINDOW (AW60)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 4125" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 4125" is a horizontal double slider with thermally improved frame and sash consisting of two operable, sliding, removable top load sashes. The specifications and materials for the "Series 4125" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 4.000" in depth. Vertical sash members shall be hollow extrusions. Main frames and sash members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Locks - Shall consist of a white bronze cam latch at the interlocking meeting rail along with an independent spring loaded latch for each sash.

Weatherstripping - Shall be .250 polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip. Weatherstripping shall be doubled at all points of contact of the sash and main frames and at the interlocking meeting rail.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sashes shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass shall be factory glazed with an interior extruded aluminum glazing bead with a vinyl wedge gasket. The insulated glass units shall be 1.000" overall thickness with two panes of glass, separated by an air space. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be full width.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - Each sash is operable on the "Series 4125" Horizontal SLIDING window and will slide open for ventilation. The dual sashes roll on lubricated zinc ball bearing rollers. Each sash is removable from the interior for ease of maintenance.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, HC/AW60 specification.

Thermal - Shall meet the requirements of AAMA 1503.1.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Life Cycle - Product meets the criteria including passing air and water tests at the conclusion of the cycle test requirements of AAMA 101 and AAMA 910.

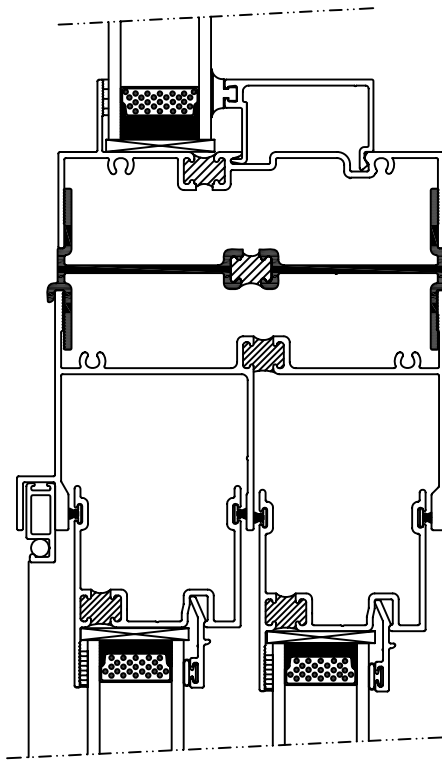
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

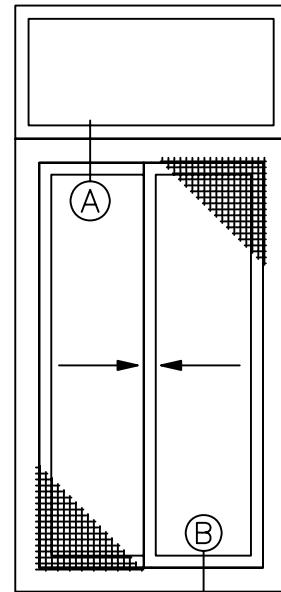
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 4125 4" HORIZONTAL SLIDING WINDOW (AW60)

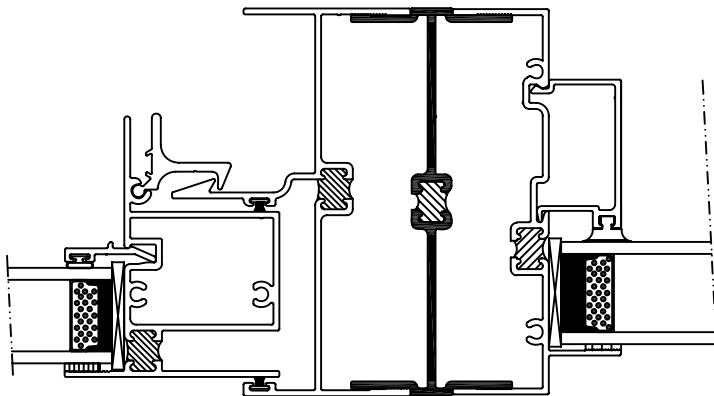
Typical Configurations (Scale: Half Size)



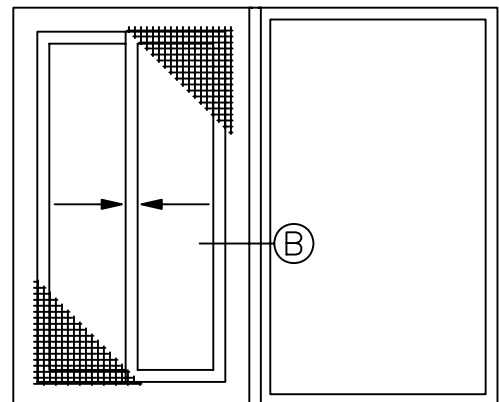
Ⓐ 4125-4150



4125-4150



Ⓑ 4125-4150

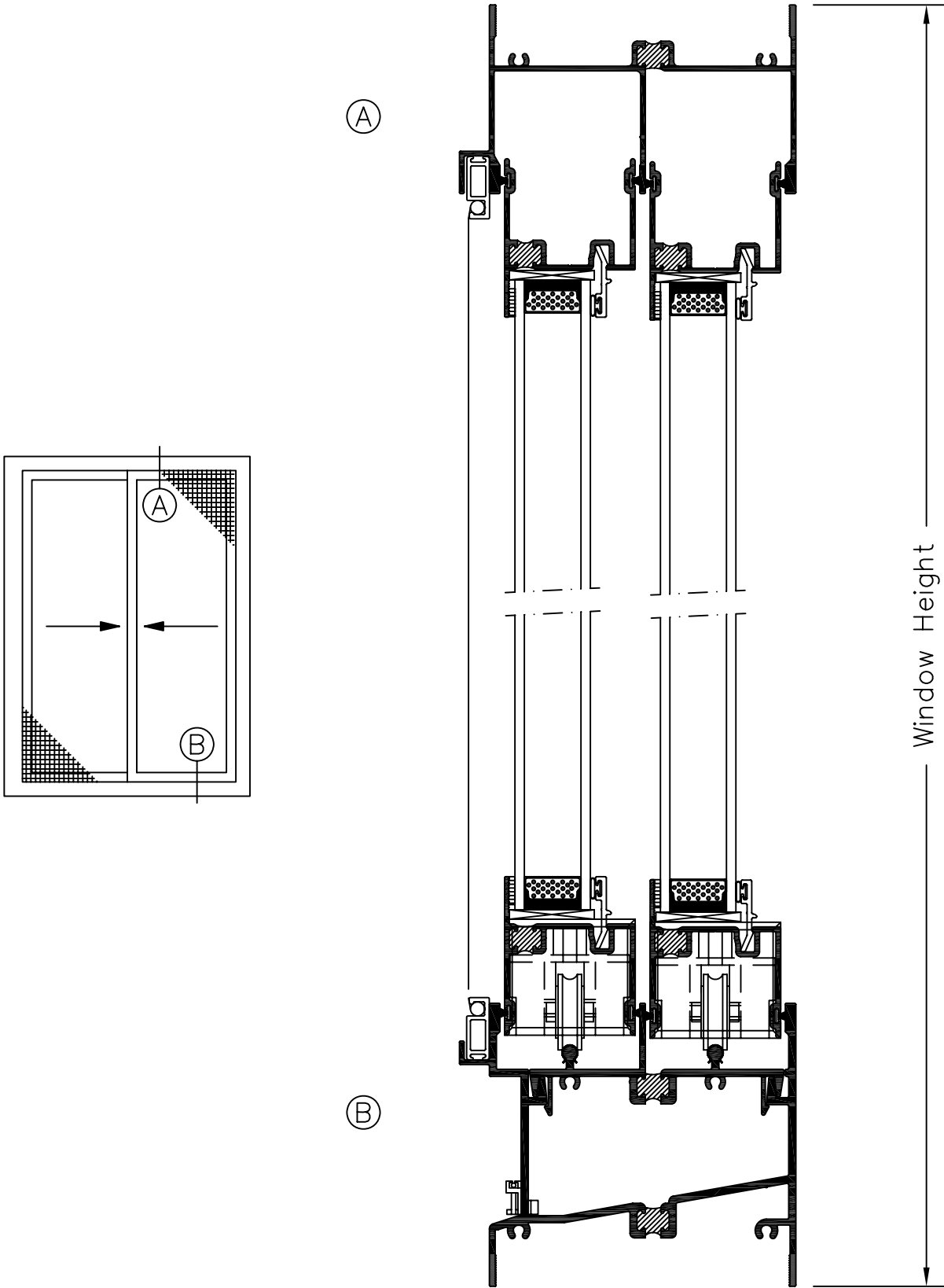


4125-4150

See Accessories section for additional options

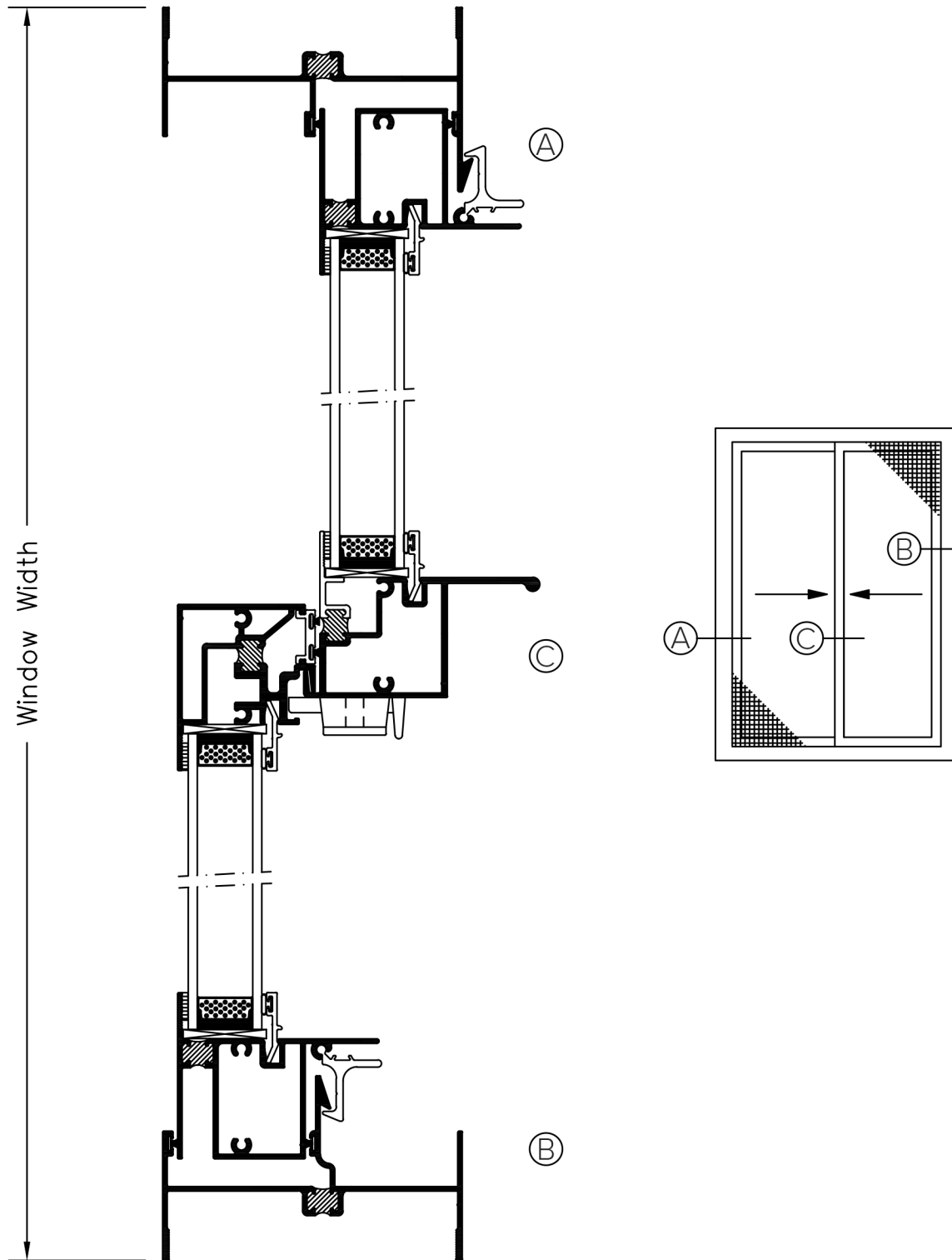
# SERIES 4125 4" HORIZONTAL SLIDING WINDOW (AW60)

Product Details (Scale: Half Size)



# SERIES 4125 4" HORIZONTAL SLIDING WINDOW (AW60)

Product Details (Scale: Half Size)





# Fixed Windows



# THERMAL WINDOWS, INC.

## Commercial Fixed Windows for Retrofit and New Construction



(top) Cameron House, Silver Spring, MD - Series 550 and 750 Silver Gray  
(bottom) WinStar World Casino Hotel, Thackerville, OK - Series 750, White

(top) Parc Meridian, Washington, DC - Series 550 and 750, Light Gray and Dark Gray  
(bottom) Aurora at North Bethesda Center, N. Bethesda, MD - Series 550 and 750, Graphite Gray

Manufactured by Thermal Windows, Inc. • 12805 E. 31<sup>st</sup> Street • Tulsa, OK 74146 • (800) 259-7580 • Fax (918) 665-2197  
Website: [www.thermalwindows.com](http://www.thermalwindows.com) Email: [info@thermalwindows.com](mailto:info@thermalwindows.com)



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Email: [info@thermalwindows.com](mailto:info@thermalwindows.com)  
[www.thermalwindows.com](http://www.thermalwindows.com)

## **FIXED WINDOWS**

### **Standard Features**

- Custom Sizes
- Inside glazing
- Integral Thermal Barrier throughout frame and sash
- AAMA 2604 organic powder coat finish
- 5 standard powder coat finish colors (see 'Finishes' section)
- Tested to AAMA specifications
- 1" Insulated glass

### **Available Options**

- 2<sup>5</sup>/<sub>8</sub>", 3<sup>1</sup>/<sub>4</sub>" and 4" frame depth
- Dual seal insulated glass
- Anodized finishes
- AAMA 2605 high-performance finishes
- Tier 2 colors at no additional charge (minimums apply)
- Hundreds of special colors
- Hurricane-resistant glazing available in some models
- Low-E glass; tinted glass; obscure (frosted) glass
- Spandrel glass; insulating panels
- Panning, receptor systems, snap trim, angle trim
- Internal, external and special angled mullions
- Eyebrows (arched tops), circles, gothic arches, etc.
- Nailing fin
- Front flanged frame
- True divided lites
- Internal and external applied muntins



# SERIES 550 2-5/8" FIXED WINDOW (AW80)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 550" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 550" is a fixed window with thermally improved frame. The specifications and materials for the "Series 550" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 2.625" in depth. Main frames are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. All screws at joints of main frame shall be secured into integral screw ports.

Glazing - Glass shall be inside glazed to a silicone-based back beading at the exterior face of glass and snap in extruded aluminum glazing bead containing a vinyl insert. The insulated glass units shall be 1" overall thickness with two panes of double strength glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, AW-PG80 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

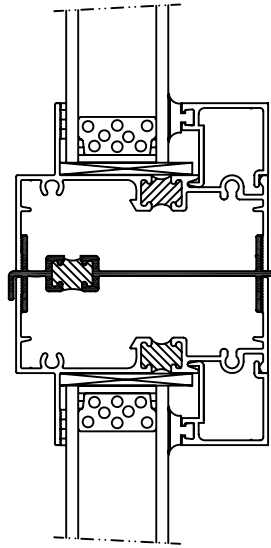
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

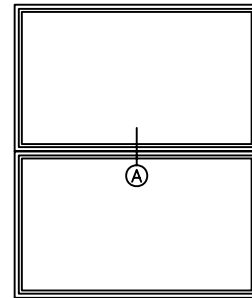
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 550 2-5/8" FIXED WINDOW (CW80)

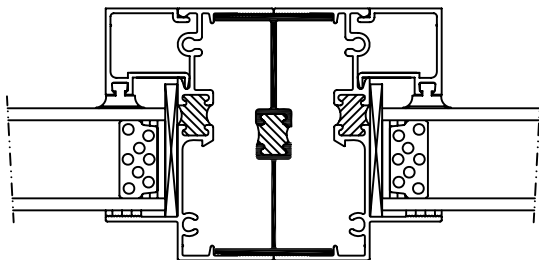
Typical Configurations (Scale: Half Size)



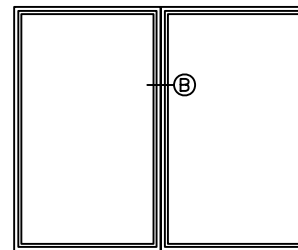
Ⓐ 550 PW – 550 PW



550-550



Ⓑ 550 PW – 550 PW

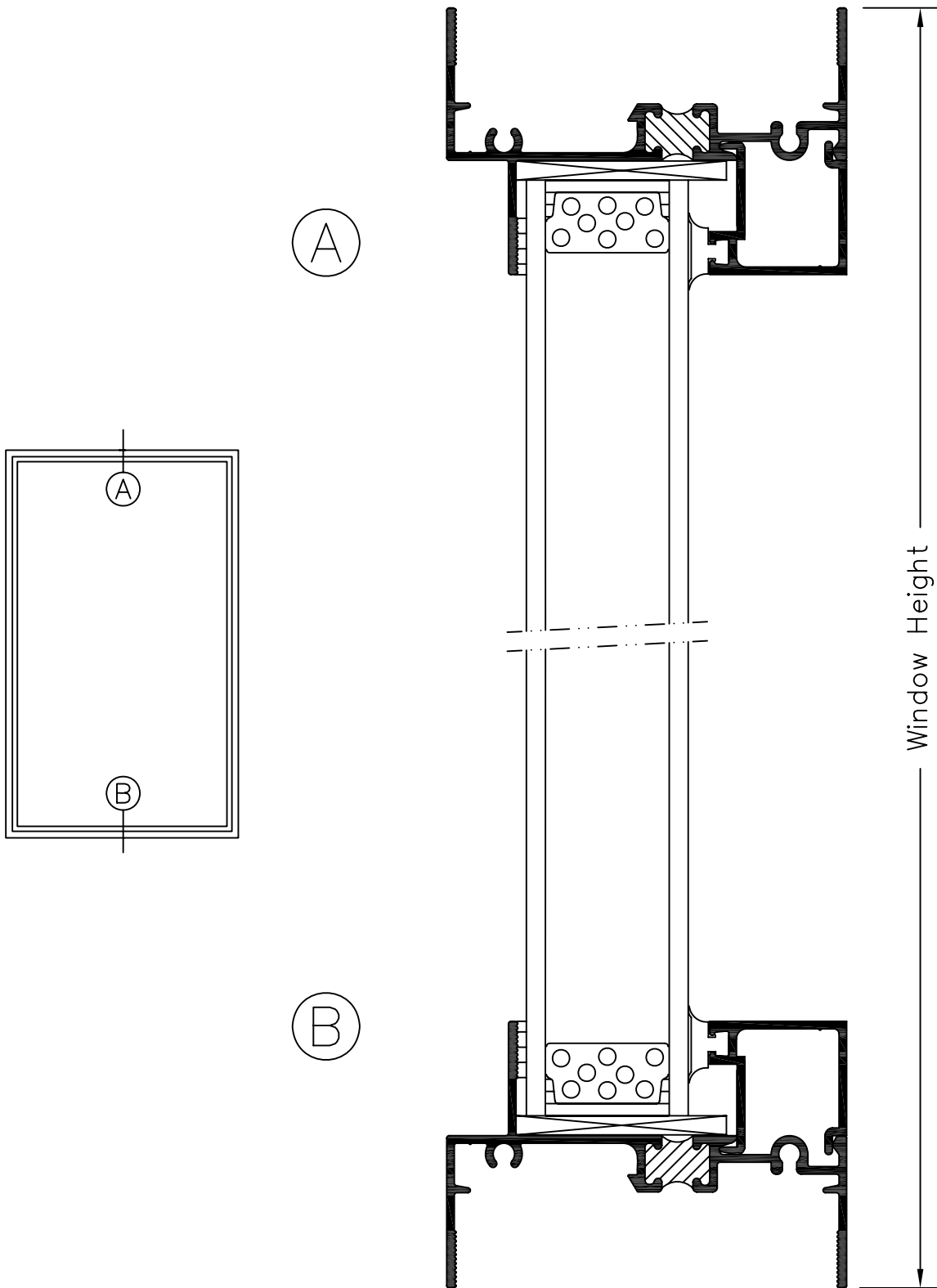


550-550

See Accessories section for additional options

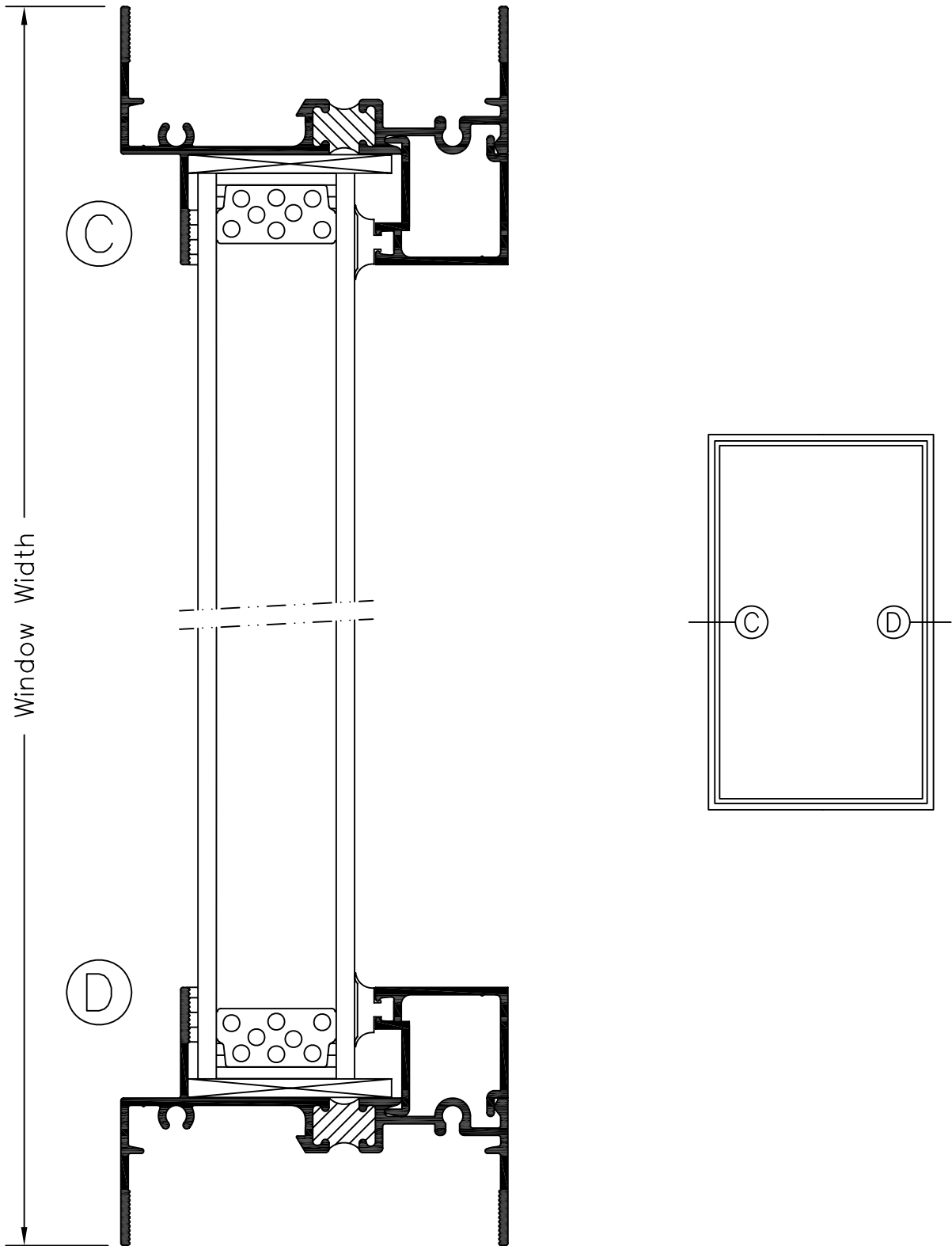
# SERIES 550 2-5/8" FIXED WINDOW (CW80)

Product Details (Scale: Full Size)



# SERIES 550 2-5/8" FIXED WINDOW (CW80)

Product Details (Scale: Full Size)



# SERIES 750 3-1/4" FIXED WINDOW (AW80)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 750" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 750" is a fixed window with thermally improved frame. The specifications and materials for the "Series 750" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 3.250" in depth. Main frames are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. All screws at joints of main frame shall be secured into integral screw ports.

Glazing - Glass shall be inside glazed to a silicone-based back beading at the exterior face of glass and snap in extruded aluminum glazing bead containing a vinyl insert. The insulated glass units shall be 1" overall thickness with two panes of double strength glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, AW-PG80 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

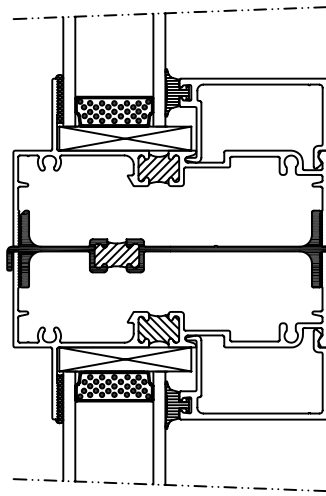
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

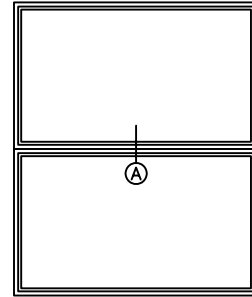
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 750 3-1/4" FIXED WINDOW (CW80)

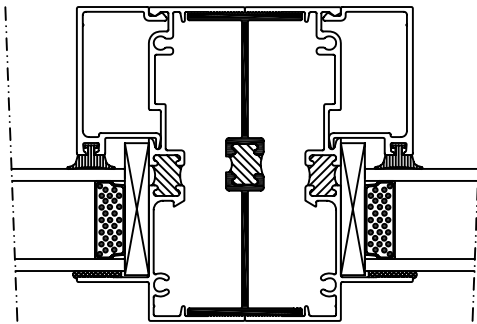
## Typical Configurations (Scale: Half Size)



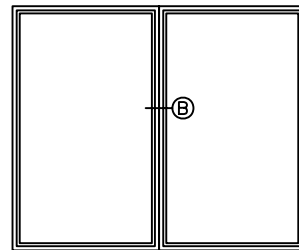
Ⓐ 750-750



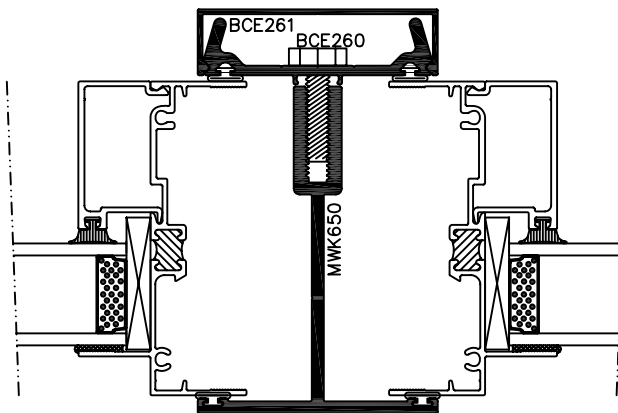
750 PW-750 PW



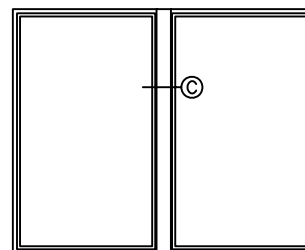
Ⓑ 750-750



750 PW-750 PW



Ⓒ 750-750



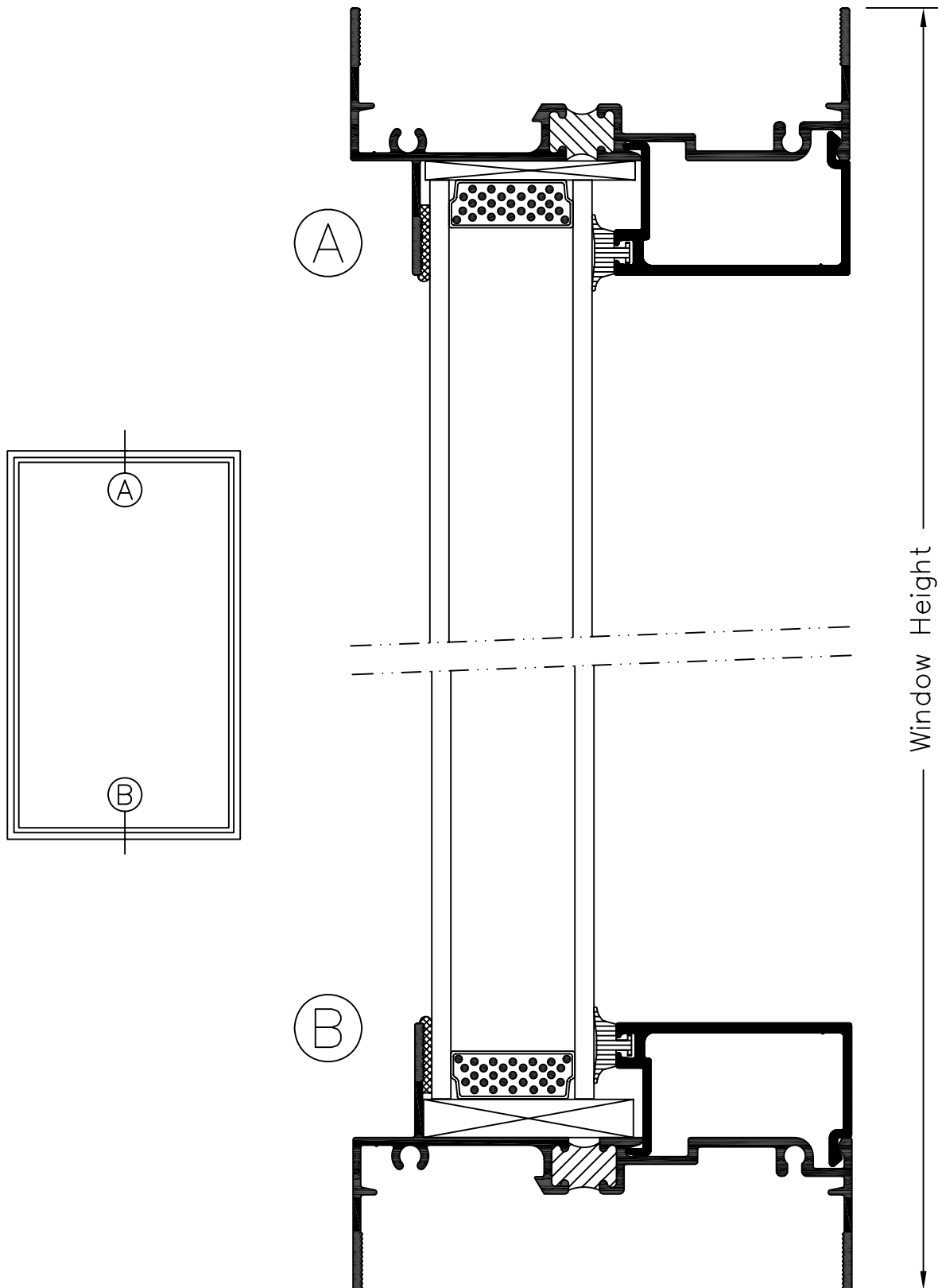
750 PW-750 PW

See Accessories section for additional options



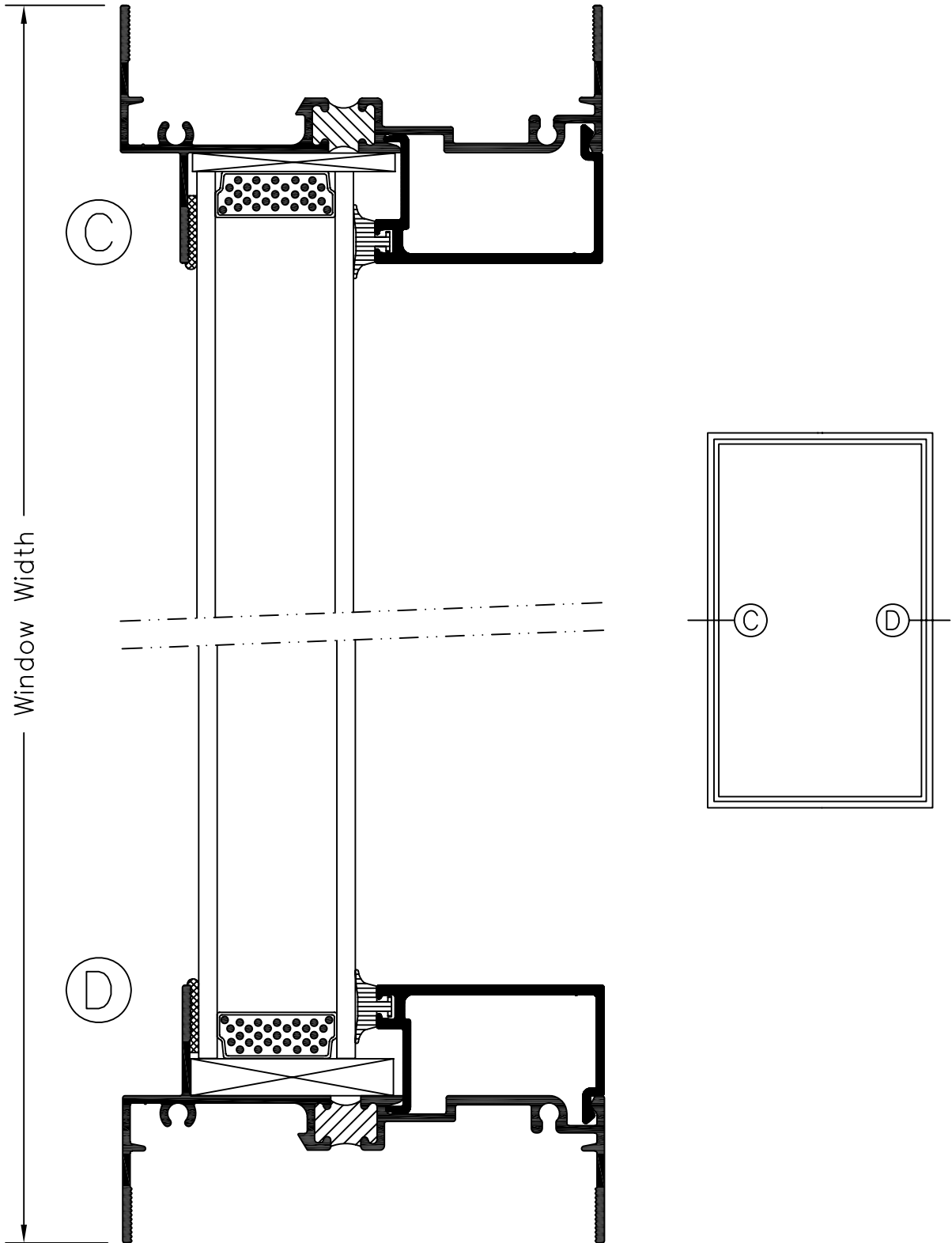
# SERIES 750 3-1/4" FIXED WINDOW (CW80)

Product Details (Scale: Full Size)



# SERIES 750 3-1/4" FIXED WINDOW (CW80)

Product Details (Scale: Full Size)



# SERIES 850 2-5/8" FIXED WINDOW (AW75)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor, and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 850" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 850" is a fixed window with thermally improved frame. The specifications and materials for the "Series 850" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame members shall be a nominal thickness of .094. Main frame shall be 2.625" in depth. Main frames are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. All screws at joints of main frame shall be secured into integral screw ports.

Glazing - Glass shall be inside glazed with a butyl glazing tape and snap in extruded aluminum glazing bead containing a vinyl insert. The insulated glass units shall be 1" overall thickness with two panes of double strength glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, AW-PG75 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

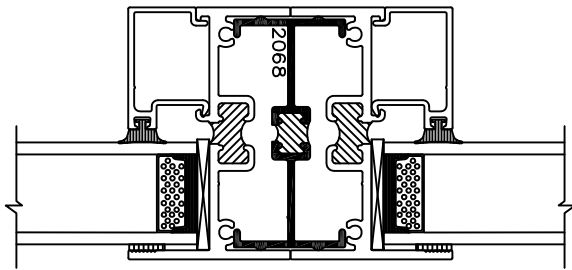
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

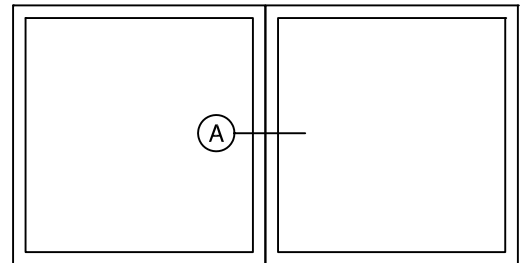
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 850 2-5/8" FIXED WINDOW (AW75)

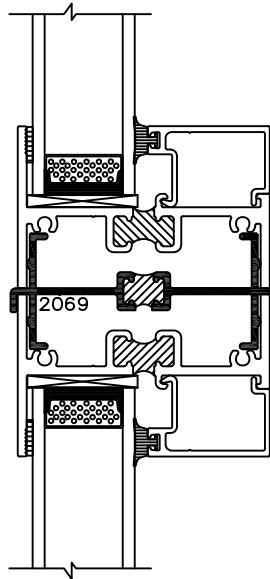
Typical Configurations (Scale: Half Size)



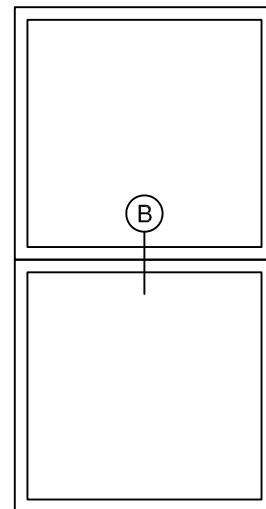
Ⓐ 850 PW - 850 PW



850 PW - 850 PW



Ⓑ 850 PW - 850 PW

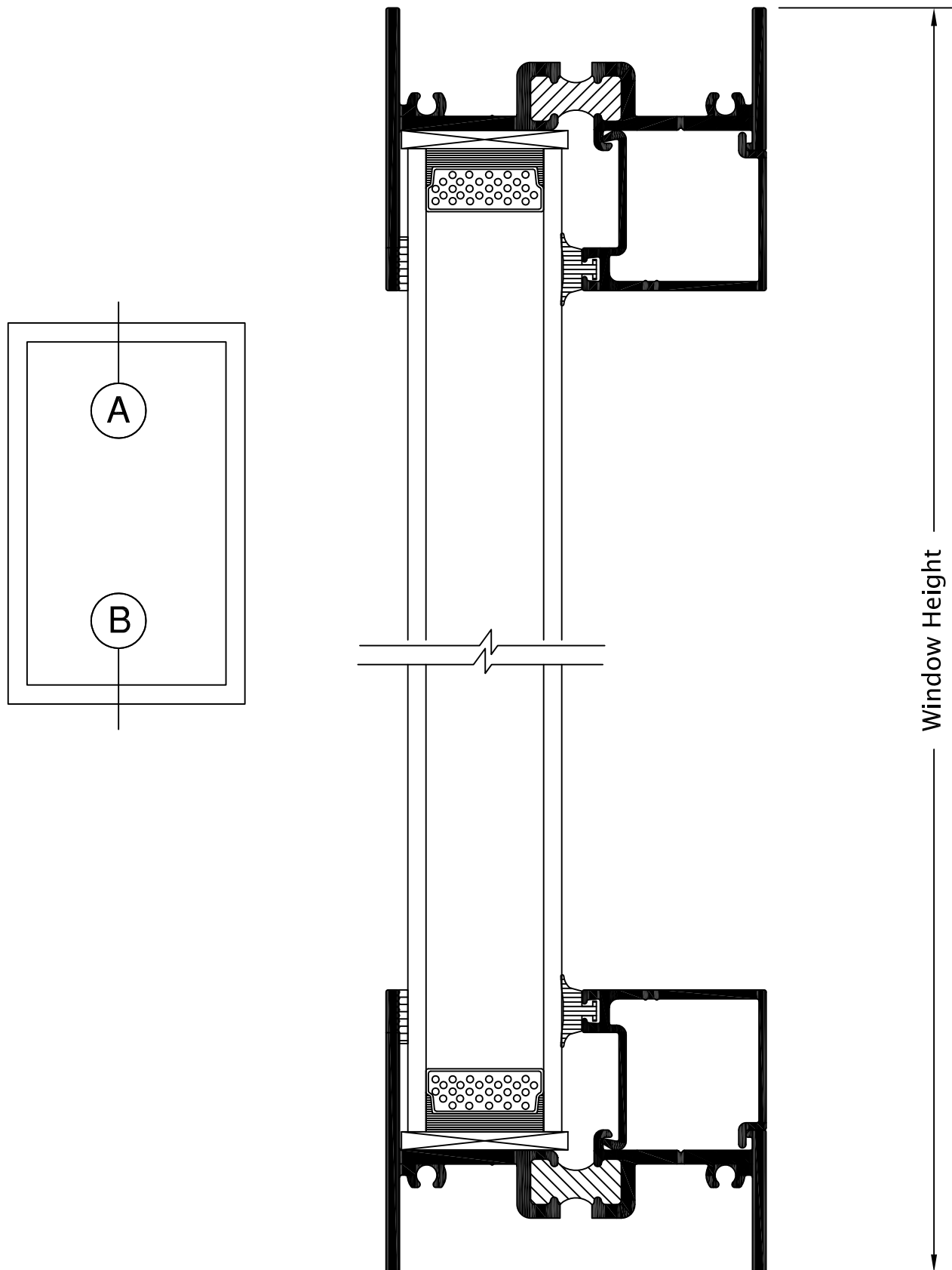


850 PW - 850 PW

See Accessories section for additional options

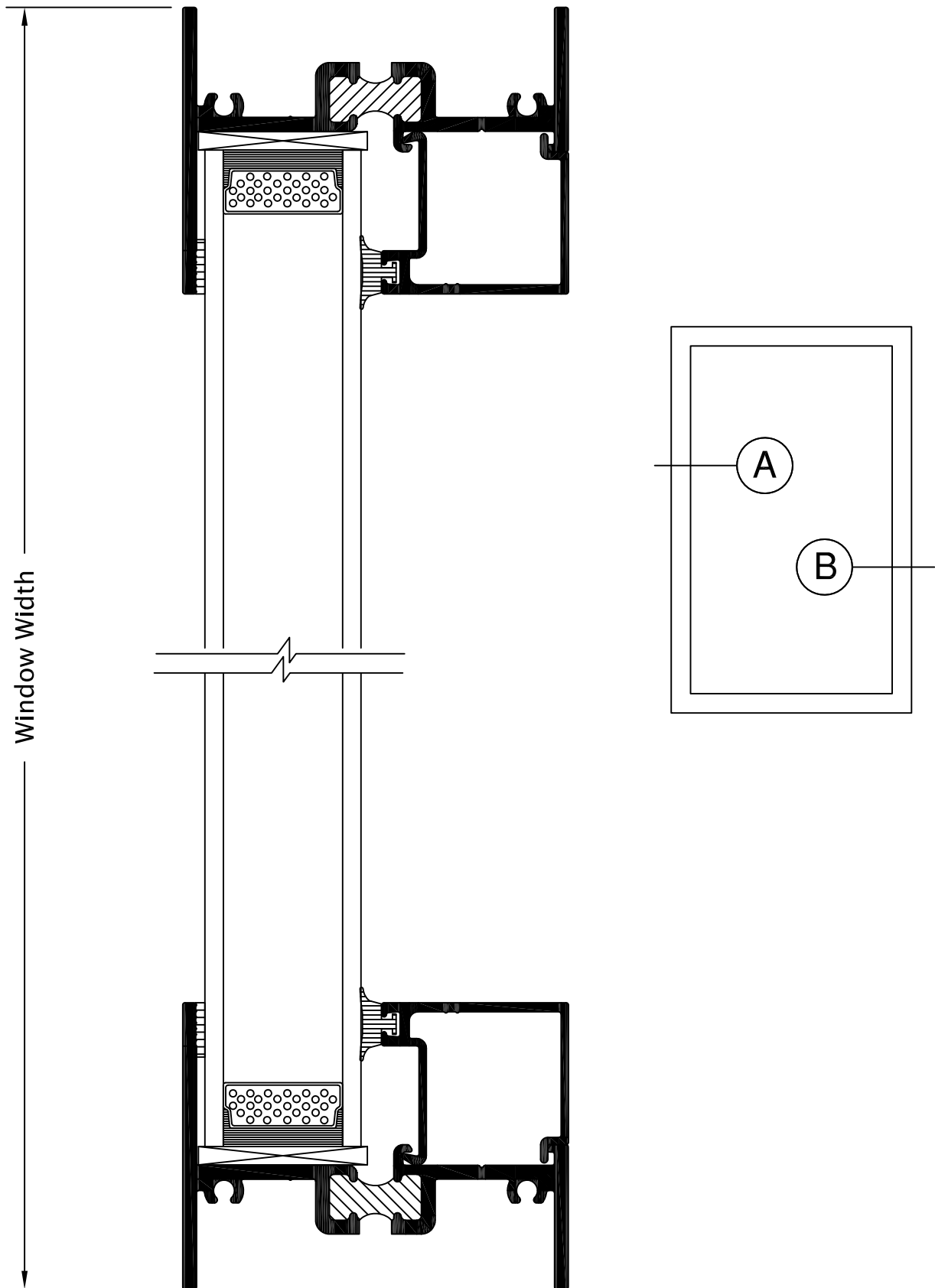
# SERIES 850 2-5/8" FIXED WINDOW (AW75)

Product Details (Scale: Full Size)



# SERIES 850 2-5/8" FIXED WINDOW (AW75)

## Product Details (Scale: Full Size)





# SERIES 850U 2-5/8" FIXED WINDOW (AW75)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 850" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 850" is a fixed lite picture window with thermally improved frame. The specifications and materials for the "Series 850" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame members shall be a nominal thickness of .094. Main frame shall be 2.625" in depth. Main frames are to be extruded aluminum with a structural thermal barrier of glass reinforced 28mm twin polyimide strips.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. All screws at joints of main frame shall be secured into integral screw ports.

Glazing - Glass shall be inside glazed with a butyl glazing tape and snap in extruded aluminum glazing bead containing a vinyl insert. The insulated glass units shall be 1.375" overall thickness with two lites of .125" glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2188-02 / ASTM E 2190-02 specification, Class "A".

Finish - Shall be a factory applied baked polyurethane powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Standard Tier I colors available are bronze, white, crème, sandstone, and almond. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of ANSI/AAMA 101/I.S.2/A440-05,FW-AW70/A440-08-AW-PG70 specification.

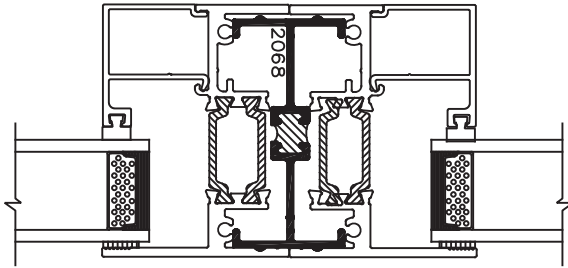
### V. INSTALLATION:

Qualifications - Only skilled mechanics with experience in this trade. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

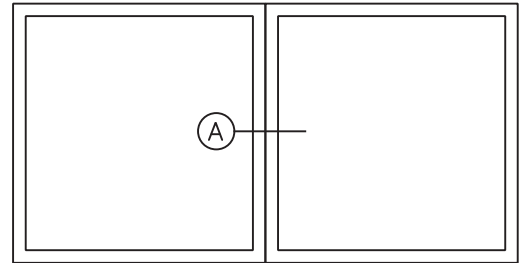
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 850U 2-5/8" FIXED WINDOW (AW75)

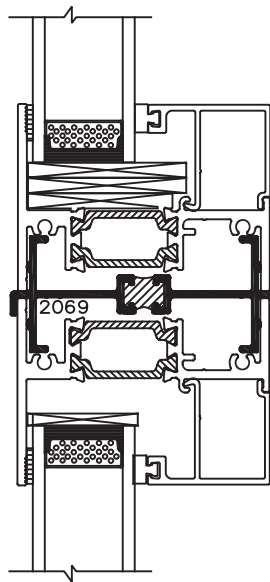
Typical Configurations (Scale: Half Size)



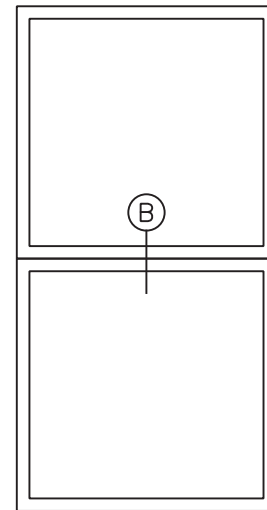
Ⓐ 850U PW - 850U PW



850U PW - 850U PW



Ⓑ 850U PW - 850U PW

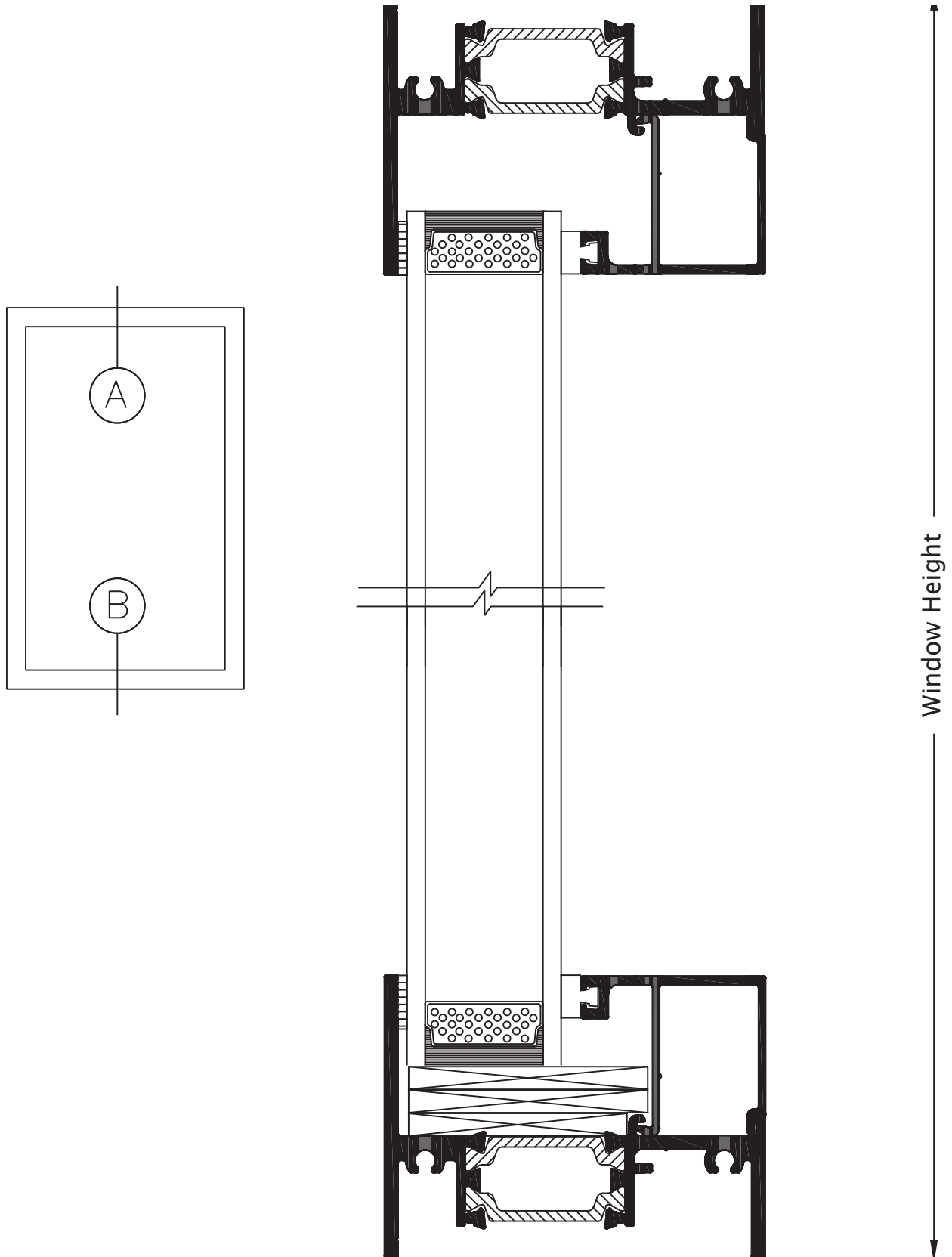


850U PW - 850U PW

See Accessories section for additional options

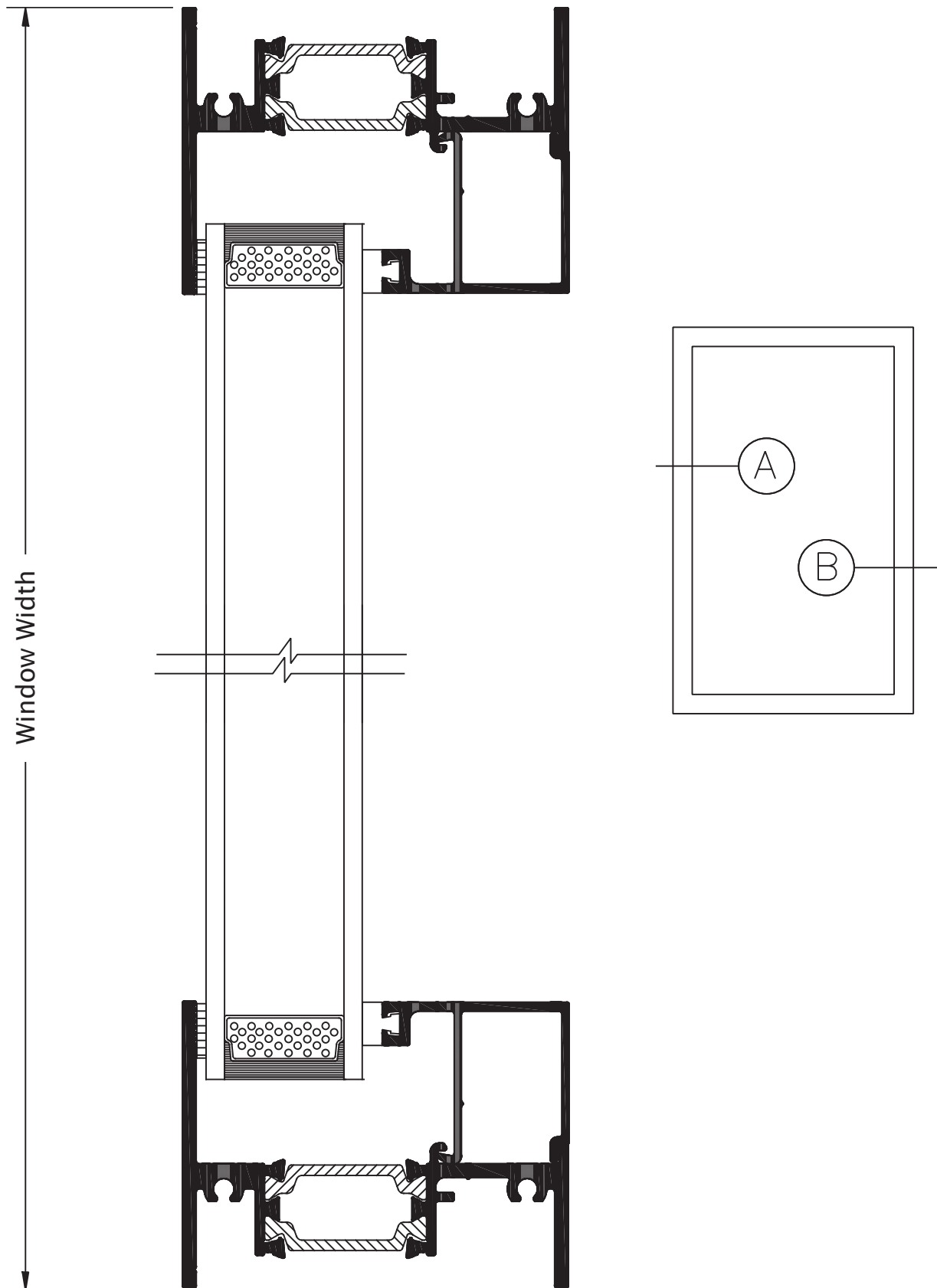
# SERIES 850U 2-5/8" FIXED WINDOW (AW75)

Product Details (Scale: Full Size)



# SERIES 850U 2-5/8" FIXED WINDOW (AW75)

## Product Details (Scale: Full Size)



# SERIES 1450 3-1/4" FIXED WINDOW (CW80)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 1450" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 1450" is a fixed window with thermally improved frame. The specifications and materials for the "Series 1450" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 3.25" in depth. Main frames are to be extruded aluminum with a dual insulbar thermal barrier system creating a 5/8" wide thermal barrier.

### III. CONSTRUCTION:

Assembly - Main frame shall be of mitered, sealed, crimped and staked corner construction. Each corner shall consist of one extruded aluminum corner key held in place with two die cast retainer pins, one die cast corner key staked in place and one friction fit hard plastic corner key.

