

C:\Users\rickn\Engineering\Express\Production - Documents\Projects\20-26160 - FL13757.2 - 6.8 Streamline Shutter\WP\2020 FBC\20-26160d - FL13757.2 - DWG.dwg
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08/12/2020 - 4:50pm

6.8 STREAMLINE SHUTTER

FOR USE WITHIN AND OUTSIDE THE HVHZ

GENERAL NOTES:

- THIS SYSTEM HAS BEEN TESTED AND EVALUATED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE SEVENTH EDITION (2020), FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE, AND THE INTERNATIONAL BUILDING CODE (IBC) AND INTERNATIONAL RESIDENTIAL CODE (IRC). THIS SYSTEM MEETS MISSILE LEVEL "D" AND INCLUDES ESSENTIAL FACILITIES AS DEFINED IN ASTM E1996-09. SEE PRODUCT EVALUATION REPORT FOR MORE INFORMATION.
- POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED PER SEPARATE ENGINEERING IN ACCORDANCE WITH THE GOVERNING CODE. PRESSURE REQUIREMENTS AS DETERMINED IN ACCORDANCE WITH ASCE 7 AND CHAPTER 1609 OF THE FLORIDA BUILDING CODE SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.
- TESTING WAS CONDUCTED IN ACCORDANCE WITH TAS 201/202/203 AND ASTM E1886/E1996/E330.
- DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
- THIS SYSTEM HAS BEEN DESIGNED WITH NO SEPARATION FROM GLAZING REQUIRED WIND ZONES 1-3, IN ACCORDANCE WITH ASTM 1996. IT IS ACCEPTABLE BY CODE UNLESS OPTIONAL CRITERIA IS INDEPENDENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION.
- NO INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THESE PRODUCTS. WIND LOAD DURATION FACTOR $C_d = 1.6$ WAS USED FOR WOOD ANCHOR DESIGN.
- DETERMINE THE POSITIVE AND NEGATIVE DESIGN LOADS TO USE WHEN REFERENCING THESE DOCUMENTS IN ACCORDANCE WITH THE GOVERNING CODE AND GOVERNING WIND VELOCITY. FOR WIND LOAD CALCULATIONS IN ACCORDANCE WITH ASCE 7, A DIRECTIONALITY FACTOR OF $K_d = 0.85$ SHALL BE USED.
- THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE.
- THESE INSTALLATION INSTRUCTIONS ARE PART OF A PRODUCT APPROVAL EVALUATION AND SHALL ONLY BE USED IN CONJUNCTION WITH THE EVALUATION REPORT SUBMITTED FOR THE SAME PRODUCT APPROVAL. USE OF THESE APPROVAL DOCUMENTS SHALL COMPLY WITH CHAPTER 61G15-23 OF THE FLORIDA ADMINISTRATIVE CODE.
- THESE APPROVAL DOCUMENTS ARE SUITABLE TO BE APPLIED BY THE CONTRACTOR PROVIDED THE CONTRACTOR DOES NOT DEVIATE FROM THE CONDITIONS DETAILED HEREIN AND THE CONTRACTOR VERIFIES THAT THE EXISTING STRUCTURE DOES NOT DEVIATE IN EITHER FORM OR MATERIAL FROM THE STRUCTURAL SUBSTRATES DETAILED HEREIN.
- ANY MODIFICATIONS OR ADDITIONS TO THESE APPROVAL DOCUMENTS WILL VOID THE APPROVAL DOCUMENTS.
- WHEN THE SITE CONDITIONS DEVIATE FROM THESE APPROVAL DOCUMENTS, THE BUILDING OFFICIAL MAY REQUIRE THAT SITE SPECIFIC DOCUMENTS BE PREPARED, SIGNED, DATED AND SEALED BY A LICENSED ENGINEER OR REGISTERED ARCHITECT, WHICH DETAIL AND JUSTIFY THE DEVIATION,. AS A CONDITION TO THE BUILDING OFFICIAL GRANTING HIS/HER APPROVAL.
- EACH SHUTTER ASSEMBLY SHALL BE PERMANENTLY LABELED WITH THE FOLLOWING MINIMUM INFORMATION:

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FORT LAUDERDALE, FL

9LB MISSILE LEVEL D - ASTM E1886, E1996 & E330

TAS 201, 202 & 203

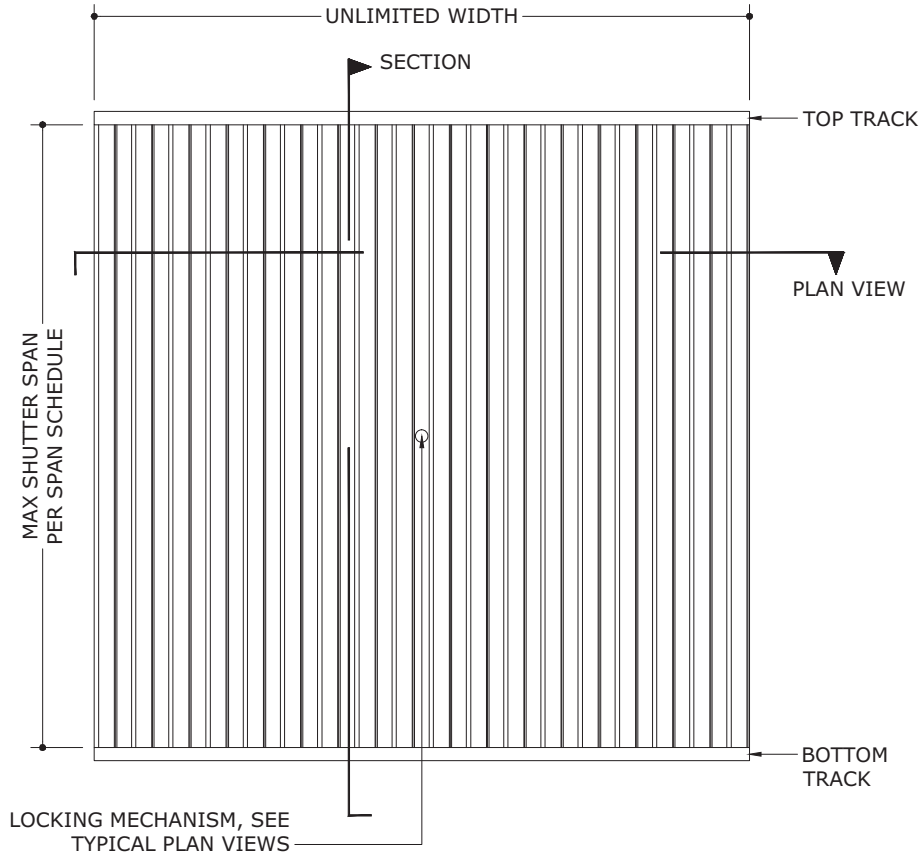
FLORIDA PRODUCT APPROVAL NUMBER
- ALL EXTRUSIONS SHOWN SHALL BE 6063-T6 ALUMINUM ALLOY, U.O.N., WITH A MINIMUM F_y OF 25 K.S.I.
- ALL BOLTS AND WASHERS (EXCLUDING INSTALLATION) SHALL BE STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 60 K.S.I., U.O.N. POP RIVETS SHALL BE 1/4"Ø OR 3/16"Ø 5052 ALUM. ALLOY.
- ALL SHUTTERS SHALL HAVE A LOCKING MECHANISM CONSISTING OF THUMBSCREW, PUSH LOCK OR BOX LOCK AT CENTER OR SIDE CLOSURE.
- TOP AND BOTTOM DETAILS MAY BE INTERCHANGED AS FIELD CONDITIONS REQUIRE.
- FLOOR TRACKS MAY BE REMOVABLE AT NON-STACKING LOCATIONS. USE REMOVABLE ANCHORS.
- MOUNTING EXTRUSIONS MAY BE BENT TO FORM A CURVE WITH A MIN. RADIUS OF 10".
- ALL DIMENSIONS SHOWN INCLUDE POWDER COATING FINISH.
- ALL STEEL IN CONTACT WITH ALUMINUM SHALL BE PAINTED OR PLATED.
- SHUTTER MAY BE INSTALLED WITH UP TO (2) ADDITIONAL BLADES OF SLACK.
- SEALANT SHALL BE USED ON ANCHORS OR TRACKS WHEREVER WATER SEEPAGE IS POSSIBLE.

