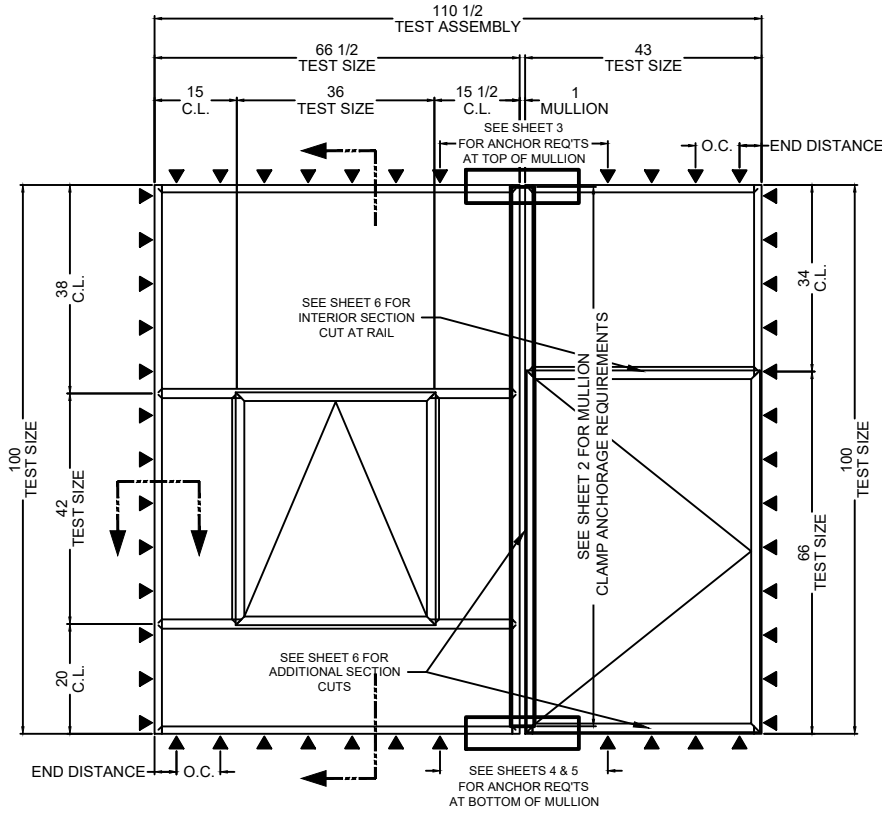
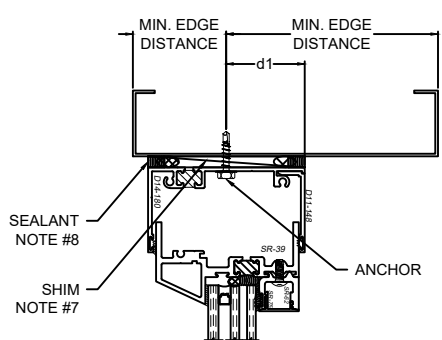
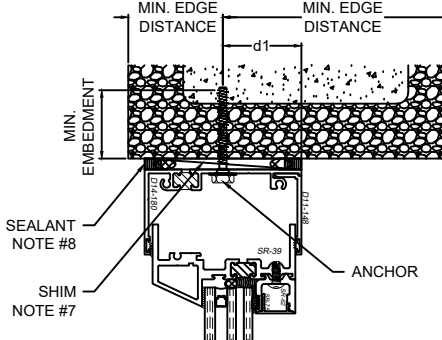
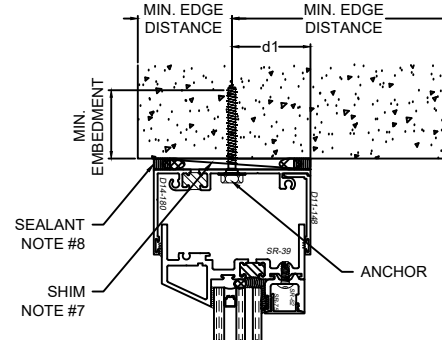
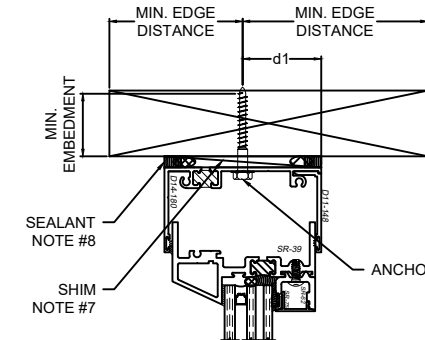


TABLE 1: PRIMARY ANCHOR (TO SUBSTRATE CONDITION)							
SUBSTRATE	LOCATION	HARDWARE (ACCEPTABLE TRADE NAME OR EQUIVALENT)	O.C. SPACING (MAX)	END DISTANCE (MAX)	EMBEDMENT (MIN)	SUBSTRATE EDGE DISTANCE (MIN)	d1 INSTALL DIMENSION (MIN)
WOOD SG = 0.42	HEAD	1/4" Ø LAG SCREW, FULL BODY	6"	4"	1-1/2"	1"	1"
	SILL		12"				
	JAMB		6"				
CONCRETE 3,000 PSI	HEAD	1/4" Ø HILTI KWIK HUS-EZ (KH-EZ)	8"	4"	2-1/2"	1-3/4"	1"
	SILL		12"				
	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		12"				
	JAMB		8"				
CMU (GROUT FILLED) f'm = 1,500 PSI	HEAD	1/4" Ø HILTI KWIK HUS-EZ (KH-EZ)	6"	4"	2-1/2"	3-1/4"	1"
	SILL		12"				
	JAMB		6"				
STEEL STUD (18 ga. 33ksi)	HEAD	1/4"-14 SAE GR. 5 HEX/HWH HILTI KWIK FLEX OR DEWALT DRIL-FLEX	3"	4"	3 THREADS	1"	1"
	SILL		8"				
	JAMB		3"				

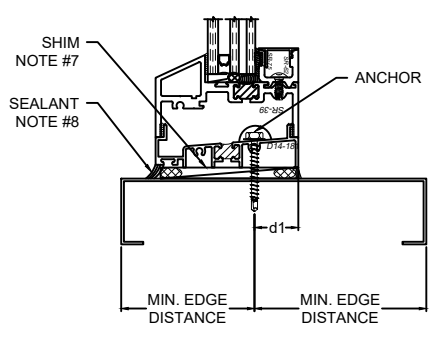
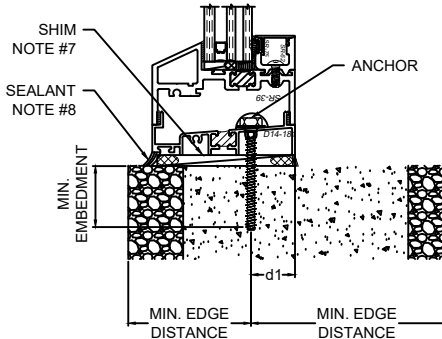
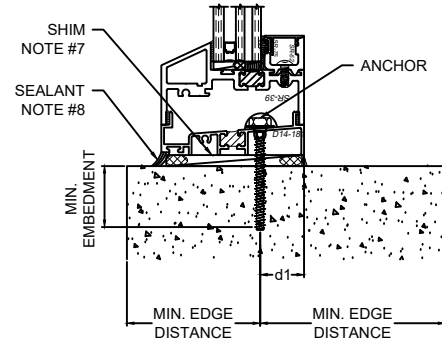
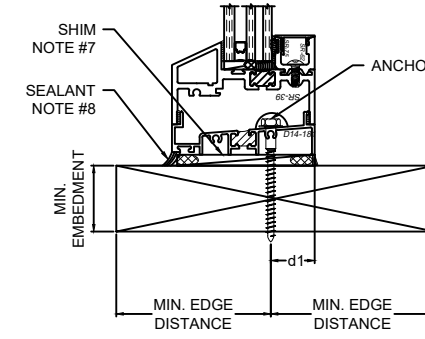