Glazing - Glass shall be inside glazed using EPDM gasket at exterior perimeter with extruded aluminum glazing bead and EPDM wedge at interior of glass. The insulated glass units shall be 1" overall thickness with the interior and exterior lite of double strength glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA101/I.S.2/A440-08, CW-PG80 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

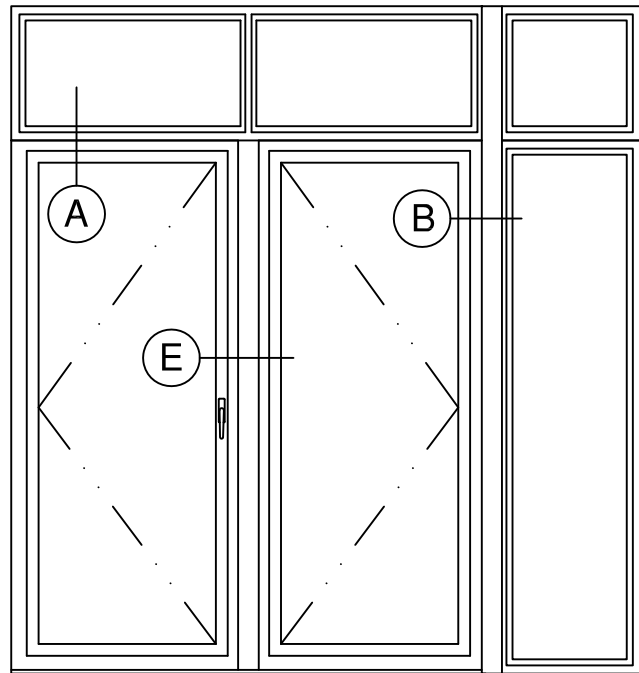
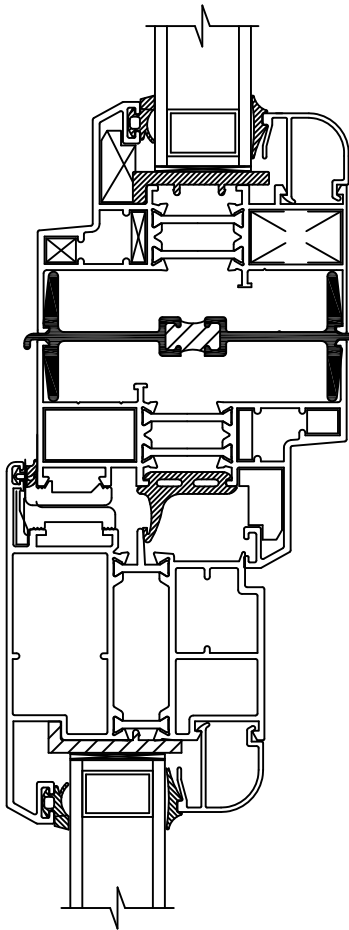
### V. INSTALLATION:

Qualifications - Only skilled mechanics with experience in this trade. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

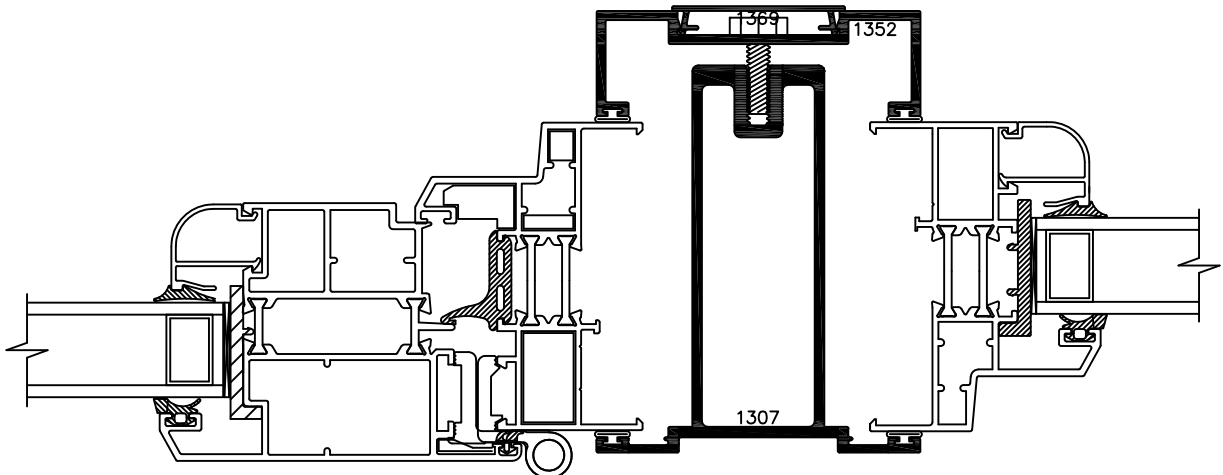
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 1450 3-1/4" FIXED WINDOW (CW80)

Typical Configurations (Scale: Half Size)



(A) 1450 PW - 1400 TD

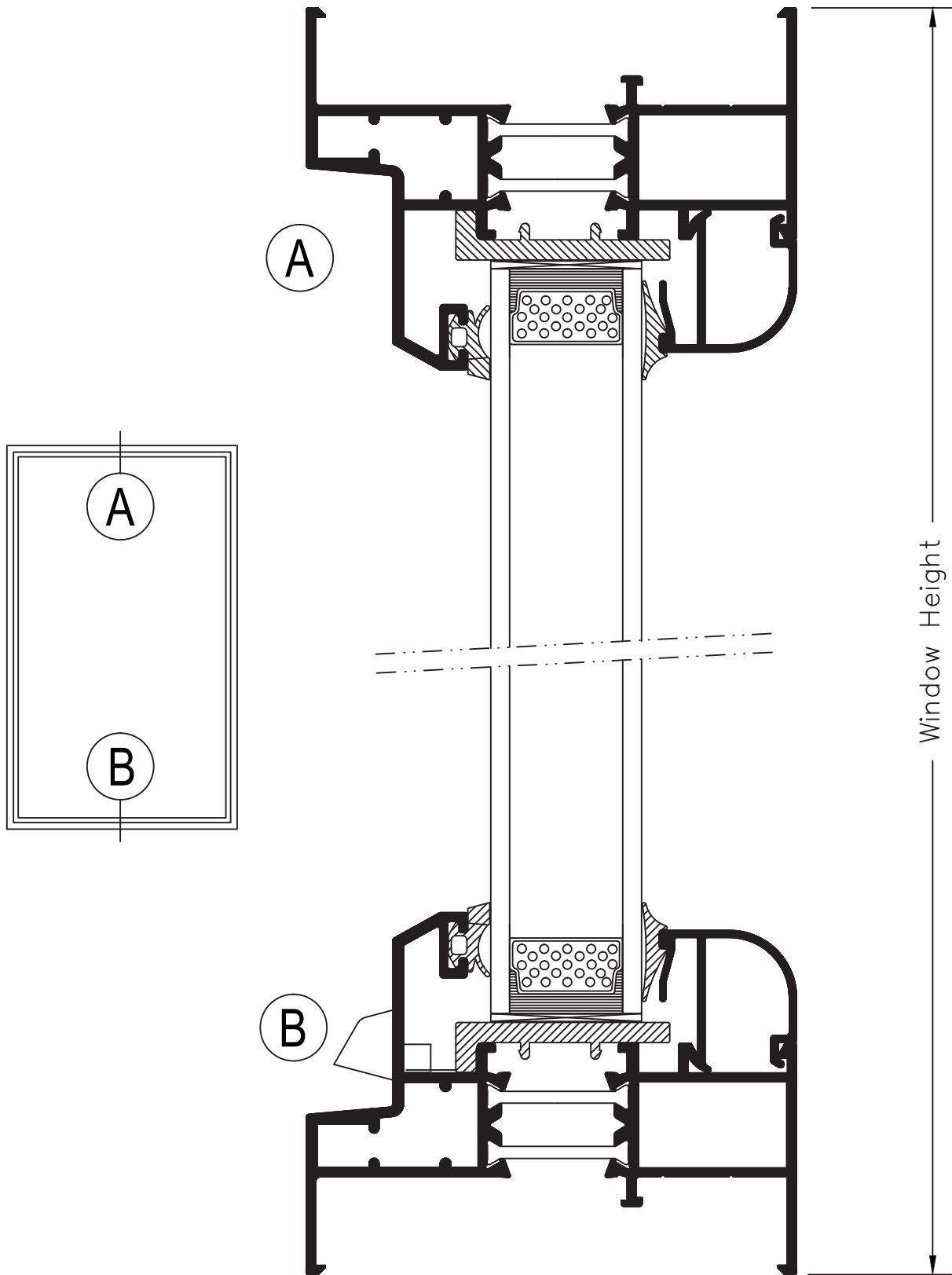


(B) 1400 TD - 1450 PW

See Accessories section for additional options

# SERIES 1450 3-1/4" FIXED WINDOW (CW80)

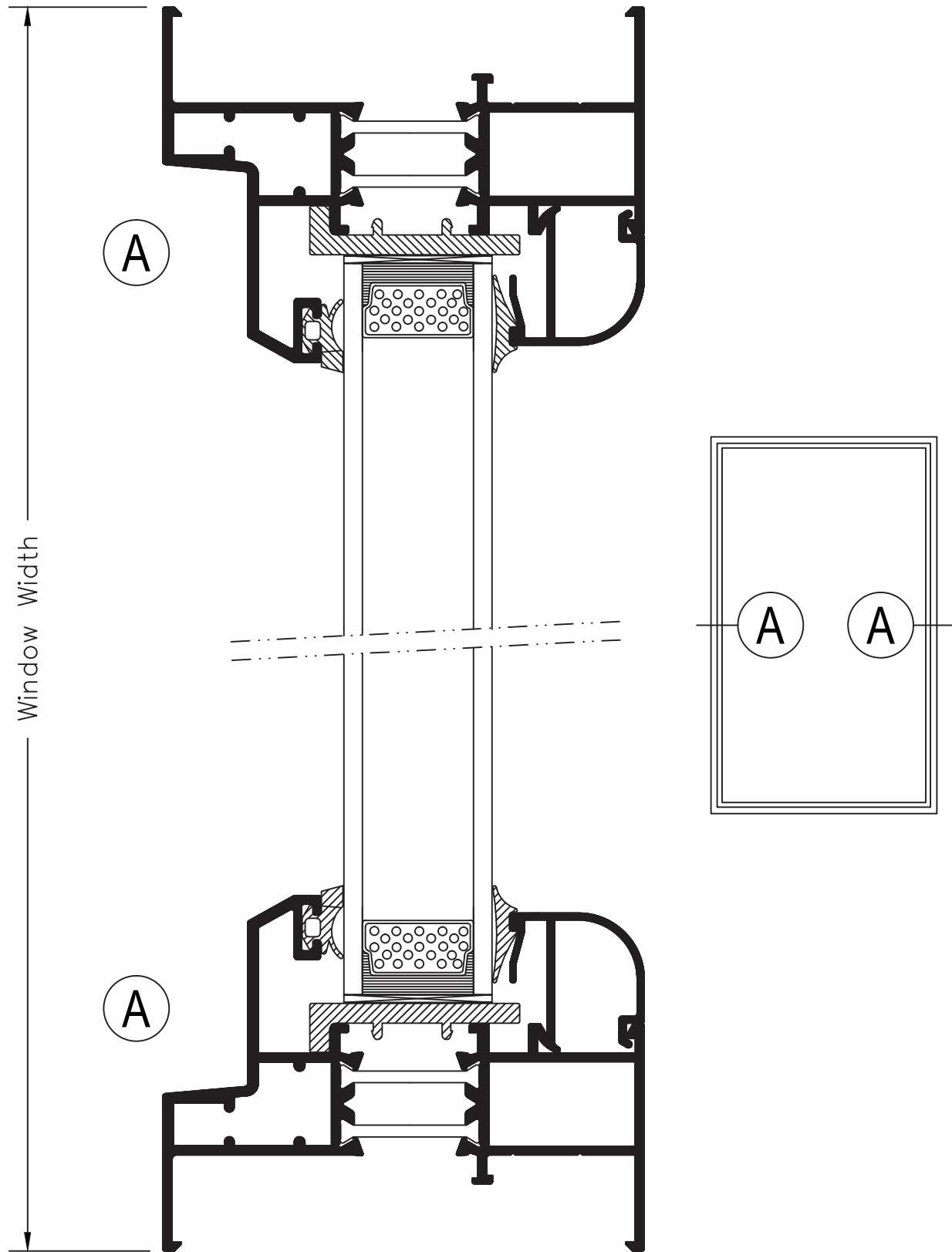
Product Details (Scale: Full Size)





# SERIES 1450 3-1/4" FIXED WINDOW (CW80)

Product Details (Scale: Full Size)



# SERIES 4150 4" FIXED WINDOW (AW80)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 4150" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 4150" is a fixed lite picture window with a thermally improved frame. The specifications and materials for the "Series 4150" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 4.000" in depth. Main frames members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass shall be factory glazed with an interior aluminium glazing bead with a wedge gasket. The insulated glass units shall be 1.000" overall thickness with two lites of .125" glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Standard Tier I colors available are bronze, white, crème, sandstone, and almond. Bronze anodizing, clear anodizing and high performance AAMA 605.2 finishes are optional.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, AW-PG80 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

AT/FP - Shall meet the requirements of UFC 4-010-01. Engineering Calculations to ASTM F 2248-03 and/or Shock Tube Testing to ASTM F 1642/GSA TS01 Level 2/Minimal Hazard.

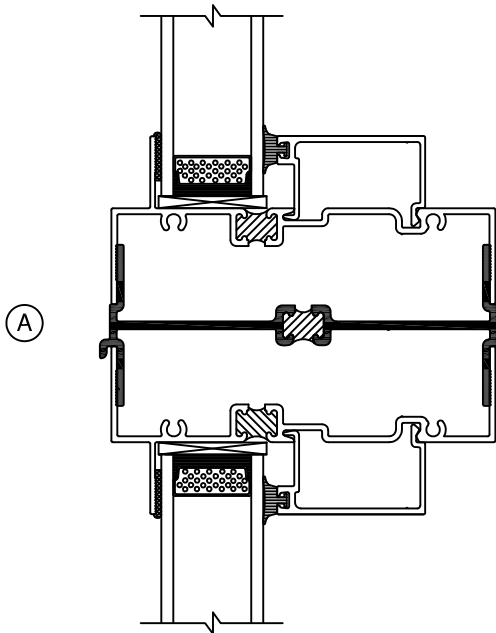
### V. INSTALLATION:

Qualifications - Only skilled mechanics with experience in this trade. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

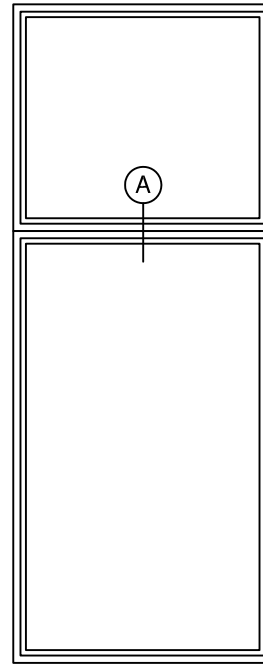
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 4150 4" FIXED WINDOW (AW80)

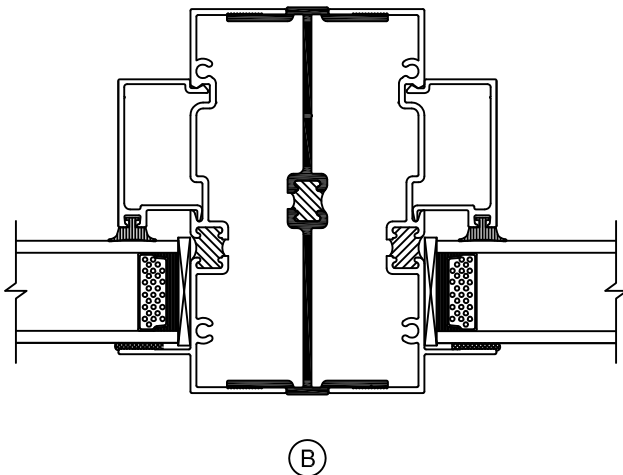
## Typical Configurations (Scale: Half Size)



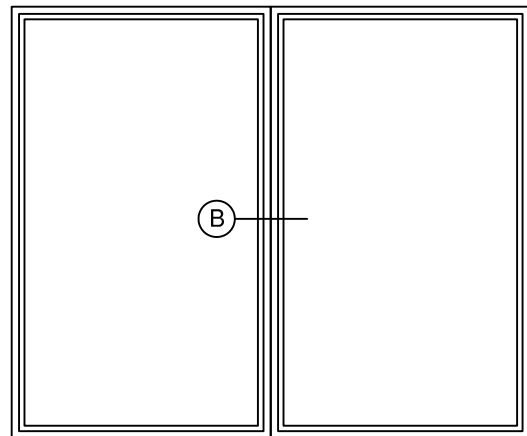
Ⓐ 4150 FW - 4150 FW



4150 FW - 4150 FW



Ⓑ 4150 FW - 4150 FW

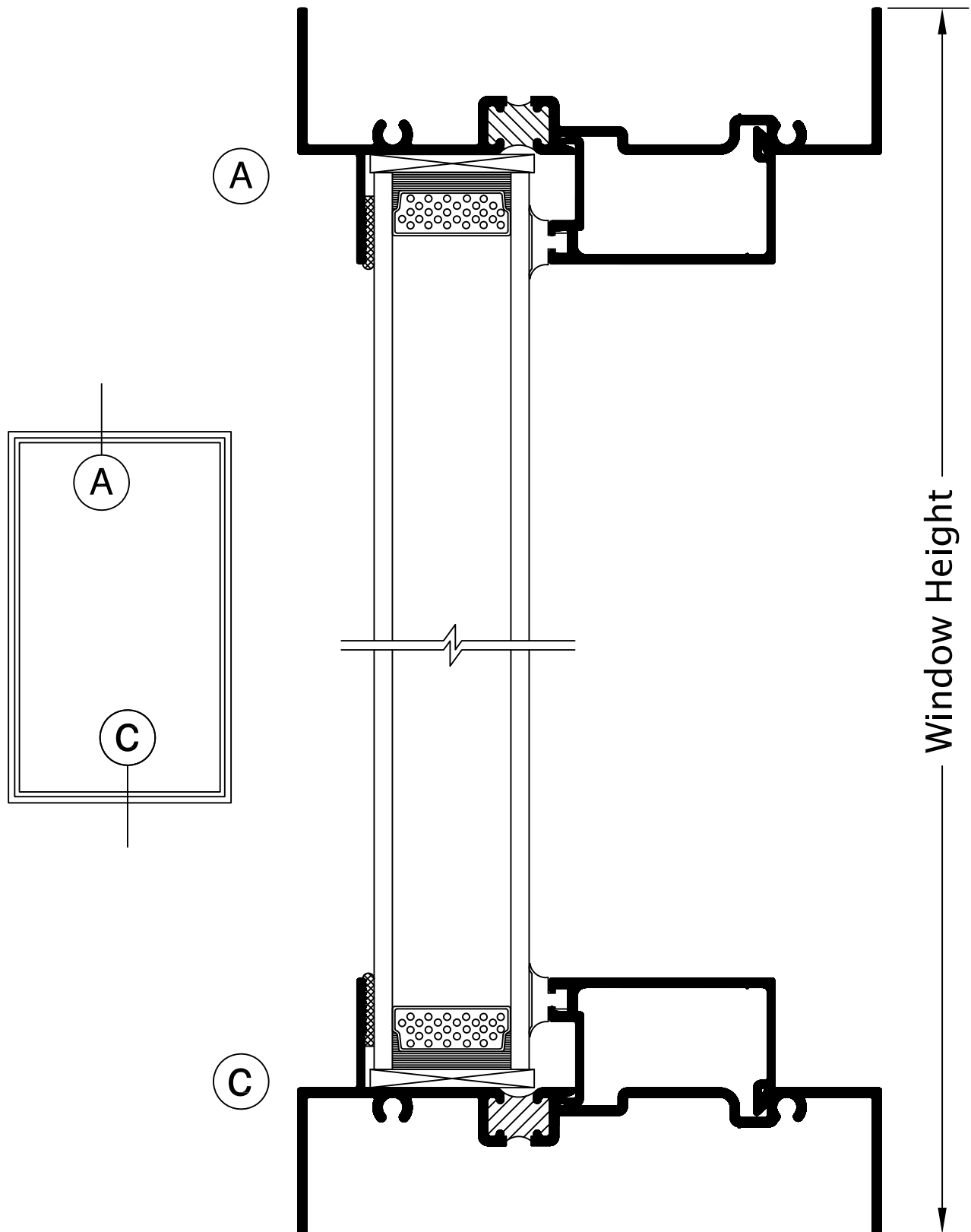


4150 FW - 4150 FW

See Accessories section for additional options

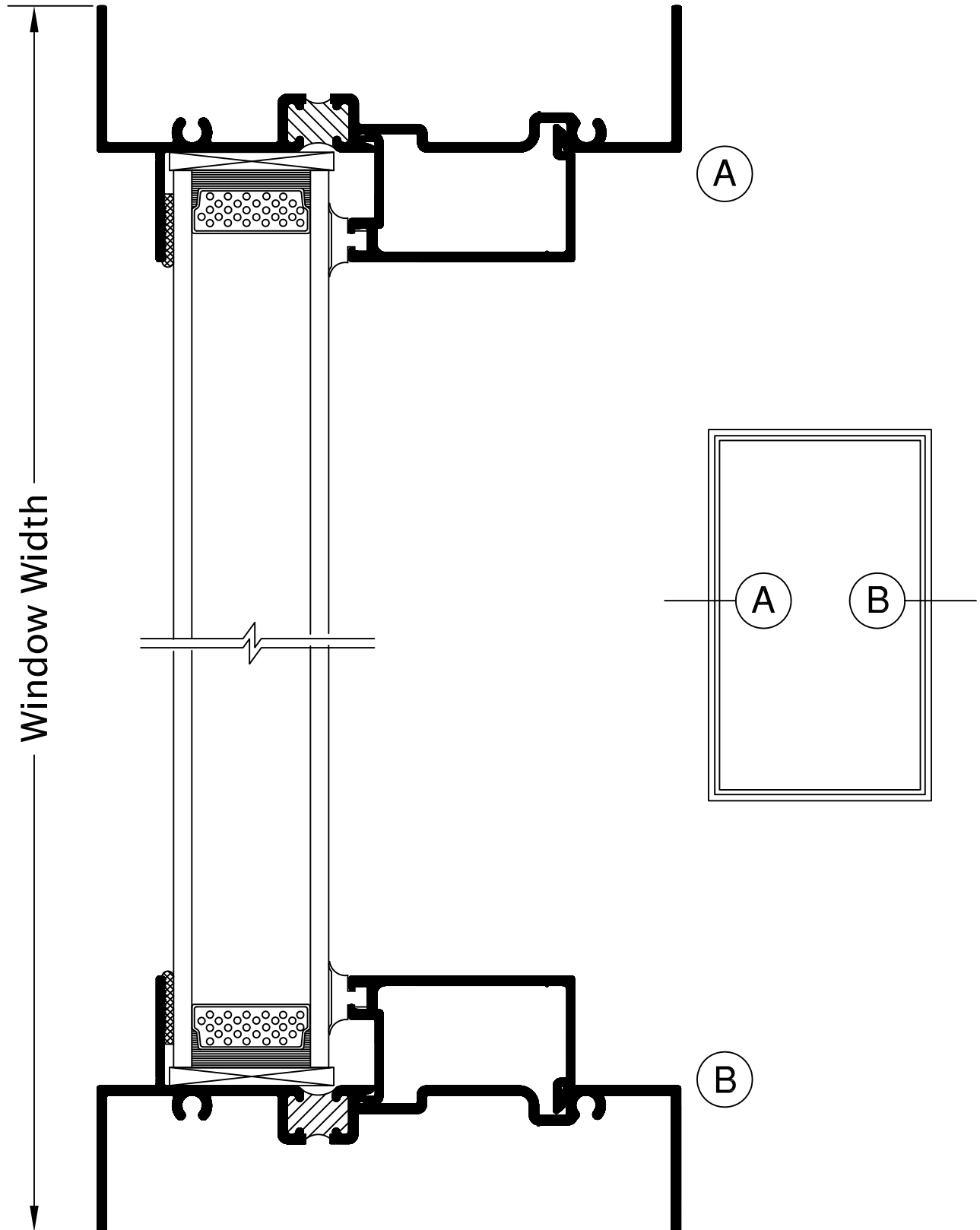
# SERIES 4150 4" FIXED WINDOW (AW80)

Product Details (Scale: Full Size)



# SERIES 4150 4" FIXED WINDOW (AW80)

Product Details (Scale: Full Size)



# SERIES 4150HD 4" FIXED WINDOW (AW80 / IMPACT)

## SPECIFICATIONS

### I. GENERAL: Hurricane Impact Test - Double Glazed

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 4150HD" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 4150HD" is a fixed lite picture window with a thermally improved frame. The specifications and materials for the "Series 4150HD" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 4.000" in depth. Main frames members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass shall be factory glazed with an interior aluminium glazing bead with a wedge gasket. The glazing shall be in accordance with actual impact testing options. The Glazing options include Single Glazed Laminated Units (Large & Small Missile). Optional Insulated Glass Units with Polycarbonate Interlayer (Large & Small Missile). Optional Single Glazed Laminated Units (Large & Small Missile).

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

### IV. PERFORMANCE:

Impact - Shall meet the requirements of AAMA 506-08, ASTM E 1886 and ASTM E 1996.

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, AW-PG80 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

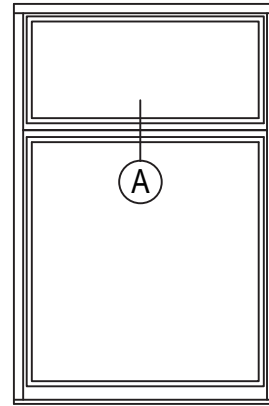
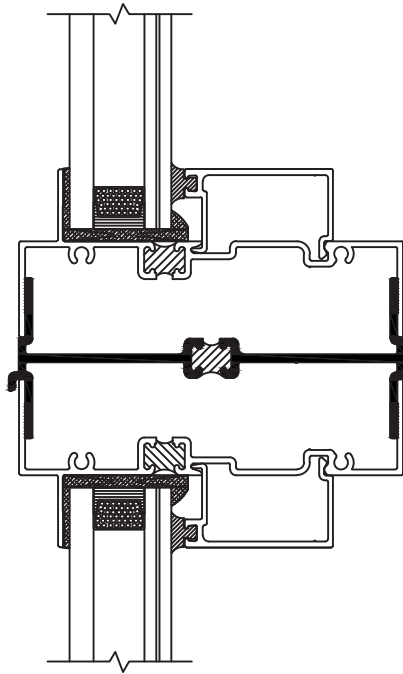
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window

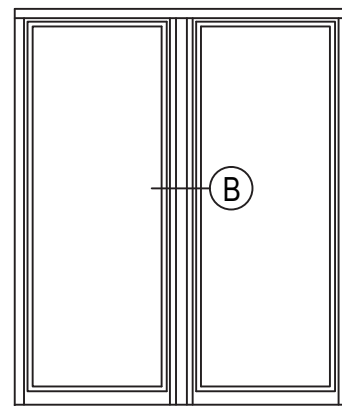
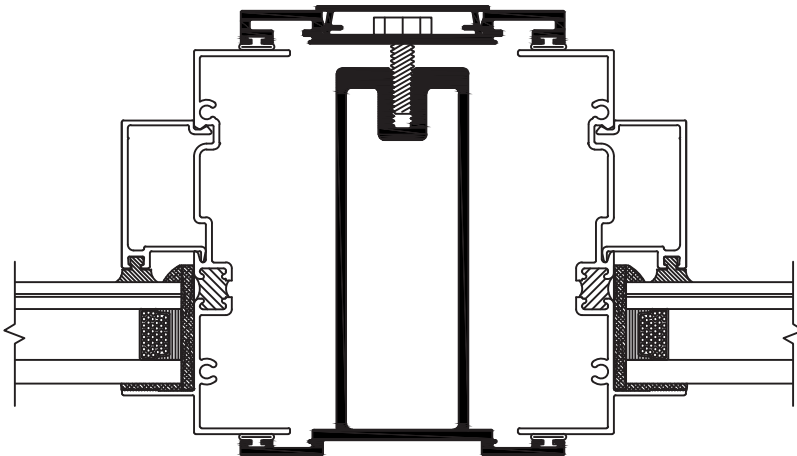
# SERIES 4150HD 4" FIXED WINDOW (AW80 / IMPACT)

## Typical Configurations (Scale: Half Size)



4150-4150

(A) 4150-4150



4150-4150

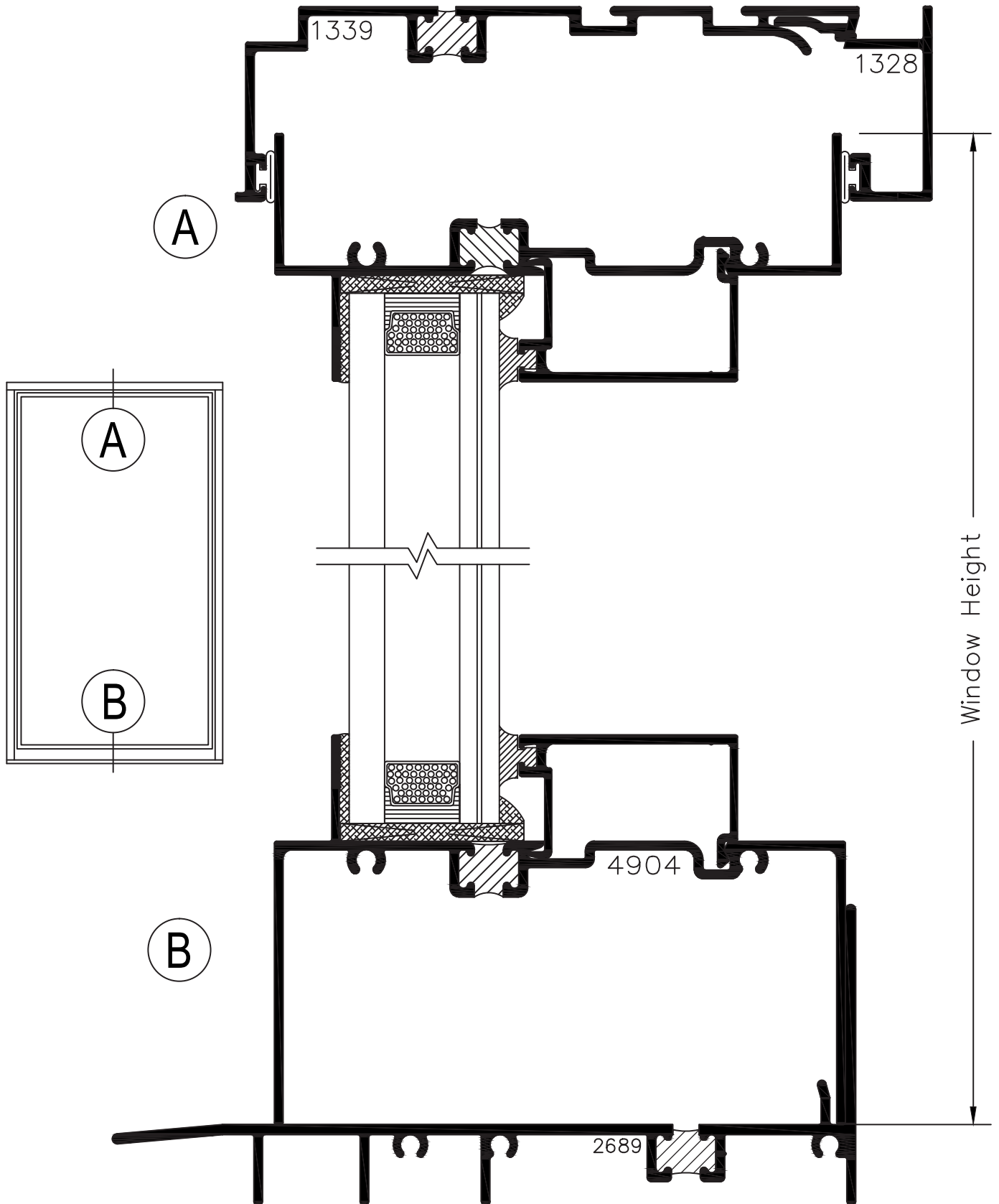
(B) 4150-4150

See Accessories section for additional options



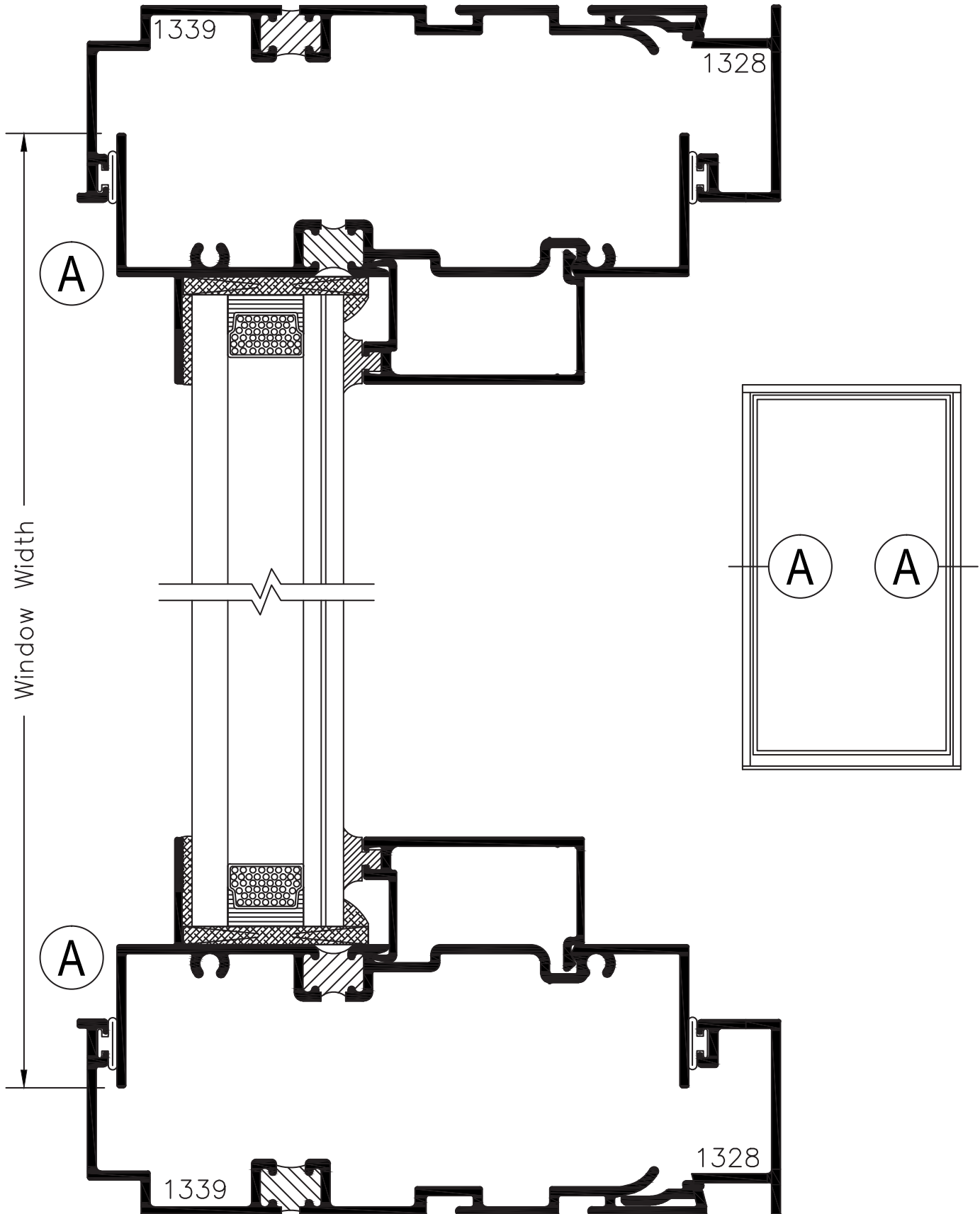
# SERIES 4150HD 4" FIXED WINDOW (AW80 / IMPACT)

Product Details (Scale: Full Size)



# SERIES 4150HD 4" FIXED WINDOW (AW80 / IMPACT)

Product Details (Scale: Full Size)



# SERIES 4151 4-3/8" TRANSOM for SLIDING GLASS DOORS (AW80)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 4151" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 4151" is a fixed window with a thermally improved frame. The specifications and materials for the "Series 4151" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 4.375" in depth. Main frames members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be assembled with two screws at each corner. All screws at joints of sash and main frame shall be secured into integral screw ports.

Glazing - Glass shall be factory glazed with an interior aluminum glazing bead with a wedge gasket. The insulated glass units shall be 1.000" overall thickness with two panes of double strength glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/ CSA 101/I.S.2/ A440-08, AW-PG80 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

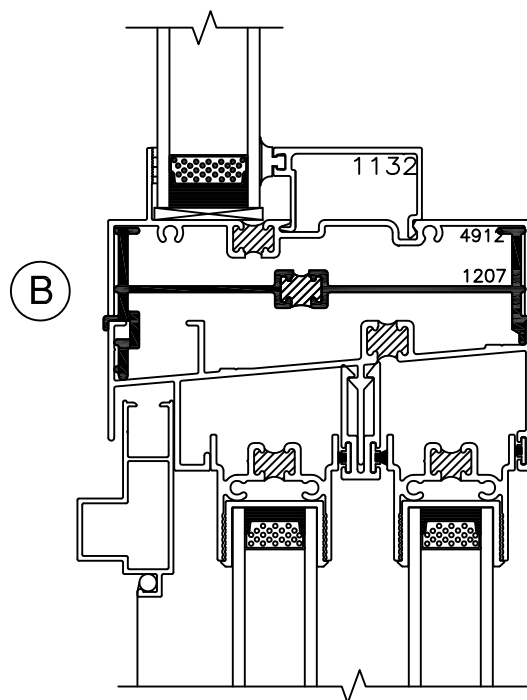
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

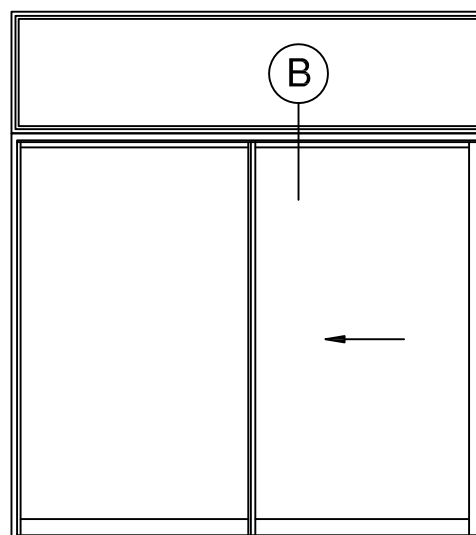
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 4151 4-3/8" TRANSOM for SLIDING GLASS DOORS

Typical Configurations (Scale: Half Size)



4151 - 9900

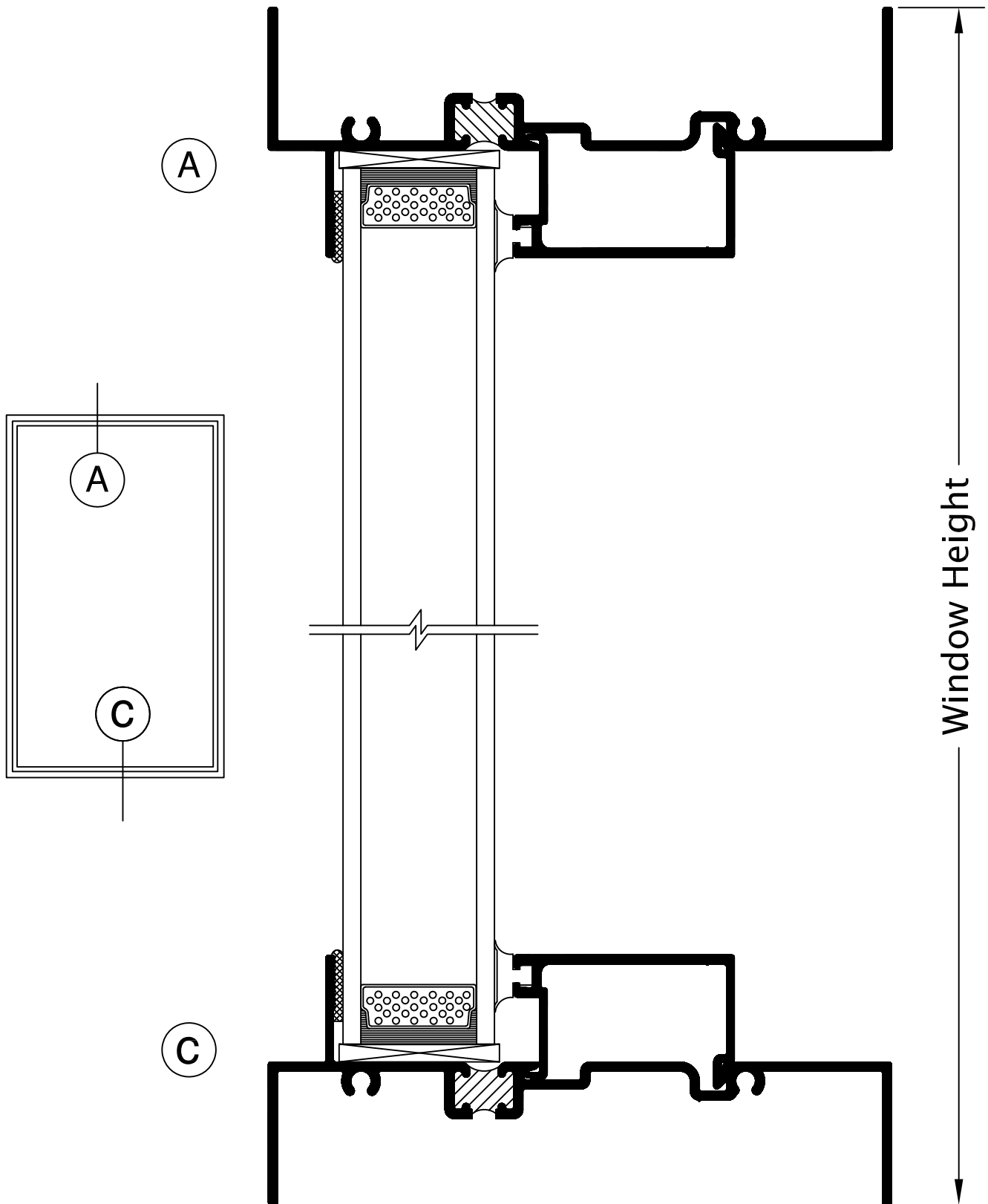


4151 - 9900

See Accessories section for additional options

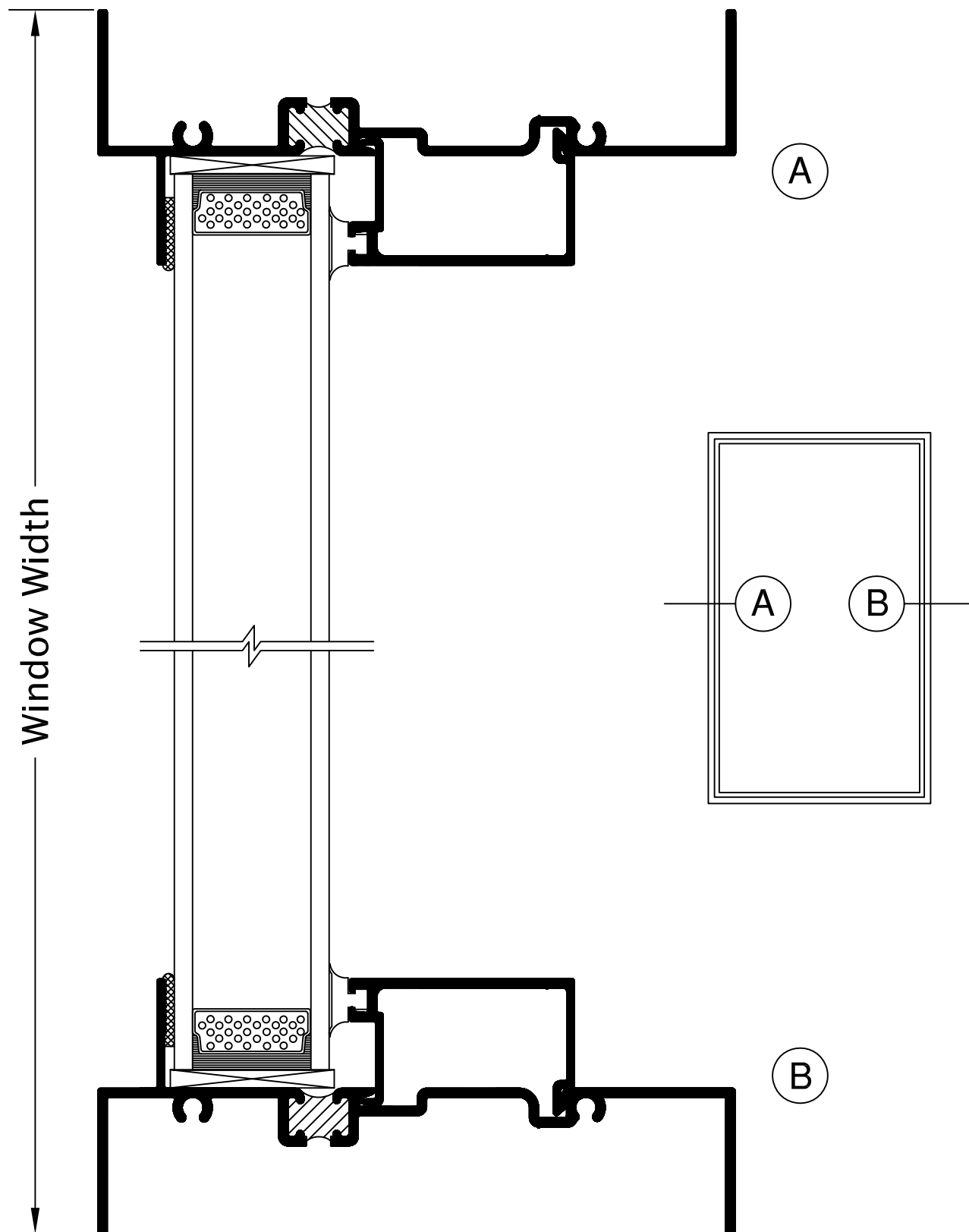
# SERIES 4151 4-3/8" TRANSOM for SLIDING GLASS DOORS

Product Details (Scale: Full Size)



# SERIES 4151 4-3/8" TRANSOM for SLIDING GLASS DOORS

Product Details (Scale: Full Size)





# Casement and Projected Windows



# THERMAL WINDOWS, INC.

## Commercial Casement and Projected Windows for Retrofit and New Construction



(top) 2001 Clarendon, Arlington, VA - Series 800, 810, 825 and 850, Pewter  
(bottom) 1010 Massachusetts Ave, Washington, DC - Series 900, Black

(top) 1340 Figueroa, Los Angeles, CA - Series 825 and 850, Clear Anodized  
(bottom) Yale Apartments, Washington, DC - Series 810 and 825, Super Dark Bronze

Manufactured by Thermal Windows, Inc. • 12805 E. 31<sup>st</sup> Street • Tulsa, OK 74146 • (800) 259-7580 • Fax (918) 665-2197  
Website: [www.thermalwindows.com](http://www.thermalwindows.com) Email: [info@thermalwindows.com](mailto:info@thermalwindows.com)





12805 E. 31st St • Tulsa, OK 74146  
(800) 259-7580 • Fax (918) 665-2197  
Email: [info@thermalwindows.com](mailto:info@thermalwindows.com)  
[www.thermalwindows.com](http://www.thermalwindows.com)

## **PROJECTED / CASEMENT WINDOWS**

### **Standard Features**

- Custom Sizes
- Integral Thermal Barrier throughout frame and sash
- AAMA 2604 organic powder coat finish
- 5 standard powder coat finish colors (see 'Finishes' section)
- Tested to AAMA specifications
- 7/8" Insulated glass (1" in Series 8xx)
- Extruded screen frame with fiberglass mesh

### **Available Options**

- 2<sup>5</sup>/<sub>8</sub>" or 3<sup>1</sup>/<sub>4</sub>" frame depth
- Dual seal insulated glass
- Anodized finishes
- AAMA 2605 high-performance finishes
- Tier 2 colors at no additional charge (minimums apply)
- Hundreds of special colors
- Low-E glass; tinted glass; obscure (frosted) glass
- Spandrel glass; insulating panels
- Wire screen mesh
- Panning, receptor systems, snap trim, angle trim
- Internal, external and special angled mullions
- Nailing fin
- Pole operators
- Crank, manual or motorized operators
- Internal and external applied muntins

# SERIES 800 2-5/8" SINGLE OUTSWING CASEMENT (AW70)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor, and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 800" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 800" is an operable, outswing sash with concealed hinges, cam handles with a thermally improved frame and vent. The specifications and materials for the "Series 800" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame shall be a minimum nominal thickness of .094" and vent members shall be a minimum nominal thickness of .062". Main frame shall be 2.625" in depth. Main frames and vent members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Hardware - Lock shall consist of two face-mounted cam locking assemblies. Window operator mechanism shall be the single arm by Truth. Operator shall be of drag arm / link design and constructed of Corrosion Guard<sup>®</sup> components, hardened steel worm and gearing and high pressure zinc alloy die cast housing. Each vent shall have cam handle locks in a painted finish.

Hinges - Shall consist of a two stainless steel, four bar, adjustable friction concealed hinges meeting AAMA 904.1. Hinges shall be constructed of high quality stamped and roll formed materials.

Weatherstripping - Shall have two rows of foam filled soft vinyl bulb weatherstrip at full perimeter of vents.

### III. CONSTRUCTION:

Assembly - Main frame shall be coped, butt joined and mechanically fastened with two screws. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be mitered, sealed and crimped into corner inserts. All screws at joints shall be secured into integral screw ports.

Glazing - Glass in the vent shall be factory glazed using butyl glazing tape with extruded aluminum glazing bead and vinyl wedge at interior of glass. The insulated glass units shall be 1" overall thickness with the interior lite of double strength glass, separated by a .750" air space

for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be full length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The ventilator projects out to a 90 degree position for the widest possible egress opening. Hinges shall be non-handed and project the vent while opening to avoid interference between main frame and sash.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, AW-PG70 specification.

Thermal - Shall meet the requirements of AAMA 1504.88 CRF 79 / 63.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

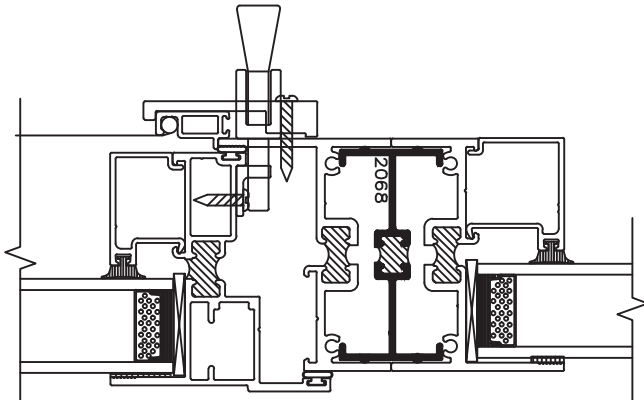
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

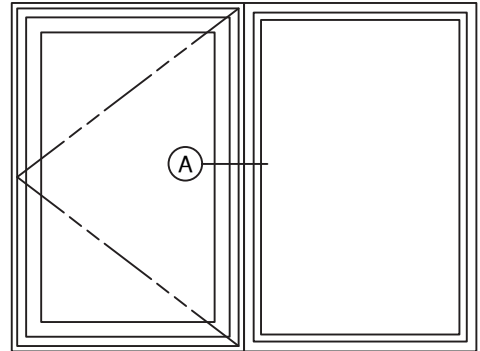
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 800 2-5/8" SINGLE OUTSWING CASEMENT (AW70)

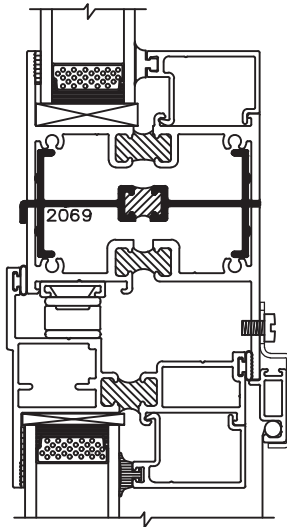
## Typical Configurations (Scale: Half Size)



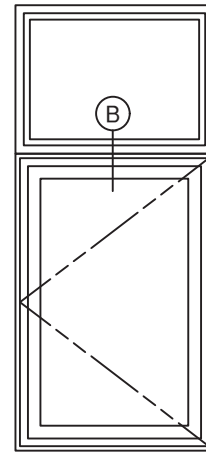
(A) 800 CASEMENT - 850 PW



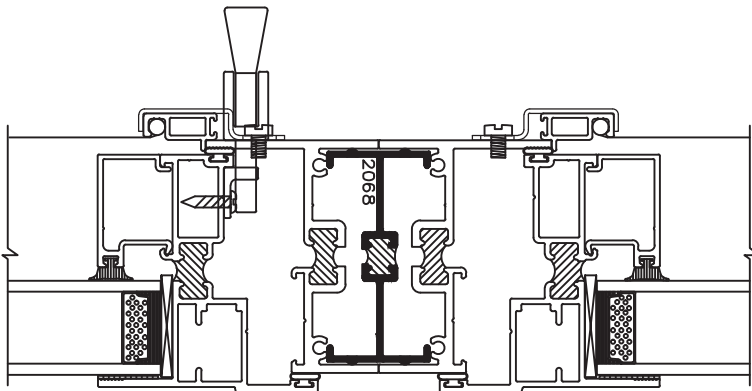
800 CASEMENT - 850 PW



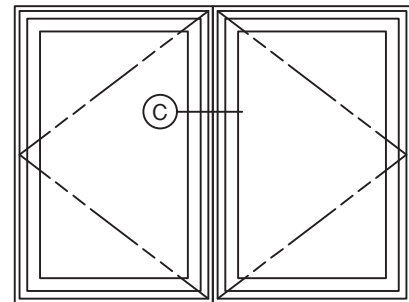
(B) 850 PW - 800 CASEMENT



850 PW - 800 CASEMENT



(C) 800 CASEMENT - 800 CASEMENT

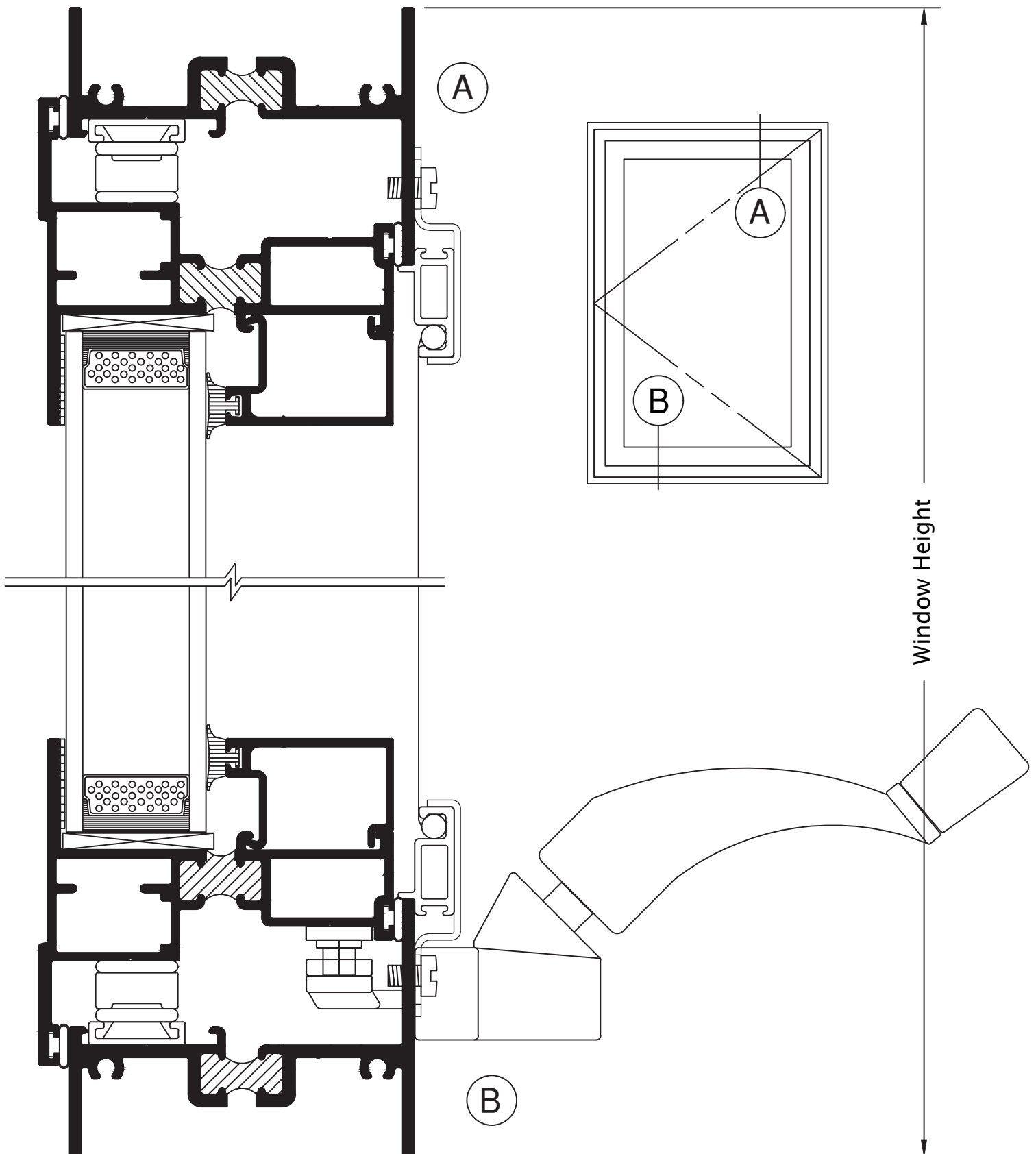


800 CASEMENT - 800 CASEMENT

See Accessories section for additional options

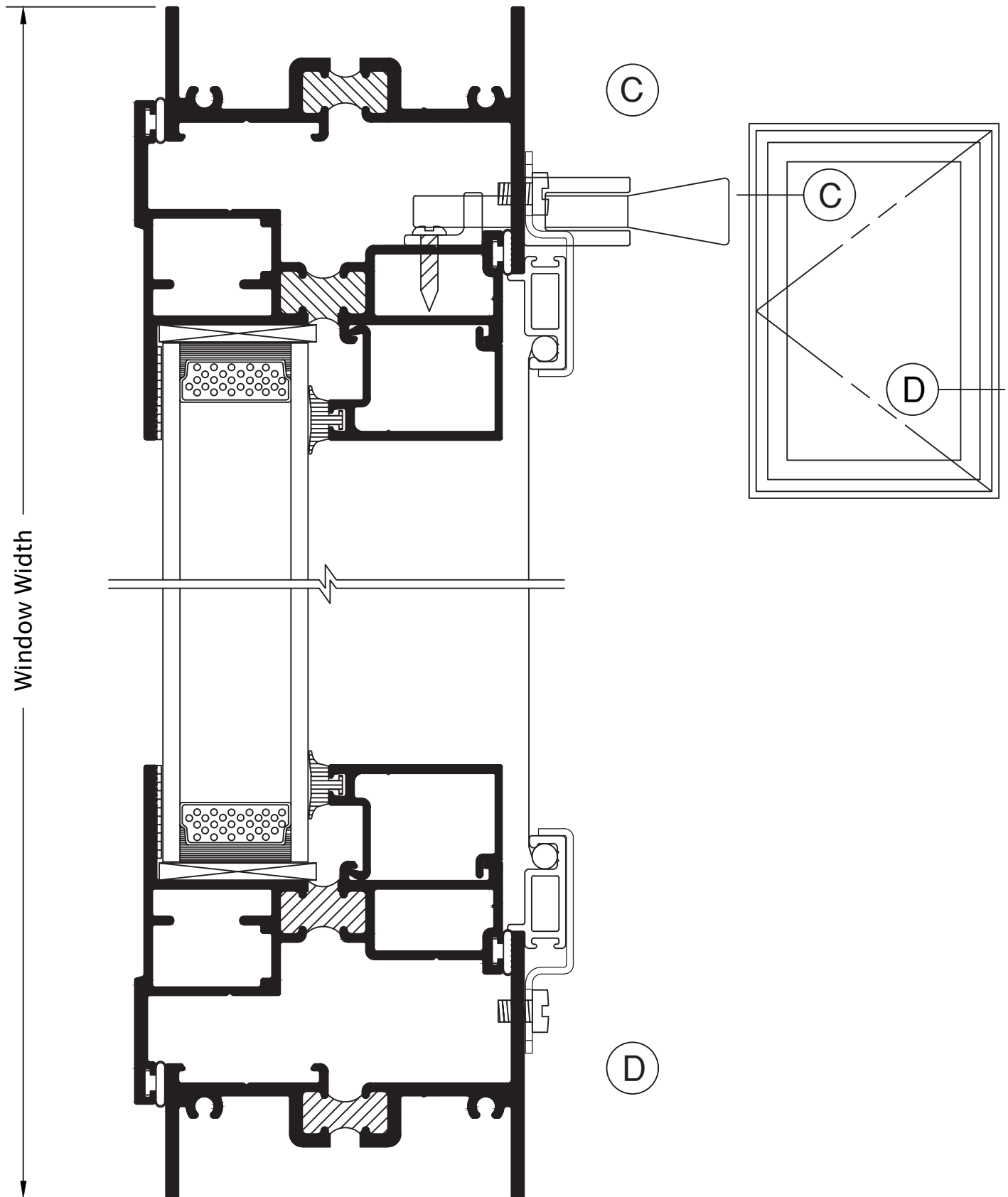
# SERIES 800 2-5/8" SINGLE OUTSWING CASEMENT (AW70)

Product Details (Scale: Full Size)



# SERIES 800 2-5/8" SINGLE OUTSWING CASEMENT (AW70)

Product Details (Scale: Full Size)



# SERIES 800U 2-5/8" SINGLE OUTSWING CASEMENT (AW70)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor, and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 800U" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 800U" is an operable, outswing sash with concealed hinges, cam handles with a thermally improved frame and vent. The specifications and materials for the "Series 800U" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame shall be a minimum nominal thickness of .094" and vent members shall be a minimum nominal thickness of .062". Main frame shall be 2.625" in depth. Main frames and vent members are to be extruded aluminum with a structural thermal barrier of glass-reinforced 28mm twin polyamide strips.

Hardware - Lock shall consist of two face-mounted cam locking assemblies. Window operator mechanism shall be the single arm Roto operator by Truth. Operator shall be of drag arm / link design and constructed of Corrosion Guard® components, hardened steel worm and gearing and high pressure zinc alloy die cast housing. Each vent shall have cam handle locks in a painted finish.

Hinges - Shall consist of a two stainless steel, four bar, adjustable friction concealed hinges meeting AAMA 904.1. Hinges shall be constructed of high quality stamped and roll formed materials.

Weatherstripping - Shall have two rows of soft vinyl weatherstrip at full perimeter of vents.

### III. CONSTRUCTION:

Assembly - Main frame shall be coped, butt joined and mechanically fastened with two screws. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be mitered, sealed and crimped into corner inserts. All screws at joints shall be secured into integral screw ports.

Glazing - Glass in the vent shall be factory glazed using butyl glazing tape with extruded aluminum glazing bead and vinyl wedge at interior of glass. The insulated glass units shall be 1" overall thickness with the interior lite of double strength glass, separated by a .750" air space

for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A". Optional glazing thickness available for increased thermal performance.

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be full length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The ventilator projects out to a 90 degree position for the widest possible egress opening. Hinges shall be non-handed and project the vent while opening to avoid interference between main frame and sash.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, AW-PG70 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Forced Entry - Shall meet the requirements for ASTM F588 Load Identification Grade 10.