TABLE 1:

ACCORDION SHUTTER SPAN SCHEDULE		
SHUTTER SPAN	POSITIVE DESIGN PRESSURE (PSF)	NEGATIVE DESIGN PRESSURE (PSF)
72"	100	100
99"	70	70
120"	53	53
144"	43	40

TABLE 1 NOTES:

- DESIGN PRESSURES SHOWN IN "ACCORDION SHUTTER SPAN SCHEDULE" ABOVE ARE MAXIMUM ALLOWABLE DESIGN PRESSURES AT EACH RESPECTIVE SHUTTER SPAN.
- LINEAR INTERPOLATION BETWEEN SHUTTER SPANS IS NOT PERMITTED. FOR SPANS BETWEEN THOSE INDICATED ABOVE, THE DESIGN PRESSURES FOR THE NEXT HIGHER SPAN SHALL BE USED.



1
1
TYPICAL ACCORDION SHUTTER ELEVATION
N.T.S. EXTERIOR ELEV

TABLE 2:

MINIMUM SEPARATION FROM GLASS				
SHUTTER SPAN	HVHZ		NON-HVHZ	
			SEE NOTE 3	
	INSTALLATIONS ≤ 30' ABOVE GRADE	INSTALLATIONS > 30' ABOVE GRADE	INSTALLATIONS ≤ 30' ABOVE GRADE	INSTALLATIONS > 30' ABOVE GRADE
72"	2-1/4"	1-5/8"	2-3/8"	1-5/8"
99"	3-1/2"	1-7/8"	3-5/8"	1-7/8"
120"	4-1/8"	2"	4-1/4"	2"
144"	4-7/8"	2"	5"	2"

VISIT [ECALC.IO/26160](https://ecalculator.com/26160)

FOR SITE SPECIFIC DEVIATIONS & MORE INFORMATION ABOUT THIS DOCUMENT OR SCAN THIS QR CODE

VISIT [ENGINEERINGEXPRESS.COM/STORE](https://engineeringexpress.com/store) FOR ADDITIONAL PLANS, REPORTS & RESOURCES

TABLE 2 NOTES:

- HVHZ: DEFINED AS MIAMI-DADE COUNTY AND BROWARD COUNTY FLORIDA.
- NON-HVHZ: DEFINED AS ALL LOCATIONS OTHER THAN MIAMI-DADE COUNTY AND BROWARD COUNTY FLORIDA.
- SEPARATION FROM GLASS IS NOT REQUIRED FOR INSTALLATIONS IN WIND ZONES 1-3 UNLESS LOCAL MUNICIPALITY HAS ADOPTED ADDITIONAL CRITERIA.**
- INSTALLATIONS IN WIND ZONES 1 THROUGH 4 OUTSIDE OF THE HVHZ WITH SPANS LESS THAN 30" SHALL HAVE 2-7/8" MINIMUM SEPARATION FROM GLASS WHEN ≤ 30' ABOVE GRADE, AND 1-5/8" WHEN > 30' ABOVE GRADE.
- LINEAR INTERPOLATION BETWEEN SHUTTER SPANS IS NOT PERMITTED. FOR SPANS BETWEEN THOSE INDICATED ABOVE, THE SEPARATION FROM GLASS FOR THE NEXT HIGHER SPAN SHALL BE USED.
- SEPARATION FOR GLASS OUTSIDE OF THE HVHZ HAS BEEN DETERMINED IN ACCORDANCE WITH ASTM E1996.

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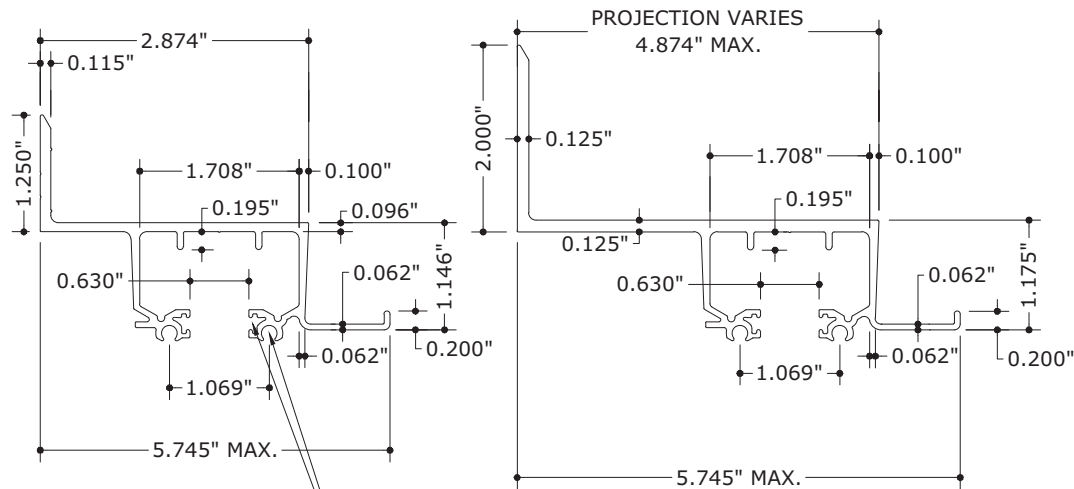
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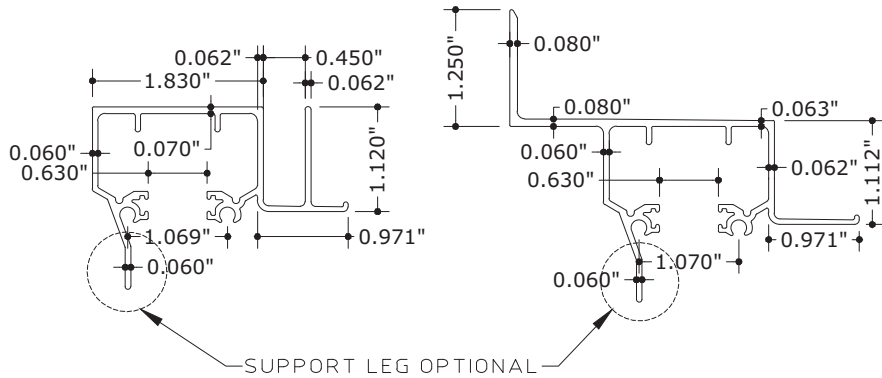
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1 WALL
SCALE: HALF SIZE

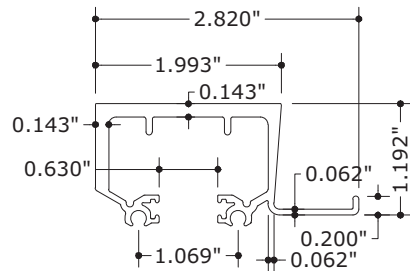
2 BUILD OUT WALL
SCALE: HALF SIZE

WHERE SHOWN, SCREW BOSSES
& FELT GROVES ARE OPTIONAL
ON ALL EXTRUSIONS

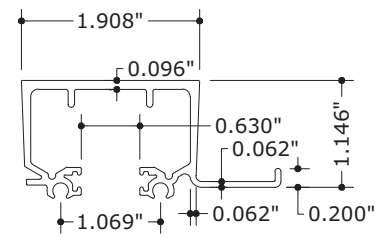


3 STREAMLINE CEILING TRACK
SCALE: HALF SIZE

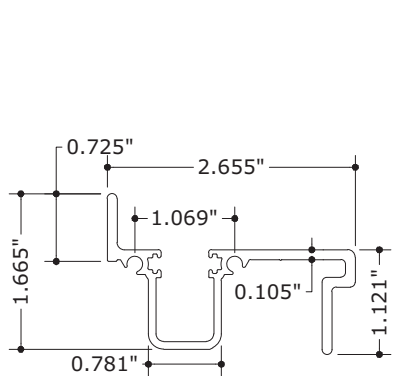
4 STREAMLINE WALL TRACK
SCALE: HALF SIZE