- Installations depicted comply with:
Florida Building Code - 8th Ed. (FBC 2023)
International Building Code (IBC 2021)
National Design Specifications (ANSI/AWC NDS 2018)
Aluminum Design Manual (ADM 2020)
Cold-Formed Steel Design Manual (AISI-S100 2020)
- The installation depicted in this drawing and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

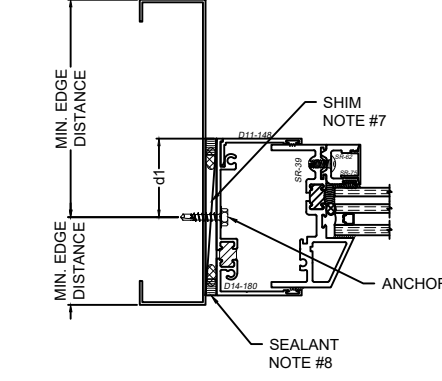
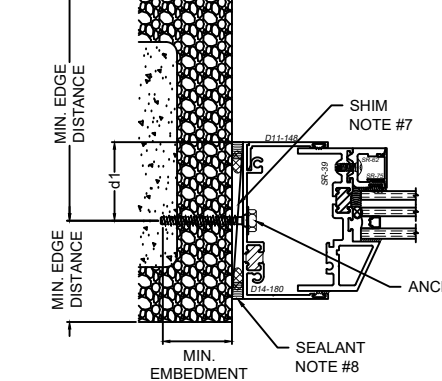
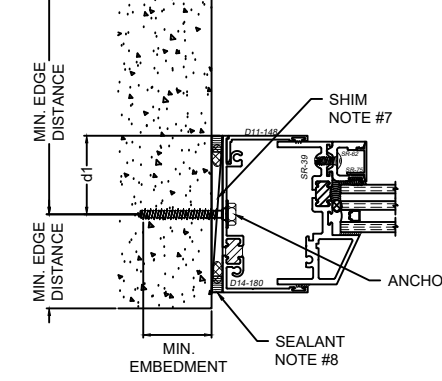
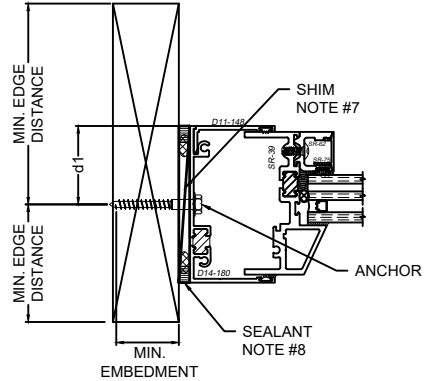
Test Assembly Size: **110-1/2" x 100"** Design pressure: **+/- 90 psf**
Awning Test Size: **36" x 42"**
Casement Test Size: **43" x 66"**
- Lag screws shall be used for wood substrates. Screw materials and dimensions shall meet the requirements of ANSI / ASME Standard B18.2.1. All lag screw conditions 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.
- 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.
- 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.
- 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.
- Maximum shim thickness of 1/4" permitted at each fastener location. Shims shall be non-compressible and load-bearing type.
- 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.
- Minimum fastener on center spacing to be coordinated with fastener manufacturer's technical data for the expected substrate.
- 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=A01410C0000018CDBF4AF8001A652B,
O=Wisconsin, 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 13:44:10-05'00'

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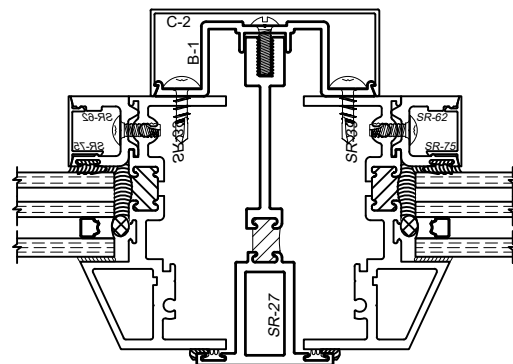
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Luxemburg, WI 54217
Phone: (920) 617-1042
Fax: (920) 617-1100
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Winco Window Co. 6200 Maple Ave. St. Louis, MO 63130 PHONE: 314-725-8088		
WINCO Product: 3250 COMBO CASEMENT - E MISSILE		
Installation: ANCHORAGE: SUB-FRAME (SHT 1 OF 7)		
Certification: LMI 3250		



MULLION SECTION VIEW
(MID SPAN)

#10-16 PAN HEAD
(WINCO # X-135)

#10-24 TRUSS HEAD
MACHINE SCREW
(WINCO # X-326)

1 1/2
TYP. EA.
END

4 1/2
TYP. EA.
END

4 1/2
TYP. EA. END

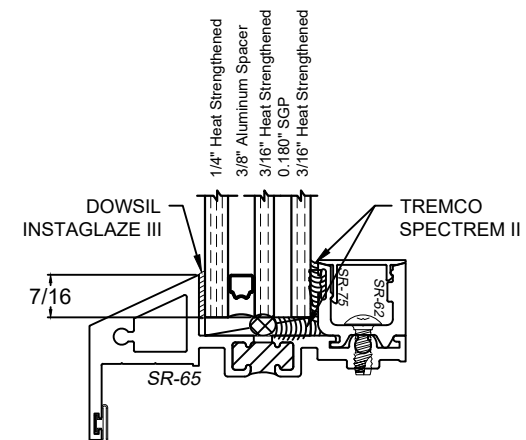
9 MAX. O.C., TYP.
BETWEEN END
CLUSTERS

MULLION CLAMP ANCHORAGE
TO MULLION & FRAME

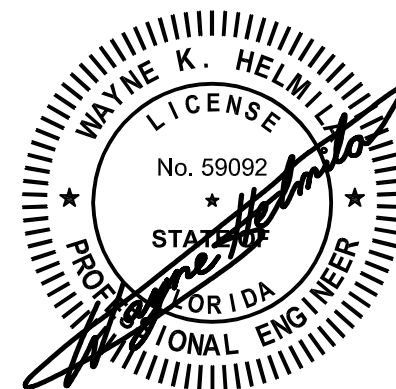
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E MISSILE
GLAZING DETAIL



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Winco Window Co.

