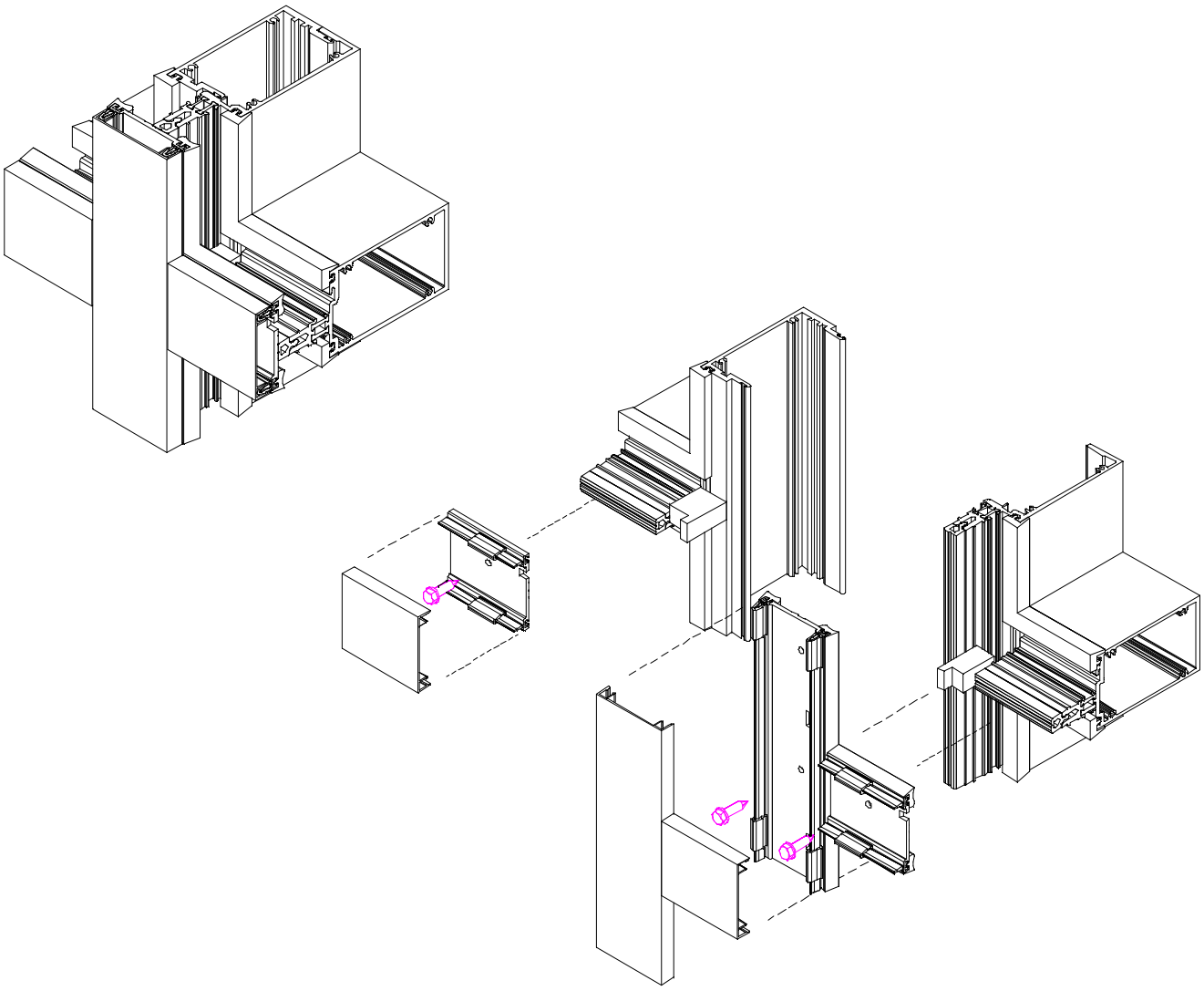
PART# 146248

HP-Wall Series

ASSEMBLY & INSTALLATION MANUAL



Note: This manual should only be used for reference. Review the project drawings for specific part numbers and instructions. The project drawings may supersede this manual.

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INDEX

Appendix

Note: For pressure plate, covers and glazing information, see “Field Glazing and Re-glazing Manual “ - #146243

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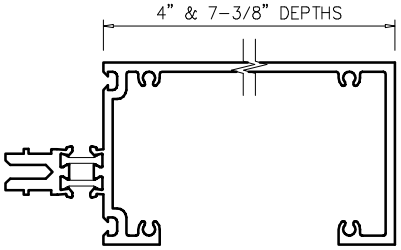
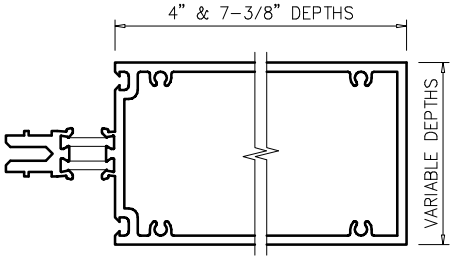
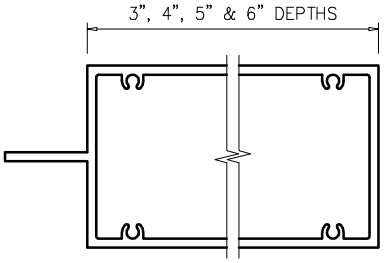
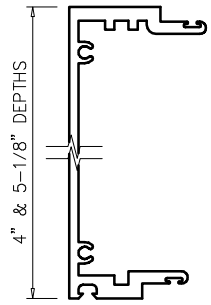
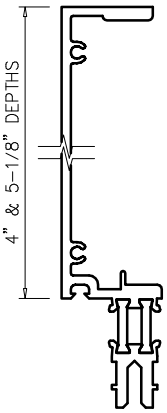
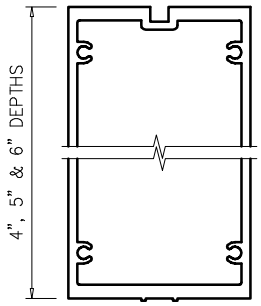
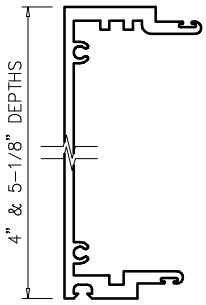
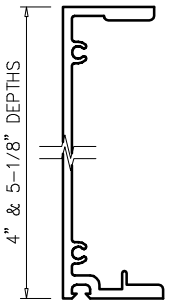
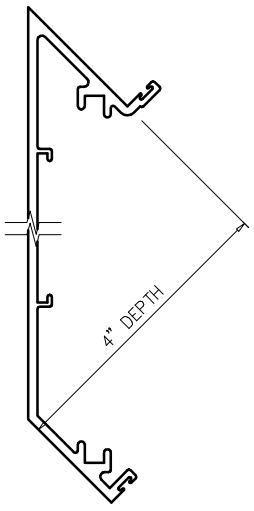
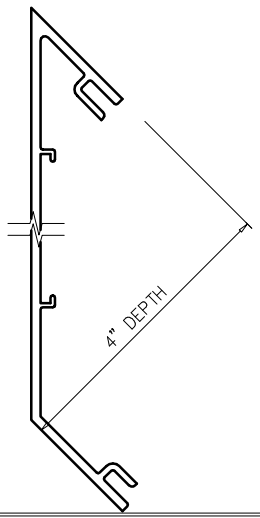
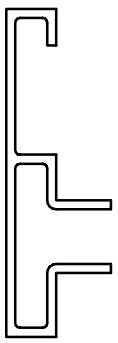
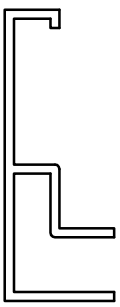
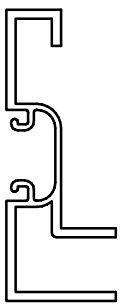
SUBJECT: Frame & Sash Extrusions
HP-WALL Series

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/16/12		REVISION DATE:

		
PERIMETER OPEN BACK Horizontal / Vertical Screw Spline Captured Glazing	INTERMEDIATE TUBE Horizontal / Vertical Screw Spline Captured Glazing	INTERMEDIATE TUBE Horizontal Screw Spline Structural Glazing

				
MALE STACK Vertical Screw Spline Captured Glazing	FEMALE STACK Vertical Screw Spline Captured Glazing	INTERMEDIATE TUBE Vertical Screw Spline Structural Glazing	MALE STACK Vertical Structural Glazing	FEMALE STACK Vertical Structural Glazing

				
MALE CORNER STACK Vertical Inside/Outside 90° Structural Glazing	FEMALE CORNER STACK Vertical Inside/Outside 90° Structural Glazing	FLUSH DOOR INSERT Horizontal / Vertical Captured Glazing	OFFSET DOOR INSERT Horizontal / Vertical Captured Glazing	OFFSET DOOR INSERT Horizontal / Vertical Tubelite Captured Glazing

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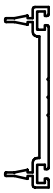
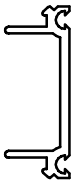
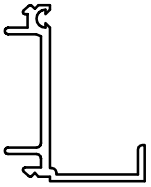
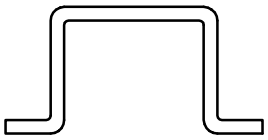
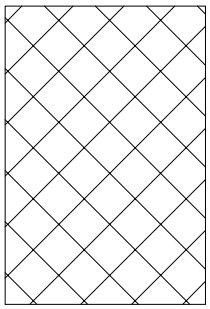
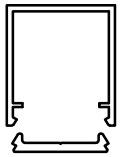
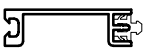
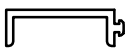
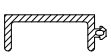
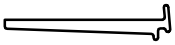
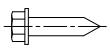
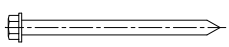
SUBJECT Accessories
HP-WALL Series

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/16/12		REVISION DATE:

				
SPLICE INSERT Vertical	TRIM COVER Standard	PRESSURE PLATE Aluminum or Fiberglass Punched 4" o.c.	PRESSURE PLATE Deep Covers Punched 4" o.c.	PRESSURE PLATE Optional Perimeter Punched 4" o.c.

				
HAT-CHANNEL Aluminum BM 3" Long	THERMA-FIBER INSULATION	SNAP TRIM Horizontal / Vertical Interior	PERIMETER FRAME Horz. / Vert. Access Door	PERIMETER SASH Horizontal / Vertical Access Door

	DOOR STOP w/Wool Pile W'stp		GLAZING INSERT PVC ¼" Infill		GLAZING CLIP Temporary
	DOOR STOP w/Wool Pile W'stp Tubelite		GLAZING INSERT Alum. w/Adapter 1" Infill		GLAZING GASKET Dense EPDM Standard Exterior
	STEM EXTENDER Non-Standard Infill		GLAZING INSERT Alum. w/Adapter Infill		GLAZING GASKET Sponge EPDM Standard Interior
	POCKET FILLER Aluminum w/Adapter		ZONE DAM Neoprene Sponge Standard		GLAZING GASKET Dense Silicone Standard SSG Int.
	POCKET FILLER Aluminum		ZONE DAM Neoprene Sponge Structural Glazing		PERIMETER GASKET Spong EPDM Access Doors
	POCKET SPACER PVC		BULB GASKET Dual Durometer Access Doors		GLAZING TAPE GT-922 Optional SSG Int.
	POCKET SPACER PVC Standard		INSULATOR CLIP CPVC		ASSEMBLY FASTENER #12x1.5,SMS Standard
	SETTING CHAIR Aluminum		THERMAL SEPARATOR EPDM Standard		P-PLATE FASTENER #14x1.0,SMS,HWH
	PERIMETER BEAD Horizontal / Vertical Access Door		THERMAL SEPARATOR EPDM		ASSEMBLY FASTENER #12x4.0,SMS

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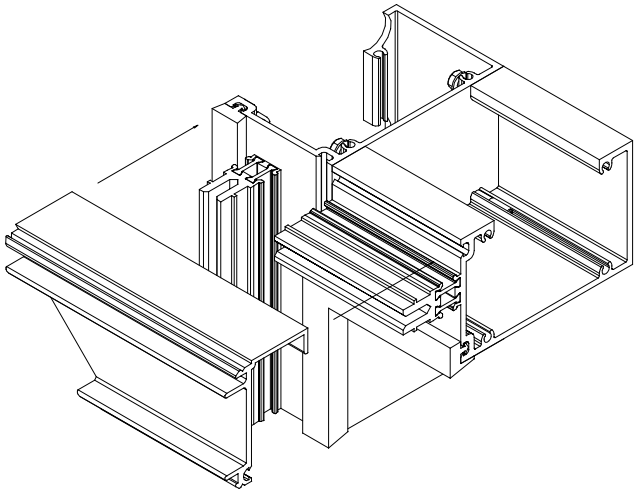
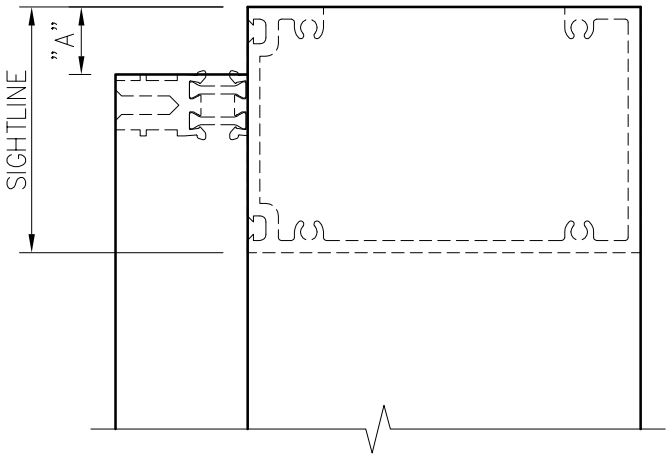
SUBJECT Stem Notch Preparation

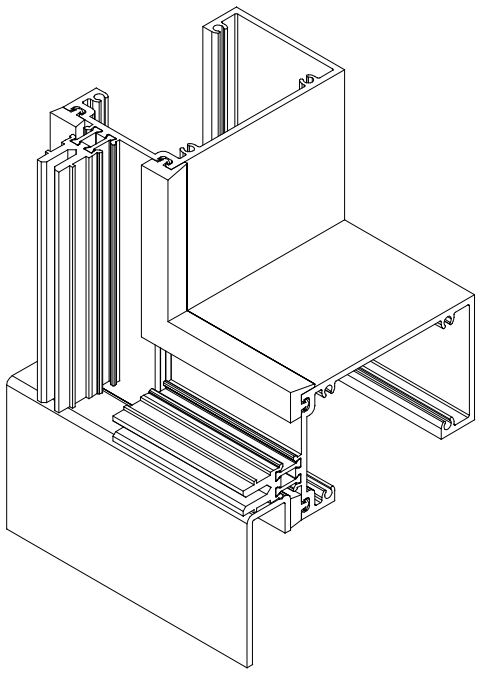
DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/17/12		REVISION DATE:

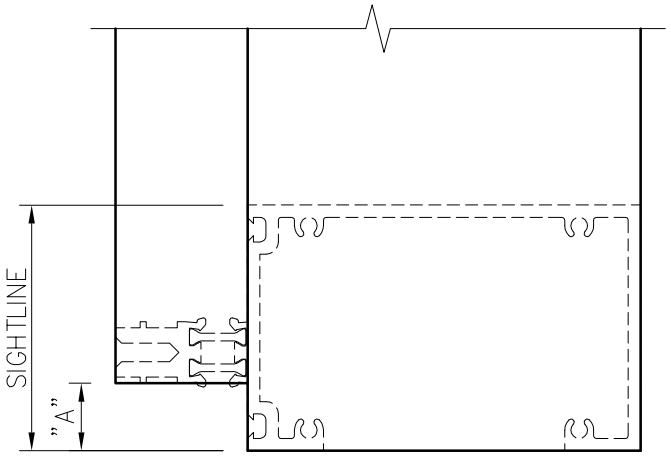
Notch stem as shown for optional perimeter pressure plate

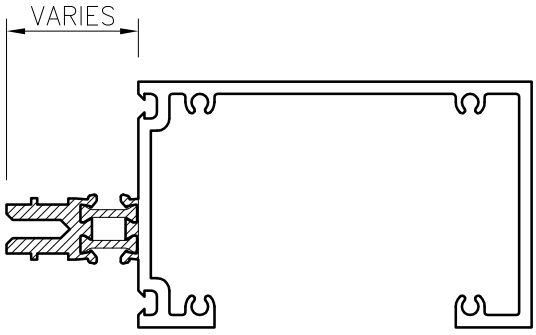




Notch stem as shown for glazed-in aluminum closures/slab covers or optional perimeter pressure plates







Sightline	"A"
2-1/2"	0.688"

