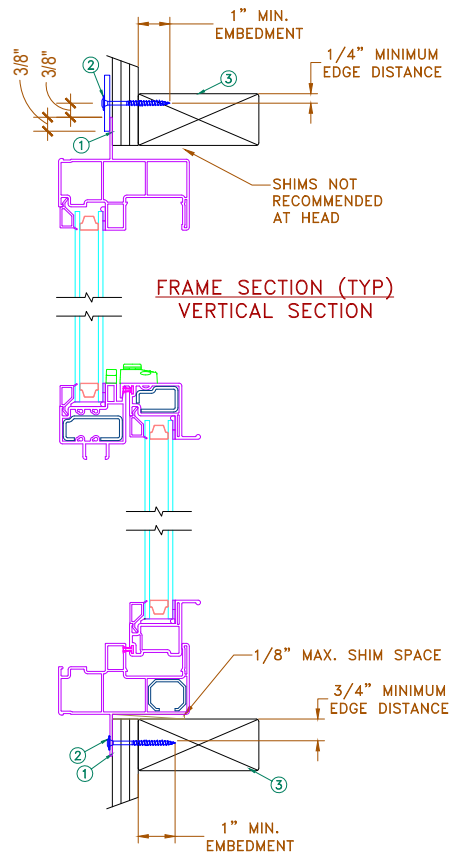
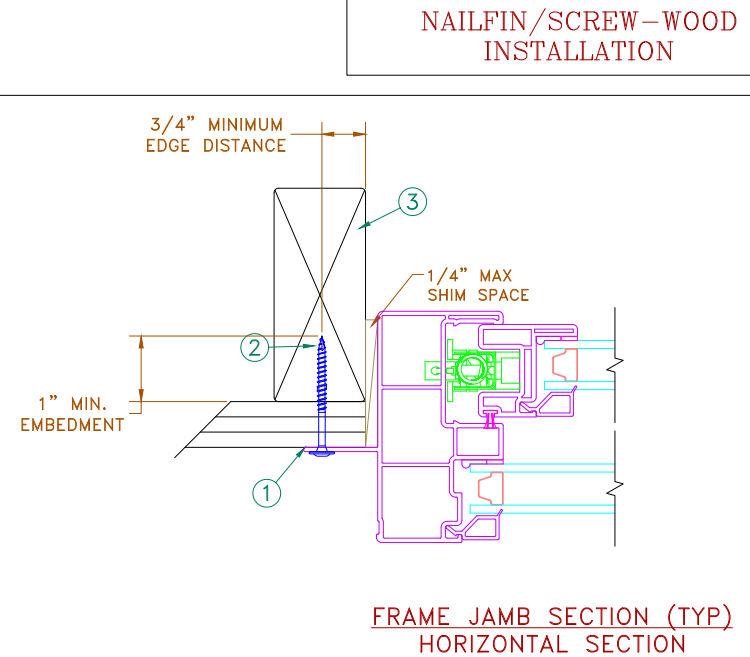


TYPICAL ELEVATION WITH FASTENER SPACING



FRAME SECTION (TYP)  
VERTICAL SECTION



FRAME JAMB SECTION (TYP)  
HORIZONTAL SECTION

TEST SPECIMEN #1			
MAXIMUM FRAME	CLASS/DP	IMPACT	
56" x 96"	LC/35	NO	
TEST SPECIMEN #2			
MAXIMUM FRAME	CLASS/DP	IMPACT	
56" x 96"	CW/30	NO	

**Installation Notes:**

- Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone/caulk.
- Head fastener size is minimum #8 pan head / truss head and must be fastened, beginning 4" - 6" from welded corners, then every 4" O.C. using fender washers lapped over nailing flange a minimum of 3/8", leaving a minimum of 3/8" gap between shaft of fastener and edge of nailing flange. Jamb and Sill fastener size is minimum #8 pan head / truss head and must be fastened, beginning 4"-6" from welded corners, then every hole and must penetrate structural framing a minimum of 1" in depth. (For 2X wood frame substrate, MIN S.G. = 0.42)
- Structural framing (wood buck, stud framing and opening) to be designed and anchored to properly transfer all loads to structure. The host structure is the responsibility of the architect or engineer of the record for the project of installation

**General Notes:**

- The product shown herein is designed, tested and manufactured to comply with the wind load criteria of the adopted International Building Code (IBC), the International Residential Code (IRC), the current Florida Building Code (FBC) and the industry requirement for the stated conditions.
- All glazing shall conform to ASTM E1300.
- At minimum, glazing shall be 3mm annealed - 13mm airspace - 3mm annealed glass.
- Use structural or composite shims where required.