6200 Maple Ave.
St. Louis, MO 63130

PHONE: 314-725-8088

WINCO Product:
3250 COMBO CASEMENT - E MISSILE

Installation:
ANCHORAGE: SUB-FRAME (SHT 2 OF 7)

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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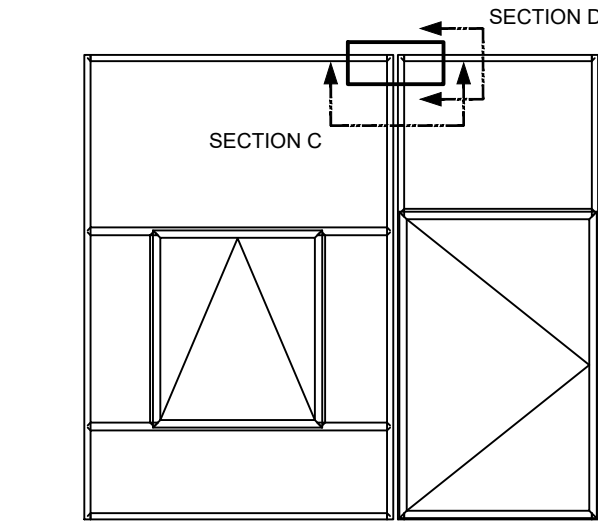
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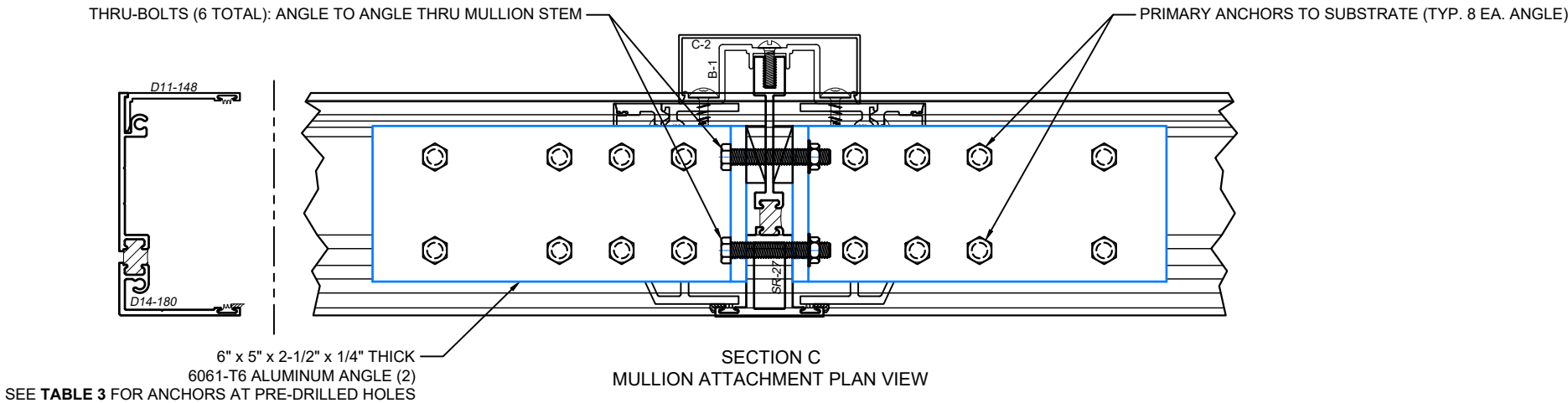


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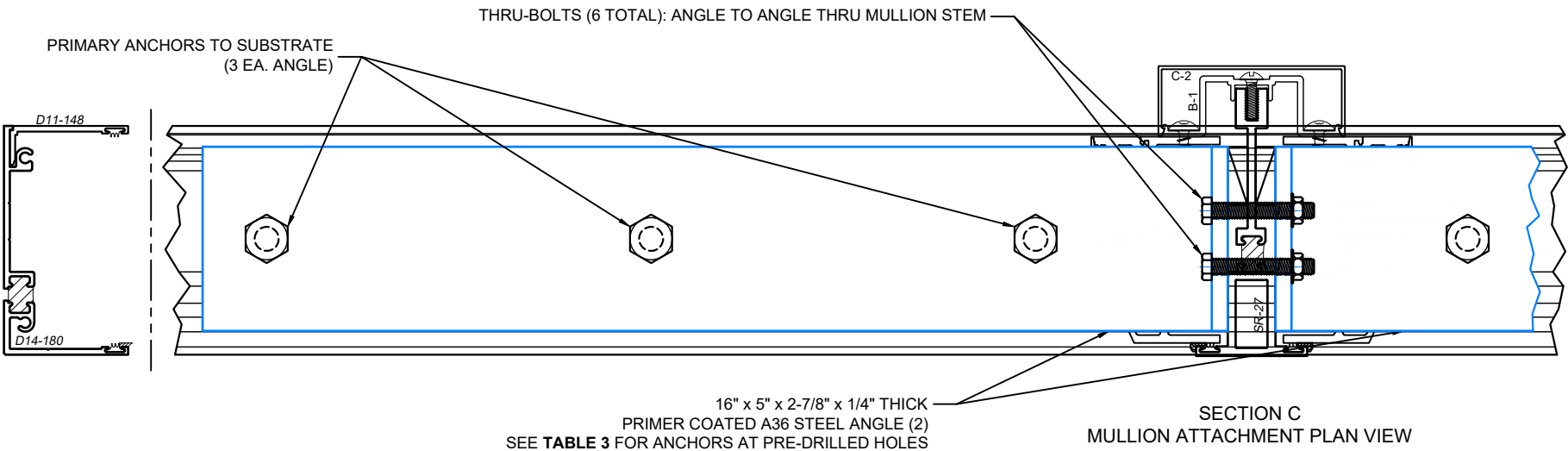
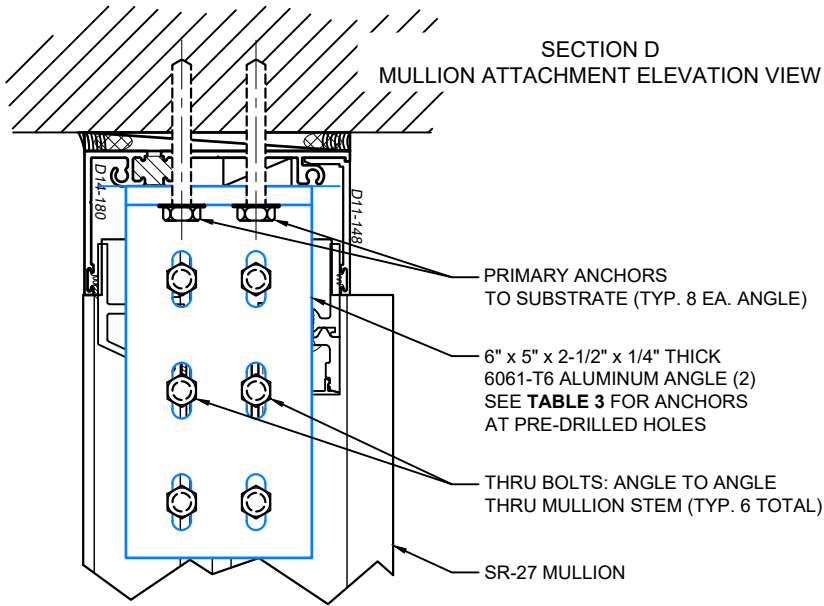
- NOTES
- SEE SHEET 1 FOR GENERAL NOTES.
 - ANGLES SHOWN ARE BASED ON MAXIMUM SIZE AND DESIGN PRESSURE REQUIREMENTS AND MAY NOT BE REQUIRED FOR LOWER PRESSURES AND/OR SMALLER SIZES PENDING PROJECT SPECIFIC ANALYSIS.