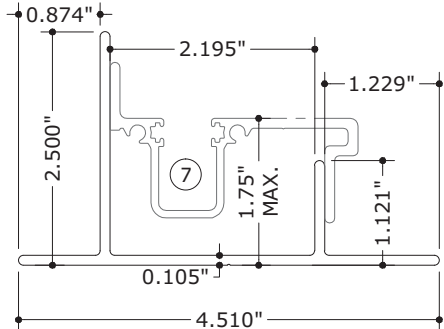
5 HEAVY HEADER/SILL
SCALE: HALF SIZE



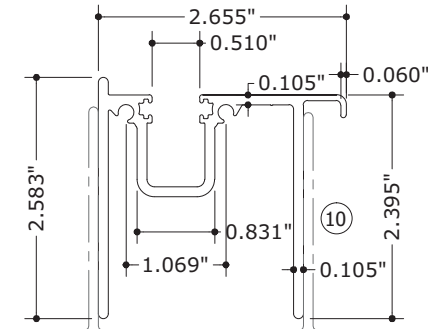
6 LITE HEADER/SILL
SCALE: HALF SIZE



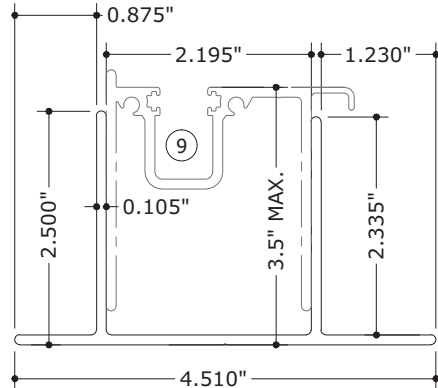
7 SILL
SCALE: HALF SIZE



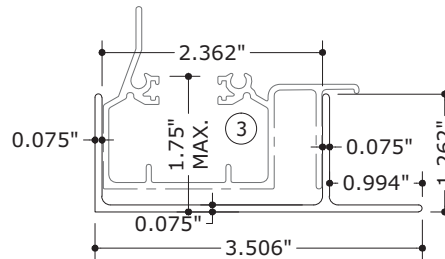
8 SILL ADAPTER
SCALE: HALF SIZE



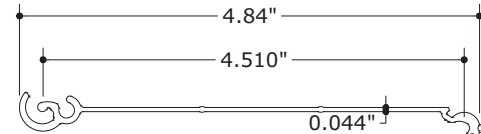
9 EXTENDED SILL
SCALE: HALF SIZE



10 EXTENDED SILL ADAPTOR
SCALE: HALF SIZE

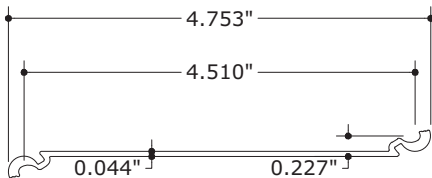


11 ADJUSTABLE SILL BOTTOM
SCALE: HALF SIZE



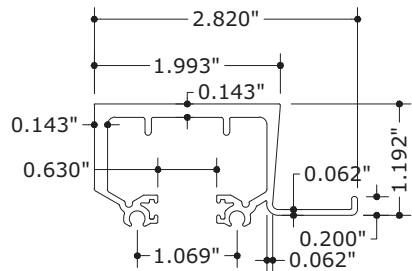
13 6.8 STREAMLINE SLAT/BLADE
SCALE: HALF SIZE

NOTE: TESTED THICKNESS OF
BARE METAL W/O PAINT IS 0.039"

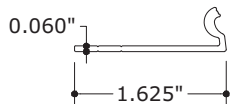


15 6.8 STREAMLINE STACK
SCALE: HALF SIZE

NOTE: THICKNESS OF BARE
METAL W/O PAINT IS 0.039"



16 RADIUS CEILING HEADER/SILL
SCALE: HALF SIZE



17 6.8 STARTER
SCALE: HALF SIZE

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SCALE: -
PAGE DESCRIPTION:

19 ANGLE
SCALE: HALF SIZE

TYP. AT EVERY OTHER
INSIDE JOINT AT TOP.

CYLINDER-SOLID BRASS, NICKEL PLATED
HOUSING-ZINC DICAST,POWDER COATED

NOTE: MAY BE KEY OPERATED OUTSIDE
OR KEY/THUMB TURN OPERATED INSIDE.

24 BUSHING ASSEMBLY DETAIL
SCALE: HALF SIZE

26 BOX CENTER INSERT
SCALE: HALF SIZE

27 RAINGUARD
SCALE: HALF SIZE

28 DECORATIVE FLOOR TRACK
SCALE: HALF SIZE
×NOTE: DECORATIVE FLOOR TRACK
MAY BE ATTACHED TO ANGLE PER
DETAILS Cb/5 OR Ca/6.

