



PIONEERING INSULATED METAL PANEL TECHNOLOGY





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## INTRODUCTION

The Metl-Vision® window system is specially designed to provide fully integrated windows within the Metl-Span CF horizontal panel wall system.

The Metl-Vision window units are available in a wide range of sizes, muntin arrangements and finish options. For the description of the window system and the installation of the windows into the CF wall system, reference the "Metl-Vision Window System for CF Horizontal Wall - Technical Bulletin" which is available from Metl-Span.

The Metl-Vision window units are available in the following assembly options:

- Factory Assembled (ready for installation into the wall system)
- Factory Engineered (requires field assembly of fabricated components)
- Components Order (requires field fabrication of window frame members from stock length extrusions)

Contained within this guide are: the parts list and description of the window components and glazing hardware, the instructions and details for the fabrication, assembly and sealing of the window unit, and the instructions and details for installing the glazing. The glazing (glass or infill material) is not provided with the window units.

For the field fabrication of "Components Order" windows, the window assembler must be provided with installation drawings or shop drawings specifying the exact window width and height dimensions and muntin layouts.

The customer is responsible for selecting competent building designers, assemblers and installers, and must ensure that the window application is suitable for the specific building and is in accordance with good engineering and construction practices and all applicable building codes and regulations.

Metl-Span does not guarantee and is not liable for the quality of the building design and installation. Metl-Span is not responsible for defects of the window units that may be attributed to improper design, fabrication, installation or negligence by other parties.

Clarifications concerning the Metl-Vision windows should be directed to Metl-Span's Technical Services Department. Contact the Metl-Span office:

1720 Lakepointe Drive, Suite #101 Lewisville, TX 75057 TEL: (972) 221- 6656 FAX: (972) 436-7028

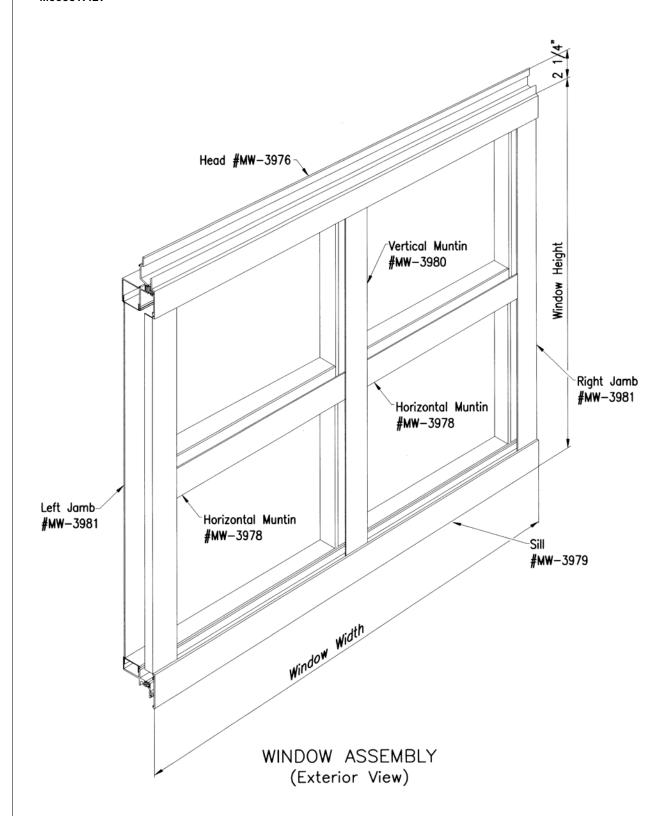
E-MAIL: panel@metlspan.com

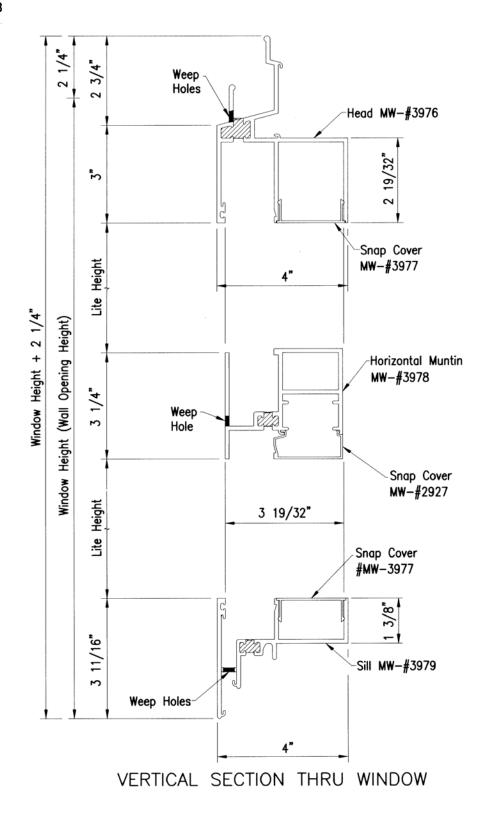
**WEB: METLSPAN.COM** 

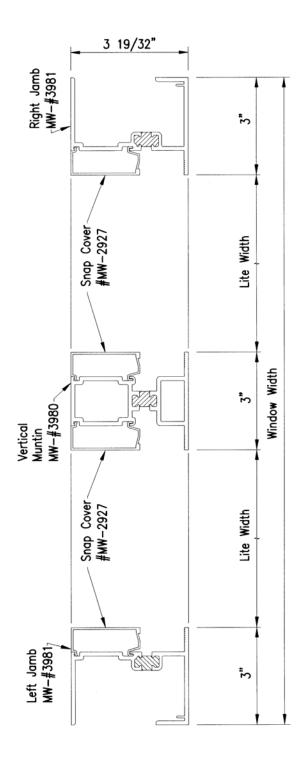
Within this section are details of the typical window unit, showing the major components of the window assembly and referencing the critical window height and width dimensions and muntin layout dimensions required for the proper fabrication and assembly of the window units.

Also within this section are the parts list and the descriptions and details of the window unit components, assembly hardware and glazing hardware.

The components shown in this section are for standard Metl-Vision window units. In all cases, review the project's installation drawings or shop drawings for any non-standard parts requirement. In case of conflict between this assembly guide and the project's drawings, the project drawings will take precedence.