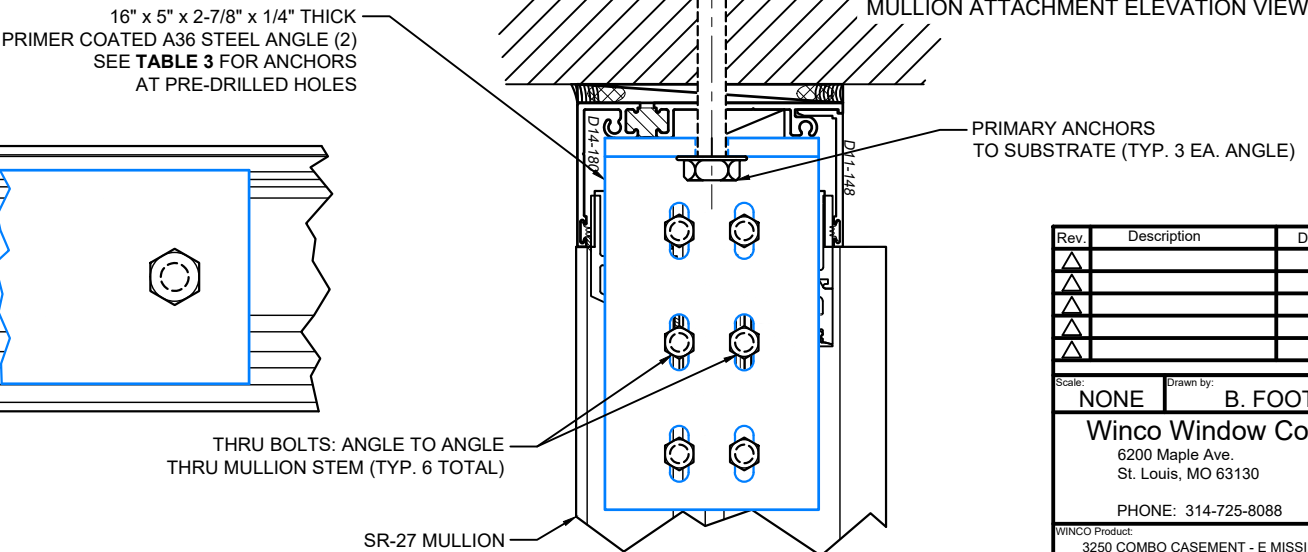
MULLION ATTACHMENT AT HEAD
(SEE SHEETS 1, 2, 4, & 5 FOR ANCHORAGE DETAILS AT ALL OTHER LOCATIONS)



WOOD OR STEEL SUBSTRATES



CONCRETE (8" MIN THK) OR CMU SUBSTRATES



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St. Louis, MO 63130		
PHONE: 314-725-8088		
WINCO Product: 3250 COMBO CASEMENT - E MISSILE		
Installation: ANCHORAGE: SUB-FRAME (SHT 3 OF 7)		
Certification: LMI 3250		

TABLE 4: MULLION INSTALLATION ANGLES AT SILL - WOOD OR STEEL SUBSTRATE (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	SILL	1/4" Ø LAG SCREWS, C.S., FULL BODY DIAMETER	12	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	6
STEEL STUD (18 GA., 33 KSI)	SILL	1/4"-14 C.S. SAE GR. 5, HEX/HWH (HILTI KWIK FLEX, DEWALT DRIL-FLEX)	14	3 THREADS	1"		

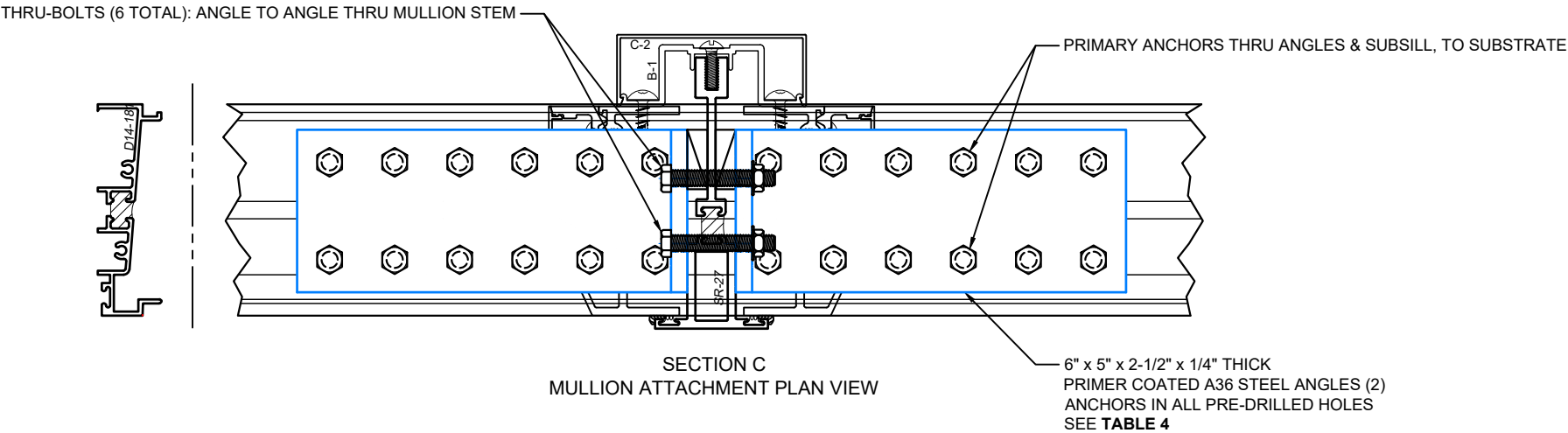
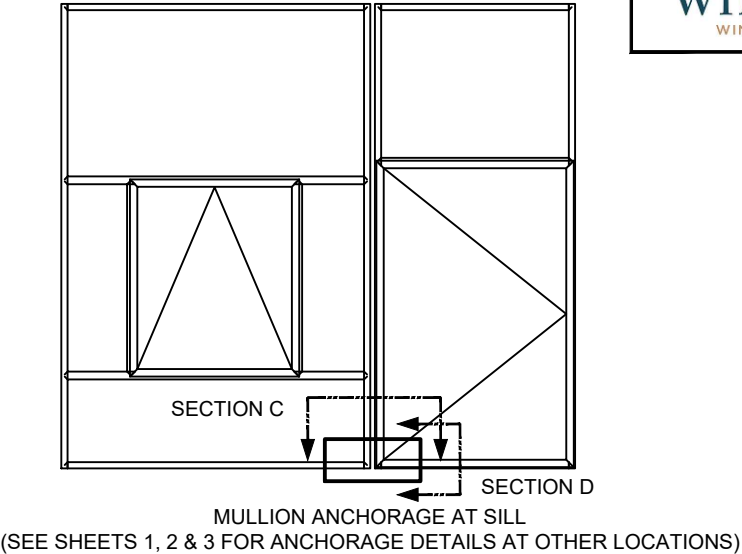
NOTES

- 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.