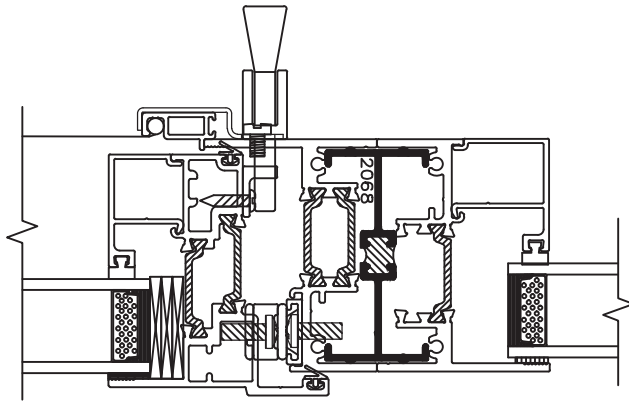
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

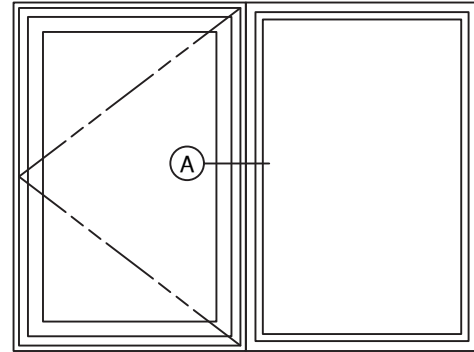
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 800U 2-5/8" SINGLE OUTSWING CASEMENT (AW70)

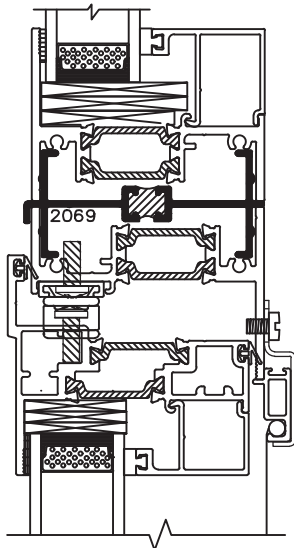
Typical Configurations (Scale: Half Size)



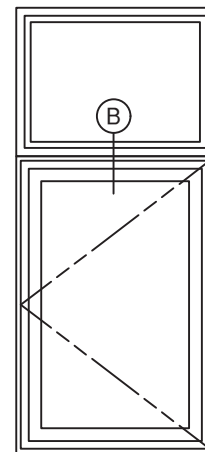
(A) 800U CASEMENT - 850U PW



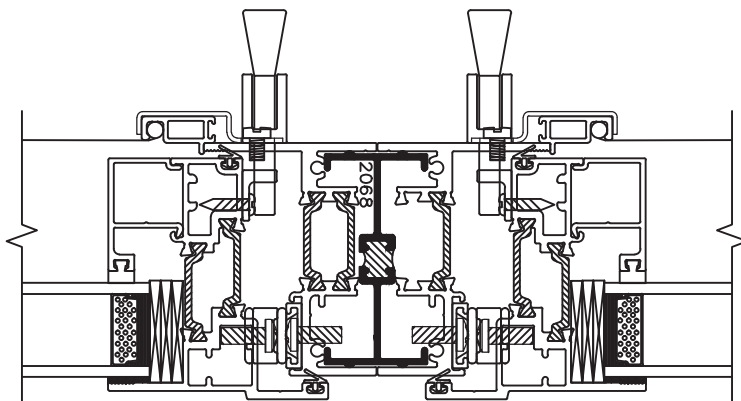
800U CASEMENT - 850U PW



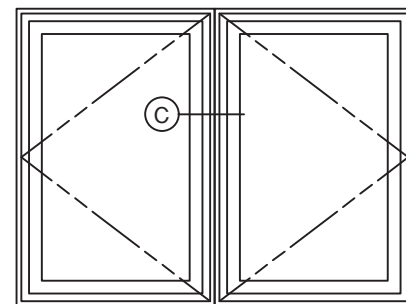
(B) 850U PW - 800U CASEMENT



850U PW - 800U CASEMENT



(C) 800U CASEMENT - 800U CASEMENT



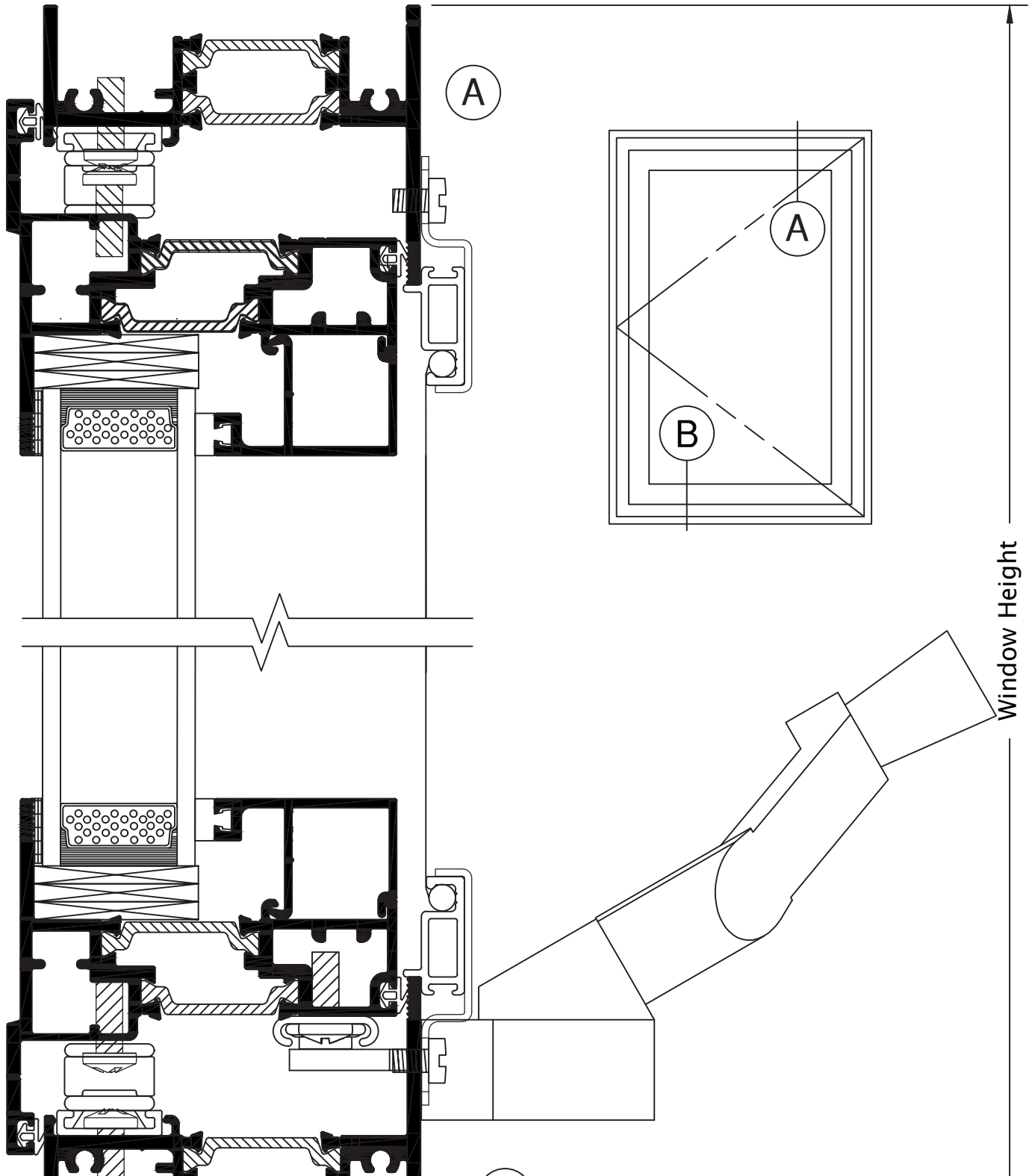
800U CASEMENT - 800U CASEMENT

See Accessories section for additional options



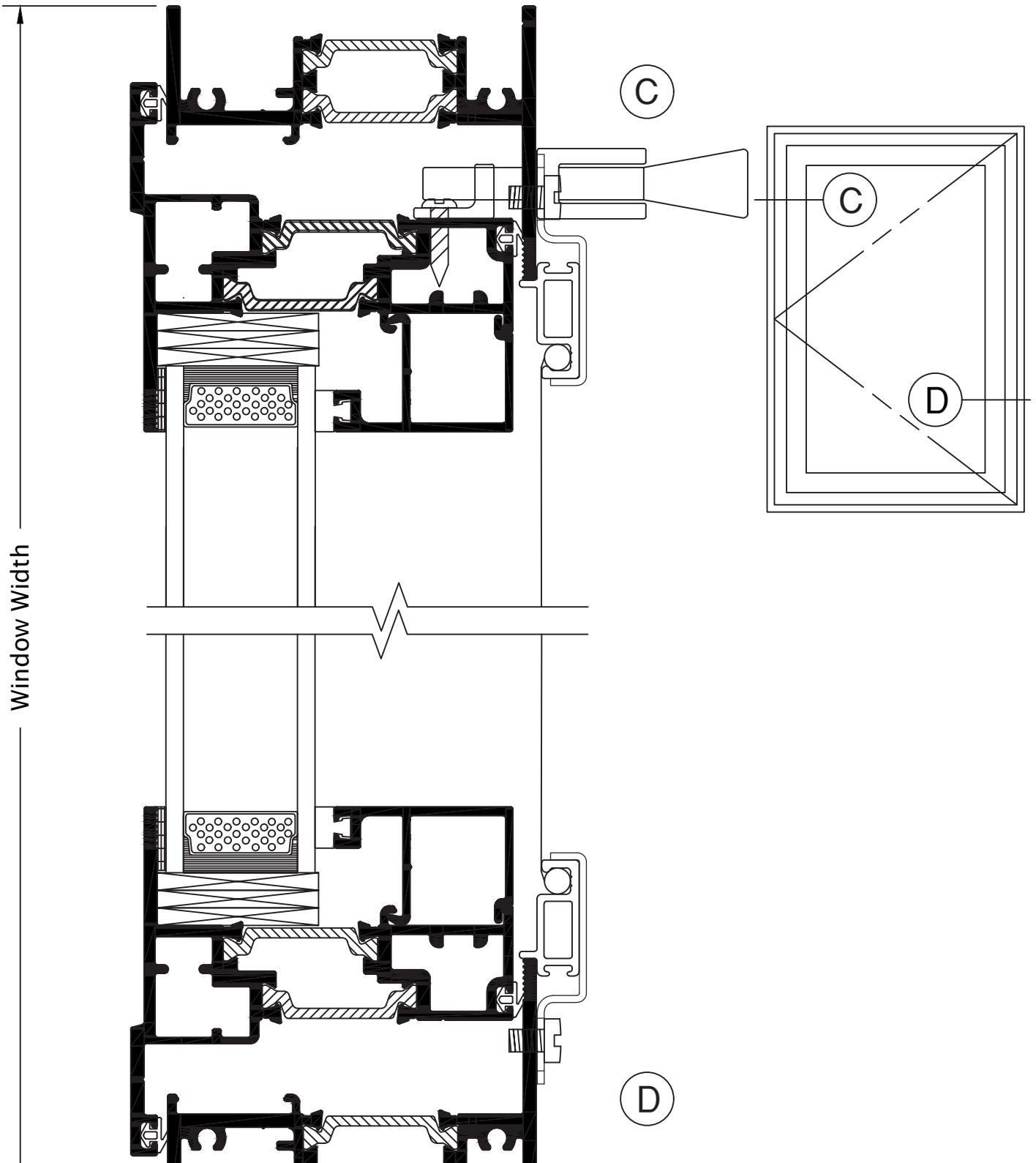
# SERIES 800U 2-5/8" SINGLE OUTSWING CASEMENT (AW70)

Product Details (Scale: Full Size)



# SERIES 800U 2-5/8" SINGLE OUTSWING CASEMENT (AW70)

Product Details (Scale: Full Size)



# SERIES 810 2-5/8" DUAL OUTSWING CASEMENT (AW70)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor, and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 810" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 810" is a double operable, outswing sash with concealed hinges, cam handles with thermally improved frame and vent. The specifications and materials for the "Series 810" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame shall be a minimum nominal thickness of .094" and vent members shall be a minimum nominal thickness of .062". Main frame shall be 2.625" in depth. Main frames and vent members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Hardware - Lock shall consist of two single point locking handle assemblies. Window operator mechanism shall be the Dyad Operator by Truth. Operator shall be of drag arm / link design and constructed of Corrosion Guard<sup>®</sup> components, hardened steel worm and gearing and high pressure zinc alloy die cast housing.

Hinges - Shall consist of a two stainless steel, four bar, adjustable friction concealed hinges meeting AAMA 904.1. Hinges shall be constructed of high quality stamped and roll formed materials.

Weatherstripping - Shall have two rows of foam filled soft vinyl bulb weatherstrip at full perimeter of vents.

### III. CONSTRUCTION:

Assembly - Main frame shall be coped, butt joined and mechanically fastened with two screws. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be mitered, sealed and crimped into corner inserts. All screws at joints shall be secured into integral screw ports.

Glazing - Glass in the vent shall be factory glazed using butyl glazing tape with extruded aluminum glazing bead and vinyl wedge at interior of glass. The insulated glass units shall be 1" overall thickness with the interior lite of double strength glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be full length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The ventilator projects out to a 90 degree position for the widest possible egress opening. Hinges shall be non-handed and project the vent while opening to avoid interference between main frame and sash.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, AW-PG70 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

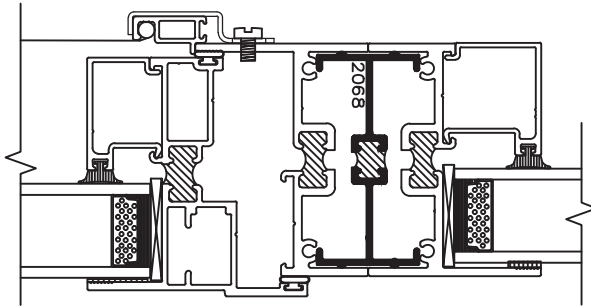
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

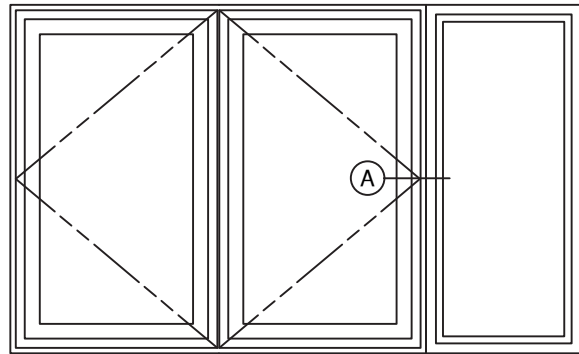
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 810 2-5/8" DUAL OUTSWING CASEMENT (AW70)

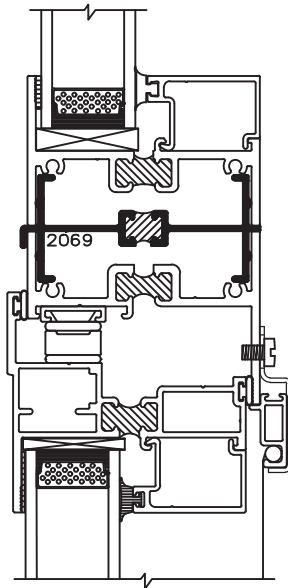
## Typical Configurations (Scale: Half Size)



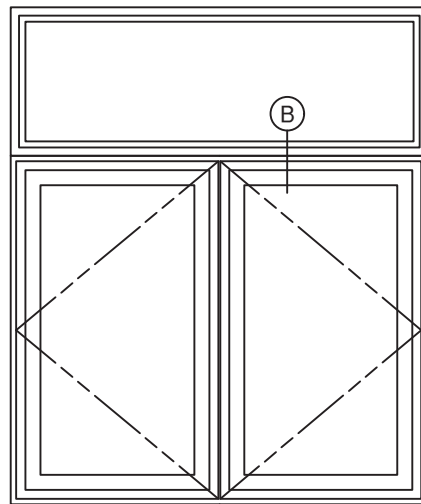
(A) 810 CASEMENT - 850 PW



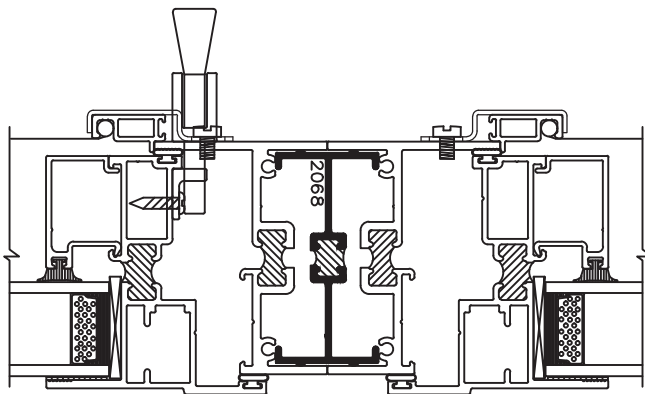
810 CASEMENT - 850 PW



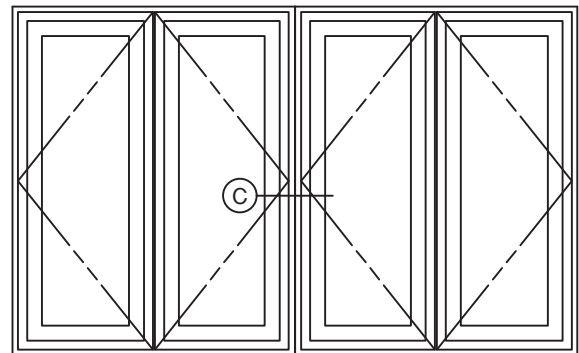
(B) 850 PW - 810 CASEMENT



850 PW - 810 CASEMENT



(C) 810 CASEMENT - 800 CASEMENT

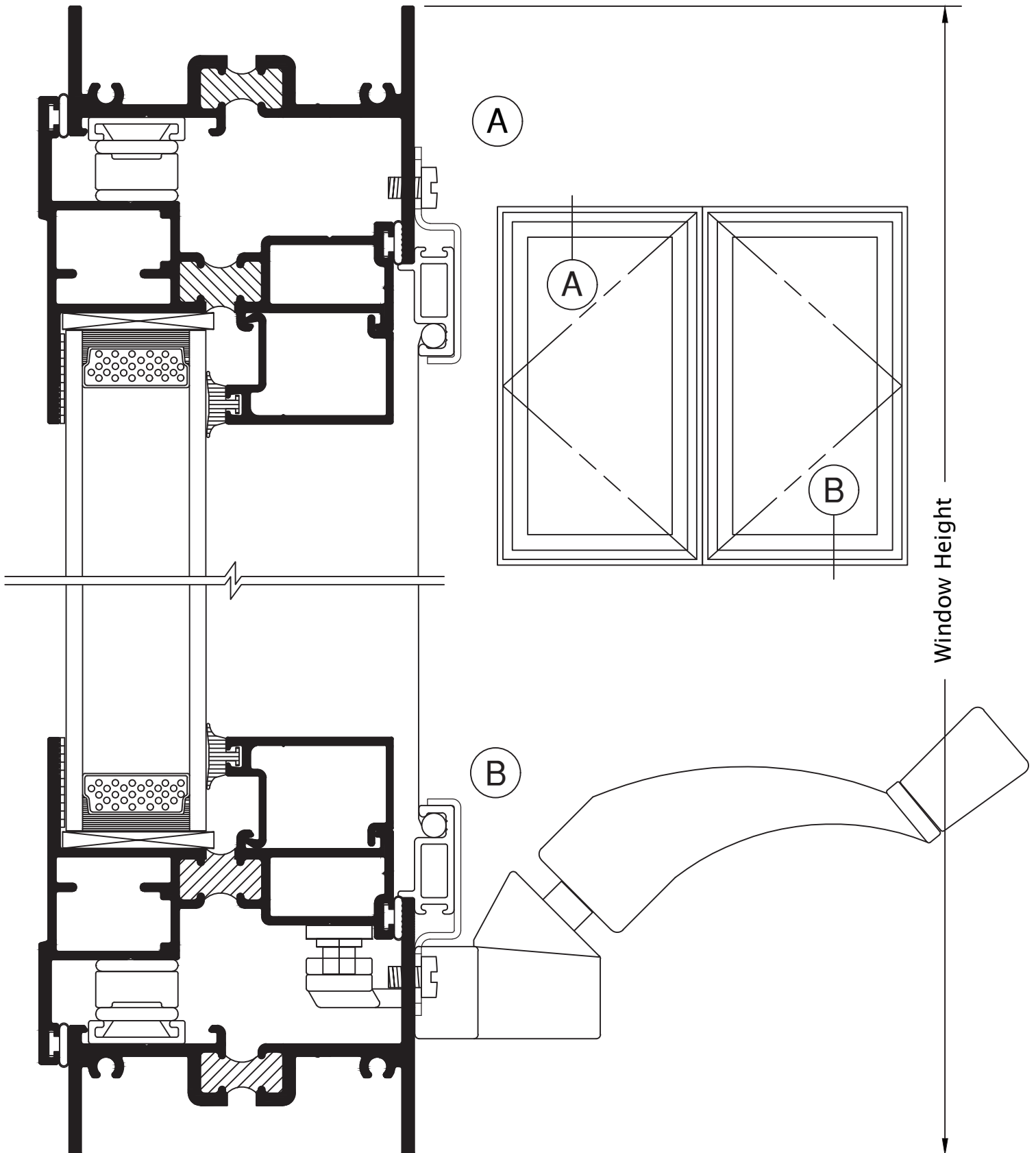


810 CASEMENT - 810 CASEMENT

See Accessories section for additional options

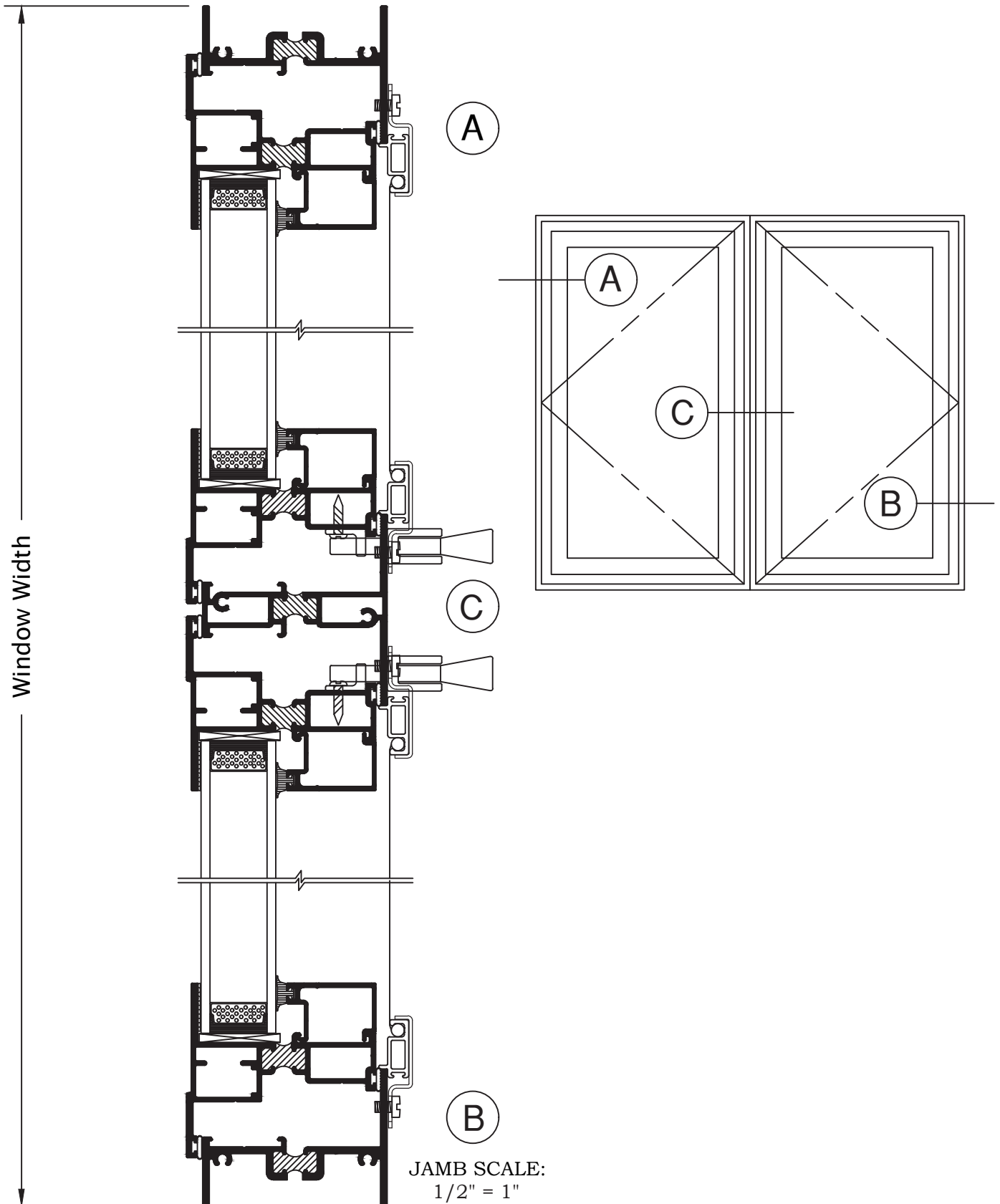
# SERIES 810 2-5/8" DUAL OUTSWING CASEMENT (AW70)

Product Details (Scale: Full Size)



# SERIES 810 2-5/8" DUAL OUTSWING CASEMENT (AW70)

Product Details (Scale: Half Size)



# SERIES 820 2-5/8" SINGLE INSWING CASEMENT (AW80)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor, and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 820" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 820" is an operable, inswing sash with concealed hinges, cam handles with a thermally improved frame and vent. The specifications and materials for the "Series 820" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame shall be a minimum nominal thickness of .094" and vent members shall be a minimum nominal thickness of .062". Main frame shall be 2.625" in depth. Main frames and vent members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Hardware - Lock shall consist of a high quality white bronze cam handle manufactured by Bronze Craft. Handle assemblies shall be finished to US-25-D.

Hinges - Shall consist of two butt hinges cast of white bronze (BCA-100) with burnished finish, 1/4" diameter stainless steel pin, and nylon bearing washers.

Weatherstripping - Shall have two rows of foam filled soft vinyl bulb weatherstrip at full perimeter of vents.

### III. CONSTRUCTION:

Assembly - Main frame shall be coped, butt joined and mechanically fastened with two screws. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be mitered, sealed, and crimped into corner inserts. All screws at joints shall be secured into integral screw ports.

Glazing - Glass in the vent shall be factory glazed using butyl glazing tape with extruded aluminum glazing bead and vinyl wedge at interior of glass. The insulated glass units shall be 1" overall thickness with the interior lite of double strength glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Screens shall be full length.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The ventilator projects out to a 90 degree position for the widest possible egress opening. Hinges shall be non-handed and project the vent while opening to avoid interference between main frame and sash.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, AW-PG80 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

### V. INSTALLATION:

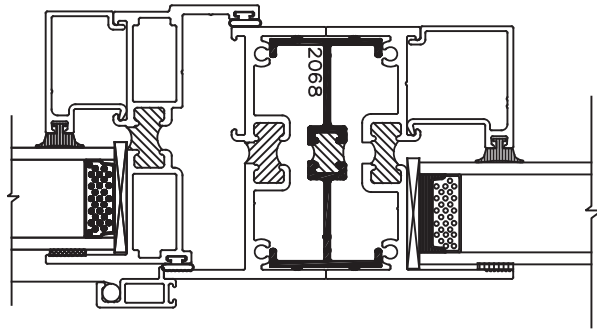
Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

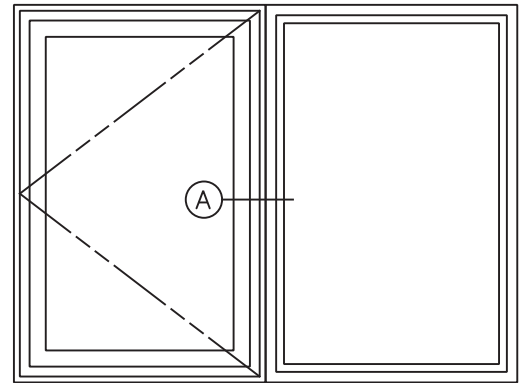


# SERIES 820 2-5/8" SINGLE INSWING CASEMENT (AW70)

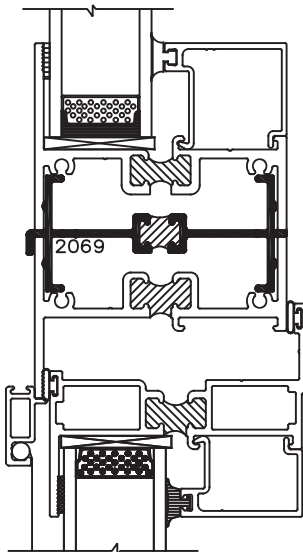
## Typical Configurations (Scale: Half Size)



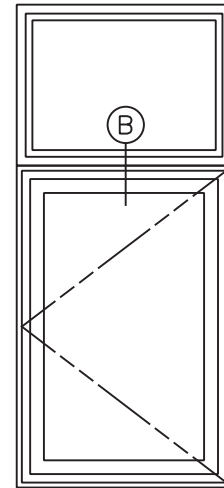
Ⓐ 820 CASEMENT - 850 PW



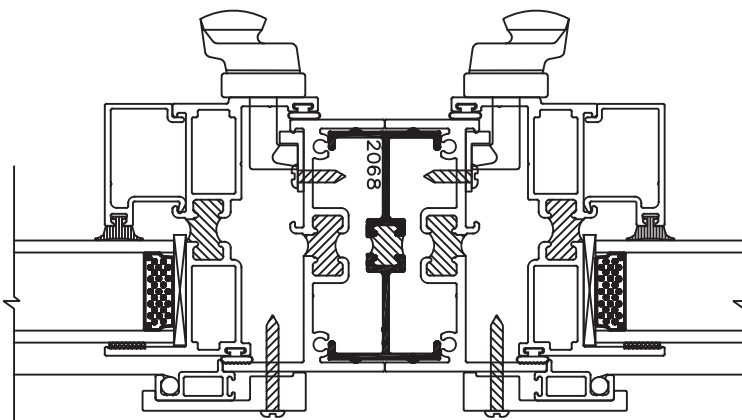
820 CASEMENT - 850 PW



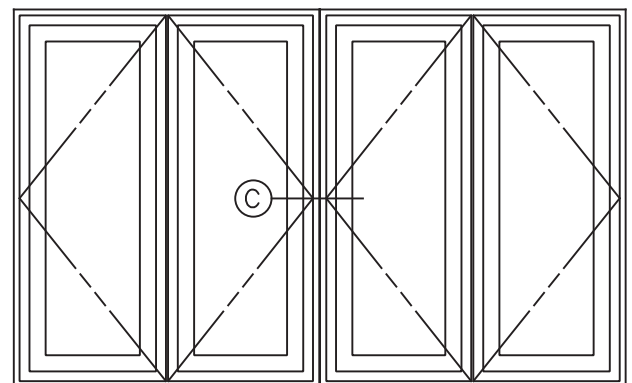
Ⓑ 850 PW - 820 CASEMENT



850 PW - 820 CASEMENT



Ⓒ 820 CASEMENT - 820 CASEMENT

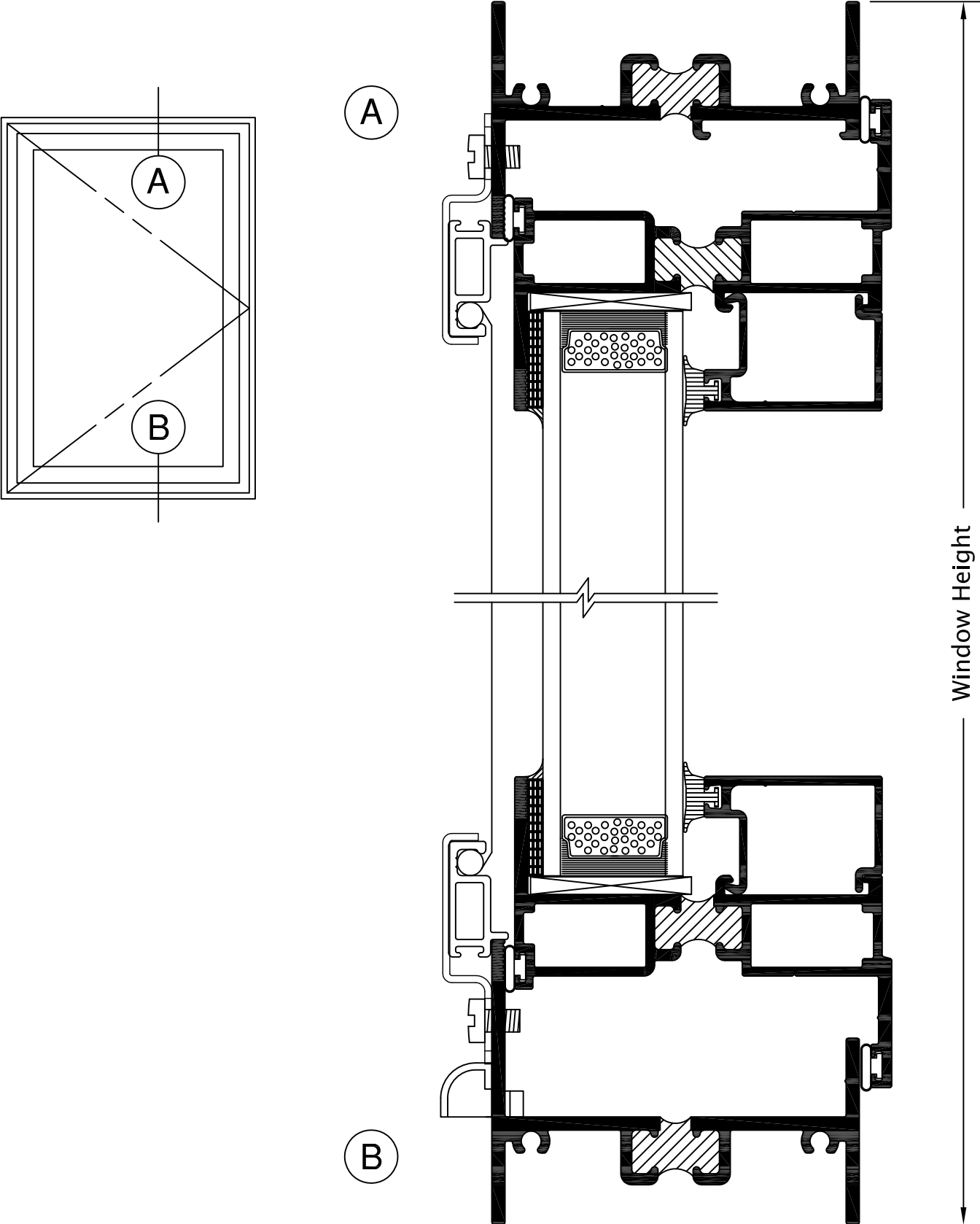


820 CASEMENT - 820 CASEMENT

See Accessories section for additional options

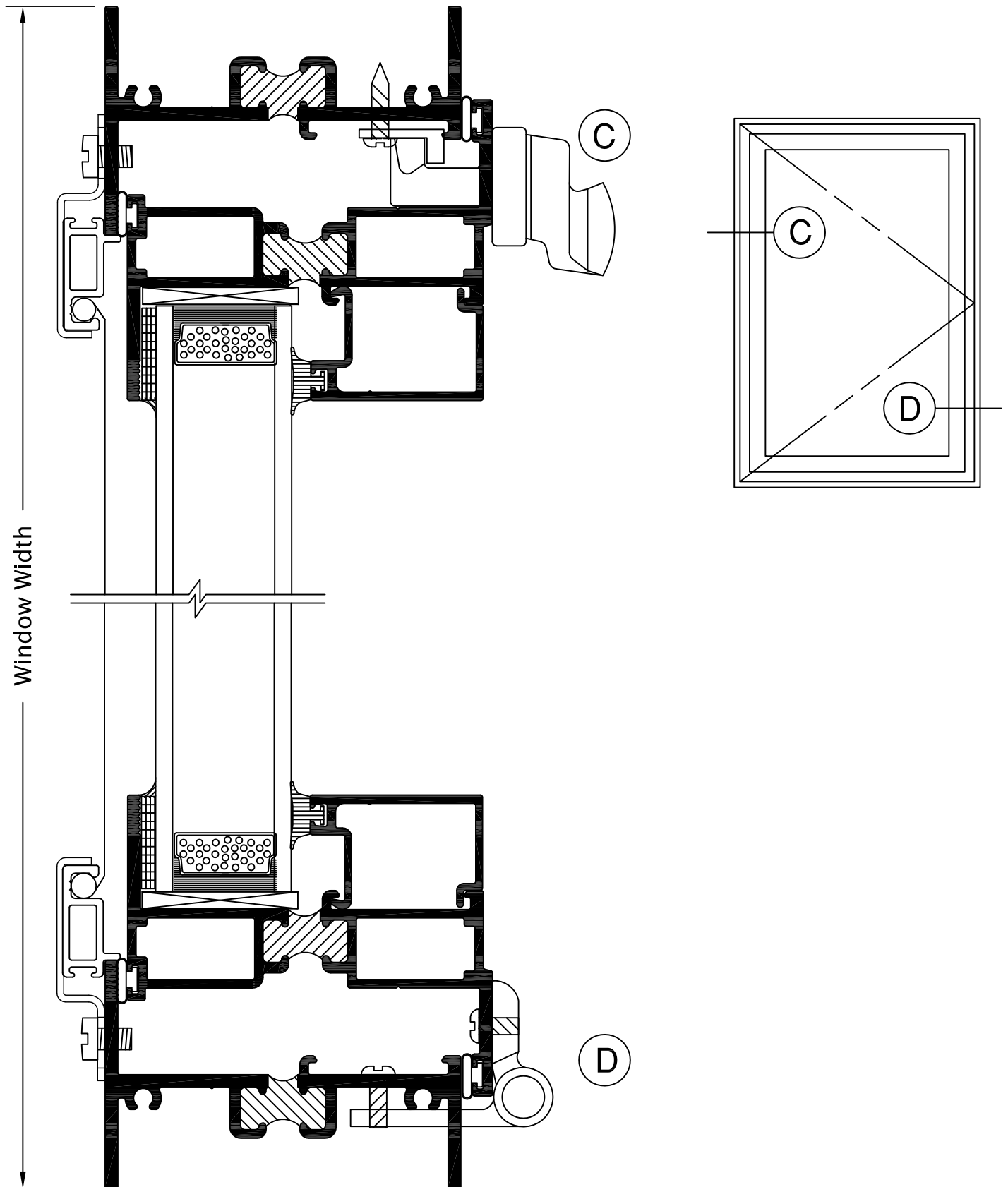
# SERIES 820 2-5/8" SINGLE INSWING CASEMENT (AW70)

Product Details (Scale: Full Size)



# SERIES 820 2-5/8" SINGLE INSWING CASEMENT (AW70)

Product Details (Scale: Full Size)



# SERIES 825 2-5/8" PROJECTED AWNING WINDOW (AW80)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor, and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 825" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 825" is a single vent project out awning with thermally improved main frame and vent consisting of a roto gear operator and side hinges. The specifications and materials for the "Series 825" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame shall be a minimum nominal thickness of .094" and vent members shall be a .062" nominal thickness. Main frame shall be 2.625" in depth. Horizontal and vertical vent members shall be hollow extrusions. Main frames and vent members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Hardware - Lock shall consist of two face-mounted cam locking assemblies. Window operator mechanism shall be the Roto Gear Awning Operator by Truth.

Hinges - Shall consist of two stainless steel, four bar type design, utilizing a screw adjusted slide shoe. Hinges shall be constructed of high quality stamped and roll formed materials. Hinges used shall be certified to AAMA 904.1 specifications.

Weatherstripping - Shall have two rows of foam filled soft vinyl bulb weatherstrip at full perimeter of vents.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be mitered, sealed and crimped into corner inserts. All screws at joints of vent and main frame shall be secured into integral screw ports.

Glazing - Glass in the vent shall be factory glazed using butyl glazing tape with extruded aluminum glazing bead and vinyl wedge at interior of glass. The insulated glass units shall be 1" overall thickness with the interior lite of

double strength glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of roll formed aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Each screen shall be fastened by screen retainer clips.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The vent is operable on the "Series 825" awning window and will project out for ventilation.

### IV. PERFORMANCE

Structural - Shall meet the requirements of AAMA A440-08, AW-PG80 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

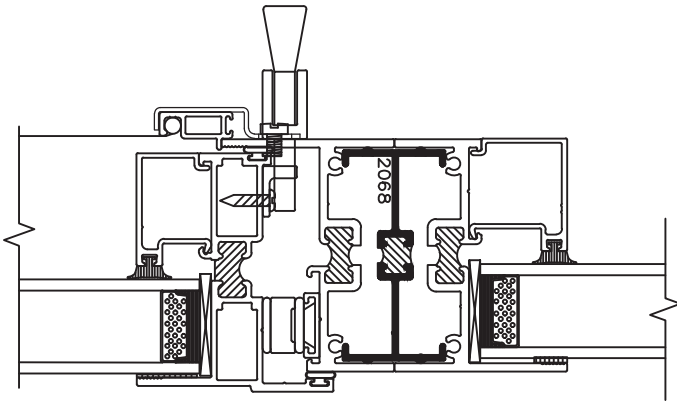
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

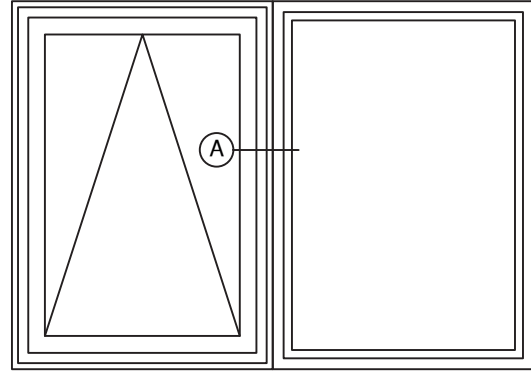
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 825 2-5/8" PROJECTED AWNING WINDOW (AW80)

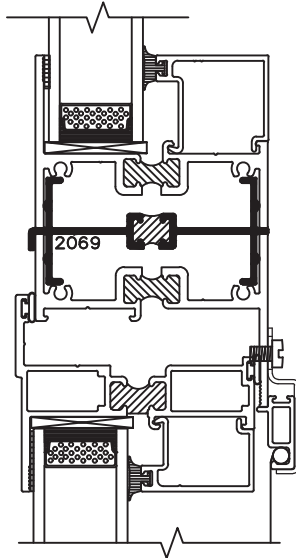
Typical Configurations (Scale: Half Size)



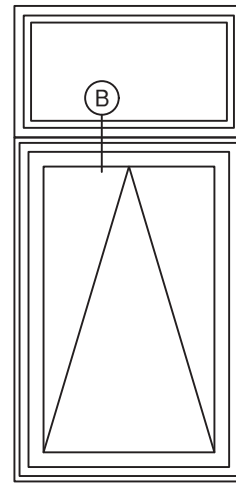
Ⓐ 825 AWNING - 850 PW



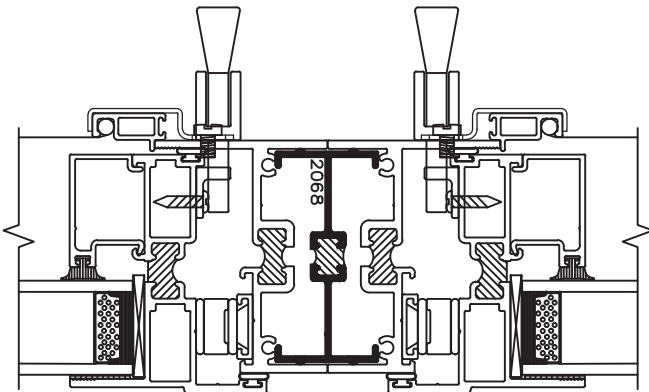
825 AWNING - 850 PW



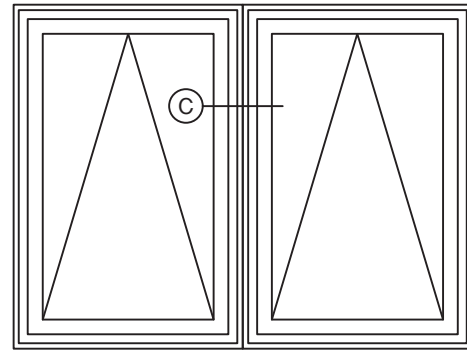
Ⓑ 850 PW - 825 AWNING



850 PW - 825 AWNING



Ⓒ 825 PROJECTED - 825 PROJECTED

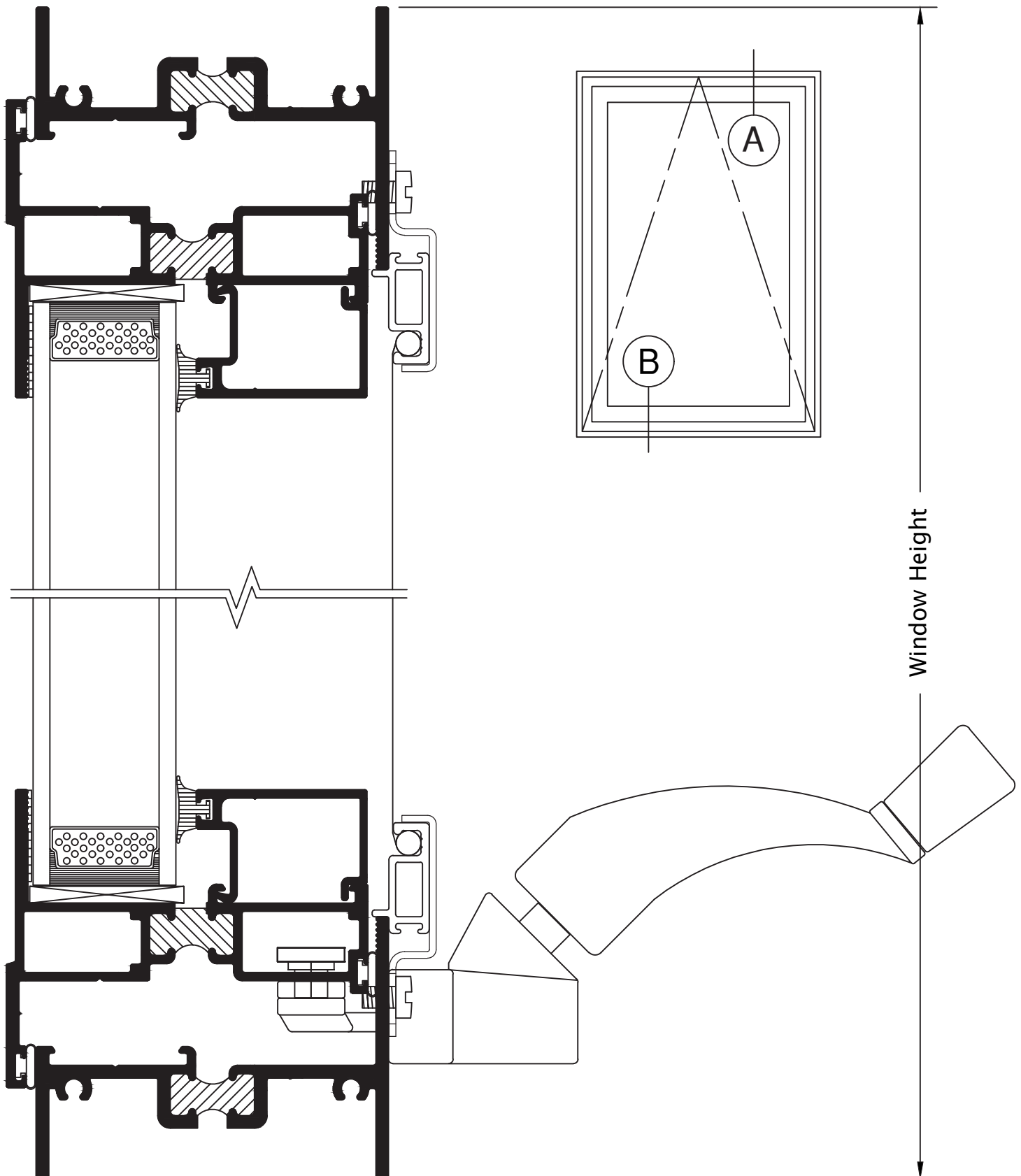


825 PROJECTED - 825 PROJECTED

See Accessories section for additional options

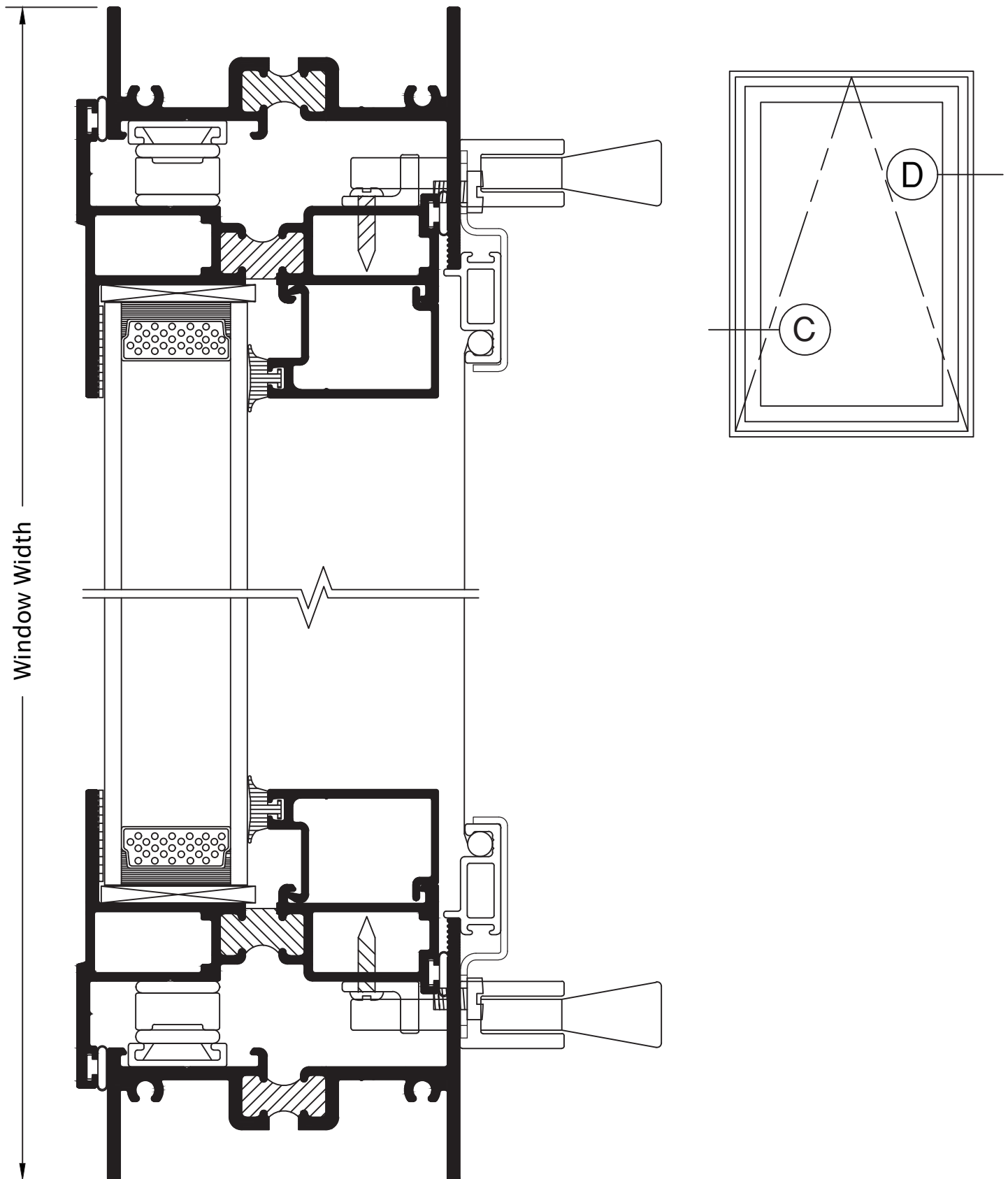
# SERIES 825 2-5/8" PROJECTED AWNING WINDOW (AW80)

Product Details (Scale: Full Size)



# SERIES 825 2-5/8" PROJECTED AWNING WINDOW (AW80)

Product Details (Scale: Full Size)





# SERIES 835 2-5/8" PROJECT-IN HOPPER WINDOW (AW80)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor, and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 835" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 835" is a single vent project in hopper with thermally improved main frame and vent consisting of a cam handle with concealed pawl and side hinges. The specifications and materials for the "Series 835" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame shall be a minimum nominal thickness of .094" and vent members shall be a .062" nominal thickness. Main frame shall be 2.625" in depth. Horizontal and vertical vent members shall be hollow extrusions. Main frames and vent members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Hardware - Window locks shall be of concealed pawl design and utilize a cast bronze keeper. The lock handle shall consist of a high quality white bronze cam manufactured by Bronze Craft. Handle assemblies shall be finished to US-25-D.

Hinges - Shall consist of two stainless steel, four bar type design, utilizing a screw adjusted slide shoe. Hinges shall be constructed of high quality stamped and roll formed materials. Hinges used must be certified to AAMA 904.1 specifications.

Weatherstripping - Shall have two rows of foam filled soft vinyl bulb weatherstrip at full perimeter of vents.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be mitered, sealed and crimped into corner inserts. All screws at joints of vent and main frame shall be secured into integral screw ports.

Glazing - Glass in the vent shall be factory glazed using butyl glazing tape with extruded aluminum glazing bead and vinyl wedge at interior of glass. The insulated glass units shall be 1" overall thickness with the interior lite of double strength glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of roll formed aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Each screen shall be fastened by screen retainer clips.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The vent is operable on the "Series 835" hopper window and will project in for ventilation.

### IV. PERFORMANCE

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, AW-PG80 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

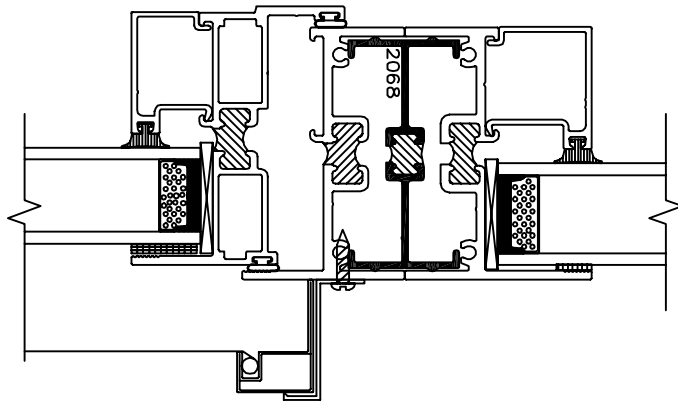
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

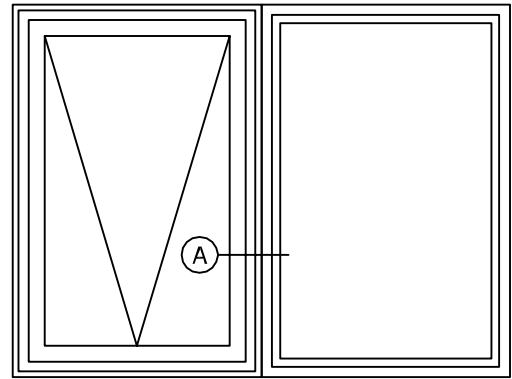
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 835 2-5/8" PROJECT-IN HOPPER WINDOW (AW80)

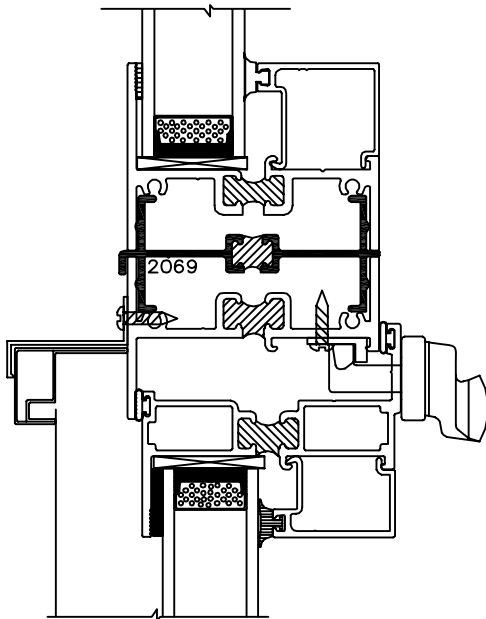
## Typical Configurations (Scale: Half Size)



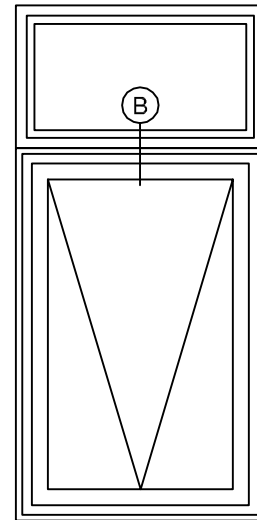
Ⓐ 835 PROJECTED - 850 PW



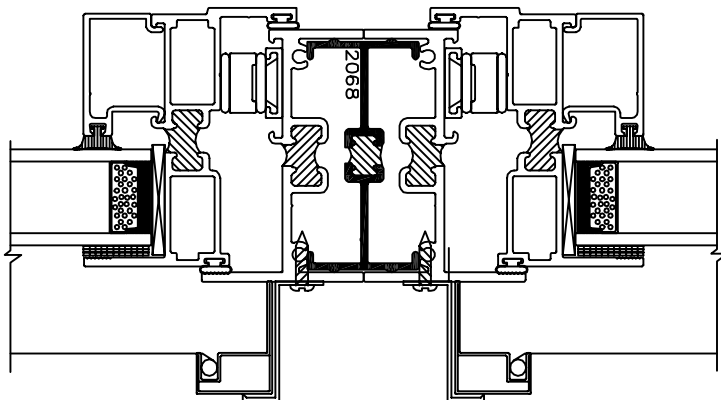
835 PROJECTED - 850 PW



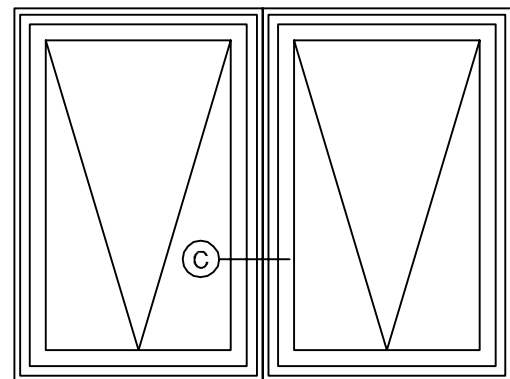
Ⓑ 850 PW - 835 PROJECTED



850 PW - 835 PROJECTED



Ⓒ 835 PROJECTED - 835 PROJECTED

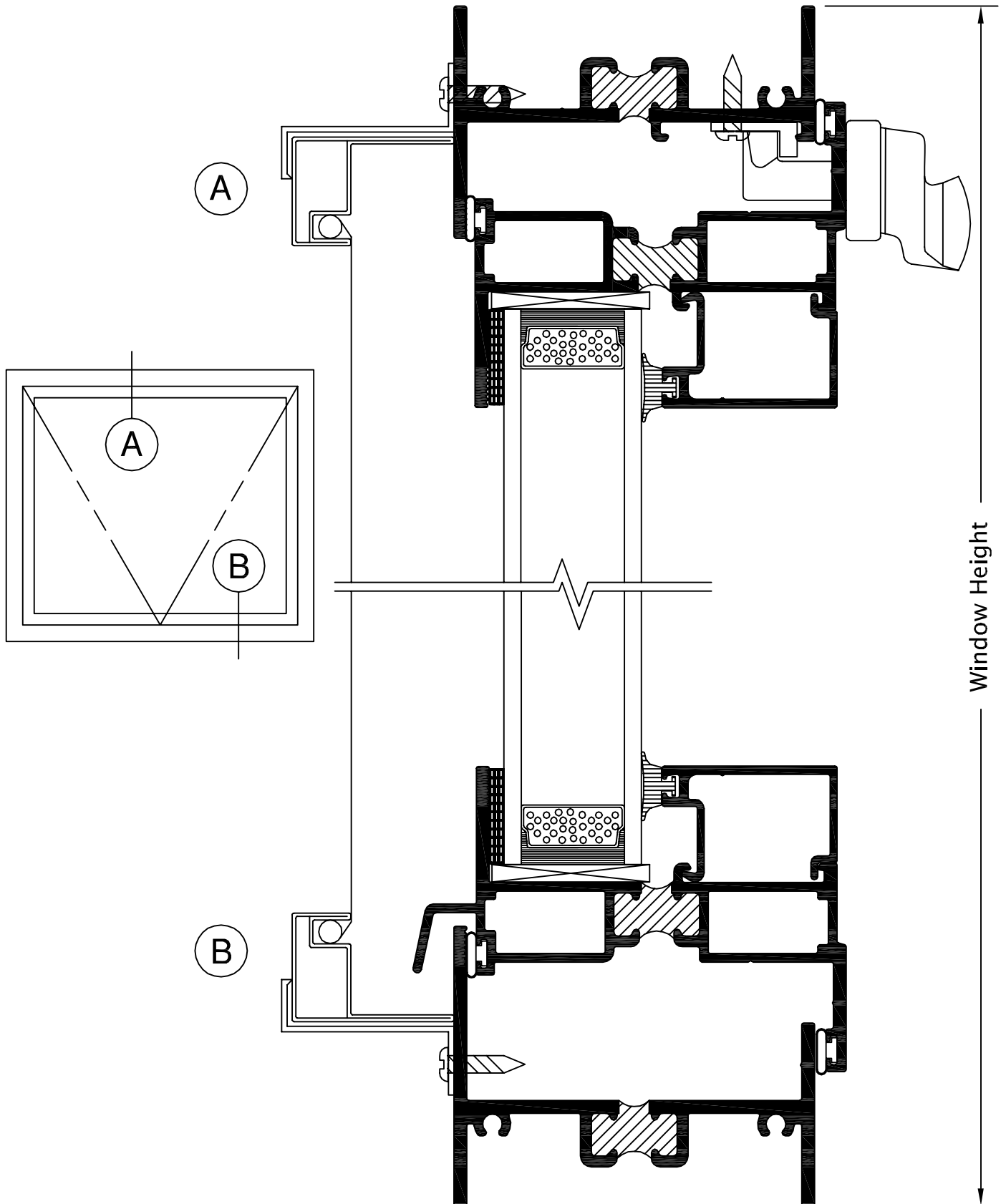


835 PROJECTED - 835 PROJECTED

See Accessories section for additional options

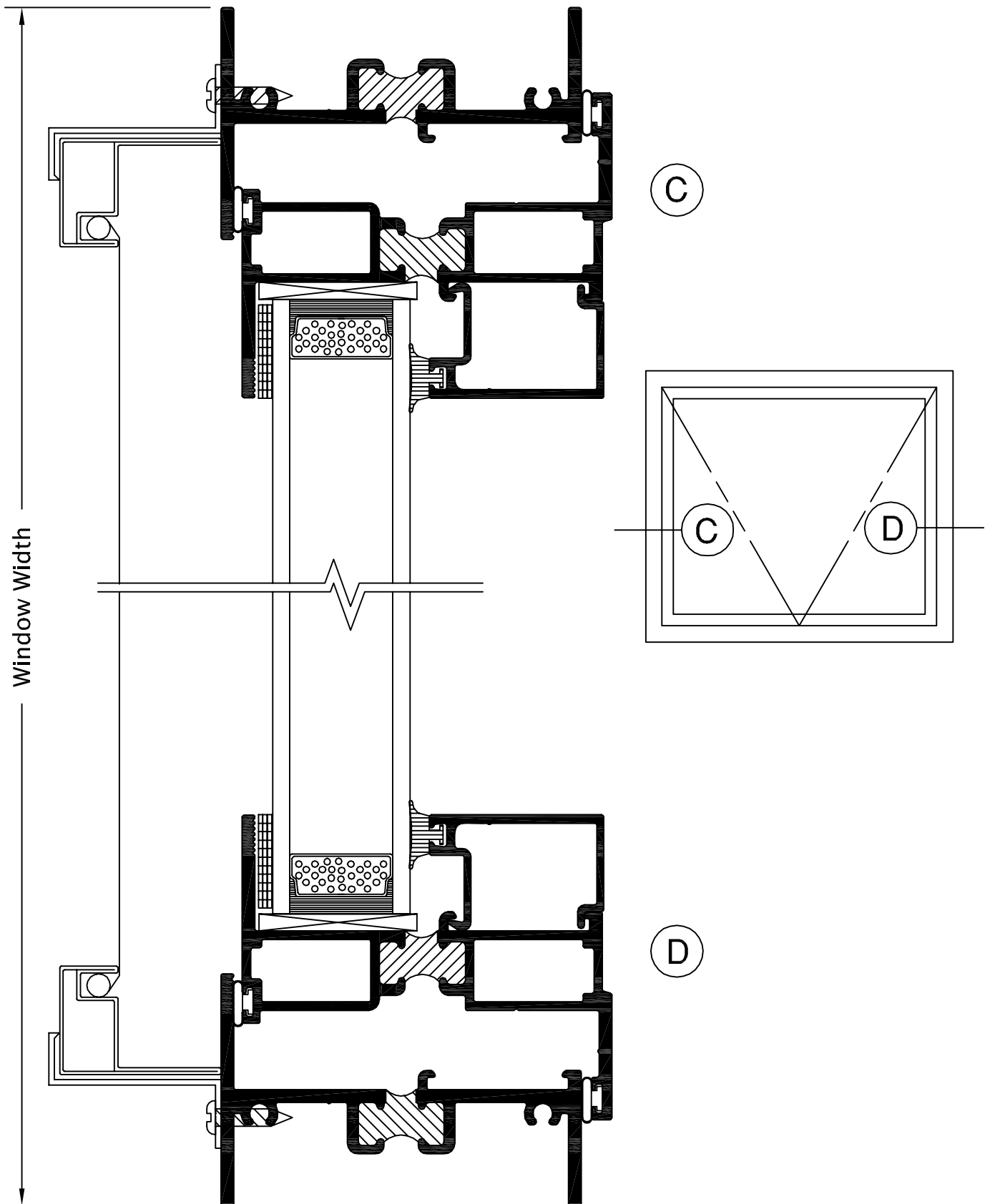
# SERIES 835 2-5/8" PROJECT-IN HOPPER WINDOW (AW80)

Product Details (Scale: Full Size)



# SERIES 835 2-5/8" PROJECT-IN HOPPER WINDOW (AW80)

Product Details (Scale: Full Size)



# SERIES 875 2-5/8" FIXED/AWNING PROJECTED WINDOW (AW75)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor, and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 875" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 875" is a single frame window with a picture window stacked on top of a single vent project out awning window with a thermally improved main frame and vent consisting of a cam handle and side hinges. The specifications and materials for the "Series 875" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame shall be a minimum nominal thickness of .094" and vent members shall be a .062 nominal thickness. Main frame shall be 2.625" in depth. Horizontal and vertical vent members shall be hollow extrusions. Main frames and vent members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debrided.

Hardware - Lock shall consist of a high quality white bronze cam handle manufactured by Bronze Craft. Handle assemblies shall be finished to US-25-D.

Hinges - Shall consist of two stainless steel, four bar type design, utilizing a screw adjusted slide shoe. Hinges shall be constructed of high quality stamped and roll formed materials. Hinges used shall be certified to AAMA 904.1 specifications.

Weatherstripping - Shall have two rows of foam filled soft vinyl bulb weatherstrip at full perimeter of vents.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be mitered, sealed and crimped into corner inserts. All screws at joints of vent and main frame shall be secured into integral screw ports.

Glazing - Glass shall be inside glazed with a butyl glazing tape and snap in extruded aluminum glazing bead containing a vinyl insert. The insulated glass units shall be 1.000" overall thickness with two lites of glass, separated by an air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2188-02 / ASTM E 2190-02 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Each screen shall be fastened by dimple clips.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Standard Tier I colors available are bronze, white, creme, sandstone, and almond. Bronze anodizing, clear anodizing and high performance AAMA 605.2 finishes are optional.

Operation - The vent is operable on the "Series 875" awning window and will project out for ventilation.