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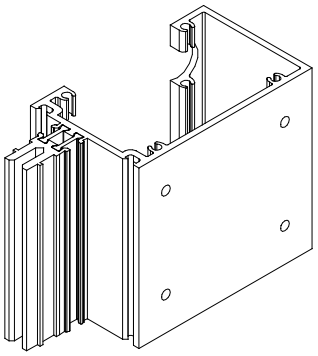
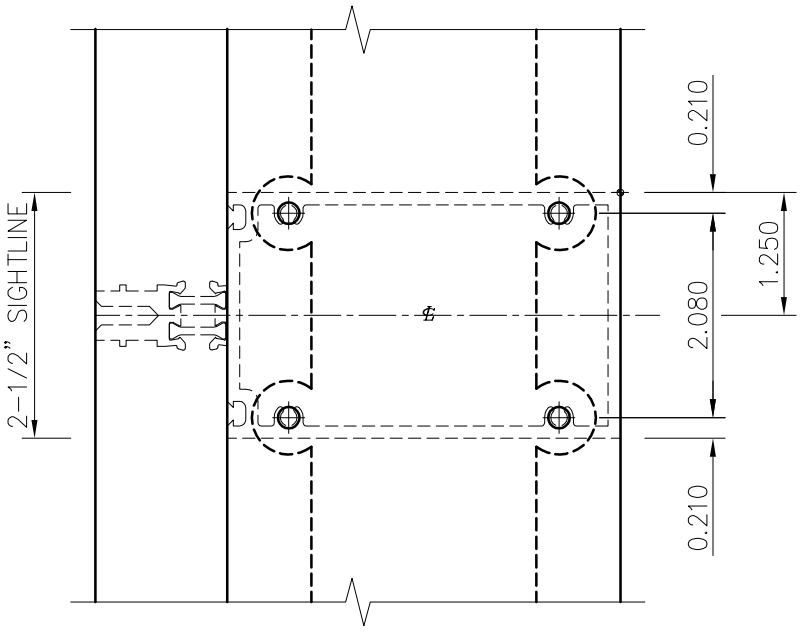
SUBJECT: Assembly Hole Preparation
Open Back Jambs

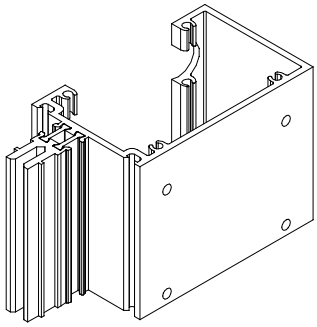
DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/17/12		REVISION DATE:

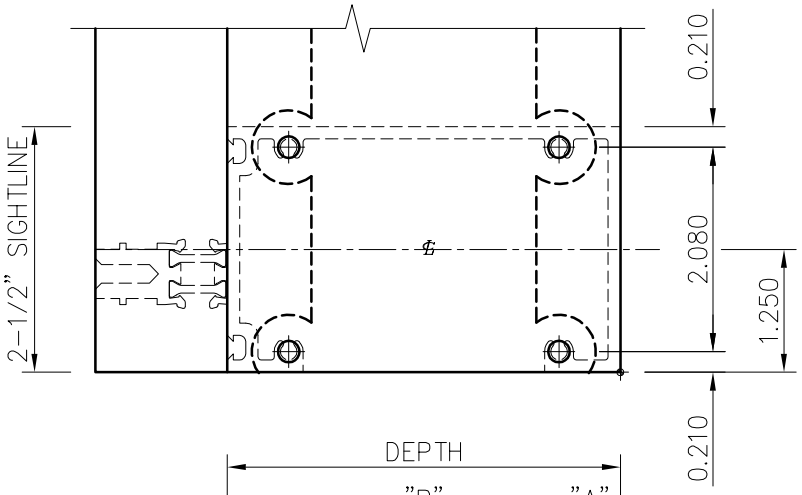
Intermediate Horizontal Hole Preparation



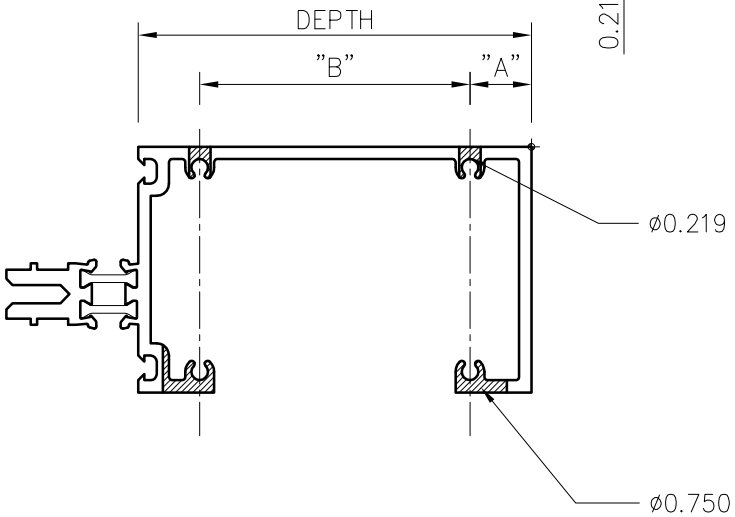


Head or Sill Hole Preparation





Depth	"A"	"B"
4"	0.625"	2.750"
7-3/8"	0.875"	5.625"



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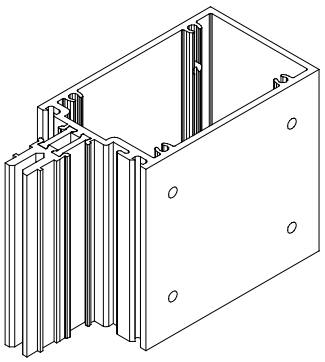
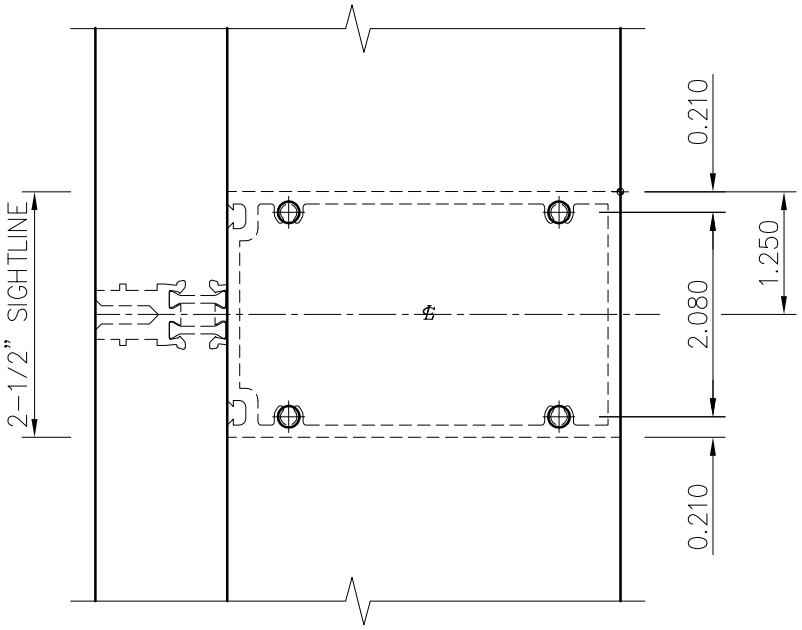
SUBJECT: Assembly Hole Preparation Tubular Jambs

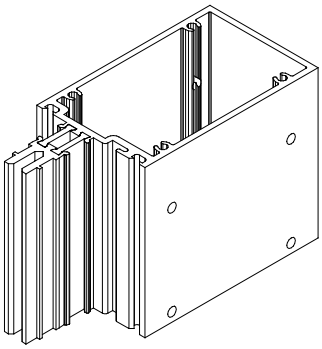
DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 6/21/12		REVISION DATE:

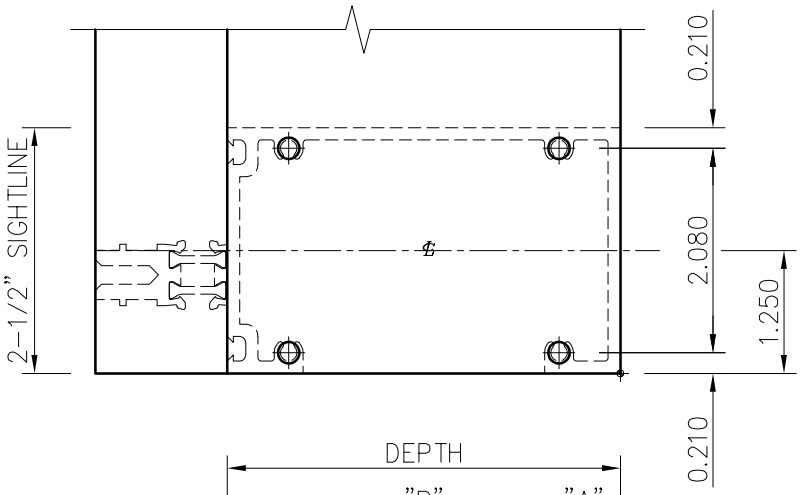
Intermediate Horizontal Hole Preparation



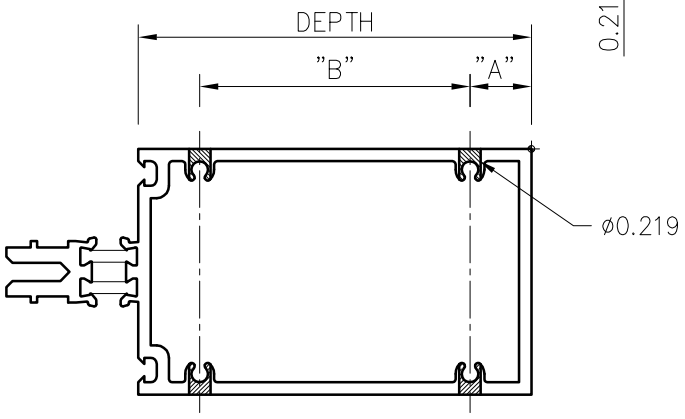


Head or Sill Hole Preparation





Depth	"A"	"B"
4"	0.625"	2.750"
7-3/8"	0.875"	5.625"



Note: Use #10x4.0, SMS with tubular jamb

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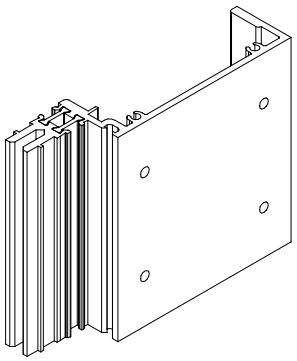
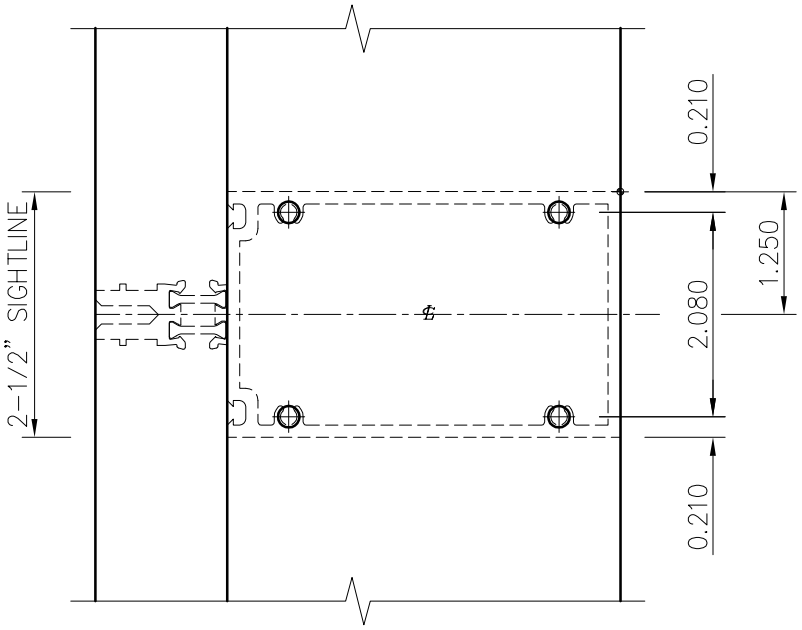
SUBJECT: Assembly Hole Preparation Mullions

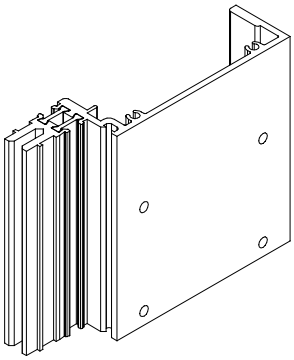
DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/17/12		REVISION DATE:

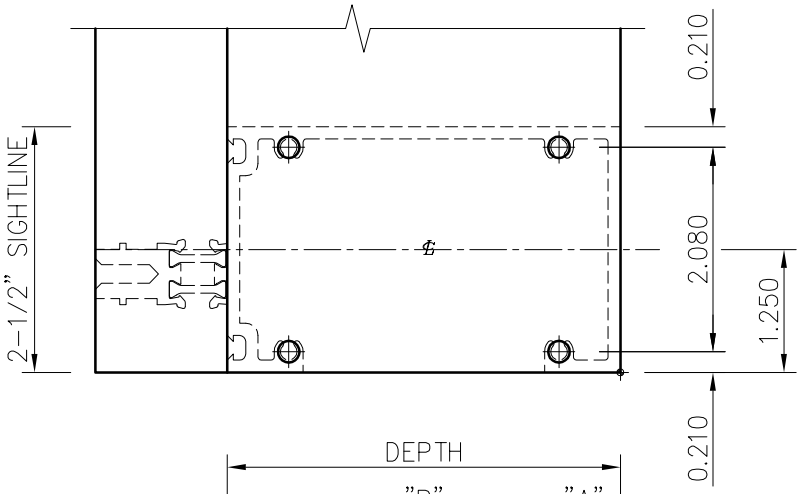
Intermediate Horizontal Hole Preparation



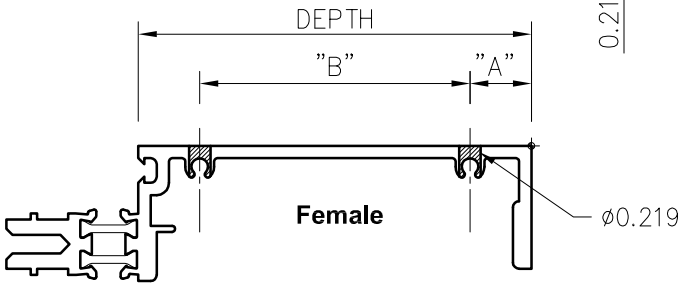


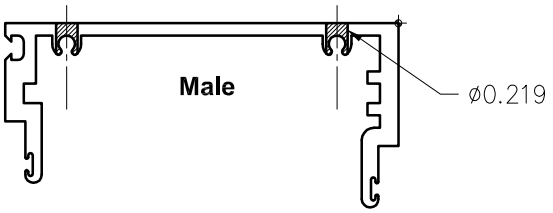
Head or Sill Hole Preparation





Depth	"A"	"B"
4"	0.625"	2.750"
7-3/8"	0.875"	5.625"





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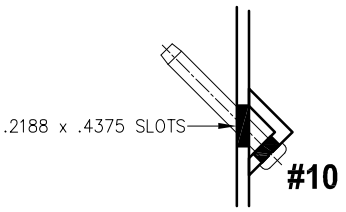
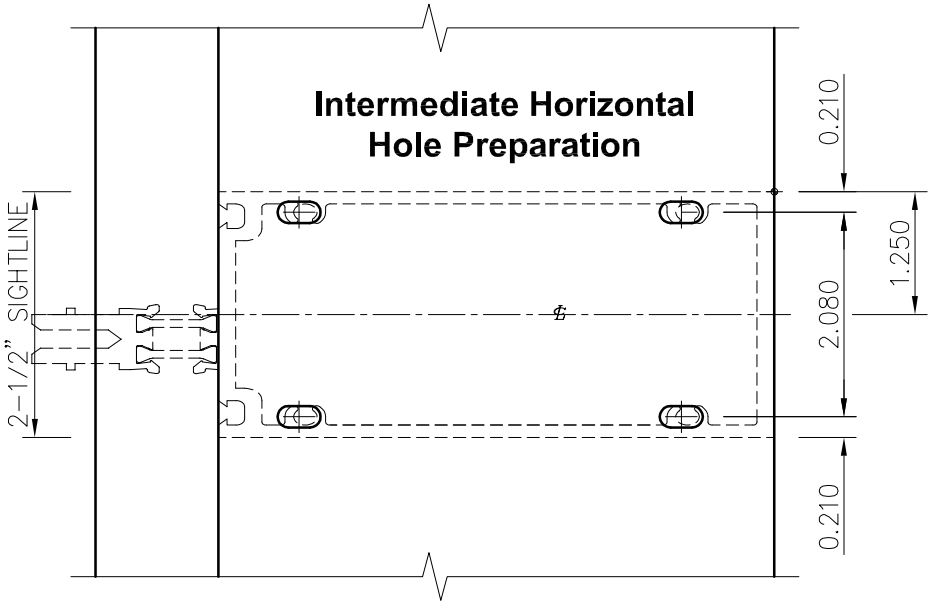
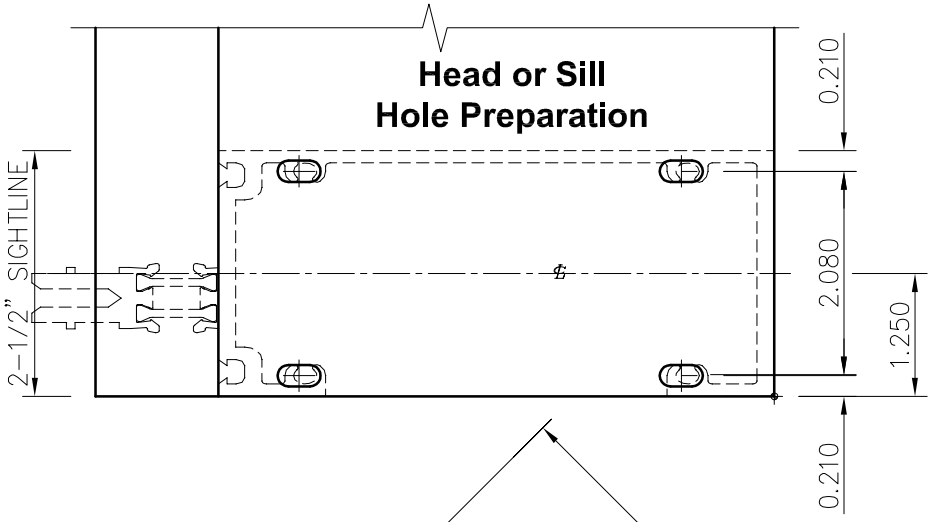
SUBJECT: Assembly Hole Preparation
Outside Corner Mullions

