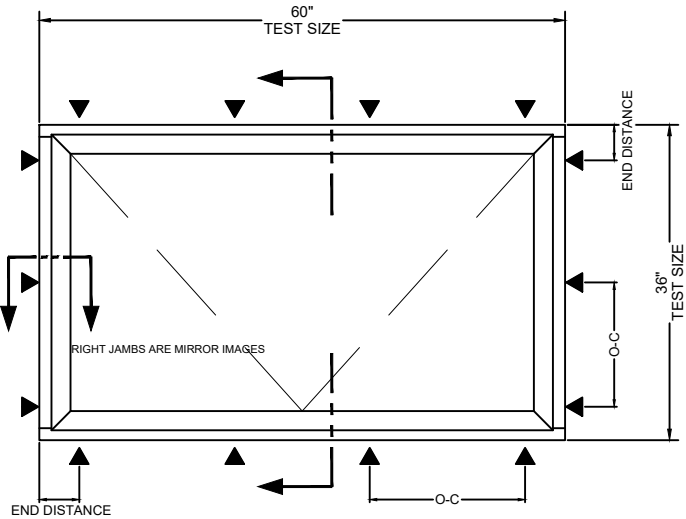


ANCHOR TO SUBSTRATE CONDITION							
SUBSTRATE	LOCATION	HARDWARE (ACCEPTABLE TRADE NAME OR EQUIVALENT)	O.C. SPACING (MAX)	END DISTANCE (MAX)	EMBED- MENT (MIN)	SUBSTRATE EDGE DISTANCE (MIN)	d1 INSTALL DIMENSION
WOOD S.G. = 0.42	HEAD	1/4" Ø LAG SCREW, FULL BODY	12"	4"	1-1/2"	1"	1"
	SILL		10"				9/16"
	JAMB		12"				1"
CONCRETE 3,000 PSI	HEAD	1/4" Ø HILTI KWIK HUS-EZ (KH-EZ)	12"	4"	2-1/2"	1-3/4"	1"
	SILL						9/16"
	JAMB						1"
CONCRETE 4,000 PSI	HEAD	1/4" Ø HILTI KWIK HUS-EZ (KH-EZ)	12"	4"	2-1/2"	1-3/4"	1"
	SILL		14"				9/16"
	JAMB		12"				1"
CMU (GROUT-FILLED f'm = 1,500 PSI)	HEAD	1/4" Ø HILTI KWIK HUS-EZ (KH-EZ)	12"	4"	2-1/2"	2-3/4"	1"
	SILL		9"				9/16"
	JAMB		12"				1"
STEEL STUD (18 GA., 33 KSI)	HEAD	1/4"-14 SAE GR. 5 HEX/HWH (HILTI KWIK FLEX, DEWALT DRIL-FLEX)	6-1/2"	4"	3 THREADS	1"	1"
	SILL						9/16"
	JAMB						1"

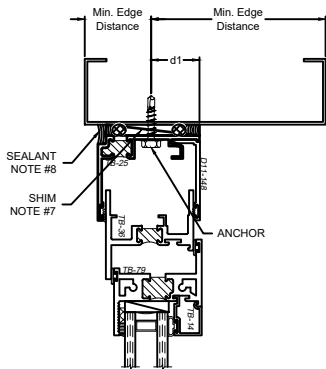
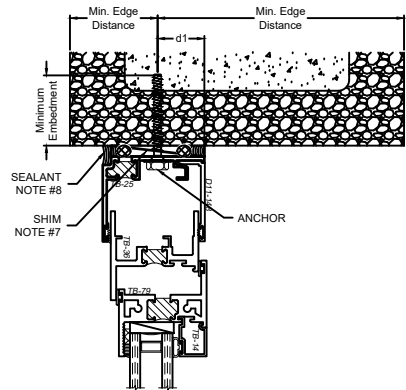
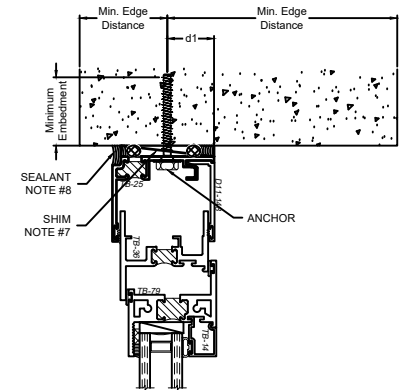
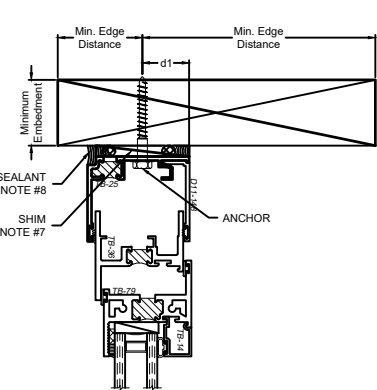


