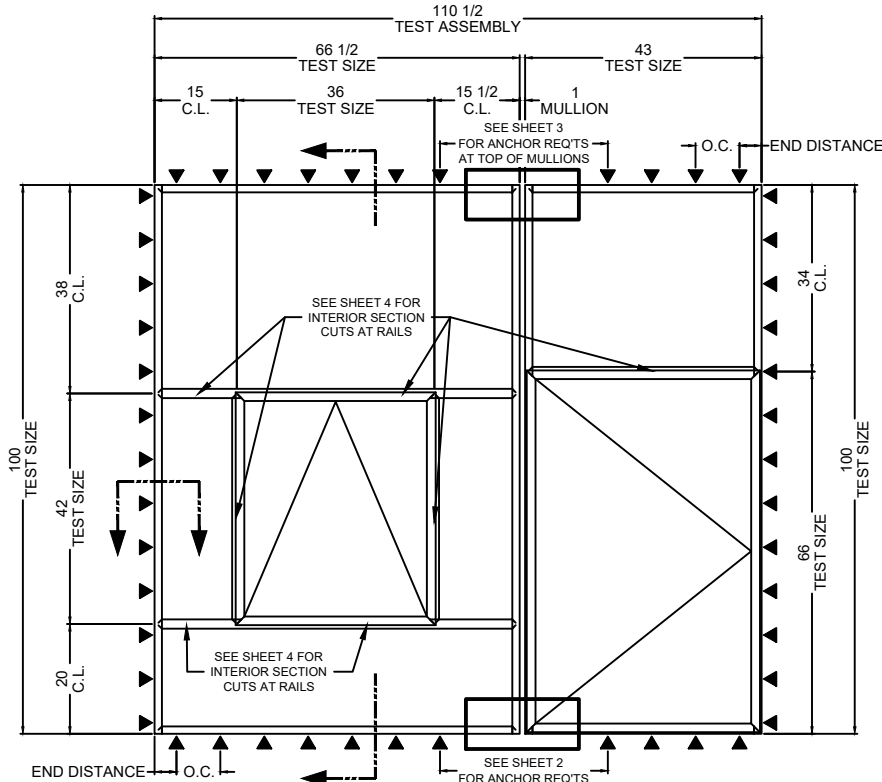


TABLE 1: PRIMARY ANCHOR (TO SUBSTRATE CONDITION)							
SUBSTRATE	LOCATION	HARDWARE (ACCEPTABLE TRADE NAME OR EQUIVALENT)	O.C. SPACING (MAX)	END DISTANCE (MAX)	EMBEDMENT (MIN)	SUBSTRATE EDGE DISTANCE (MIN)	d1 INSTALL DIMENSION (MIN)
WOOD SG = 0.42	HEAD	1/4" Ø LAG SCREW, FULL BODY	8"	4"	1-1/2"	1"	1"
	SILL		14"				
	JAMB		8"				
CONCRETE 3,000 PSI	HEAD	1/4" Ø HILTI KWIK HUS-EZ (KH-EZ)	8"	4"	2-1/2"	1-3/4"	1"
	SILL		16"				
	JAMB		8"				
CONCRETE 4,000 PSI	HEAD	1/4" Ø HILTI KWIK HUS-EZ (KH-EZ)	8"	4"	2-1/2"	1-3/4"	1"
	SILL		16"				
	JAMB		8"				
CMU (GROUT FILLED) f'm = 1,500 PSI	HEAD	1/4" Ø HILTI KWIK HUS-EZ (KH-EZ)	8"	4"	2-1/2"	3-1/4"	1"
	SILL		14"				
	JAMB		8"				
STEEL STUD (18 ga. 33ksi)	HEAD	1/4"-14 SAE GR. 5 HEX/HWH HILTI KWIK FLEX OR DEWALT DRIL-FLEX	4"	4"	3 THREADS	1"	1"
	SILL		10"				
	JAMB		4"				

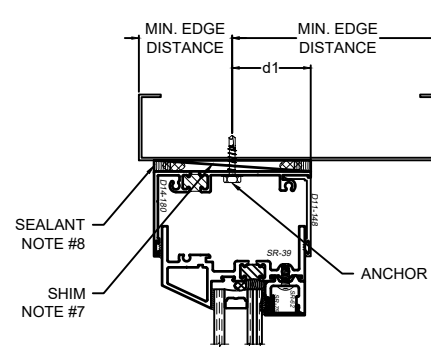
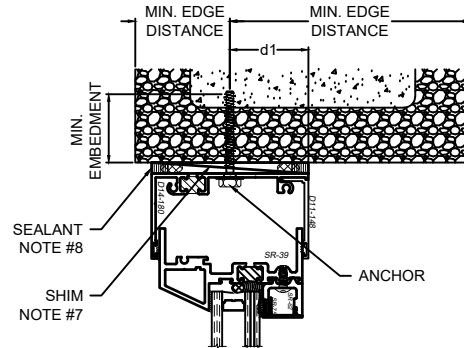
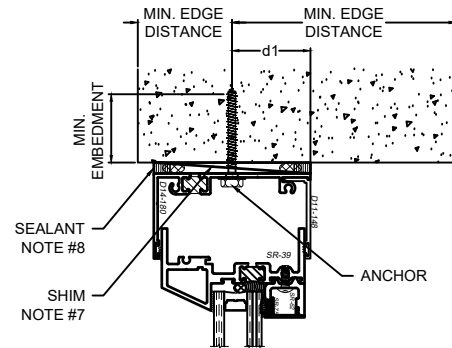
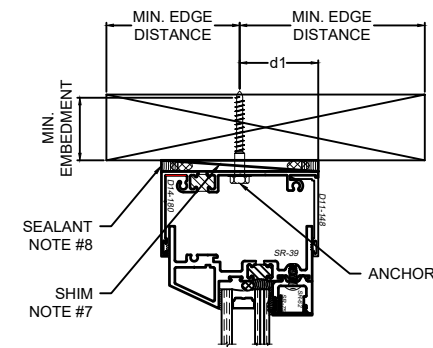