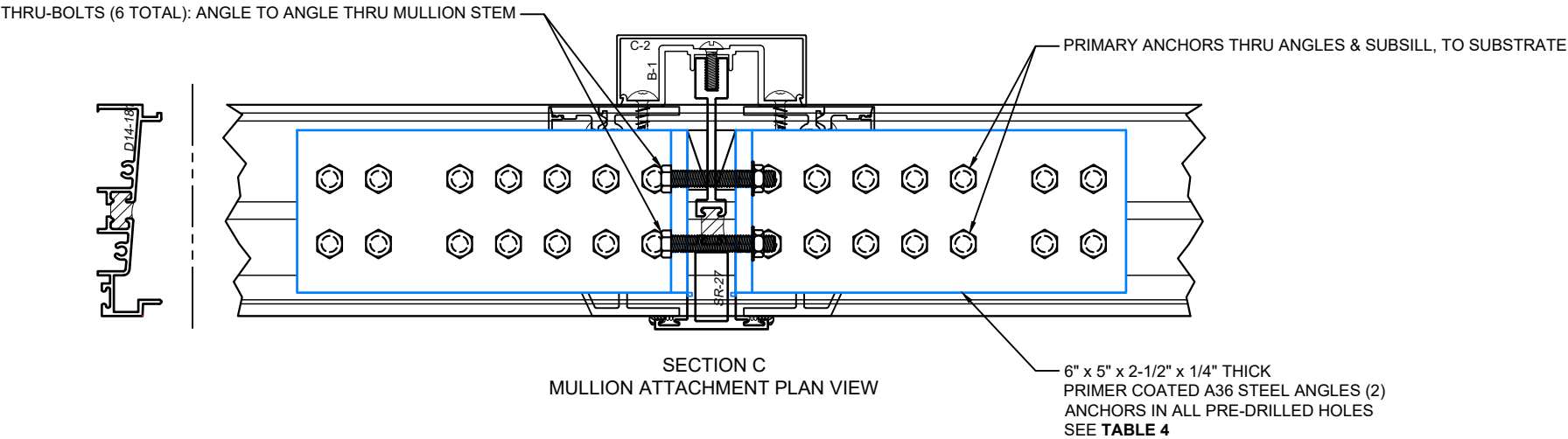
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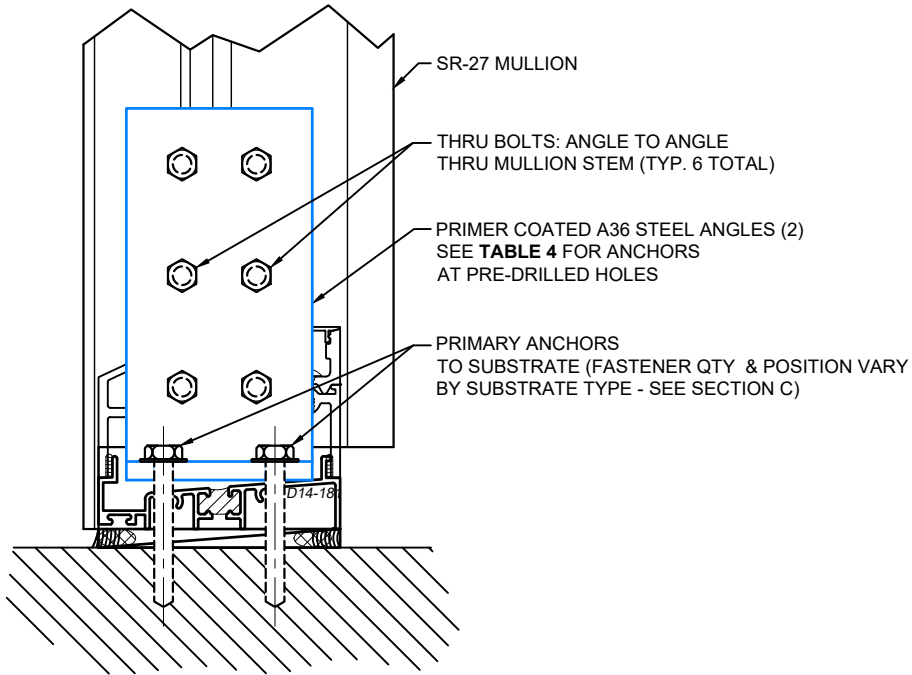
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WOOD SUBSTRATE
NOTE: FASTENER QTY & POSITION VARY BY SUBSTRATE