HORIZONTAL SECTION THRU WINDOW

## **EXTRUSIONS: (21' 0" stock lengths)**

#MW-3976 - HEAD EXTRUSION

#MW-3979 - SILL EXTRUSION

#MW-3981 - JAMB EXTRUSION

#MW-3980 - VERTICAL MUNTIN EXTRUSION

#MW-3978 - HORIZONTAL MUNTIN EXTRUSION

#MW-3977 - SNAP COVER (for head & sill)

#MW-2927 - SNAP COVER (for jambs & muntins)

#### **SHEAR BLOCKS:**

#MW-1188 - RIGHT HAND SHEAR BLOCK (for horz. muntin to jamb)

#MW-1187 - LEFT HAND SHEAR BLOCK (for horz. muntin to jamb)

#MW-1189 - SHEAR BLOCK (for head & sill to jamb & vert. muntin)

#### **FASTENERS:**

#14 X 3/4" HWH TEK 3 SCREWS (zinc plated)

(3 per shear blocks #MW-1187 & #MW-1188, 2 per shear block #MW-1189)

## **SEALANT:**

DOW 795 SEALANT (or equivalent)

#### **END DAMS:**

#MW-1160 - END DAM (for head extrusion)

#MW-1161 - END DAM (for sill extrusion)

#### **FLASHING:**

**#VC-1 - JAMB FLASHING** 

#VC-2 - DIVERTER FLASHING

#### **SPLICE PLATES:**

#MW-1202 - SPLICE PLATE (for head extrusion)

#MW-1203 - SPLICE PLATE (for head extrusion)

#MW-1204 - SPLICE PLATE (for sill extrusion)

#MW-1205 - SPLICE PLATE (for sill extrusion)

#### **GLAZING HARDWARE:**

#MW-1162 - PVC SETTING BLOCK CHAIR (for horz. muntin)

#MW-1166 - VINYL WEEP SEAL (10' 0" stock lengths)

#MW-1186 - 1" X 1" X 1/4" SPONGE AIR DAMS

**#TR-538N - EXTERIOR GLAZING GASKET** 

#TR-643E - INTERIOR GLAZING GASKET

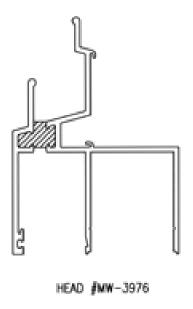
2" x 2" FOAM SEALANT BACKER (6'- 0" stock lengths)

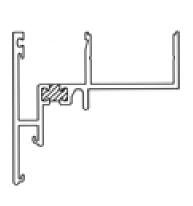
3/8" X 1" X 4" SETTING BLOCK

1/8" X 3/8" BUTYL PRE-SHIMMED GLAZING TAPE

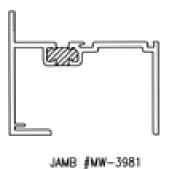
3/8" BOND BREAKER TAPE (for head & sill splices)

MSS081.402





SILL **∦MW**-3979



PERIMETER FRAME EXTRUSIONS

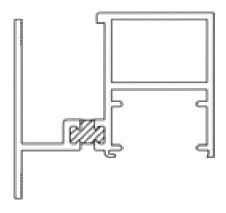
MSS081.403



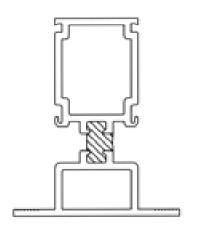
SNAP COVER #MW-3977



SNAP COVER #MW-2927



HORIZONTAL MUNTIN ∦MW-3978 (meeting roil)



VERTICAL MUNTIN ∦MW-3980 (meeting rail)

MUNTIN & SNAP COVER EXTRUSIONS

#### MSS081.404



END DAM ∮MW-1160 (used at head)



END DAM #WW-1161 (used at sill)



SPONGE GASKET TREMCO #TR-538N (exterior glazing gasket)



WEDGE GASKET TREMCO #TR-643E (interior glazing gasket)

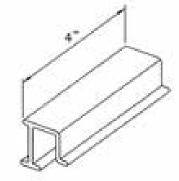
A

PRE-SHIMMED TAPE .125 X .375 BUTYL (exterior glazing tape)

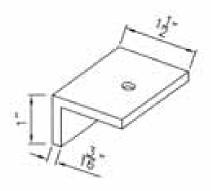


WEEP SEAL #MW-1166 (used between wall panel and sill)

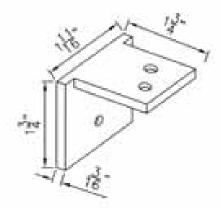
GLAZING GASKETS & END DAMS



SETTING CHAIR #WW-1162 (used at horiz, muntin)



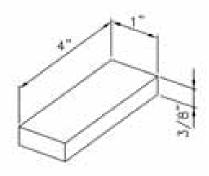
SHEAR BLOCK #MW-1189 (used 0 head, sill, and vertical muntin)



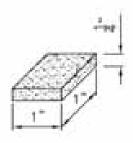
SHEAR BLOCK #1187 (SHOWN), #1188 (OPPOSITE) (used at hariz, muntin)



SHEAR BLOCK FASTENER #14 X Tek 3 screw, zinc ploted



SETTING BLOCK (used @ 1/4 points per lite)

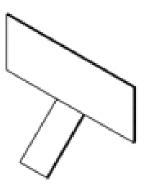


SPONGE AIR DAN #MW-1186 (used at four corners per lite)

MSS081.406



JAMB FLASHING #VC-1 (used at each jamb) Jamb Flashing Is .030" Thick Alumninum x 5' Length



DIVERTER FLASHING MC-2 (used at wall panel joints) Diverter Flashing is .030" Thick Aluminum



SPLICE PLATE **#MW**-1202 (used at head extrusion splice)



SPLICE PLATE #MW-1203 (used at head extrusion splice)

Splice plates are .060" thick aluminum x 3" length



SPLICE PLATE #MW-1205 (used at sill extrusion splice)



SPLICE PLATE #MW-1204 (used at sill extrusion splice)

JAMB FLASHING & SPLICE PLATES

For Components Order window units, the major window components require field fabrication. Within this section are instructions and details for the fabrication of the window unit components.

The instructions and details shown in this section are for standard Metl-Vision<sup>®</sup> window units. In all cases, review the project's installation drawings or shop drawings for any non-standard fabrication requirements. In case of conflict between this assembly guide and the project's drawings, the project drawings will take precedence.

## **CUT TO LENGTH**

For Components Order window units, the window head, sill, jambs, muntins and snap cover extrusions require field cutting to the required length, per the following instructions and details.