1. Installations depicted comply with:
Florida Building Code - 8th Ed. (FBC 2023)
International Building Code (IBC 2021)
National Design Specifications (ANSI/AWC NDS 2018)
Aluminum Design Manual (ADM 2020)
Cold-Formed Steel Design Manual (AISI-S100 2020)

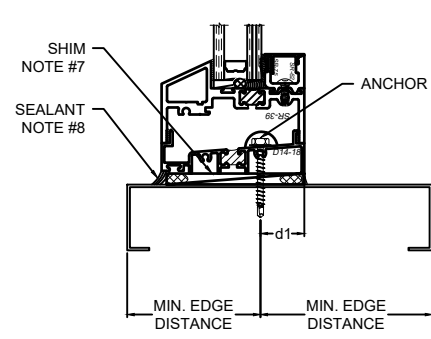
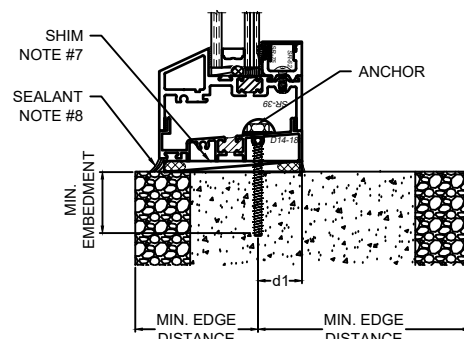
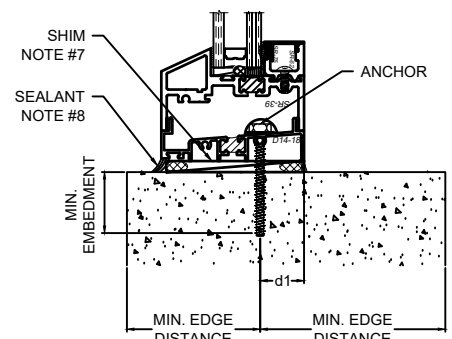
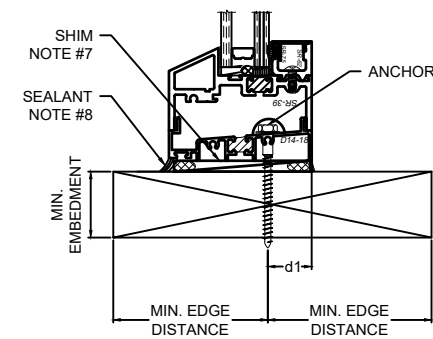
2. The installation depicted in this drawing and all calculations are based on a maximum size and design wind pressure rating listed below. The products **have** been proven for resistance to Large Missile Impact per ASTM E1886 / E1996 Missile Level D.

Test Assembly Size: **110-1/2" x 100"** Design pressure: **+/- 70 psf**
Awning Test Size: **36" x 42"**
Casement Test Size: **43" x 66"**