### IV. PERFORMANCE

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, AW-PG75 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

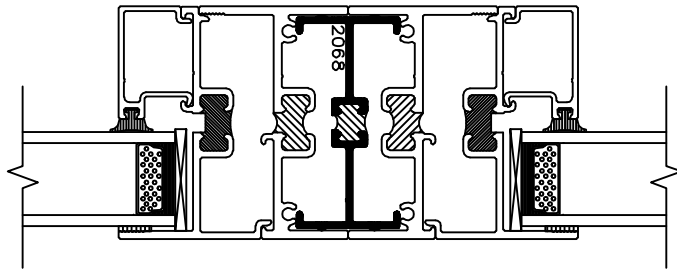
### V. INSTALLATION:

Qualifications - Only skilled mechanics with experience in this trade. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

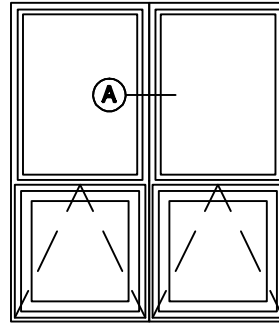
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 875 2-5/8" FIXED/AWNING PROJECTED WINDOW (AW75)

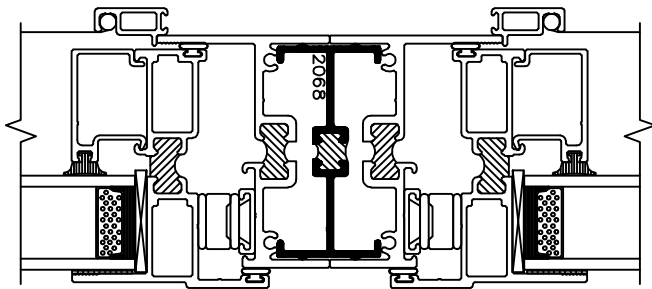
Typical Configurations (Scale: Half Size)



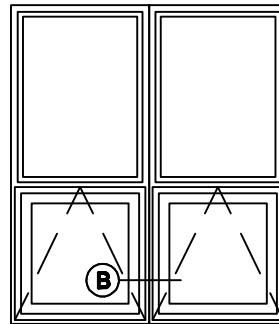
**(A) 875 FIXED - 875 FIXED**



**(A) 875 FIXED - 875 FIXED**



**(B) 875 PROJECTED - 875 PROJECTED**

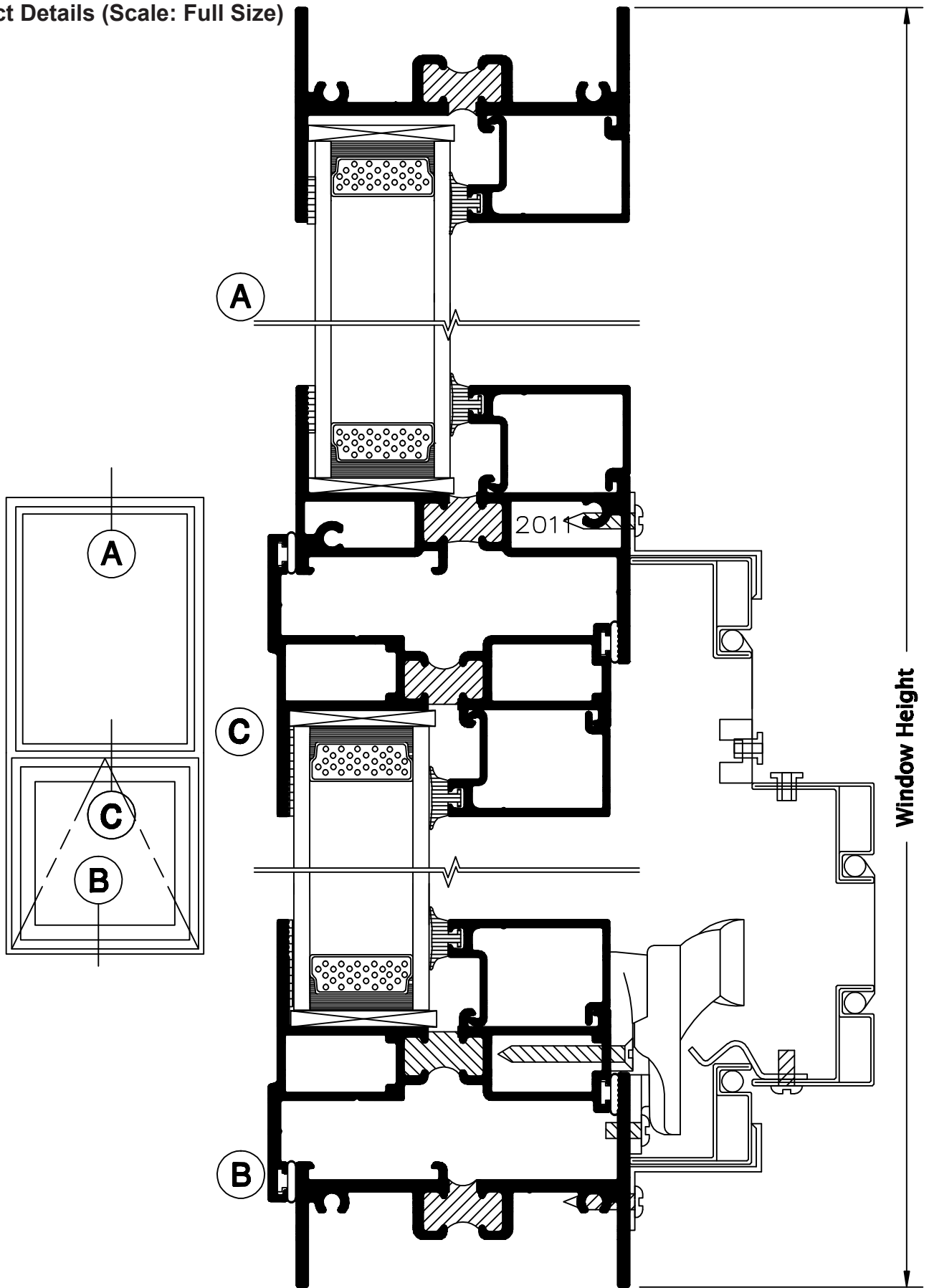


**(B) 875 PROJECTED - 875 PROJECTED**

See Accessories section for additional options

# SERIES 875 2-5/8" FIXED/AWNING PROJECTED WINDOW (AW75)

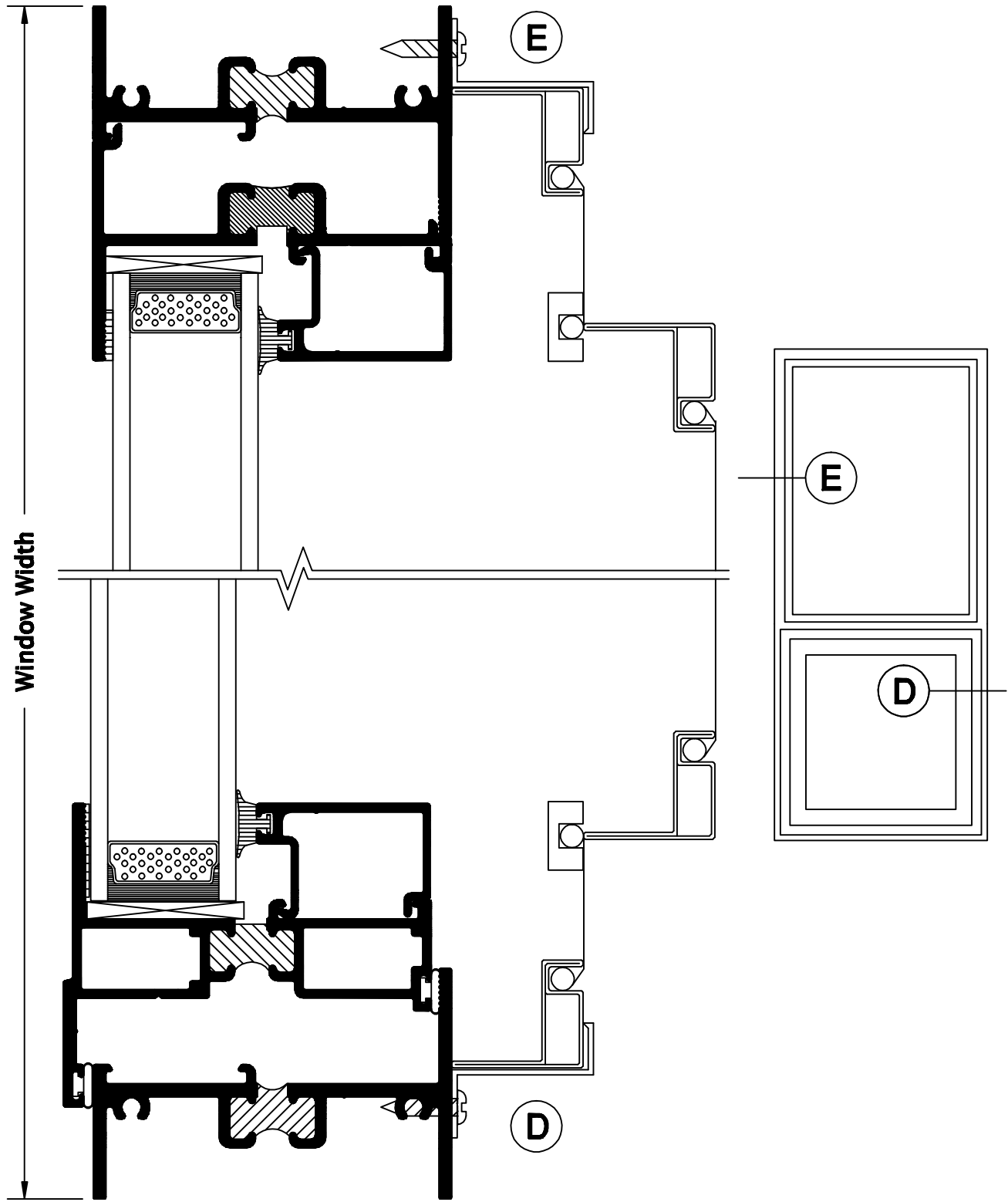
Product Details (Scale: Full Size)





# SERIES 875 2-5/8" FIXED/AWNING PROJECTED WINDOW (AW75)

Product Details (Scale: Full Size)



# SERIES 885 2-5/8" FIXED / HOPPER PROJECTED WINDOW

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor, and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 885" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 885" is a single frame window with a fixed window stacked on top of a single vent project in hopper window with thermally improved main frame and vent consisting of a cam handle with concealed pawl and side hinges. The specifications and materials for the "Series 885" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame shall be a minimum nominal thickness of .094" and vent members shall be a .062" nominal thickness. Main frame shall be 2.625" in depth. Horizontal and vertical vent members shall be hollow extrusions. Main frames and vent members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debrided.

Hardware - Window locks shall be of concealed pawl design and utilize a cast bronze keeper. The lock handle shall consist of a high quality white bronze cam manufactured by Bronze Craft. Handle assemblies shall be finished to US-25-D.

Hinges - Shall consist of two stainless steel, four bar type design, utilizing a screw adjusted slide shoe. Hinges shall be constructed of high quality stamped and roll formed materials. Hinges used must be certified to AAMA 904.1 specifications.

Weatherstripping - Shall have two rows of foam filled soft vinyl bulb weatherstrip at full perimeter of vents.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sash shall be mitered, sealed and crimped into corner inserts. All screws at joints of vent and main frame shall be secured into integral screw ports.

Glazing - Glass shall be inside glazed with a butyl glazing tape and snap in extruded aluminum glazing bead containing a vinyl insert. The insulated glass units shall be 1.000" overall thickness with two lites of glass, separated by an air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2188-02 / ASTM E 2190-02 specification, Class "A".

Screens - Screen frame shall be of roll formed aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Each screen shall be fastened by screen retainer clips.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The vent is operable on the "Series 885" hopper window and will project in for ventilation.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2.

NFRC - Shall meet the requirements of NFRC 100 and 200.

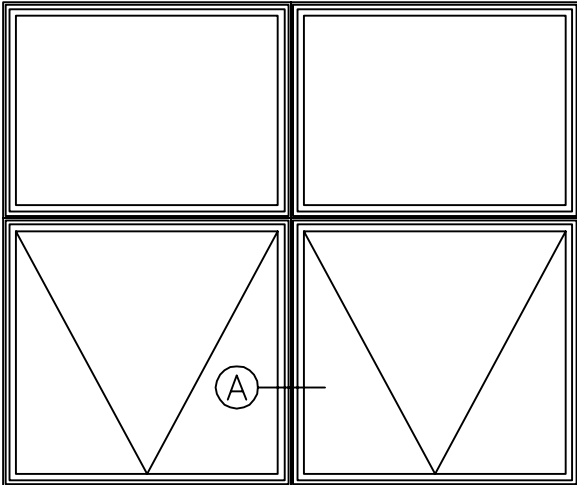
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

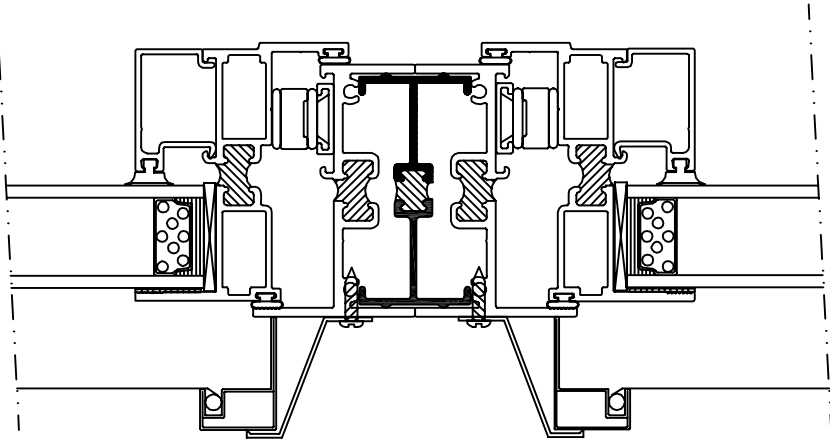
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 885 2-5/8" FIXED / HOPPER PROJECTED WINDOW

Typical Configurations (Scale: Half Size)



885 PROJECTED/ PW – 885 PROJECTED/ PW

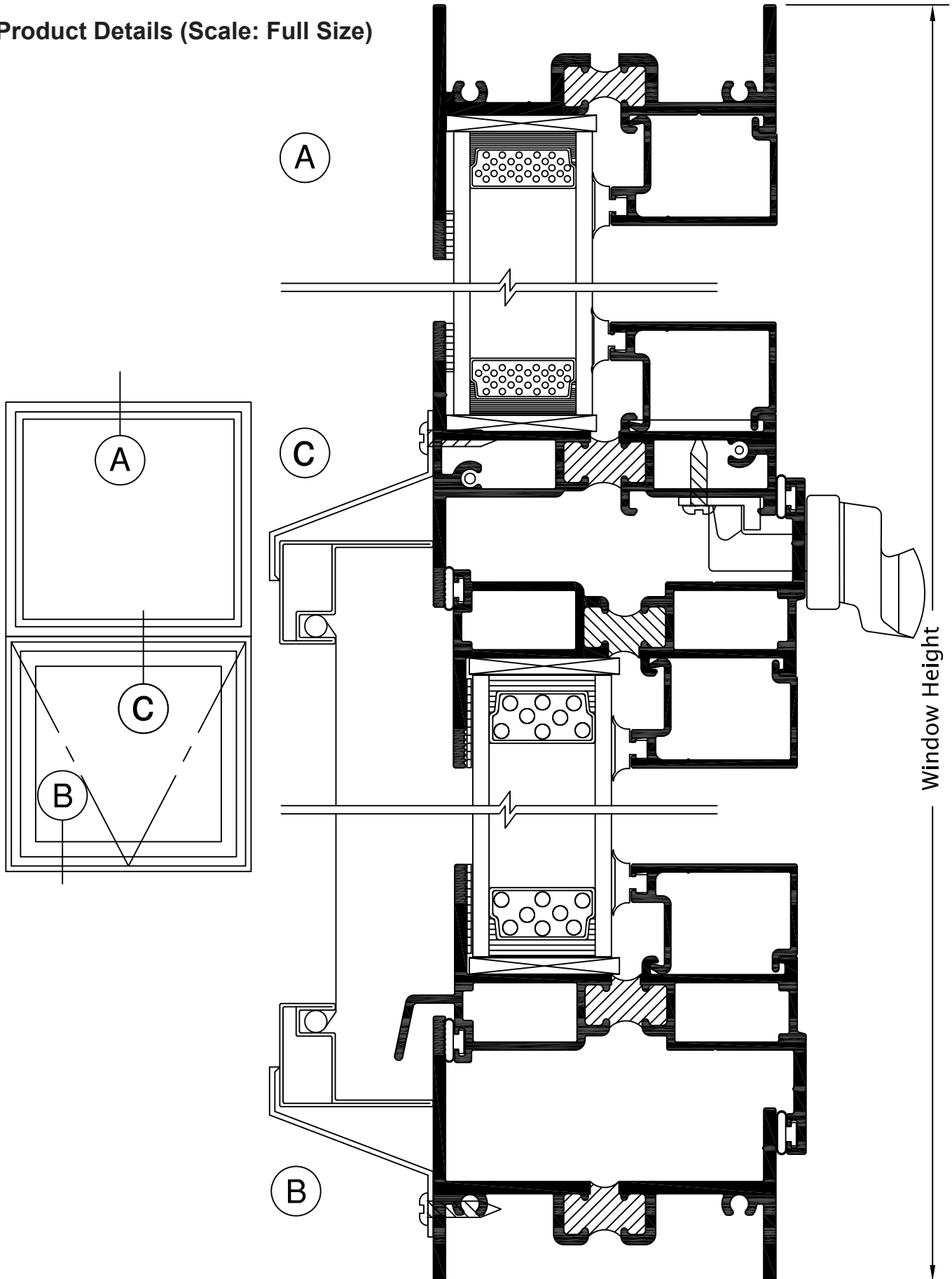


Ⓐ 885 PROJECTED/ PW – 885 PROJECTED/ PW

See Accessories section for additional options

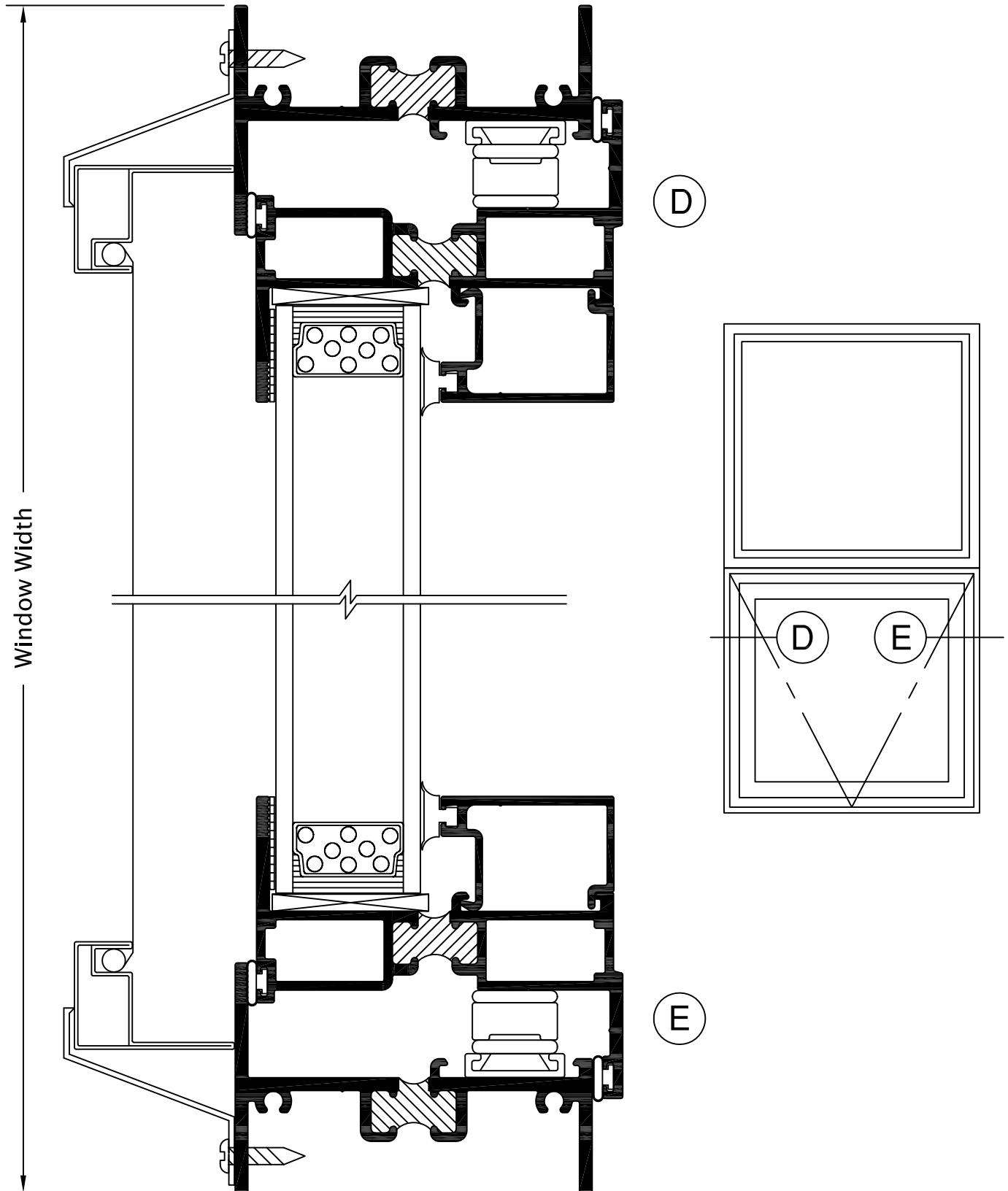
# SERIES 885 2-5/8" FIXED / HOPPER PROJECTED WINDOW

Product Details (Scale: Full Size)



# SERIES 885 2-5/8" FIXED / HOPPER PROJECTED WINDOW

Product Details (Scale: Full Size)



# SERIES 900 3-1/4" SINGLE OUTSWING CASEMENT (CW60)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 900" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 900" is a single vent project out casement with thermally improved main frame and vent consisting of a roto-operator and side hinge. The specifications and materials for the "Series 900" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a .062" nominal thickness. Main frame shall be 3.25" in depth. Horizontal and vertical vent members shall be hollow extrusions. Main frames and vent members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debrided.

Hardware - Lock shall consist of a single throw multi-point latch assembly with progressive locking action and low profile housing. Window operator mechanism should be crank operated and provide smooth operation out to 90 degrees of sash opening. Operator will be of drag arm / link design and constructed of Corrosion Gard components, hardened steel worm and gearing and high pressure zinc alloy die cast housing. Handle shall have the fold-down feature.

Hinges - Shall consist of two stainless steel, four bar type design, utilizing a screw adjusted slide shoe. Hinges shall be constructed of high quality stamped and roll formed materials. Hinges used must be certified to AAMA 904.1 specifications.

Weatherstripping - Shall have two rows of foam filled soft vinyl bulb weatherstrip at full perimeter of vents.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The vent shall be assembled with four screws at each corner. All screws at joints of vent and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable vent shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The insulated glass units shall be .875" overall thickness with two panes of double strength glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Each screen shall be fastened by four dimple clips.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The vent is operable on the "Series 900" casement window and will project out for ventilation. Standard hinges allow for easy cleaning from the interior.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-11, CW-PG60 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

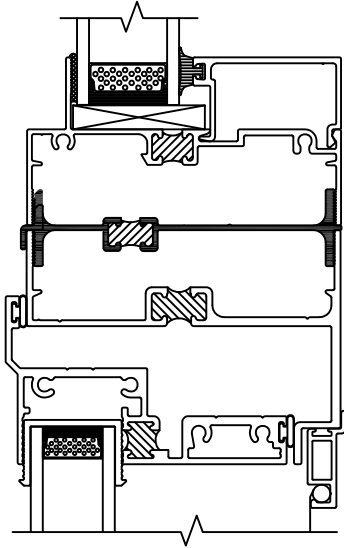
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

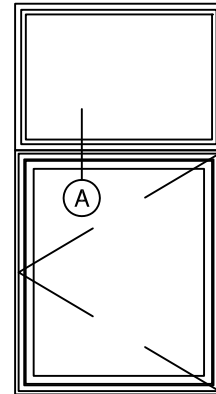
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 900 3-1/4" SINGLE OUTSWING CASEMENT (CW70)

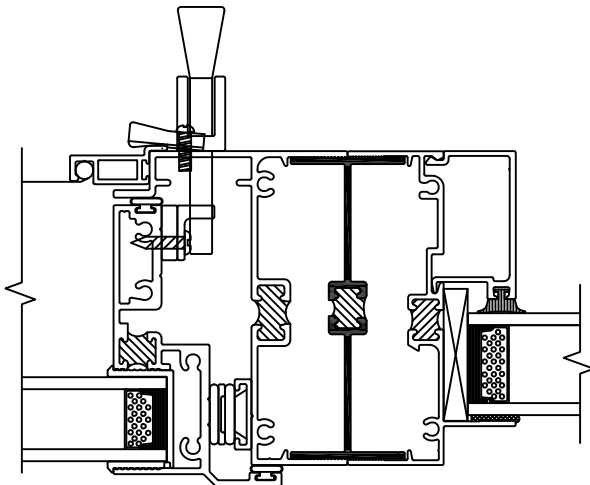
## Typical Configurations (Scale: Half Size)



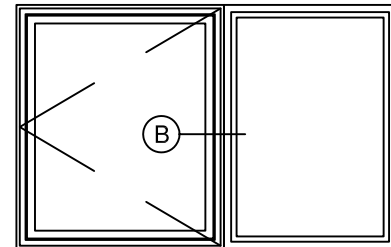
Ⓐ 900 CASEMENT - 750 PW



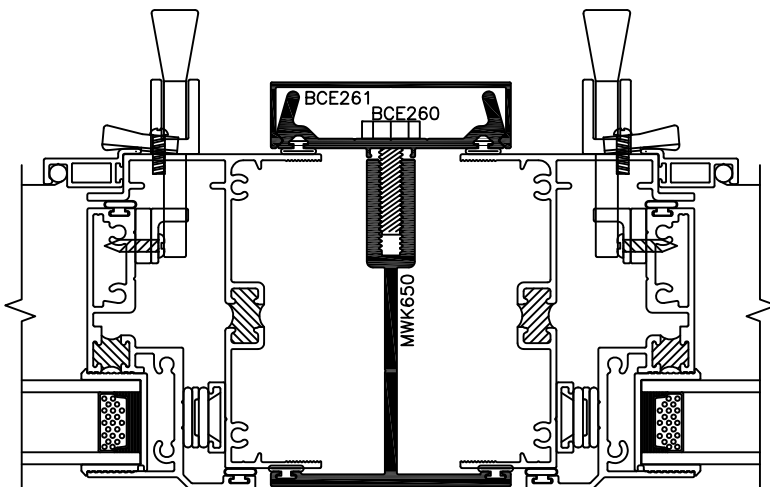
900 CASEMENT - 750 PW



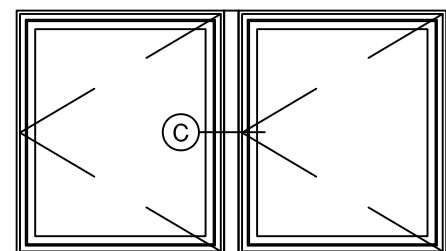
Ⓑ 900 CASEMENT - 750 PW



900 CASEMENT - 750 PW



Ⓒ 900 CASEMENT - 900 CASEMENT



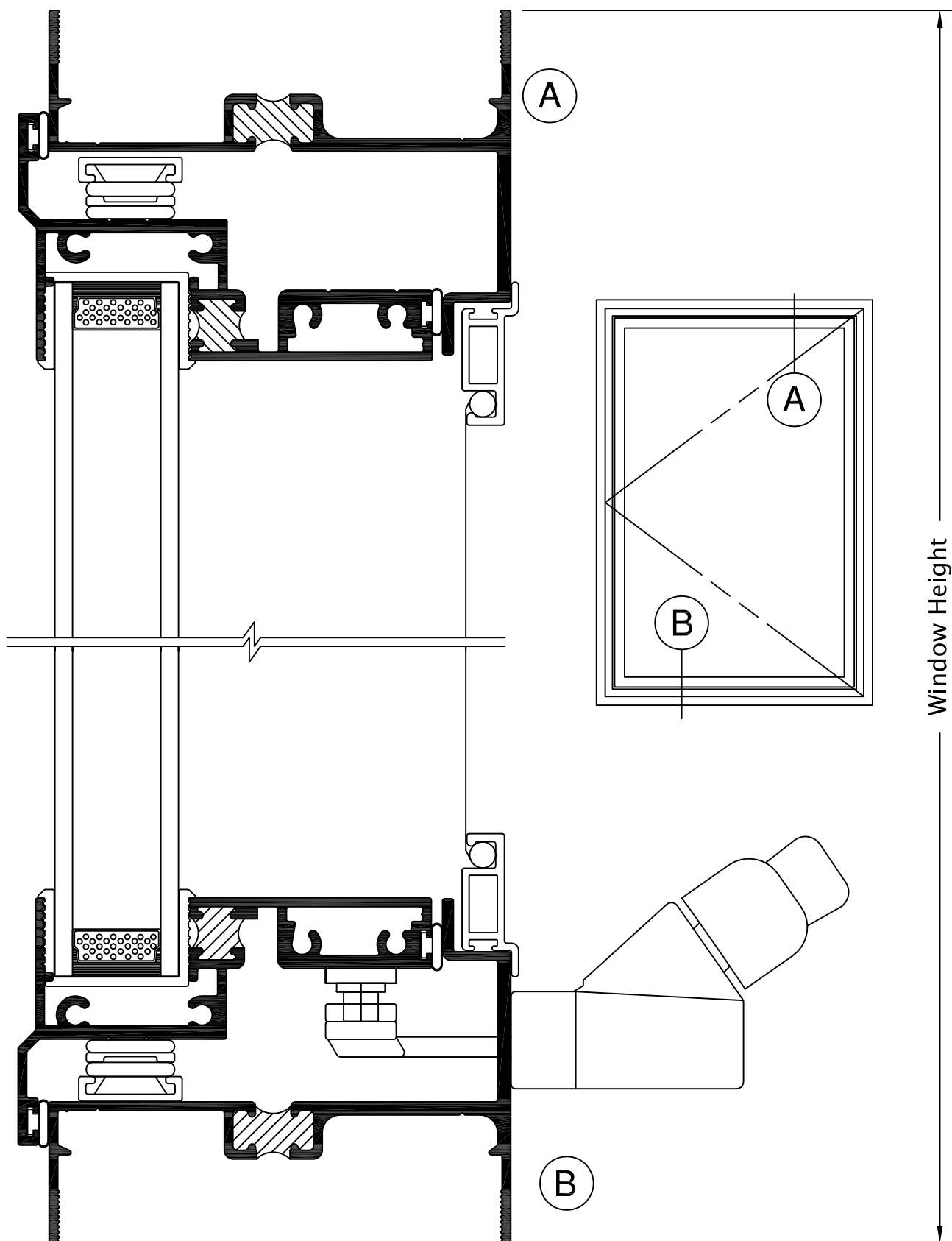
900 CASEMENT - 900 CASEMENT

See Accessories section for additional options



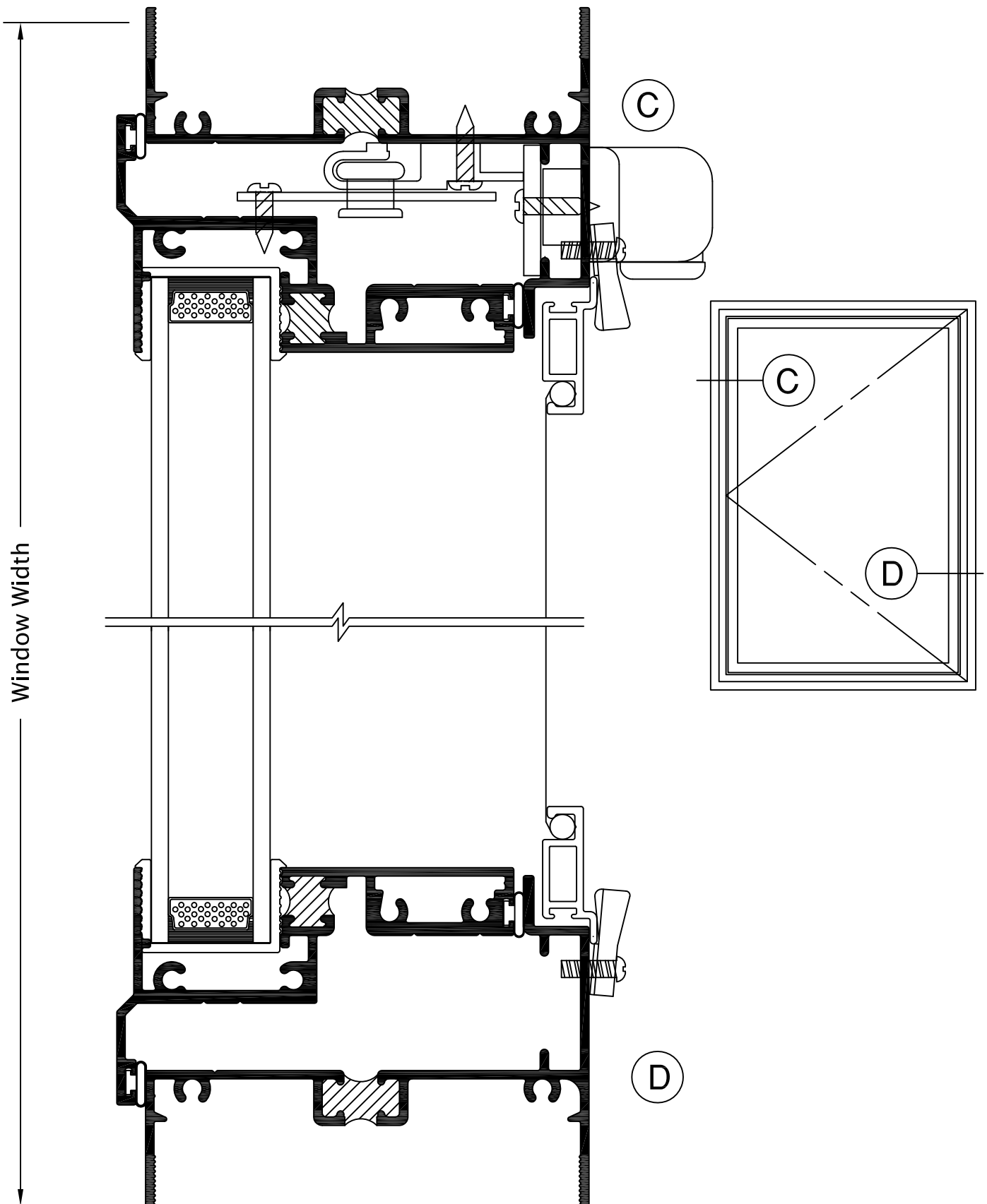
# SERIES 900 3-1/4" SINGLE OUTSWING CASEMENT (CW70)

Product Details (Scale: Full Size)



# SERIES 900 3-1/4" SINGLE OUTSWING CASEMENT (CW70)

Product Details (Scale: Full Size)



# SERIES 910 3-1/4" DUAL OUTSWING CASEMENT (CW60)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 910" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 910" is a dual vent project out casement with thermally improved main frame and vents consisting of roto-operators and side hinges. The specifications and materials for the "Series 910" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a .062" nominal thickness. Main frame shall be 3.25" in depth. Horizontal and vertical vent members shall be hollow extrusions. Main frames and vent members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Hardware - Locks shall consist of a single throw multi-point latch assembly on each vent with progressive locking action and low profile housing. Window operators mechanism shall be crank operated and provide smooth operation out to 90 degrees of sash opening. Operators will be of drag arm / link design and constructed of Corrosion Gard components, hardened steel worm and gearing and high pressure zinc alloy die cast housing. Handles shall have the fold-down feature.

Hinges - Each vent shall contain two stainless steel, four bar type design hinges, utilizing a screw adjusted slide shoe. Hinges shall be constructed of high quality stamped and roll formed materials. Hinges used must be certified to AAMA 904.1 specifications.

Weatherstripping - Shall have two rows of foam filled soft vinyl bulb weatherstrip at full perimeter of vents.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The vent shall be assembled with four screws at each corner. All screws at joints of vent and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable vent shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The insulated glass units shall be .875" overall thickness with two panes of double strength glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Each screen shall be fastened by four dimple clips.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - Each vent is operable on the "Series 910" casement window and will project out for ventilation. Standard hinges allow for easy cleaning from the interior.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-11, CW-PG60 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

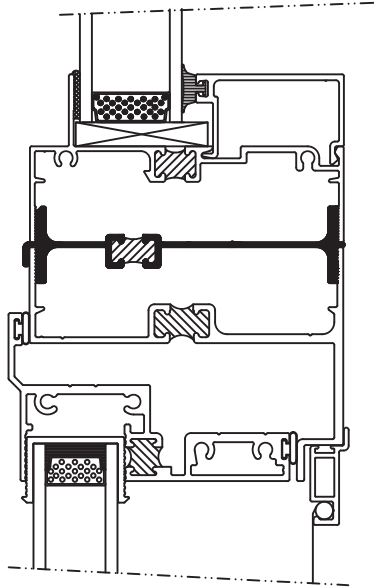
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

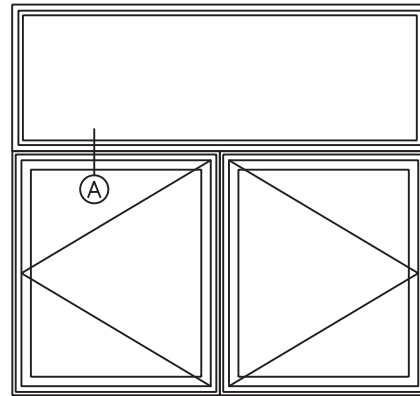
Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 910 3-1/4" DUAL OUTSWING CASEMENT (CW70)

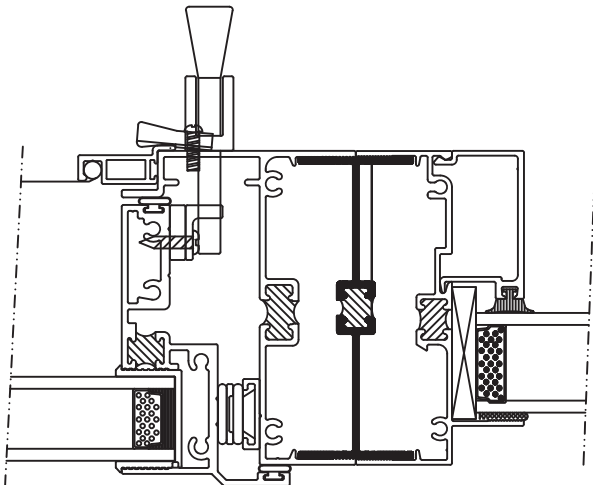
## Typical Configurations (Scale: Half Size)



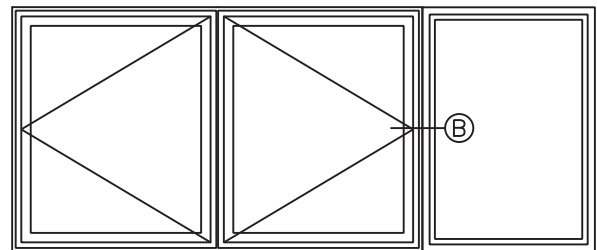
Ⓐ 750 PW-910 CASEMENT



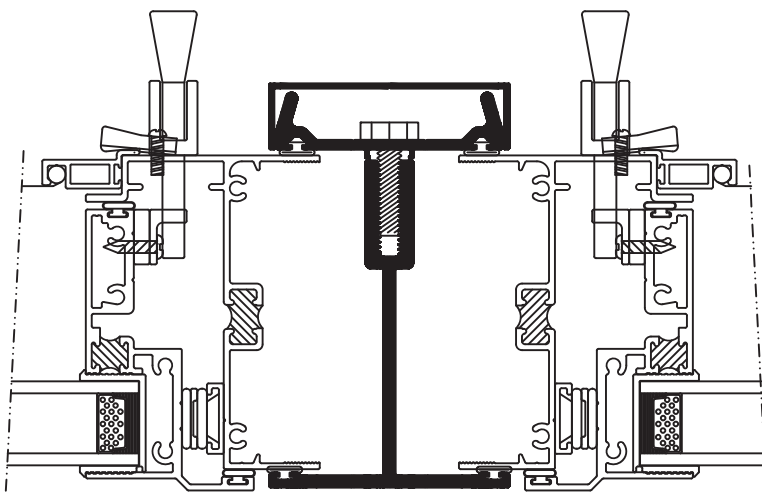
750 PW-910 CASEMENT



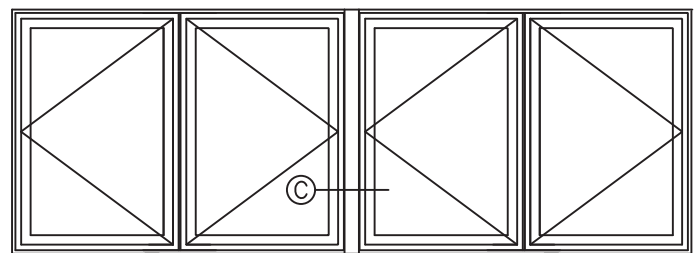
Ⓑ 910 CASEMENT-750 PW



Ⓑ 910 CASEMENT-750 PW



Ⓒ 910 CASEMENT- 910 CASEMENT

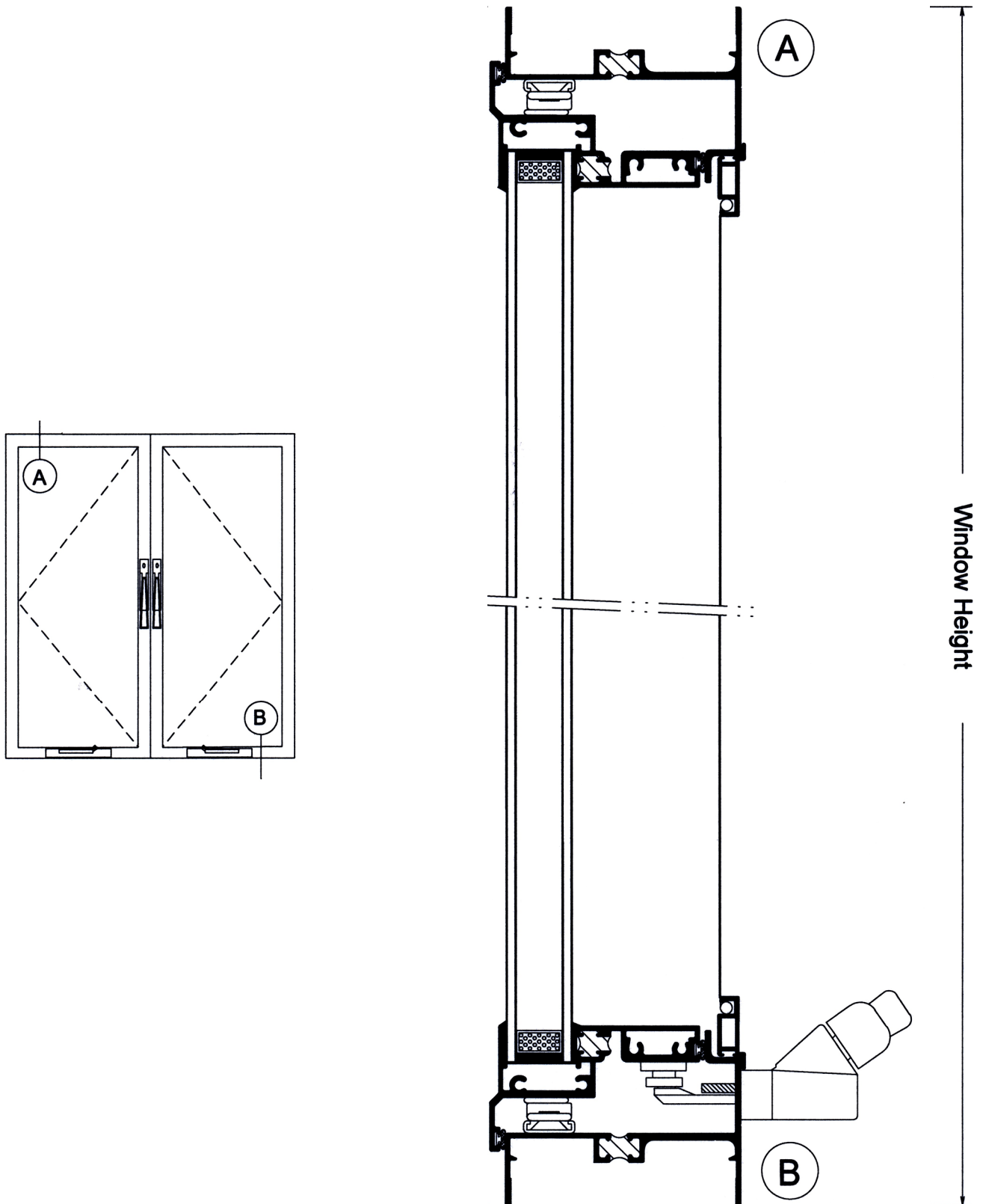


910 CASEMENT- 910 CASEMENT

See Accessories section for additional options

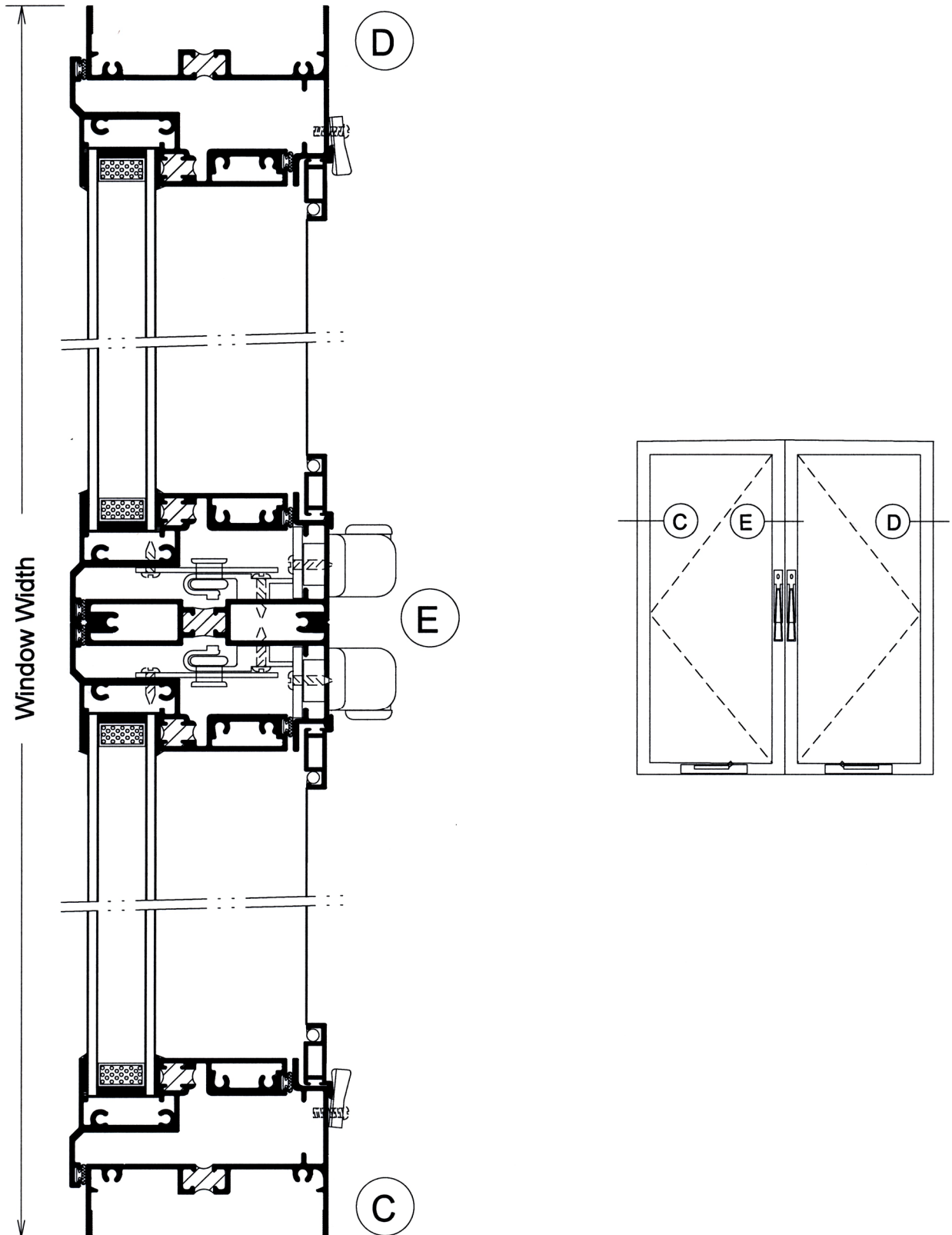
# SERIES 910 3-1/4" DUAL OUTSWING CASEMENT (CW70)

Product Details (Scale: Half Size)



# SERIES 910 3-1/4" DUAL OUTSWING CASEMENT (CW70)

Product Details (Scale: Half Size)



# SERIES 925 3-1/4" PROJECTED AWNING WINDOW (CW60)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum windows for this project as shown on the drawings and herein specified. Windows shall be the "Series 925" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 925" is a single vent project out awning with thermally improved main frame and vent consisting of a roto gear operator and side hinges. The specifications and materials for the "Series 925" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a .062" nominal thickness. Main frame shall be 3.25" in depth. Horizontal and vertical vent members shall be hollow extrusions. Main frames and vent members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Hardware - Lock shall consist of two face-mounted cam locking assemblies. Window operator mechanism shall be the Roto Gear Awning Operator by Truth. Operator will be of scissor arm design driven by hand crank and constructed of Corrosion Gard components, hardened steel worm gear arms and high pressure zinc alloy die castings. Handle shall have the fold-down feature.

Hinges - Shall consist of two stainless steel, four bar type design, utilizing a screw adjusted slide shoe. Hinges shall be constructed of high quality stamped and roll formed materials. Hinges used must be certified to AAMA 904.1 specifications.

Weatherstripping - Shall have two rows of foam filled soft vinyl bulb weatherstrip at full perimeter of vents.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The vent shall be assembled with four screws at each corner. All screws at joints of vent and main frame shall be secured into integral screw ports.

Glazing - Glass in the operable vent shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The insulated glass units shall be .875" overall thickness with two panes of double strength glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - Screen frame shall be of hollow extruded aluminum frames. Finish shall match the main frames and sash. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline. Each screen shall be fastened by dimple clips.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The vent is operable on the "Series 925" awning window and will project out for ventilation.

### IV. PERFORMANCE

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-08, AP-CW60 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

Sound Transmission Class - Shall meet the requirements of ASTM E90. Ratings vary depending upon glazing. See Product Selection Guide for summary.

### V. INSTALLATION:

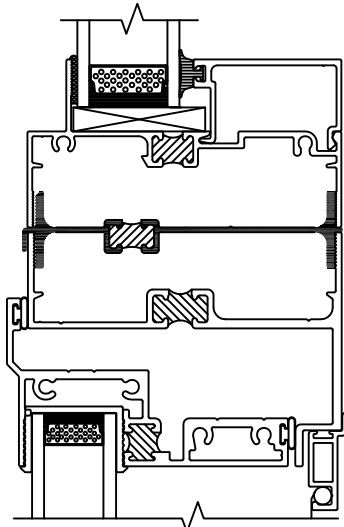
Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

Installation Details - The window manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

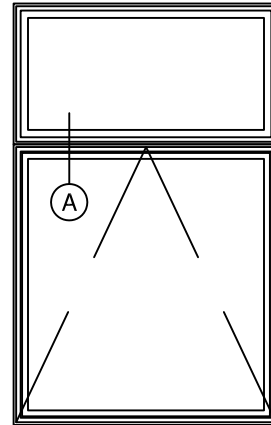


# SERIES 925 3-1/4" PROJECTED AWNING WINDOW (CW60)

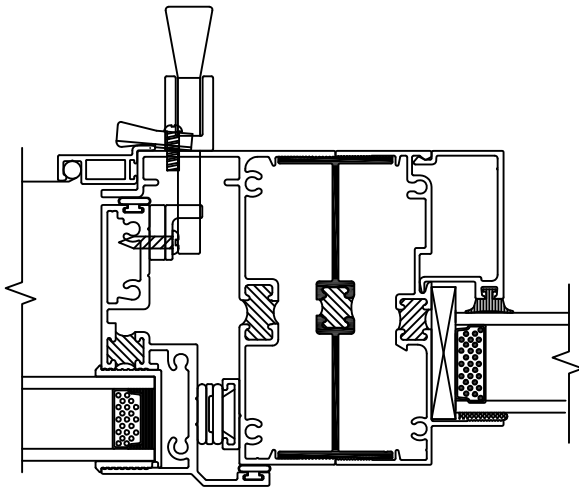
## Typical Configurations (Scale: Half Size)



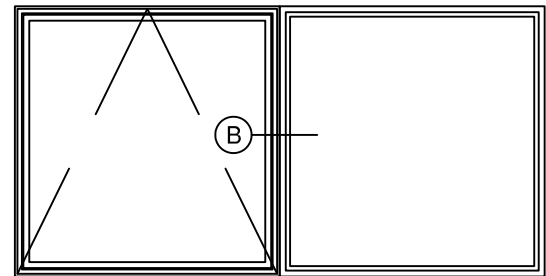
Ⓐ 925 CASEMENT - 750 PW



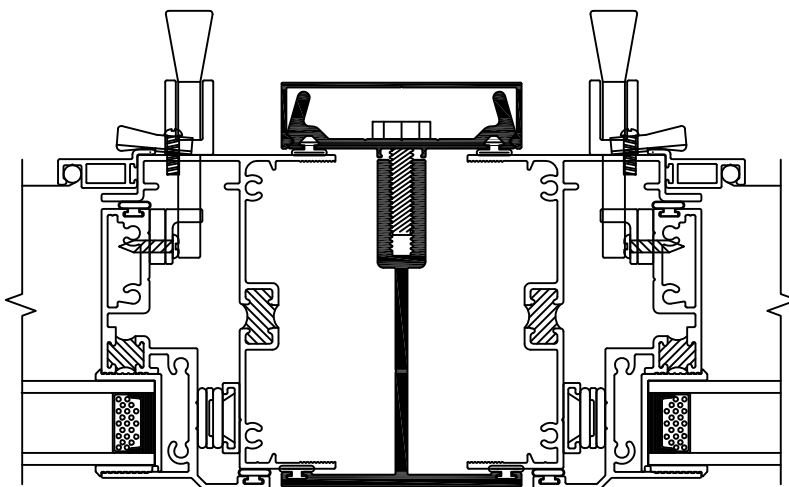
925 PROJECTED - 750 PW



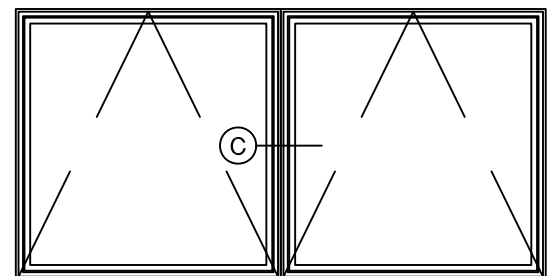
Ⓑ 925 PROJECTED - 750 PW



925 PROJECTED - 750 PW



Ⓒ 925 PROJECTED - 925 PROJECTED

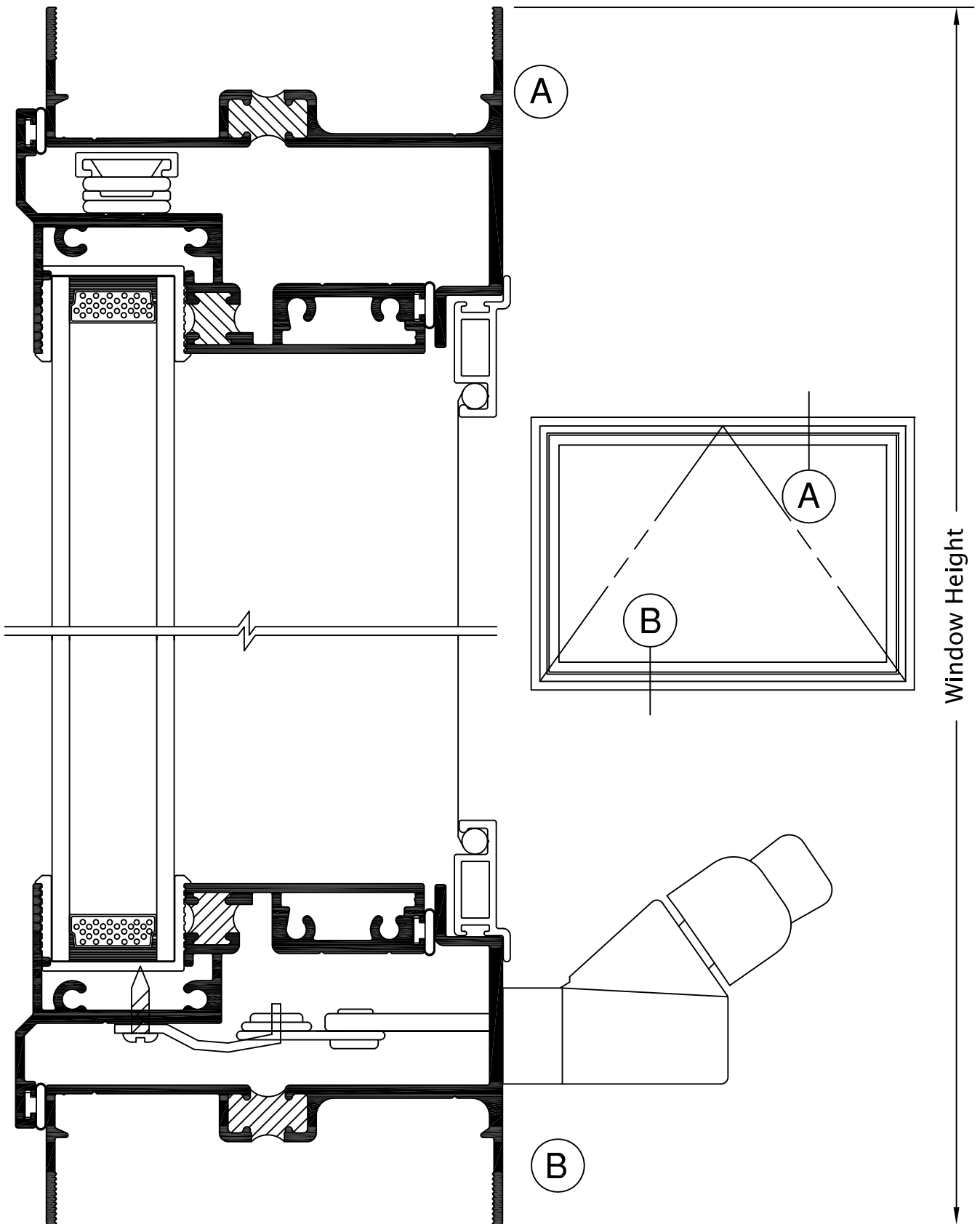


925 PROJECTED - 925 PROJECTED

See Accessories section for additional options

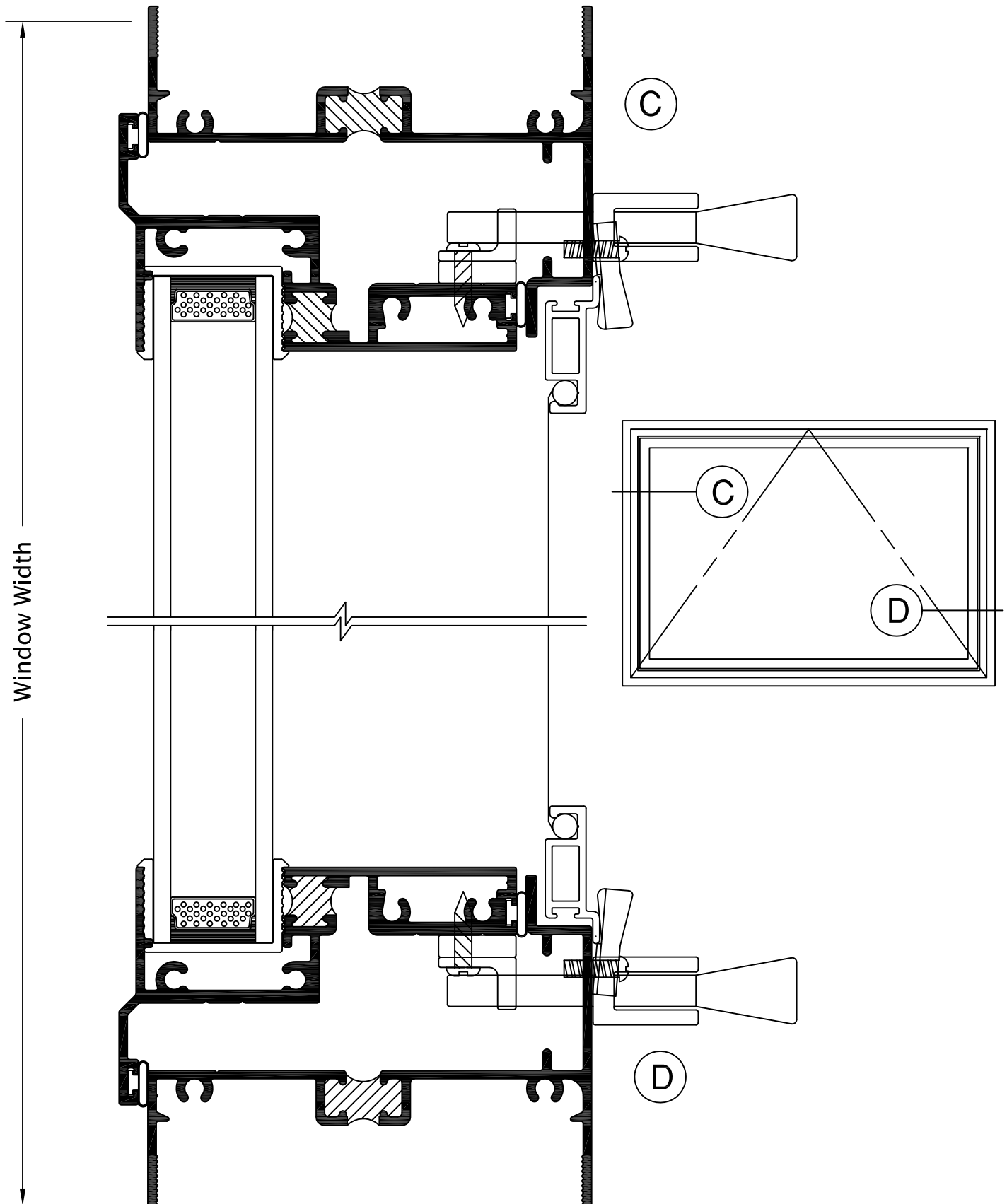
# SERIES 925 3-1/4" PROJECTED AWNING WINDOW (CW60)

Product Details (Scale: Full Size)



# SERIES 925 3-1/4" PROJECTED AWNING WINDOW (CW60)

Product Details (Scale: Full Size)

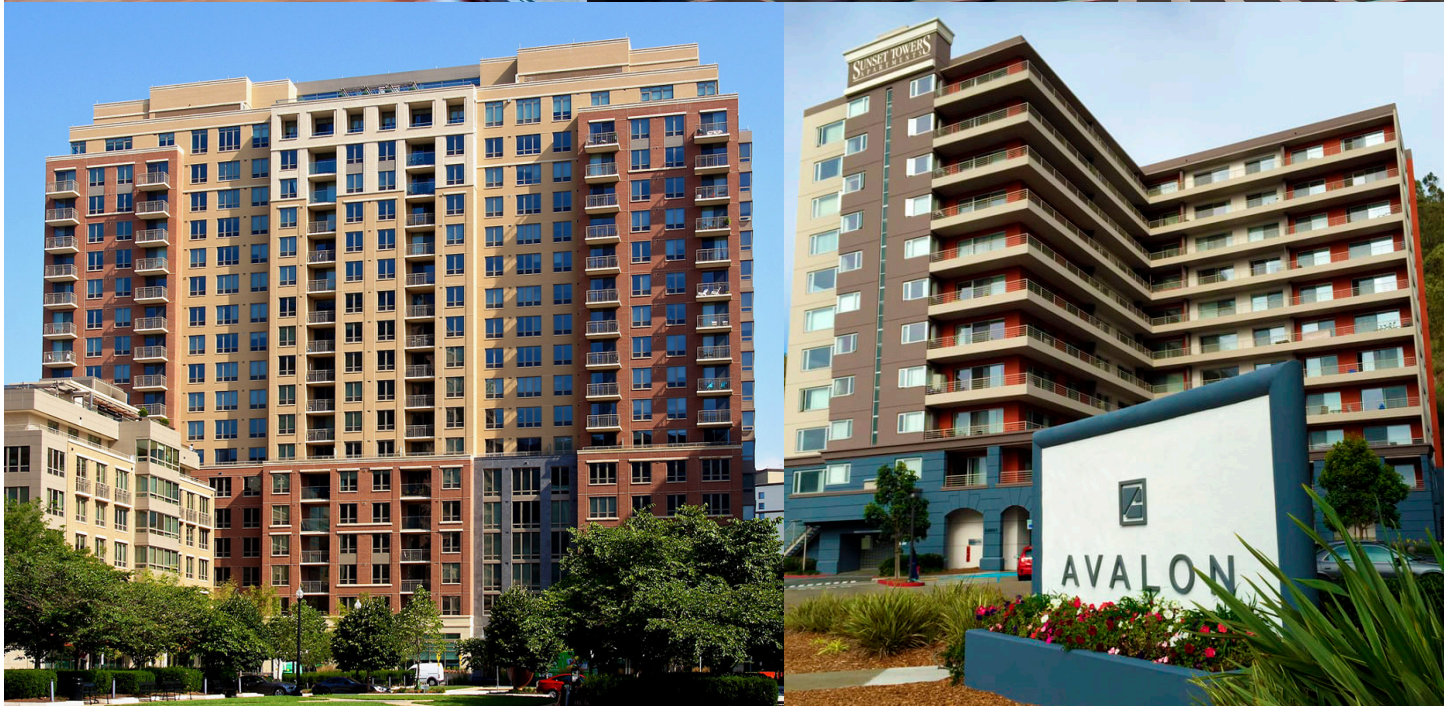




# Sliding Glass Doors



## Commercial and Impact Rated Sliding Glass Doors for Retrofit or New Construction



(top) View 14, Washington, DC - Series 9910, Light Gray  
(bottom) Acadia Three Metropolitan, Arlington, VA - Series 9910, Sandstone

(top) Argent Apartments, Silver Spring, MD - Series 9910, Dark Green  
(bottom) Avalon Sunset Towers, San Francisco, CA - Series 9910, Clear Anodized

Manufactured by Thermal Windows, Inc. • 12805 E. 31<sup>st</sup> Street • Tulsa, OK 74146 • (800) 259-7580 • Fax (918) 665-2197  
Website: [www.thermalwindows.com](http://www.thermalwindows.com) Email: [info@thermalwindows.com](mailto:info@thermalwindows.com)



12805 E. 31st St • Tulsa, OK 74146  
(800) 259-7580 • Fax (918) 665-2197  
Email: [info@thermalwindows.com](mailto:info@thermalwindows.com)  
[www.thermalwindows.com](http://www.thermalwindows.com)

## **SLIDING GLASS DOORS**

### **Standard Features**

- 4<sup>3</sup>/<sub>8</sub>" frame depth
- Custom Sizes
- Integral Thermal Barrier throughout frame and sash
- AAMA 2604 organic powder coat finish
- 5 standard powder coat finish colors (see 'Finishes' section)
- Tested to AAMA specifications
- 7/8" tempered insulated glass (1" in Series 9950)
- Extruded screen frame with fiberglass mesh

### **Available Options**

- XO, OX, OXO, OXXO and other operating configurations
- Dual seal insulated glass
- Anodized finishes
- AAMA 2605 high-performance finishes
- Tier 2 colors at no additional charge (minimums apply)
- Hundreds of special colors
- Impact-resistant glazing
- Low-E glass; tinted glass; obscure (frosted) glass
- Wire screen mesh
- Subsills, snap trim
- Internal, external and special mullions
- Handle with or without integral key lock
- Nailing fin; flush fin
- Flat or contoured internal muntins
- Internal and external applied muntins



# SERIES 9900B 4-3/8" SLIDING GLASS DOOR (LC30)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials as herein specified. Door shall be the "Series 9900B" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 9900B" is a sliding glass door with a thermally improved frame and panel consisting of an operable, removable, sliding panel and a fixed side lite. The specifications and materials for the "Series 9900B" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and panel members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 4.375" in depth. Main frames and panel members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Hardware - Pull & latch set shall be sturdy & reversible for installation on either side of door, designed not to damage latch if moving panel is closed with latch in locking position. Moving panel shall roll on adjustable, lubricated ball bearing tandem rollers.