If the window unit is longer than 20', reference the "Window Unit Splicing" section of this guide before cutting the head and sill extrusions to length.

**Caution:** the ends of the extrusions must be cut absolutely square (+/-1/64").

- 1. Head extrusion #MW-3976 and sill extrusion #MW-3979 are to be cut to the "window width" dimension, as specified on the "Head Fabrication Detail" and "Sill Fabrication Detail".
- **2.** Left and right jamb extrusions #MW-3981 are to be cut to the "window height" dimension minus 3-15/32", as specified on the "Jamb Fabrication Detail".
- **3.** Vertical muntin extrusions #MW-3980 (if required) are to be cut to "window height" dimension minus 3-15/32", as specified on the "Vertical Muntin Fabrication Detail".
- **4.** Horizontal muntin extrusion #MW-3978 (if required) are to be cut to the respective "lite width" dimension plus 1-1/2", as specified on the "Horizontal Muntin Fabrication Detail".
- **5.** Vertical snap cover extrusion #MW-2927 (used at jambs and vertical muntins) are to be cut to the respective "lite height" dimension.
- **6.** Horizontal snap cover extrusion #MW-3977 (used at head and sill) are to be cut to the respective "lite width" dimension plus 1-1/2".
- 7. Horizontal snap cover extrusion #MW-2927 (used at horizontal muntins) are to be cut to the respective "lite width" dimension plus 1-1/2".
- **8.** Left and right jamb flashing #VC1 are to be cut to the "window height" dimension plus 7/8", and notched on the top and bottom ends, as specified on the "Jamb Flashing Fabrication Detail".

## WINDOW UNIT FABRICATION (cont.)

## **MILLING CLEARANCE NOTCHES**

For Components Order window units, the ends of the jamb and muntins extrusions require field milling of clearance notches, per the following instructions and details.

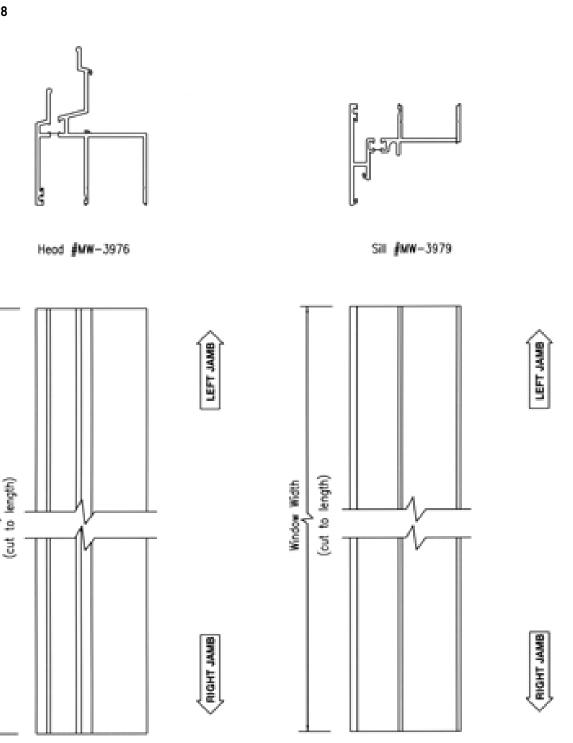
- **1.** Left and right hand jamb extrusions #MW-3981 are to have 5/32" x 2-15/32" notches milled at each end, as specified on the "Jamb Fabrication Detail".
  - **2.** Vertical muntins #MW-3980 are to have 5/32" x 2-15/32" notches milled at each end, as specified on the "Vertical Muntin Fabrication Detail".
  - **3.** Horizontal muntins #MW-3978 to have 1/8" x 3/4" notches milled at each end, as specified on the "Horizontal Muntin Fabrication Detail".

#### DRILLING WEEP HOLES

For Components Order window units, the head, sill and horizontal muntins require field drilling of weep holes, per the following instructions and details.

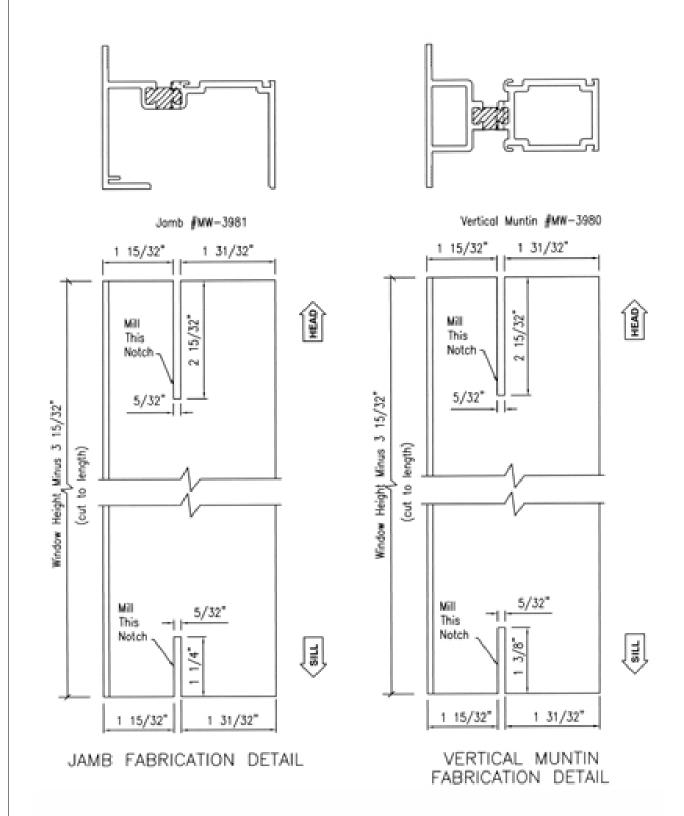
- 1. Head extrusion #MW-3976 and horizontal muntin extrusion #MW-3978 are to be field drilled in the face of the extrusions for 5/16" diameter weep holes. Locate the weep holes at 3" from each edge of the lite openings and 12" O.C. between, as specified on the "Head & Horizontal Muntin Weep Hole Detail".
- **2.** Sill extrusion #MW-3979 is to be field drilled for 5/16" diameter weep holes in the concealed pocket of the extrusion. Locate the weep holes at 3" from each edge of the lite openings and 12" O.C. between, as specified on the "Sill Weep Hole Detail".