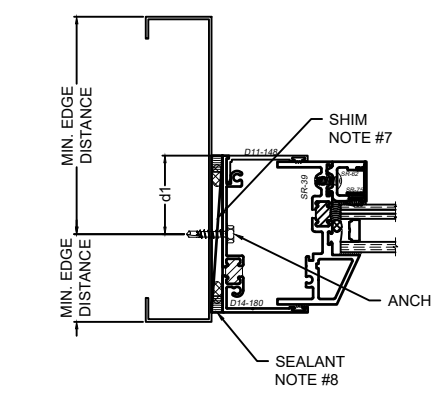
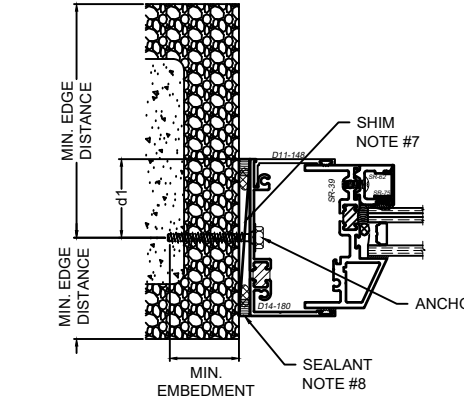
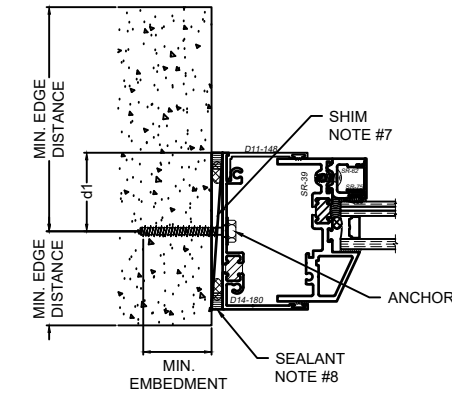
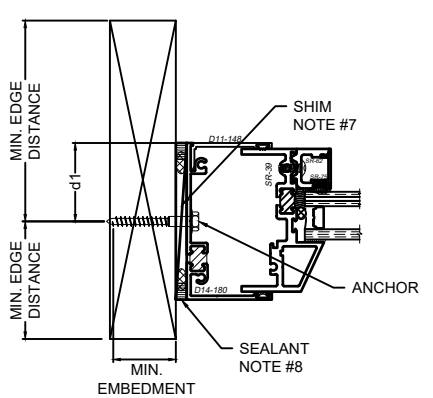
3. Lag screws shall be used for wood substrates. Screw materials and dimensions shall meet the requirements of ANSI / ASME Standard B18.2.1. All lag screw conditions must be pre-drilled with hole diameters of 40-70% of the fastener diameter. Wood buck installations are assumed to use 2 X S-P-F (G= 0.42) or denser. Tapered or partial bucks are not allowed.
4. Approved screw anchors shall be used for concrete substrate. Anchor embedment shall be as indicated herein. Install per ESR-3027 requirements. Concrete installations are assumed to be at least f'c = 3,000 (or 4,000) psi, normal weight concrete.
5. Approved screw anchors shall be used for CMU substrate. Anchor materials and dimensions shall meet the requirements of ICC-ES AC106 - Acceptance Criteria for Predrilled Fasteners (Screw Anchors) in masonry elements. Anchor embedment shall be as indicated herein. Install per ESR-3056 requirements. Concrete masonry installations are assumed at least ASTM C90, Type II, Grade N, with f'm = 1,500 psi, and type M or S mortar.
6. Approved self-drilling screws shall be used for steel stud substrate. All fasteners installed in steel studs shall be SAE grade 5 or better. Steel stud installations assume 18 gauge, 33 ksi studs and follow AISI-S100 rules and procedures.
7. Maximum shim thickness of 1/4" permitted at each fastener location. Shims shall be non-compressible and load-bearing type.
8. Drawings depict details necessary to meet structural load requirements, but do not address air infiltration, water penetration, intrusion or thermal performance requirements of the installation. See manufacturer's Installation Instructions for sealing, flashing, drainage and other requirements.
9. Minimum fastener on center spacing to be coordinated with fastener manufacturer's technical data for the expected substrate.
10. All substrate types shall be secured to the building structure to resist all design loads, and shall have widths that exceed the window frame widths.



HEAD



SILL



JAMBS

LEFT JAMBS SHOWN
RIGHT JAMBS ARE SIMILAR

Wayne K Helmila

Digitally signed by Wayne K Helmila
DN: CN=Wayne K Helmila,
dnQualifier=AD1410C0000018CDB8F4AFB001A652B,
c=US Reason: This item has been digitally signed and sealed
by Wayne K Helmila on the date adjacent to the seal.
Printed copies of this document are not considered
signed and sealed and the signature must be verified
on any electronic copies.
Date: 2025.06.03 09:27:28-05'00'

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COA: 9090

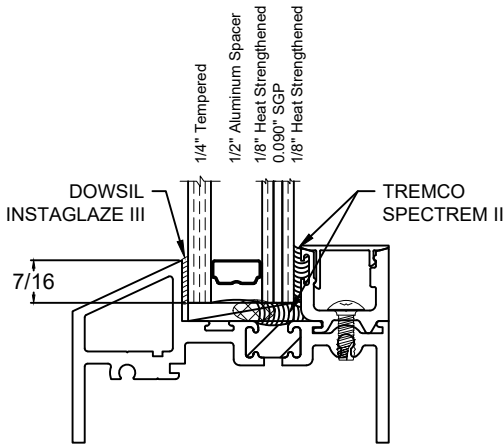
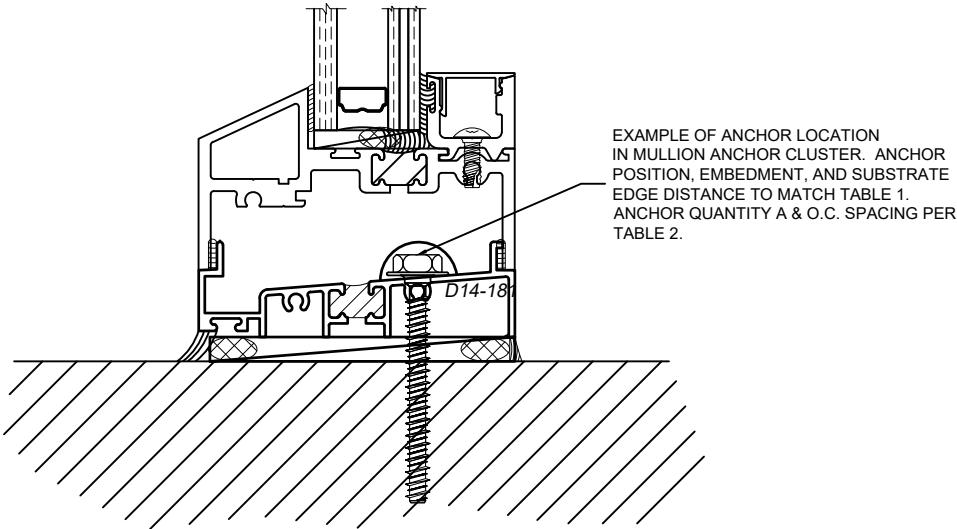
Rev.	Description	Date
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Scale: NONE		Drawn by: B. FOOTE
Winco Window Co. 6200 Maple Ave. St. Louis, MO 63130 PHONE: 314-725-8088		
WINCO Product: 3250 COMBO FIXED - D MISSILE		
Installation: ANCHORAGE: SUB-FRAME (SHT 1 OF 5)		
Certification: LMI 3250		