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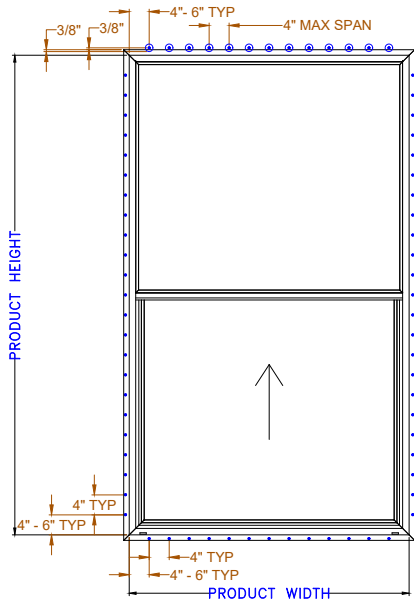
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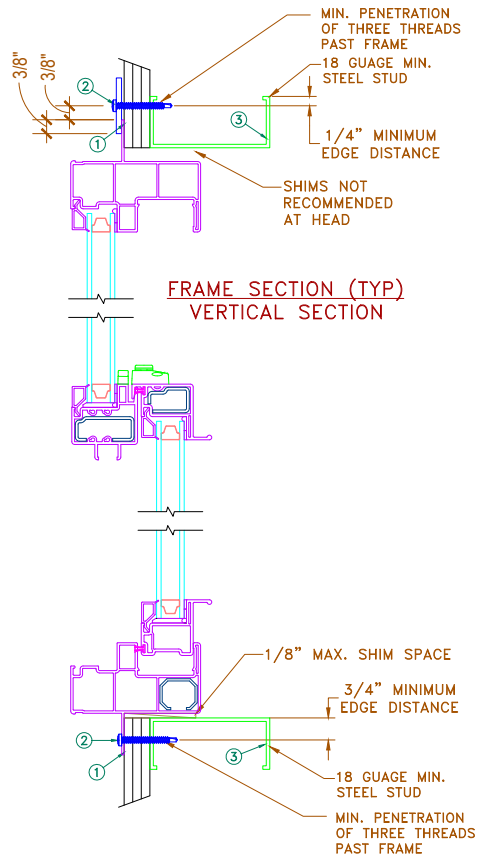
MICAH SWARTZ, P.E.  
08/13/24  
PE No. 93573  
5134 Cambridge Ct.  
Klamath Falls, OR 97603  
(541) 363-8075

DRAWN	bputre	07/30/2024
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APPROVED		
SIZE	B	SCALE NTS SHEET 1 of 8
PRODUCT FAMILY	591 ENDURANCE	
DRAWING ID NO.	40-1	

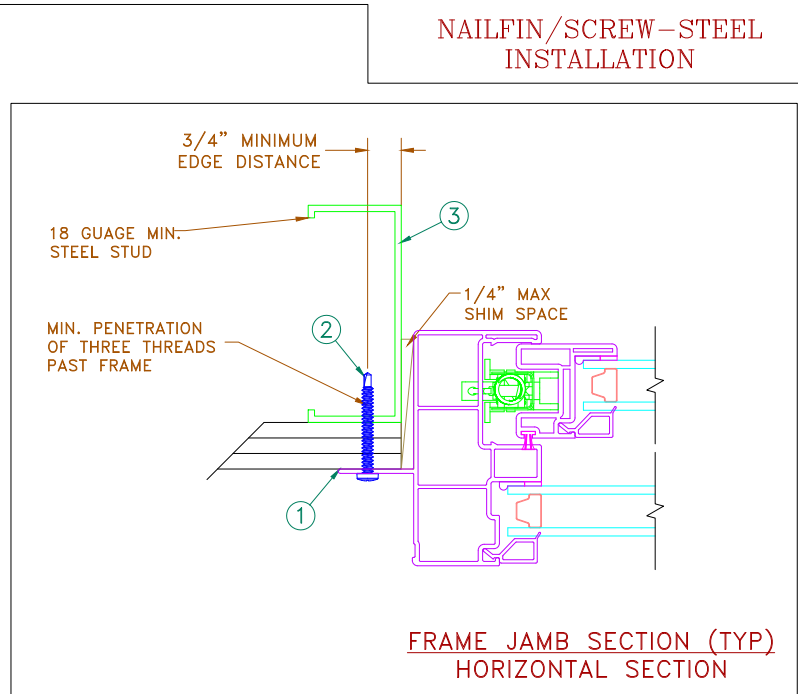




TYPICAL ELEVATION WITH FASTENER SPACING



FRAME SECTION (TYP)  
VERTICAL SECTION



NAILFIN/SCREW-STEEL  
INSTALLATION

FRAME JAMB SECTION (TYP)  
HORIZONTAL SECTION

TEST SPECIMEN #1

MAXIMUM FRAME	CLASS/DP	IMPACT
56" x 96"	LC/35	NO

TEST SPECIMEN #2

MAXIMUM FRAME	CLASS/DP	IMPACT
56" x 96"	CW/30	NO

Installation Notes:

1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone/caulk.
2. Head fastener size is minimum #10 TEK Screw and must be fastened, beginning 4" - 6" from welded corners, then every 4" O.C. using fender washers lapped over nailing flange a minimum of 3/8", leaving a minimum of 3/8" gap between shaft of fastener and edge of nailing flange. Jamb and Sill fastener size is minimum #10 TEK Screw and must be fastened, beginning 4"-6" from welded corners, then every hole and must penetrate structural framing a minimum of 3 threads past framing MIN Fy = 33 KSI.
3. Structural framing (wood buck, stud framing and opening) to be designed and anchored to properly transfer all loads to structure. The host structure is the responsibility of the architect or engineer of the record for the project of installation

General Notes:

1. The product shown herein is designed, tested and manufactured to comply with the wind load criteria of the adopted International Building Code (IBC), the International Residential Code (IRC), the current Florida Building Code (FBC) and the industry requirement for the stated conditions.
2. All glazing shall conform to ASTM E1300.
3. At minimum, glazing shall be 3mm annealed - 13mm airspace - 3mm annealed glass.
4. Use structural or composite shims where required.