RICE
ENGINEERING

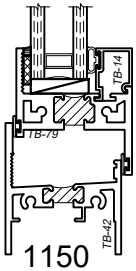
105 School Creek Trail
Luxemburg, WI 54217
Phone: (920) 617-1042
Fax: (920) 617-1100
www.rice-inc.com
Florida Firm No: F-01000005061
Certificate of Authorization: #9090
Wayne K. Helmila
Registration No: 59092

- Installations depicted comply with:
Florida Building Code - 8th Ed. (FBC 2023)
International Building Code (IBC 2021)
Aluminum 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 not been proven for resistance to wind-borne debris.

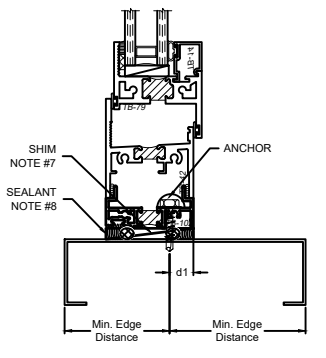
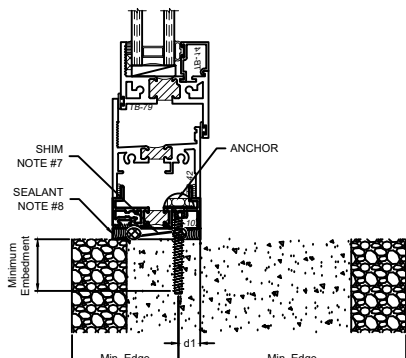
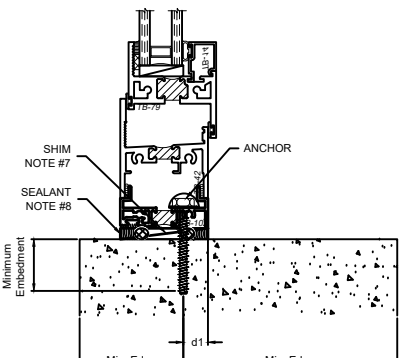
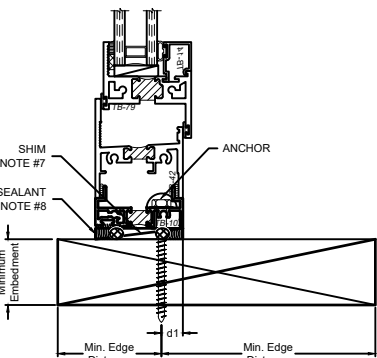
Test size: **60" x 36"** Design pressure: **+/- 80 psf**
- Lag screws shall be used for a wood substrate. Screw materials and dimensions shall meet the requirements of ANSI / ASME Standard B18.2.1. All lag screw conditions must be pre-drilled with hole diameters of 40-70% of the fastener diameter. Wood 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 Carbon Steel 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.
- Only the 1150 Series is shown in the various sections for convenience. Anchorage requirements apply equally to 1150S Series.



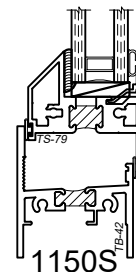
HEAD



1150

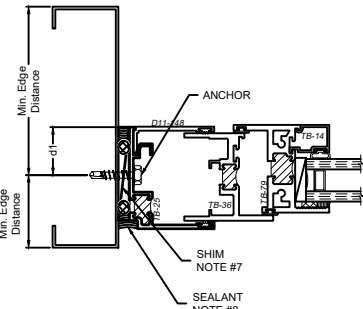


SILL

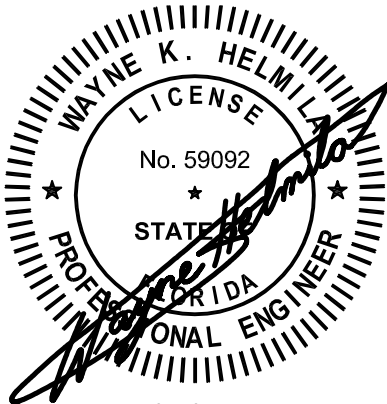


1150S

SERIES
VARIATIONS



Wayne K Helmila
Digitally signed by Wayne K Helmila
DN: CN=Wayne K Helmila,
dnQualifier=A01410C000018CDB8F4AFB001A652B,
O=Winco, C=US
Date: 2024.04.10 08:05:12-05'00'



04/10/2024
COA: 9090

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: 1150-1150S HOPPER		
Installation: ANCHORAGE: SUBFRAME		
Certification: AAMA NON-IMPACT		