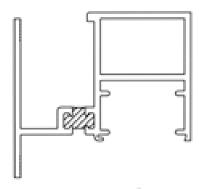
## MSS081.428



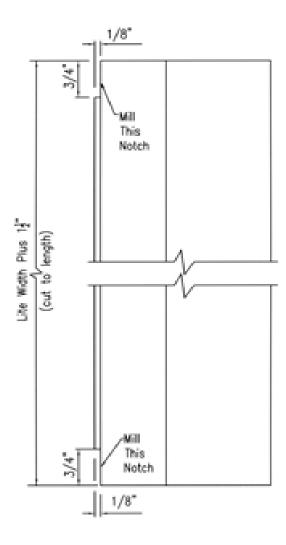
HEAD FABRICATION DETAIL

SILL FABRICATION DETAIL

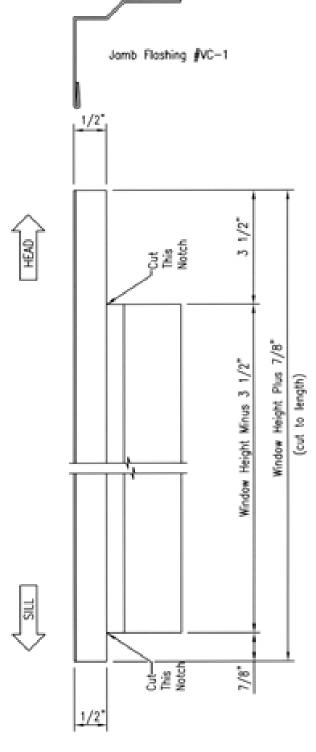




Horizontal Muntin ∦MW-3978

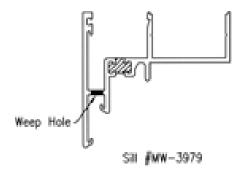


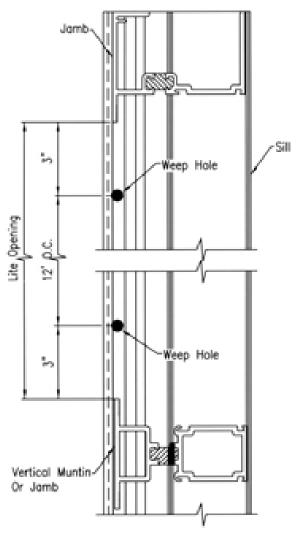
MSS081.422





JAMB FLASHING FABRICATION DETAIL (LEFT FLASHING SHOWN, RIGHT FLASHING OPPOSITE)





Note: Drill n

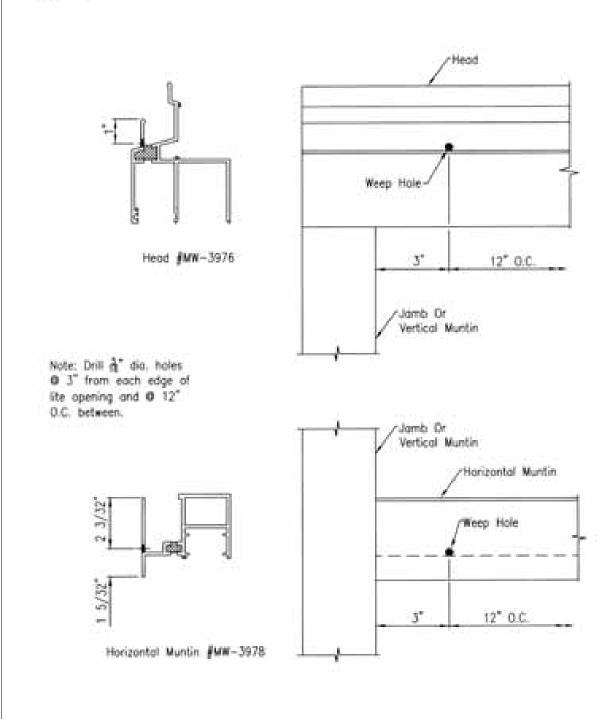
"dia. holes

3" from each edge of
lite opening and ⊕ 12"

0.C. between.







## WINDOW UNIT ASSEMBLY

For Factory Engineered or Components Order window units, the window frame requires field assembly, per the following instructions and details.

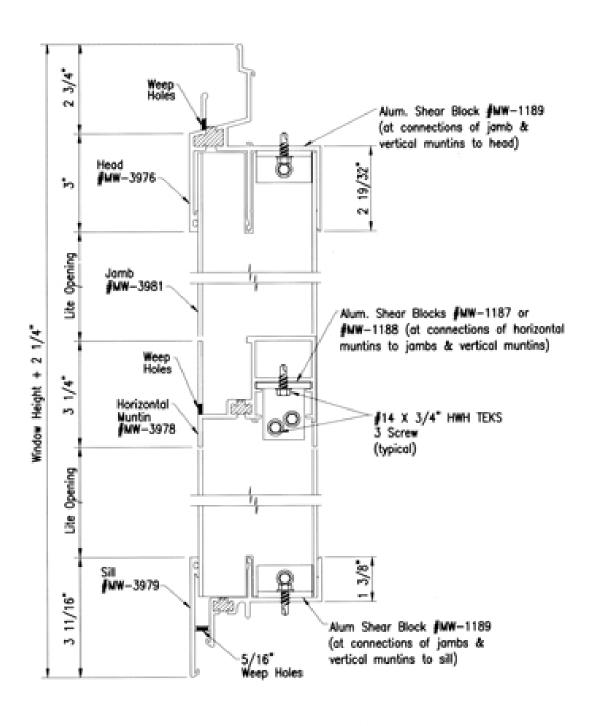
The instructions and details shown in this section are for standard Metl-Vision window units. In all cases, review the project's installation drawings or shop drawings for any non-standard assembly requirements. In case of conflict between this assembly guide and the project's drawings, the project drawings will take precedence.

**Caution:** to ensure the assembled window unit is square and level, the window components must be assembled on a uniformly flat surface, using appropriate corner squaring tools or jigs.

Reference the window frame assembly details for the positioning of the window components and the positioning and fastening of the shear blocks.