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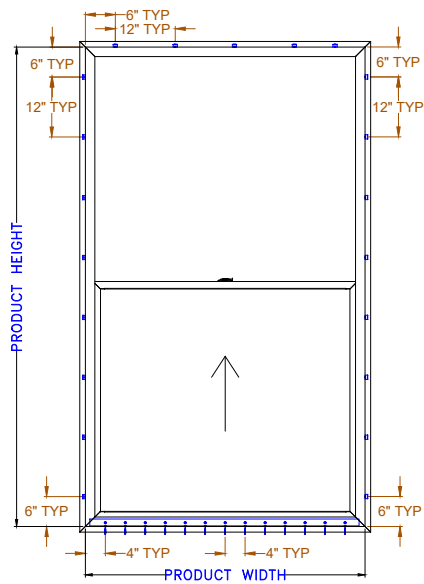
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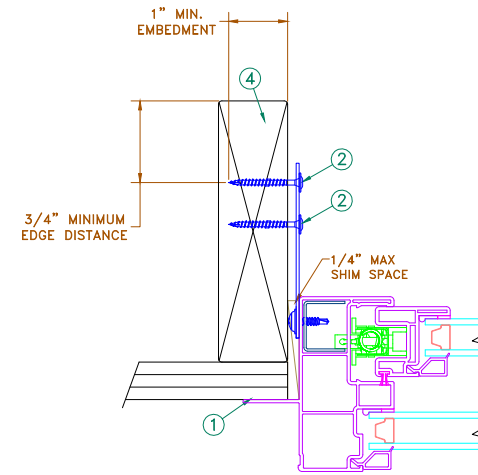
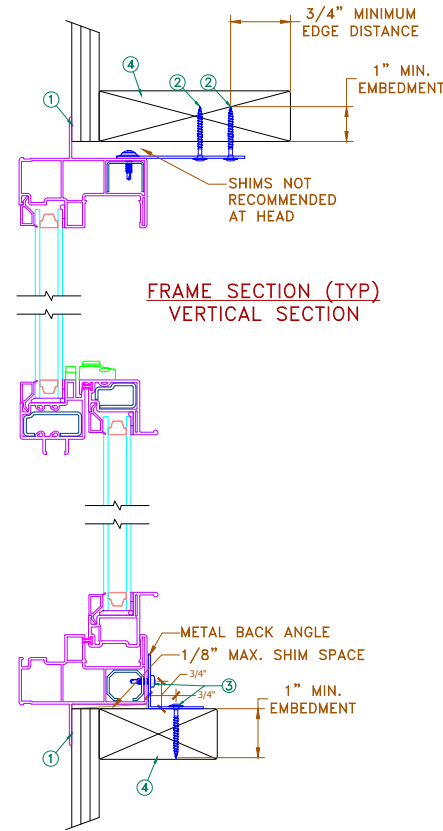
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CHECKED		
APPROVED		
SIZE	B	SCALE NTS SHEET 2 of 8
PRODUCT FAMILY	591 ENDURANCE	
DRAWING ID NO.	40-2	



MASONRY STRAP  
WOOD/SCREW INSTALLATION



TYPICAL ELEVATION WITH FASTENER SPACING



FRAME JAMB SECTION (TYP)  
HORIZONTAL SECTION

TEST SPECIMEN #1		
MAXIMUM FRAME	CLASS/DP	IMPACT
56" x 96"	LC/35	NO
TEST SPECIMEN #2		
MAXIMUM FRAME	CLASS/DP	IMPACT
56" x 96"	CW/30	NO

**Installation Notes:**

1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone/caulk.
2. Head and Jamb must be fastened through anchor strap using (QTY 2) #10 Fasteners with sufficient length to penetrate a Min. 1" into wood substrate. (For 2x wood frame substrate, Min. S.G. = 0.42).
3. Sill fastener size @ back angle to wood framing is #8 @ 4" O.C. Fastener size for sill @ back angle to window is 10-16 TEK Screw @ 4" O.C.
4. Structural framing (wood buck, stud framing and opening) to be designed and anchored to properly transfer all loads to structure. The host structure is the responsibility of the architect or engineer of the record for the project of installation

**General Notes:**

1. The product shown herein is designed, tested and manufactured to comply with the wind load criteria of the adopted International Building Code (IBC), the International Residential Code (IRC), the current Florida Building Code (FBC) and the industry requirement for the stated conditions.
2. Nail flange is optional, and used for a weather seal only.
3. All glazing shall conform to ASTM E1300.
4. At minimum, glazing shall be 3mm annealed - 13mm airspace - 3mm annealed glass.
5. Use structural or composite shims where required.
6. Anchor strap specifications: 16 Ga. galvanized steel, .060 min. thickness x .850" width.
7. Sill metal back angle material is either Aluminum 1/8" Min. or Steel 16 Ga. Min.

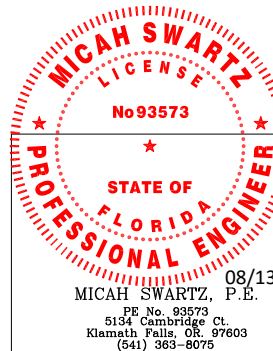
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**DISCLAIMER:**