TABLE 2: ANCHOR CLUSTER CENTERED ON MULLIONS @ THE SILL				
SUBSTRATE	LOCATION	HARDWARE (ACCEPTABLE TRADENAME OR EQUIVALENT)	NUMBER OF ANCHORS IN CLUSTER	O.C. SPACING (MAX)
WOOD SG = 0.42	SILL	1/4" Ø LAG SCREW, FULL BODY	7	4"
CONCRETE 3,000 PSI	SILL	1/4" Ø HILTI KWIK HUS-EZ (KH-EZ)	6	5"
CONCRETE 4,000 PSI	SILL	1/4" Ø HILTI KWIK HUS-EZ (KH-EZ)	6	5"
CMU (GROUT FILLED) f _m = 1,500 PSI	SILL	1/4" Ø HILTI KWIK HUS-EZ (KH-EZ)	7	4"
STEEL STUD (18 ga. 33ksi)	SILL	1/4"-14 SAE GR. 5 HEX/HWH HILTI KWIK FLEX OR DEWALT DRIL-FLEX	9	3"

NOTE 1:
For additional anchor requirements such as position, embedment, substrate edge distance and anchor position dimensions, see **TABLE 1** for the same anchor type and location.

NOTE 2:
Anchor cluster requirements are based on maximum size and design pressure and may not be required for lower pressures and/or smaller sizes pending project specific P.E. analysis.

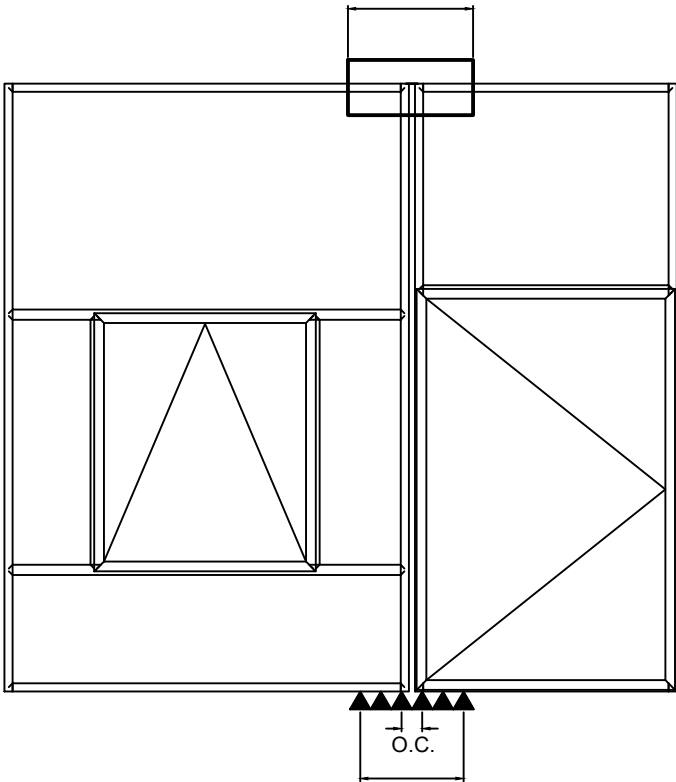
SEE SHEET 1 FOR GENERAL NOTES.