30 UNIMATE LOCK
SCALE: HALF SIZE

31 MALE BOX CENTER
SCALE: HALF SIZE

32 FEMALE BOX CENTER
SCALE: HALF SIZE

DELTA MODEL 2022
INDUSTRIAL SYSTEMS

SECTION A

36 T-LOCK ADAPTER
(OPTIONAL)
SCALE: HALF SIZE

37 T-SCREW INSERT
SCALE: FULL SIZE

38 HEAD STYLE VARIES
THUMB SCREW
SCALE: FULL SIZE

39 2X7 ANGLE
SCALE: HALF SIZE

20 ALT. 1" END STRIP
SCALE: HALF SIZE

21 1.5"x3"x0.093" ANGLE
SCALE: HALF SIZE

(25) 2"x3"x0.125" ANGLE
SCALE: HALF SIZE

20a RECESS SILL
SCALE: HALF SIZE

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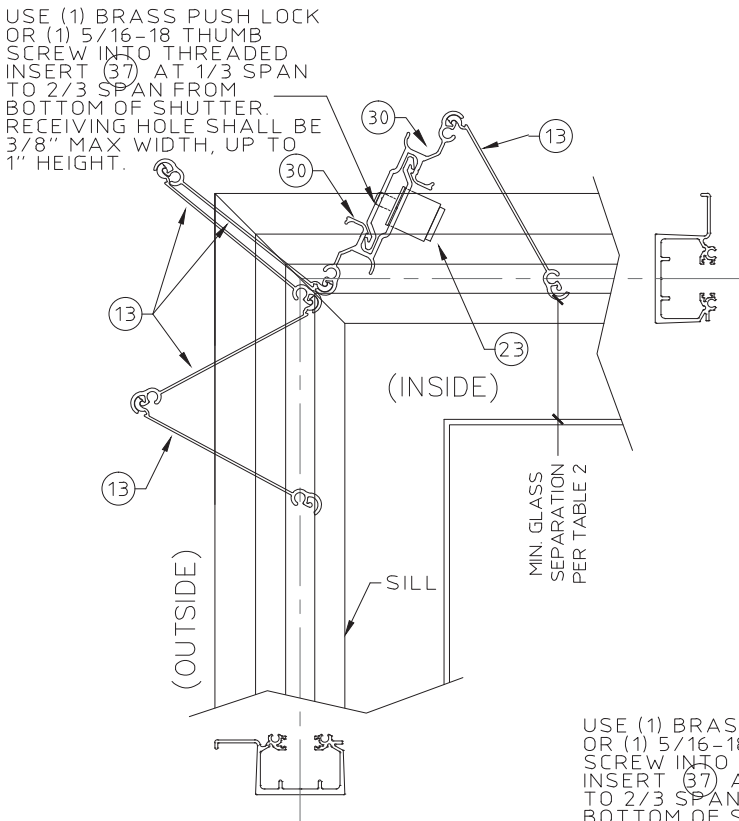
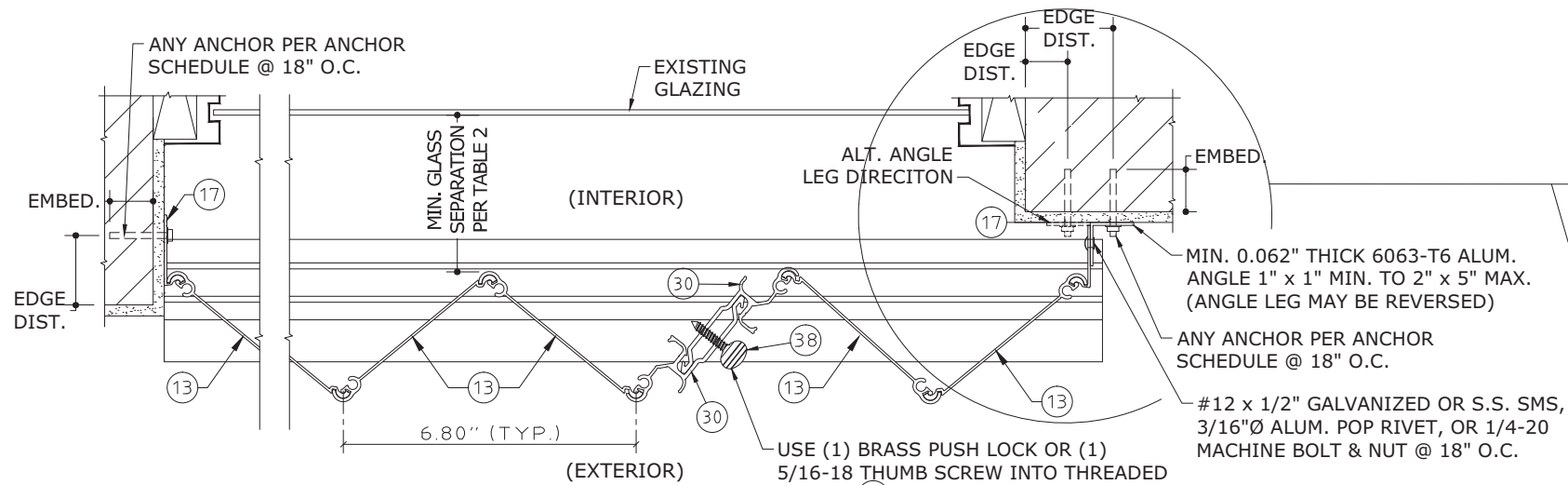


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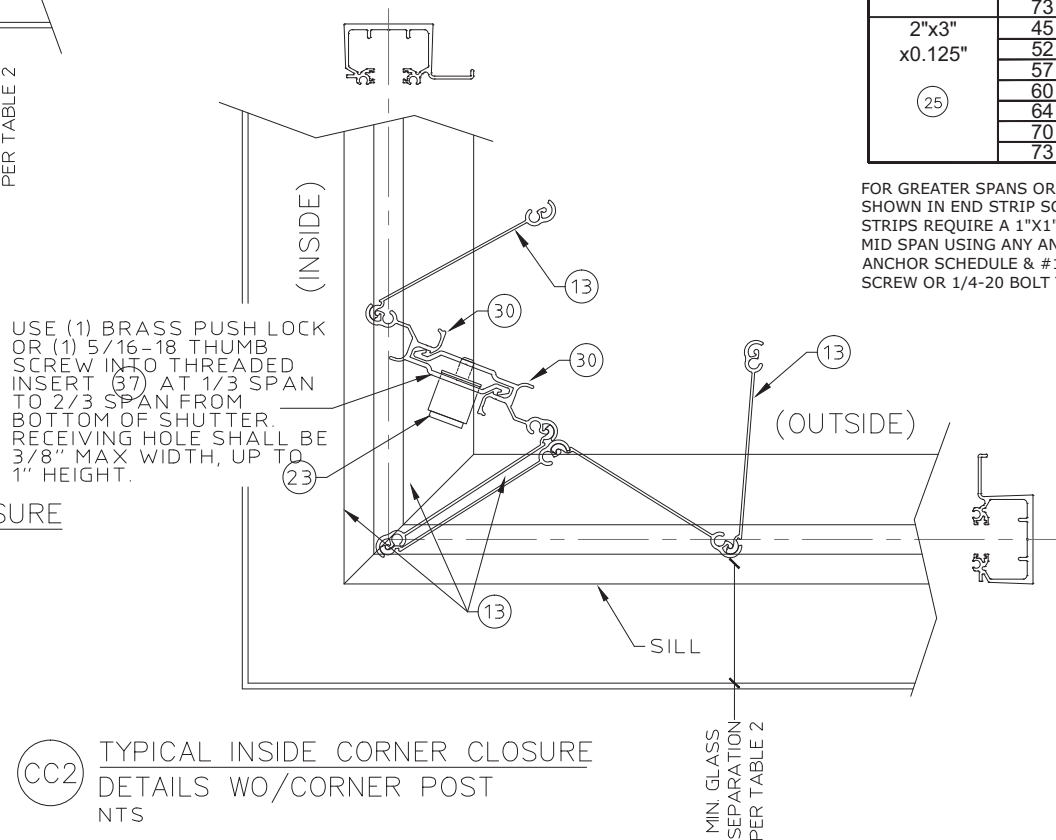
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CC1 TYPICAL OUTSIDE CORNER CLOSURE DETAILS WO/CORNER POST NTS