Weather-stripping - Shall be polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weather-strip.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sashes shall be assembled with two screws at each corner. All screws at joints of panel and main frame shall be secured into integral screw ports.

Glazing - Glass shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The insulated glass units shall be 7/8" overall thickness with two panes of .125" tempered glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - (Optional) Sliding screen shall be of hollow extruded aluminum frames. Finish shall match the main frame and panel. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline.

Finish - The threshold is standard Clear Anodized finish. Finish of main frame and panels shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The "X" panels are operable on the "Series 9900B" and will slide open for ventilation.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA101/I.S.2/A440-08, LC PG30-SD specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 56 / 50.

NFRC - Shall meet the requirements of NFRC 100 and 200.

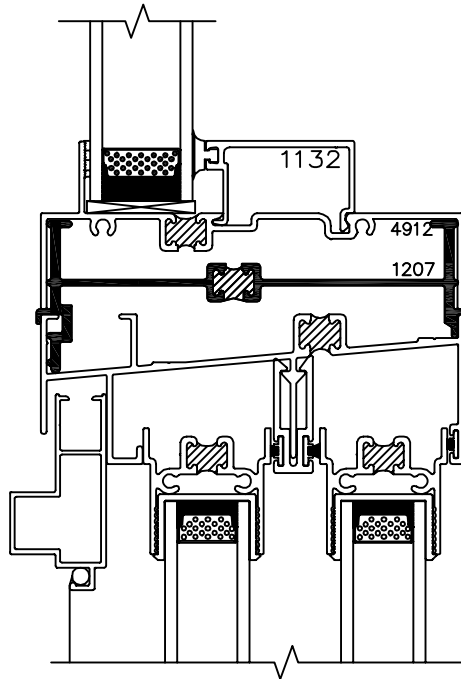
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weather tight seal between the door and surrounding construction.

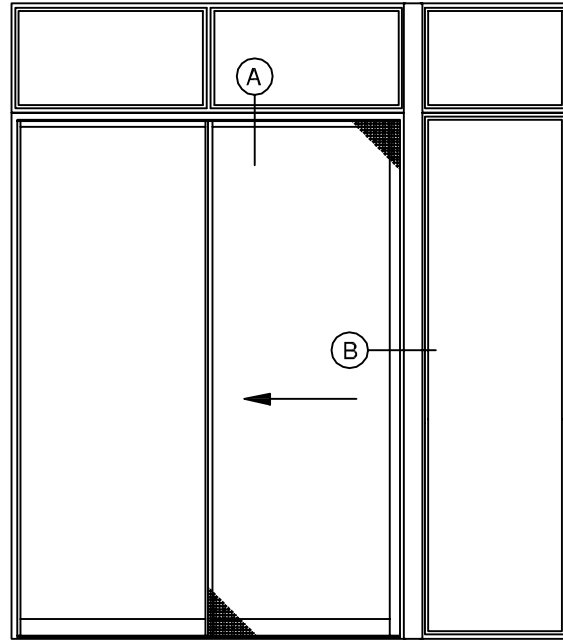
Installation Details - The manufacturer shall submit complete installation details for the Architect's approval. The drawings shall show elevations of sliding glass door, full size details of frame and vent, details of construction and anchorage of door.

# SERIES 9900B 4-3/8" SLIDING GLASS DOOR (LC30)

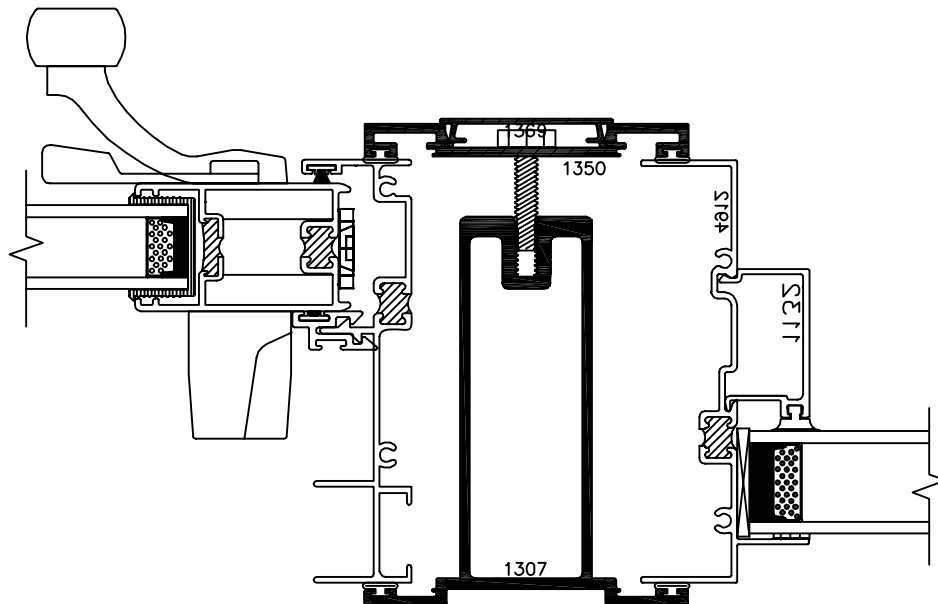
Typical Configurations (Scale: Half Size)



(A) 4151-9900



(B) 9900-4151



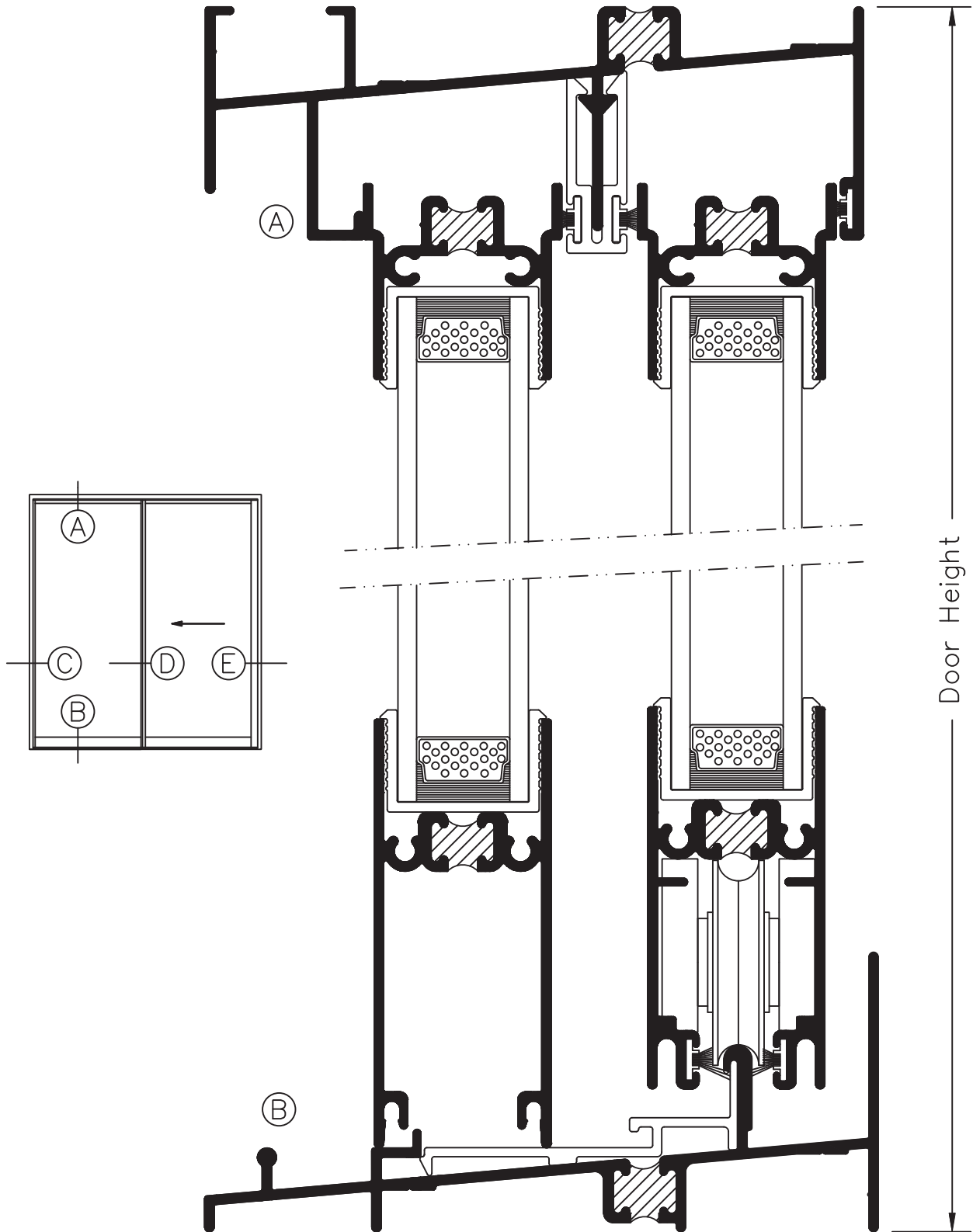
(B) 9900-4151

See Accessories section for additional options



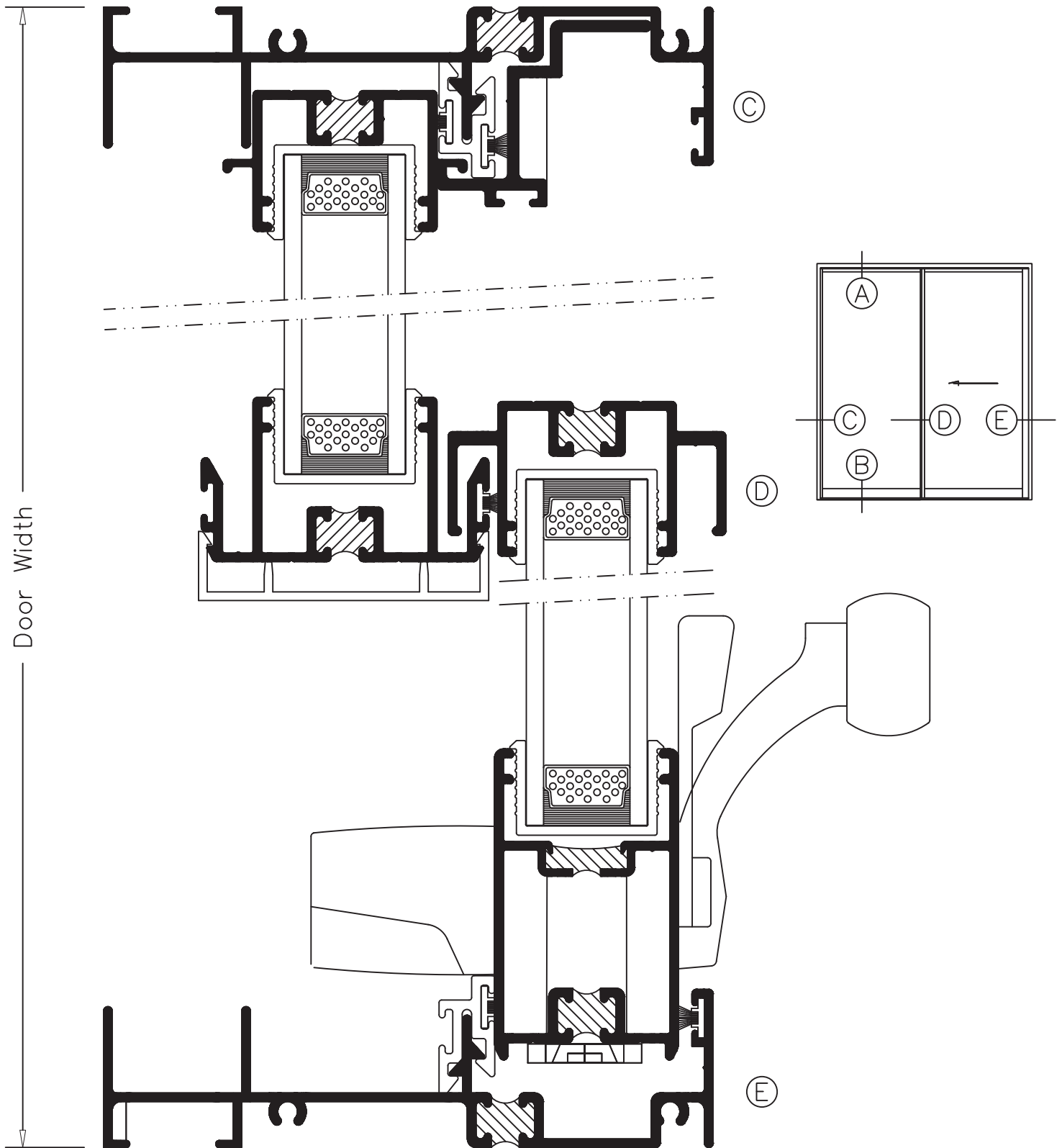
# SERIES 9900B 4-3/8" SLIDING GLASS DOOR (LC30)

Product Details (Scale: Full Size)



# SERIES 9900B 4-3/8" SLIDING GLASS DOOR (LC30)

Product Details (Scale: Full Size)



# SERIES 9910 4-3/8" SLIDING GLASS DOOR (CW30)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials as herein specified. Door shall be the "Series 9910" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 9910" is a sliding glass door with a thermally improved frame and panel consisting of an operable, removable, sliding panel and fixed side lite(s). The specifications and materials for the "Series 9910" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and panel members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 4.375" in depth. Main frames and panel members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Hardware - Pull & latch set shall be sturdy & reversible for installation on either side of door, designed not to damage latch if moving panel is closed with latch in locking position. Moving panel shall roll on adjustable, lubricated ball bearing tandem rollers.

Weather-stripping - Shall be polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weather-strip.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sashes shall be assembled with two screws at each corner. All screws at joints of panel and main frame shall be secured into integral screw ports.

Glazing - Glass shall be factory glazed with a marine (wrap around) reusable vinyl glazing channel. The insulated glass units shall be .875" overall thickness with two lites of double strength tempered glass, separated by a .625" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - (Optional) Sliding screen shall be of hollow extruded aluminum frames. Finish shall match the main frame and panel. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The "X" panels are operable on the "Series 9910" and will slide open for ventilation.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA /CSA 101/I.S.2/A440-08, CW-PG30-SD specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 56 / 50.

NFRC - Shall meet the requirements of NFRC 100 and 200.

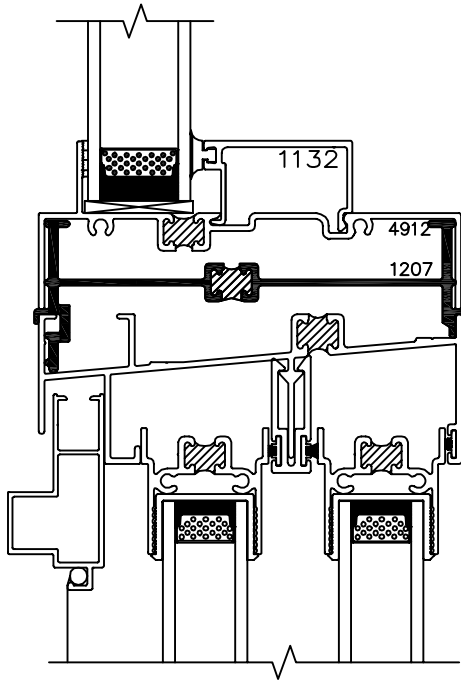
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weather tight seal between the door and surrounding construction.

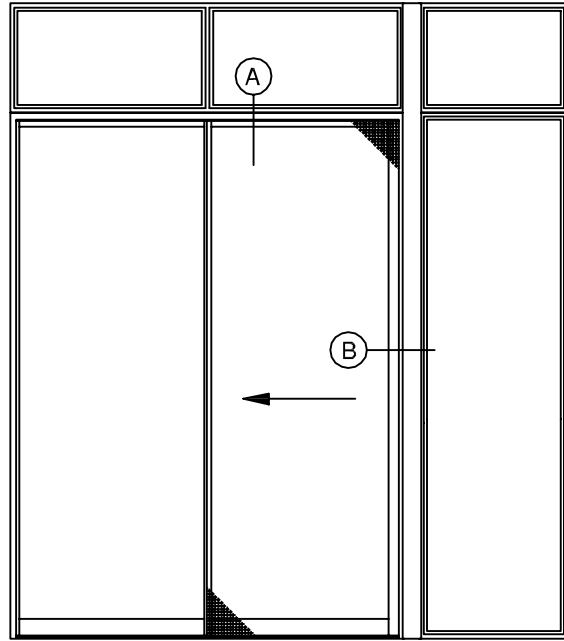
Installation Details - The manufacturer shall submit complete installation details for the Architect's approval. The drawings shall show elevations of sliding glass door, full size details of frame and vent, details of construction and anchorage of door.

# SERIES 9910 4-3/8" SLIDING GLASS DOOR (CW30)

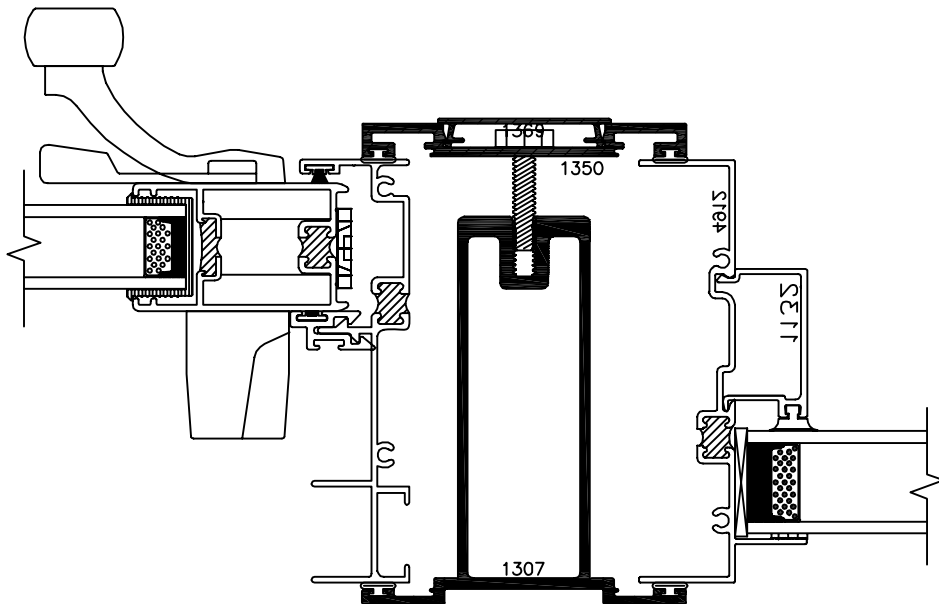
Typical Configurations (Scale: Half Size)



(A) 4151-9100



(B) 9910-4151

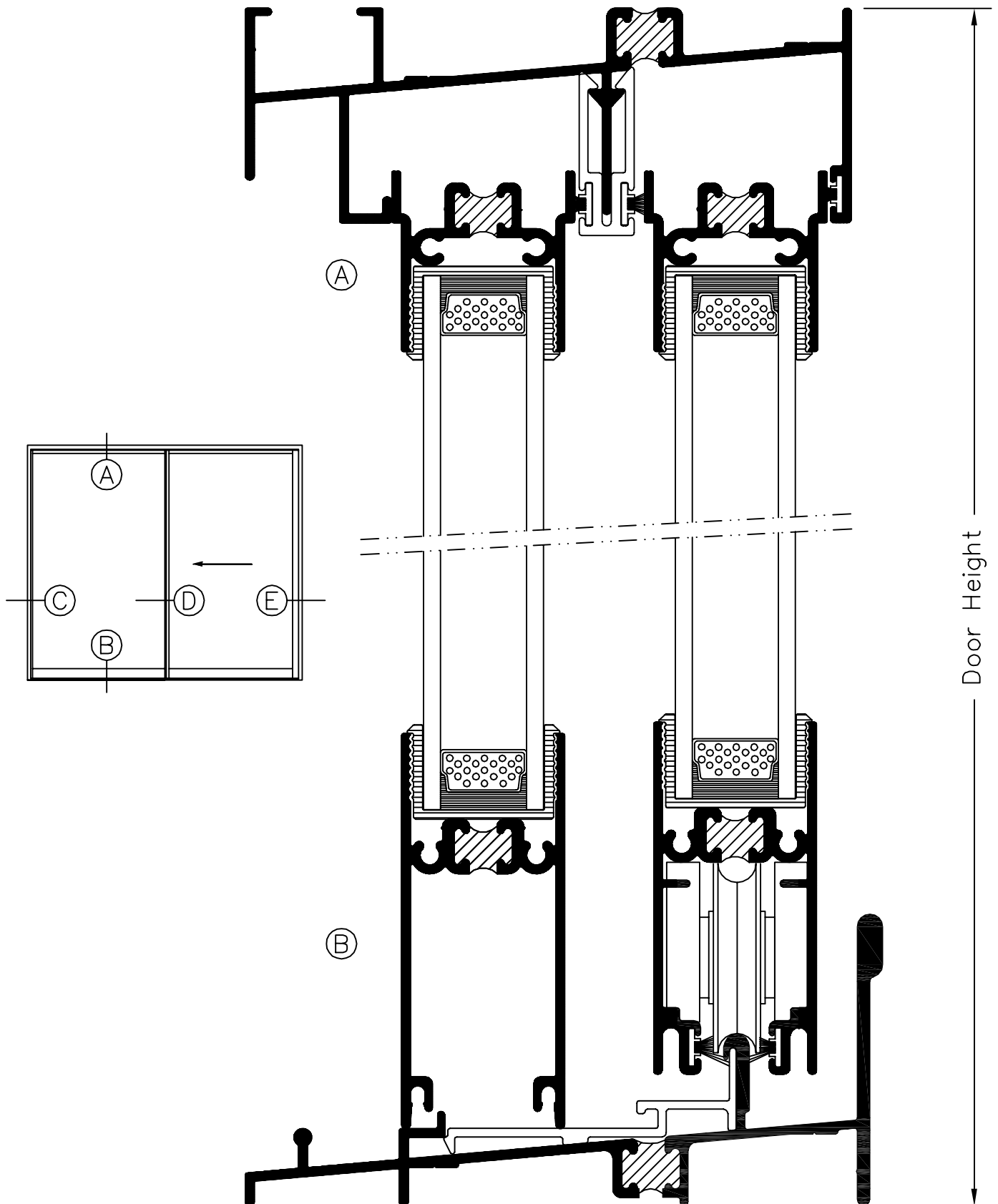


(B) 9910-4151

See Accessories section for additional options

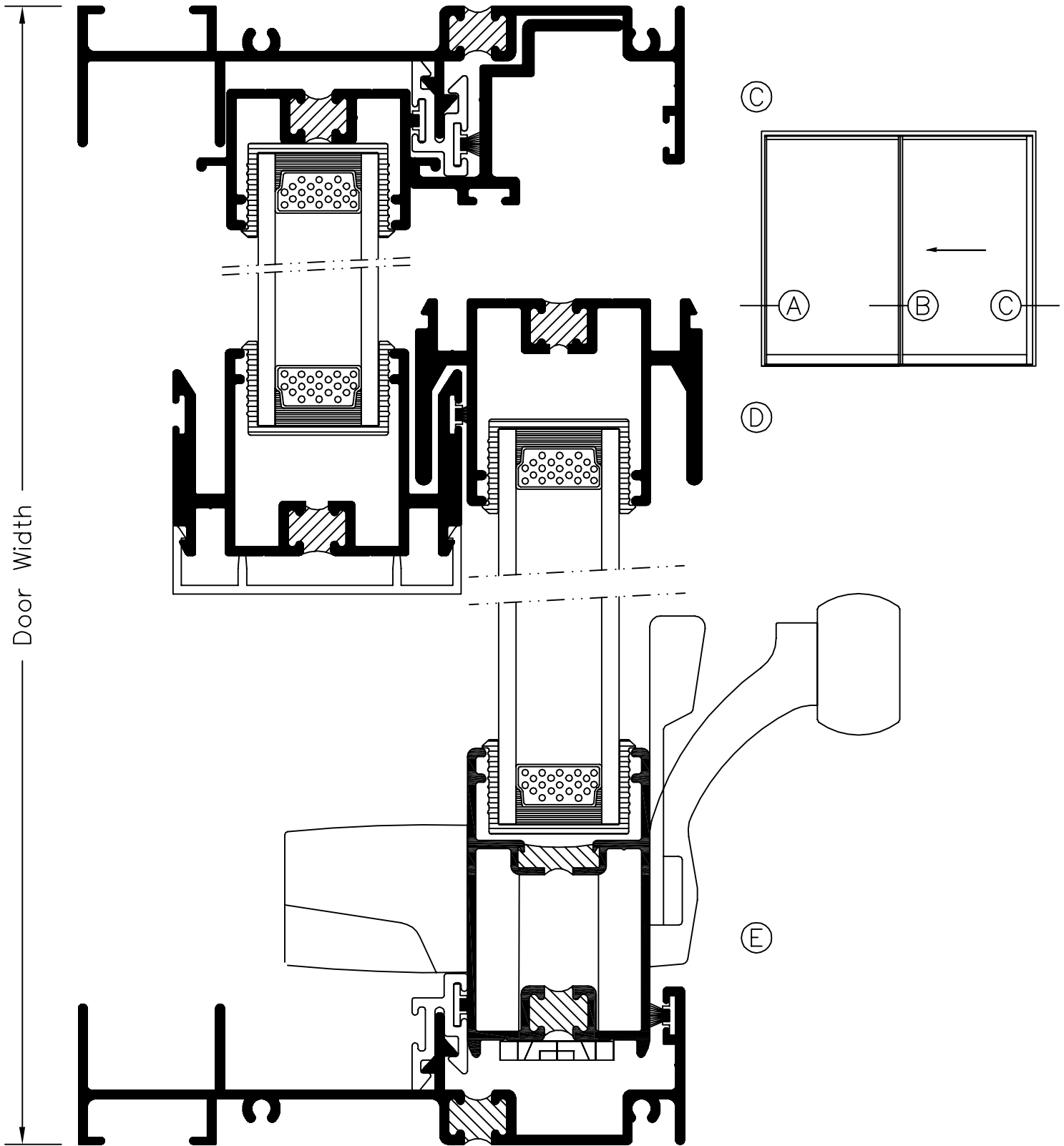
# SERIES 9910 4-3/8" SLIDING GLASS DOOR (CW30)

Product Details (Scale: Full Size)



# SERIES 9910 4-3/8" SLIDING GLASS DOOR (CW30)

Product Details (Scale: Full Size)



# SERIES 9950 4-3/8" SLIDING GLASS DOOR (CW50)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials as herein specified. Door shall be the "Series 9950" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 9950" is a sliding glass door with a thermally improved frame and panel consisting of an operable, removable, sliding panel and fixed side lite(s). The specifications and materials for the "Series 9950" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and panel members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 4.375" in depth. Main frames and panel members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Hardware - Pull & latch set shall be sturdy & reversible for installation on either side of door, designed not to damage latch if moving panel is closed with latch in locking position. Moving panel shall roll on adjustable, lubricated ball bearing tandem rollers.

Weatherstripping - Shall be polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weatherstrip.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sashes shall be assembled with two screws at each corner. All screws at joints of panel and main frame shall be secured into integral screw ports.

Glazing - Glass shall be factory glazed with backbedding compound at the exterior and a snap in glazing bead at the interior. The insulated glass units shall be 1" overall thickness. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Screens - (Optional) Sliding screen shall be of hollow extruded aluminum frames. Finish shall match the main frame and panel. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The "X" panels are operable on the "Series 9950" and will slide open for ventilation.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-11, CW50 specification.

Thermal - Shall meet the requirements of AAMA 1503.1 CRF 56 / 50.

NFRC - Shall meet the requirements of NFRC 100 and 200.

### V. INSTALLATION:

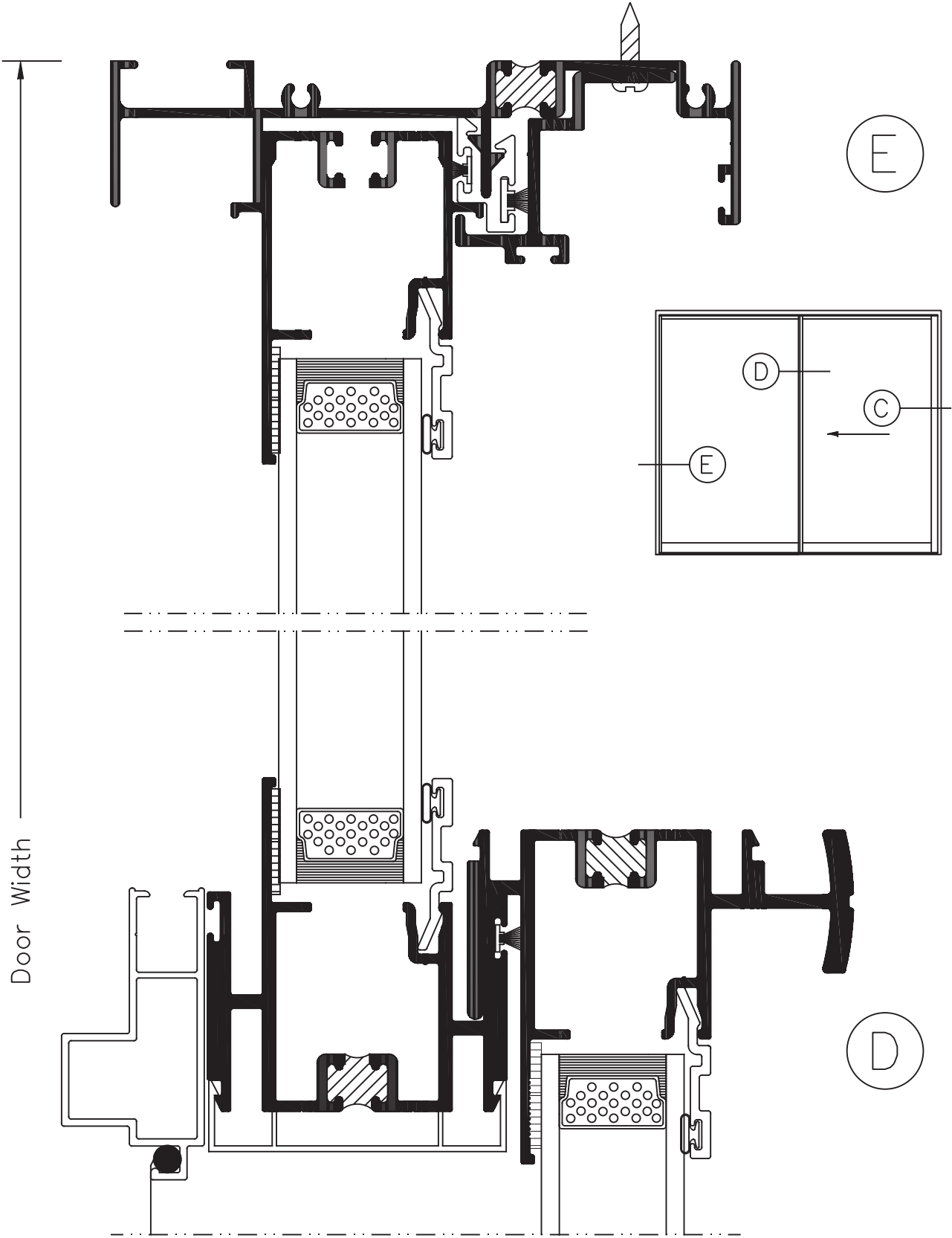
Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weather tight seal between the door and surrounding construction.

Installation Details - The manufacturer shall submit complete installation details for the Architect's approval. The drawings shall show elevations of sliding glass door, full size details of frame and vent, details of construction and anchorage of door.



# SERIES 9950 4-3/8" SLIDING GLASS DOOR (CW50)

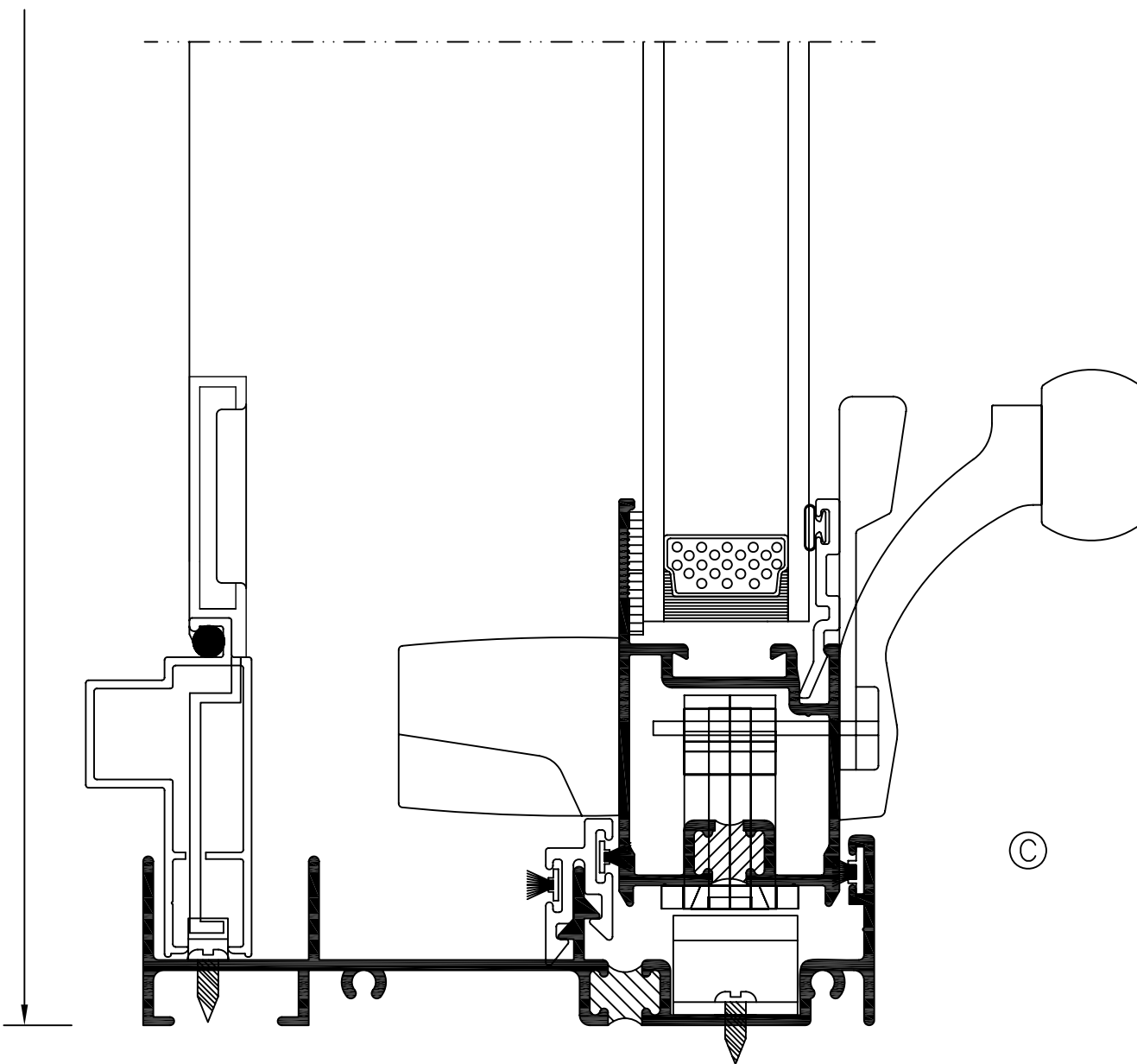
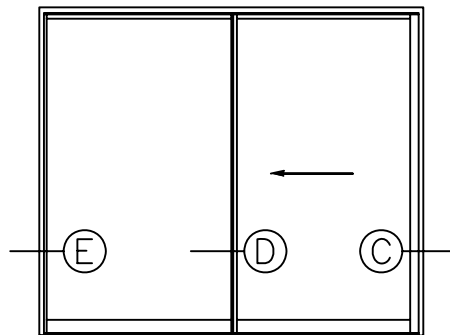
Product Details (Scale: Full Size)



# SERIES 9950 4-3/8" SLIDING GLASS DOOR (CW50)

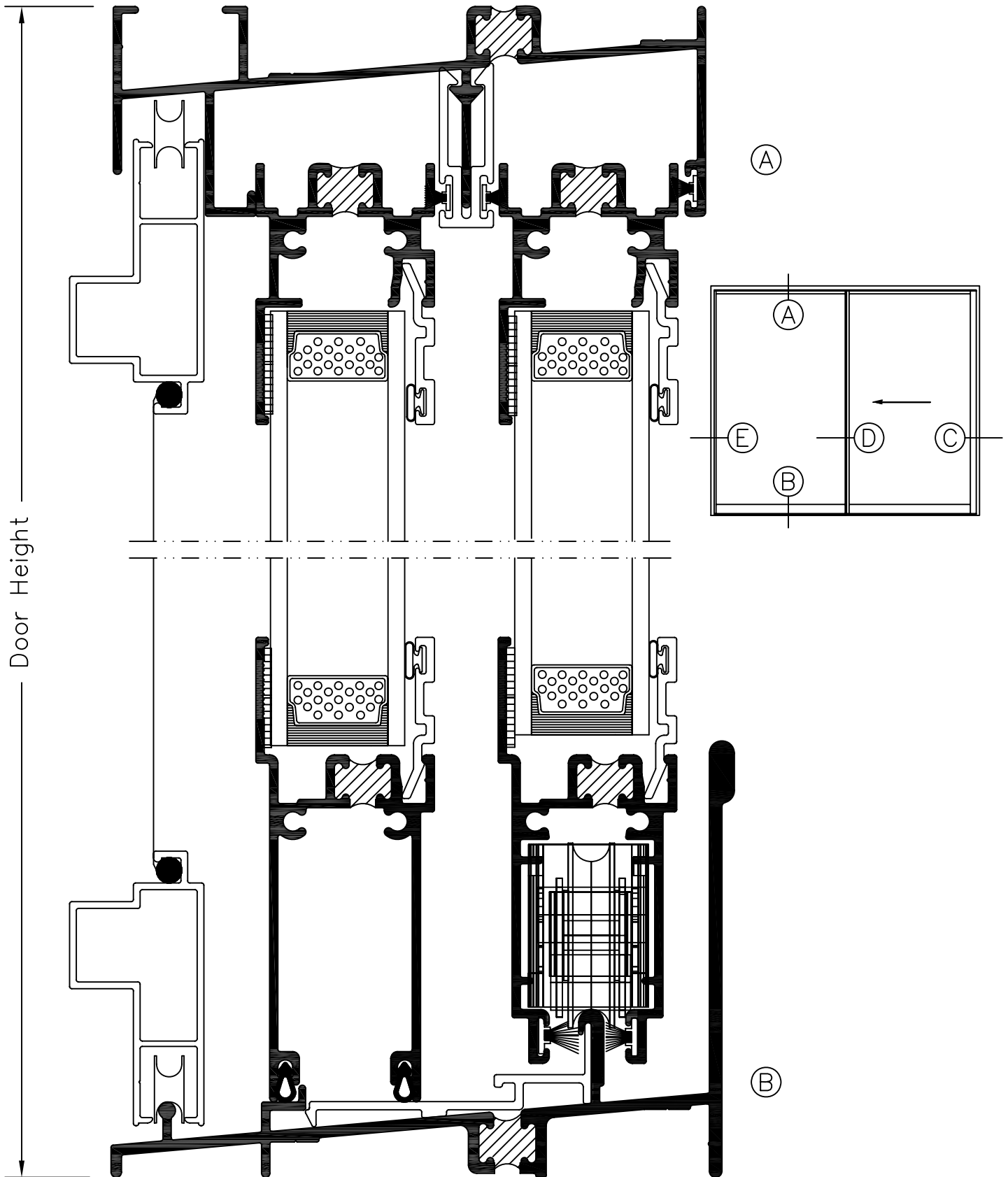
Product Details (Scale: Full Size)

Door Width



# SERIES 9950 4-3/8" SLIDING GLASS DOOR (CW50)

Product Details (Scale: Full Size)



# SERIES 9950 4-3/8" SLIDING GLASS DOOR (IMPACT)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials as herein specified. Door shall be the "Series 9950" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 9950" is a sliding glass door with a thermally improved frame and panel consisting of an operable, removable, sliding panel and fixed side lite(s). The specifications and materials for the "Series 9950" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and panel members shall be a nominal thickness as required by ANSI/AAMA 101. Main frame shall be 4.375" in depth. Main frames and panel members are to be extruded aluminum with a structural thermal barrier of high density low thermal conductivity polyurethane, poured and debridged.

Hardware - Pull & latch set shall be sturdy & reversible for installation on either side of door, designed not to damage latch if moving panel is closed with latch in locking position. Moving panel shall roll on adjustable, lubricated ball bearing tandem rollers.

Weather-stripping - Shall be polypile with mylar fins conforming to AAMA 701.2, Specification for Pile Weather-strip.

### III. CONSTRUCTION:

Assembly - Main frame shall be a mechanically joined construction. Corner joints should be "seam sealed" with a quality grade of sealant meeting the requirements of AAMA 803.3. The sashes shall be assembled with two screws at each corner. All screws at joints of panel and main frame shall be secured into integral screw ports.

Glazing - Glass shall be factory silicone glazed with an interior aluminum glazing bead. The insulated glass units shall be 1" overall thickness with glass in accordance with actual impact testing options.

Screens - (Optional) Sliding screen shall be of hollow extruded aluminum frames. Finish shall match the main frame and panel. Insect screening shall be fiberglass or aluminum wire secured with a vinyl spline.

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The "X" panels are operable on the "Series 9950" and will slide open for ventilation.

### IV. PERFORMANCE:

Impact - Shall meet the requirements of Florida Building Code Test Protocols for High Velocity Hurricane Zone TAS 201, TAS 202, TAS 203.

NFRC - Shall meet the requirements of NFRC 100 and 200.

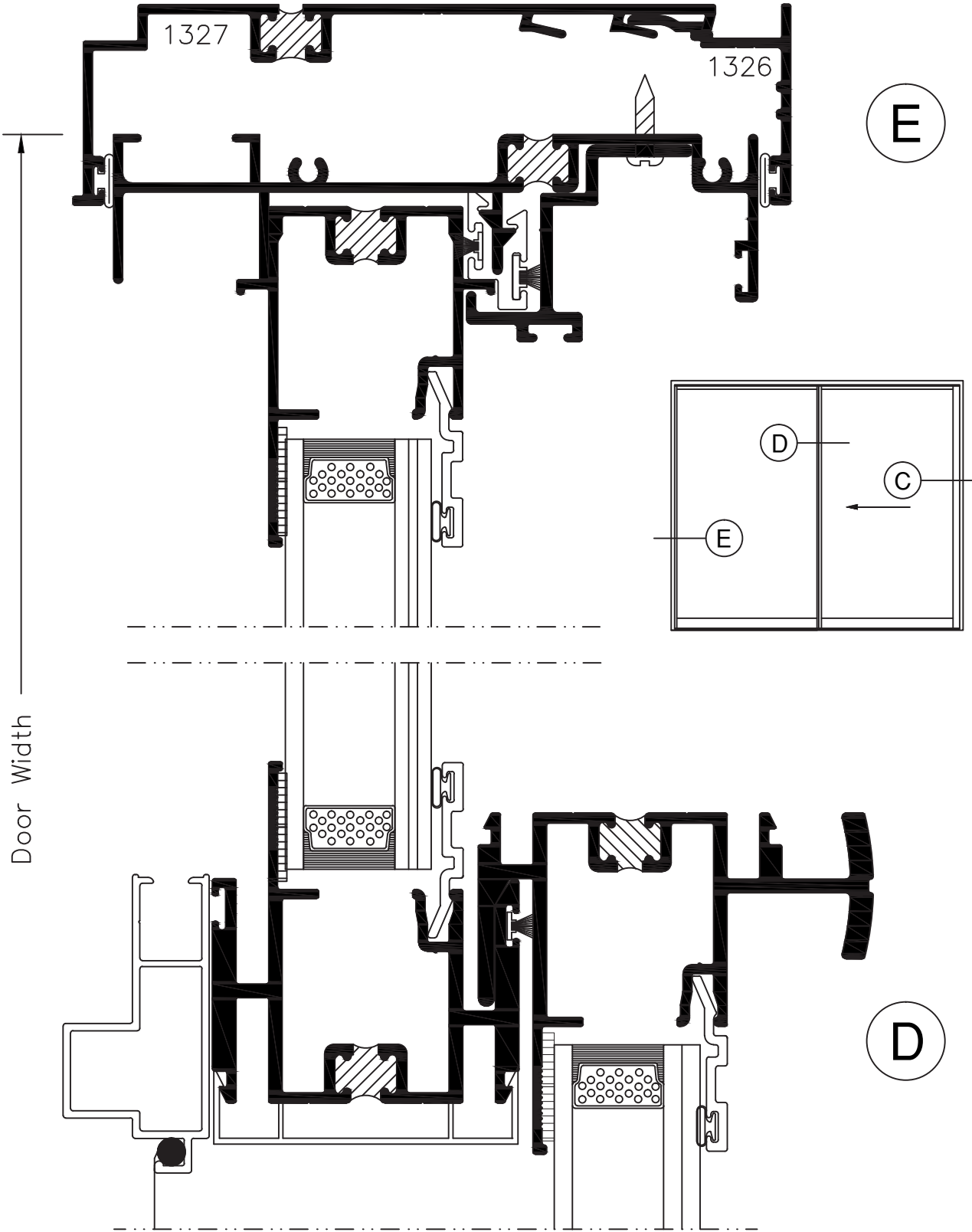
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weather tight seal between the door and surrounding construction.

Installation Details - The manufacturer shall submit complete installation details for the Architect's approval. The drawings shall show elevations of sliding glass door, full size details of frame and vent, details of construction and anchorage of door.

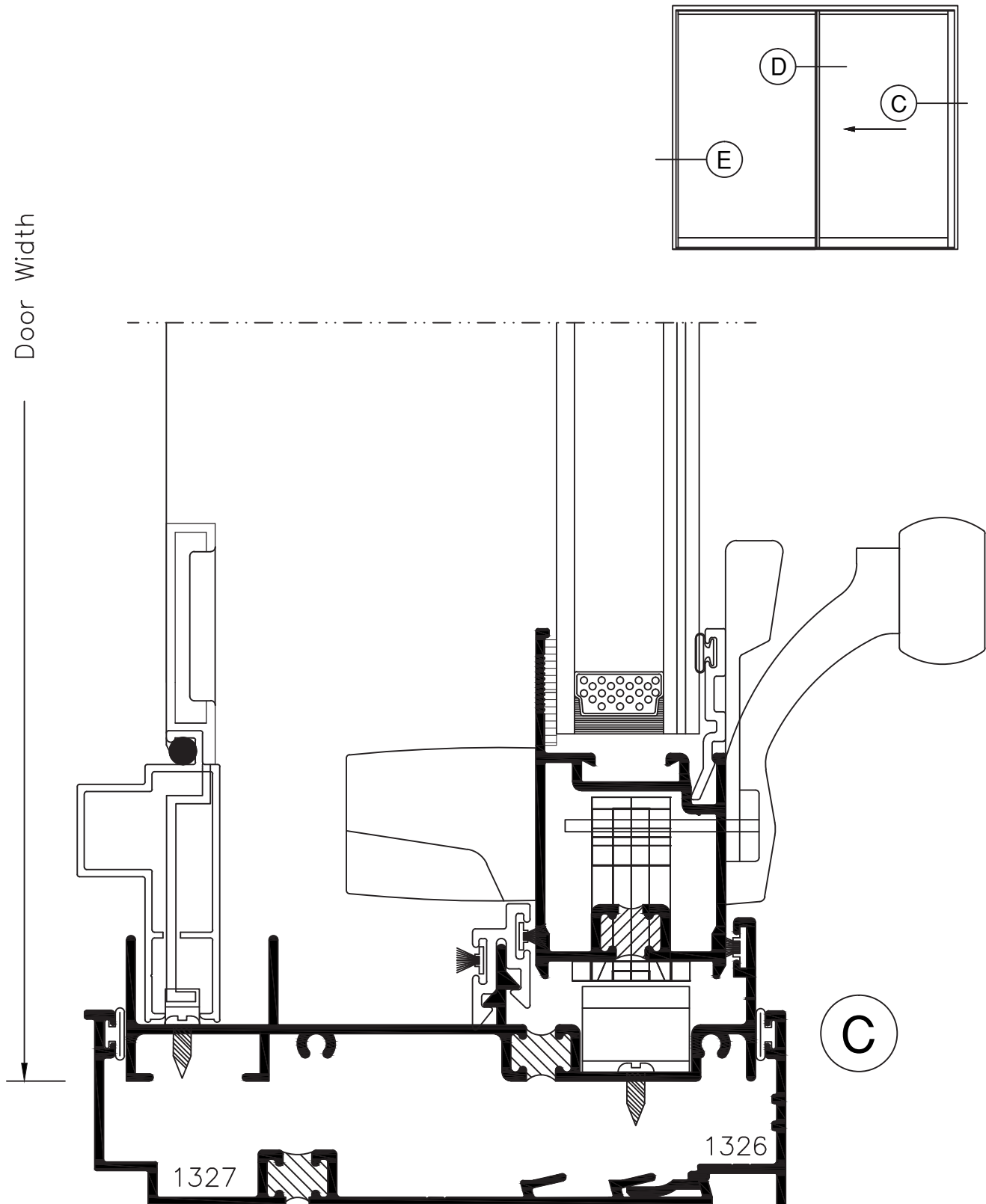
# SERIES 9950 4-3/8" SLIDING GLASS DOOR (IMPACT)

Product Details (Scale: Full Size)



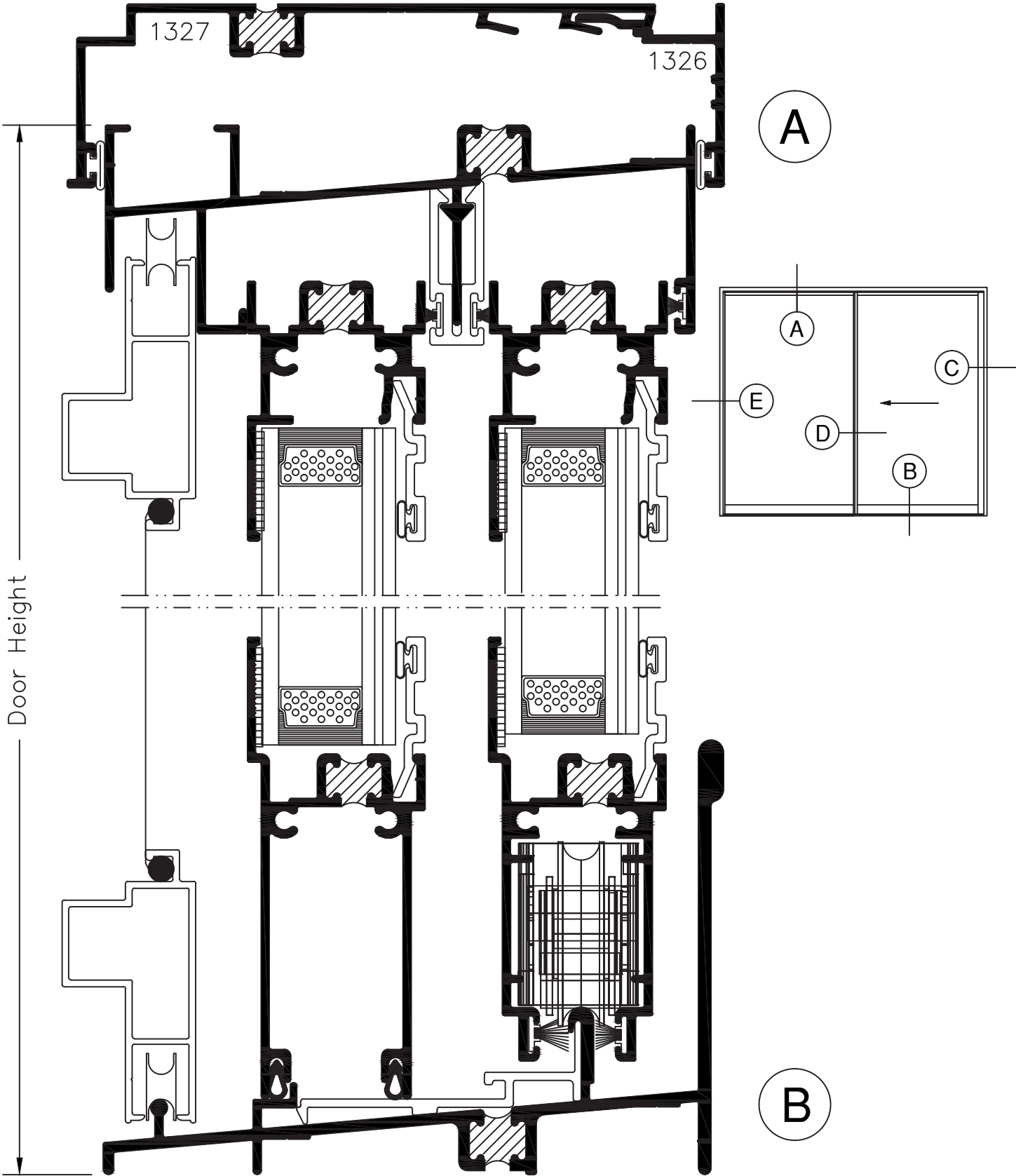
# SERIES 9950 4-3/8" SLIDING GLASS DOOR (IMPACT)

Product Details (Scale: Full Size)



# SERIES 9950 4-3/8" SLIDING GLASS DOOR (IMPACT)

Product Details (Scale: Full Size)





# Terrace Doors



## Commercial and Impact Rated Terrace Doors for Retrofit or New Construction



(top) Janelia Farms, Ashburn, VA - Series 1401F, Clear Anodized  
(bottom) 8th & Nueces, Austin, TX - Series 1401F and 1402F, Dove Gray and Satin Gray

(top) Eden St Apartments, Baltimore, MD - Series 1401, Essex Green  
(bottom) 8th & Nueces, Austin, TX - Series 1401F and 1402F, Dove Gray and Satin Gray

Manufactured by Thermal Windows, Inc. • 12805 E. 31<sup>st</sup> Street • Tulsa, OK 74146 • (800) 259-7580 • Fax (918) 665-2197  
Website: [www.thermalwindows.com](http://www.thermalwindows.com) Email: [info@thermalwindows.com](mailto:info@thermalwindows.com)



12805 E. 31st St • Tulsa, OK 74146  
(800) 259-7580 • Fax (918) 665-2197  
Email: [info@thermalwindows.com](mailto:info@thermalwindows.com)  
[www.thermalwindows.com](http://www.thermalwindows.com)

## **TERRACE DOORS**

### **Standard Features**

- 3¼" frame depth
- Custom Sizes
- Integral Thermal Barrier throughout frame and sash
- AAMA 2604 organic powder coat finish
- 5 standard powder coat finish colors (see 'Finishes' section)
- Tested to AAMA specifications
- 1" tempered insulated glass
- Painted or pre-finished handles
- Multipoint locking system
- Marine gasket weatherstripping for superior wind and water resistance

### **Available Options**

- Fair Housing threshold
- X, XO, OX, XX, OXO, OXXO operating configurations
- Dual seal insulated glass
- Anodized finishes
- AAMA 2605 high-performance finishes
- Tier 2 colors at no additional charge (minimums apply)
- Hundreds of special colors
- Impact-resistant glazing
- Low-E glass; tinted glass; obscure (frosted) glass
- Flat or contoured internal muntins
- Internal and external applied muntins



# SERIES 1400 3-1/4" SINGLE INSWING TERRACE DOOR (AW60)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum hinged glass doors for this project as shown on the drawings and herein specified. Doors shall be the "Series 1400" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 1400" is a single vent Hinged Glass Door with thermally improved main frame and vent consisting of side hinges, locking handle and multipoint lock system. The specifications and materials for the "Series 1400" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a .062" nominal thickness. Main frame shall be 3.25" in depth. Horizontal and vertical vent members shall be hollow extrusions. Main frames and vent members are to be extruded aluminum with a dual insulbar thermal barrier system creating a 5/8" wide thermal barrier.

Hardware - Operating handle shall be lever type connecting to a multi-point lock system. Lock system engagements shall be as follows: Two (2) at handle, one (1) 2 1/2" from each end of lock stile and one (1) centered between handle and upper locking point. Lock cannot be operated from exterior. One (1) friction catch shall be located on vent and frame to hold door closed when handle is in unlocked position. Door shall also be fitted with one (1) field adjustable limit device at head to restrict door panel travel. Limit device shall also utilize a friction adjusting screw.

Hinges - Shall consist of four (4) extruded aluminum butt type hinges. Hinge pins shall be 1/4" diameter stainless steel with hard vinyl bushings.

Weatherstripping - Door panel shall close to a full perimeter EPDM weatherseal utilizing welded corner construction.

### III. CONSTRUCTION:

Assembly - Main frame and door panel corners shall be of mitered, sealed, crimped and staked corner construction. Each corner shall consist of one extruded aluminum corner key held in place with two die cast retainer pins, one die cast corner key staked in place and one friction fit hard vinyl corner key.

Glazing - Glass in the door panel shall be factory glazed using EPDM gasket at exterior perimeter with extruded aluminum glazing bead and EPDM wedge at interior of glass. The insulated glass units shall be 1" overall thickness with two panes .125" tempered glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The door panel is operable to the inside and lockable from the inside. Friction catch and pull handle allow the door panel to be held closed and operated from the outside.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA101/I.S.2/A440-08 ATD-AW60 specification. Fair Housing threshold is also available with A440-08 ATD-AW60 performance (Series 1400F).

NFRC - Shall meet the requirements of NFRC 100 and 200.