STEEL SUBSTRATE
NOTE: FASTENER QTY & POSITION VARY BY SUBSTRATE

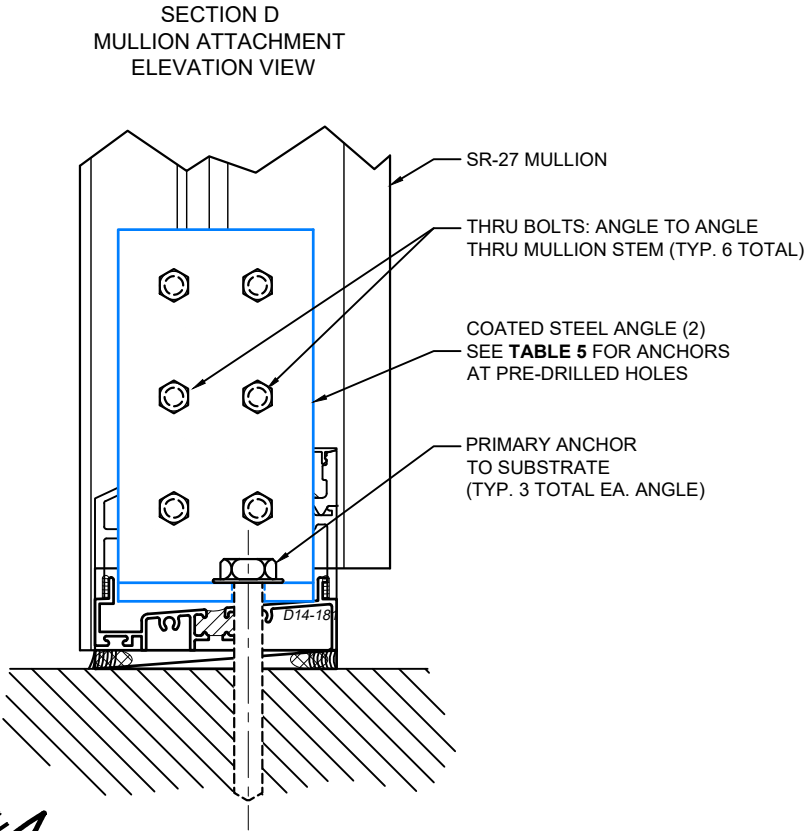
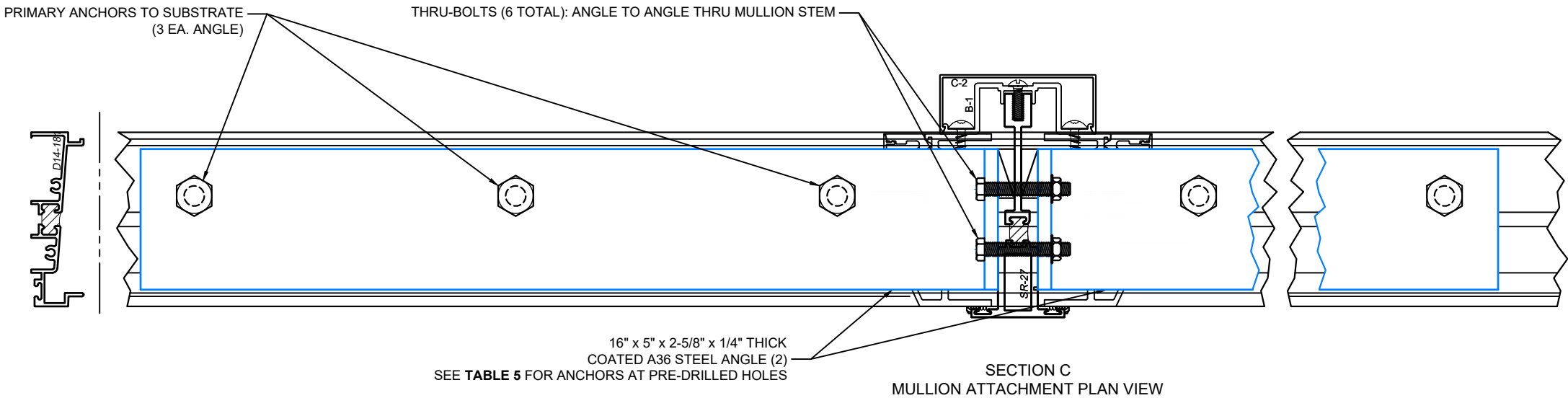
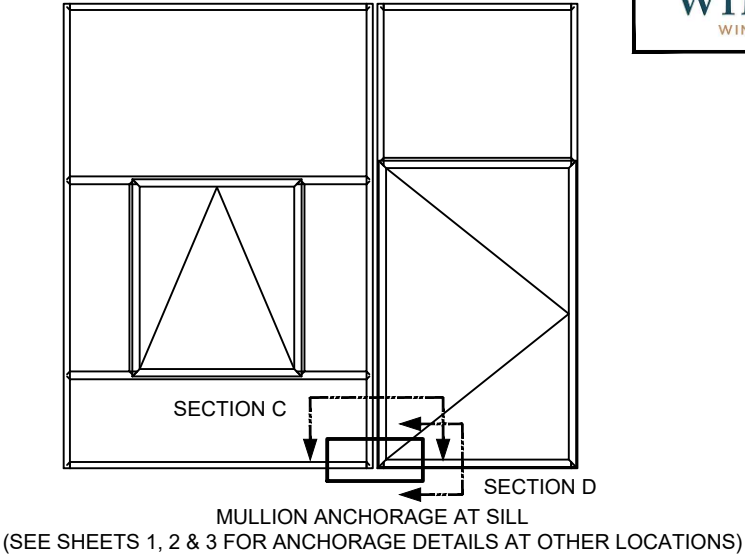


SECTION D
MULLION ATTACHMENT
ELEVATION VIEW
(APPLIES TO BOTH WOOD AND STEEL SUBSTRATES)

Rev.	Description	Date
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Winco Window Co. 6200 Maple Ave. St. Louis, MO 63130 PHONE: 314-725-8088		
WINCO Product: 3250 COMBO CASEMENT - E MISSILE		
Installation: ANCHORAGE: SUB-FRAME (SHT 4 OF 7)		
Certification: LMI 3250		

TABLE 5: MULLION INSTALLATION ANGLES AT SILL - CONCRETE OR CMU SUBSTRATE (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)
CONCRETE 3,000 PSI	SILL	3/8" Ø HILTI KWIK HUS-EZ (KH-EZ)	3	3-1/4"	3-3/4"	1/4-20 SAE GRADE 5 STEEL HEX HEAD SECURED WITH STEEL NUT, WASHER, AND LOCK WASHER FOR Ø1/4" BOLTS	6
CONCRETE 4,000 PSI	SILL	3/8" Ø HILTI KWIK HUS-EZ (KH-EZ)	3	3-1/4"	3-3/4"		
CMU (GROUT-FILLED f'm = 1,500 PSI)	SILL	3/8" Ø HILTI KWIK HUS-EZ (KH-EZ)	3	3-1/4"	3-3/4"		

- 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.



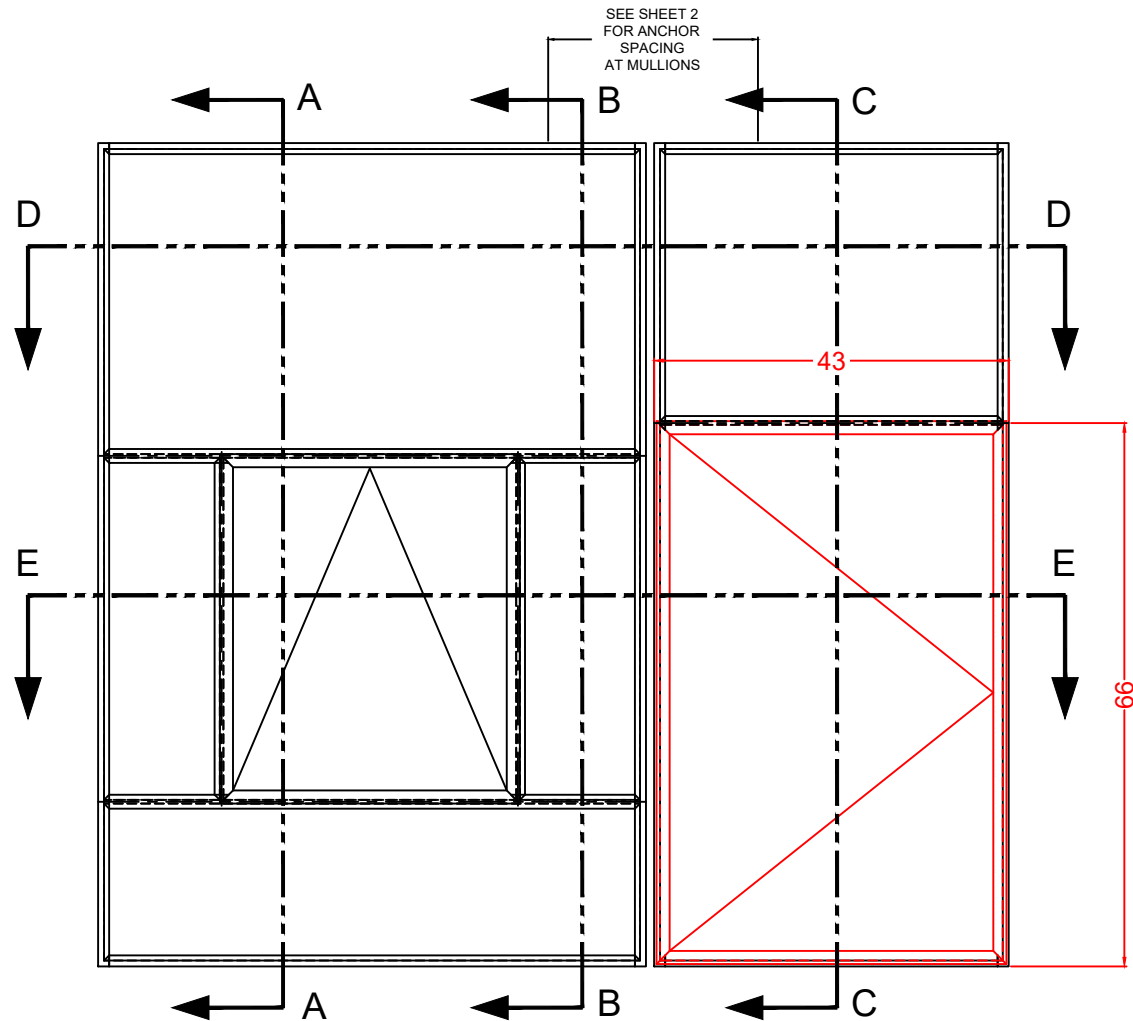
CONCRETE (8" MIN THK) OR CMU SUBSTRATES

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WINCO Product: 3250 COMBO CASEMENT - E MISSILE		
Installation: ANCHORAGE: SUB-FRAME (SHT 5 OF 7)		
Certification: LMI 3250		