LOCKING DETAILS FOR CENTER MATES SHOWN ON RANDOM DETAILS



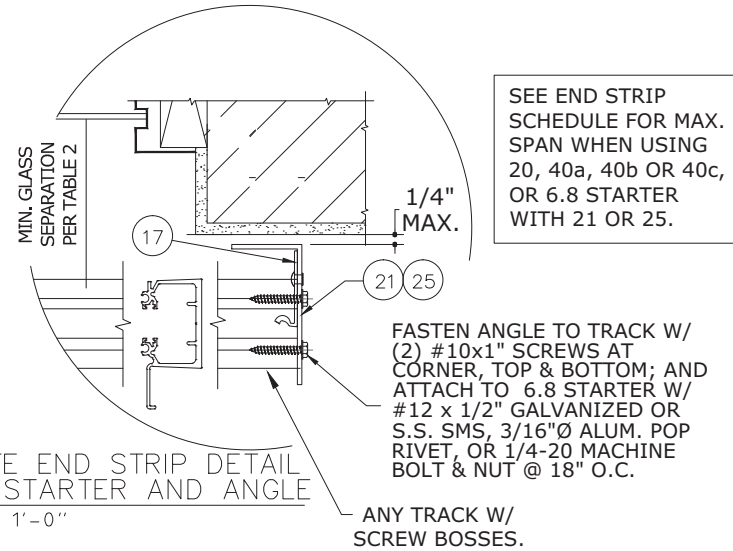
CC2 TYPICAL INSIDE CORNER CLOSURE DETAILS WO/CORNER POST NTS

END STRIP SCHEDULE

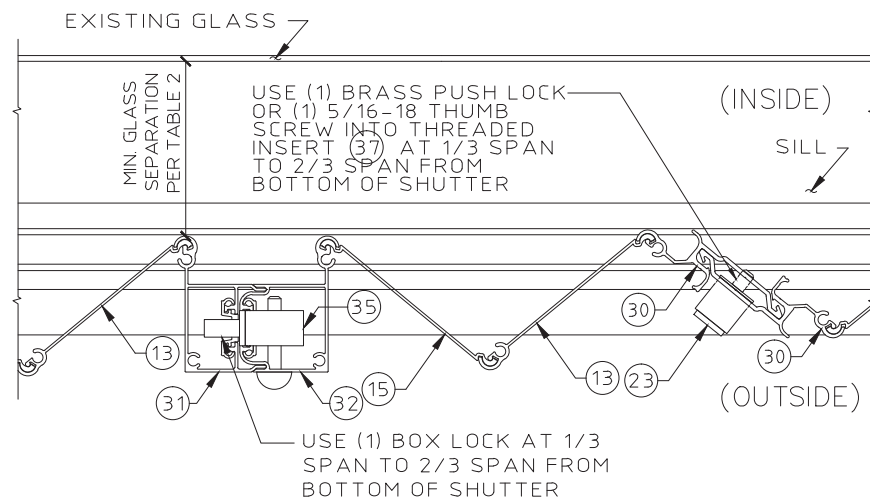
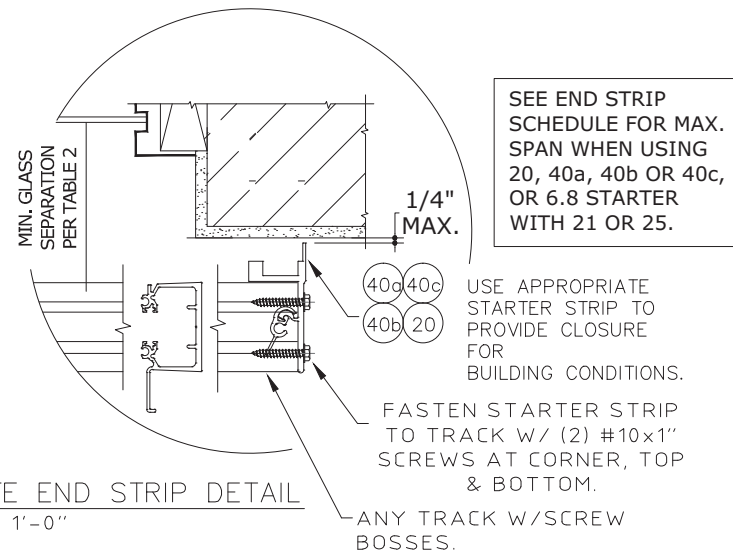
	PSF	SPAN
1" B/O (2.7") (40g)	62	108"
	72	100"
	82	94"
	112	80"
	132	75"
2" B/O (3.7") (40b)	62	95"
	72	88"
	82	83"
	112	70"
	132	65"
3" B/O (4.7") (40c)	62	86"
	72	79"
	82	74"
	112	62"
	132	57"
ALT. 1" B/O (2.7") (20)	62	110"
	72	102"
	82	95"
	112	81"
	132	75"
1.5"x3" x0.093" (21)	45	93"
	52	87"
	57	83"
	60	81"
	64	78"
2"x3" x0.125" (25)	45	139"
	52	129"
	57	123"
	60	120"
	64	116"
	70	111"
	73	109"

FOR GREATER SPANS OR LOADS THAN SHOWN IN END STRIP SCHEDULE, END STRIPS REQUIRE A 1"x1" .090" CLIP ANGLE MID SPAN USING ANY ANCHOR ON THE ANCHOR SCHEDULE & #14x3/4" TEK SCREW OR 1/4-20 BOLT TO END STRIP.

ALTERNATE END STRIP DETAIL WITH 6.8 STARTER AND ANGLE
SCALE: 3" = 1'-0"



ALTERNATE END STRIP DETAIL
SCALE: 3" = 1'-0"



MULTIPLE SHUTTER ASSEMBLY
SCALE: 3" = 1'-0"

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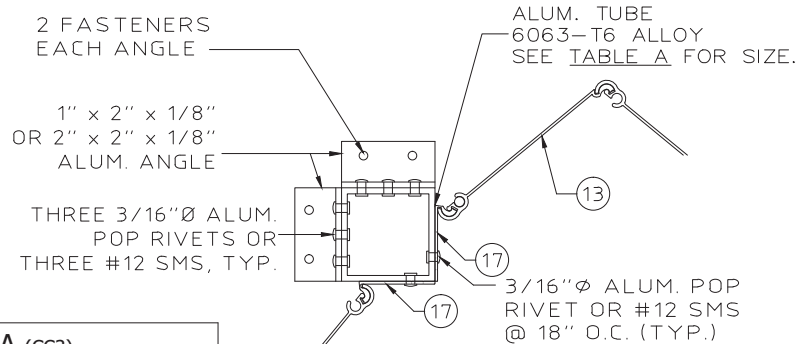
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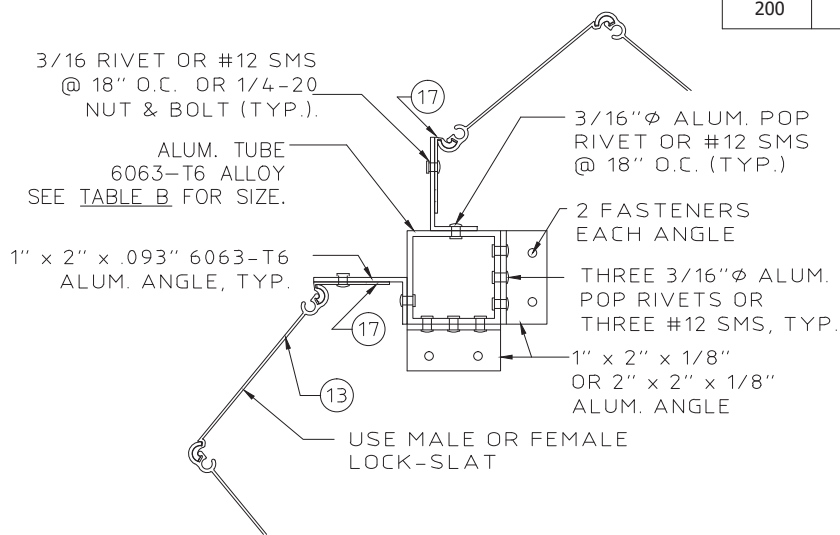
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TABLE A (CC3)		
PRESSURE VS ALLOWABLE LENGTH		
PSF	2"x2"x1/8" No B/O	3"x3"x1/8" No B/O
62	130"	188"
72	124"	179"
82	119"	172"
92	114"	165"
102	110"	160"
120	104"	147"
150	97"	131"
200	88"	114"



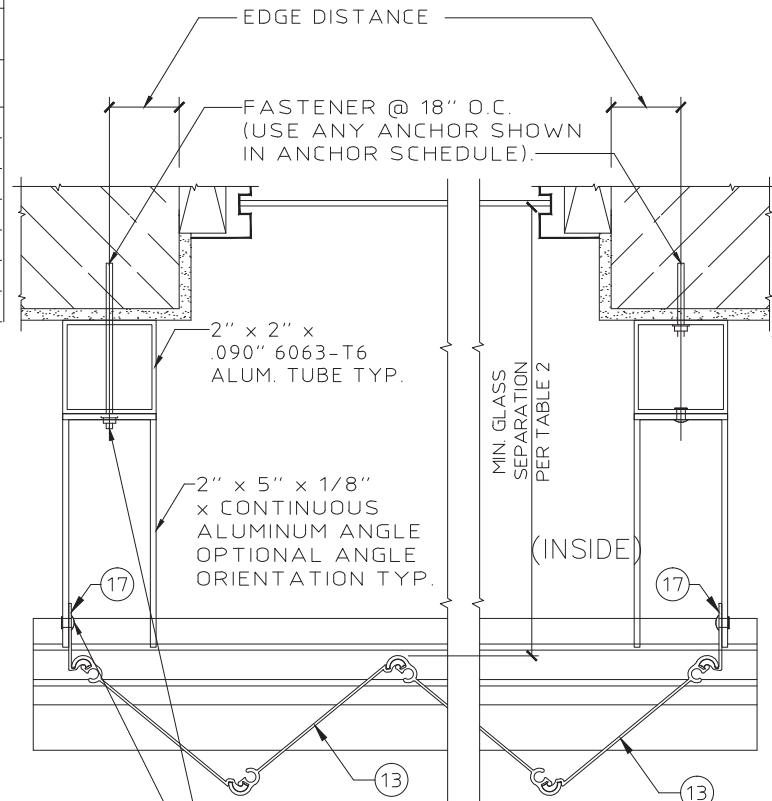
CC3 TYPICAL CORNER CLOSURE DETAILS
NTS

TABLE B (CC4)		
PRESSURE VS ALLOWABLE LENGTH		
PSF	2"x2"x1/8" WITH B/O	3"x3"x1/8" WITH B/O
62	113"	166"
72	107"	157"
82	101"	147"
92	95"	139"
102	90"	132"
120	83"	122"
150	74"	109"
200	64"	94"