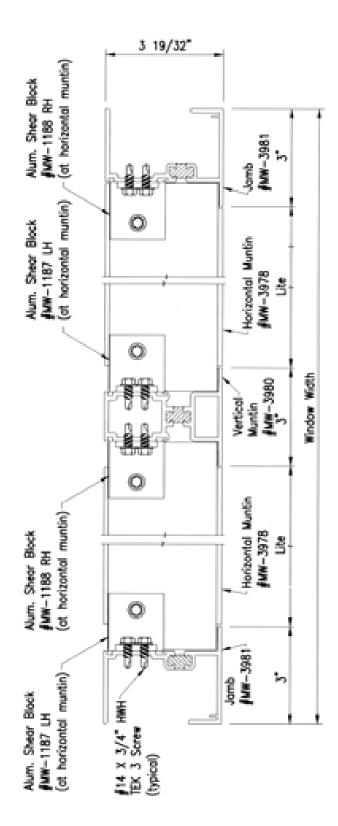
- 1. The window head, sill and jambs may be pre-drilled with 17/64" clearance holes for anchor fasteners. Reference the project's installation drawings for required anchor fastener locations.
  - 2. Reference the "Window Frame Assembly Details" for the positioning of the window frame components and the positioning and fastening of the assembly shear blocks.
  - 3. Flush fit the #MW-1189 shear blocks to each end of the jambs and vertical muntins (if required), and fasten with  $\#14 \times 3/4$ " screws prior to frame assembly. This pre-assembly is required, due to depth of head and sill restricting the use of screw guns or impacts.
- 4. Flush fit the jambs to each end of the head, and fasten the jambs to the head with  $\#14 \times 3/4$ " screws through the #MW-1189 shear blocks.
  - 5. Layout the vertical muntin spacing, and fasten the muntins to the head with  $#14 \times 3/4$ " screws through the #MW-1189 shear blocks.
  - 6. Flush fit and square the jambs to the sill, and fasten the jambs to the sill with  $#14 \times 3/4$ " screws through the #MW-1189 shear block.
- 7. Layout and square the vertical muntins to the sill, and fasten the muntins to the sill with  $\pm 14 \times 3/4$  screw through the  $\pm MW-1189$  shear block.
- 8. If horizontal muntins are required, insert a foam backer (cut from 2" x 2" foam) into interior tube portion of the muntin at each end. Push the foam in far enough to leave a 1/2" void at the end of the muntin. Fill the 1/2" void with DOW 795 sealant (or equivalent) to cap the end of the muntin.
- 9. Insert the #MW-1187 (left hand) and #MW-1188 (right hand) shear blocks into each end of the horizontal muntin. Do not fasten the shear blocks to the muntin at this time.
- 10. Layout and fit the horizontal muntins between the jambs and vertical muntins, and hold or clamp in place. Fasten the previously inserted shear blocks to the jambs and vertical muntins with two #14 x 3/4" screws per shear block.
  - 11. If there are any gaps at the horizontal muntin joints, shim and clamp as necessary to close the gaps. When the joints are satisfactory, fasten the shear blocks to the horizontal muntins with one  $#14 \times 3/4$ " screw per shear block.

## WINDOW UNIT ASSEMBLY



WINDOW UNIT ASSEMBLY DETAILS

## **WINDOW UNIT ASSEMBLY**



WINDOW UNIT ASSEMBLY DETAILS

For Factory Engineered or Components Order window units, the window frame assembly must be field sealed per the following instructions and details.

The instructions and details shown in this section are for standard Metl-Vision® window units. In all cases, review the project's installation drawings or shop drawings for any non-standard sealing requirements. In case of conflict between this assembly guide and the project's drawings, the project drawings will take precedence.

Note: use DOW 795 (or equivalent) sealant for the following sealing procedures.

## JAMB TO SILL SEAL

- **1.** Seal the milled clearance notch in the jambs by pumping sealant into one side of cavity until the sealant comes out the opposite side of the cavity.
- **2.** Apply a continuous back seal to the interior of the jamb to sill junction.
- **3.** Apply a fillet seal to the exterior jamb to sill junction.

#### JAMB TO HEAD SEAL

- **1.** Apply a continuous back seal to the interior of the jamb to head junction.
- **2.** Apply a fillet seal to the exterior jamb to head junction.

#### **VERTICAL MUNTIN TO SILL SEAL**

- **1.** Seal the milled clearance notch in the muntins by pumping sealant into one side of cavity until the sealant comes out the opposite side of the cavity.
- **2.** Apply a continuous back seal to the interior of the muntin to sill junction.
- **3.** Apply a fillet seal to the exterior muntin to sill junction.

## **VERTICAL MUNTIN TO HEAD SEAL**

- 1. Apply a continuous back seal to the interior of the muntin head junction.
- 2. Apply a fillet seal to the exterior muntin to head junction.

#### HORIZONTAL MUNTIN TO JAMB SEAL

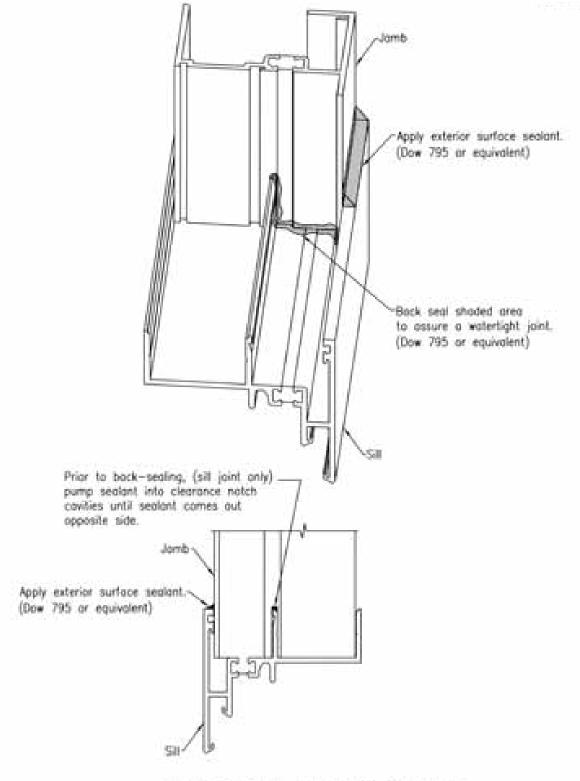
**1.** Apply a continuous back seal to the top and bottom interior of the muntin to jamb junction.