SEE SHEET 1 FOR SECTIONS & ANCHOR DETAILS AT PERIMETER AND KEY DIMENSIONS

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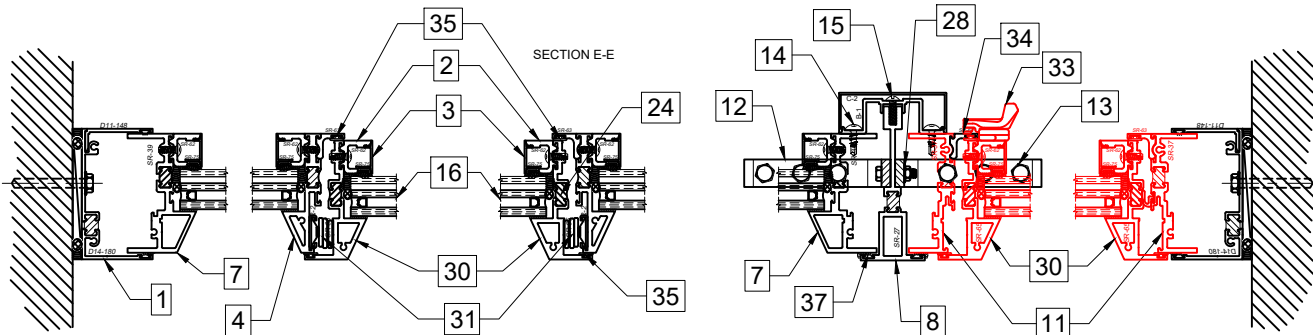
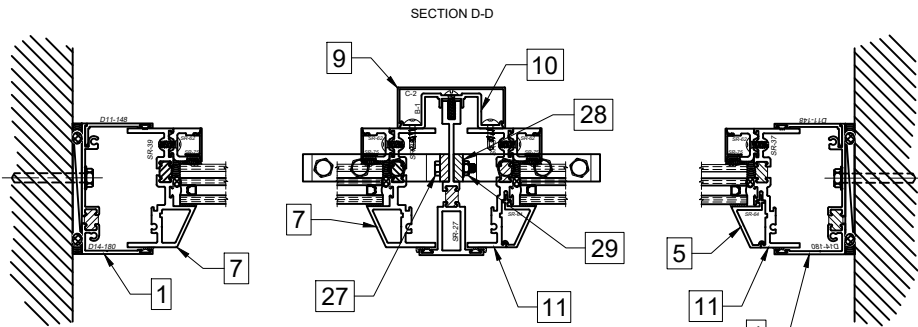
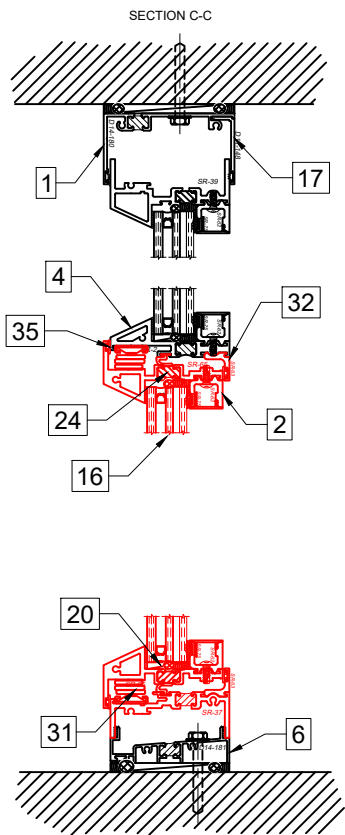
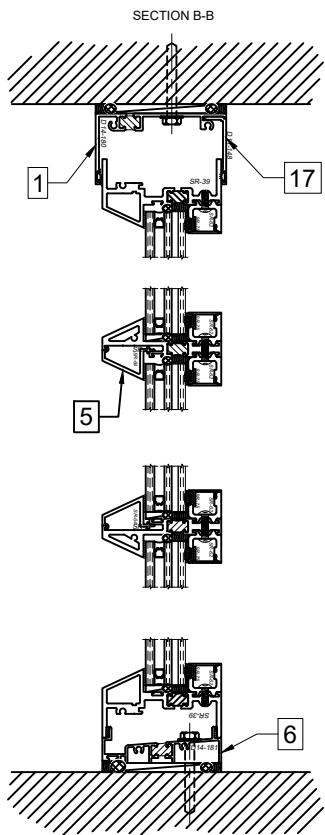
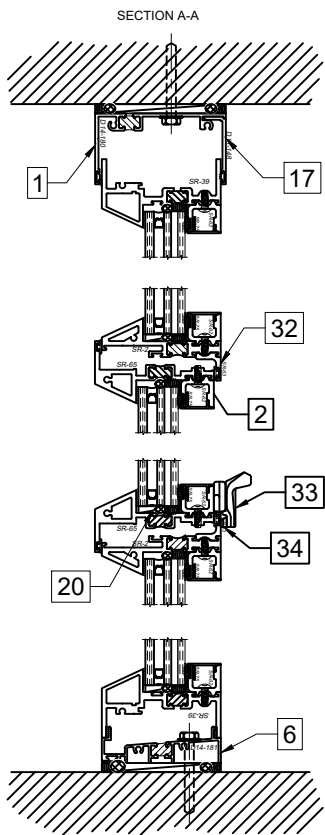


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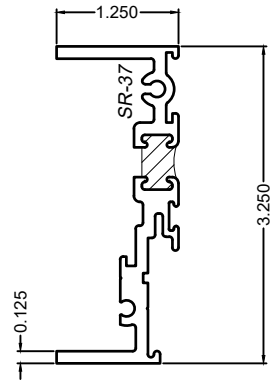
NOTE:
Details shown in red indicate the primary focus of this approval. In this case, the casement.