CC4 TYPICAL CORNER CLOSURE DETAILS
NTS

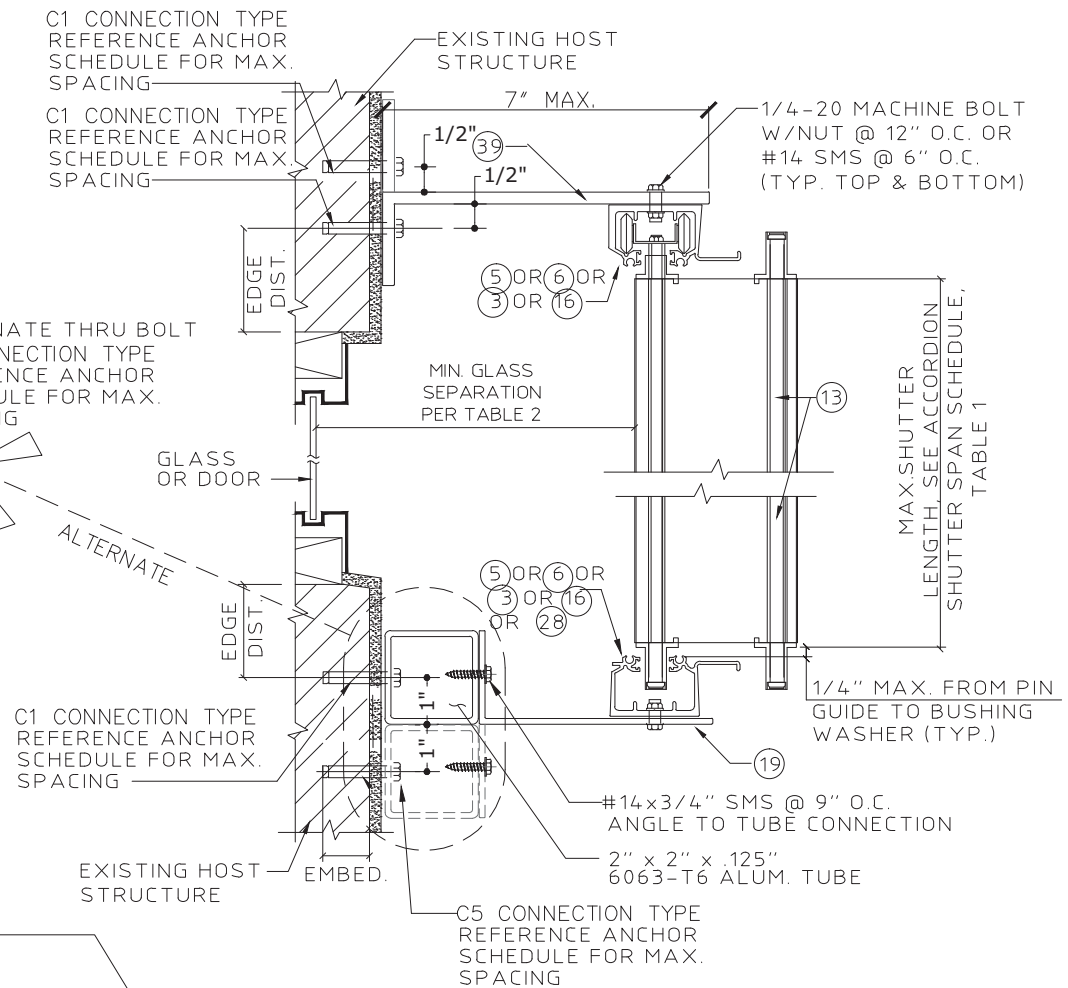
ALTERNATE THRU BOLT C5 CONNECTION TYPE REFERENCE ANCHOR SCHEDULE FOR MAX. SPACING



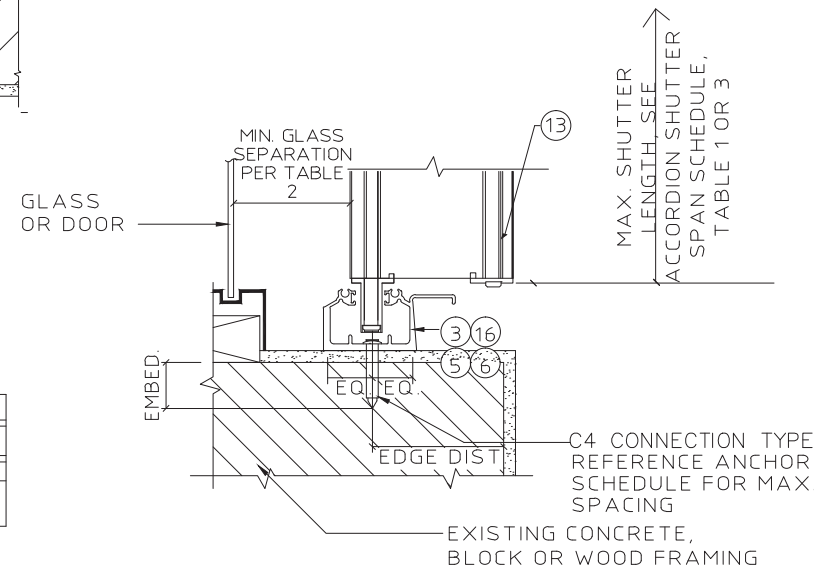
#12 x 1/2" GALVANIZED OR S.S. SMS, 3/16" Ø ALUM. POP RIVET, OR 1/4-20 MACHINE BOLT & NUT @ 18" O.C.

SIDE CLOSURE OPTIONS
SCALE: 3" = 1'-0"

ALTERNATE THRU BOLT C1 CONNECTION TYPE REFERENCE ANCHOR SCHEDULE FOR MAX. SPACING



Cb ALTERNATE BUILD OUT MOUNT SECTION
SCALE: 3" = 1'-0"



EE INSIDE SILL MOUNT SECTION
SCALE: 3" = 1'-0"