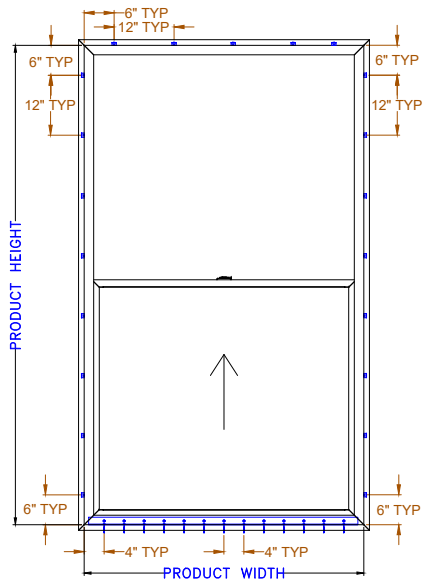
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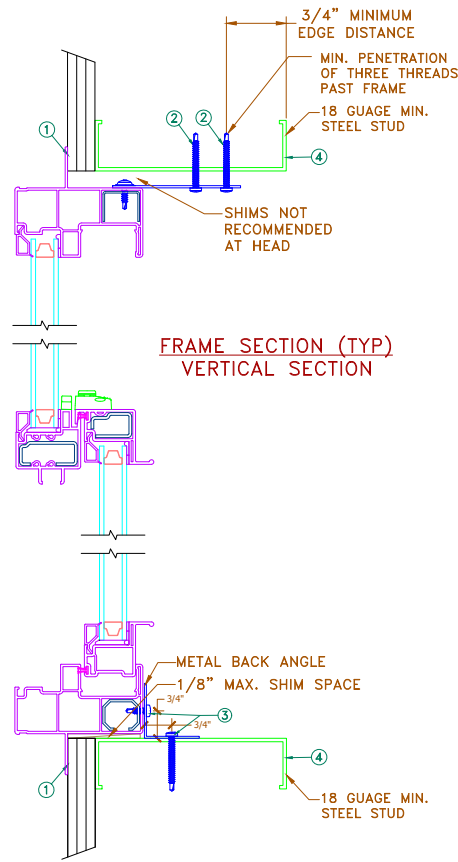
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APPROVED				
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PRODUCT FAMILY	591 ENDURANCE			
DRAWING ID NO.	40-3			



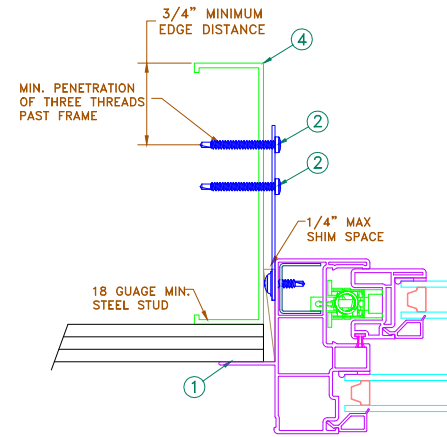
# MASONRY STRAP STEEL/SCREW INSTALLATION



TYPICAL ELEVATION WITH FASTENER SPACING



FRAME SECTION (TYP)  
VERTICAL SECTION



FRAME JAMB SECTION (TYP)  
HORIZONTAL SECTION

TEST SPECIMEN #1		
MAXIMUM FRAME	CLASS/DP	IMPACT
56" x 96"	LC/35	NO
TEST SPECIMEN #2		
MAXIMUM FRAME	CLASS/DP	IMPACT
56" x 96"	CW/30	NO

## Installation Notes:

1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone/caulk.
2. Head and Jamb must be fastened through anchor strap using (QTY 2) #10 TEK Screws MIN. Fy = 33 KSI
3. Sill fastener size @ back angle to steel framing is 10-16 TEK Screw @ 4" O.C.. Fasteners must penetrate structural framing a minimum of 3 threads past framing. Fastener size for sill @ back angle to window is #8 x 1/2"(MAX.) @ 4" O.C.
4. Structural framing (wood buck, stud framing and opening) to be designed and anchored to properly transfer all loads to structure. The host structure is the responsibility of the architect or engineer of the record for the project of installation

## General Notes:

1. The product shown herein is designed, tested and manufactured to comply with the wind load criteria of the adopted International Building Code (IBC), the International Residential Code (IRC), the current Florida Building Code (FBC) and the industry requirement for the stated conditions.
2. Nail flange is optional, and used for a weather seal only.
3. All glazing shall conform to ASTM E1300.
4. At minimum, glazing shall be 3mm annealed - 13mm airspace - 3mm annealed glass.
5. Use structural or composite shims where required.
6. Anchor strap specifications: 16 Ga. galvanized steel, .060 min. thickness x .850" width.
7. Sill metal back angle material is either Aluminum 1/8" Min. or Steel 16 Ga. Min.

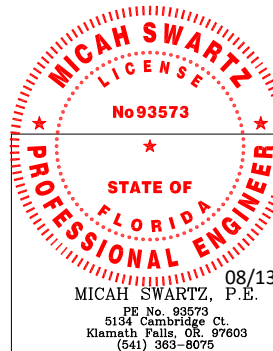
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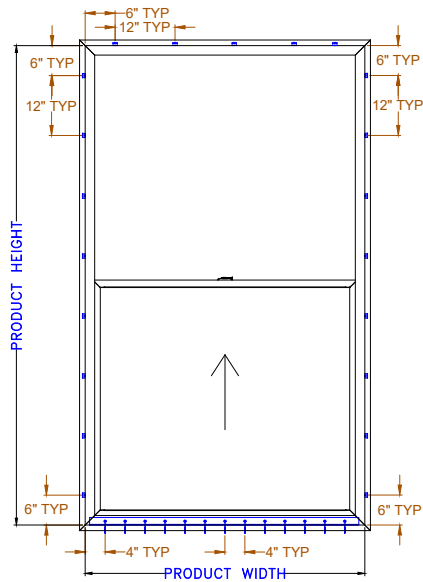
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PRODUCT FAMILY	591 ENDURANCE			
DRAWING ID NO.	40-4			