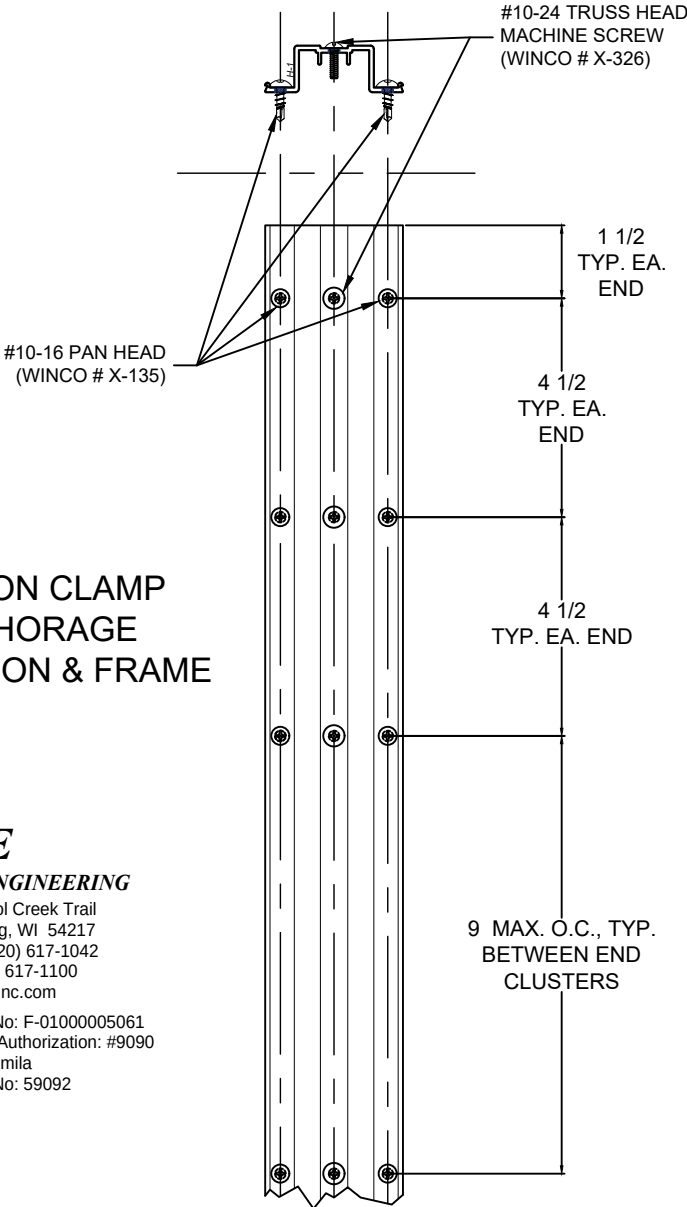
D MISSILE
GLAZING DETAIL

ANCHOR CLUSTER AT
BOTTOM OF MULLION

SEE SHEETS 3-6 FOR ANCHOR REQ'TS AT TOP OF MULLION



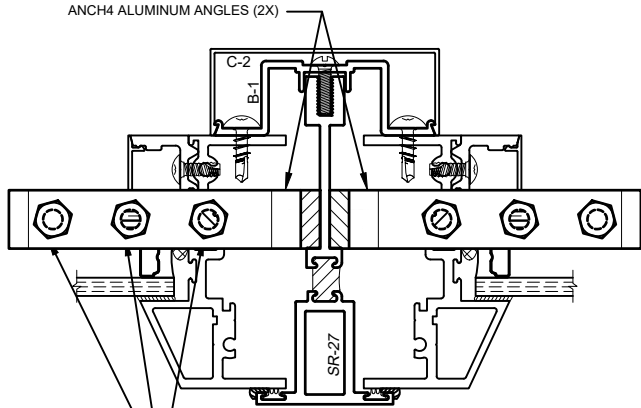
ANCHOR REQ'TS AS SPECIFIED IN TABLE 2



MULLION CLAMP
ANCHORAGE
TO MULLION & FRAME

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NON-STRUCTURAL ANCHORS FOR
MULLION INSTALLATION.
MULLION LOADING TRANSFERRED
THROUGH ADJACENT WINDOW FRAMES
AND RESOLVED BY THE ANCHOR
CLUSTER IN THE INSTALLATION TRIM

SECTION AT SILL



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WINCO Product: 3250 COMBO FIXED - D MISSILE		
Installation: ANCHORAGE: SUB-FRAME (SHT 2 OF 5)		
Certification: LMI 3250		

TABLE 3: MULLION INSTALLATION ANGLES AT HEAD (2) ANGLES REQUIRED PER MULLION							
PRIMARY ANCHOR: ANGLE TO SUBSTRATE						THRU BOLTS: ANGLE TO MULLION STEM	
SUBSTRATE	LOCATION	HARDWARE (ACCEPTABLE TRADE NAME OR EQUIVALENT)	QUANTITY REQUIRED PER ANGLE (2 ANGLES REQUIRED)	EMBEDMENT (MIN)	SUBSTRATE EDGE DISTANCE (MIN)	THRU BOLT SPECIFICATIONS	TOTAL QUANTITY REQUIRED (BOLT HOLES TO ALIGN WITH BOTH ANGLES)
WOOD S.G. = 0.42	HEAD	1/4" Ø LAG SCREWS, C.S., FULL BODY DIAMETER	8	1-1/2"	1"	1/4-20 SAE GRADE 5 STEEL HEX HEAD SECURED WITH STEEL NUT, WASHER, AND LOCK WASHER FOR Ø1/4" BOLTS, APPLY LOCTITE TO THREADS & HAND TIGHTEN	6
CONCRETE 3,000 PSI	HEAD	3/8" Ø HILTI KWIK HUS-EZ (KH-EZ)	3	3-1/4"	3-3/4"		
CONCRETE 4,000 PSI	HEAD	3/8" Ø HILTI KWIK HUS-EZ (KH-EZ)	3	3-1/4"	3-3/4"		
CMU (GROUT-FILLED f _m = 1,500 PSI)	HEAD	3/8" Ø HILTI KWIK HUS-EZ (KH-EZ)	3	3-1/4"	2-3/4"		
STEEL STUD (18 GA., 33 KSI)	HEAD	1/4"-14 C.S. SAE GR. 5, HEX/HWH (HILTI KWIK FLEX, DEWALT DRIL-FLEX)	8	3 THREADS	1"		