#### HORIZONTAL MUNTIN TO VERTICAL MUNTIN SEAL

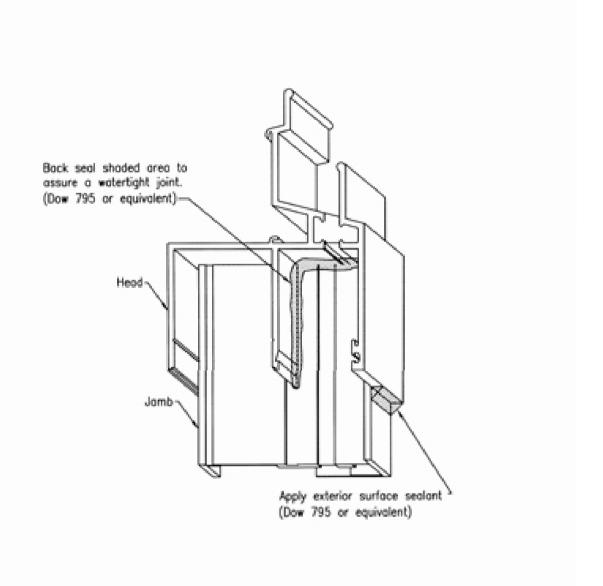
**1.** Apply a continuous back seal to the top and bottom interior of the muntin to muntin junction.

#### **HEAD & SILL END SEALS**

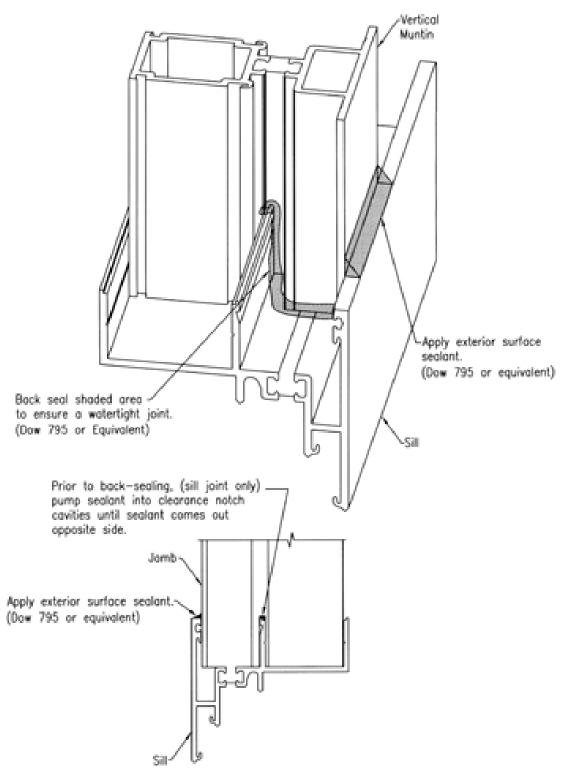
- **1.** Install MW-1160 end dams into each end of the head. Seal the end dam into place with sealant and cap the end dam surface with sealant.
- **2.** Install MW-1161 end dams at each end of the sill. Seal the end dam into place with sealant and cap the end dam surface with sealant.
- **3.** Seal the open cavities between the jambs and the exterior flanges of the head and sill by pumping sealant into the cavities. Cap the cavities with the sealant.



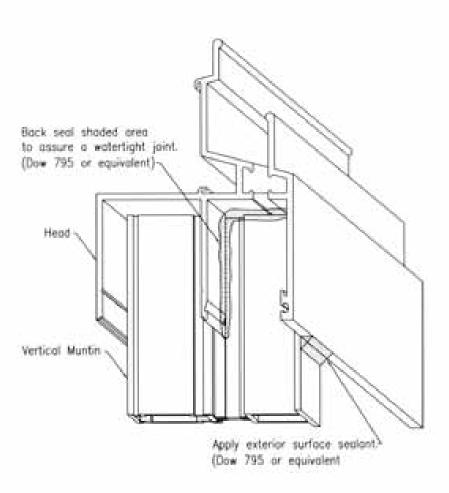
## MSS081.411



JAMB TO HEAD-SEALING DETAILS

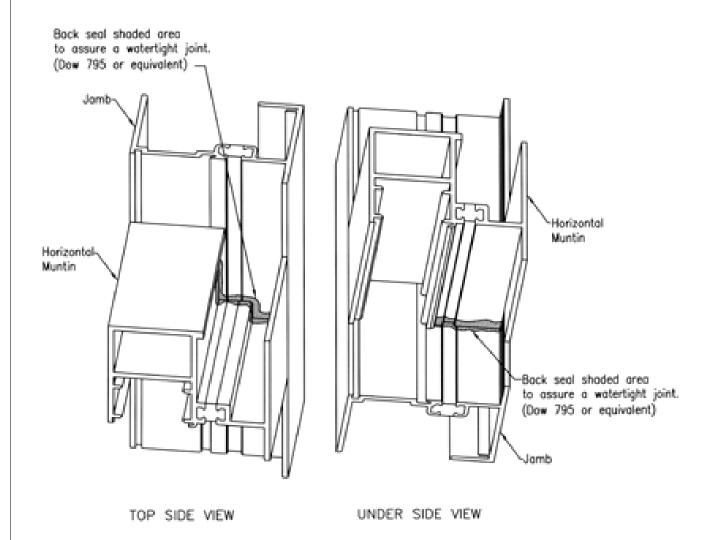


MSS081.413



VERTICAL MUNTIN TO HEAD-SEALING DETAILS

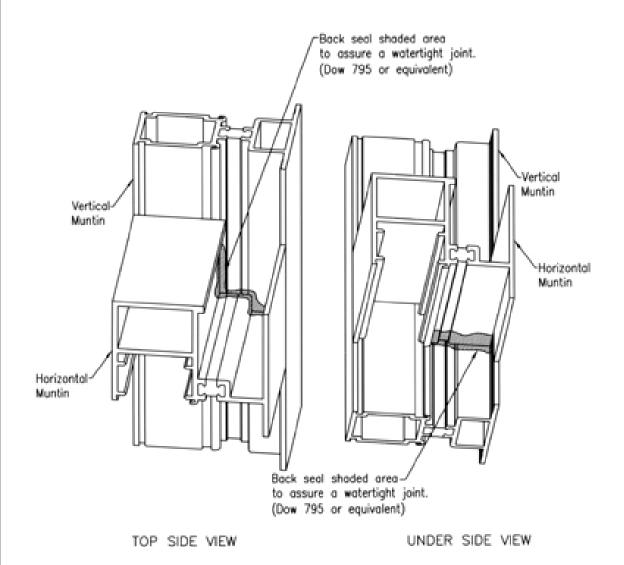
#### MSS081.415



Note: 2" x 2" Foam backer is inserted into the end of the horizontal muntin during the window unit assembly.