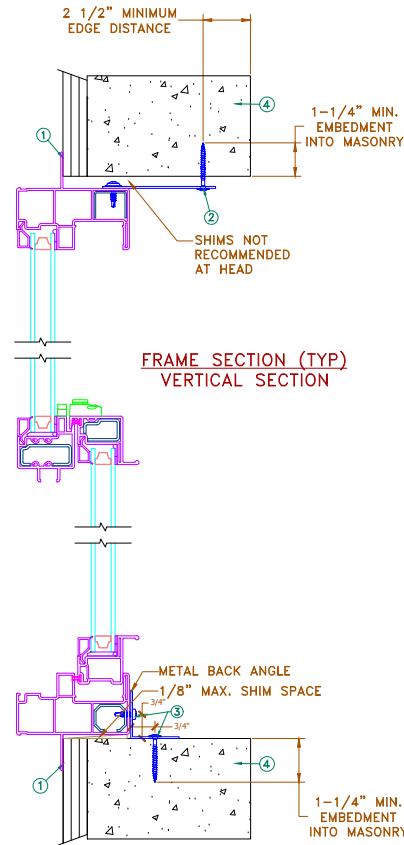
SHEET  
MASONRY STRAP STEEL/SCREW INSTALLATION

REV

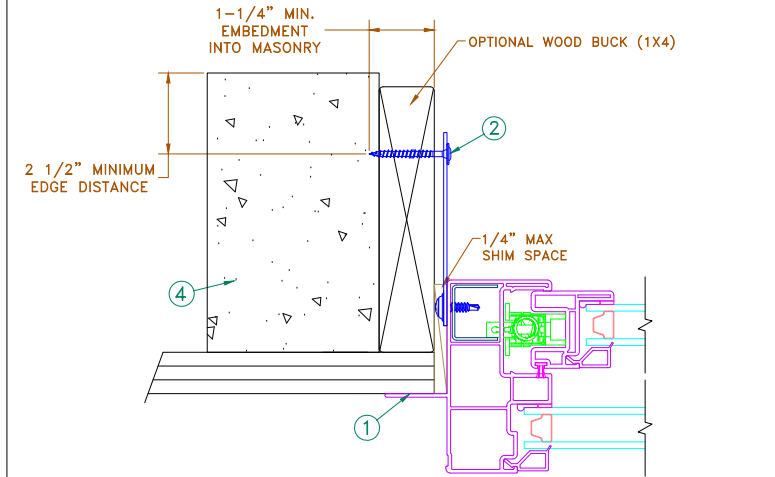
# MASONRY STRAP CONCRETE SCREW INSTALLATION



TYPICAL ELEVATION WITH FASTENER SPACING



FRAME SECTION (TYP) VERTICAL SECTION



FRAME JAMB SECTION (TYP) HORIZONTAL SECTION

TEST SPECIMEN #1		
MAXIMUM FRAME	CLASS/DP	IMPACT
56" x 96"	LC/35	NO
TEST SPECIMEN #2		
MAXIMUM FRAME	CLASS/DP	IMPACT
56" x 96"	CW/30	NO

## Installation Notes:

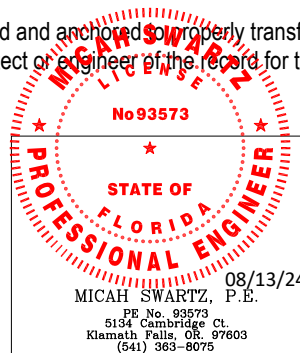
- Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone/caulk.
- Head and Jamb must be fastened through anchor strap using one (1) 1/4"Ø Tapcon or equivalent fastener through masonry strap with sufficient length to penetrate a minimum of 1-1/4" into masonry substrate with a 2-1/2" minimum edge distance. CMU shall adhere to ASTM C90 and concrete shall have a min. F'c=3,000 PSI.
- Sill fastener to be 3/16" Tapcon @ 4" O.C. through back angle with sufficient length to penetrate 1-1/4" into masonry substrate with a 2-1/2" min. edge distance. CMU shall adhere to ASTM C90 and concrete shall have a Min. F'c=3,000 PSI. Fastener size for sill @ back angle to window is 10-16 x 1/2"(MAX.) TEK Screw @ 4" O.C.
- Structural framing (wood buck, stud framing and opening) to be designed and anchored to properly transfer all loads to structure. The host structure is the responsibility of the architect or engineer of the record for the project of installation

## General Notes:

- The product shown herein is designed, tested and manufactured to comply with the wind load criteria of the adopted International Building Code (IBC), the International Residential Code (IRC), the current Florida Building Code (FBC) and the industry requirement for the stated conditions.
- Nail flange is optional, and used for a weather seal only.
- All glazing shall conform to ASTM E1300.
- At minimum, glazing shall be 3mm annealed - 13mm airspace - 3mm annealed glass.
- Use structural or composite shims where required.
- Anchor strap specifications: 16 Ga. galvanized steel, .060 min. thickness x .850" width.
- Sill metal back angle material is either Aluminum 1/8" Min. or Steel 16 Ga. Min.