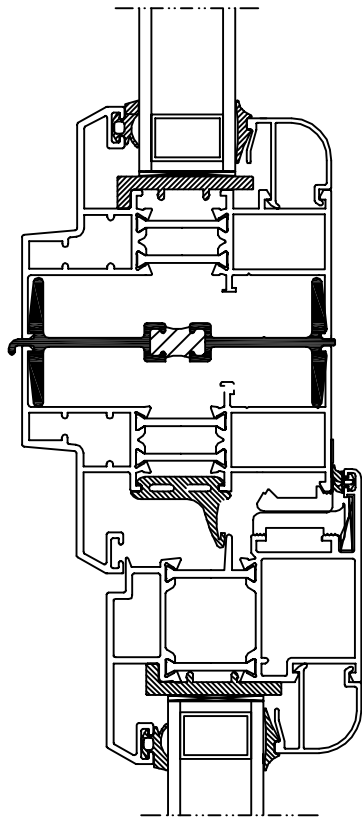
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

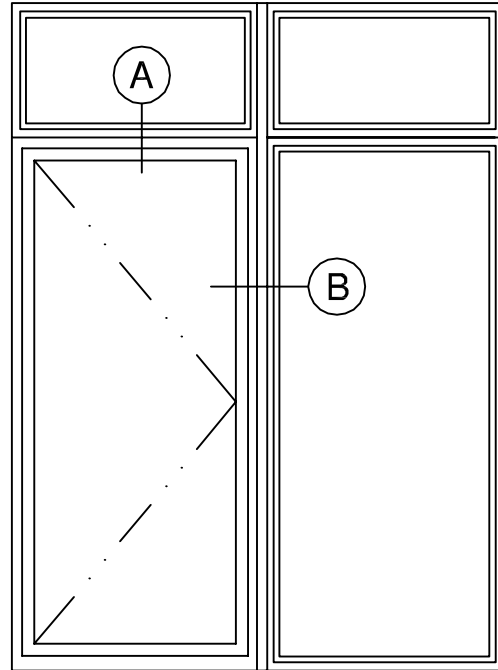
Installation Details - The door manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 1400 3-1/4" SINGLE INSWING TERRACE DOOR (AW60)

Typical Configurations (Scale: Half Size)



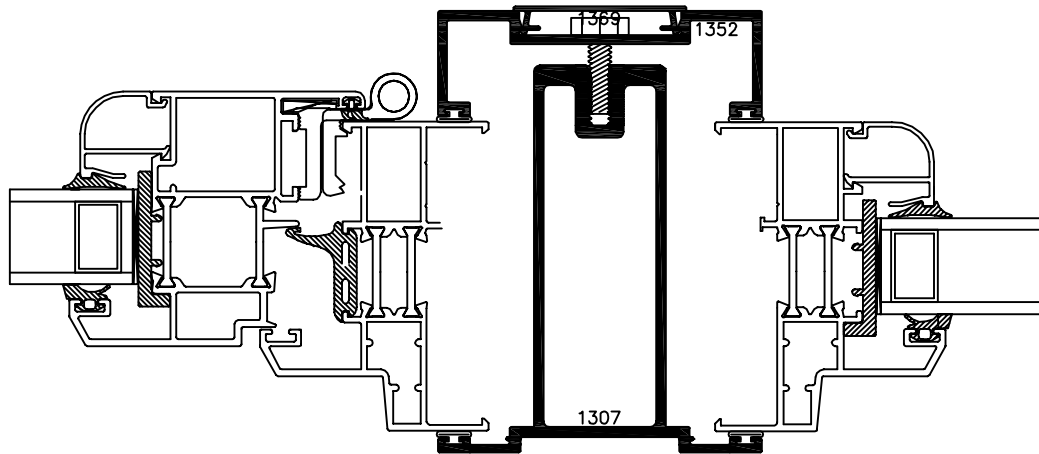
A



A

B

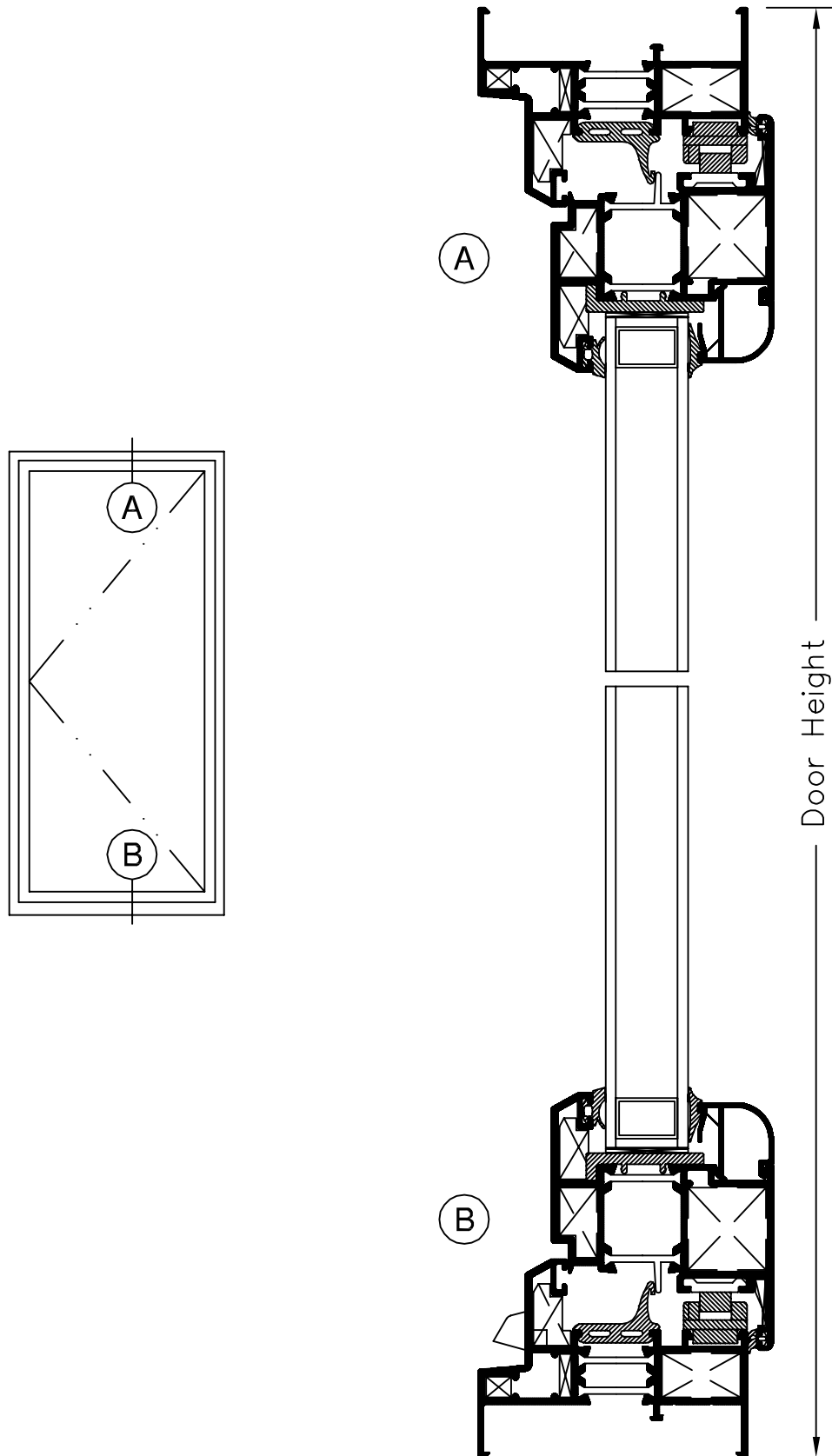
B



See Accessories section for additional options

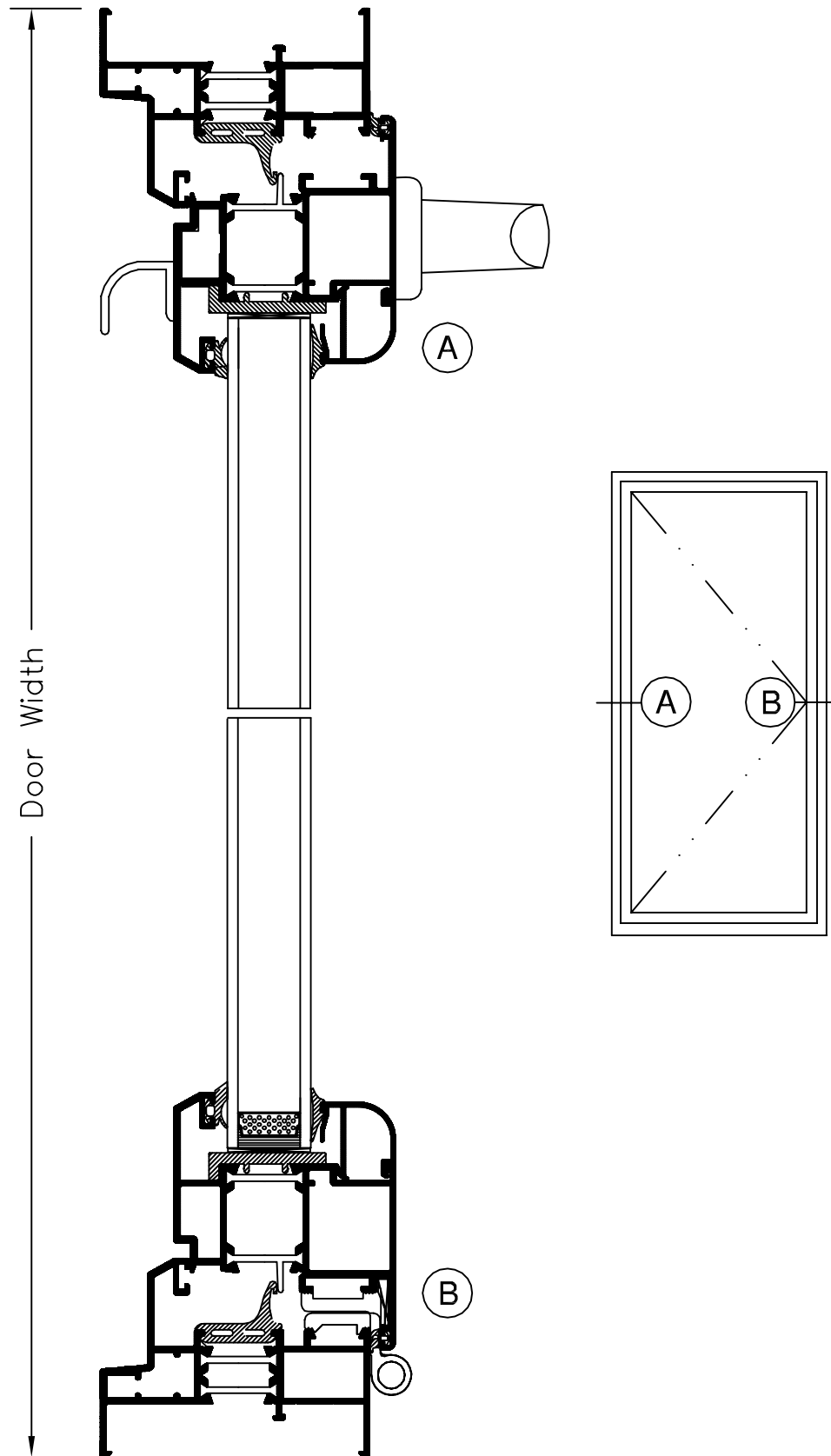
# SERIES 1400 3-1/4" SINGLE INSWING TERRACE DOOR (AW60)

Product Details (Scale: Half Size)



# SERIES 1400 3-1/4" SINGLE INSWING TERRACE DOOR (AW60)

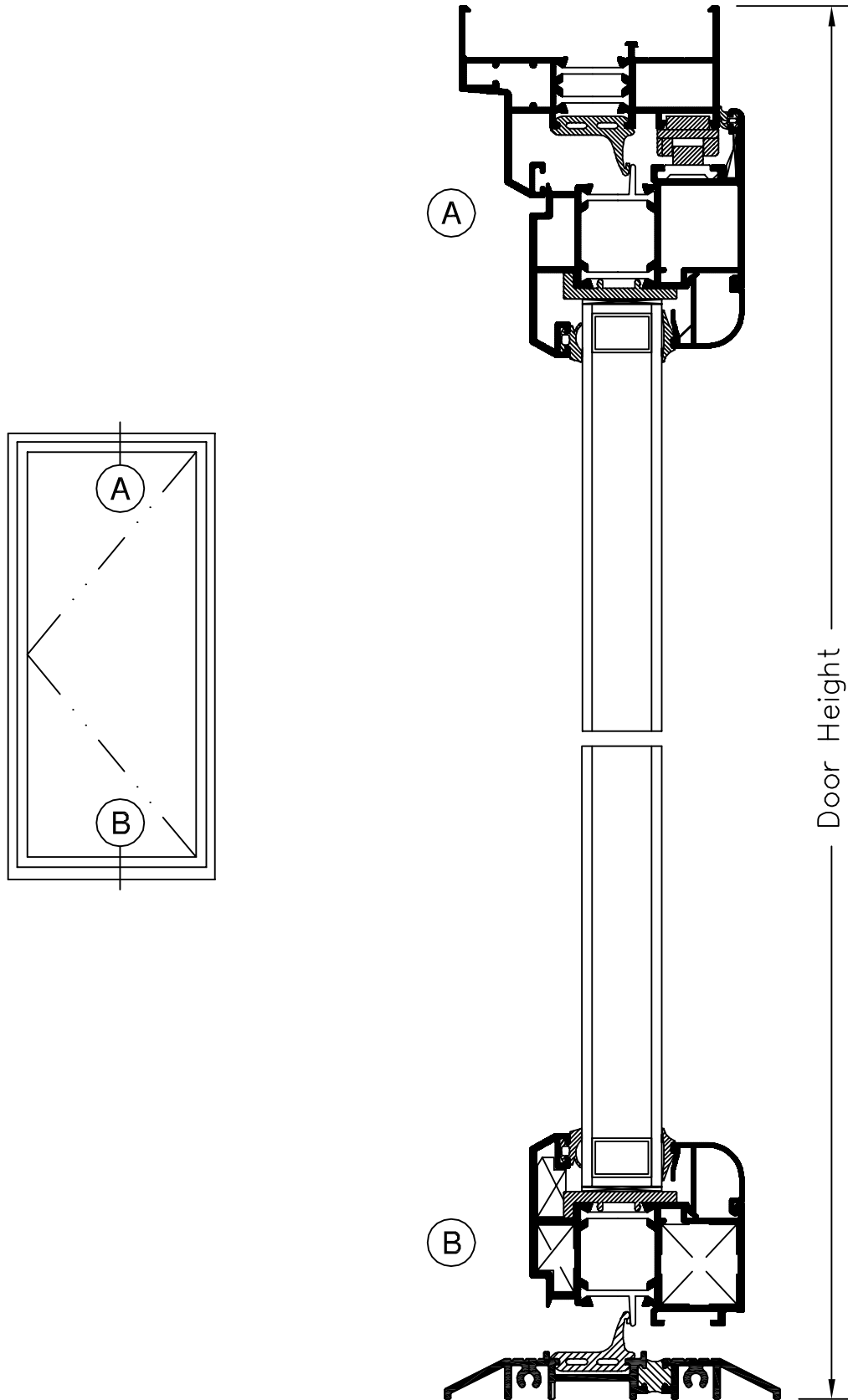
Product Details (Scale: Half Size)



# SERIES 1400F 3-1/4" SINGLE INSWING TERRACE DOOR (AW60)

With Fair Housing sill

Product Details (Scale: Half Size)

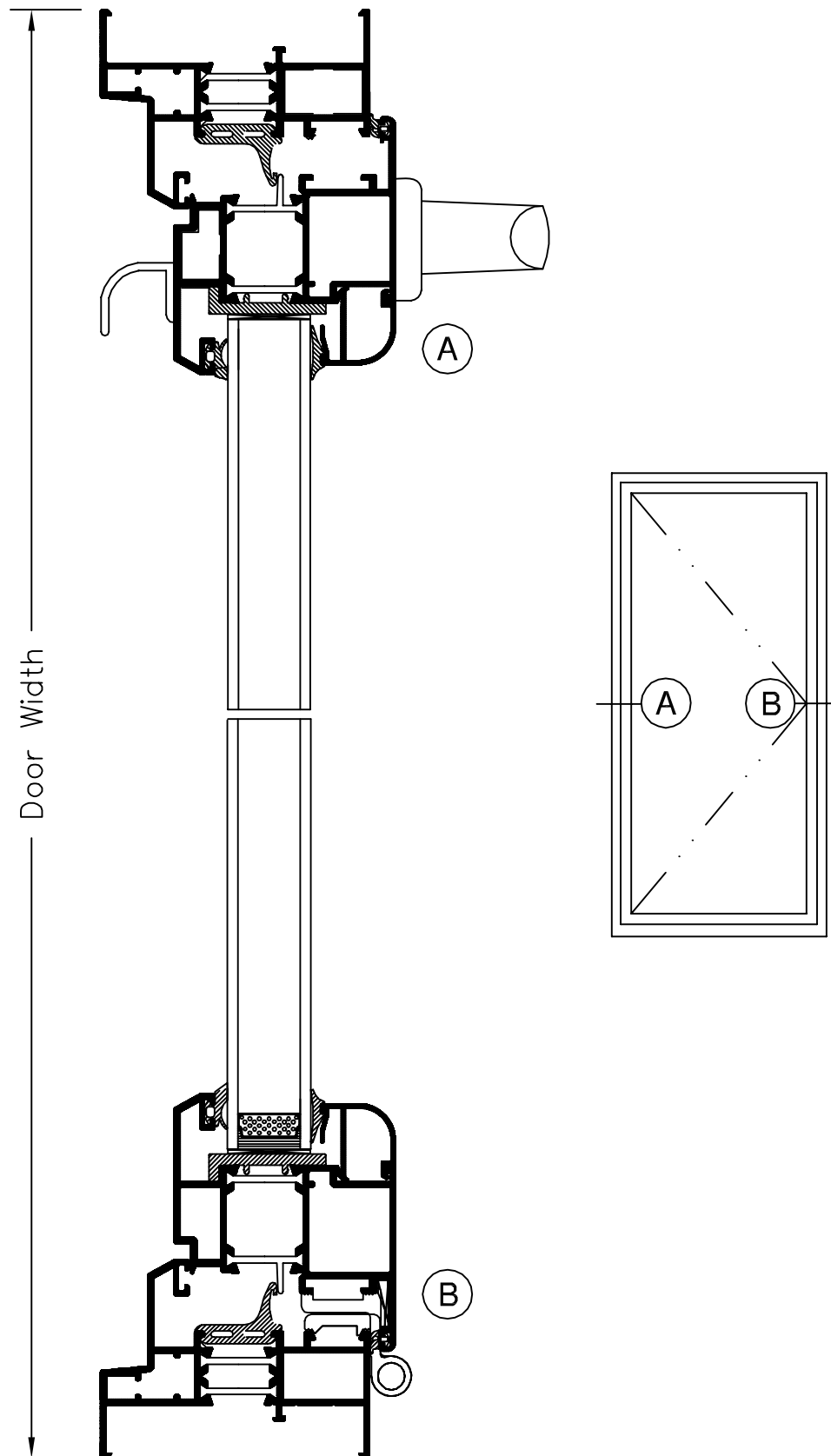




# SERIES 1400F 3-1/4" SINGLE INSWING TERRACE DOOR (AW60)

With Fair Housing sill

Product Details (Scale: Half Size)



# SERIES 1401 3-1/4" SINGLE OUTSWING TERRACE DOOR (AW60)

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum hinged glass doors for this project as shown on the drawings and herein specified. Doors shall be the "Series 1401" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 1401" is a single vent Hinged Glass Door with thermally improved main frame and vent consisting of side hinges, locking handle and multipoint lock system. The specifications and materials for the "Series 1401" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a .062" nominal thickness. Main frame shall be 3.25" in depth. Horizontal and vertical vent members shall be hollow extrusions. Main frames and vent members are to be extruded aluminum with a dual insulbar thermal barrier system creating a 5/8" wide thermal barrier.

Hardware - Operating handle shall be lever type connecting to a multi-point lock system. Lock system engagements shall be as follows: Two (2) at handle, one (1) 2.500" from each end of lock stile and one (1) centered between handle and upper locking point. Door shall also be fitted with one (1) field adjustable limit device at head to restrict door panel travel. Limit device shall also utilize a friction adjusting screw.

Hinges - Shall consist of four (4) extruded aluminum butt type hinges. Hinge pins shall be 1/4" diameter stainless steel with hard vinyl bushings.

Weatherstripping - Door panel shall close to a full perimeter EPDM weatherseal utilizing welded corner construction.

### III. CONSTRUCTION:

Assembly - Main frame and door panel corners shall be of mitered, sealed, crimped and staked corner construction. Each corner shall consist of one extruded aluminum corner key held in place with two die cast retainer pins, one die cast corner key staked in place and one friction fit hard vinyl corner key.

Glazing - Glass in the door panel shall be factory glazed using EPDM gasket at exterior perimeter with extruded aluminum glazing bead and EPDM wedge at interior of glass. The insulated glass units shall be 1" overall thickness with two panes .125" tempered glass, separated by a .750" air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The door panel is operable to the outside. Key cylinder is operable by thumb turn inside and by key outside.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA101/I.S.2/A440-08, ATD-AW60 specification. Fair Housing threshold is also available with A440-08 ATD-AW60 performance (Series 1401F).

NFRC - Shall meet the requirements of NFRC 100 and 200.

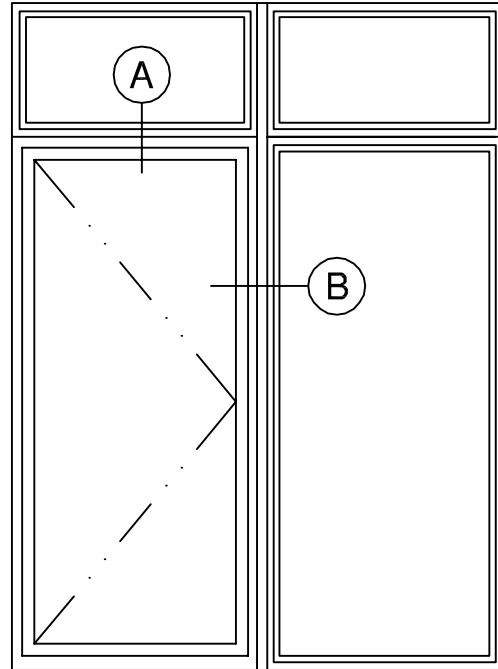
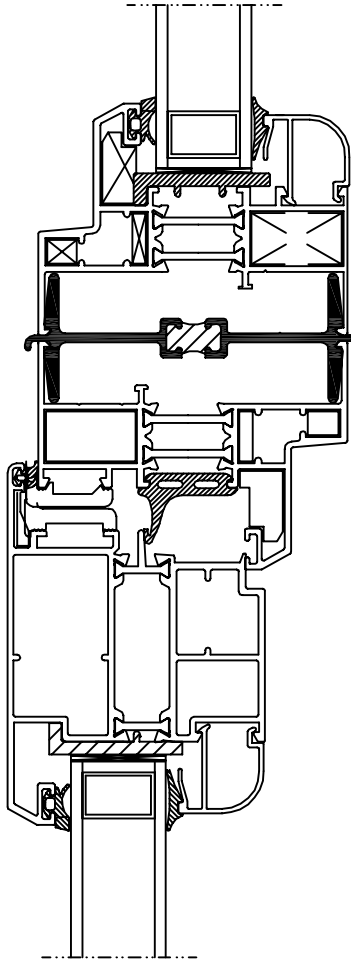
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

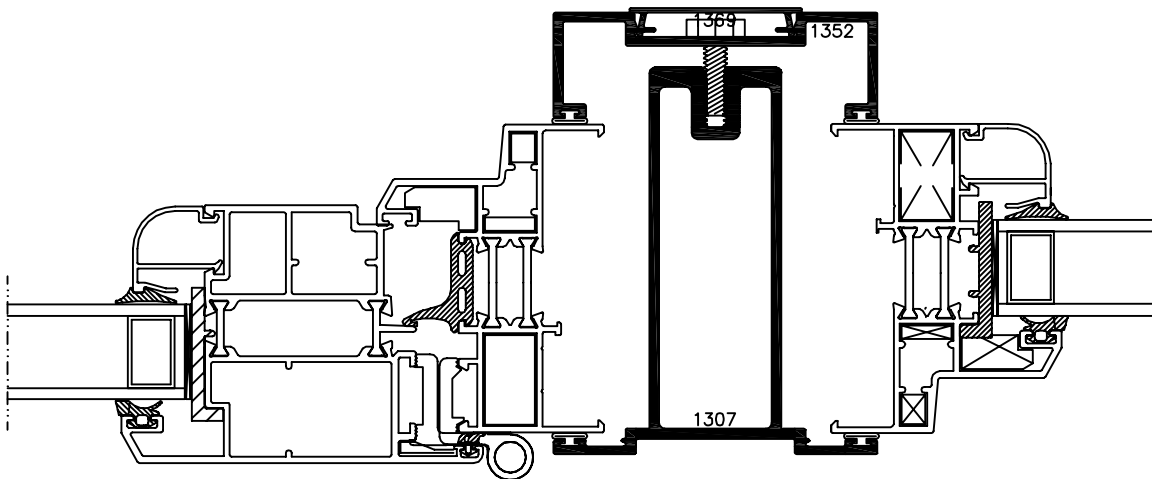
Installation Details - The door manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 1401 3-1/4" SINGLE OUTSWING TERRACE DOOR (AW60)

Typical Configurations (Scale: Half Size)



(A) 1450 PW – 1401 TD

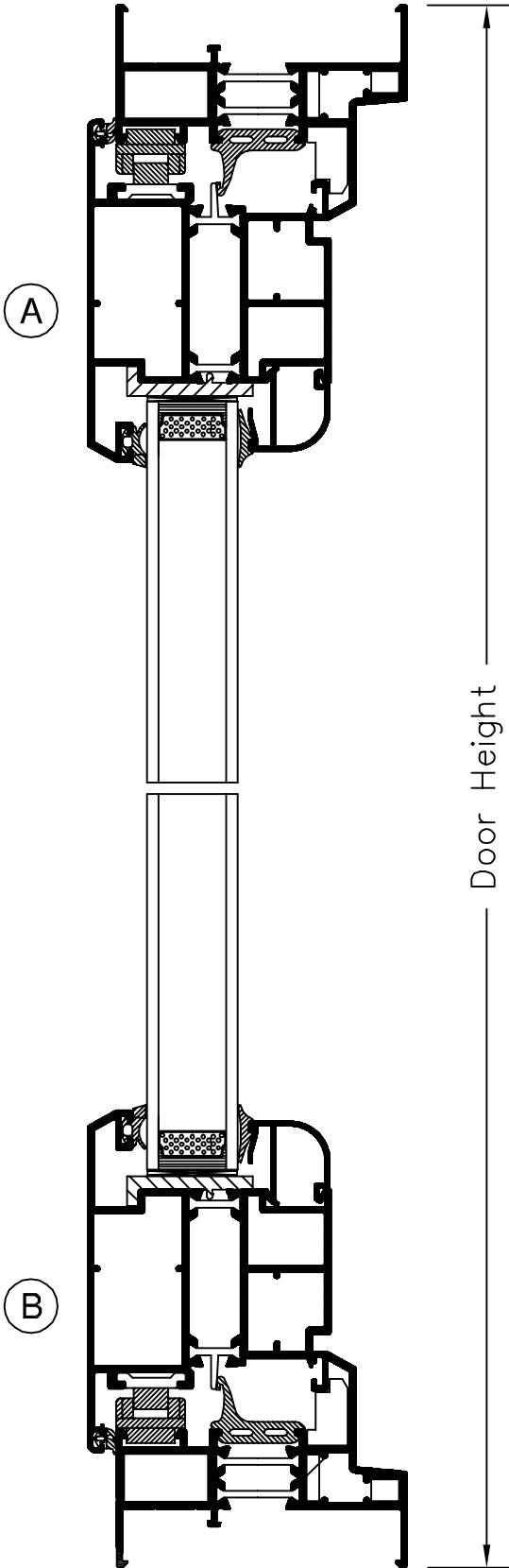
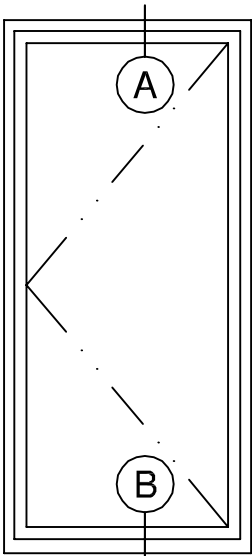


(B) 1401 TD – 1450 PW

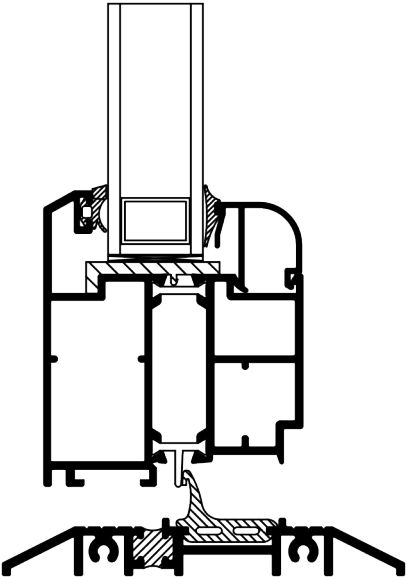
See Accessories section for additional options

# SERIES 1401 3-1/4" SINGLE OUTSWING TERRACE DOOR (AW60)

Product Details (Scale: Half Size)

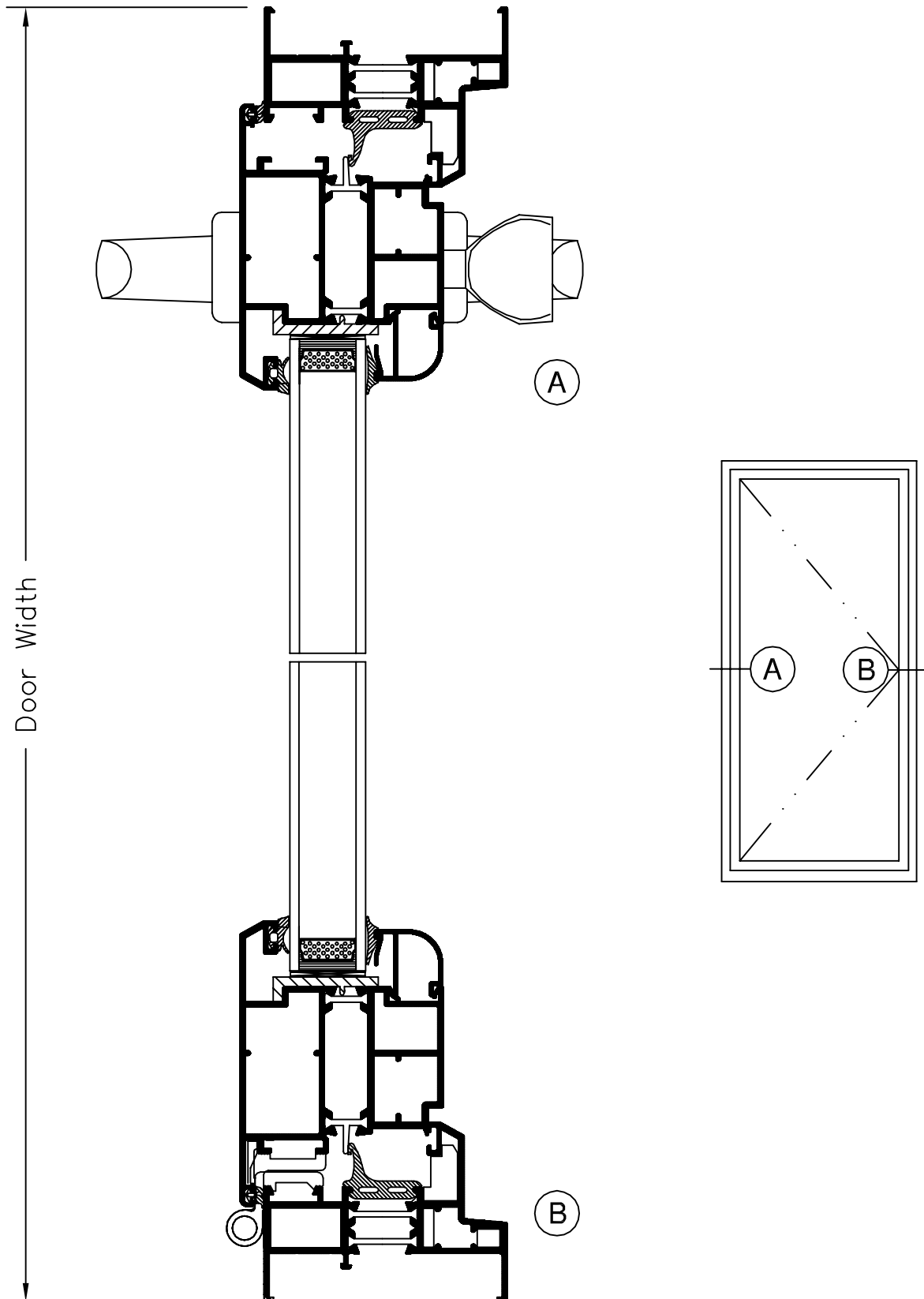


Optional FHA threshold



# SERIES 1401 3-1/4" SINGLE OUTSWING TERRACE DOOR (AW60)

Product Details (Scale: Half Size)



# SERIES 1420 3-1/4" DUAL INSWING TERRACE DOOR

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum hinged glass doors for this project as shown on the drawings and herein specified. Doors shall be the "Series 1420" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 1420" is a dual vent Hinged Glass Door with thermally improved main frame and vent consisting of side hinges, locking handle and multipoint lock system. The astrigal is attached to the secondary panel and the handle is attached to the primary panel only. The specifications and materials for the "Series 1420" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a .062" nominal thickness. Main frame shall be 3.25" in depth. Horizontal and vertical vent members shall be hollow extrusions. Main frames and vent members are to be extruded aluminum with a dual insulbar thermal barrier system creating a 5/8" wide thermal barrier.

Hardware - Operating handle shall be lever type connecting to a multi-point lock system. Handle is mounted and operated from interior only. Lock system engagements shall be as follows, Primary panel: Two (2) at handle, one (1) 2 1/2" from each end of lock stile and one (1) centered between handle and upper locking point. One (1) friction catch shall be located on vent and astrigal to hold door closed when handle is in unlocked position. Secondary panel: Two (2) slide bolts are mounted to the astrigal and each engage a striker mounted at the head and sill. Slide bolts are operated individually. Door shall also be fitted with one (1) field adjustable limit device per panel at head to restrict door panel travel. Limit device shall also utilize a friction adjusting screw.

Hinges - Shall consist of four (4) extruded aluminum butt type hinges on each panel. Hinge pins shall be 1/4" diameter stainless steel with hard vinyl bushings.

Weatherstripping - Door panel shall close to a full perimeter EPDM weatherseal utilizing welded corner construction.

### III. CONSTRUCTION:

Assembly - Main frame and door panel corners shall be of mitered, sealed, crimped and staked corner construction. Each corner shall consist of one extruded

aluminum corner key held in place with two die cast retainer pins, one die cast corner key staked in place and one friction fit hard vinyl corner key.

Glazing - Glass in the door panel shall be factory glazed using EPDM gasket at exterior perimeter with extruded aluminum glazing bead and EPDM wedge at interior of glass. The insulated glass units shall be (1") overall thickness with exterior (.125") CL temp and interior (.125") Low E temp, separated by a (.750") air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The door panel is operable to the inside and lockable from the inside only. Friction catch and pull handle allow the door panel to be held closed and operated from the outside. Astrigal is mounted to secondary panel and is held in the closed position by manually operated slide bolts.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA101/I.S.2/A440-05 specification.

NFRC - Shall meet the requirements of NFRC 100 and 200.

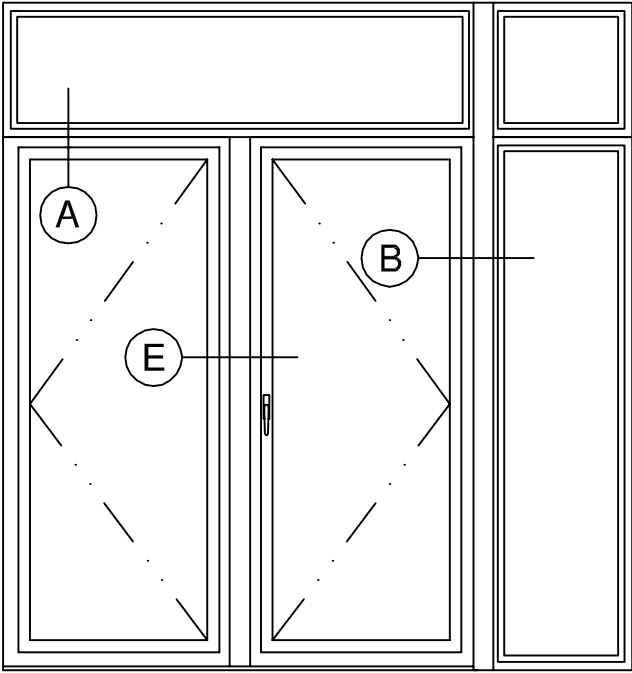
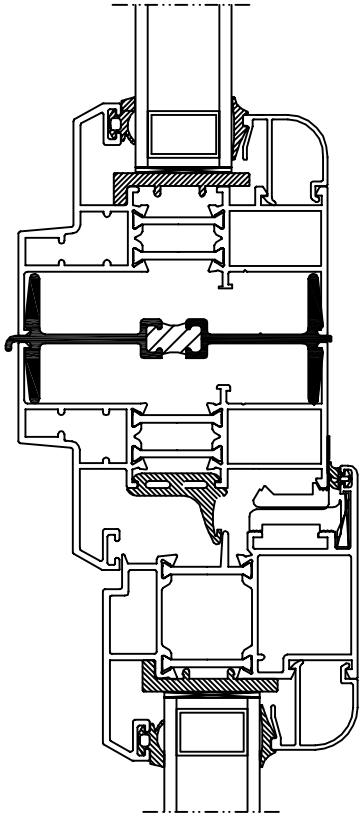
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

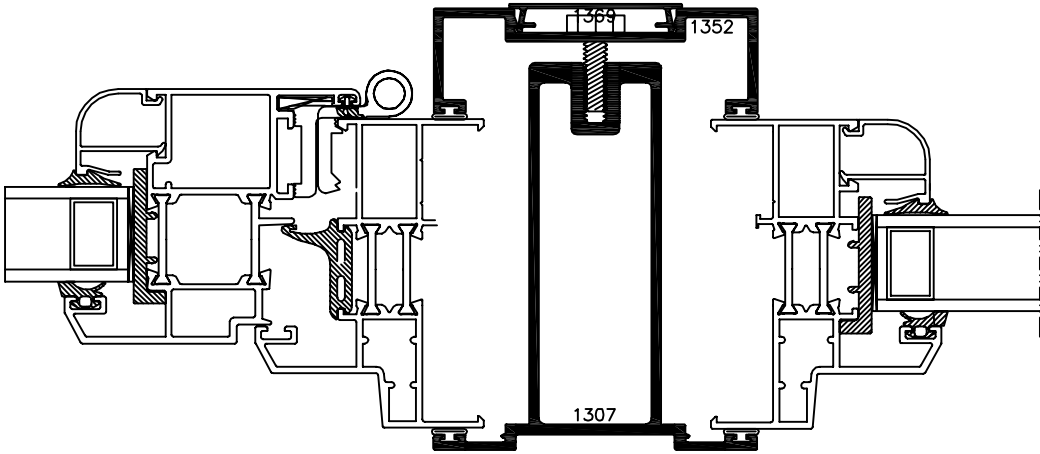
Installation Details - The door manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 1420 3-1/4" DUAL INSWING TERRACE DOOR

Typical Configurations (Scale: Half Size)



(A) 1450 PW – 1420 TD



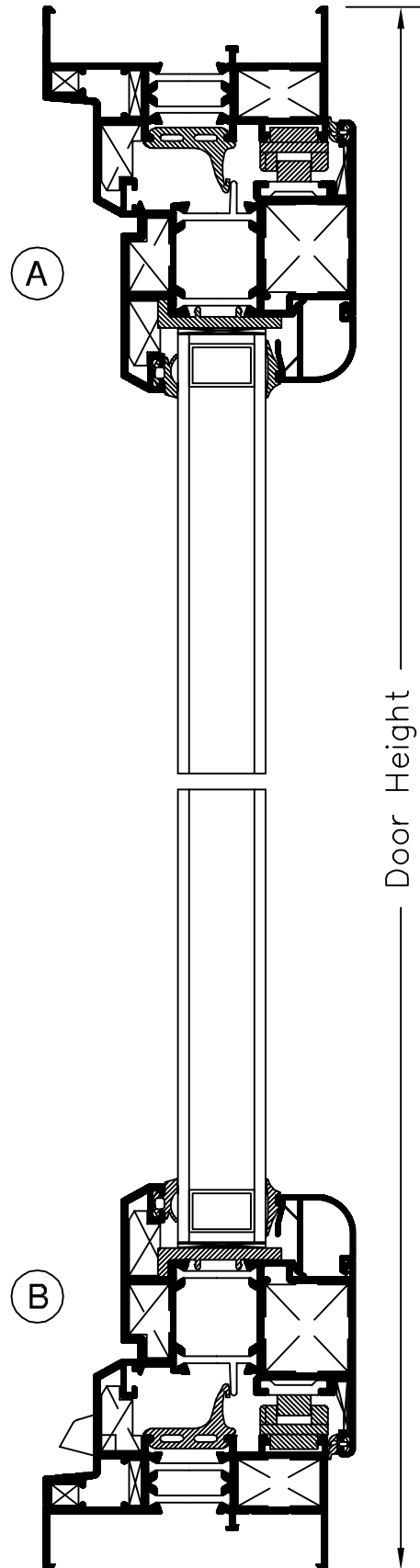
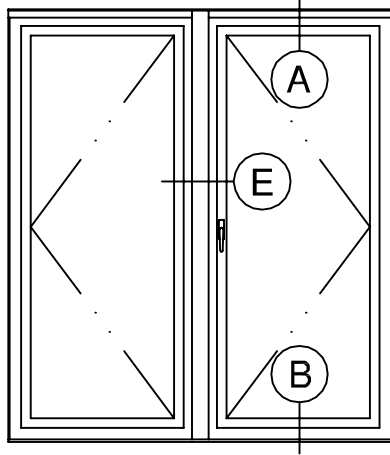
(B) 1420 TD – 1450 PW

See Accessories section for additional options

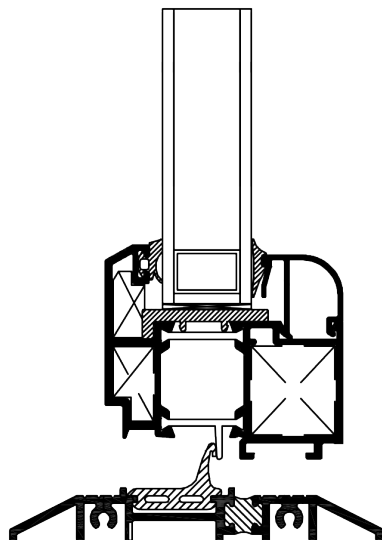


# SERIES 1420 3-1/4" DUAL INSWING TERRACE DOOR

Product Details (Scale: Half Size)

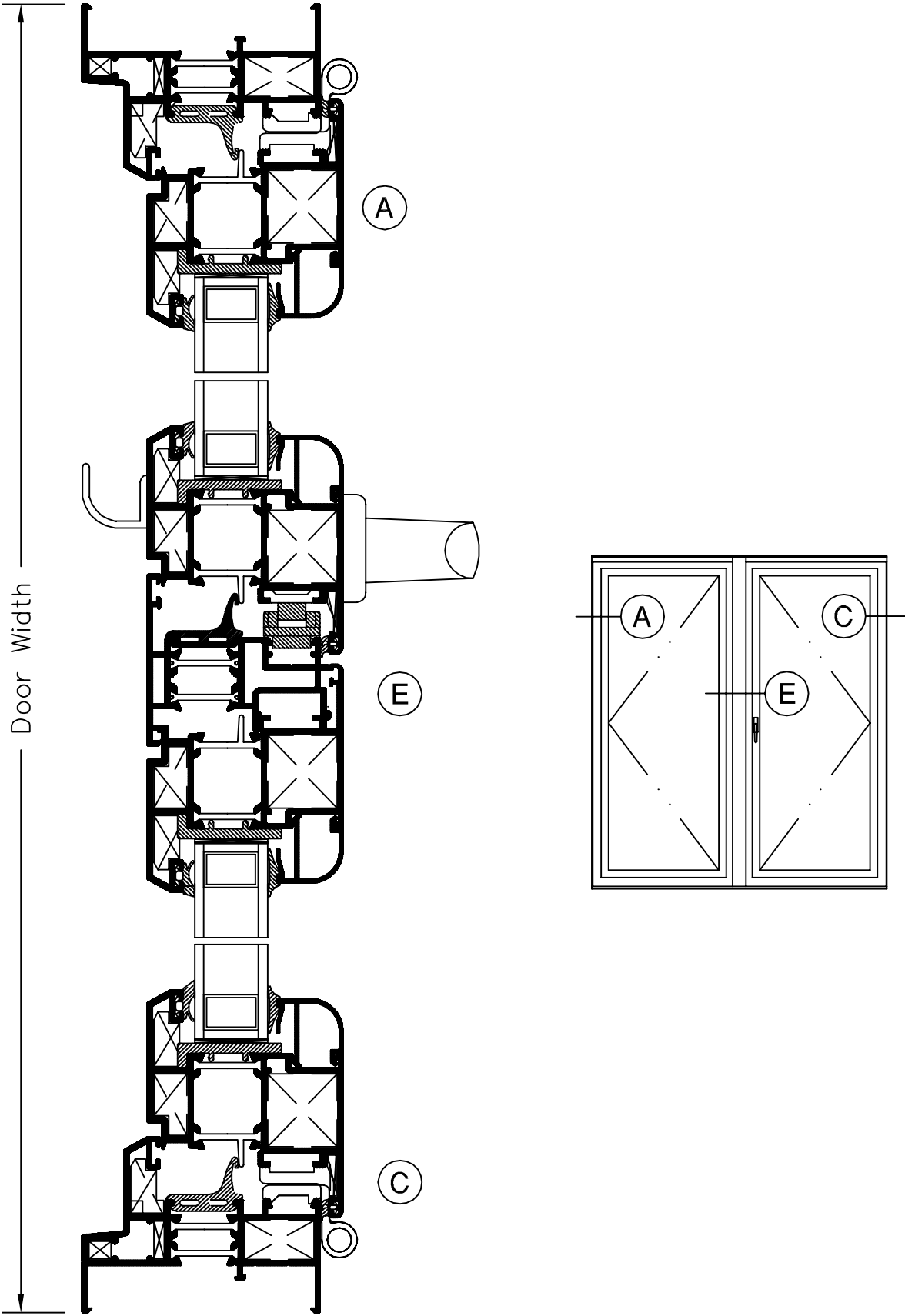


Optional FHA threshold



# SERIES 1420 3-1/4" DUAL INSWING TERRACE DOOR

Product Details (Scale: Half Size)



# SERIES 1421 3-1/4" DUAL OUTSWING TERRACE DOOR

## SPECIFICATIONS

### I. GENERAL:

Scope of Work - Furnish all necessary materials, labor and equipment for the complete installation of aluminum hinged glass doors for this project as shown on the drawings and herein specified. Doors shall be the "Series 1421" as manufactured by Thermal Windows, Inc., Tulsa, Oklahoma. The "Series 1421" is a dual vent Hinged Glass Door with thermally improved main frame and vent consisting of side hinges, locking handle and multipoint lock system. The astrigal is attached to the secondary panel and the handle is attached to the primary panel only. The specifications and materials for the "Series 1421" are as follows:

### II. PRODUCTS:

Materials - Aluminum shall be of proper alloy for commercial window construction. All extruded sections shall be of 6063-T5 aluminum alloy.

Frame - Main frame and sash members shall be a .062" nominal thickness. Main frame shall be 3.25" in depth. Horizontal and vertical vent members shall be hollow extrusions. Main frames and vent members are to be extruded aluminum with a dual insulbar thermal barrier system creating a 5/8" wide thermal barrier.

Hardware - Operating handle shall be lever type connecting to a multi-point lock system. Handle is locked by a key cylinder from the outside with a thumb turn on the inside. Lock system engagements shall be as follows, Primary panel: Two (2) at handle, one (1) 2 1/2" from each end of lock stile and one (1) centered between handle and upper locking point. Secondary panel: Two (2) slide bolts are mounted to the astrigal and each engage a striker mounted at the head and sill. Slide bolts are operated individually. Door shall also be fitted with one (1) field adjustable limit device per panel at head to restrict door panel travel. Limit device shall also utilize a friction adjusting screw.

Hinges - Shall consist of four (4) extruded aluminum butt type hinges on each panel. Hinge pins shall be 1/4" diameter stainless steel with hard vinyl bushings.

Weatherstripping - Door panel shall close to a full perimeter EPDM weatherseal utilizing welded corner construction.

### III. CONSTRUCTION:

Assembly - Main frame and door panel corners shall be of mitered, sealed, crimped and staked corner construction. Each corner shall consist of one extruded

aluminum corner key held in place with two die cast retainer pins, one die cast corner key staked in place and one friction fit hard vinyl corner key.

Glazing - Glass in the door panel shall be factory glazed using EPDM gasket at exterior perimeter with extruded aluminum glazing bead and EPDM wedge at interior of glass. The insulated glass units shall be (1") overall thickness with exterior (.125") CL temp and interior (.125") Low E temp, separated by a (.750") air space for optimum insulation. All insulated glass units shall meet the requirements of the ASTM E 2190 specification, Class "A".

Finish - Shall be a factory applied baked polyester powder coat finish meeting the requirements of AAMA 2604 for Pigmented Organic Coating on Extruded Aluminum. Refer to "Colors and Finishes" chart for examples. Bronze anodizing, clear anodizing and high performance AAMA 2605 finishes are optional.

Operation - The door panel is operable to the outside and lockable by key from the outside and thumb turn from the inside. Astrigal is mounted to secondary panel and is held in the closed position by manually operated slide bolts.

### IV. PERFORMANCE:

Structural - Shall meet the requirements of AAMA/WDMA/CSA101/I.S.2/A440-05.

NFRC - Shall meet the requirements of NFRC 100 and 200.

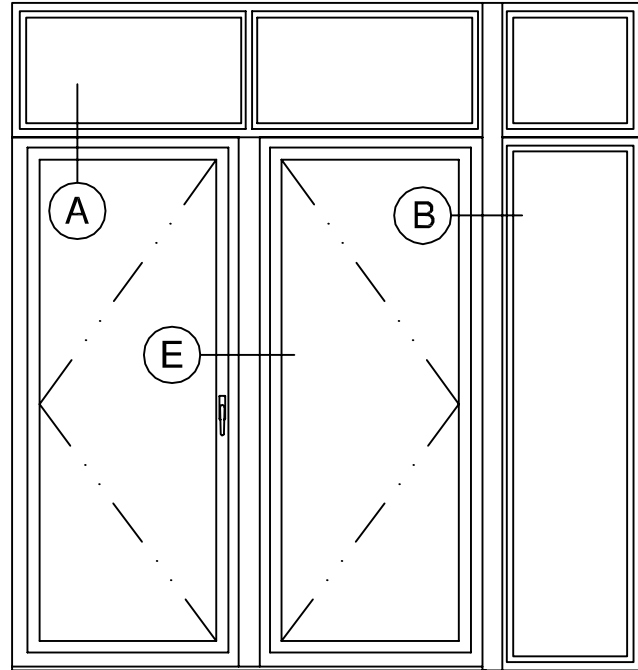
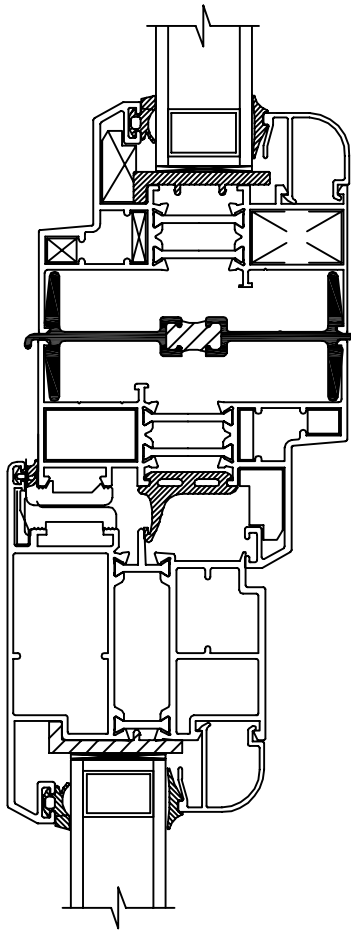
### V. INSTALLATION:

Qualifications - Installation shall be performed by skilled, experienced tradesmen. Units shall be installed plumb, level, square and shall be secured in accordance with detailed shop drawings. A non-hardening sealant compatible with aluminum shall be provided by the installer and applied in sufficient quantity to provide a weathertight seal between the window and surrounding construction.

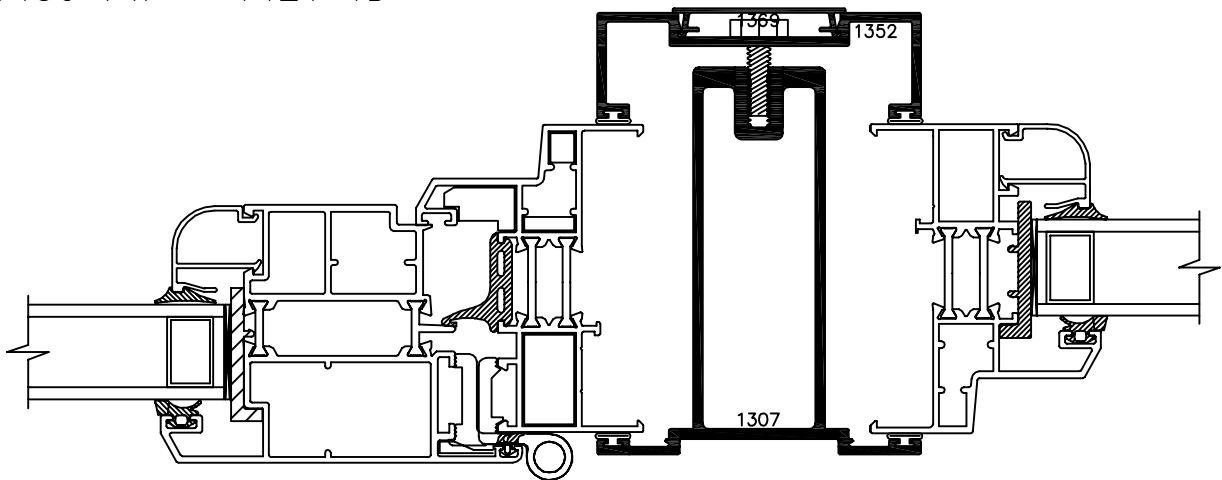
Installation Details - The door manufacturer shall submit complete installation details for the Architects approval. The drawings shall show elevations of windows, full size details of frame and vents, details of construction and anchorage of window.