JAMB TO HORIZONTAL MUNTIN-SEALING DETAILS

#### MSS081.416



Note: 2" x 2" Foam backer is inserted into the end of the horizontal muntin during the window unit assembly.

VERTICAL MUNTIN TO HORIZONTAL MUNTIN-SEALING DETAILS

## WINDOW UNIT SPLICING

If the window unit is to be wider than 20', the head and sill extrusions must be spliced, per the following instructions and details.

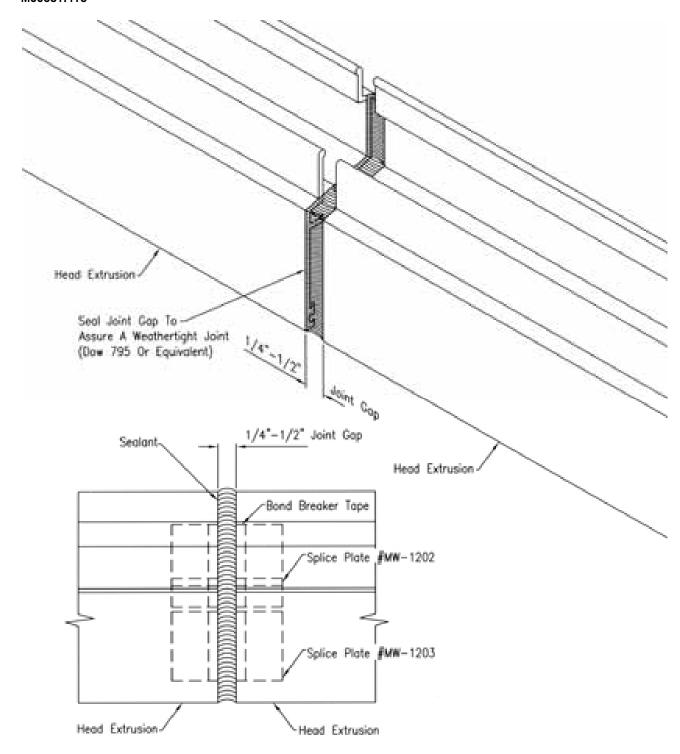
**Caution:** to ensure proper adhesion of the bond breaker tape and joint sealant, the head and sill extrusions and splice plates must be thoroughly cleaned prior to application of the bond breaker tape.

- **1.** Layout the head and sill assembly so the splices are located at the center line of a vertical muntin.
- **2.** Square cut the head and sill extrusions to length so their combined length is equal to the "window width" dimension minus 1/4" to 1/2" for each splice.
- **3.** Reference the "Head Splice Assembly Detail" and "Sill Splice Assembly Detail" for the positioning of the head and sill extrusions, splice plates and bond breaker tape.
- **4.** For the head splice, apply bond breaker tape along the center line of splice plates #1202 and #1203. For the sill splice, apply bond breaker tape along the center line of splice plates #1204 and #1205
- **5.** Fit the splice plates and the ends of the extrusions together so there is a 1/4" to 1/2" gap between the ends of the opposing extrusions, and the gap is centered over the bond breaker tape on the splice plates.
- **6.** Caulk the gap between the ends of the extrusions with Dow 795 sealant (or equal). Apply the sealant continuously along the gap to assure a watertight seal.

## **WINDOW UNIT SPLICING** MSS081.417 rBond Breaker Tape Splice Plate #MW-1202 Head Extrusion-Splice Plate #MW-1203⁻ NOTE: Bond Breaker Tape Must Be Compatible With Joint Sealant, Per Sealant Manufacturer's Recommendations Head Extrusion-Bond Breaker Tape Splice Plate ∦MW-1202 Splice Plate #MW-1203 Head Extrusion-HEAD SPLICE-ASSEMBLY DETAIL

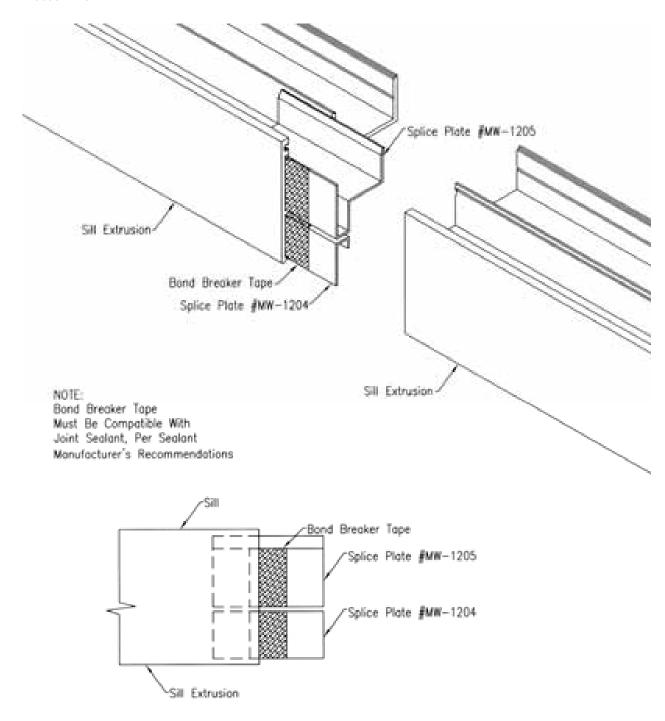
## WINDOW UNIT SPLICING

## MSS081.418



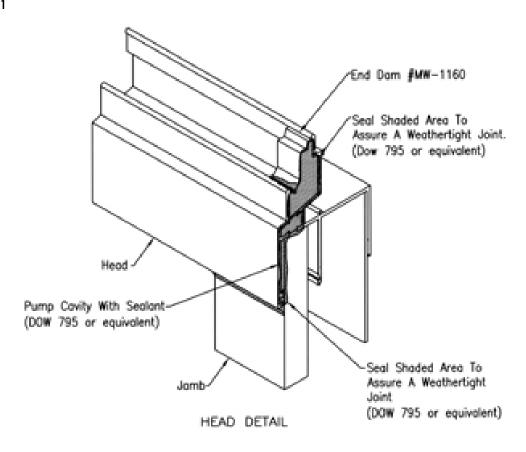
HEAD SPLICE-SEALING DETAIL

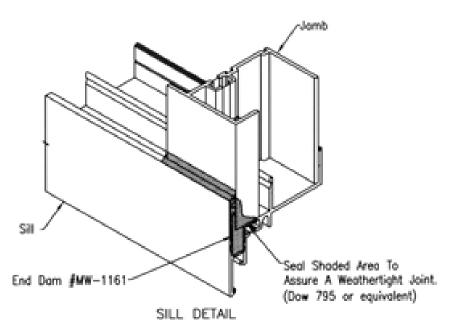
## WINDOW UNIT SPLICING



# WINDOW UNIT SPLICING MSS081.420 NOTE: Seal Shaded Area To Assure A Weathertight Joint. (Dow 795 or equivalent)-1/4 60 1/2 1/4"-1/2" Joint Cop Bond Breaker Tape Splice Plate **#MW**-1205 Splice Plate #MW-1204 Sill Extrusion: Sill Extrusion