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APPROVED		
SIZE	B	SCALE NTS SHEET 5 of 8
PRODUCT FAMILY	591 ENDURANCE	
DRAWING ID NO.	40-5	

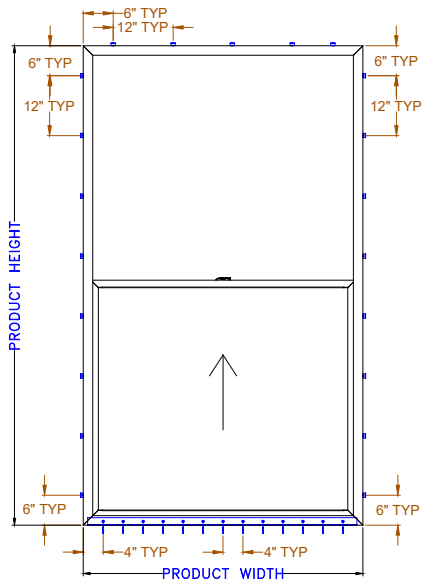


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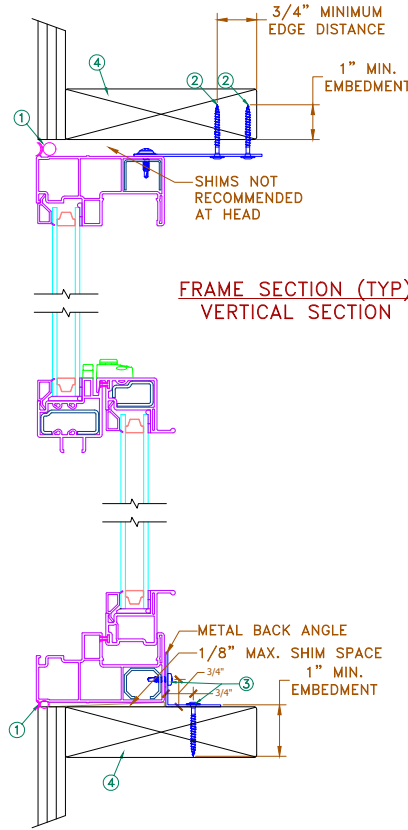
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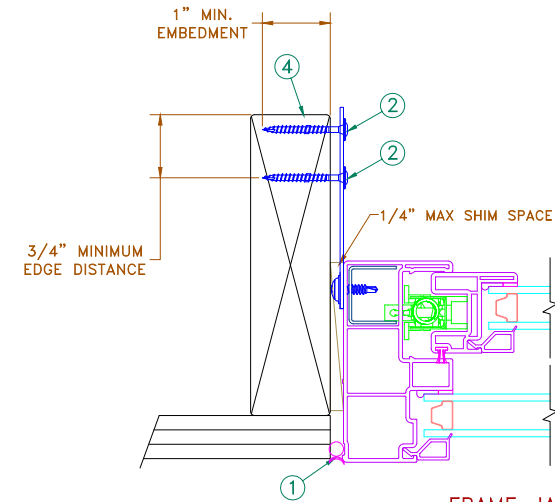




TYPICAL ELEVATION WITH FASTENER SPACING



FRAME SECTION (TYP)  
VERTICAL SECTION



FRAME JAMB SECTION (TYP)  
HORIZONTAL SECTION

NO FLANGE/MASONRY STRAP  
WOOD/SCREW INSTALLATION

TEST SPECIMEN #1			
MAXIMUM FRAME	CLASS/DP	IMPACT	
56" x 96"	LC/35	NO	
TEST SPECIMEN #2			
MAXIMUM FRAME	CLASS/DP	IMPACT	
56" x 96"	CW/30	NO	

**Installation Notes:**

1. Seal exterior frame to substrate using backer rod plus sealant. Sill shall be set on a continuous serpentine bead of structural grade silicone/caulk.
2. Head and Jamb must be fastened through anchor strap using (QTY 2) #10 fasteners with sufficient length to penetrate a min. 1" into wood substrate. (For 2x wood frame substrate, Min. S.G. - 0.42).
3. Sill fastener size @ back angle to wood framing is #8 @ 4" O.C.. Fastener size for sill @ back angle to window is 10-16 x 1/2"(MAX.) TEK Screw @ 4" O.C.
4. Structural framing (wood buck, stud framing and opening) to be designed and anchored to properly transfer all loads to structure. The host structure is the responsibility of the architect or engineer of the record for the project of installation

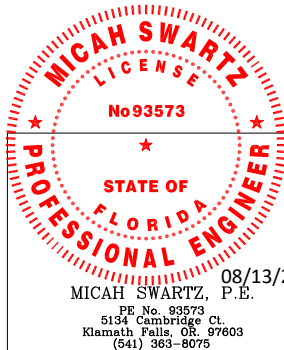
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2. All glazing shall conform to ASTM E1300.
3. At minimum, glazing shall be 3mm annealed - 13mm airspace - 3mm annealed glass.
4. Use structural or composite shims where required.
5. Anchor strap specifications: 16 Ga. galvanized steel, .060 min. thickness x .850" width.
6. Sill metal back angle material is either Aluminum 1/8" Min. or Steel 16 Ga. Min.