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/17/12		REVISION DATE:

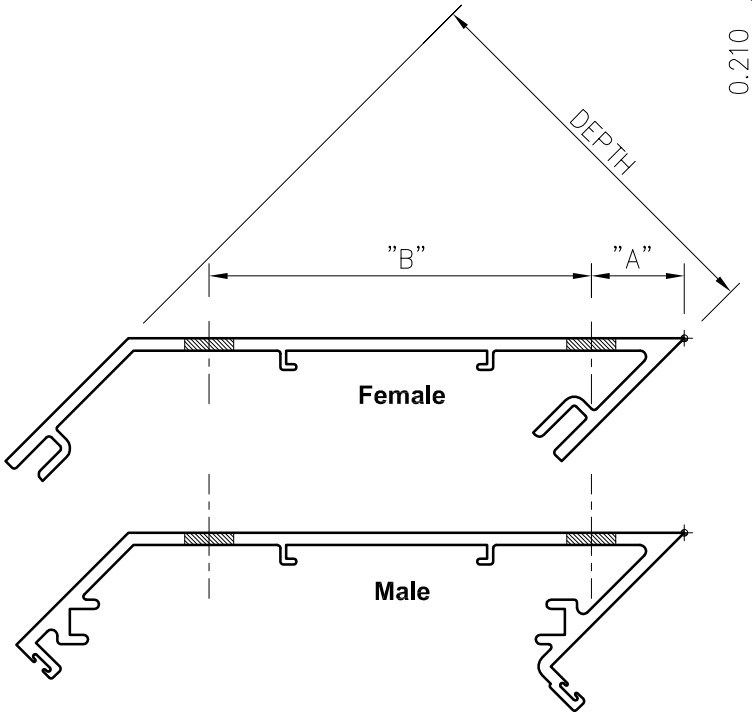


SLOT DIMENSION





Depth	"A"	"B"
4"	0.938"	3.890"



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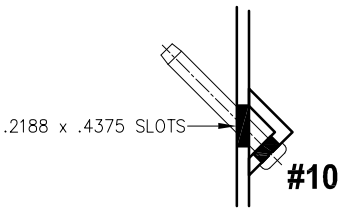
SUBJECT: Assembly Hole Preparation
Inside Corner Mullions

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/18/12		REVISION DATE:



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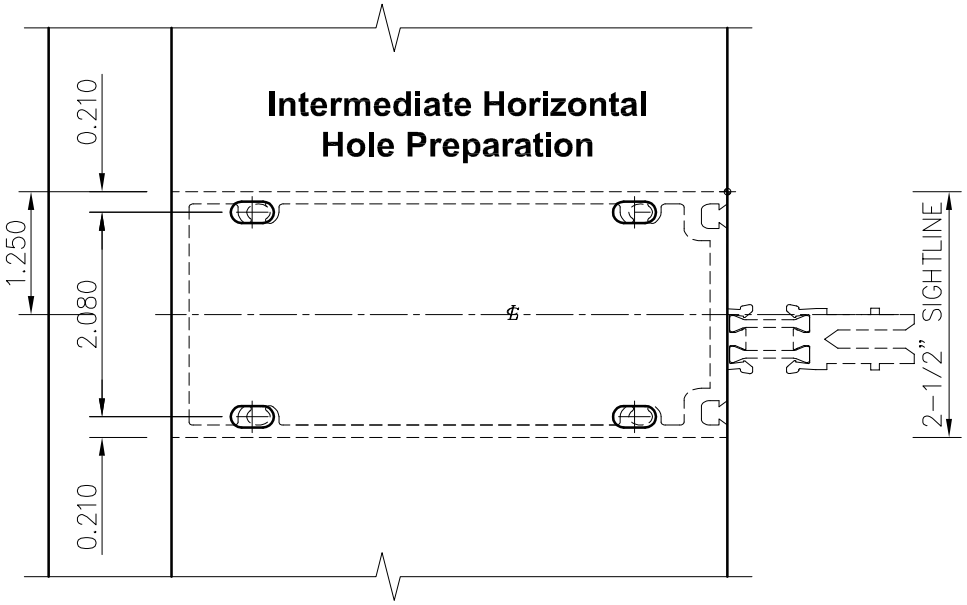

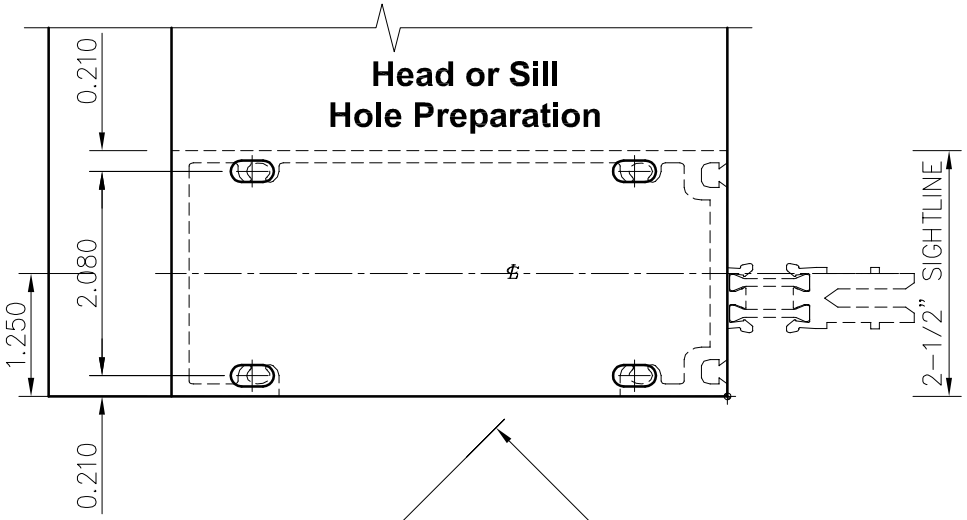

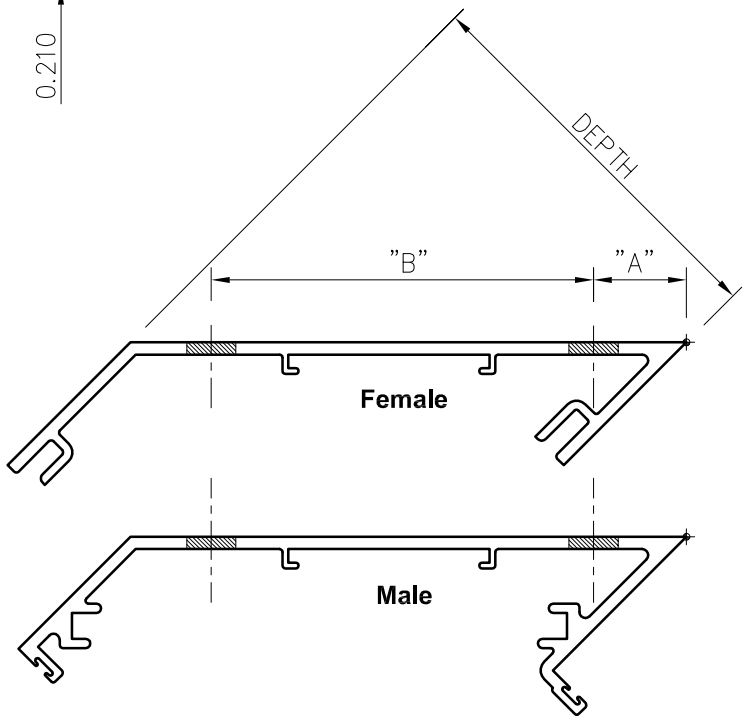

Depth	"A"	"B"
4"	0.938"	3.890"

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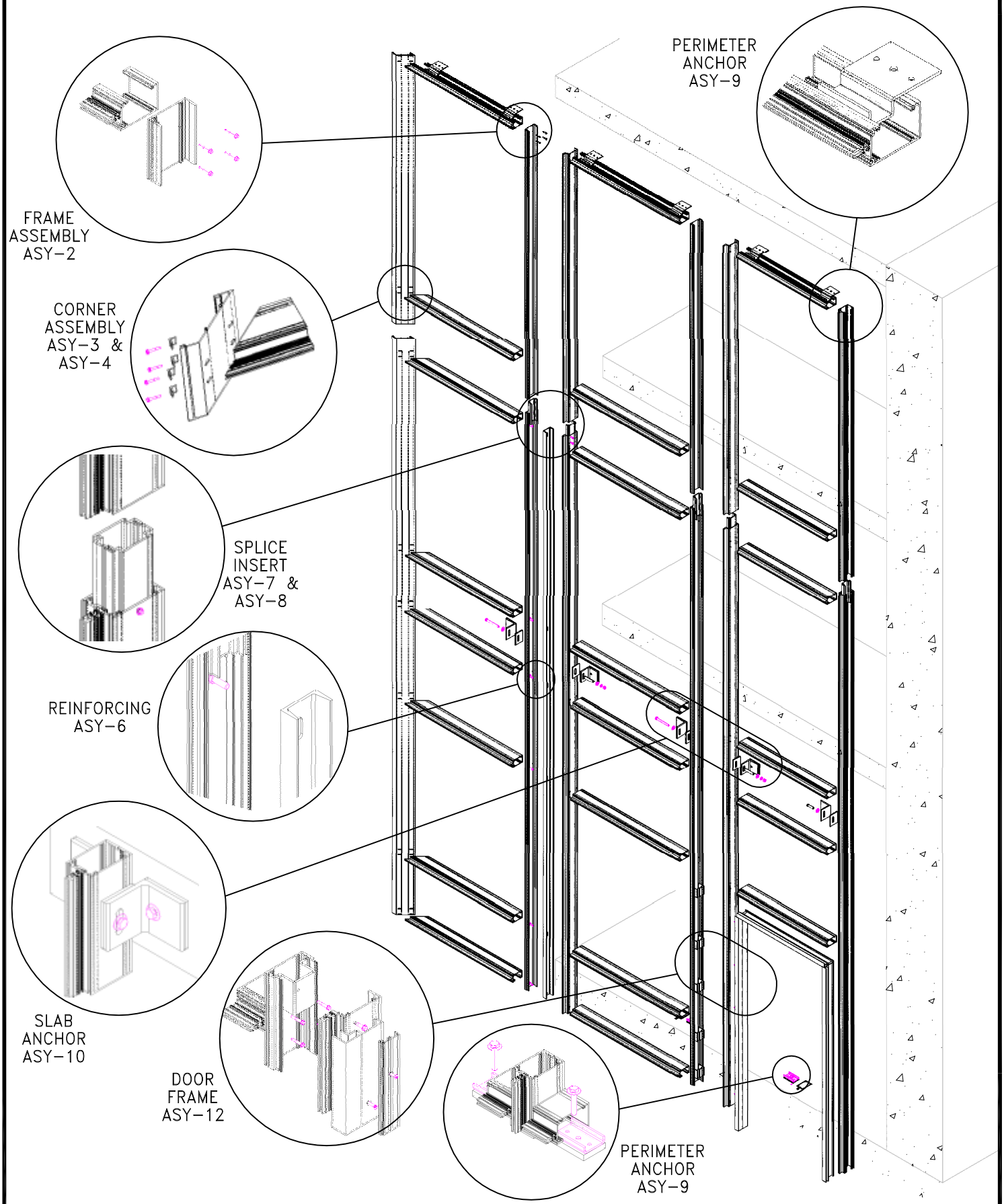
SUBJECT Installation Elevation

DRAWN BY: RKB ISSUE DATE: 10/19/12	SCALE: Full	REVISION By : REVISION DATE:



FILE NAME : ASY-1 Installation ISO

SHEET No. : ASY-1

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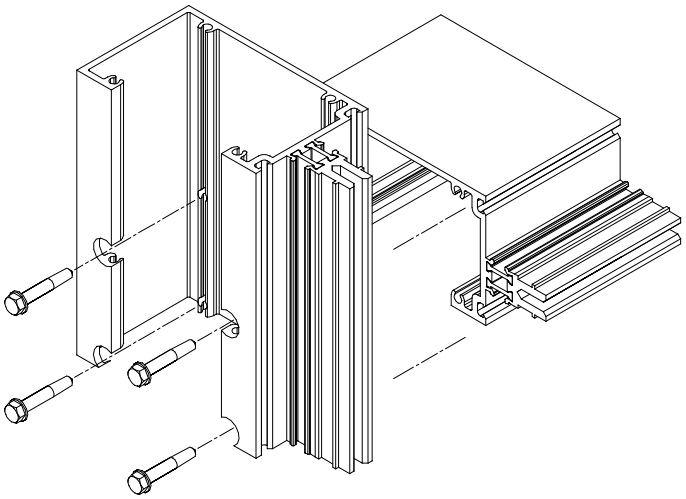
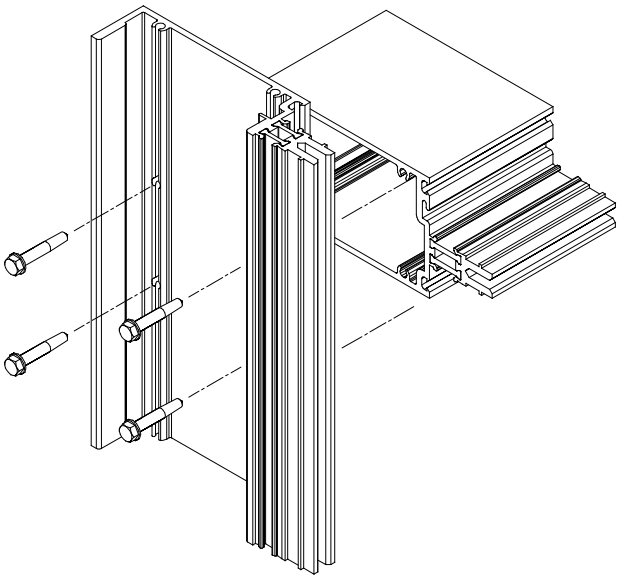
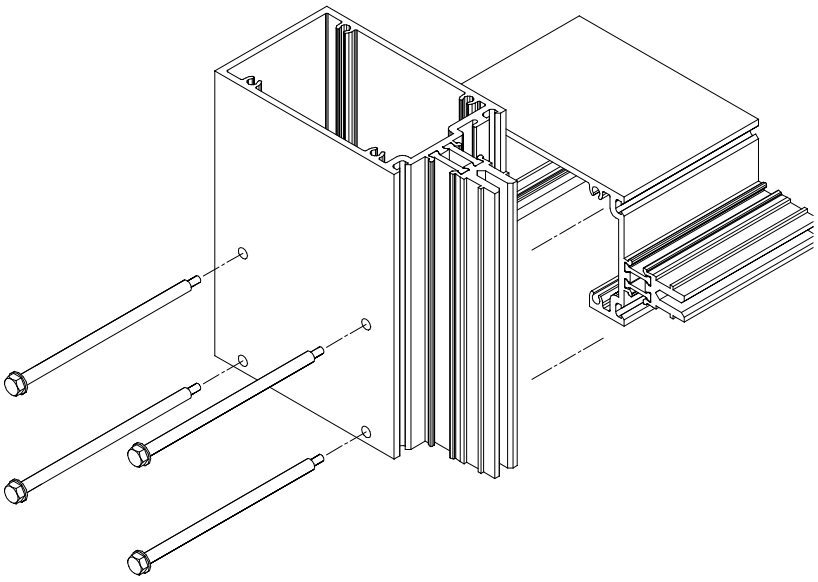
SUBJECT Screw Spline Assembly & Unit Installation

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/16/12		REVISION DATE:







Frame Construction

1) HP-Wall series curtainwall is a screw spline system incorporating split mullions, open back and tubular vertical members, open back and tubular horizontal members.
2) Vertical members typically run through.
3) Horizontal members run between verticals.
4) HP-Wall ladder frame units can be shop or field fabricated and assembled.
5) Use (4) #10 fasteners to secure frame joinery.
6) Refer to sheets ASY-5 for sealing of frame joinery.