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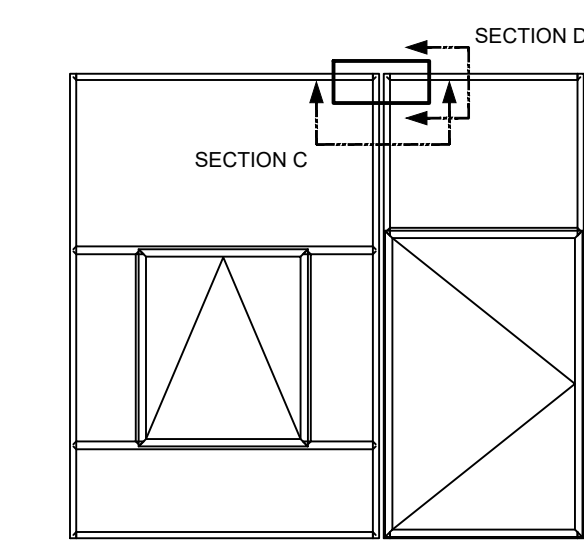
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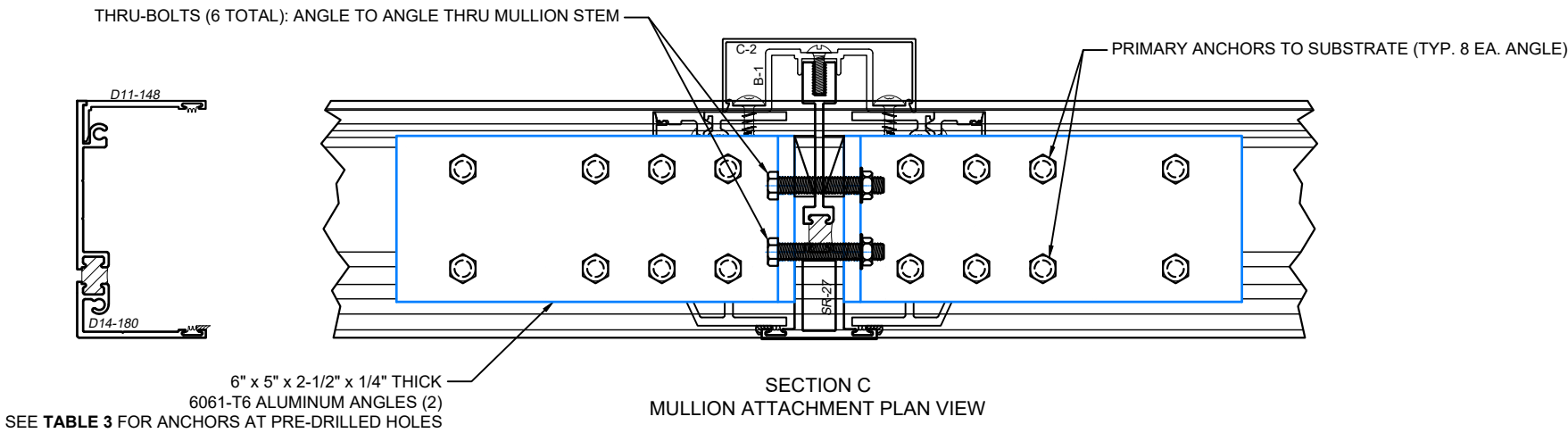
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COA: 9090