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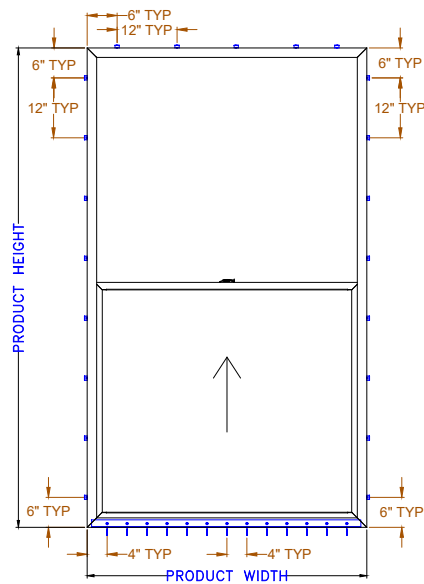
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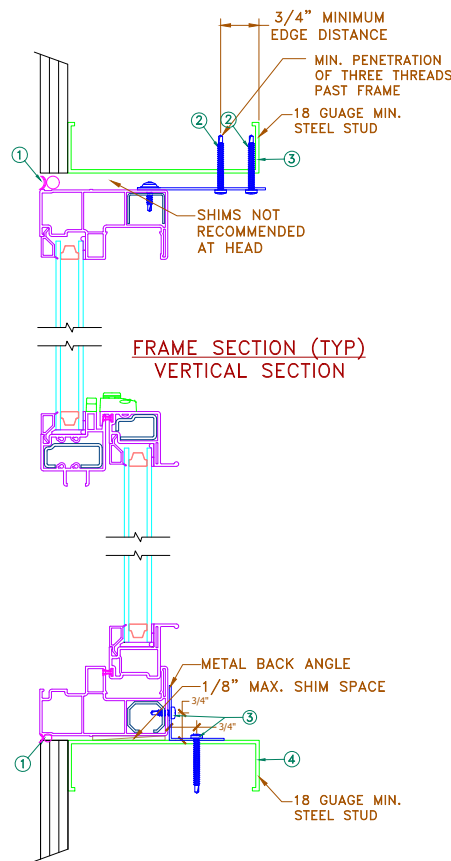
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PRODUCT FAMILY	591 ENDURANCE			
DRAWING ID NO.	40-6			



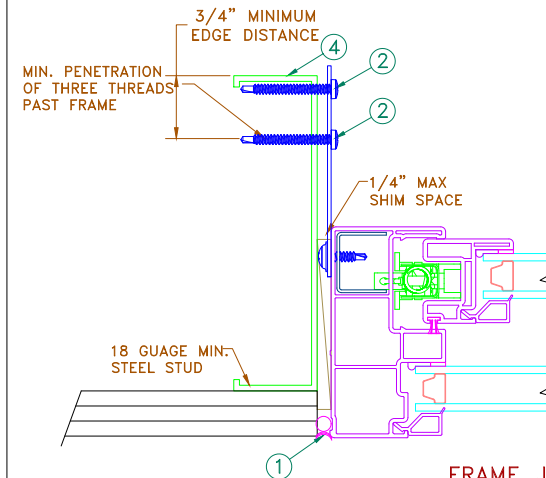
**NO FLANGE/MASONRY STRAP  
STEEL/SCREW INSTALLATION**



**TYPICAL ELEVATION WITH FASTENER SPACING**



**FRAME SECTION (TYP)  
VERTICAL SECTION**



**FRAME JAMB SECTION (TYP)  
HORIZONTAL SECTION**

TEST SPECIMEN #1		
MAXIMUM FRAME	CLASS/DP	IMPACT
56" x 96"	LC/35	NO
TEST SPECIMEN #2		
MAXIMUM FRAME	CLASS/DP	IMPACT
56" x 96"	CW/30	NO

**Installation Notes:**

1. Seal exterior frame to substrate using backer rod plus sealant. Sill shall be set on a continuous serpentine bead of structural grade silicone/caulk.
2. Head and Jamb must be fastened through anchor strap using (QTY 2) #10 TEK Screws Min Fy = 33 KSI.
3. Sill fastener size @ back angle to wood framing is 10-16 TEK Screw @ 4" O.C.. Fastener size for sill @ back angle to window is 10-16 x 1/2"(MAX.) TEK Screw @ 4" O.C.
4. Structural framing (wood buck, stud framing and opening) to be designed and anchored to properly transfer all loads to structure. The host structure is the responsibility of the architect or engineer of the record for the project of installation

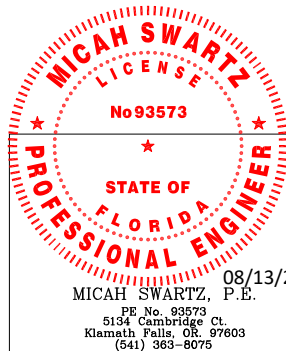
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2. All glazing shall conform to ASTM E1300.
3. At minimum, glazing shall be 3mm annealed - 13mm airspace - 3mm annealed glass.
4. Use structural or composite shims where required.
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6. Sill metal back angle material is either Aluminum 1/8" Min. or Steel 16 Ga. Min.

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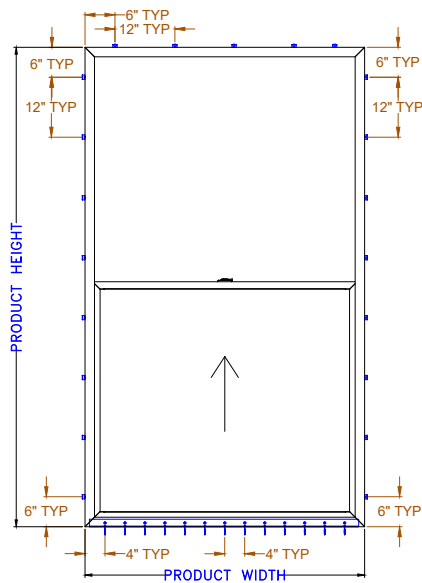
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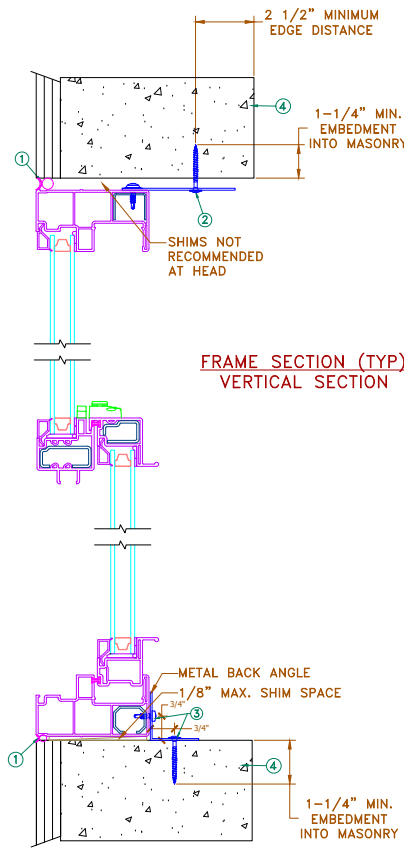
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PRODUCT FAMILY	591 ENDURANCE			
DRAWING ID NO.	40-7			