Unit Installation

1) Check the rough opening dimensions and squareness to make sure the assembled and sealed unit will fit.
2) Starting at one jamb, install the first frame plumb, square and level.
3) Anchor as indicated in the shop drawings.
4) Set the next unit(s) by sliding the female jamb member onto the adjacent male jamb.
5) As units are installed, it is important to hold the expansion joint of the Male/Female stacks.
6) See the shop drawings for the expansion joint dimension.

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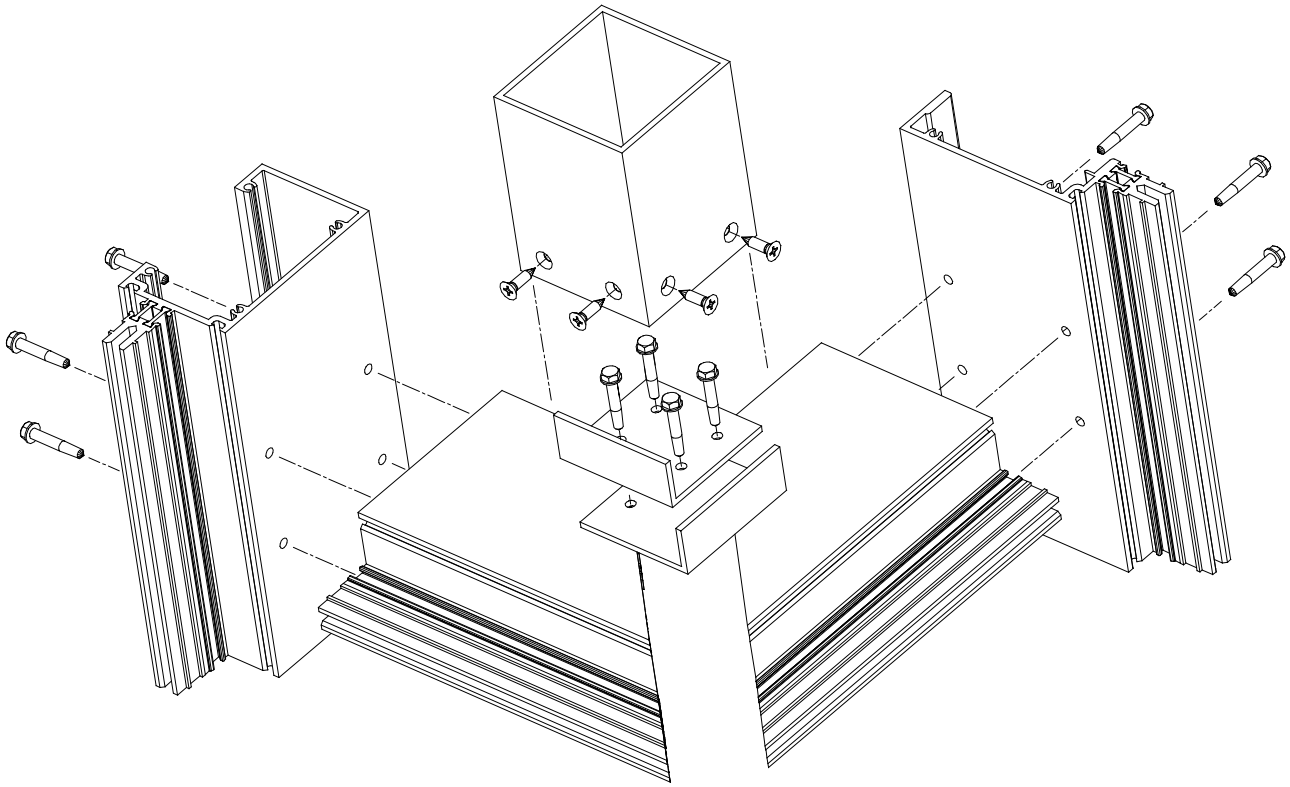
SUBJECT Screw Spline Assembly – Corners & Unit Installation

DRAWN BY: RKB	SCALE: Full	REVISION By : RKB
ISSUE DATE: 6/21/12		REVISION DATE: 8/7/12



Frame Construction

1) HP–Wal series curtainwall is a screw spline system incorporating split mullions, open back and tubular vertical members, open back and tubular horizontal members.
2) Vertical members typically run through. At outside corners, the horizontal members run through and are welded or shear blocked. Tubes are run vertically and are shear blocked at both ends.
3) Horizontal members typically run between verticals.
4) HP–Wall ladder frame units can be shop or field fabricated and assembled.
5) Use (4) #10 fasteners to secure frame joinery.
6) Refer to sheets ASY–5 for sealing of frame joinery.

Unit Installation

1) Check the rough opening dimensions and squareness to make sure the assembled and sealed unit will fit.
2) Starting at one jamb, install the first frame plumb, square and level.
3) Anchor as indicated in the shop drawings.
4) Set the next unit(s) by sliding the female jamb member onto the adjacent male jamb.
5) As units are installed, it is important to hold the expansion joint of the Male/Female stacks.
6) See the shop drawings for the expansion joint dimension.

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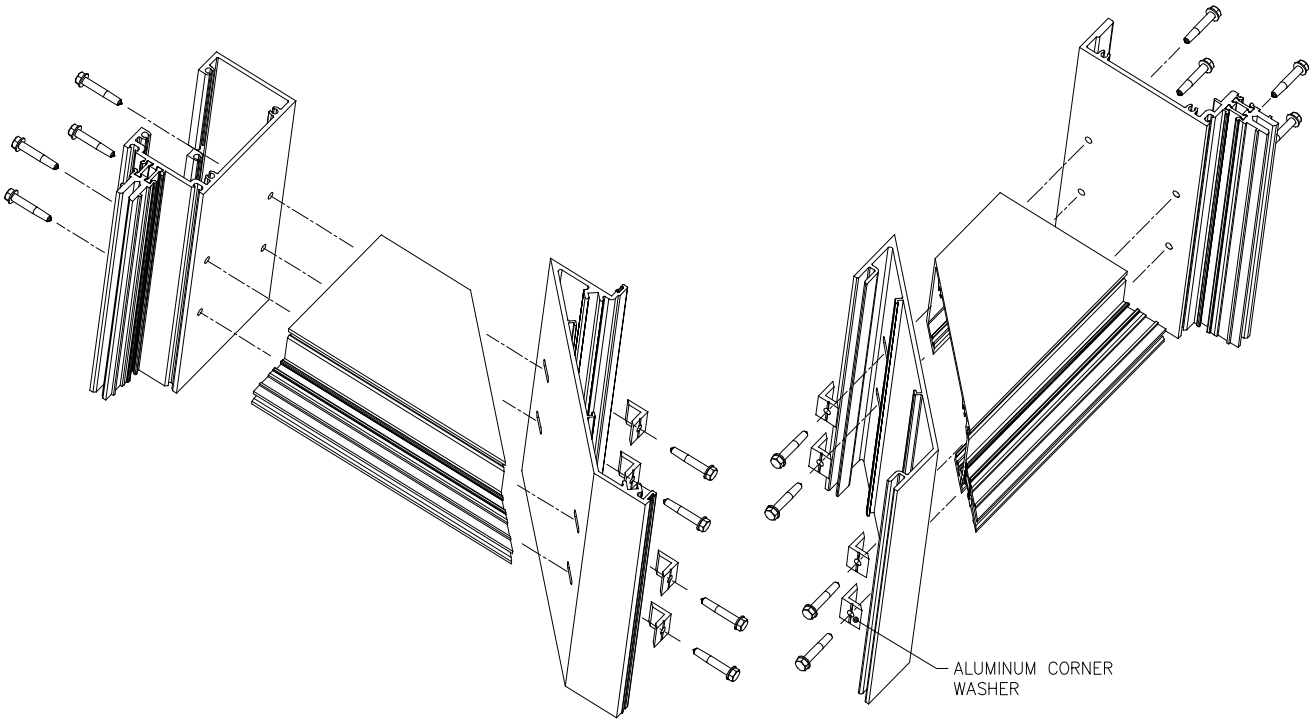
SUBJECT Screw Spline Assembly Corners & Unit Installation

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/18/12		REVISION DATE:



Frame Construction

1) HP-Wall series curtainwall is a screw spline system incorporating split mullions, open back and tubular vertical members, open back and tubular horizontal members.
2) Vertical members typically run through.
3) Horizontal members run between verticals.
4) HP-Wall ladder frame units can be shop or field fabricated and assembled.
5) Use (4) #10 fasteners to secure frame joinery. Use aluminum corner washers on all corner joinery.
6) Refer to sheets ASY-5 for sealing of frame joinery.

Unit Installation

1) Check the rough opening dimensions and squareness to make sure the assembled and sealed unit will fit.
2) Starting at one jamb, install the first frame plumb, square and level.
3) Anchor as indicated in the shop drawings.
4) Set the next unit(s) by sliding the female jamb member onto the adjacent male jamb.
5) As units are installed, it is important to hold the expansion joint of the Male/Female stacks.
6) See the shop drawings for the expansion joint dimension.

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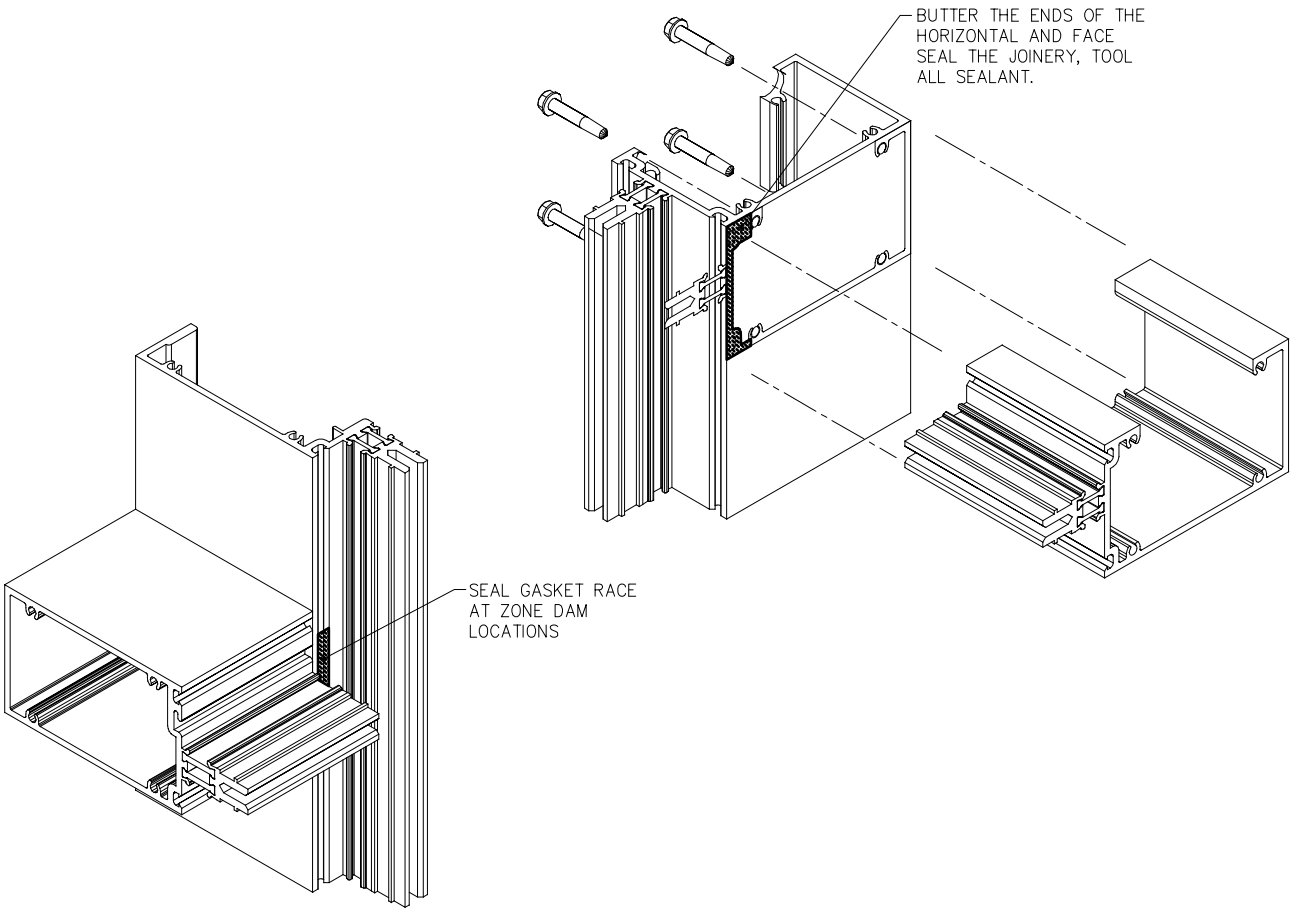
SUBJECT Frame Joinery Sealing

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/18/12		REVISION DATE:



1) All frame sealing is to be completed prior to glazing.
2) All caulk or sealant must be high performance, skinning, non-hardening material such as medium modulus silicone.
3) Follow the sealant manufacturers instructions and recommendations. It is the responsibility of the assembler/glazier to consult with sealant manufacturers for adhesion and compatibility testing as necessary for all materials coming in contact with each other. Adequate time must be allowed in project schedule for these procedures.
4) Using the two cloth alcohol wipe method, clean the entire frame perimeter and joinery.
5) Insure that gasket races are sealed flush at zone dam locations prior to frame assembly.
6) All frame joints should be buttered and face sealed. Tool all face seals.

Reference: Field Sealing Manual: – #145698

The expansion joints and perimeter caulk joints of the system are designed to accommodate a high performance sealant that is capable of ± 50 % movement. All sealant and backer rods required for installation to be furnished and applied by the Installer, as are provisions for separation of dissimilar materials as necessary.

Perimeter sealant can and will come in contact with many different parts of the window. This can include painted, anodized, and mill finished aluminum as well as PVC, various gasket materials, and different types of joinery sealant. Wausau Window and Wall Systems recommends that the caulker consult their sealant manufacturer to insure proper compatibility. Wausau Window and Wall Systems is not responsible for perimeter sealant compatibility testing.

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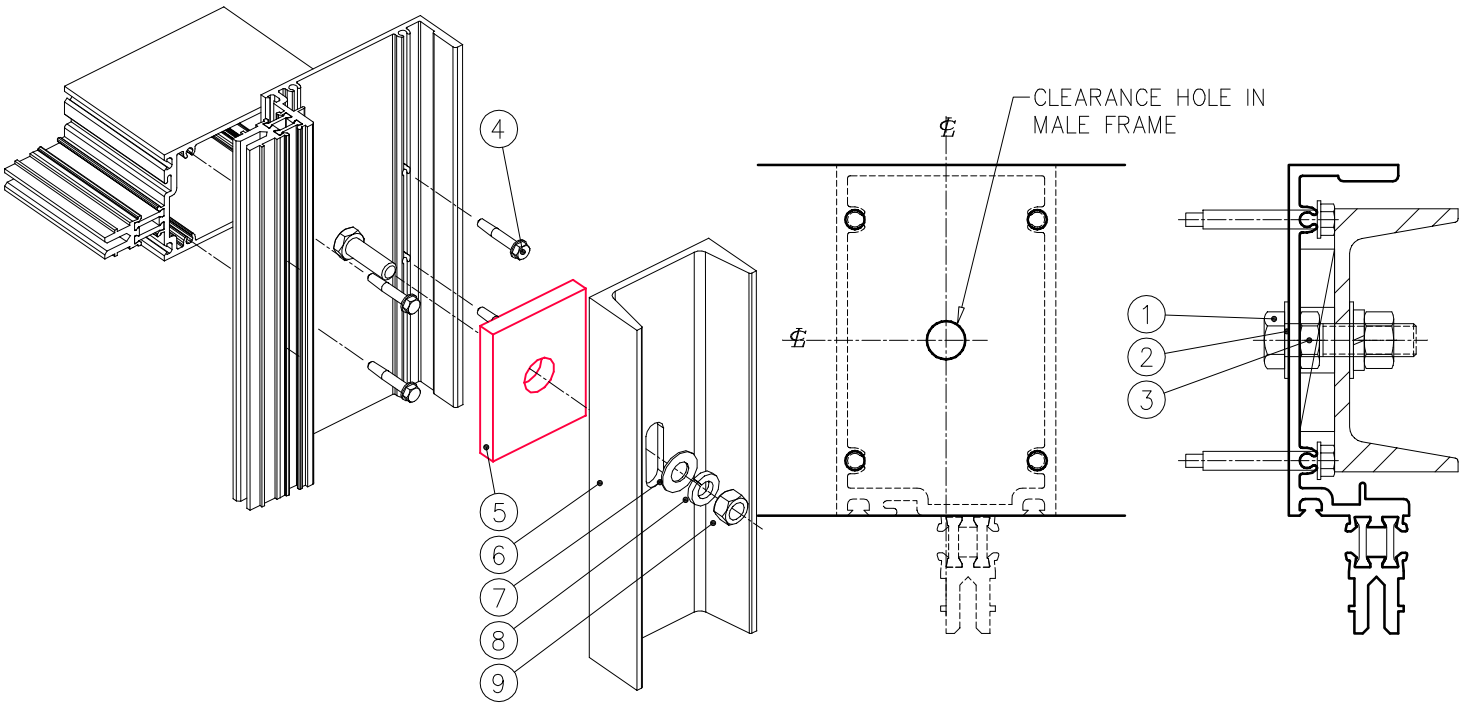
SUBJECT Steel Reinforcement

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/16/12		REVISION DATE:



1) Customer to consult with a Structural Engineer to determine the size and profile of the steel reinforcement and fasteners.
2) Refer to shop drawings for reinforcement locations.
3) Drill fastener (1) clearance holes in the male frame jamb. Locate at the centerline of each horizontal member.
4) The reinforcement should be drilled with a clearance hole at the dead load location. All other locations should be slotted to accamodate thermal movement. A 1-1/2" long slot is recommended.
5) Attach the machine screws (1) to the frame jamb prior to the frame assembly. Use a flat washer (2) and a hex jamb nut (3) to secure it in place.
6) Attach all of the horizontal frame members prior to application of the reinforcement. Frame fasteners (4) are typically inaccessible after the reinforcement is installed.
7) Install the solid PVC shim (5) over the machine screw. Note the shim must clear the hex nut (3).
8) Install the reinforcement (6), use a flat washer (7), lock washer (8) and a hex nut (9) to secure the reinforcement.