# SERIES 1421 3-1/4" DUAL OUTSWING TERRACE DOOR

Typical Configurations (Scale: Half Size)



(A) 1450 PW – 1421 TD

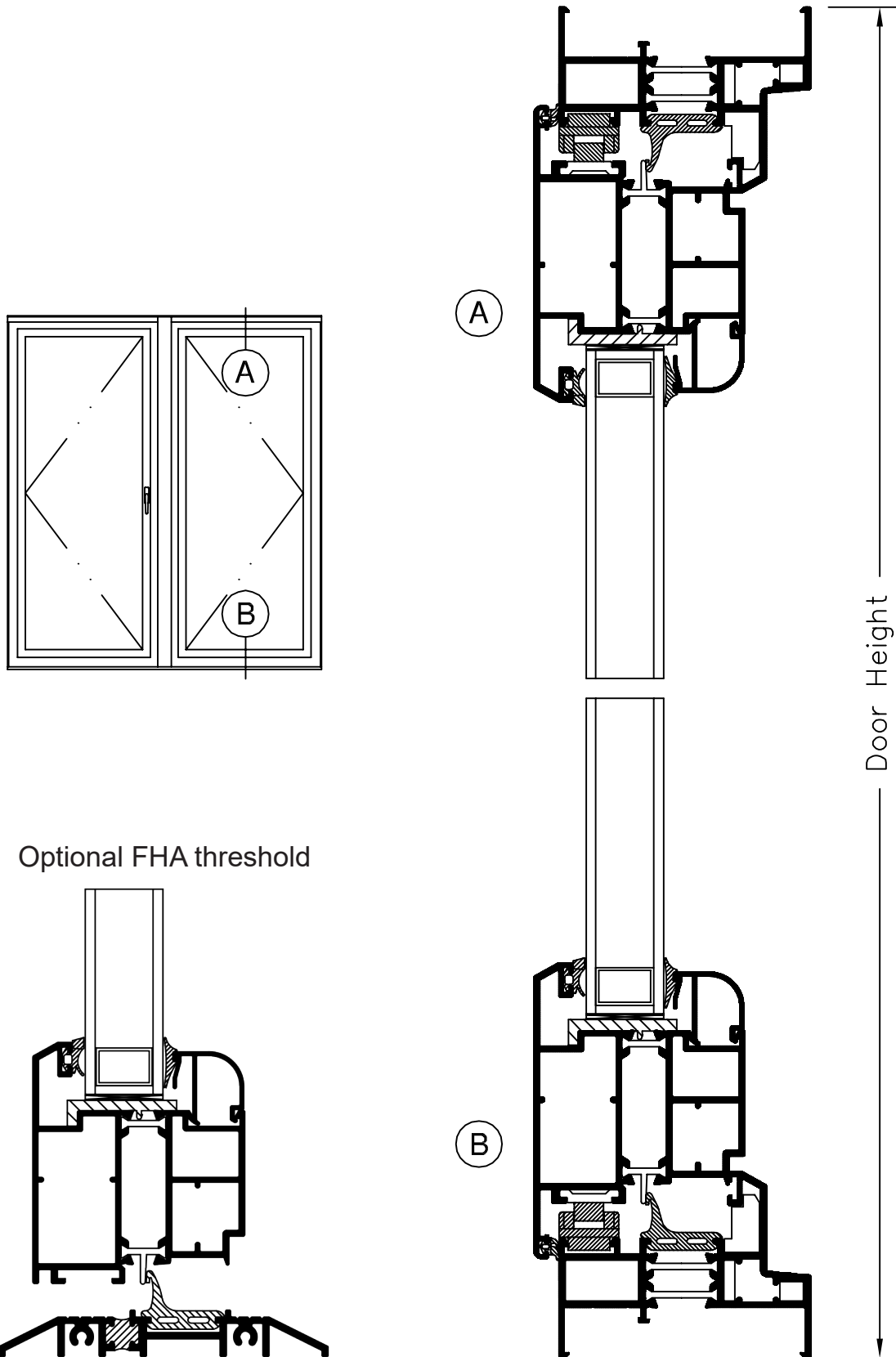


(B) 1421 TD – 1450 PW

See Accessories section for additional options

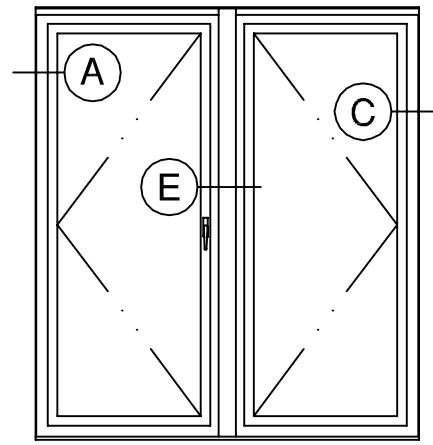
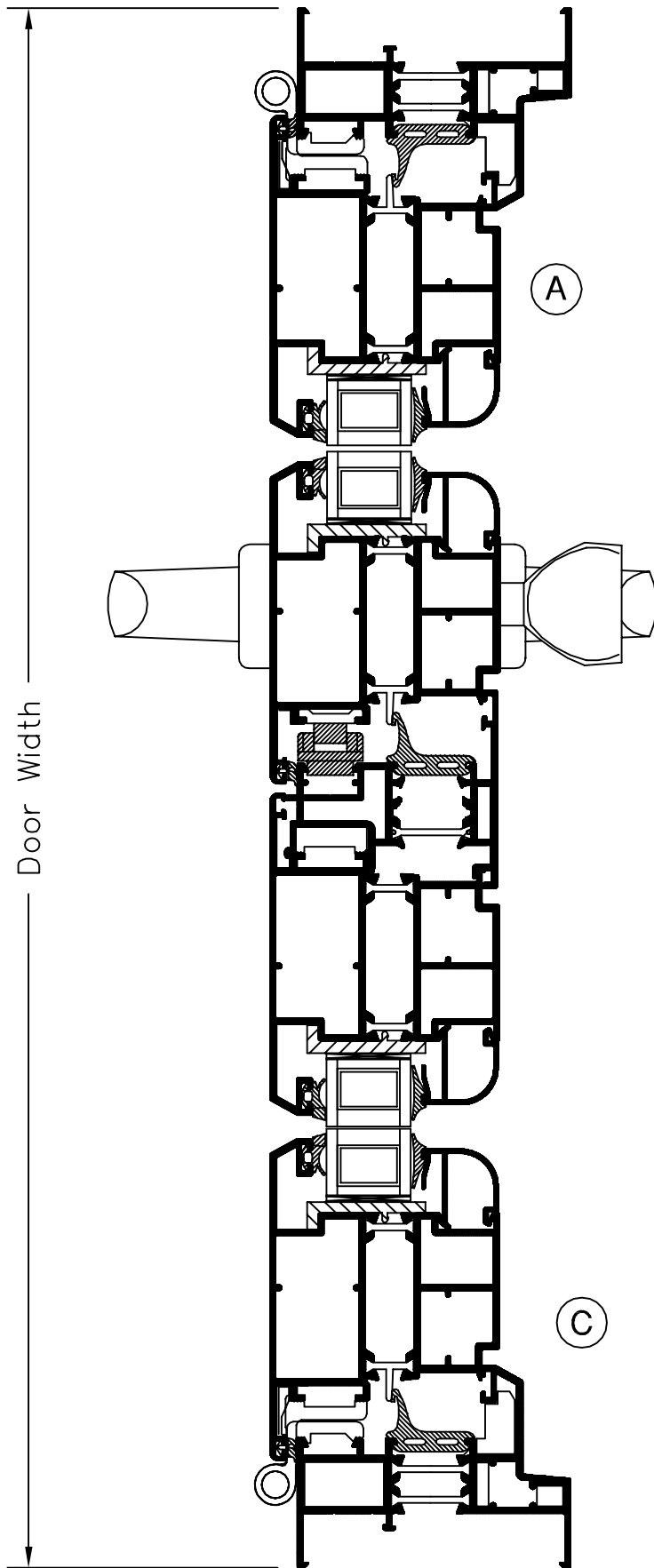
# SERIES 1421 3-1/4" DUAL OUTSWING TERRACE DOOR

Product Details (Scale: Half Size)



# SERIES 1421 3-1/4" DUAL OUTSWING TERRACE DOOR

Product Details (Scale: Half Size)



# ACCESSORIES

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## Standard Features

- AAMA 2604 organic powder coat finish
- 5 standard powder coat finish colors (see 'Finishes' section)
- Integral Thermal Barrier where required

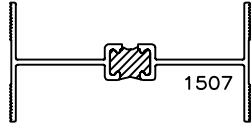
## Available Options

- Anodized finishes
- AAMA 2605 high-performance finishes
- Tier 2 colors at no additional charge (minimums apply)
- Hundreds of special colors

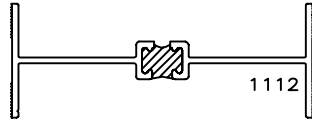


# INTERNAL MULLIONS

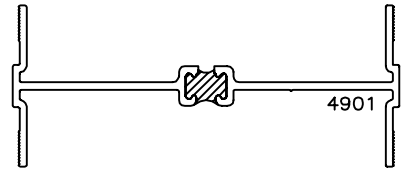
## Product Details (Scale: Half Size)



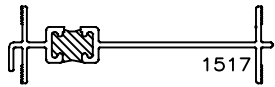
500 SERIES  
VERTICAL MULL



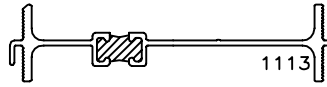
700 SERIES  
VERTICAL MULL



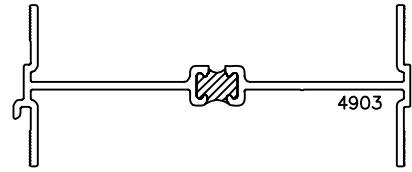
4000 SERIES  
VERTICAL MULL



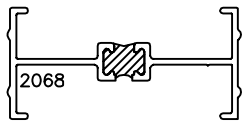
500 SERIES  
HORIZONTAL MULL



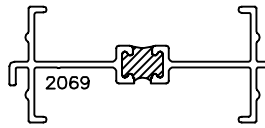
700 SERIES  
HORIZONTAL MULL



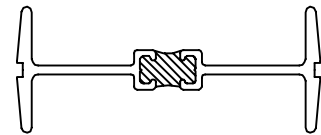
4000 SERIES  
HORIZONTAL MULL



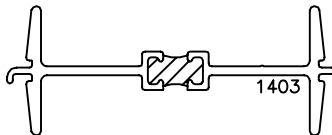
800 SERIES  
VERTICAL MULL



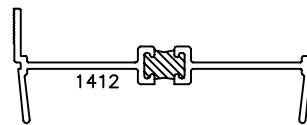
800 SERIES  
HORIZONTAL MULL



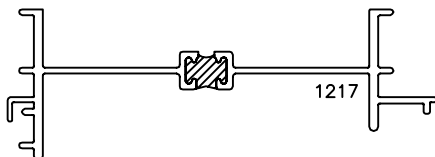
1400 SERIES  
VERTICAL MULL



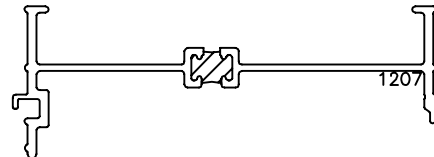
1400 SERIES  
HORIZONTAL MULL



1400/750 SERIES MULL



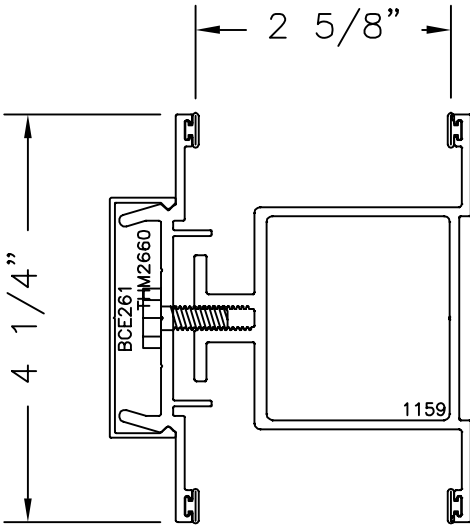
SLIDING GLASS DOOR  
TRANSOM HORIZONTAL MULL  
(4")



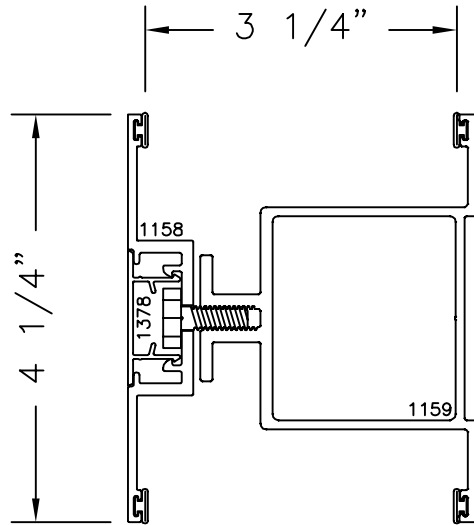
SLIDING GLASS DOOR  
TRANSOM HORIZONTAL MULL  
(4 3/8")

# PARTITION MULLIONS

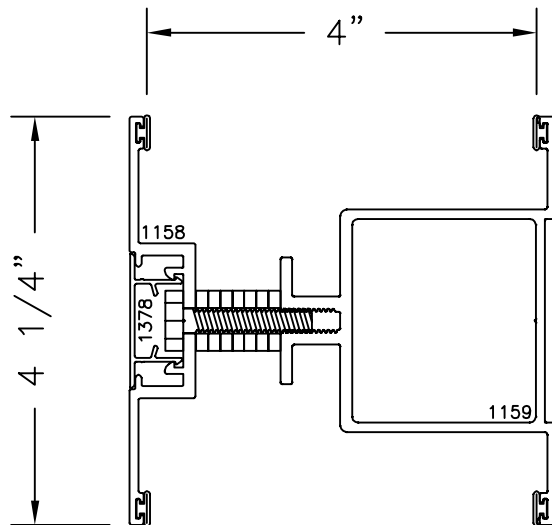
Product Details (Scale: Half Size)



2 5/8" PARTITION  
COMPRESSION MULL



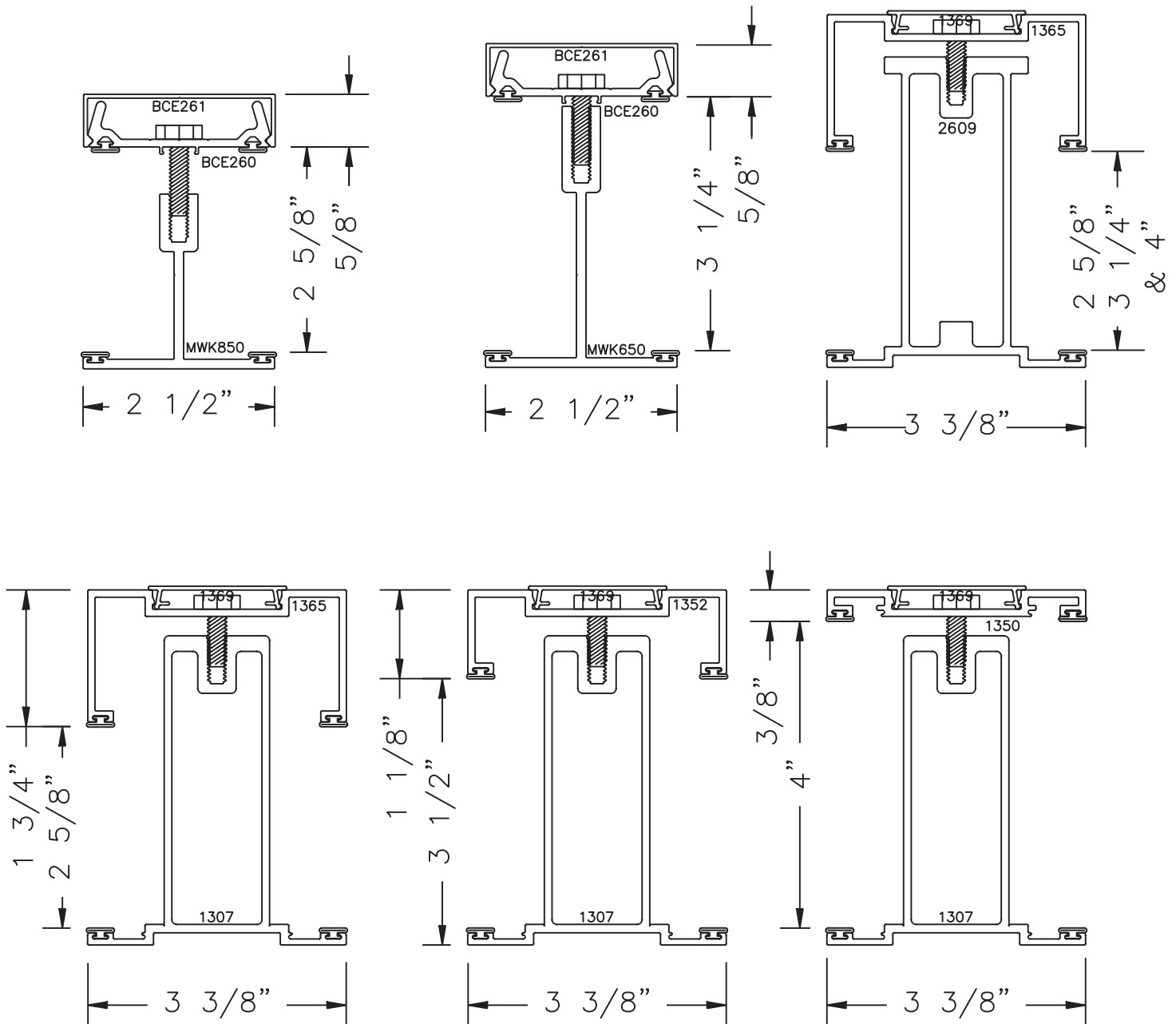
3 1/4" PARTITION  
COMPRESSION MULL



4" PARTITION  
COMPRESSION MULL

# EXTERNAL MULLIONS

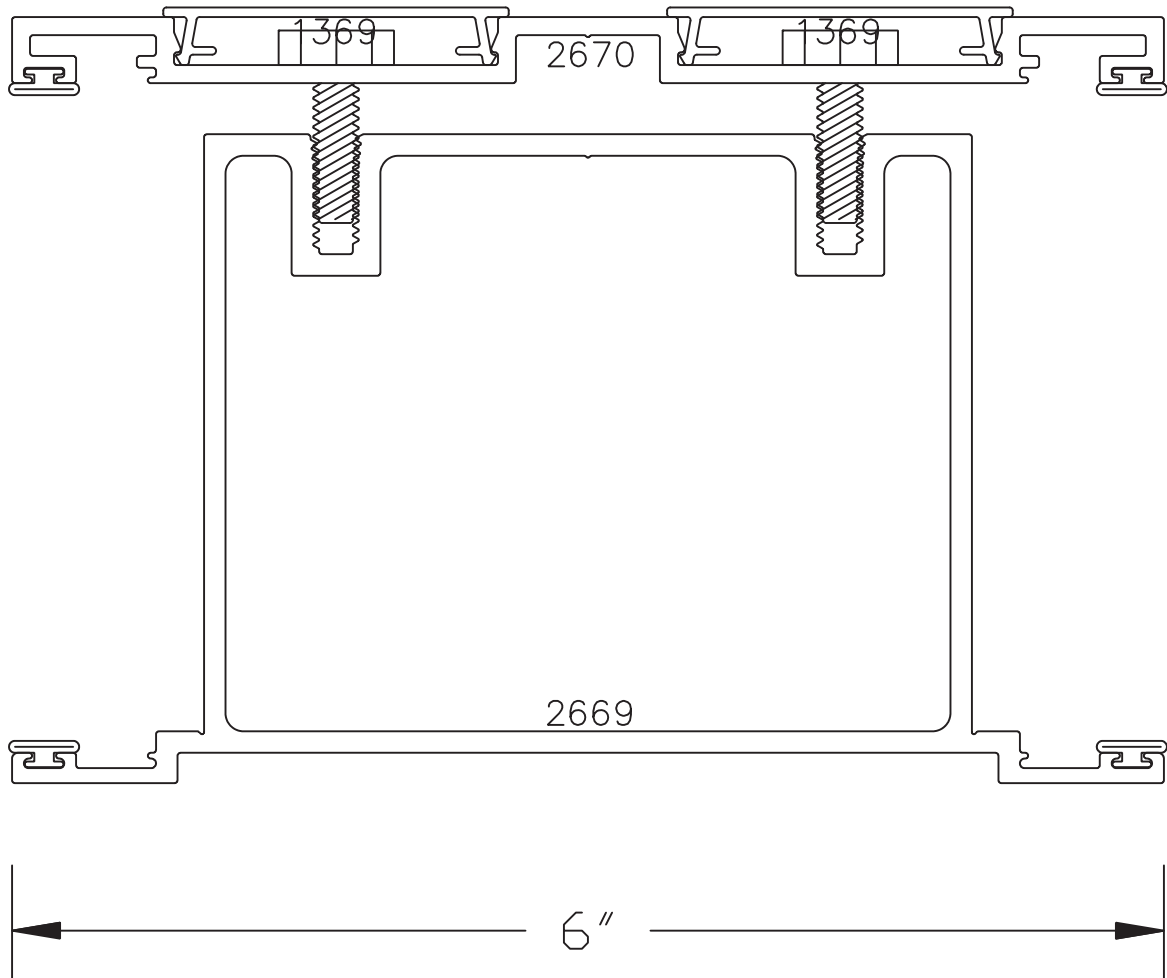
## Product Details (Scale: Half Size)



## 3-Piece Compression Mullions

# EXTERNAL MULLIONS

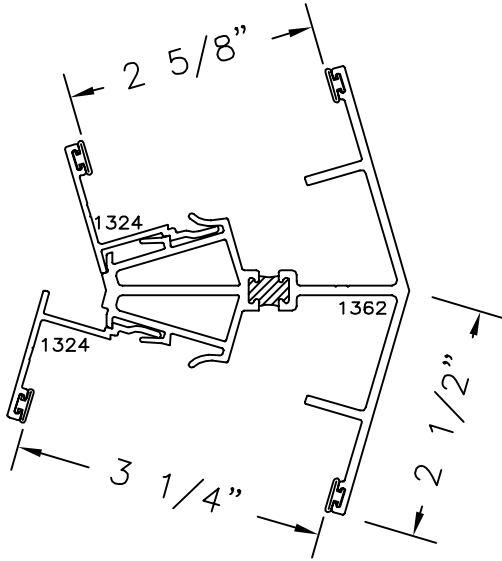
Product Details (Scale: Full Size)



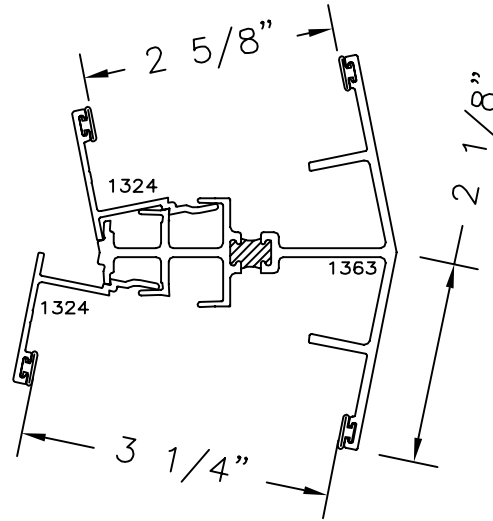
## 4-Piece Compression Mullion

# DEGREE MULLIONS

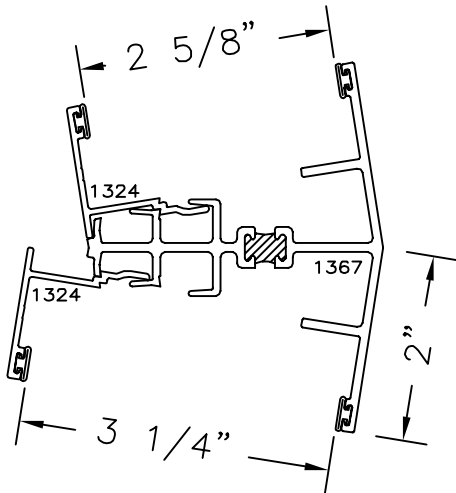
Product Details (Scale: Half Size)



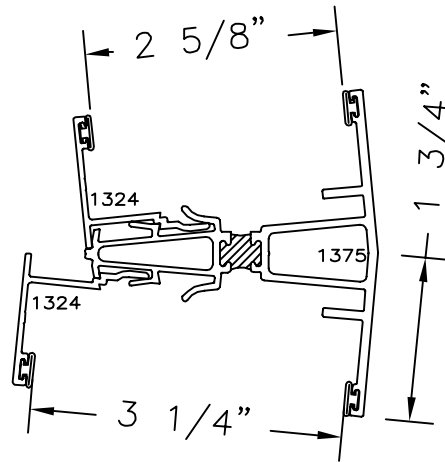
147.5° MULLION



157.5° MULLION



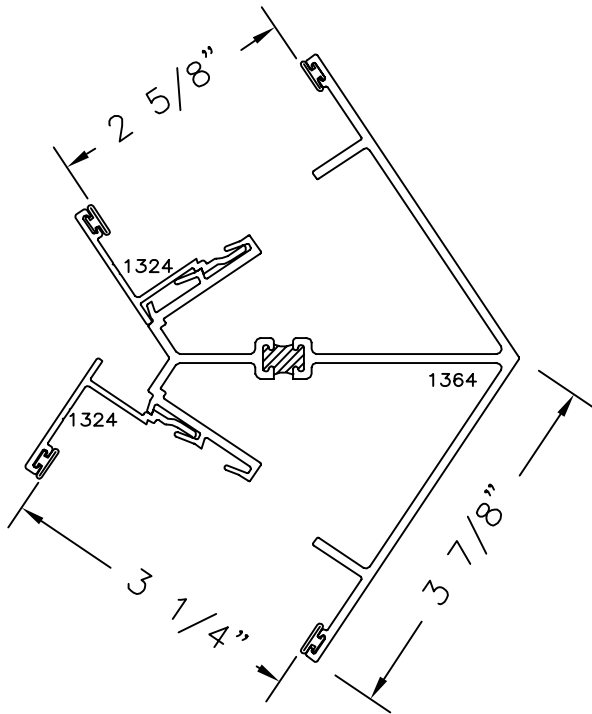
162° MULLION



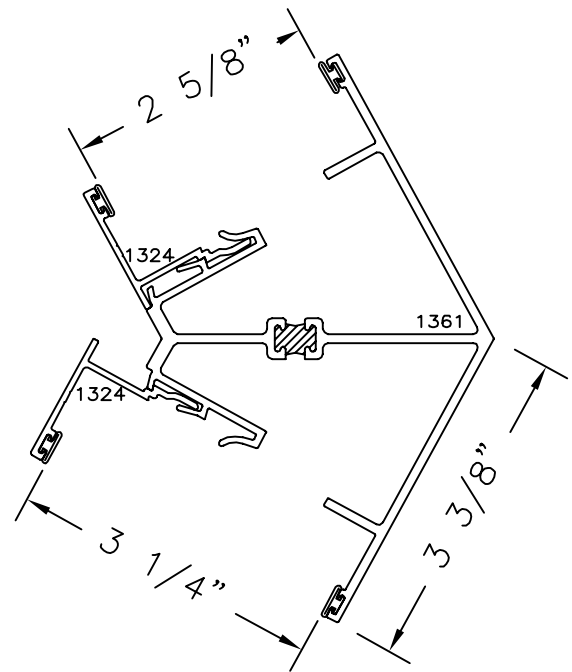
169.5° MULLION

# DEGREE MULLIONS

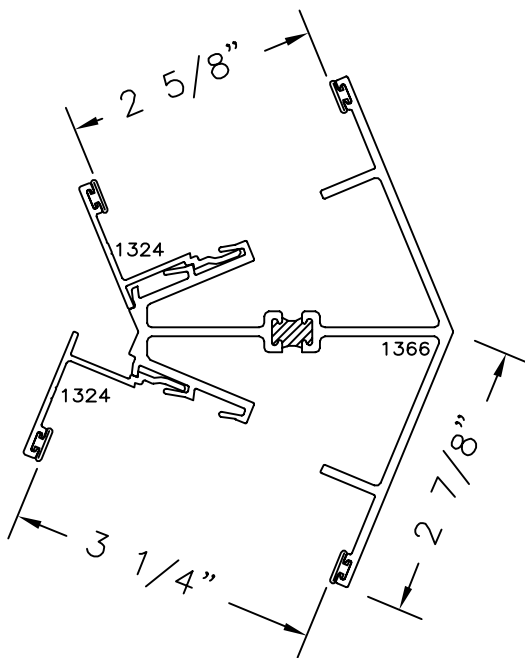
Product Details (Scale: Half Size)



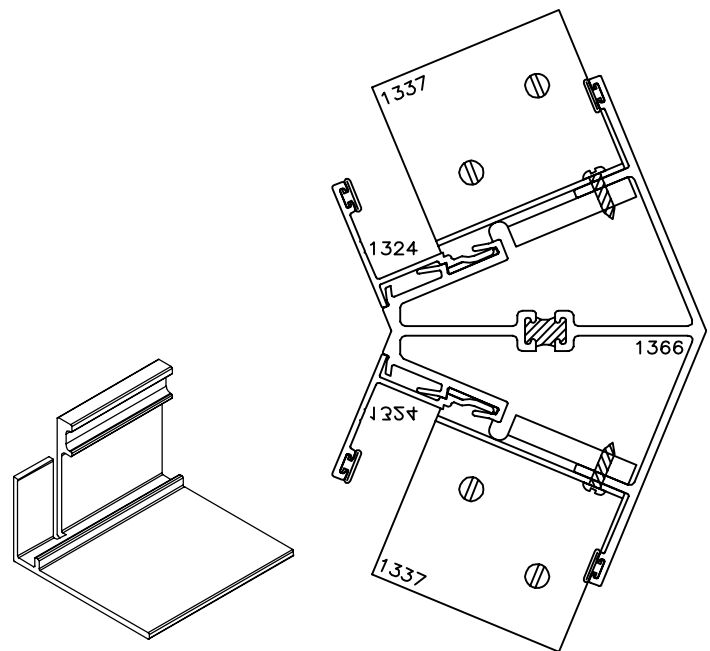
112.5° MULLION



122.5° MULLION



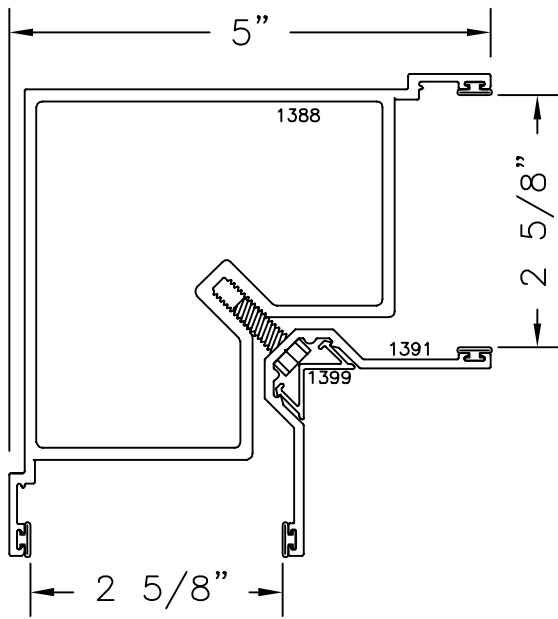
135° MULLION



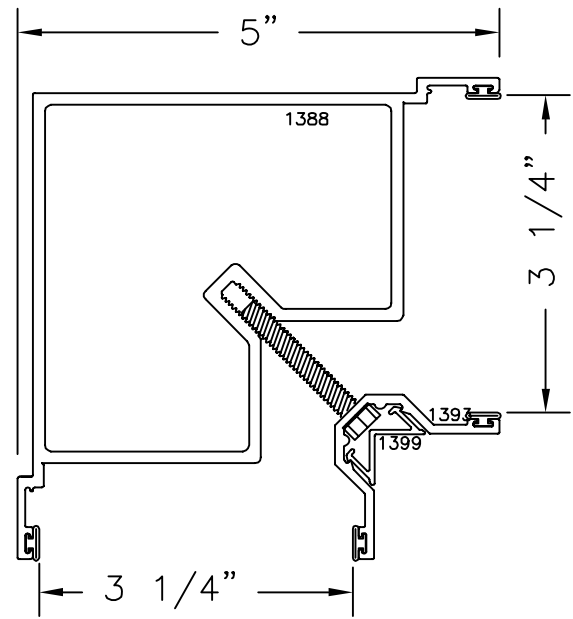
DEGREE MULL  
ANCHOR CLIP

# DEGREE MULLIONS

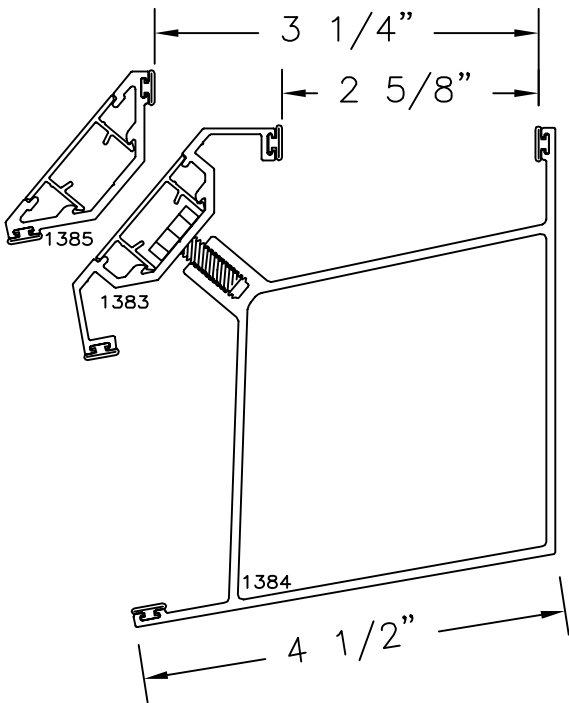
Product Details (Scale: Half Size)



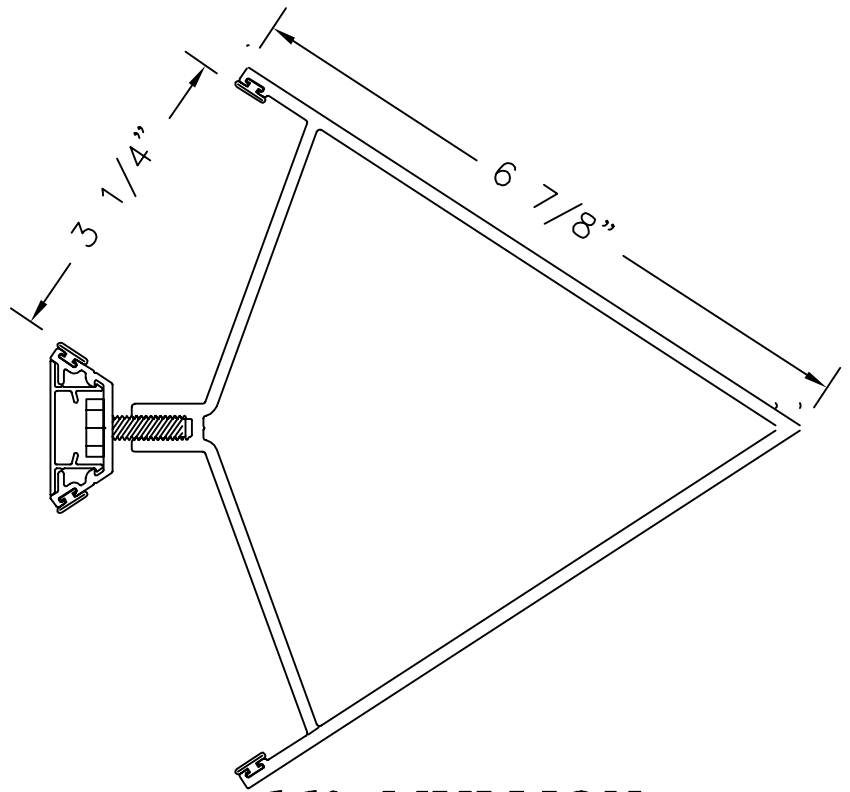
90° MULLION



90° MULLION



100° MULLION

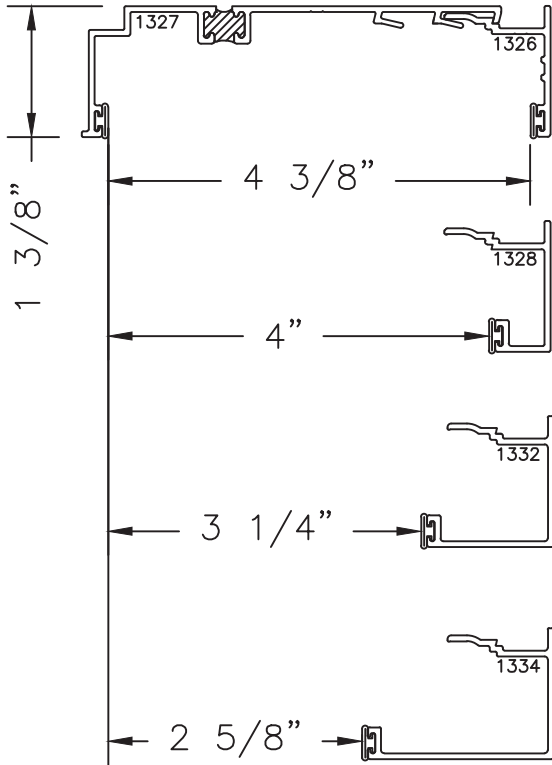


66° MULLION

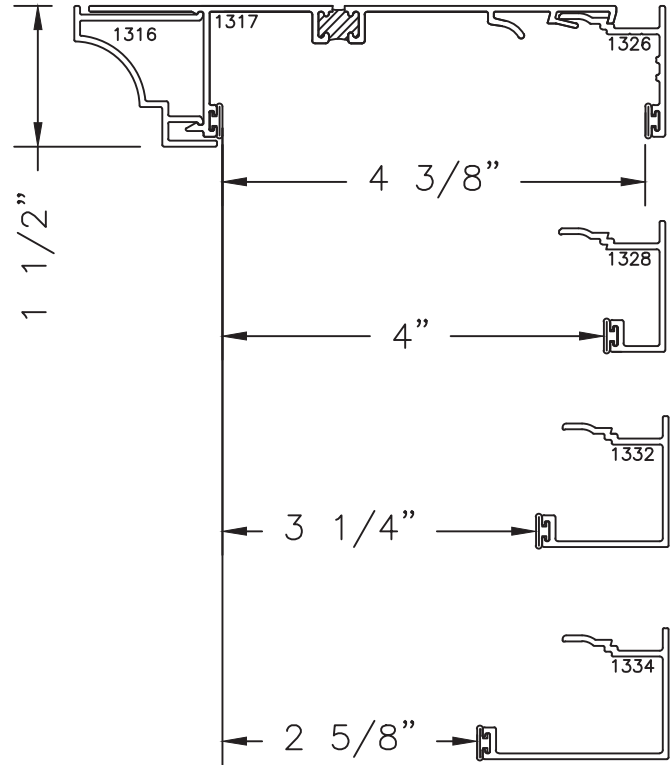


# RECEPTOR SYSTEMS

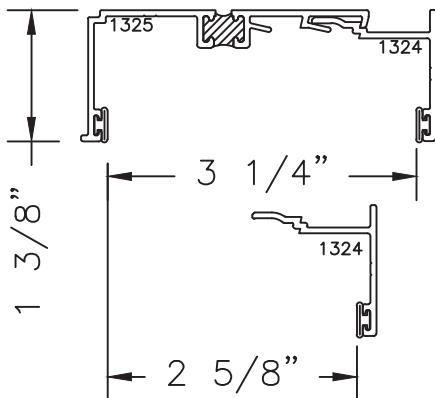
Product Details (Scale: Half Size)



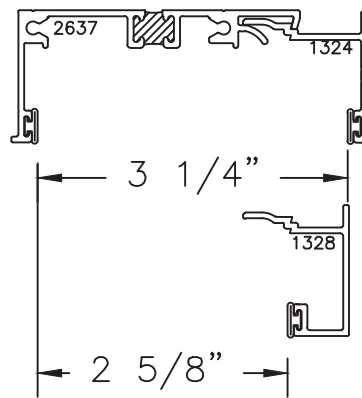
DEEP RECEPTOR



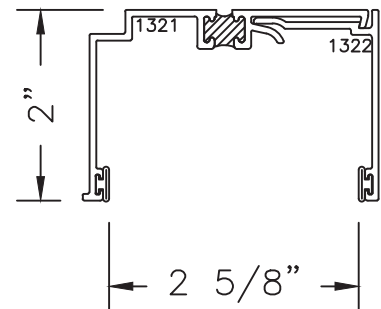
COLONIAL RECEPTOR



STANDARD



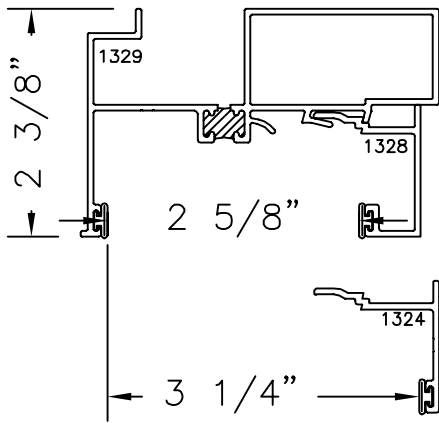
STANDARD  
(MITER)



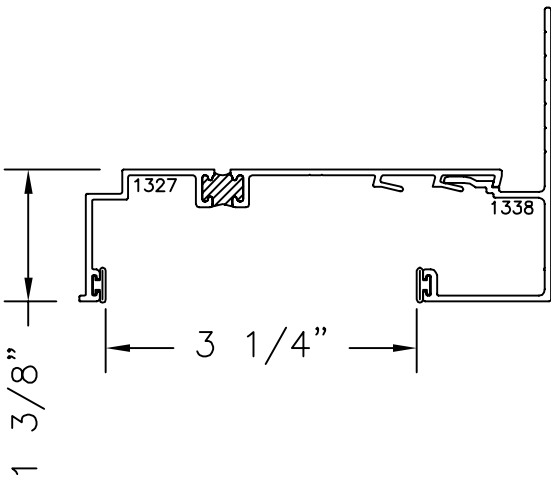
2" TALL  
RECEPTOR

# RECEPTOR SYSTEMS

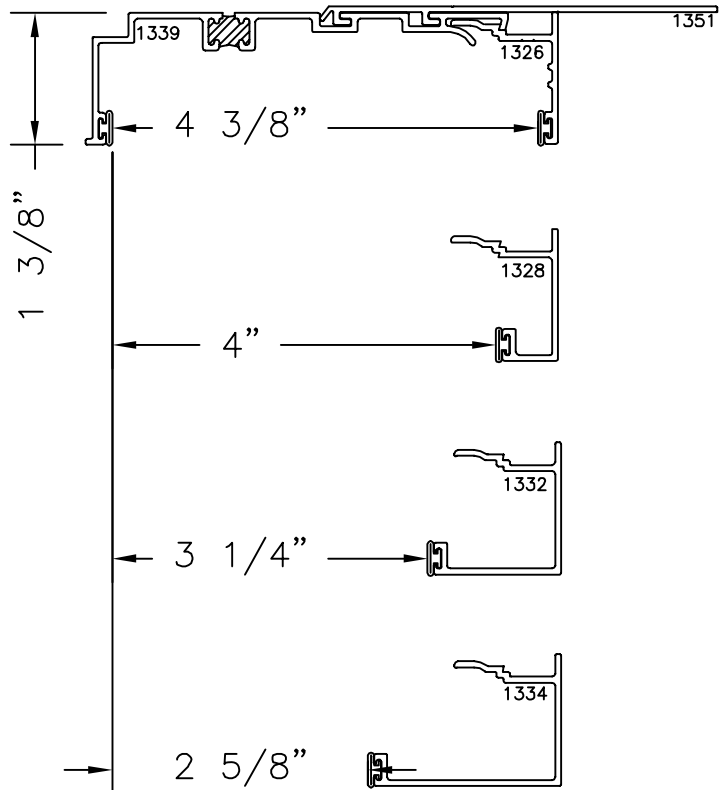
Product Details (Scale: Half Size)



OFFSET RECEPTOR



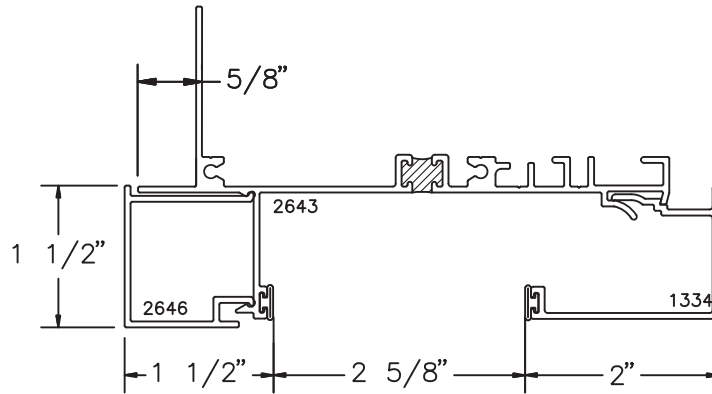
OFFSET RETAINER



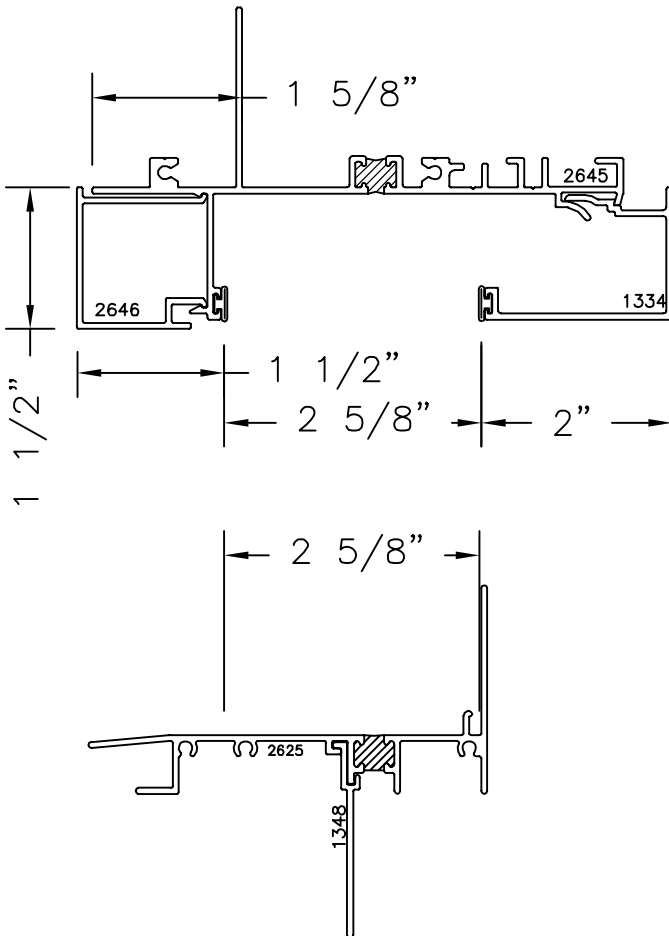
DEEP RECEPTOR WITH STRAP

# FIN RECEPTORS

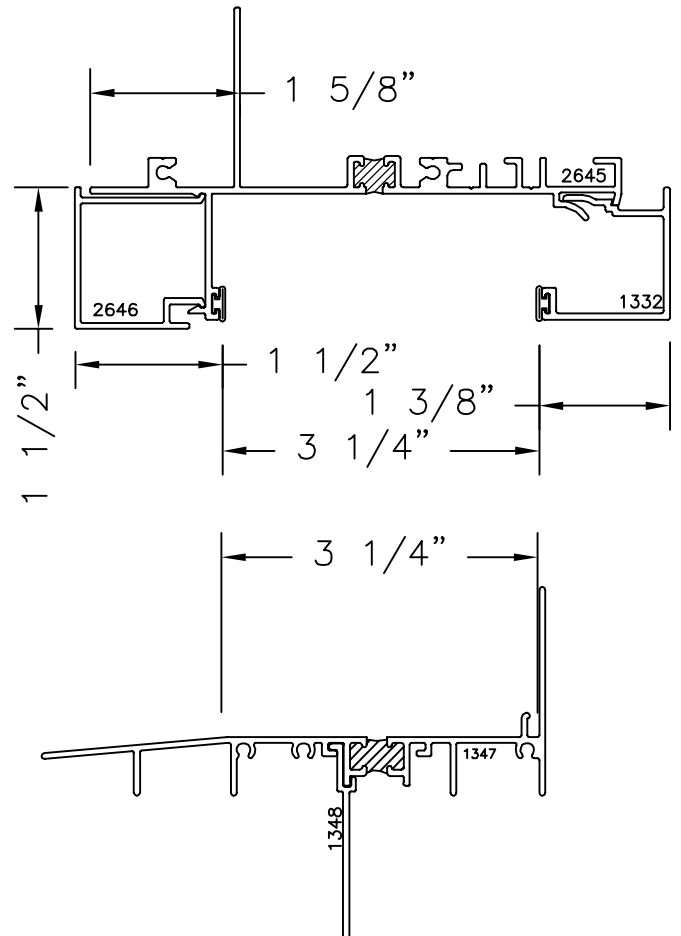
Product Details (Scale: Half Size)



**2 5/8" STUCCO FIN RECEPTOR**



**2 5/8" FIN RECEPTOR**

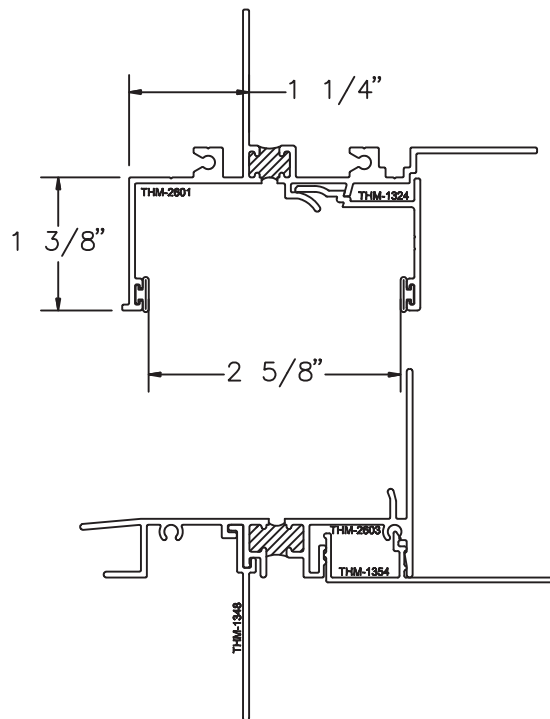
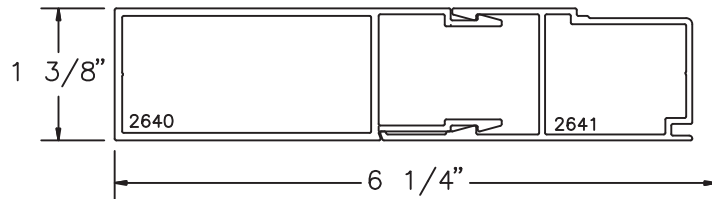
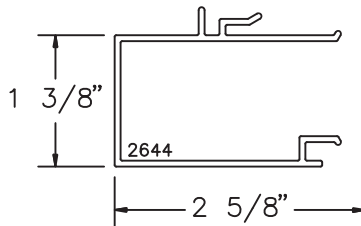
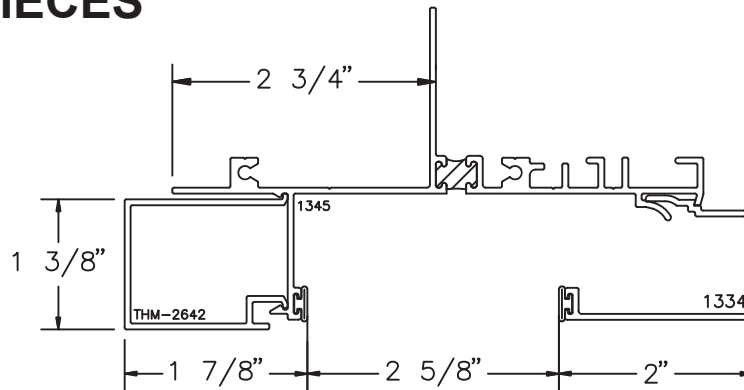


**3 1/4" FIN RECEPTOR**

# FIN RECEPTORS

Product Details (Scale: Half Size)

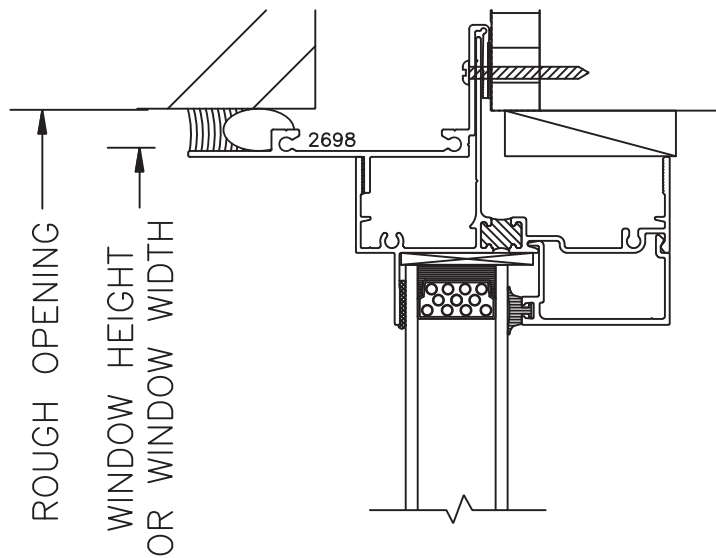
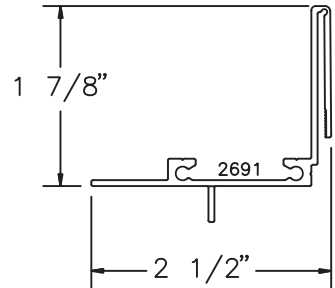
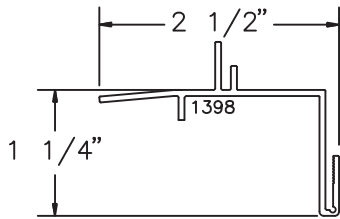
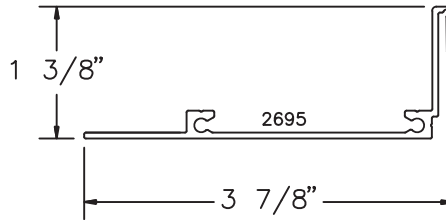
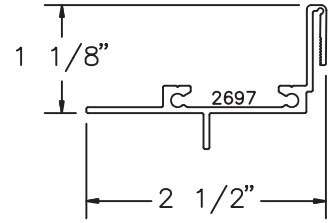
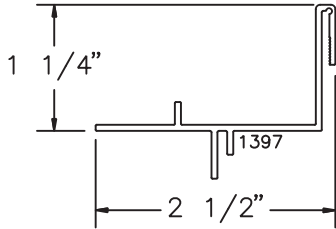
## NOSE PIECES



## 2 5/8" FIN RECEPTOR & SUBSILL

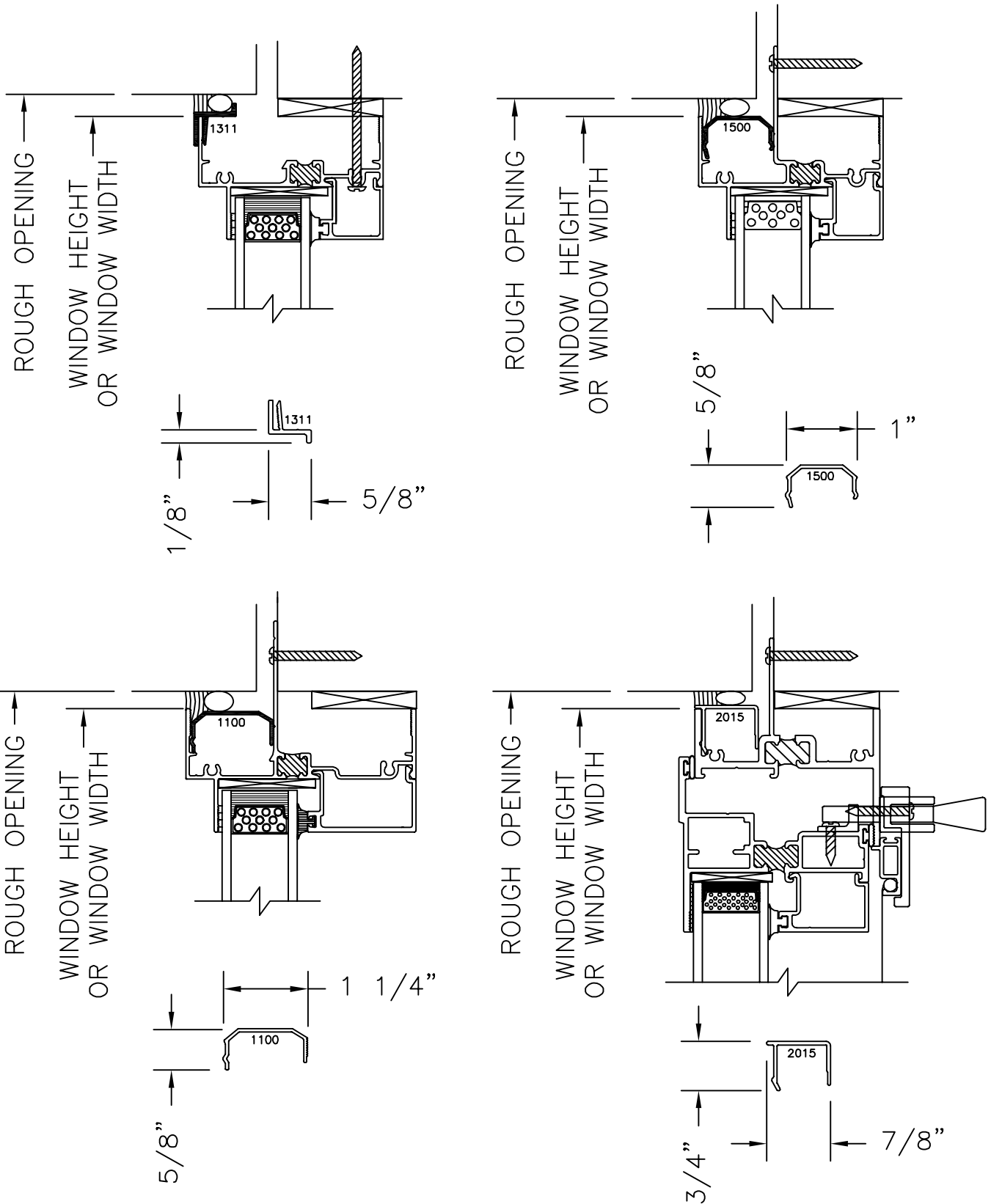
# FIN EXTENDERS

## Product Details (Scale: Half Size)



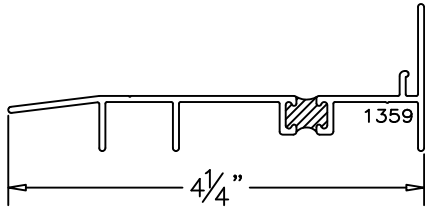
# CAULK PLATFORM

## Product Details and Sample Installation

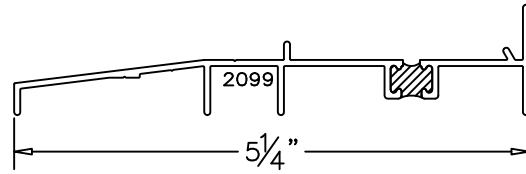


# STARTER SILLS & ANCHOR CLIPS

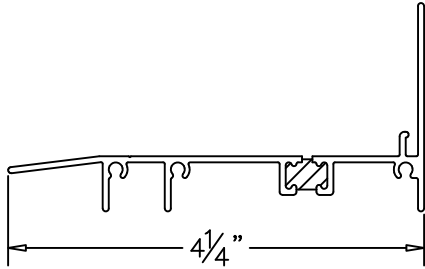
Product Details (Scale: Half Size)



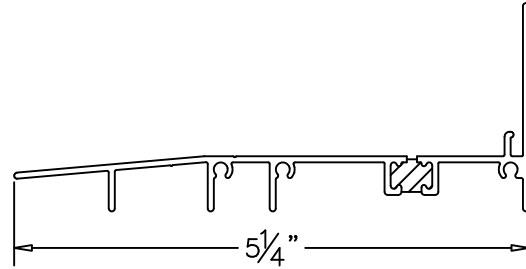
STARTER SILL THM 1359



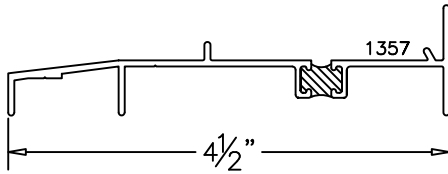
STARTER SILL THM 2099



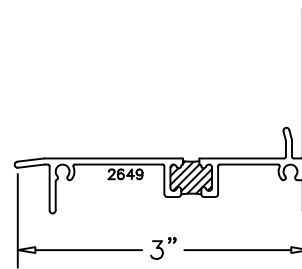
STARTER SILL THM 1349



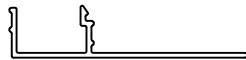
STARTER SILL THM 2089



STARTER SILL THM 1357



STARTER SILL THM 2649



STARTER SILL STRAP ANCHOR  
THM 1354 (FOR 1349/2089)



STARTER SILL STRAP ANCHOR  
THM 1358 (for 1359/1357/2099)



SLIDER SILL STRAP ANCHOR

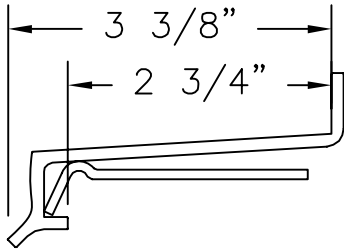


FIXED STRAP ANCHOR  
THM 1313

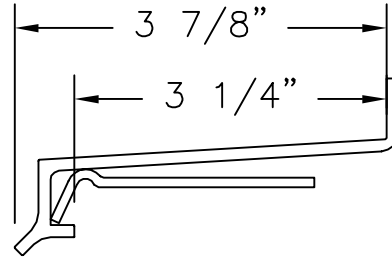


# ALCOA SILLS

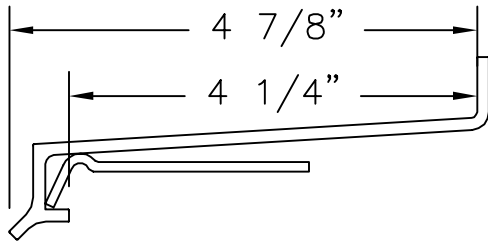
## Product Details (Scale: Half Size)



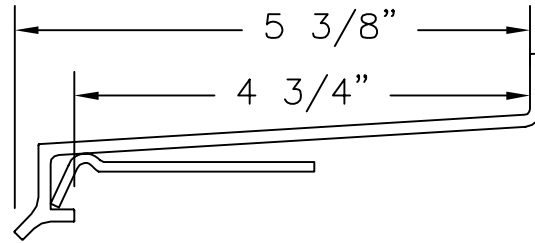
A1630



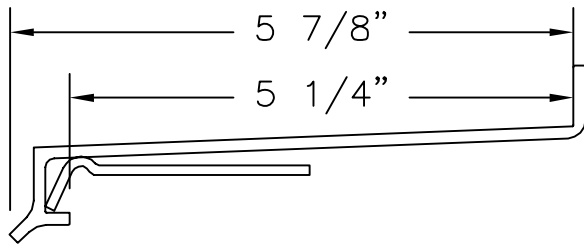
A1631



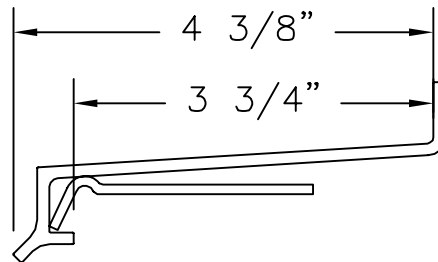
A1634



A1635



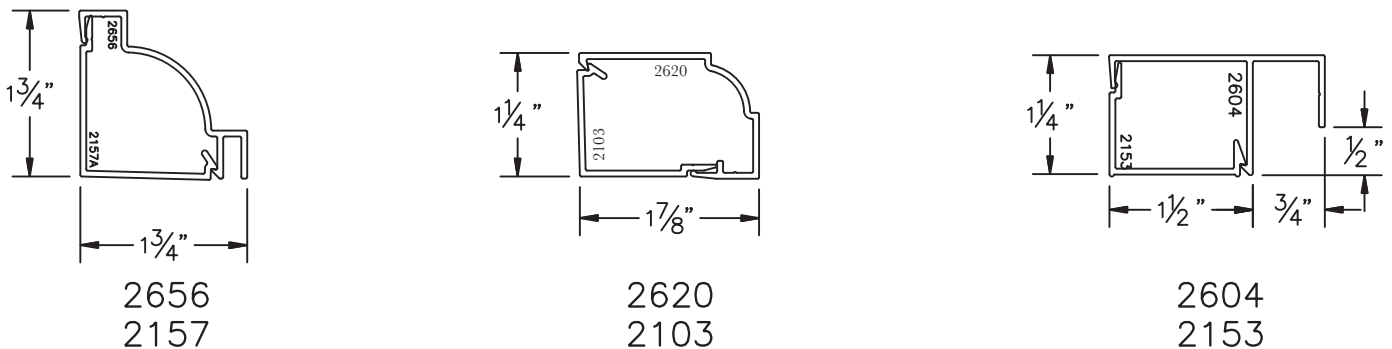
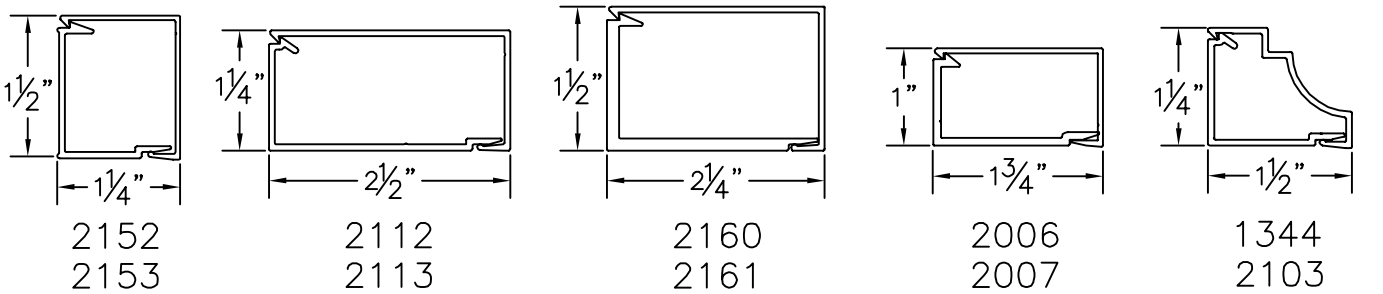
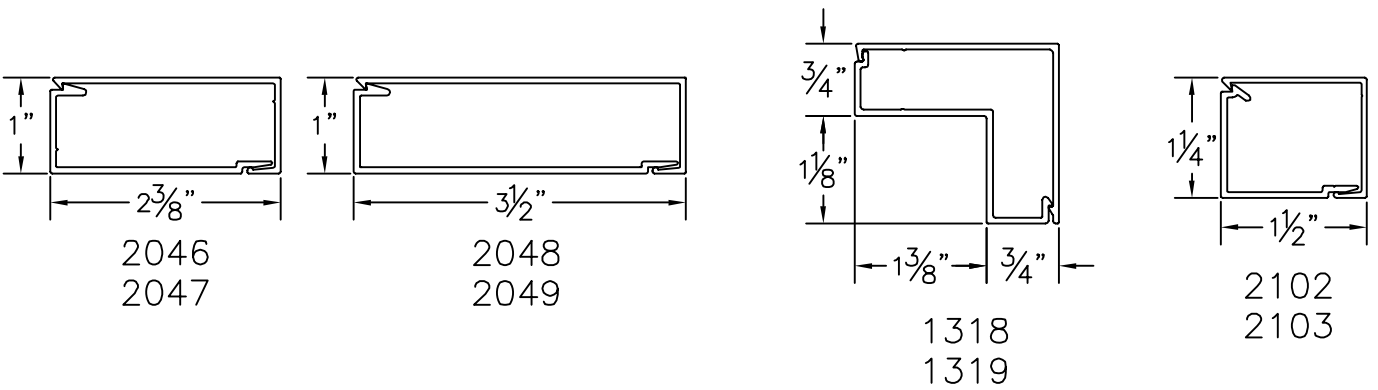
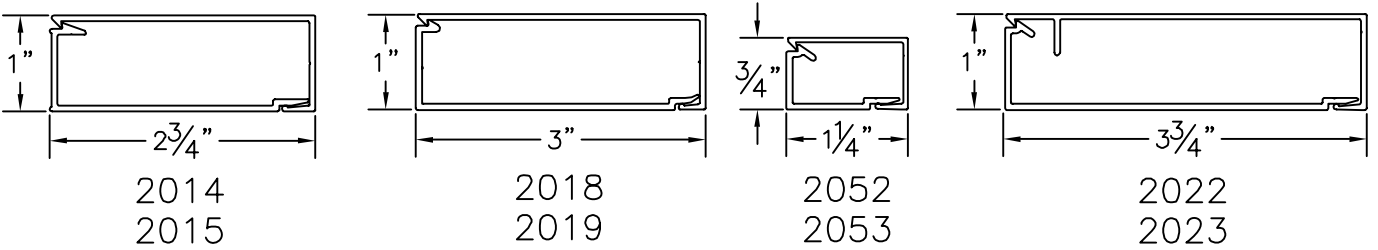
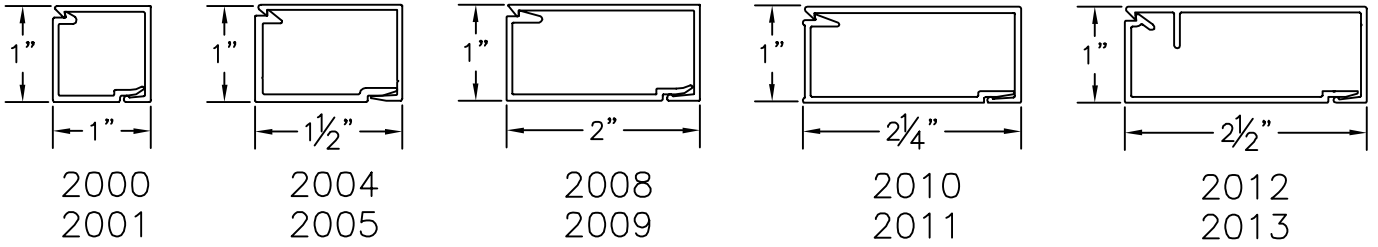
A1632