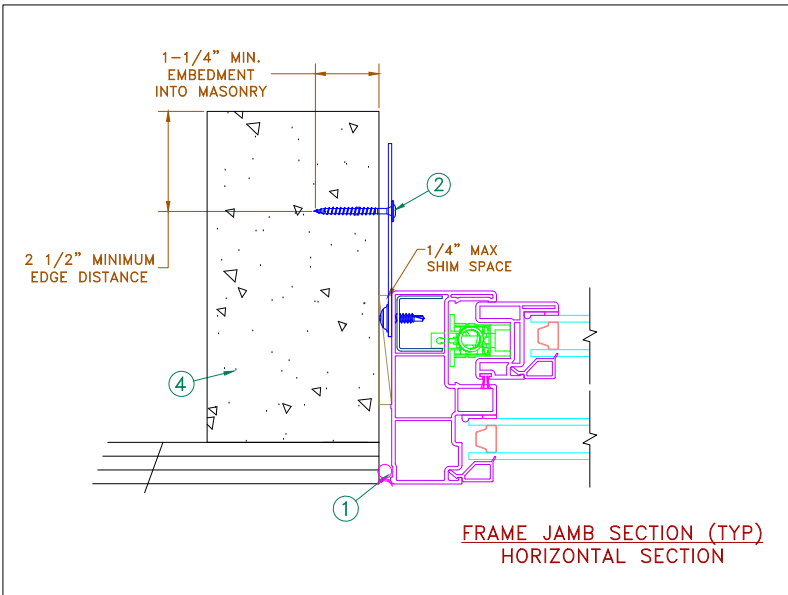
NO FLANGE/MASONRY STRAP  
CONCRETE SCREW  
INSTALLATION



TYPICAL ELEVATION WITH FASTENER SPACING



FRAME SECTION (TYP)  
VERTICAL SECTION



FRAME JAMB SECTION (TYP)  
HORIZONTAL SECTION

TEST SPECIMEN #1		
MAXIMUM FRAME	CLASS/DP	IMPACT
56" x 96"	LC/35	NO
TEST SPECIMEN #2		
MAXIMUM FRAME	CLASS/DP	IMPACT
56" x 96"	CW/30	NO

**Installation Notes:**

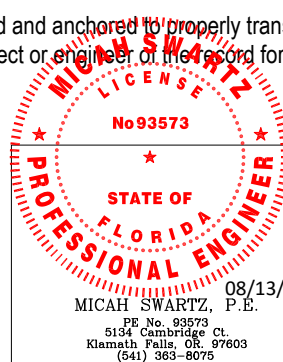
1. Seal flange/frame to substrate. Sill shall be set on a continuous serpentine bead of structural grade silicone/caulk.
2. Head and Jamb must be fastened through anchor strap using one (1) 1/4"Ø Tapcon or equivalent fastener through masonry strap with sufficient length to penetrate a minimum of 1-1/4" into masonry substrate with a 2-1/2" minimum edge distance. CMU shall adhere to ASTM C90 and concrete shall have a min. F'c=3,000 PSI.
3. Sill fastener to be 3/16" Tapcon @ 4" O.C. through back angle with sufficient length to penetrate 1-1/4" into masonry substrate with a 2-1/2" min. edge distance. CMU shall adhere to ASTM C90 and concrete shall have a Min. F'c=3,000 PSI. Fastener size for sill @ back angle to window is 10-16 x 1/2"(MAX.) TEK Screw @ 4" O.C.
4. Structural framing (wood buck, stud framing and opening) to be designed and anchored to properly transfer all loads to structure. The host structure is the responsibility of the architect or engineer of record for the project of installation

**General Notes:**

1. The product shown herein is designed, tested and manufactured to comply with the wind load criteria of the adopted International Building Code (IBC), the International Residential Code (IRC), the current Florida Building Code (FBC) and the industry requirement for the stated conditions.
2. All glazing shall conform to ASTM E1300.
3. At minimum, glazing shall be 3mm annealed - 13mm airspace - 3mm annealed glass.
4. Use structural or composite shims where required.
5. Anchor strap specifications: 16 Ga. galvanized steel, .060 min. thickness x .850" width.
6. Sill metal back angle material is either Aluminum 1/8" Min. or Steel 16 Ga. Min.

This item has been digitally signed and sealed by Micah Swartz, P.E. on the date adjacent to the seal.

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DRAWN	Bpoutre			08/12/2024
CHECKED				
APPROVED				
SIZE	B	SCALE	NTS	SHEET 8 of 8
PRODUCT FAMILY	591 ENDURANCE			
DRAWING ID NO.	40-8			



This schedule addresses only the fasteners required to anchor the unit to achieve the rated design pressure and impact performance (where applicable) up to the size limitations noted. It is not intended as a guide to the installation process and does not address the sealing consideration that may arise in different wall conditions. For the complete installation procedure, see the instructions packaged with the unit or go to www.jeld-wen.com.

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