Note: Additional machining may be required at anchor locations.

(1) = Machine Screw, Hex Head, Stainless Steel 300 Cold Worked, Size TBD by Structural Engineer
(2) = Flat Washer, Stainless Steel
(3) = Hex Nut, Stainless Steel
(4) = Standard Frame Fastener, #12 x 1-1/2" Torx T20 Pan Head, Stainless Steel
(5) = Solid PVC Shim
(6) = Steel Reinforcement, Size and Profile TBD by Structural Engineer
(7) = Flat Washer, Stainless Steel
(8) = Lock Washer, Stainless Steel
(9) = Hex Nut, Stainless Steel

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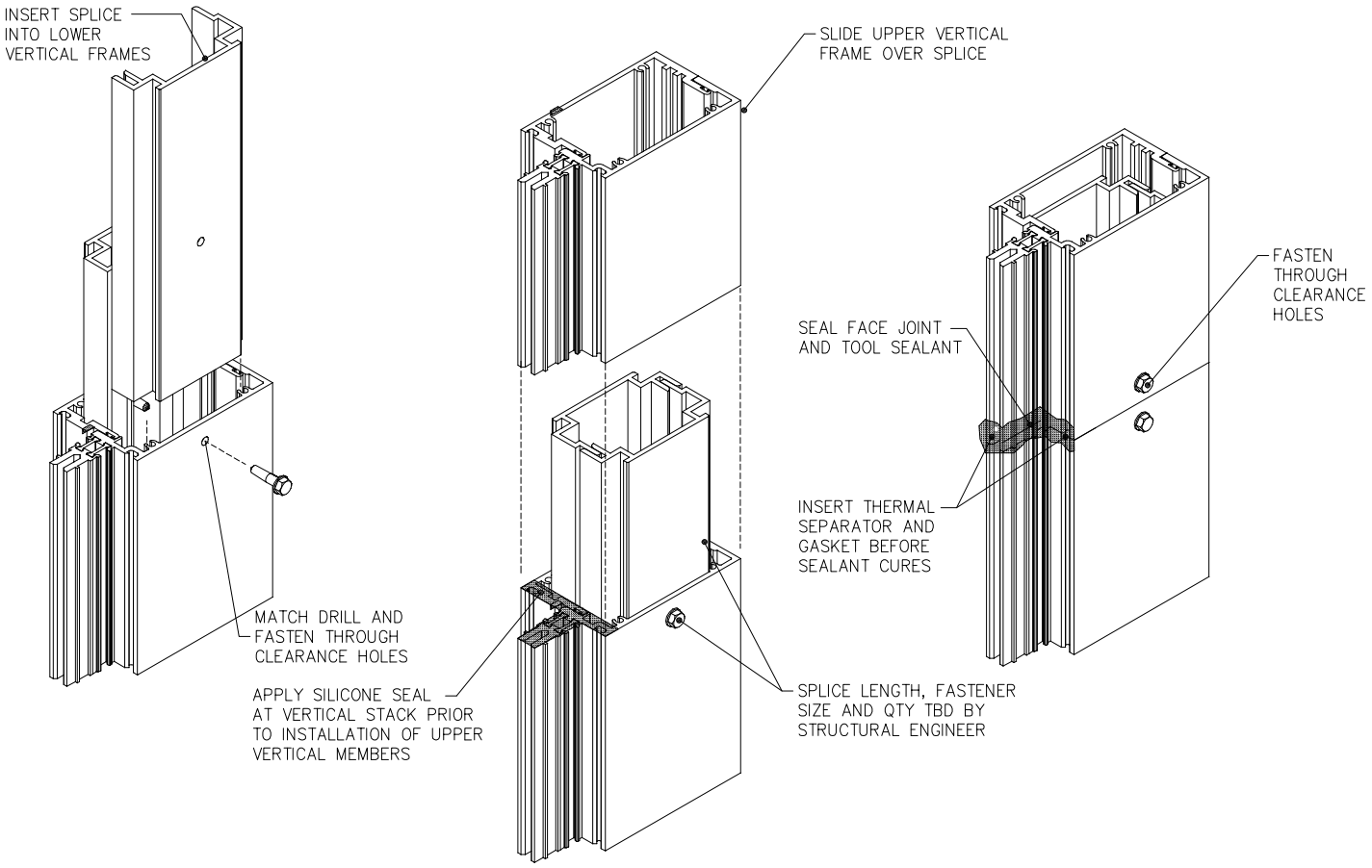
SUBJECT Splice Insert @ Tight Stack Joint Installation and Sealing

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/18/12		REVISION DATE:



1) Using the two cloth alcohol wipe method, clean the entire joint perimeter.
2) Insert splice into top of lower vertical mullions. Fasten in place using the clearance holes as required.
3) Apply a silicone seal at the vertical stack prior to installing the upper vertical members.
4) Slide the upper vertical frame members over the splice plates.
5) Match drill the splice plates clearance holes in the upper vertical stack. Fasten in place as required.
6) Apply silicone to the horizontal face joint, including the frame stem. Tool the silicone joint. Marry face seal and vertical expansion seal to insure continuity.
7) Insert thermal separator and interior glazing gaskets into the frame before the silicone cures.
8) Do not proceed with glazing until frames are thoroughly sealed.

Note: Customer to consult with a Structural Engineer to determine length of splice, size and quantity of fasteners. Refer to the shop drawings for splice locations. Splices are typically located in spandrel areas.

Reference: Field Sealing Manual – #145698
Field Glazing and Re-Glazing Manual: Superwall and Pressurewall Curtainwall – #146243

The expansion joints and perimeter caulk joints of the system are designed to accommodate a high performance sealant that is capable of ± 50 % movement. All sealant and backer rods required for installation to be furnished and applied by the Installer, as are provisions for separation of dissimilar materials as necessary.

Perimeter sealant can and will come in contact with many different parts of the window. This can include painted, anodized, and mill finished aluminum as well as PVC, various gasket materials, and different types of joinery sealant. Wausau Window and Wall Systems recommends that the caulker consult their sealant manufacturer to insure proper compatibility. Wausau Window and Wall Systems is not responsible for perimeter sealant compatibility testing.

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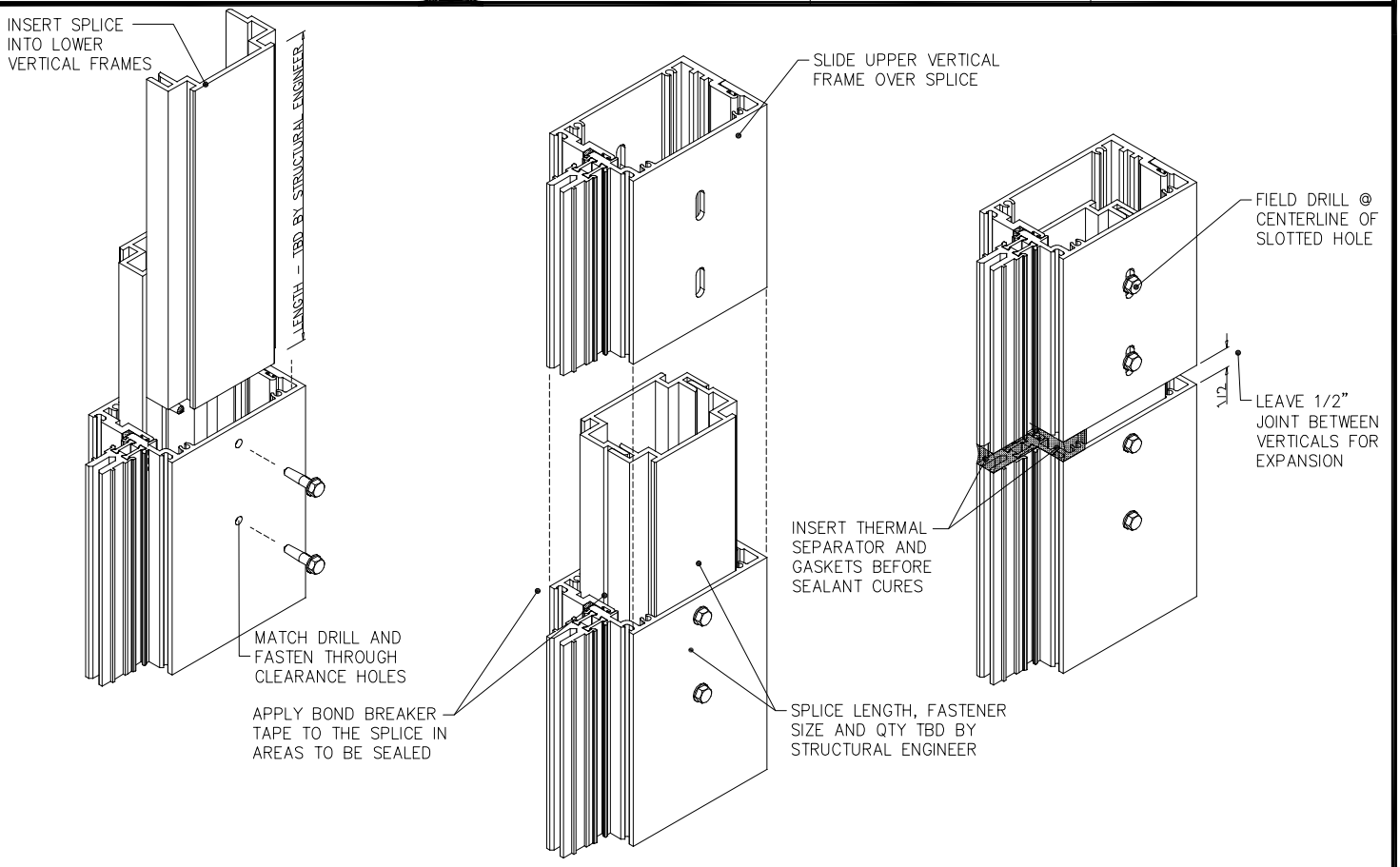
SUBJECT Splice Insert @ Expansion Joint Installation and Sealing

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/18/12		REVISION DATE:



1) Using the two cloth alcohol wipe method, clean the entire joint perimeter and splice plates.
2) Wrap exterior face of the splice with bond breaker tape to eliminate a three way sealant joint. Bond breaker tape should be applied prior to splice installation.
3) Insert splice into top of lower vertical mullions. Fasten in place using the clearance holes as required.
4) Slide the upper vertical frame members over the splice plates.
5) Match drill the splice plates through the centerline of the slotted clearance holes in the upper vertical frame members. Fasten in place.
6) Apply silicone to the horizontal joint, including the frame stem. Tool the silicone joint.
7) Insure 1/4" of sealant adhesion to the frame.
8) Insert thermal separator and interior glazing gaskets into the frame before the silicone cures.
9) Do not proceed with glazing until frames are thoroughly sealed.

Note: Customer to consult with a Structural Engineer to determine length of splice, size and quantity of fasteners. Refer to the shop drawings for splice locations. Splices are typically located in spandrel areas.

Reference: Field Sealing Manual – #145698
Field Glazing and Re-Glazing Manual: Superwall and Pressurewall Curtainwall – #146243

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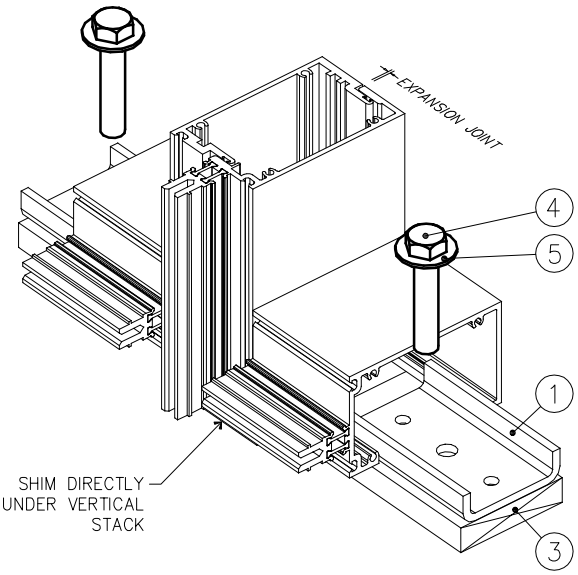
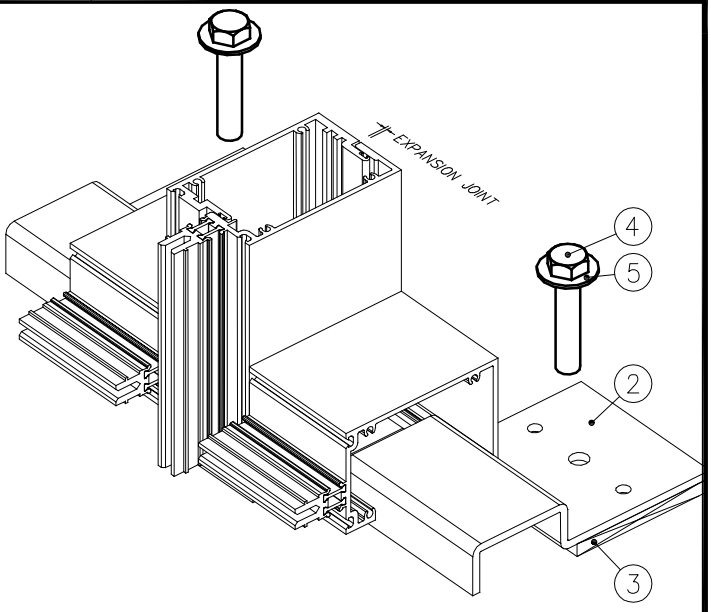
SUBJECT: Perimeter Anchor Formed Steel

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/17/12		REVISION DATE:



PRE-INSTALLED ANCHOR



FRAME-INSTALLED ANCHOR

1) Customer to consult with a Structural Engineer to determine the size, quantity and location of perimeter anchors and fasteners.
2) Refer to Shop Drawings for anchor type and locations.
3) Check the rough opening dimensions and squareness to make sure the assembled and sealed unit will fit. Allow adequate clearance for seals and movement(s).
4) If the anchor is pre-installed, install the anchors level and in a straight line. Shim as required with non-compressible shims. Shim entire bearing surface as detailed.
5) If the anchor is frame-installed, slide the anchor into the open-back pocket and slide the assembled and sealed unit into the opening. Shim as required with non-compressible shims. Shim entire bearing surface as detailed.
6) Install anchor fasteners, be sure to check for minimum embedment.
7) Install dead load shims directly under the vertical stack.