## WINDOW UNIT SPLICING





## GLAZING INSTALLATION

Within this section are instructions and details for the field installation of the glazing material and hardware.

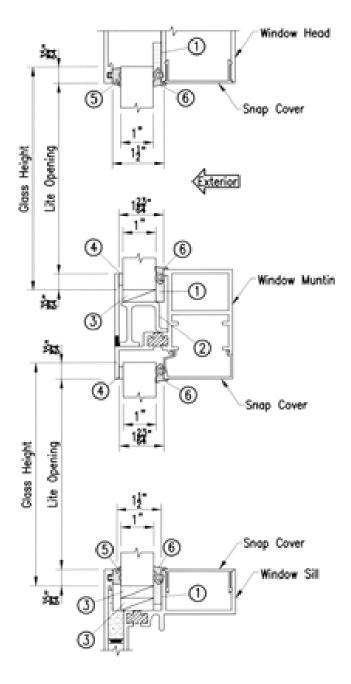
The window frame and glazing hardware are designed for 1" thick glass or in-fill material, installed from the interior side of the window.

**Caution:** prior to the glazing installation, the window frame and glass must be thoroughly cleaned and free of any contaminants or shavings in areas requiring glazing materials and sealant.

- 1. Reference the "Glazing Details" for the glazing material sizes and the positioning of the glazing materials and glazing hardware.
- **2.** Apply 1/8" x 3/8" pre-shimmed glazing tape to the exterior glazing leg of the vertical muntins and jambs. At horizontal muntins, apply glazing tape to upper and lower exterior glazing legs. At corners, where vertical and horizontal glazing tapes meet, butt the tapes together to eliminate any gaps.
- **3.** Pre-cut lengths of exterior glazing gasket #TR-538N and apply to glazing leg at head and sill.
- **4.** At corners where gasket meets glazing tape, pull back gasket and apply DOW 795 sealant (or equivalent) at corner and push gasket back into position. (This will form a seal where the two meet).
- **5.** At sill, place two 3/8" setting blocks atop each other at 1/4 points. Assure that weep holes are not covered.
- **6.** At horizontal muntins, place setting blocks on top of MW-1162 setting chairs at 1/4 points.
- **7.** When installing glass (or in-fill material) into windows without horizontal muntins, the glass must be inserted at the head first, then leaned in on the bottom and set down onto the setting blocks. Be sure to use caution so that the gasket at the head is not displaced when the glass is slid past.
- **8.** When installing glass into windows with horizontal muntins, the upper lite glass must also be inserted at the head first, then leaned in on the bottom and set down onto the setting blocks and chairs on the horizontal muntin. In the lower lites, the glass must be inserted into the sill first and leaned into the horizontal muntin. Use caution not to hit the shear blocks holding the horizontal muntin into place, doing so may result in a broken glass.
- **9.** Insert #MW-1186 foam air dams at the corners of each lite (four per lite) and seal into place with DOW 795 sealant (or equivalent). The air dams control airflow and are very critical in the performance of the windows.
- **10.** Pre-cut and install interior glazing (wedge) gasket #TR-643E for final glazing. Horizontal gaskets run through and must be installed first. Roll gaskets into glazing pockets, making sure that corners are mated tightly together. Alcohol may be sprayed on the gasket to ease its installation.

## **GLAZING INSTALLATION**

#### MSS081.400

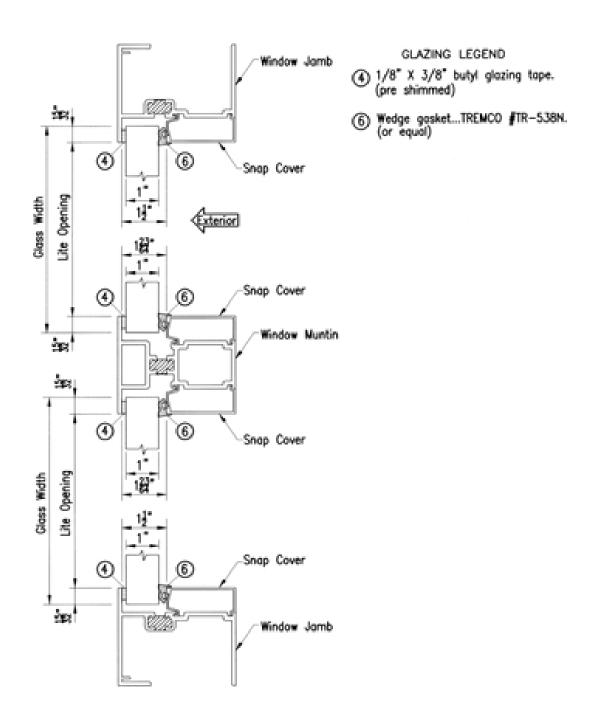


#### GLAZING LEGEND

- Before interior bead and gasket are installed, airdams MW-1186 (1" X 1"X 1/4") must be installed and sealed into place at all corners of the glass.
- (2) MW-1162 PVC setting block chair. (optional) (4" long)
- (3) Neoprene/EPDM setting or edge block. (80-90 durometer)
- (4) 1/8" X 3/8" butyl glazing tape. (pre shimmed)
- (5) Sponge gasket...TREMCO #TR−643E. (or equal)
- (6) Wedge gasket...TREMCO #TR-538N. (or equal)

GLAZING DETAILS-VERTICAL SECTION

## **GLAZING INSTALLATION**



GLAZING DETAILS-HORIZONTAL SECTION

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