NOTES

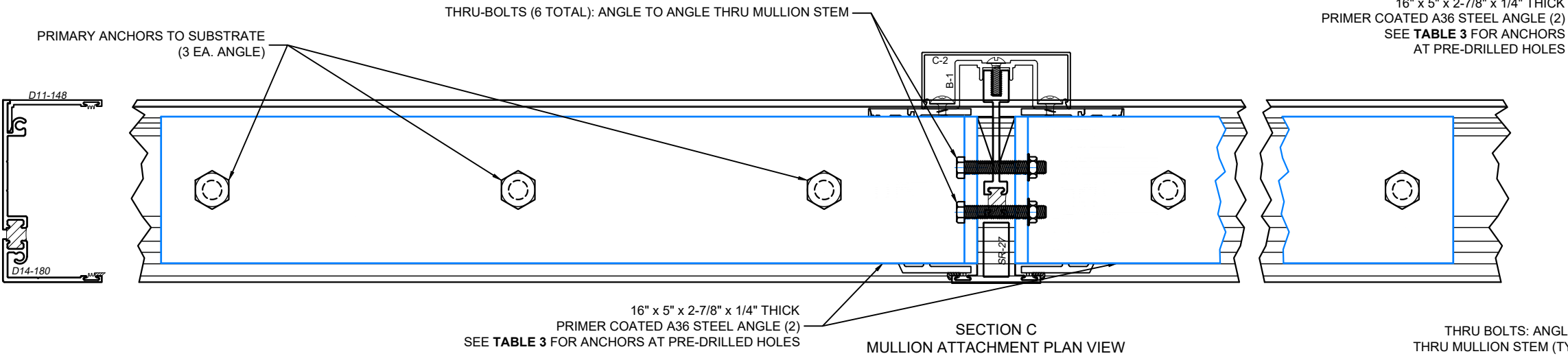
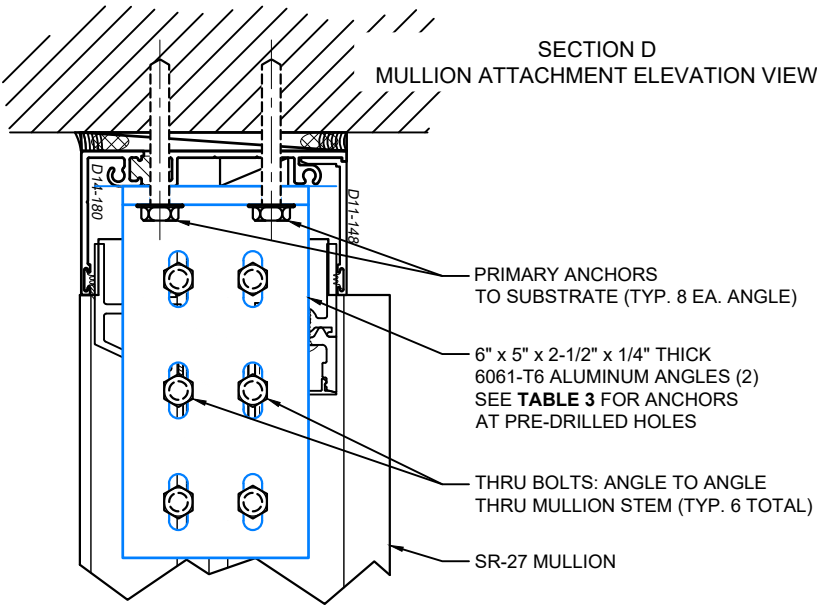
- SEE SHEET 1 FOR GENERAL NOTES.
- ANGLES SHOWN ARE BASED ON MAXIMUM SIZE AND DESIGN PRESSURE REQUIREMENTS AND MAY NOT BE REQUIRED FOR LOWER PRESSURES AND/OR SMALLER SIZES PENDING PROJECT SPECIFIC ANALYSIS.



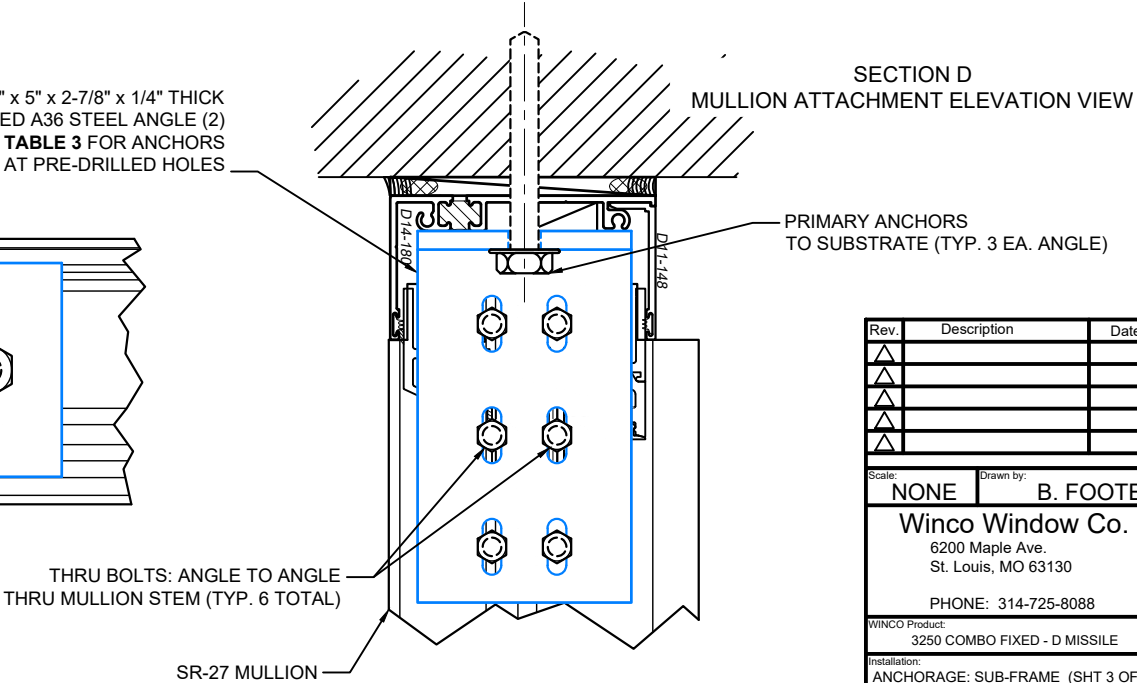
MULLION ATTACHMENT AT HEAD
(SEE SHEETS 1 & 2 FOR ANCHORAGE DETAILS AT ALL OTHER LOCATIONS)