(1) = Pre-Installed Anchor – Size TBD by Structural Engineer
(2) = Frame Installed Anchor – Size TBD by Structural Engineer
(3) = Solid PVC Shim – Size equal to bearing surface of anchor
(4) = Anchor Bolt – Size & Quantity TBD by Structural Engineer
(5) = Flat Washer, Stainless Steel

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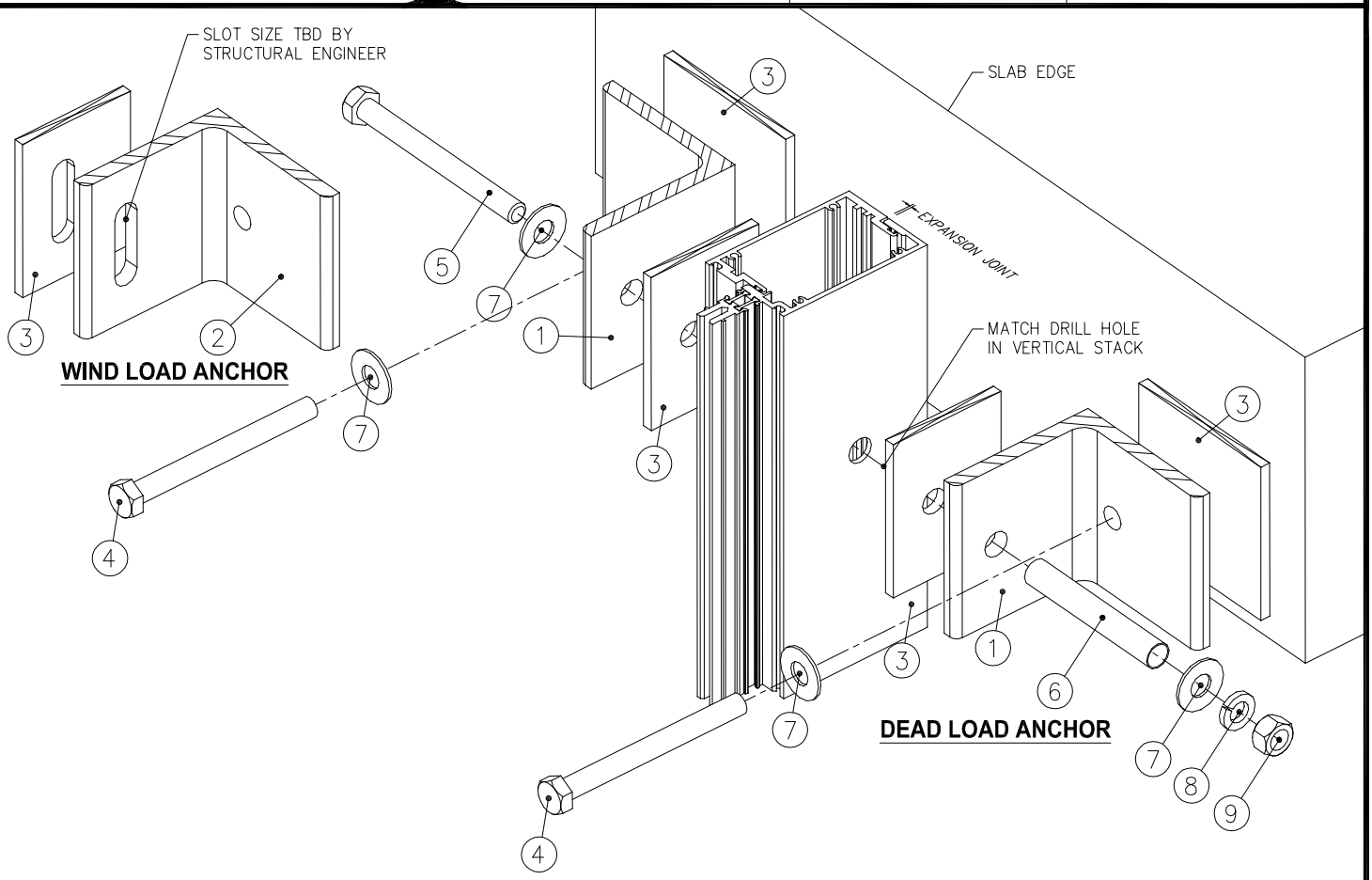
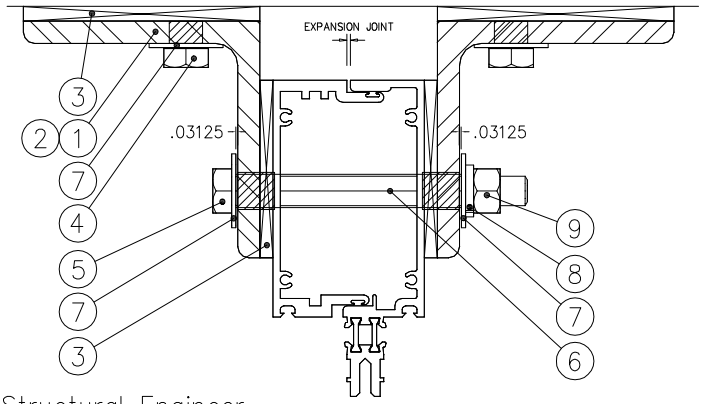
SUBJECT Slab Anchor

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/17/12		REVISION DATE:



1) Customer to consult with a Structural Engineer to determine the size and qty of slab anchors and fasteners.
2) Refer to Shop Drawings for anchor locations.
3) Installer Note: Match drill holes into the vertical frame members.



(1) = Steel Slab Anchor – Dead Load – Size TBD by Structural Engineer

(2) = Steel Slab Anchor – Wind Load – Size TBD by Structural Engineer

(3) = Solid PVC Shim – Size equal to bearing surface of anchor

(4) = Slab Anchor Bolt – Size & Quantity TBD by Structural Engineer

(5) = Steel Anchor Bolt – Size & Quantity TBD by Structural Engineer

(6) = Pipe Spacer, Stainless Steel – Size determined by size of Steel Anchor Bolt – Used to avoid collapsing mullion stack and allow movement if necessary. Cut 1/16" longer than outside dimension of anchor.

(7) = Flat Washer, Stainless Steel

(8) = Lock Washer, Stainless Steel

(9) = Hex Nut, Stainless Steel

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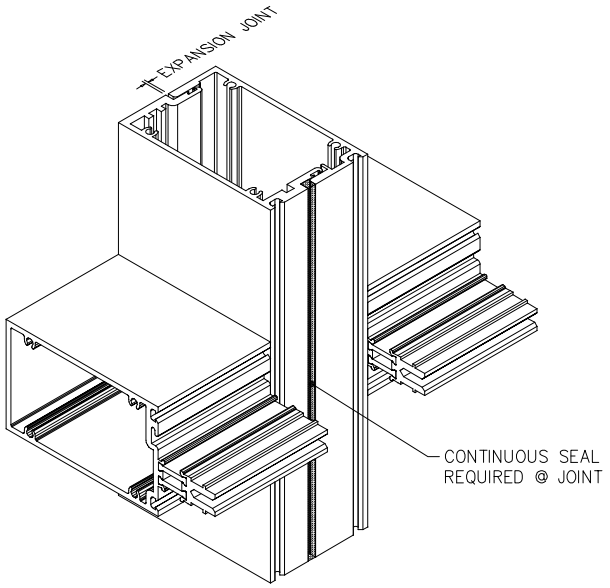
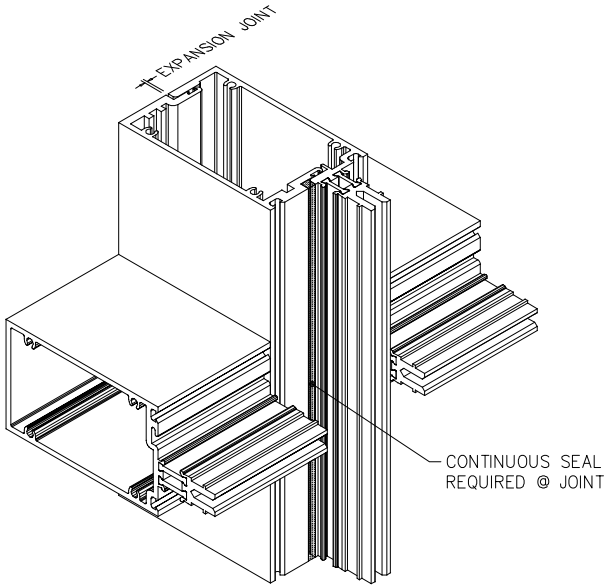
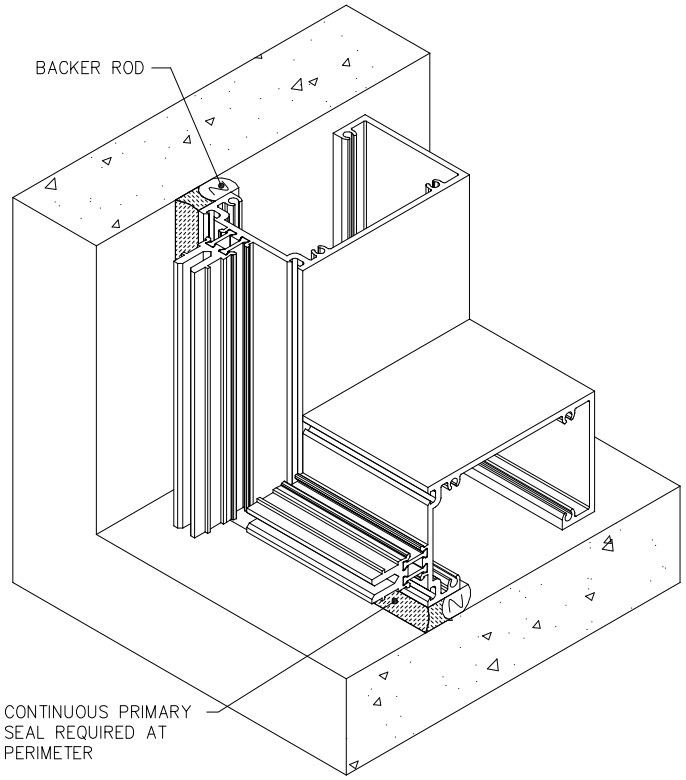
SUBJECT Perimeter & Expansion Joint Sealing

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/17/12		REVISION DATE:







1) Using the two cloth alcohol wipe method, clean the entire frame perimeter and expansion joint.
2) Expansion joint sealing may require bond breaker tape to eliminate three way joints. Bond breaker tape should be applied prior to frame installation. Consult with sealant manufacturer for application.
3) Apply continuous silicone seal @ expansion joints.
4) Install backer rod deep enough to insure continuity between the expansion joint seal and the perimeter seal.
5) Apply silicone perimeter seal. Depth of perimeter seal must be approx. 1/2 the width of the caulkjoint. Tool all perimeter and expansion joint seals.
6) Insure 1/4" of perimeter seal adhesion to the frame.
7) Do not proceed with glazing until frames are thouroughly sealed.

Reference: Field Sealing Manual:
– #145698
Field Glazing and Re-Glazing Manual:
Superwall and Pressurewall Curtainwall
– #146243

The expansion joints and perimeter caulk joints of the system are designed to accommodate a high performance sealant that is capable of ± 50 % movement. All sealant and backer rods required for installation to be furnished and applied by the Installer, as are provisions for separation of dissimilar materials as necessary.

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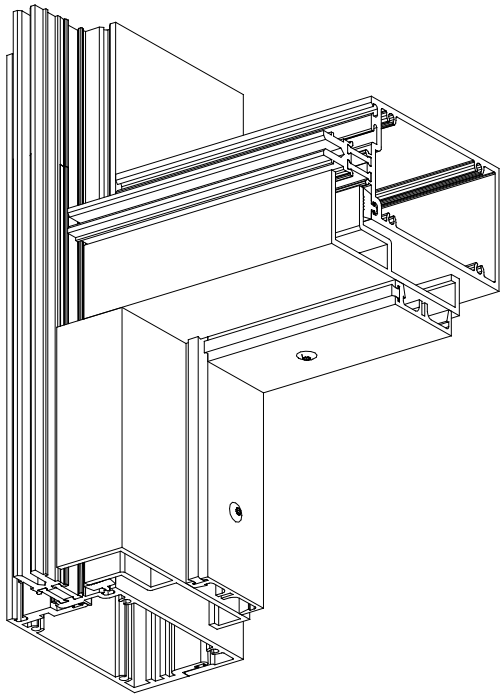
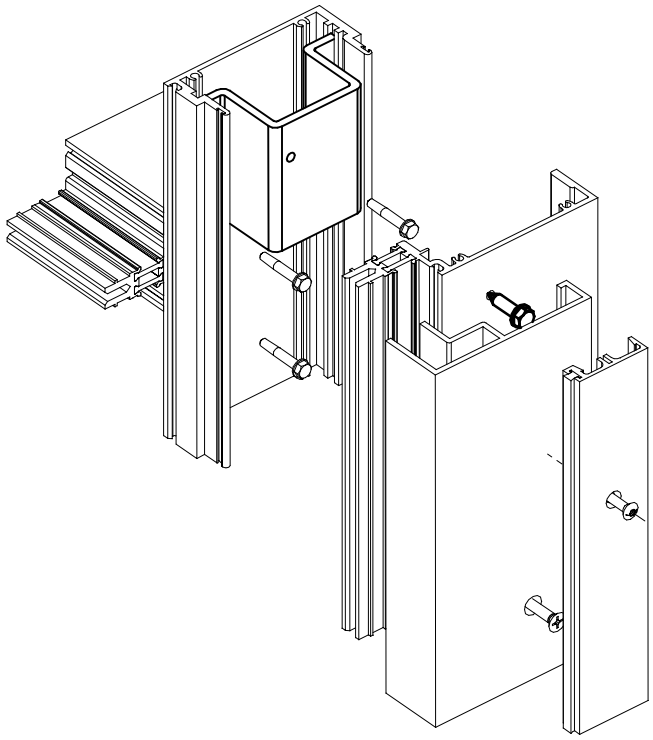
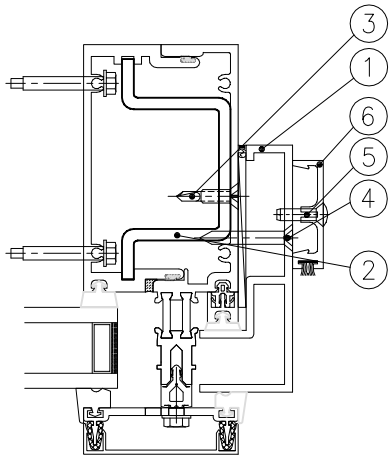
SUBJECT Door Opening Preparation

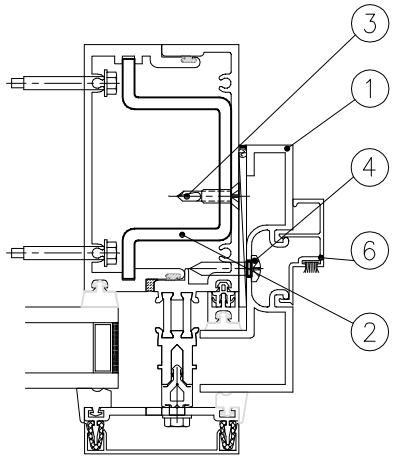
DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/18/12		REVISION DATE:







FLUSH WITH GLASS



TUBELITE WITH COVER

1) Insert the Aluminum Hat Channel (2) into the vertical mullion prior to attaching the horizontal frame members. Insert 18" O.C. and stake in place.
2) Install HP-Wall frame as shown on shop drawings.
3) Fasten vertical mullions together at Aluminum Hat Channel locations using fastener (3).
4) Install Door Frame per manufacturers instructions.

(1) = Aluminum Door Insert
(2) = Aluminum BM Hat Channel – 3" Long
(3) = 12-14 x 1.000, Dril-Flex, Flat Head, Under-Cut
(4) = #12 x 1.500, Sheet Metal Screw, Stainless Steel
(5) = 10-32 x 0.750, Taptite, Oval Head, Stainless Steel
(6) = Aluminum Door Stop with Wool Pile Weatherstrip

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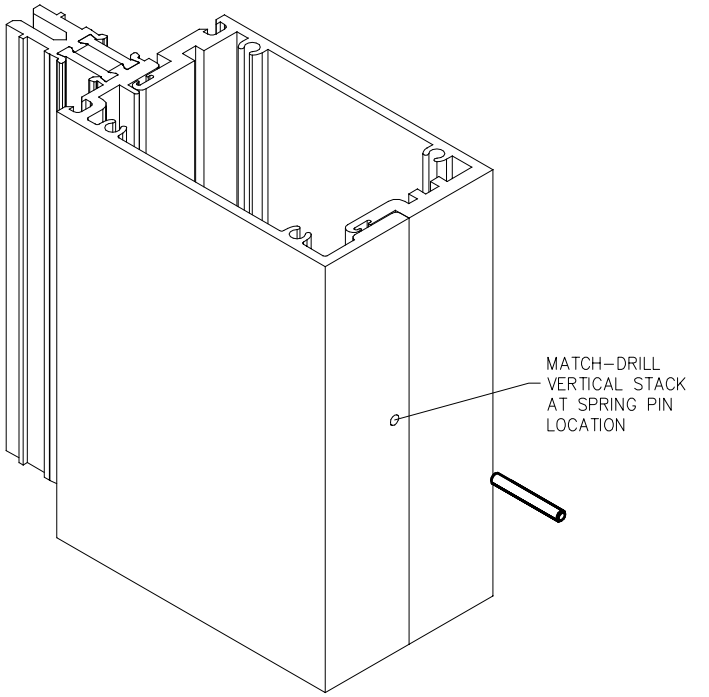
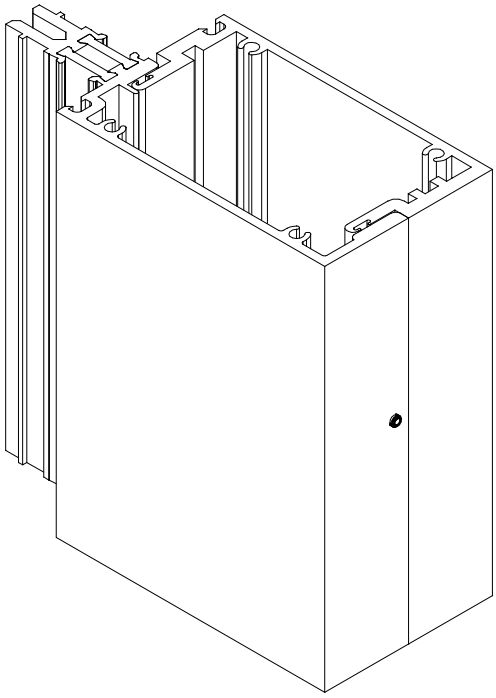
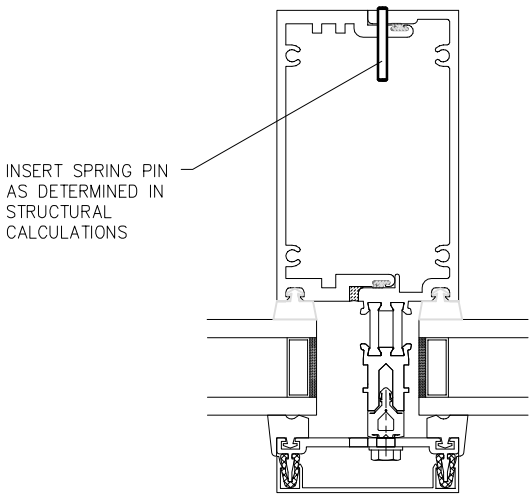
SUBJECT Anti-Buckling - Spring Pin

DRAWN BY: RKB	SCALE: Full	REVISION By :
ISSUE DATE: 10/18/12		REVISION DATE:







1) Install the assembled frames into the opening, Press the mullion stack together.
2) After all frames are installed and expansion joints are set, match drill the vertical stack at the locations noted on the curtainwall elevation drawings.
3) Insert the spring pin to lock the two vertical members together.