BILL OF MATERIALS		
	PART NO.	DESCRIPTION
1	D14-180	SUB-FRAME, 3-1/4"
2	SR-62	GLAZING BEAD
3	SR-75	COVER, GLAZING BEAD
4	SR-2	RAIL, NEUTRAL - FX/AWN
5	SR-64	INSERT, SLOPE - FX/AWN & FX/CASEMENT
6	D14-181	SUB-SILL
7	SR-39	FRAME, FIXED, EXT. LEG AT MULLION - FX/AWN
8	SR-27	MULLION - FX/AWN & FX/CASEMENT
9	C-2	COVER, MULLION CLAMP
10	B-1	CLAMP, MULLION
11	SR-37	FRAME, NEUTRAL, EXT. LEG - FX/CASEMENT
12	ANCH4	ANGLE, ALUMINUM, 4" X 4" X 1/4"
13		Ø1/4 x 2-1/2" HEX HEAD LAG SCREWS W/ SAE FLAT WASHER
14	X-135	SCREW, MULL. CLAMP TO FRAME
15	X-326	SCREW, MULL. CLAMP TO MULLION
16		E MISSILE IMPACT GLAZING - SEE SHEET 2 FOR DETAILS
17	D11-148	CLOSER PLATE, SUB-FRAME
18	HTB-33	SASH SNUBBER (NS)
19	X-203, X-323	SCREWS FOR HARDWARE - (NS)
20	TPVSB-187X1	SETTING BLOCK, TPV, 3/16 X 1 X 4
21	X-955-S	SCREWS, SASH ASSEMBLY, 2" #10 QUAD DRIVE, S.S. (NS)
22	SPECTRUM 2	SILICONE GLAZING SEALANT (NS)
23	INSTANT GLAZE	SILICONE ADHESIVE, HOT-MELT (NS)
24		POLYURETHANE THERMAL BREAK
25	X-944 / X-944-S	SCREWS, FRAME ASSEMBLY, 1-1/4" #10 QUAD DRIVE, S.S. (NS)
26	SEAM SEALER-S	ACRYLIC JOINT SEALANT (NS)
27	X-308	SCREW, ANCH4 TO MULLION
28	W-1-4-20	LOCK WASHER
29	X-602	HEX NUT
30	SR-65	SASH, DEEP FRAME
31	AMC-4112	HINGE, MULTI-BAR
32	SR-63	SASH STOP
33	H8-52HR	CAM LOCK, DEEP SASH, HURRICANE, RH
34	H16-7	STRIKE, FOR CAM LOCK
35	H11-31	WEATHER SEAL, SASH
36	H8-206	RISER BLOCK, SASH (NS)
37	H30-2	WEATHER SEAL, FIN TYPE

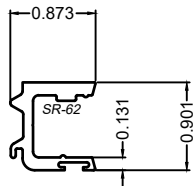
NOTES:
A. (NS) = ITEM NOT SHOWN, THOUGH ITS GENERAL LOCATION MAY BE INDICATED.



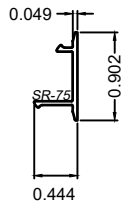
Rev.	Description	Date
Scale: NONE Drawn by: B. FOOTE		
Winco Window Co. 6200 Maple Ave. St. Louis, MO 63130 PHONE: 314-725-8088		
WINCO Product: 3250 COMBO CASEMENT - E MISSILE		
Installation: ANCHORAGE: SUB-FRAME (SHT 6 OF 7)		
Certification: LMI 3250		



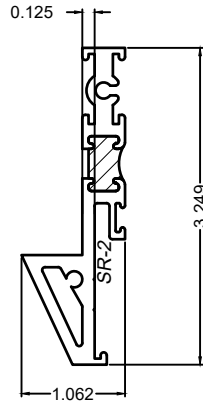
FRAME, NEUTRAL, EXT. LEG - FX/CASEMENT
SR-37



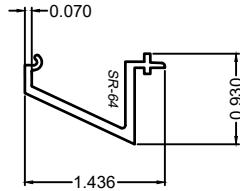
GLAZING BEAD
SR-62



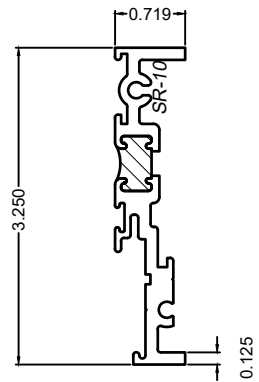
COVER, GLAZING BEAD
SR-75



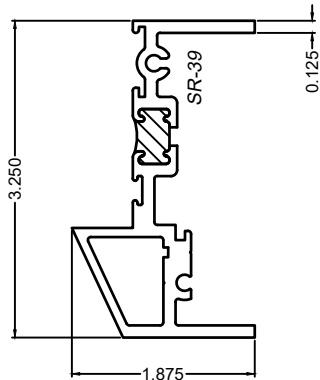
RAIL, NEUTRAL - FX/AWN &
FX/CASEMENT
SR-2



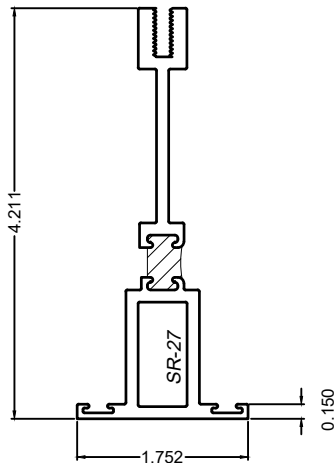
INSERT, SLOPE - FX/AWN & FX/CASEMENT
SR-64



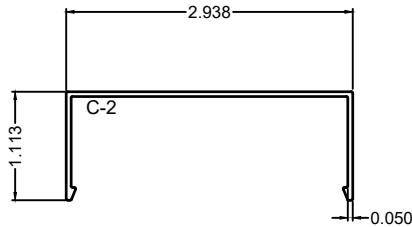
FRAME, NEUTRAL - FX/CASEMENT
SR-10



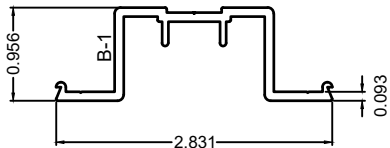
FRAME, HEAD, SILL, JAMBS - FX/AWN
FRAME, HEAD - FX/CASEMENT
SR-39



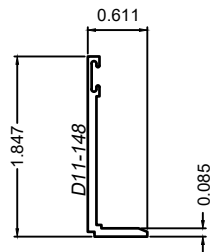
MULLION - FX/AWN & FX/CASEMENT
SR-27



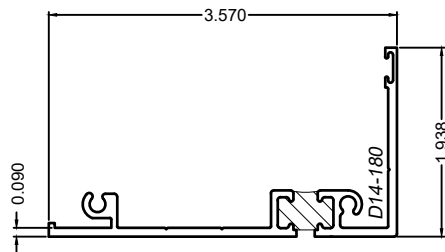
COVER, MULLION CLAMP
C-2



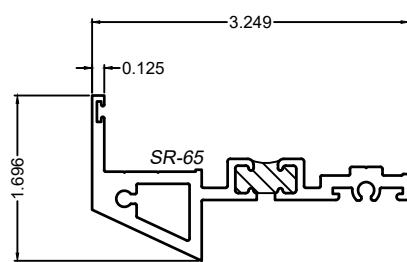
CLAMP, MULLION
B-1



CLOSURE PLATE,
SUB-FRAME
D11-148



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



SASH, DEEP FRAME
SR-65

RICE
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Luxemburg, WI 54217
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Fax: (920) 617-1100
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Wayne K. Helmila
Registration No: 59092



06/03/2025
COA: 9090

Rev.	Description	Date
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△		
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Certification: LMI 3250		