WOOD OR STEEL SUBSTRATES

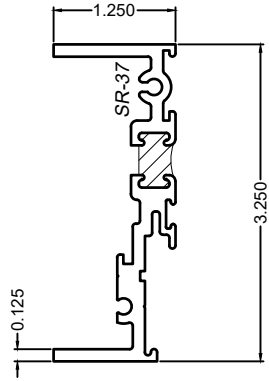


CONCRETE (8" MIN THK) OR CMU SUBSTRATES

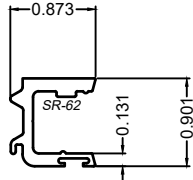


Rev.	Description	Date
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WINCO Product: 3250 COMBO FIXED - D MISSILE		
Installation: ANCHORAGE: SUB-FRAME (SHT 3 OF 5)		
Certification: LMI 3250		

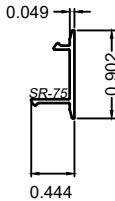
NOTES:
1) All dies shown are 6063-T6 Aluminum
2) All thermal breaks are polyurethane



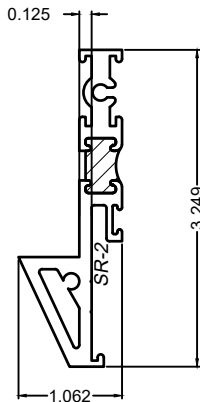
FRAME, NEUTRAL, EXT. LEG - FX/CASEMENT
SR-37



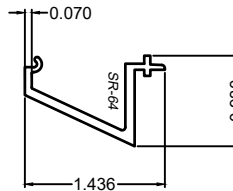
GLAZING BEAD
SR-62



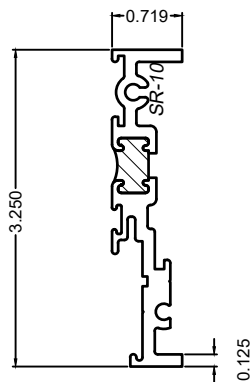
COVER, GLAZING BEAD
SR-75



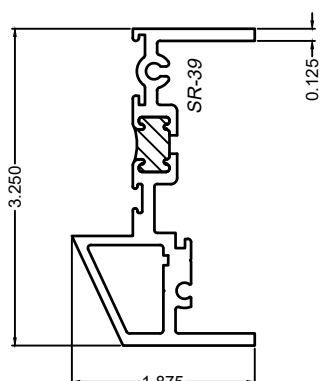
RAIL, NEUTRAL - FX/AWN &
FX/CASEMENT
SR-2



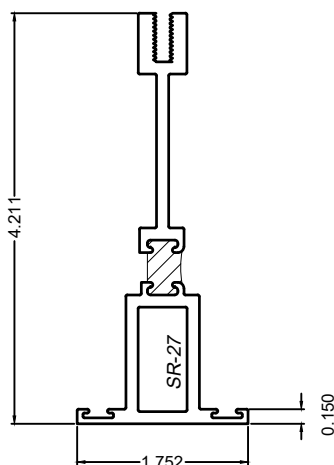
INSERT, SLOPE - FX/AWN & FX/CASEMENT
SR-64



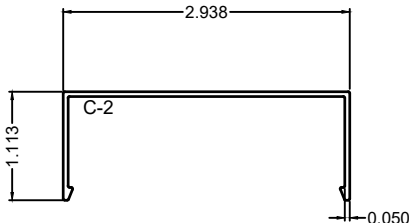
FRAME, NEUTRAL - FX/CASEMENT
SR-10



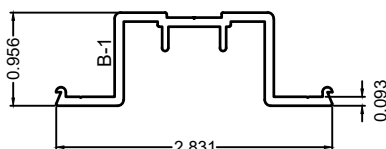
FRAME, HEAD, SILL, JAMBS - FX/AWN
FRAME, HEAD - FX/CASEMENT
SR-39



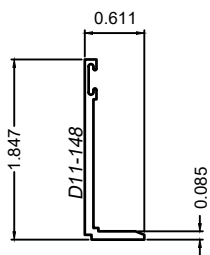
MULLION - FX/AWN & FX/CASEMENT
SR-27



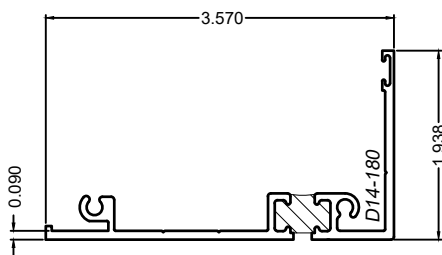
COVER, MULLION CLAMP
C-2



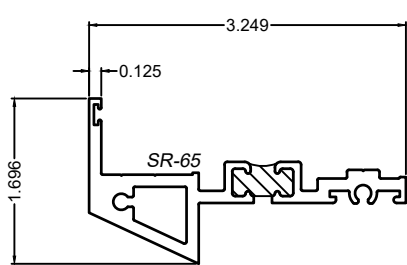
CLAMP, MULLION
B-1



CLOSURE PLATE,
SUB-FRAME
D11-148



SUB-FRAME, 3-1/4"
D14-180



SASH, DEEP FRAME
SR-65

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WINCO Product: 3250 COMBO FIXED - D MISSILE		
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Certification: LMI 3250		