SEALING GUIDELINES

References
In addition to the guidelines provided in this manual, Wausau Window and Wall Systems recommend that Installers and General Contractors familiarize themselves with the latest editions of the following industry guidelines:

- ASTM C1193 Standard Guide for Use of Joint Sealants
- ASTM C1472 Standard Guide for Calculating Movement and Other Effects When Establishing Sealant Joint Width.
- AAMA 609 & 610-10 Cleaning and Maintenance Guide for Architecturally Finished Aluminum
- AAMA 800-10 Voluntary Spec. & Test Method for Sealants
- AAMA 851-09 Fenestration Sealants Guide for Windows, Window Walls and Curtain Walls
- AAMA JS-91 Joint Sealants

Compatibility Issues
Sealants may not adhere or maintain long-term adhesion to substrates if the surface is not prepared and cleaned properly before sealant application. Using proper materials and following prescribed surface preparation and cleaning procedures is vital for sealant adhesion. Perimeter sealant can and will come in contact with many different parts of the window. This can include painted, anodized, and mill finished aluminum as well as PVC, various gasket materials, and different types of joinery sealant. In all cases it is important to confirm the acceptability of each sealant-substrate combination with a lab or site adhesion test prior to proceeding with project installation. Sealant manufacturers can provide lab and field adhesion testing information and suggestions.

The expansion joints and perimeter caulk joints of the system are designed to accommodate a high performance sealant that is capable of ± 50% movement. All sealant and backer rods required for installation to be furnished and applied by the Installer, as are provisions for separation of dissimilar materials as necessary.

Surface Preparation
Non-Porous Materials (Glass, Metals, Plastics, etc.)

- Clean by using a two-rag wipe technique – wet one rag with “approved” solvent and wipe the surface with it, then use the second rag to wipe the wet solvent from the surface before it evaporates (allowing the solvent to dry on the surface without immediately wiping with a second cloth can negate the cleaning procedure because the contaminants may simple be re-deposited as the solvent dries). In all cases where used, solvents should be wiped dry with a clean, white cloth or other lint-free wiping materials.
- Isopropyl Alcohol (IPA) is a common-used solvent and has been proven useful for most non-porous substrates encountered in architectural construction applications. When handling solvents, refer to the manufacturers MSDS for information on handling, safety and personal protective equipment.
- Difficult or nearly impossible to see on a joint substrate, condensation or frost is likely to develop on substrates when temperatures drop. Since moisture and frost will interfere with proper sealant adhesion, it is important to confirm that substrates are dry prior to application of the sealant.

Porous Materials (Concrete, Masonry, Brick, Stone, etc.)

- Joints must be clean, dry and sound prior to application of sealant. All contaminants, impurities, or other adhesion inhibitors (such as moisture/frost, oils, concrete form release agents, old sealants, asphalt and other surface treatments, etc.) must be removed from the surfaces to which the sealant is intended to adhere.
- Clean where necessary by wire brush or mechanical abrading to provide a stable, clean surface for sealant application.
- Remove dust and other remaining loose particles with a soft bristle brush or by using oil-free compressed air.
- Polished stone surfaces and smooth sawn edges can be cleaned using a solvent dampened rag (allow sufficient time for solvent to evaporate prior to application of the sealant). When handling solvents, refer to the manufacturers MSDS for information on handling, safety and personal protective equipment.
- Since porous material can absorb and retain moisture, it is important to confirm that substrates are dry prior to application of the sealant.

Joint Movement

- All moving joints should be designed so as not to allow three-sided adhesion of the sealant to occur. Three-sided adhesion hinders the ability of the sealant to extend and compress freely as desired and can lead to early joint failure.

Joint Width

- The recommended sealant profile is an hourglass shape with the depth of the sealant over the crown of the backer to be no thinner than ¼" and no thicker than ½"
- A minimum of ¼" of adhesive bonding contact must be made to all surfaces to which the sealant is intended to adhere.

Joint Backer Materials

Backer materials, typically backer rod, provide the following benefits to aide in the correct application of sealants.

- Control and provide the desired sealant depth.
- Create a formed joint cavity that allows for the desired sealant shape.
- Provide a firm backup which helps attain full wetting of the substrates when the sealant is tooled.
- Act as a bond breaker to eliminate adhesion on the backside of a joint (three-sided adhesion)

Tooling

- Tool or strike the sealant with a concave tool applying light pressure to spread the material against the back-up material and the joint surfaces to ensure a void-free application.
- On sill applications, tool the sealant to shed water and to eliminate ponding.
- Tooling agents such as water, soap, or detergent solutions are not recommended.

Masking

Masking tape is recommended where appropriate to ensure a neat job and to protect adjoining surface from over-application of sealant. Masking tape should be removed immediately after tooling the sealant and before the sealant begins to skin over (tooling time).

FRAME INSPECTION, CLEANING AND PREPARATION

Pre-Glaze Inspection of Frames:

- Glazing finalizes a series of fabrication, assembly, and installation steps. In many cases, the glazing process will conceal defects that are critical to quality. Examples of defects include poor part fit and flaws in sealant or sealant application. Defects in these areas can cause customer dissatisfaction and significant call back cost. Pre-glazing inspection is the Glazier's last chance for quality verification.

Cleaning and Preparation:

- Glazing surfaces must be free of dirt, oil, existing glazing materials or other contaminants. Glazing tape and sealants will not adhere to contaminated surfaces. Cleaning of new or existing glazing surfaces is a critical step to ensure the quality of the glazing.

Inspection:

- Perform a visual inspection of frame sealant at each corner and inside open lites prior to glazing.
    - Look for missed seals, gaps in the sealant, or defects in the surface of the sealant.
    - Are all the joints sealed?
    - Was the correct sealant used?
    - Was the sealant applied properly?
- Pay special attention to hidden or shadowed areas. Use a flashlight if direct light is required.
- This inspection is the last chance to detect joinery sealing issues prior to glazing.

Cleaning of Frame Surfaces:

- Spray isopropyl alcohol onto clean cloth.
- Wipe glazing area until clean (Use two-cloth alcohol wipe method)
- Surface must be clean of oil and other residue.
- Repeat steps until glazing area is clean.
- Dispose of contaminated cloth immediately.
- After final wipe; immediately dry with a clean cloth.
- Do not use compressed air.
- Do not allow the isopropyl alcohol to pool and/or evaporate from the surface.

Special Note regarding Advantage & Stock Length Projects

Advantage Wausau is an "order entry" product program, which utilizes customer-supplied information to provide a wide selection of high-quality pre-engineered Wausau Window and Wall Systems, at competitive pricing. As such, Wausau is not responsible for; a) Design or detailing of installation conditions; b) Review of Architectural Drawings, Specifications, or local building/safety Codes, or compliance of products to requirements contained therein; c) dimensioning; d) Structural adequacy of materials provided, or substrates to which they are anchored; e) Thermal, seismic or building movement accommodation; f) Sealant joint design, sizing or compatibility testing; g) Architectural or contractor approval; h)Field measurement; or i) Other services typically included as part of the submission drawing process.

Wausau Advantage products have been tested to comply with industry standards. However, required mullion size, anchor spacing, glass selection and other structural characteristics for any specific project are dependent on specified Design Wind Pressures or Local Building Codes, as well as the unit sizes and installation conditions. (Refer to the Series-specific Wind Load Charts provided for mullion I-Values.) Structural design, adequacy of materials provided per customer order information, or fitness for a particular application are not the responsibility of Wausau Window and Wall Systems.

Wausau will not check customer-supplied drawings, dimensions, or details for accuracy or completeness during Order Entry. "String" dimensioning will be entered as shown on the Order Entry form, with no provision made for summation of same. Always refer to the Wausau quotation for detailed exclusions and qualifications specific to your project. By using the Order Entry Form the customer acknowledges that they have read and are bound by this disclaimer.

DISCLAIMERS

1. Field verification and/or field measurements will not be the responsibility of Wausau Window and Wall Systems unless specifically included in our quotation. The general contractor is responsible for verifying all dimensions. The G.C. is to take note of all dimensions, as Wausau Window and Wall Systems assumes no responsibility beyond manufacturing in accordance to dimensions shown on the approved drawings and/or order entry documents. Make certain that the building construction which will receive your materials is in accordance with the contract documents. Returned approved submission prints will indicate to Wausau Window and Wall Systems that all dimensions have been verified and approved. These drawings embrace only the work in the Wausau Window and Wall Systems contract. Wausau Window and Wall Systems does not assume responsibility for measurements affecting other contractors' work. Issuance of shop drawings for approval does not constitute acceptance of customer's order by Wausau Window and Wall Systems. The order entry documents may take precedence over shop drawings which in turn take precedence over other contract documents or product information and include specific details for the project. The Assembly and Installation manual are of general nature and cover most common conditions.

2. The General Contractor shall provide the installing subcontractor with a building perimeter offset line on each floor, plumb with lines on the floors below, and located at a point from the edge of the floor slab as designated. The General Contractor shall also provide clearly scribed benchmarks on each floor on a column as designated. The General Contractor shall be responsible for the accuracy of the location of the perimeter offset lines and the elevations of the benchmarks.

3. Wausau Window and Wall Systems does not supply installation fasteners, unless previously arranged with the Sales/Estimating department. Masonry expansion plugs and screws occurring at the sill are to be set in sealant by the installer. The installer is to shim and securely anchor the frames square and plumb. Dead load shims are required at the sill directly under the mullion and jambs (typical).

4. Window and wall systems must be stored in an area free from weather and construction hazards. Aluminum finish must be protected from staining of wet cardboard or paper and from the action of harsh alkalis and sand in concrete, stucco, mortar or plaster. The setting of the material prior to the setting of the other materials requires the G.C. to closely supervise other trades so as to protect marring or discoloration from any cause. All glass and aluminum must be protected during any and all welding operations.

5. The expansion joints and perimeter caulk joints of the system are designed to accommodate a high performance sealant that is capable of +/- 50% movement. Please consult the sealant manufacturer for proper surface preparation and bond breakers. All sealant, backer rods, required for installation to be furnished and applied by the Installer, as are provisions for separation of dissimilar materials as necessary.

6. Perimeter sealant can and will come in contact with many different parts of the window. This can include painted, anodized, and mill finished aluminum as well as PVC, various gasket materials, and different types of joinery sealant. Wausau Window and Wall Systems recommend that the caulker consult their sealant manufacturer to ensure proper compatibility. Wausau Window and Wall Systems is not responsible for perimeter sealant compatibility testing.

7. Request for a revision after Wausau Window and Wall Systems has been released for fabrication will result in an engineering and handling charge plus the cost of the fabricated materials. This must be approved in writing prior to the revisions being made.

8. Upon delivery of Wausau Window and Wall Systems material to the project site, it is the responsibility of the customer to ensure that all shipping damages and/or material shortages are acknowledged and reported to Wausau Window and Wall Systems within (2) two weeks [(10) ten working days]. Damages or shortages reported after that time period may result in additional costs to the customer. Any common carrier materials received damaged should be reported to Wausau Window and Wall Systems and the shipping company immediately upon receipt.

9. Installer/Contractor accepts responsibility for the performance of all door/window/curtainwall systems if not installed per Wausau Window and Wall Systems product information. Any and all cleaning of components is not by Wausau Window and Wall Systems. Final hardware adjustment is not the responsibility of Wausau Window and Wall Systems.

10. Wausau Window and Wall Systems standard limited warranty applies, including all provisions therein. Refer to the project specific Wausau Window and Wall Systems proposal for general terms and conditions of sale.

PROPRIETARY NOTICE

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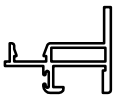
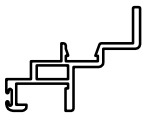
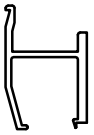
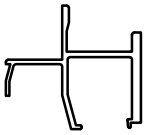
SUBJECT: Extrusions & Accessories
Access Doors

DRAWN BY: RKB
ISSUE DATE: 10/26/12
SCALE: Full
REVISION By :
REVISION DATE:

				
PERIMETER SASH Horizontal / Vertical Access Door	PERIMETER SASH Horizontal / Vertical Access Door	PERIMETER SASH Horizontal / Vertical Access Door	PERIMETER BEAD Horizontal / Vertical Access Door	PERIMETER BEAD Horizontal / Vertical Access Door
				
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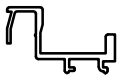
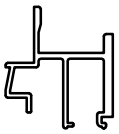
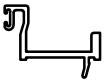
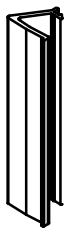
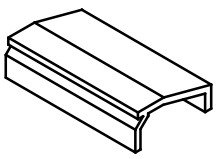
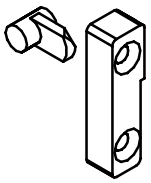
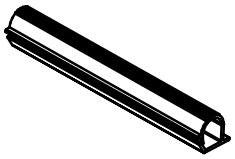
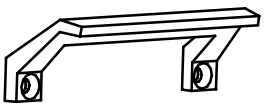
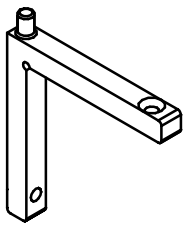
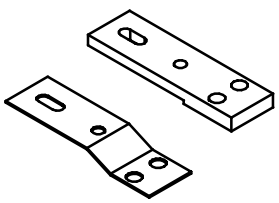
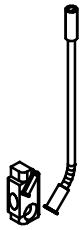
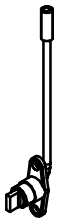
				
PERIMETER BEAD 3/4"~1" Glazing 2-3-4250 INvent	PERIMETER BEAD 1/4"~3/4" Glazing 2-3-4250 INvent	PERIMETER BEAD 1/4"~3/4" Glazing 2-3-4250 INvent	PERIMETER BEAD 1" Glazing Hung & Rolling	PERIMETER BEAD 1" Glazing 2400 & 2700
				
SNUG Bar Horizontal / Vertical	LIFT BLOCK Horizontal / Vertical	CONCEALED LOCK	RETAINER CLIP Lift Out - Head	LIFT/PULL HANDLE
				
HINGE PIN	SPRING HINGE HINGE RETAINER BRACKETS	BLIND CONTROL FLUSH	BLIND CONTROL SLIMLINE	

FILE NAME : AP-1 Access Doors

SHEET No. : AP-1

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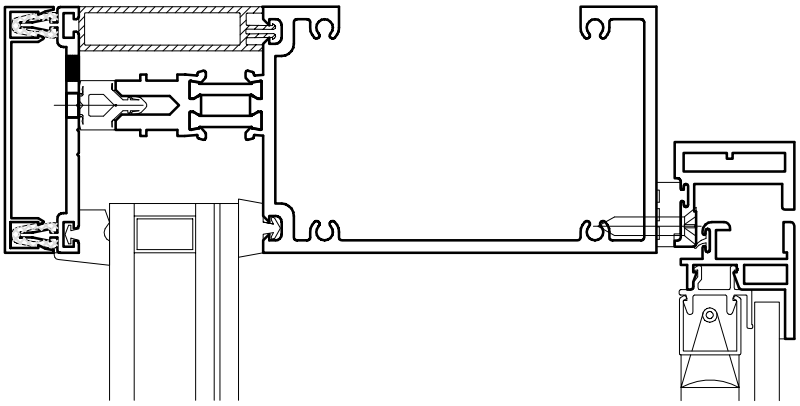
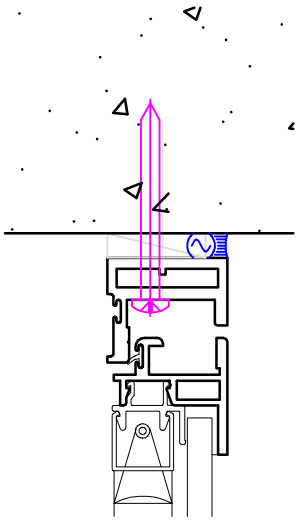
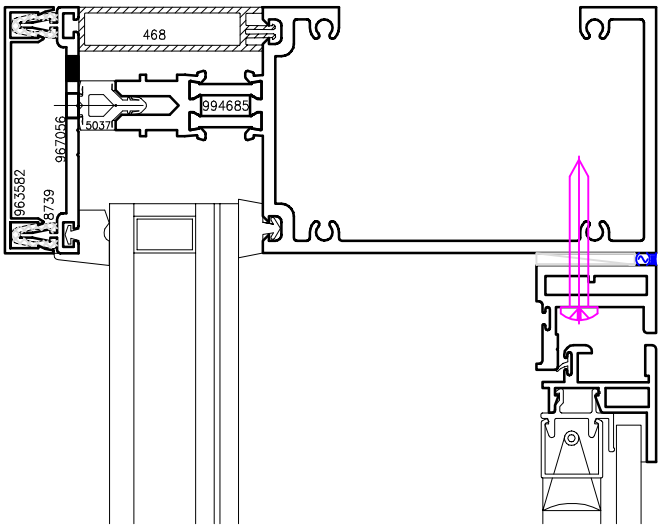
SUBJECT: Access Door Frame Installation

DRAWN BY: RKBalz	SCALE: Full	REVISION By :
ISSUE DATE: 11/15/12		REVISION DATE:







1. Review structural calculations, project drawings or consult a Structural Engineer prior to installation of frames.
2. Note location of all access door hardware.
3. If fastening access door to the back of Superwall or HP-Wall, countersink the installation fastener to prevent interference with sash seals.
4. If fastening access door to the interior DLO or to a perimeter building condition, drill fastener holes toward the exterior face of the frame to prevent interference with hardware during sash operation.