A1633

# INTERIOR SNAP TRIM

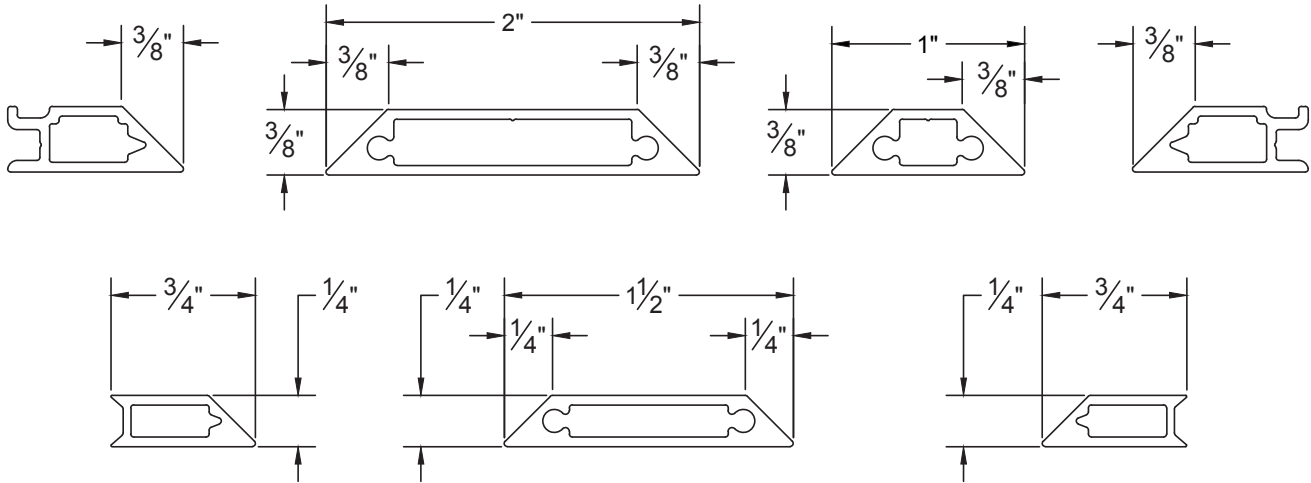
## Product Details (Scale: Half Size)



# MUNTIN OPTIONS

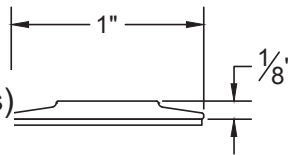
Product Details (Scale: Full Size)

## APPLIED MUNTINS

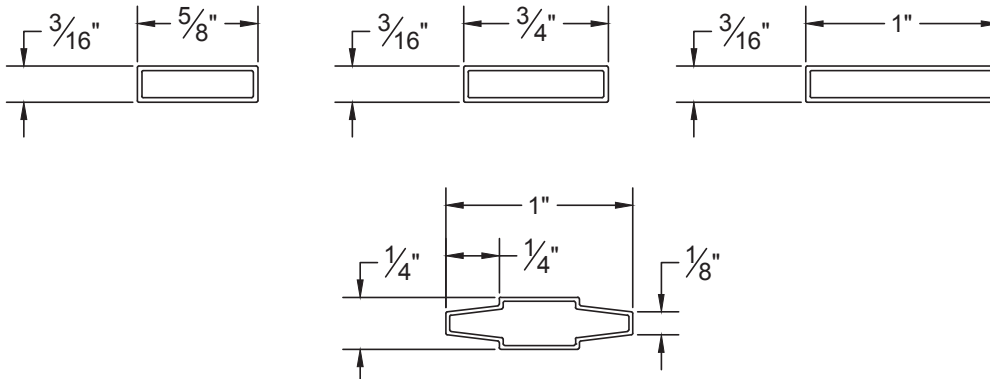


(Above available for Series 700, 800, 900 & 4100 only)

RIGHT & BELOW:  
(Right and below: Available for all series)

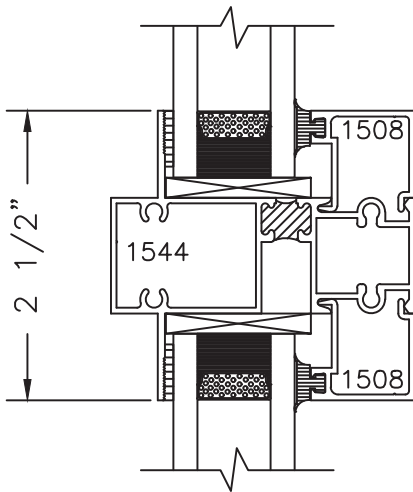


## INTERNAL MUNTINS

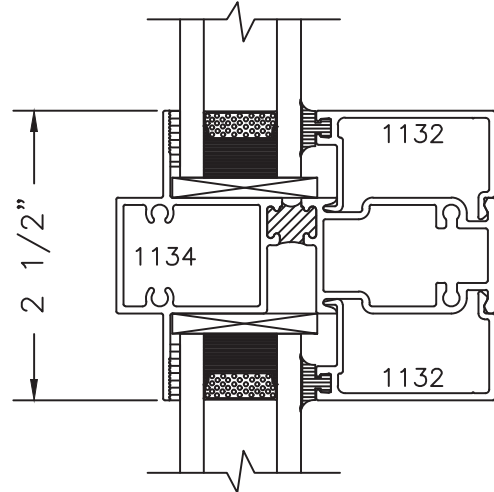


# TRUE MUNTINS / "IM" POSTS

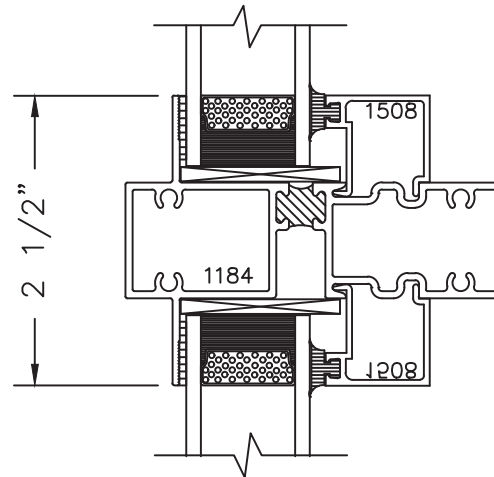
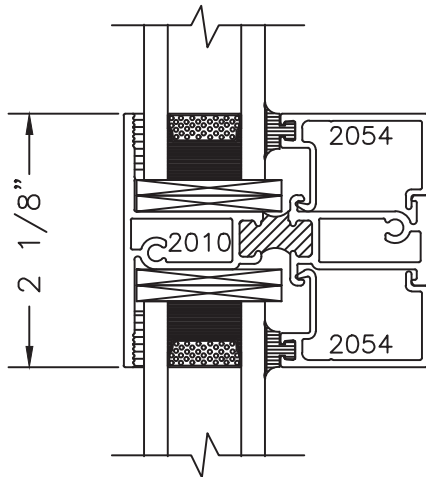
Product Details (Scale: Half Size)



550 SERIES TRUE MUNTIN

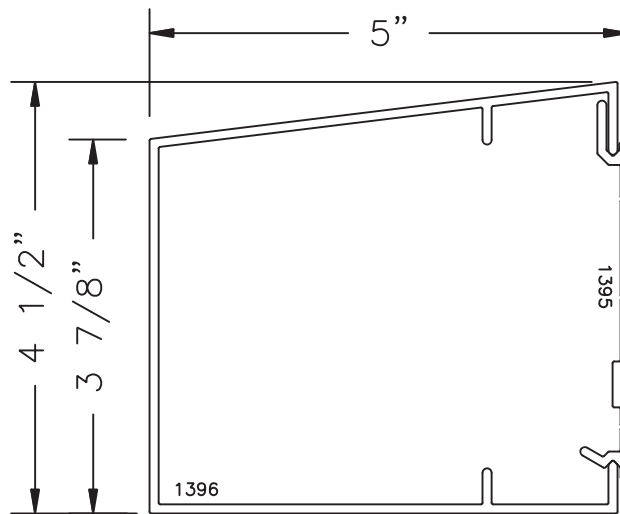
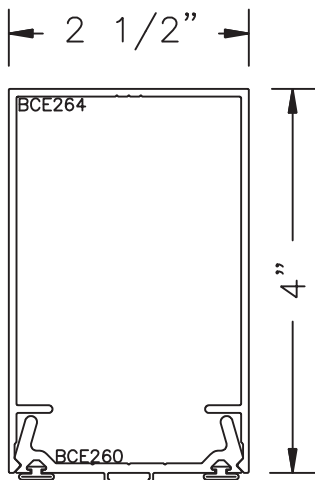
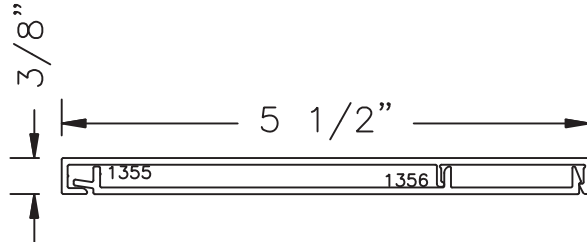
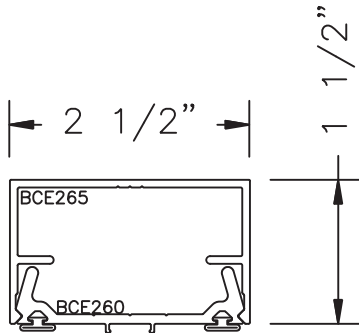
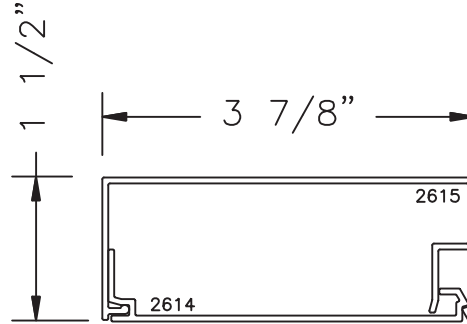
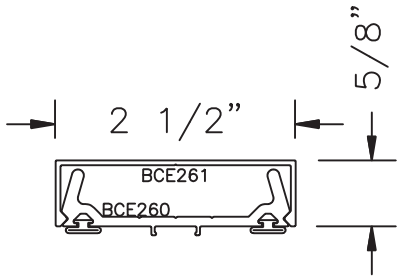
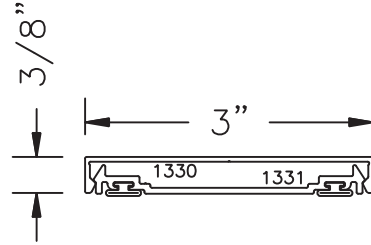
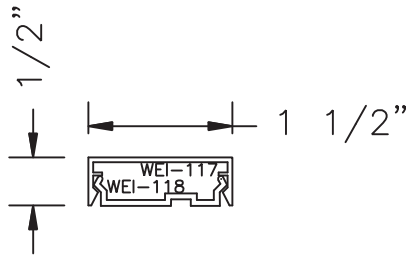


750 & 4150 SERIES TRUE MUNTIN



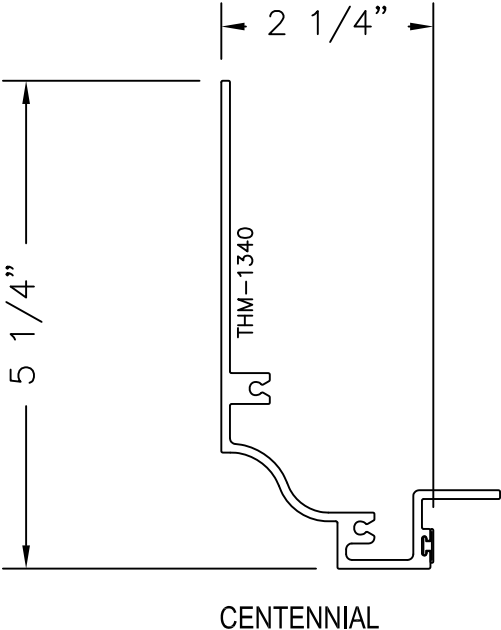
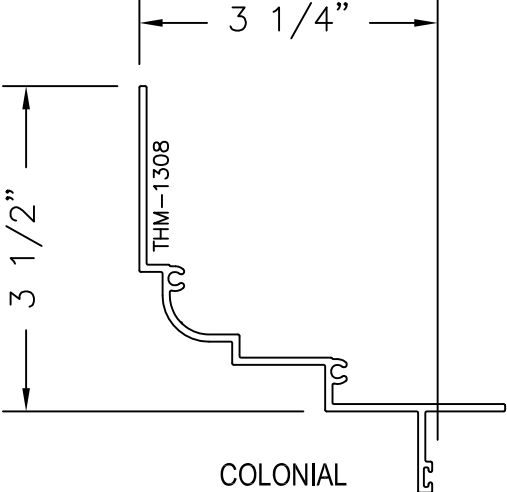
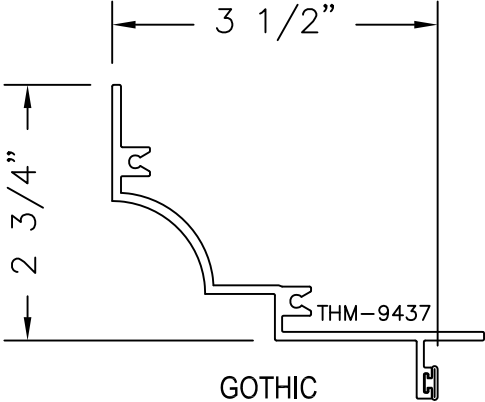
# MULL COVERS

## Product Details (Scale: Half Size)



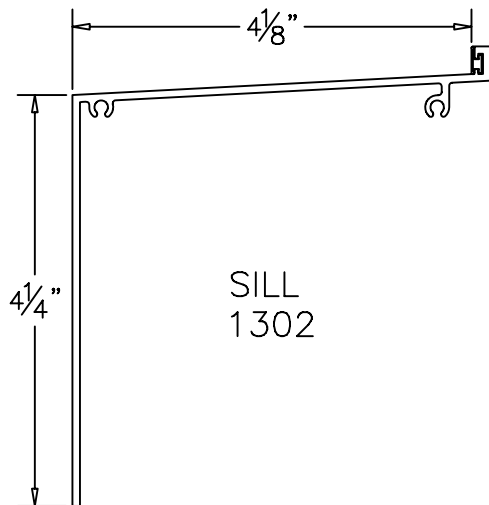
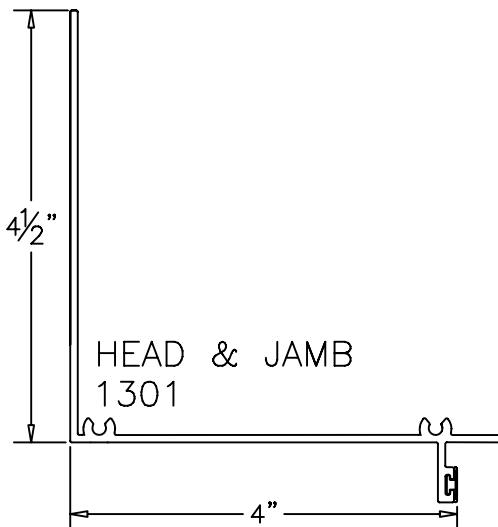
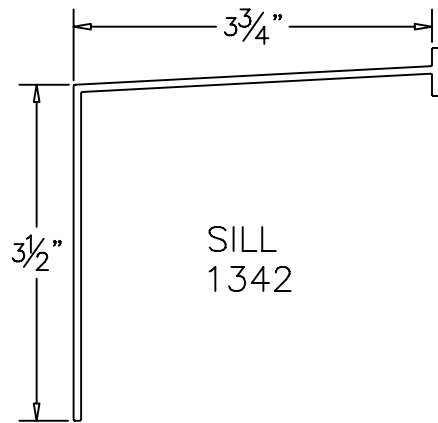
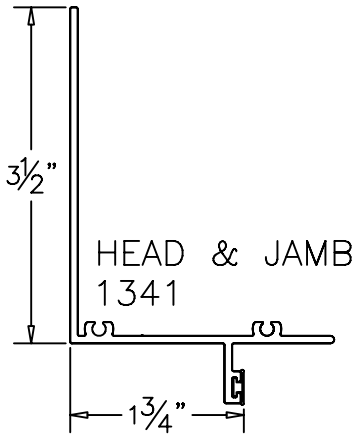
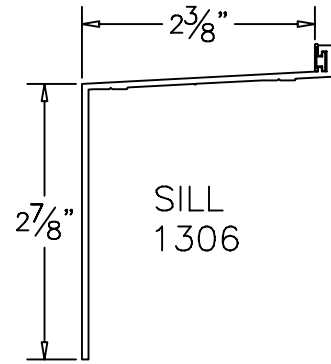
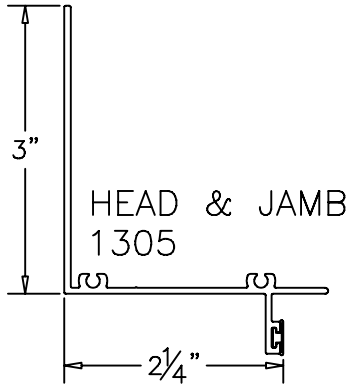
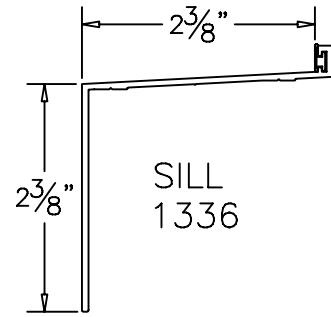
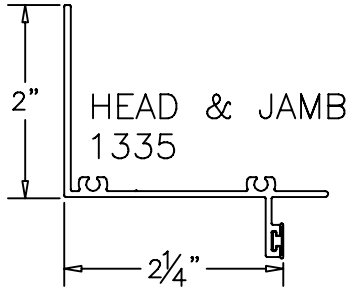
# PANNING – CONTOURED PRESET

Product Details (Scale: Half Size)



# PANNING – PRESET

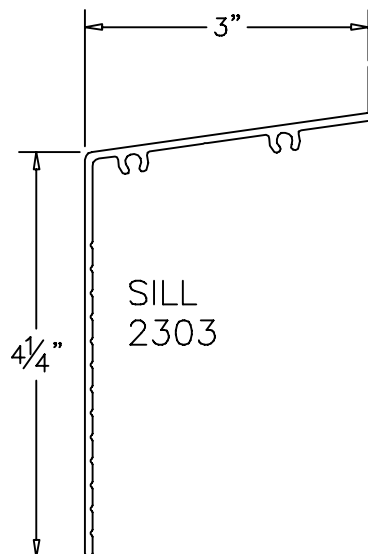
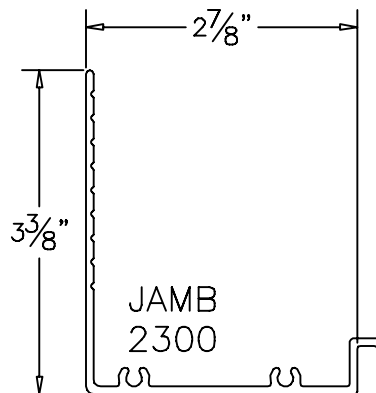
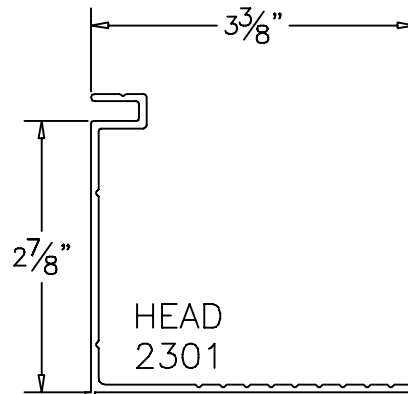
## Product Details (Scale: Half Size)





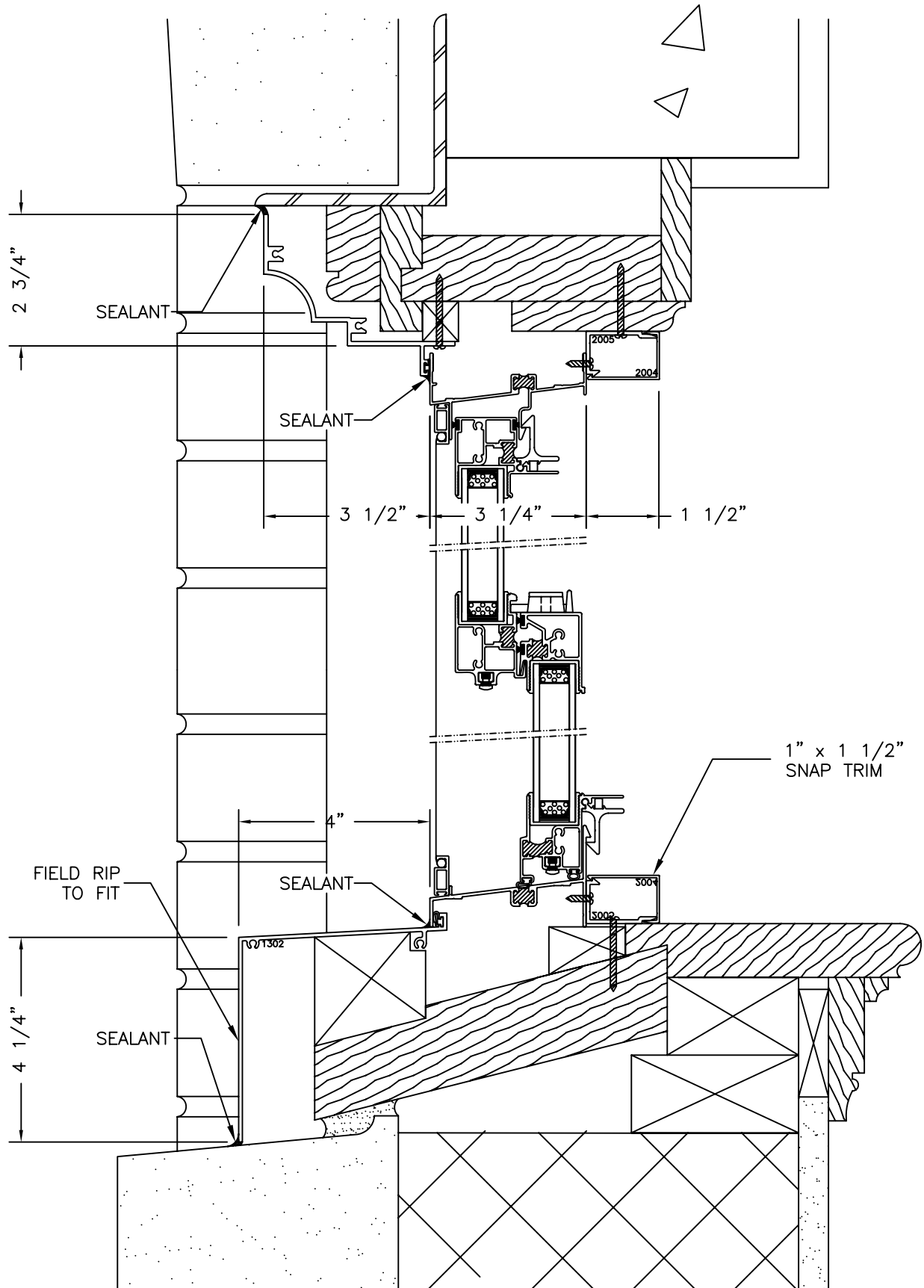
# PANNING – WRAPAROUND

Product Details (Scale: Half Size)



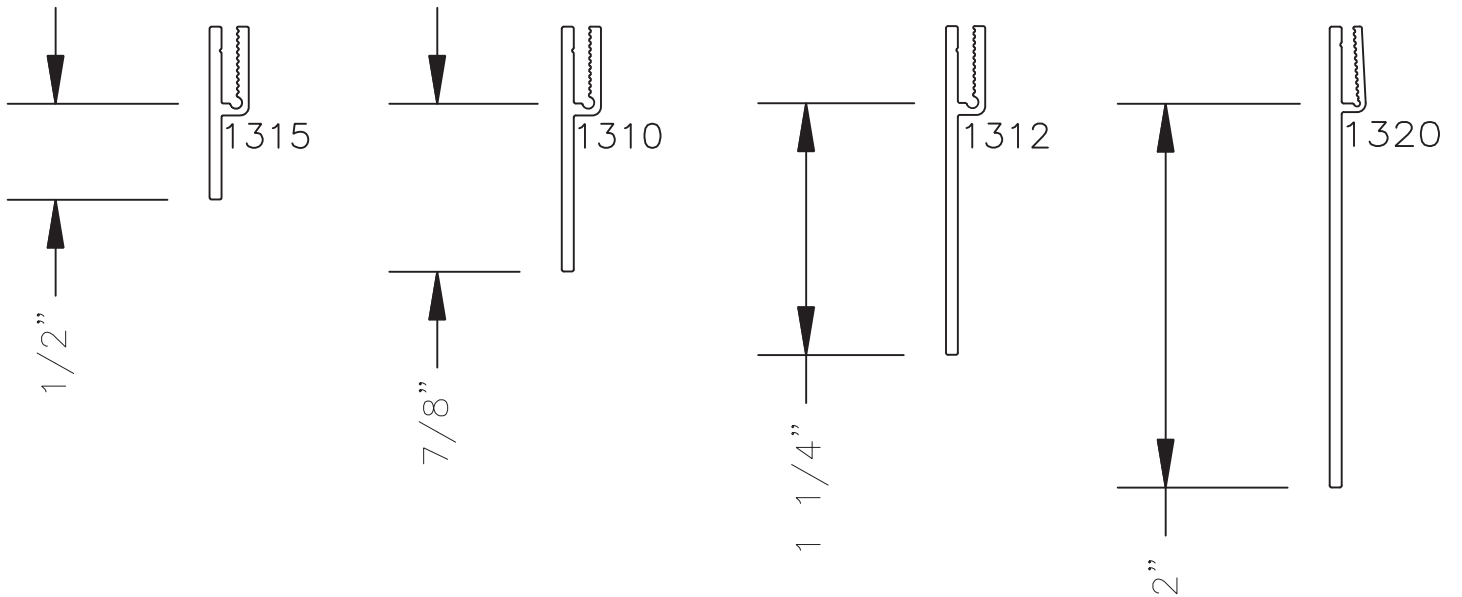
# Sample Installation Detail – w/Gothic Panning & Snap Trim

Scale: 5/16" = 1"

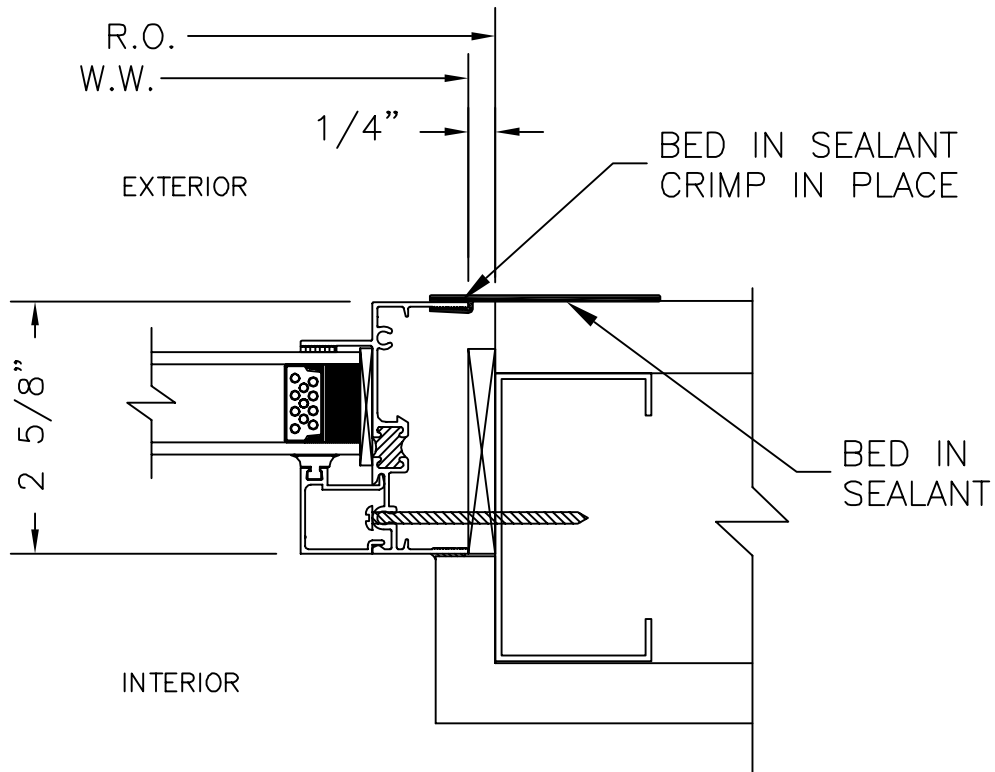


# FLANGE (Leg Extenders)

## Product Details (Scale: Full Size)

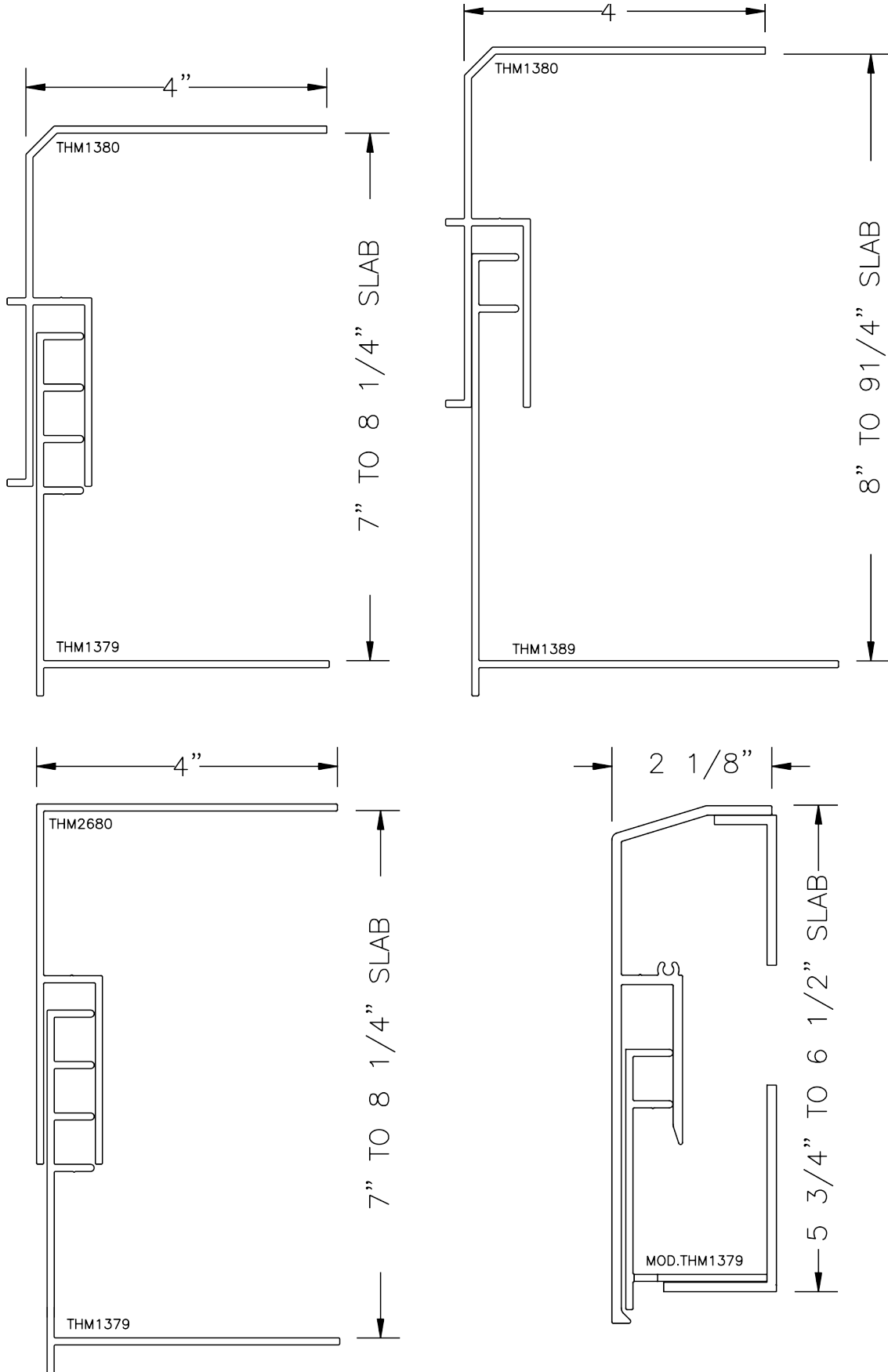


## Installation Example (Scale: Half Size)



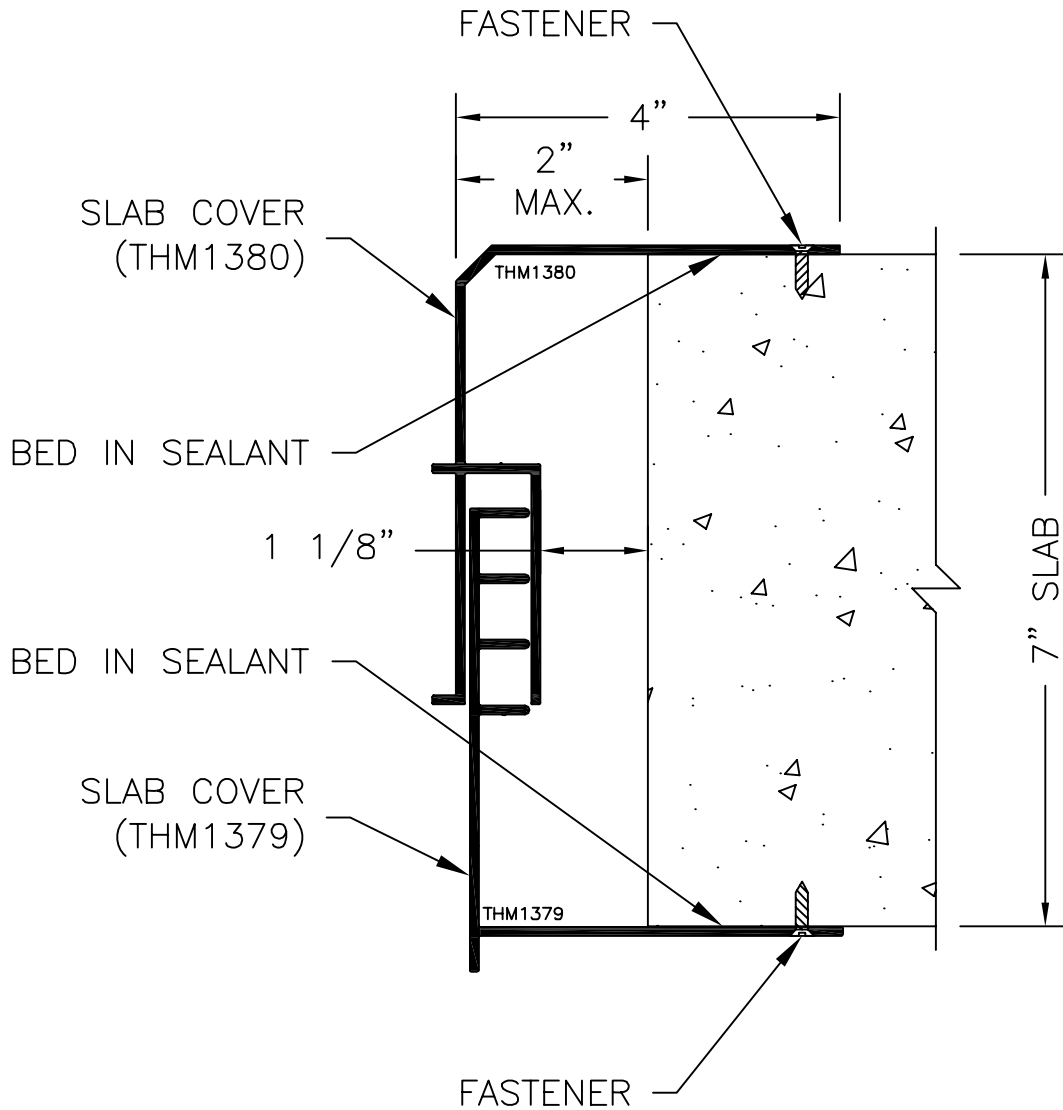
# SLAB COVERS

## Product Details (Scale: Half Size)



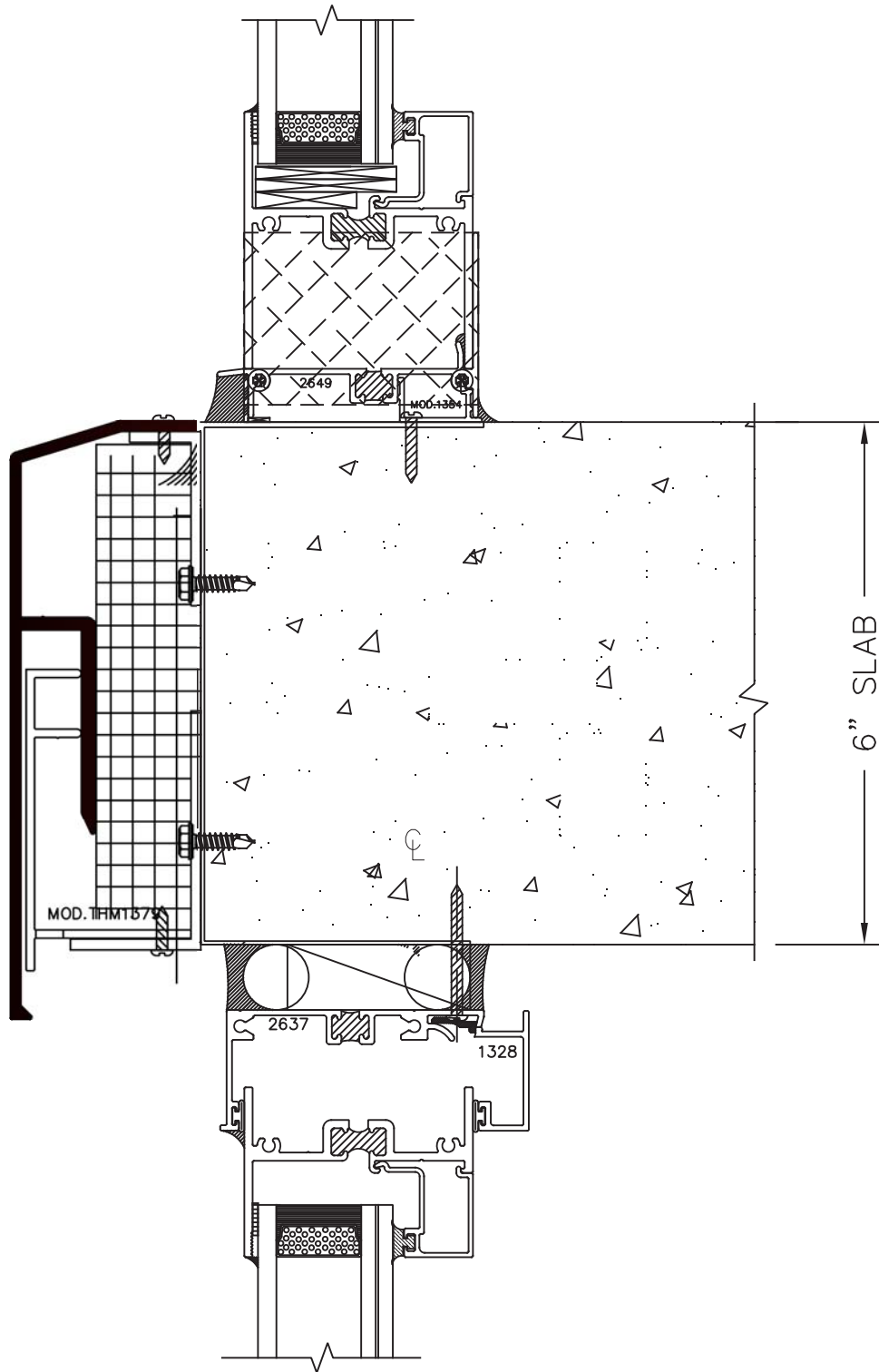
# Installation Detail – SLAB COVERS

Product Details (Scale: Half Size)



# SLAB COVERS

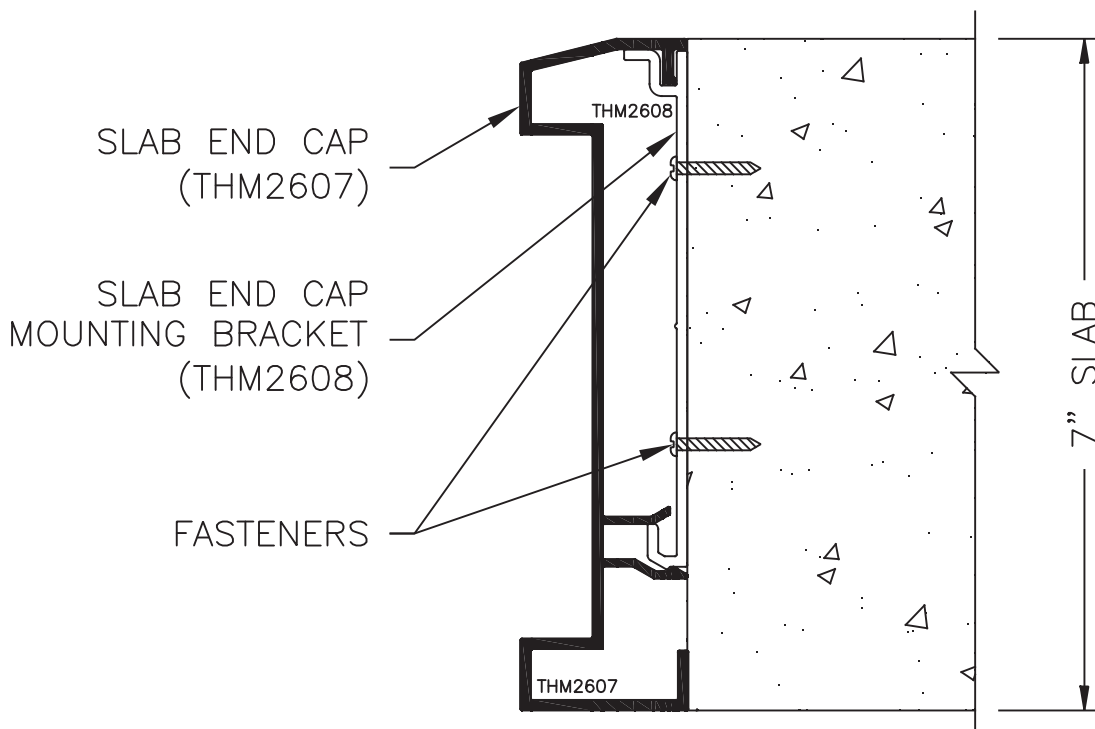
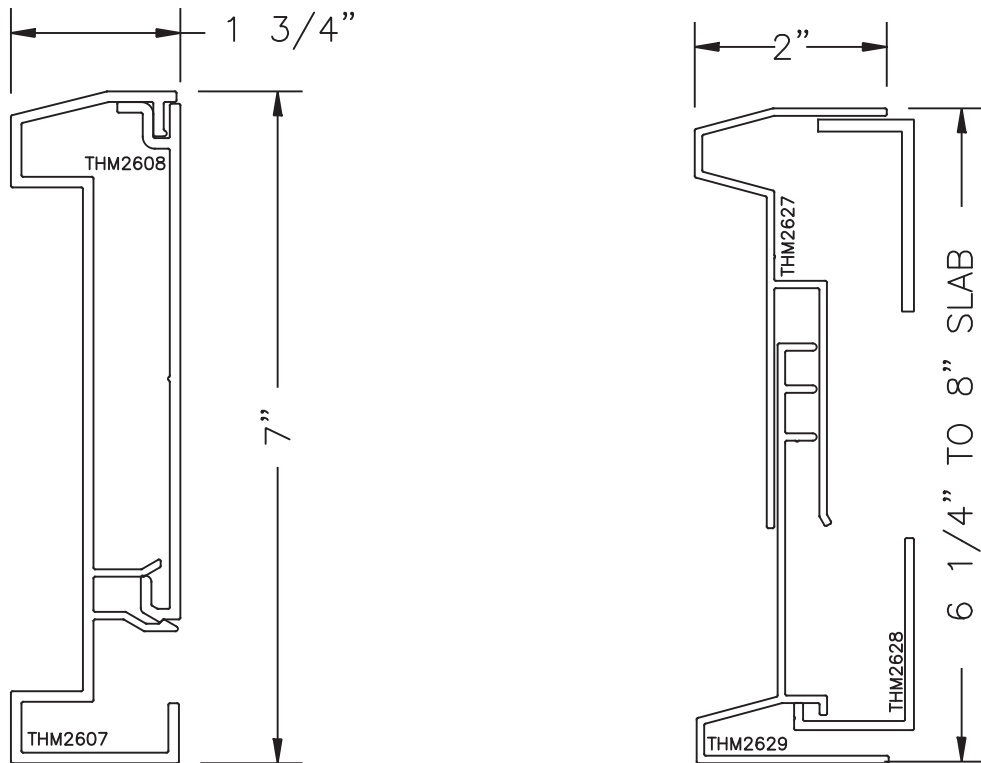
Product Details (Scale: Half Size)



## SMOOTH FACE SLAB COVER

# SLAB END CAP & INSTALLATION DETAIL

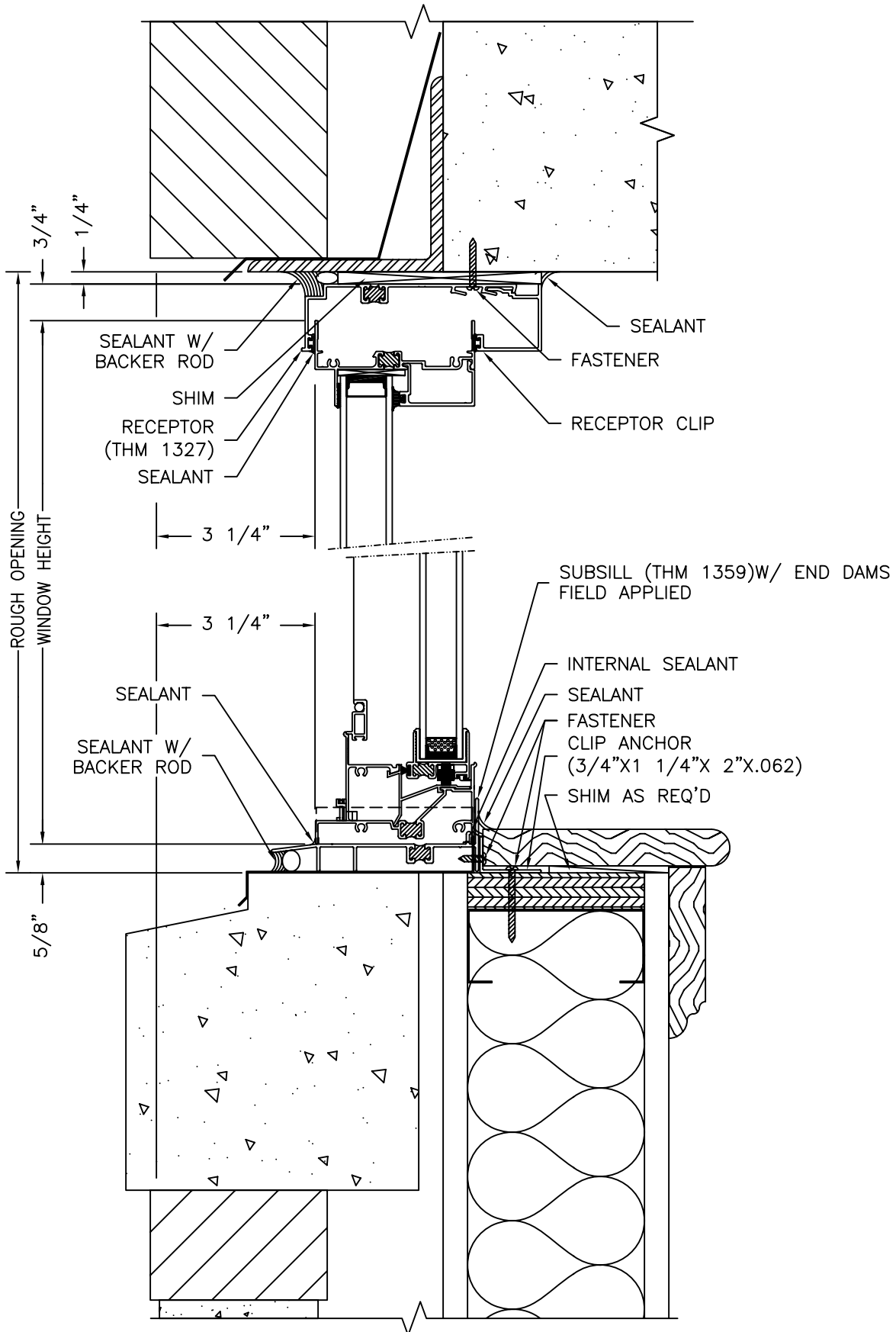
Product Details (Scale: Half Size)





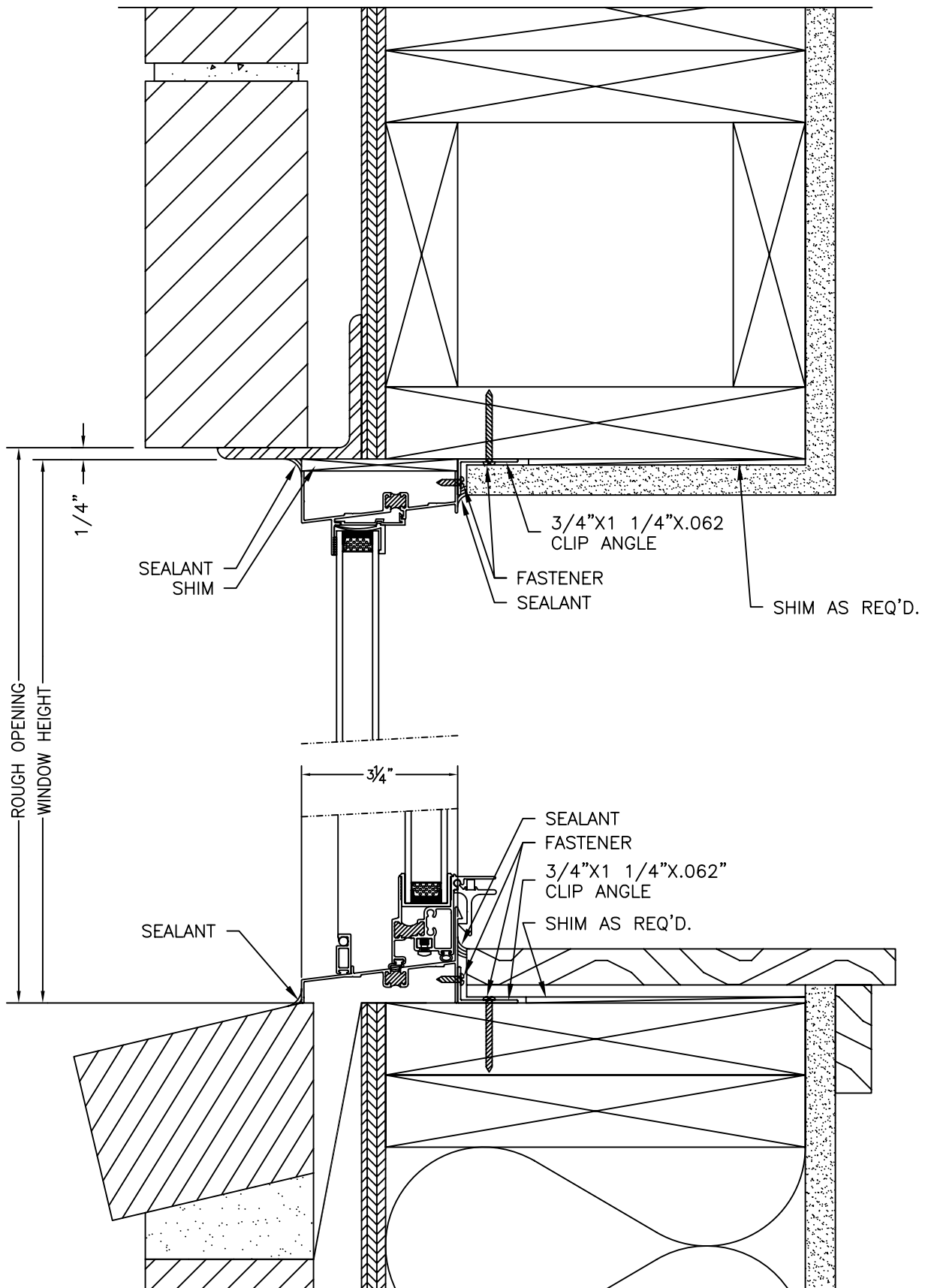
# Sample Installation Detail – w/Deep Receptor & Starter Sill

Scale: 5/16" = 1"



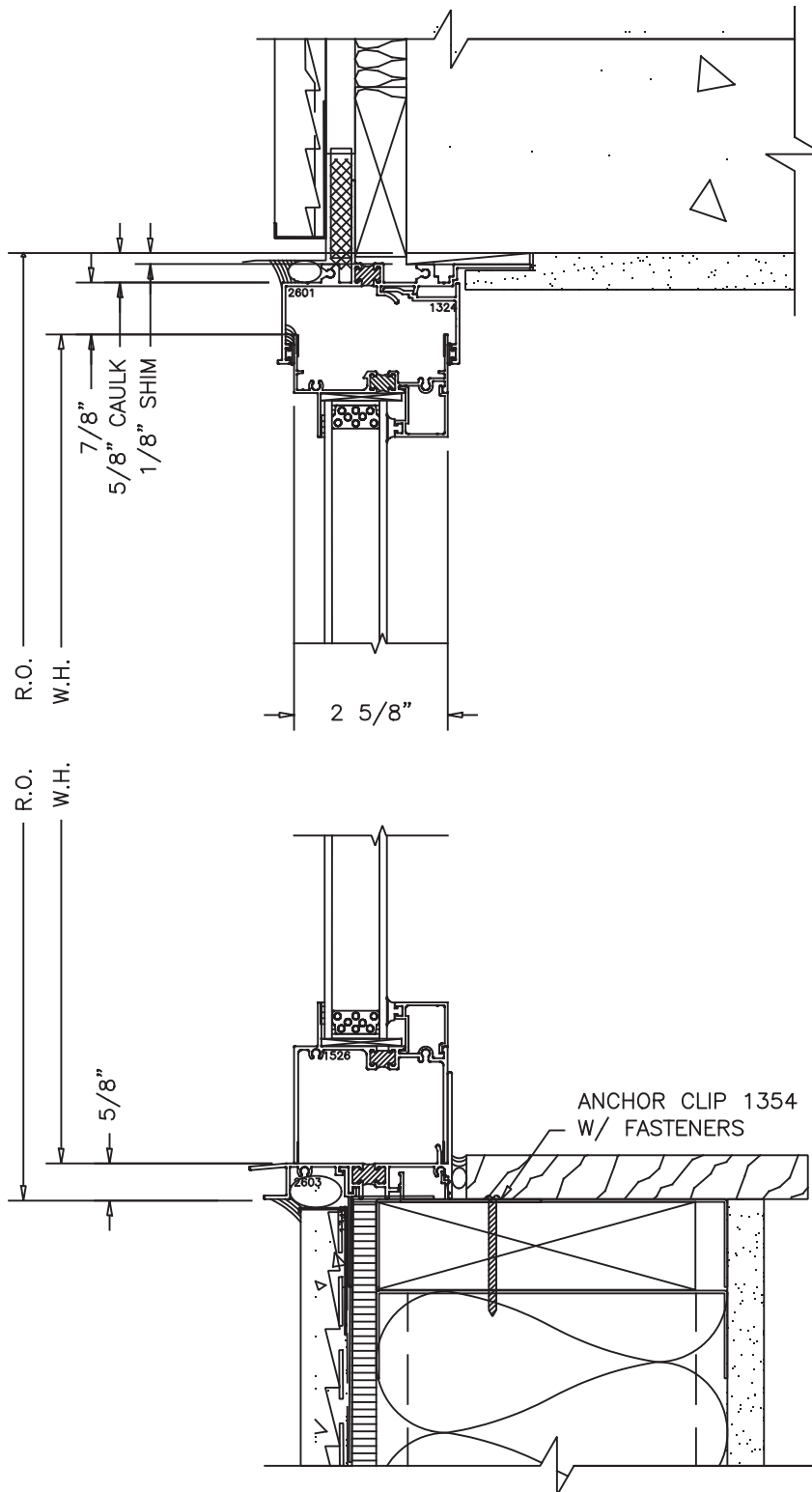
# Sample Installation Detail – Basic Installation

Scale: 5/16" = 1"



# Sample Installation Detail – with Fin Receptor

Scale: 5/16" = 1"





**THERMAL  
WINDOWS, INC.**

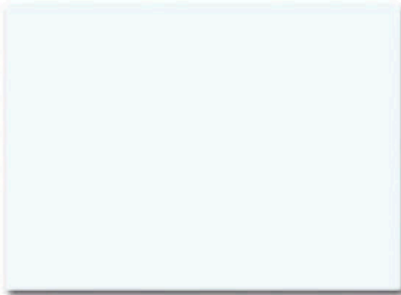
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Colors  
&  
Finishes

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## AAMA 2603/2604 Powder Coat Finishes

No Minimum Volume Requirement applies to Tier 1 finishes.  
(Hardware and vinyl colors are subject to manufacturer specifications)



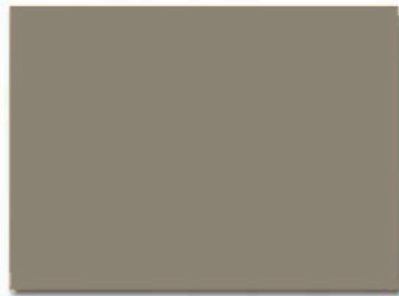
TWF 14111  
White



TWF 14211  
Creme



TWF 14212  
Almond



TWF 14712  
Sandstone



TWF 14711  
Bronze

### Performance

Powder coatings by Thermal Windows, Inc. are based on thermosetting super durable polyester technology that meets the AAMA 2603-98/2604-98 High-Performance Specification.

The coatings possess excellent weatherability and resistance to chemicals and corrosion.

### Low-emitting Process

Thermal Windows, Inc. uses dry powder coatings applied electrostatically in our state-of-the-art clean room, without releasing volatile organic compounds (VOC's) into the atmosphere.

The products represented in this brochure have been prepared as replications of actual powder coatings. Samples shown above may vary in color and gloss from actual coatings due to the effects of heat, light and manufacturing processes. It cannot be assumed that the final finish will exactly match these samples.

## AAMA 2603/2604 Powder Coat Finishes

Minimum Volume Requirements Apply to Tier 2 finishes.

3,000 sq.ft. or more at standard pricing. Smaller quantities are available at an additional cost.  
(Hardware and vinyl colors are subject to manufacturer specifications)



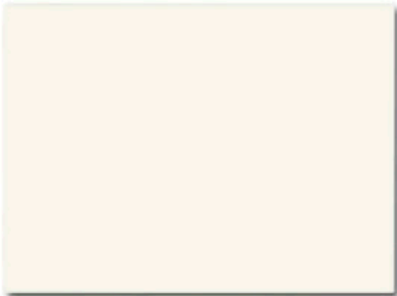
TWF 14421  
Light Green



TWF 14422  
Dark Green



TWF 14521  
Medium Blue



TWF 14121  
Bone White



TWF 14321  
Brick Red



TWF 14721  
Medium Bronze



TWF 14621  
Dauphin Gray



TWF 14622  
Dark Gray



TWF 14821  
Black

The products represented in this brochure have been prepared as replications of actual powder coatings. Samples shown above may vary in color and gloss from actual coatings due to the effects of heat, light and manufacturing processes. It cannot be assumed that the final finish will exactly match these samples.

# Performance Requirements for AAMA 2603-02 / 2604-05 for Pigmented Organic Coatings on Aluminum Extrusions

Requirement	AAMA 2603-02	AAMA 2604-05
<b>Color Uniformity</b> – Color uniformity shall be consistent with the color range or numerical value as established between the approval source and the applicator.	✓	✓
<b>Specular Gloss</b> – Gloss values shall be within ± 5 units of the manufacturer's specification.	✓	✓
<b>Dry Film Hardness</b> – No rupture of film per ASTM D 3363	✓	✓
<b>Film Adhesion</b> – No removal of film under the tape within or outside of the cross-hatched area or blistering anywhere on the test specimen. Report loss of adhesion as a percentage of squares affected.	✓	✓
<b>Impact Resistance</b> – No removal of film from substrate.	✓	✓
<b>Abrasion Resistance</b> – The Abrasion Coefficient Value of the coating shall be 20 minimum.		✓
<b>Chemical Resistance – Muriatic Acid (15-Minute Spot Test)</b> No blistering and no visual change in appearance when examined by the unaided eye.	✓	✓
<b>Chemical Resistance – Mortar (24-hour Pat Test)</b> Mortar shall dislodge easily from the painted surface, and any residue shall be removable with a damp cloth. Any lime residue should be easily removed with the 10% muriatic acid solution described in Section 6.6.1.1 (AAMA 2603), Section 7.7.1.1 (AAMA 2604). There shall be no loss of film adhesion or visual change in appearance when examined by the unaided eye.	✓	✓
<b>Chemical Resistance – Nitric Acid</b> No more than 5 Δ E Units (Hunter) of color change, calculated in accordance with ASTM D 2244, when comparing measurements on the acid-exposed painted surface and the unexposed surface.		✓
<b>Chemical Resistance – Detergent</b> No loss of adhesion of the film to the metal. No blistering and no significant visual change in appearance when examined by the unaided eye.	✓	✓
<b>Chemical Resistance – Window Cleaner</b> There shall be no blistering or noticeable change in appearance when examined by the unaided eye and/or removal of film under the tape within or outside of the cross-hatched area.		✓
<b>Corrosion Resistance – Humidity</b> No formation of blisters to extent greater than "Few" blisters Size No. 8 as shown in ASTM D 714.	✓	✓
<b>Corrosion Resistance – Salt Spray Resistance</b> Minimum rating of 7 on scribe or cut edges, and a minimum blister rating of 8 within the test specimen field, in accordance with ASTM D 1654.		✓
<b>Weather Exposure – Accelerated</b> No loss of adhesion and only slight chalking or color change plus slight water staining.	✓	
<b>Outdoor Exposure – Accelerated</b> No checking, crazing or loss of adhesion after taping and only slight chalking and slight fading.	✓	
<b>Weathering – South Florida Exposure</b> Maximum of 5 Δ E Units (Hunter) color changes as calculated in accordance with ASTM D 2244, Section 6.3 after the exposure test per Section 7.9.1.1. (See AAMA 2604-09 publication, Section 7.9.1.2.1. Performance for complete details).		✓
<b>Weathering – Chalk Resistance</b> Chalking shall be no more than that represented by a No. 8 rating based on ASTM D 4214, Test Method A (Method D 659) after test site (weathering) exposure (per Section 7.9.1.1). Chalking shall be measured on an exposed, unwashed painted surface.		✓
<b>Weathering – Gloss Retention</b> Gloss retention shall be a minimum of 30% after the exposure test per Section 7.9.1.1 expressed as % Retention = 60 <sup>o</sup> gloss exposed ÷ 60 <sup>o</sup> gloss unexposed X 100%.		✓
<b>Resistance to Erosion</b> Less than 10 percent film loss after the exposure test per Section 7.9.1.1 expressed as a percent loss of total film: 100% - Dry film thickness exposed ÷ Dry film thickness unexposed X 100%.		✓



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