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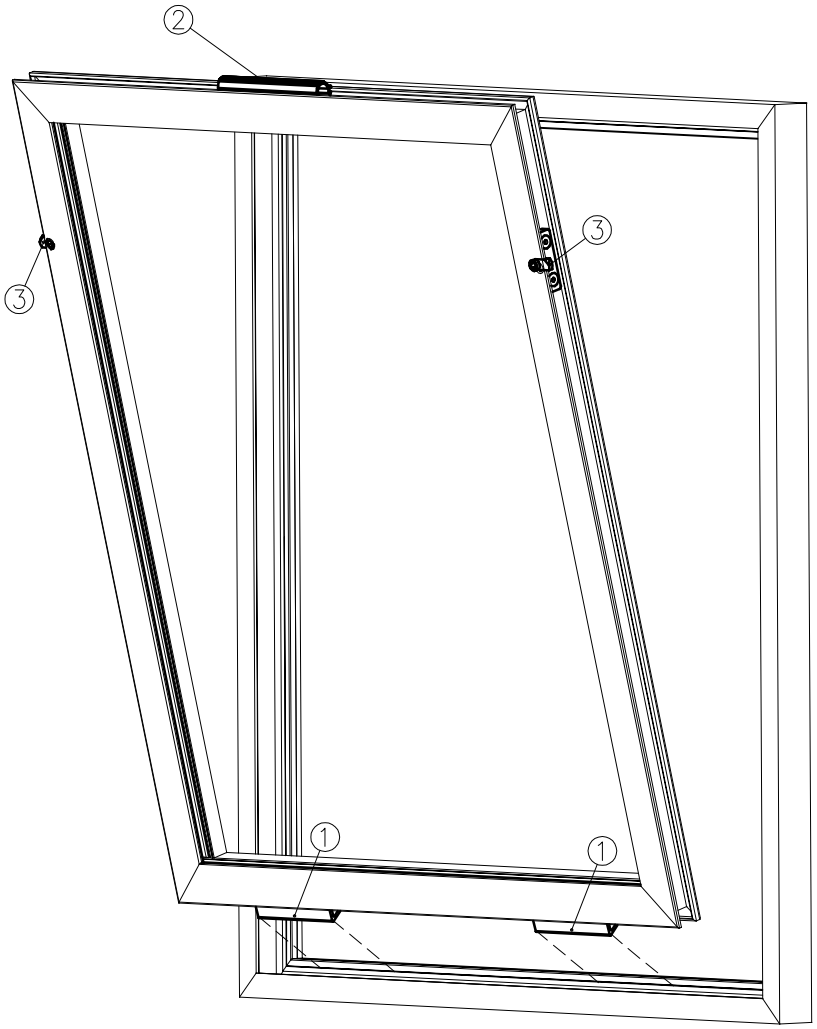
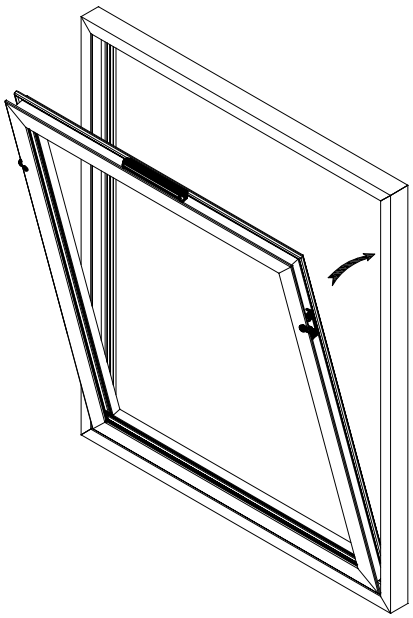
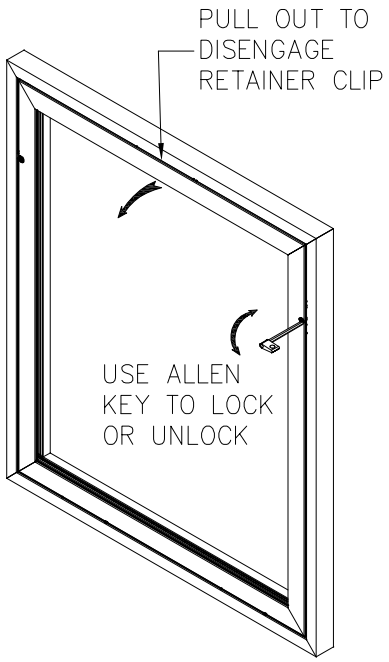
SUBJECT

Lift Out Access Door Installation & Removal

DRAWN BY:	RKBalz	SCALE:	Full	REVISION By :
ISSUE DATE:	11/15/12			REVISION DATE:







1. While tipping the access door sash back at an angle, Insert the access door into the bottom rail of the sash. Be sure the snug bars (1) are inside the sash glazing bead.
2. Tip the access door up vertical until it is flush with the interior face of the sash.
3. The retainer clip (2) should not be visible after the sash is installed.
4. Using an allen key, lock all concealed locks (3).
5. To remove the sash, reverse all previous directions.

Note: You will have to pull the head of the access door toward yourself to disengage the retainer clip (2).

(1) = Snug Bar
(2) = Retainer Clip
(3) = Concealed Lock

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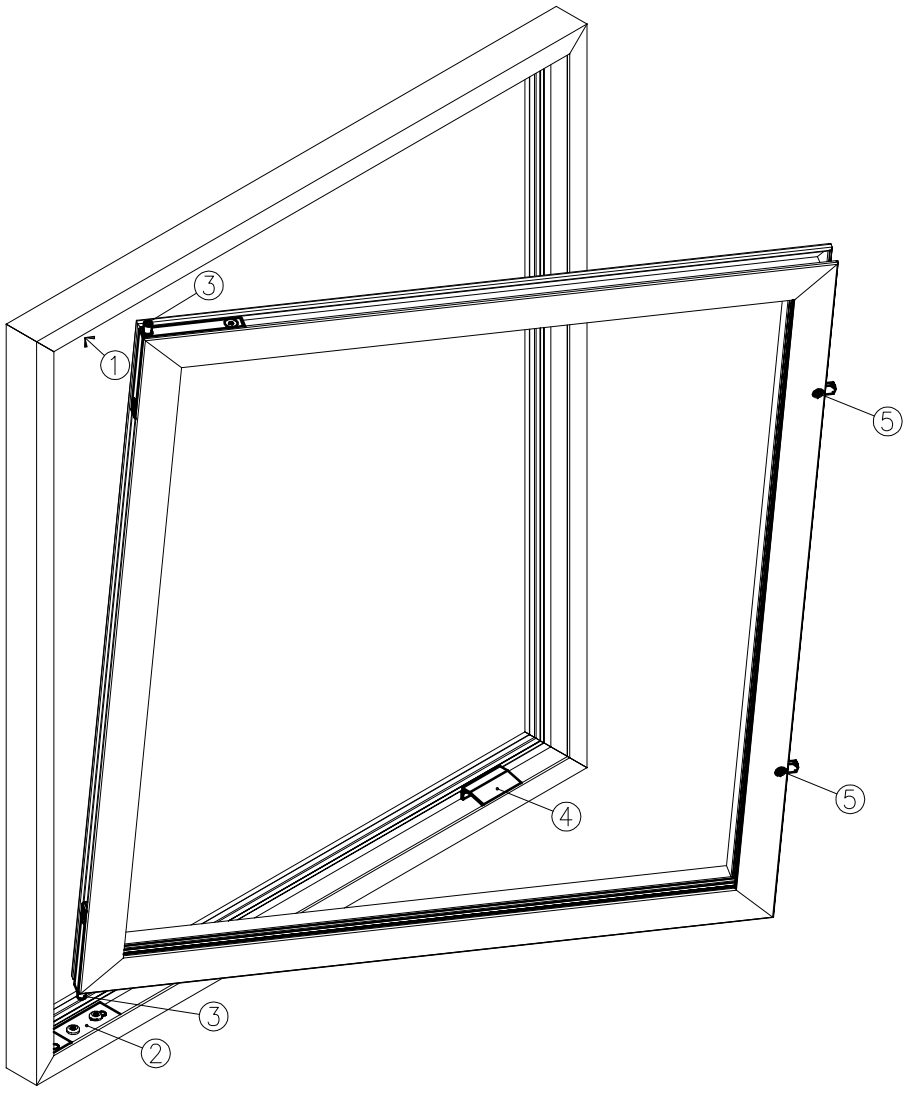
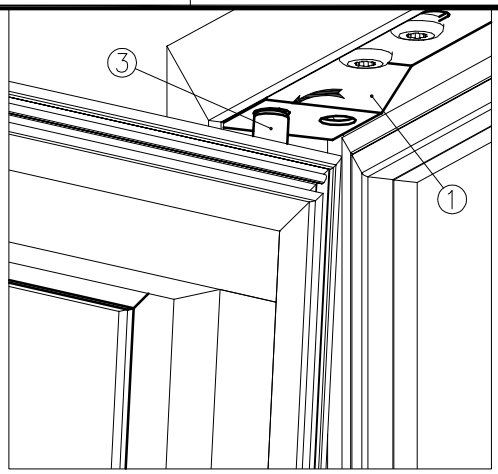
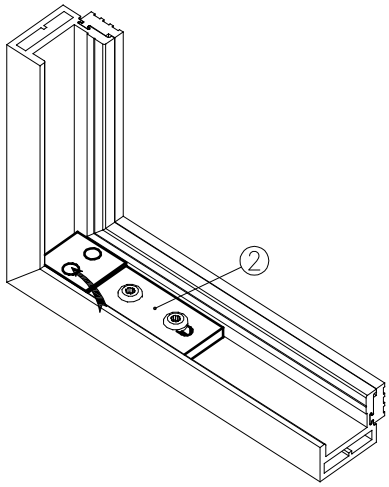
SUBJECT: # Hinged Access Door Installation

DRAWN BY: RKBalz	SCALE: Full	REVISION By :
ISSUE DATE: 10/25/12		REVISION DATE:





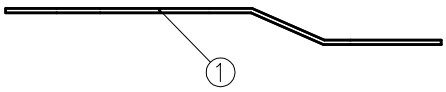


1) Two or more people may be required to install the access door, depending on size and location.
2) Lift the access door and insert the lower hinge pin (3) into the lower hinge retainer (2) in the sash or frame.
3) Holding the access door at an angle, slide the top hinge pin (3) into the head track near the center of the opening, then slide the top corner toward the hinge jamb to engage the interior hole of the spring hinge bracket (1).
4) To check for proper engagement; lift the access door up and down. The door will remain in the frame if properly installed. If the sash disengages, repeat steps 1 and 2. It is recommended to visibly check for pin engagement while the access door is in the open position.
5) See Sheet AP-5 for locking and removal directions.

Warning

1) Do not deform the spring hinge bracket (1) or engagement of the angled hinge pin can be compromised.

(1) = Spring Hinge Bracket
(2) = Hinge Retainer
(3) = Hinge Pin
(4) = Lift Block
(5) = Concealed Lock



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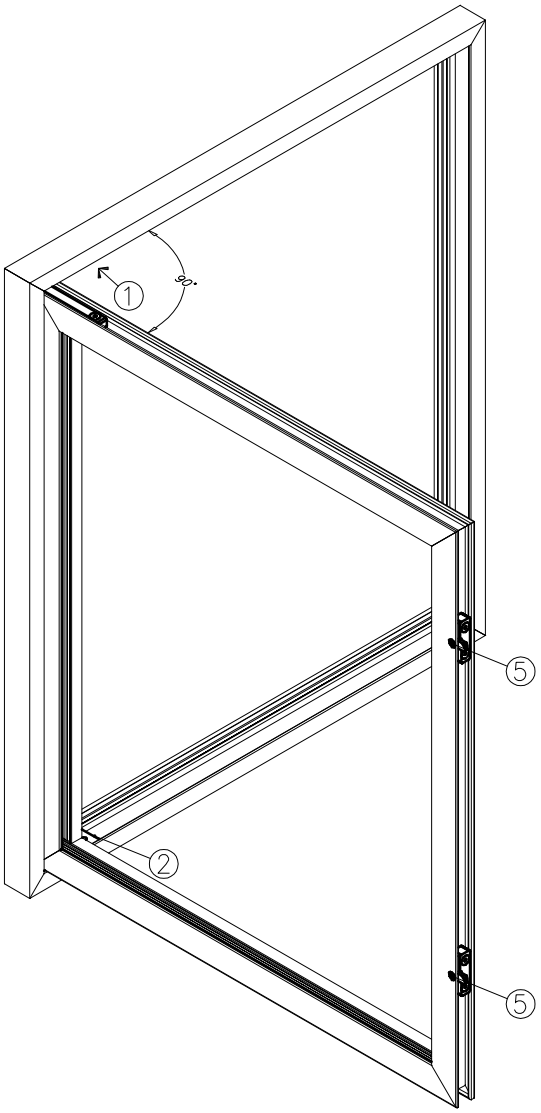
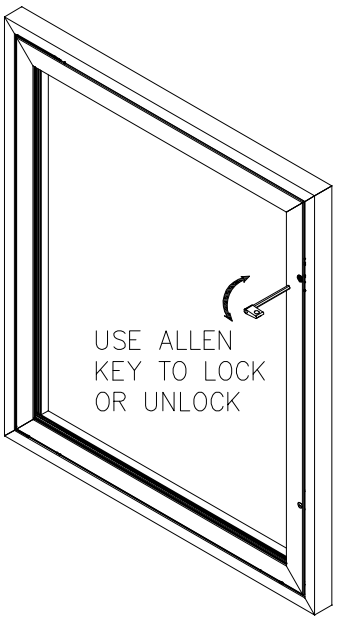
SUBJECT

Hinged Access Door Installation & Removal

DRAWN BY: RKBalz	SCALE: Full	REVISION By :
ISSUE DATE: 11/15/12		REVISION DATE:





5. Rotate access door to closed position.
6. Using an allen key, lock all concealed locks (5).

Access Door Removal

7. Two or more people may be required to remove the access door, depending on size and location.
8. Using an allen key, unlock all concealed locks (5).
9. Rotate the access door sash 90 degrees to gain access to the spring hinge bracket (1).
10. Using a flat screwdriver, depress the spring hinge bracket (1) to disengage the hinge pin (3).
11. Rotate the access door out of the spring hinge bracket (1) to remove.

Warning

Opening Restrictions:

2) Panels will open to a maximum of 90 degrees. Opening the access door past 90 degrees can damage the access door, hardware or frame.

Operation:

3) Do not leave access doors in the open position for extended periods as access doors are intended to be limited access by maintenance or service personal only.

4) Do not add extra weight to the access door in the open position (i.e. Do not hang allow a person to hang or pull down on an open access door.)

(1) = Spring Hinge Bracket
(2) = Hinge Retainer
(3) = Hinge Pin
(4) = Lift Block
(5) = Concealed Lock