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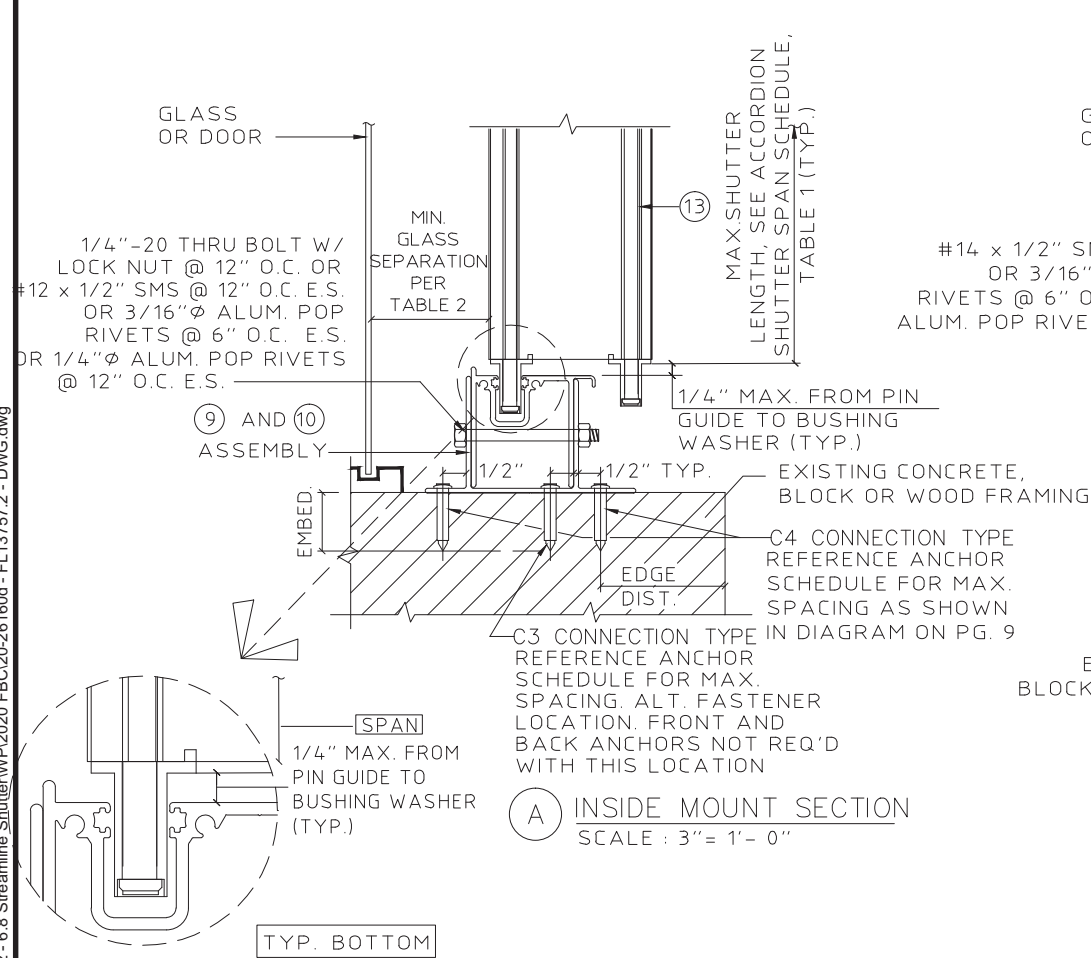
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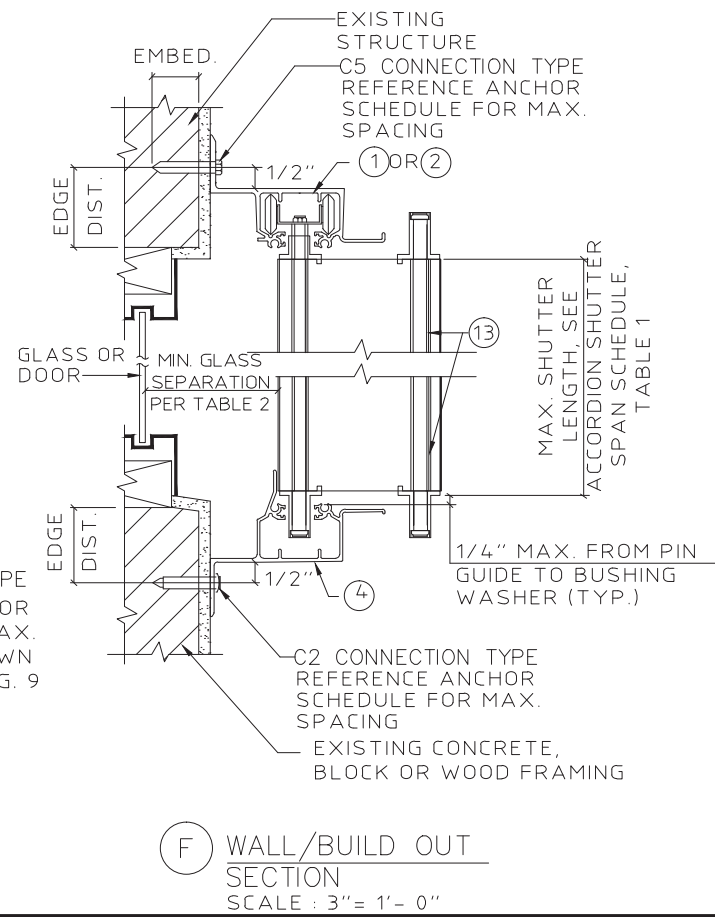
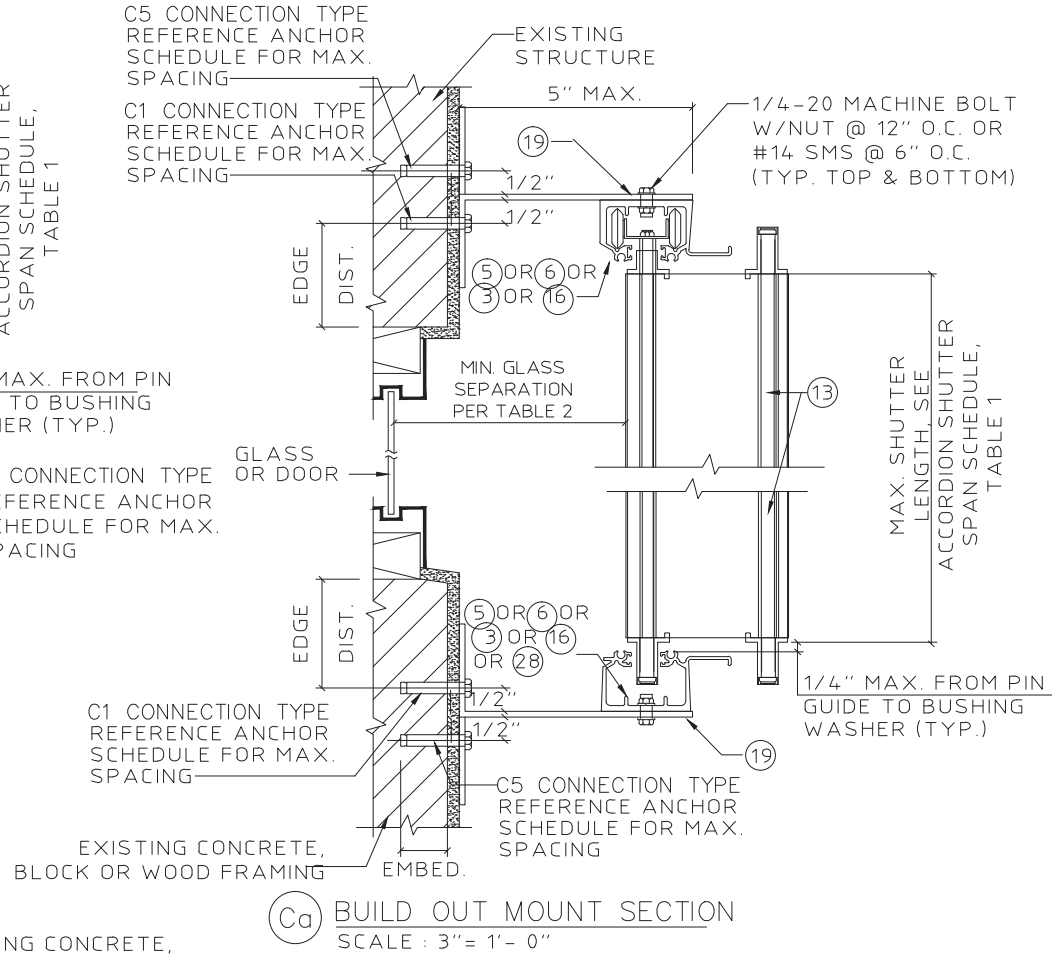
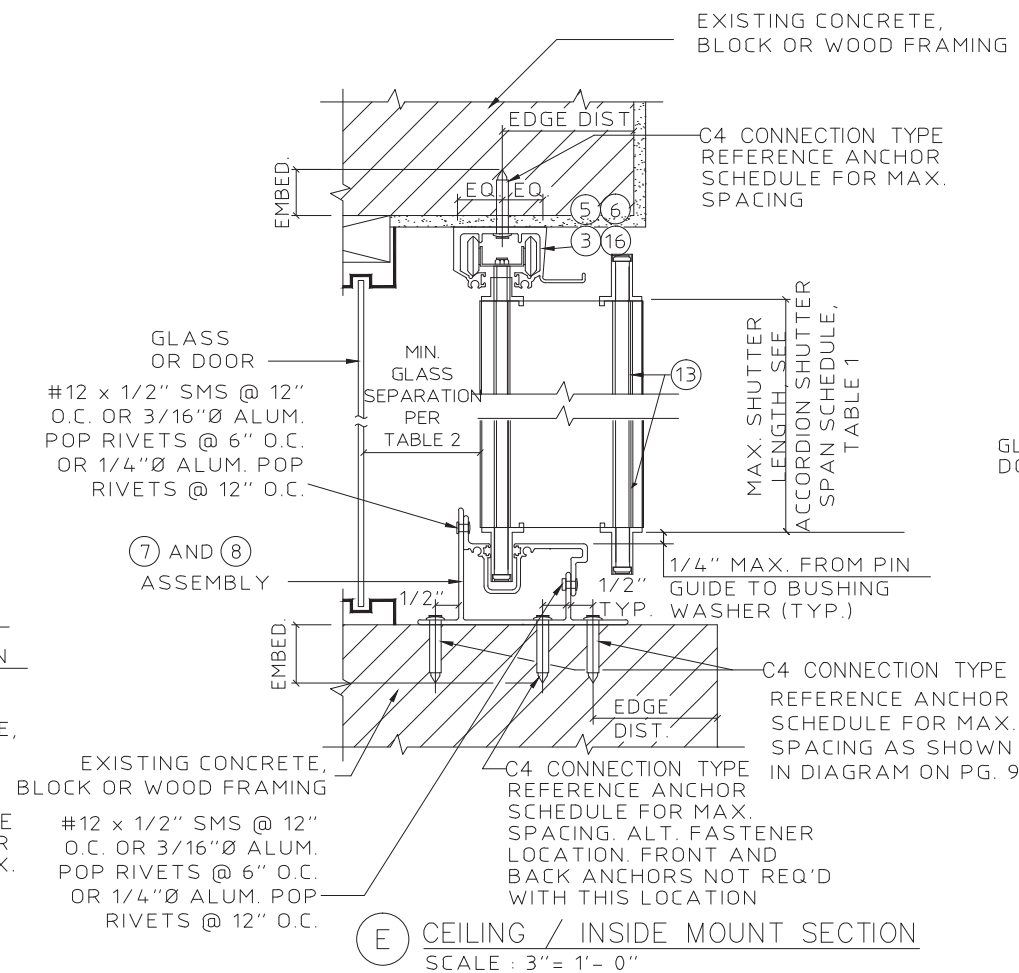
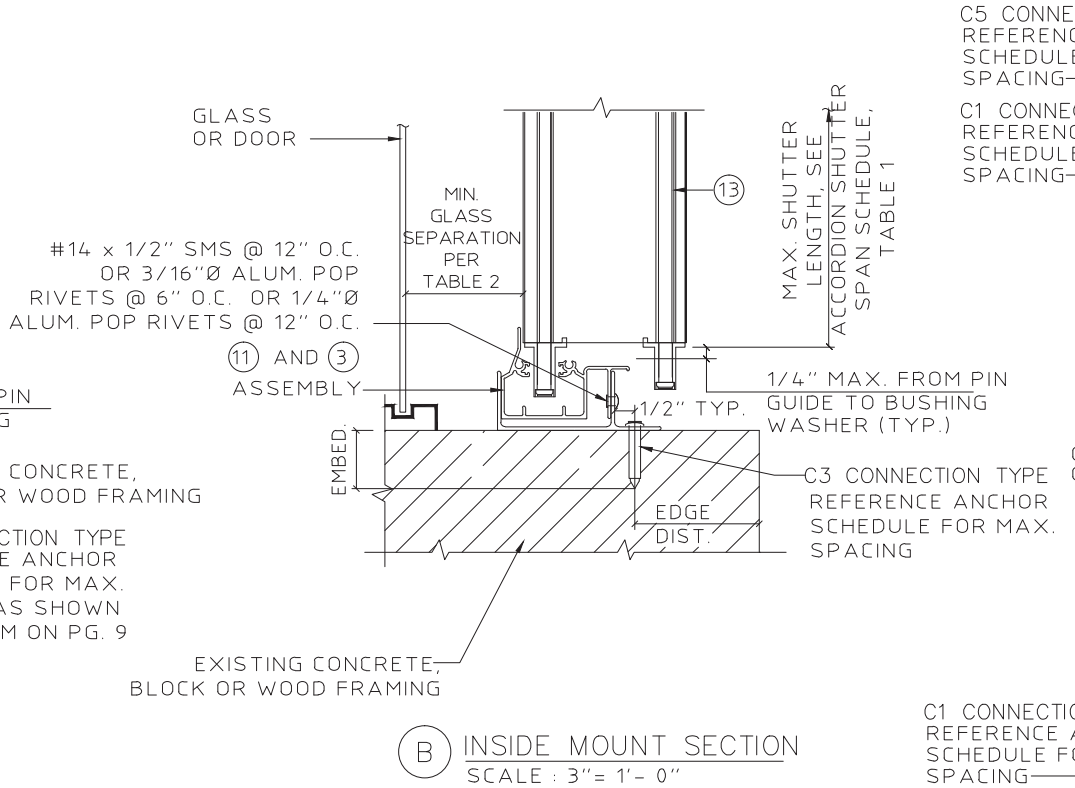
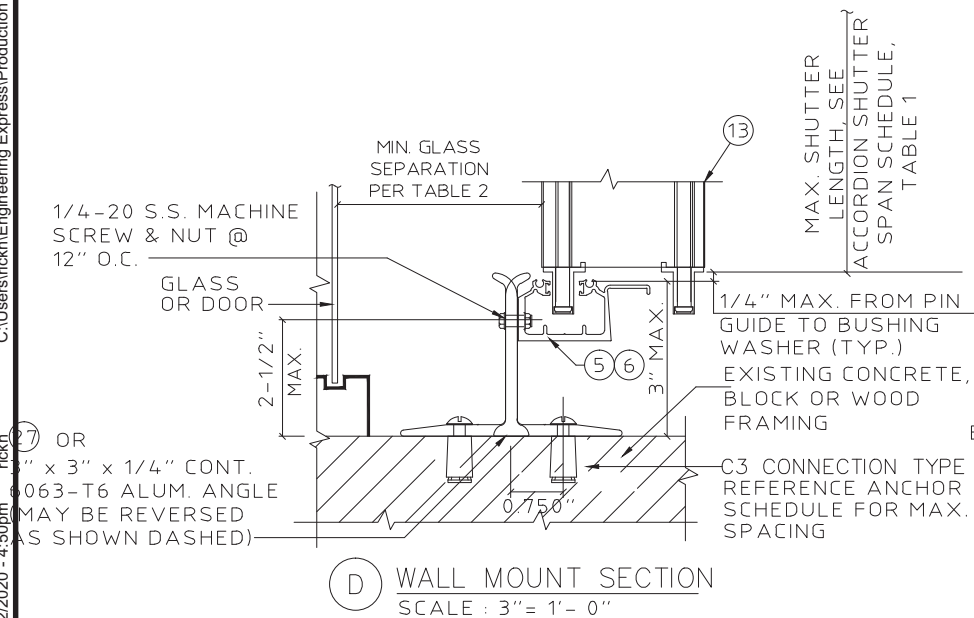
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rickn



NOTE: FOR DETAILS A, B, D, AND E ON THIS SHEET, THE BASE TRACK MAY BE INSTALLED IN SECTIONS WITH 1/4" GAPS, PROVIDED THAT EACH SECTION HAS A MINIMUM OF TWO SETS OF ANCHORS AND IS A MINIMUM OF 12" LONG. THE SILL OR CEILING TRACK USED WITH THE BASE TRACK MUST BE CONTINUOUS OVER THE GAPS BETWEEN SECTIONS.



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A Division of ABC Supply Co., Inc.
400 WEST MCNAB ROAD
FT. LAUDERDALE, FL 33309

FL13757.2

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	KL	FLB	4/28/10
2010 FBC	CSL	KL	12/16/11
CLIENT REVISIONS	KL	FLB	10/25/13
2014 FBC	RWN	CSL	3/29/15
2017 FBC	RWN	FLB	8/04/17
2020 FBC UPDATE	CB	RWN	6/17/20

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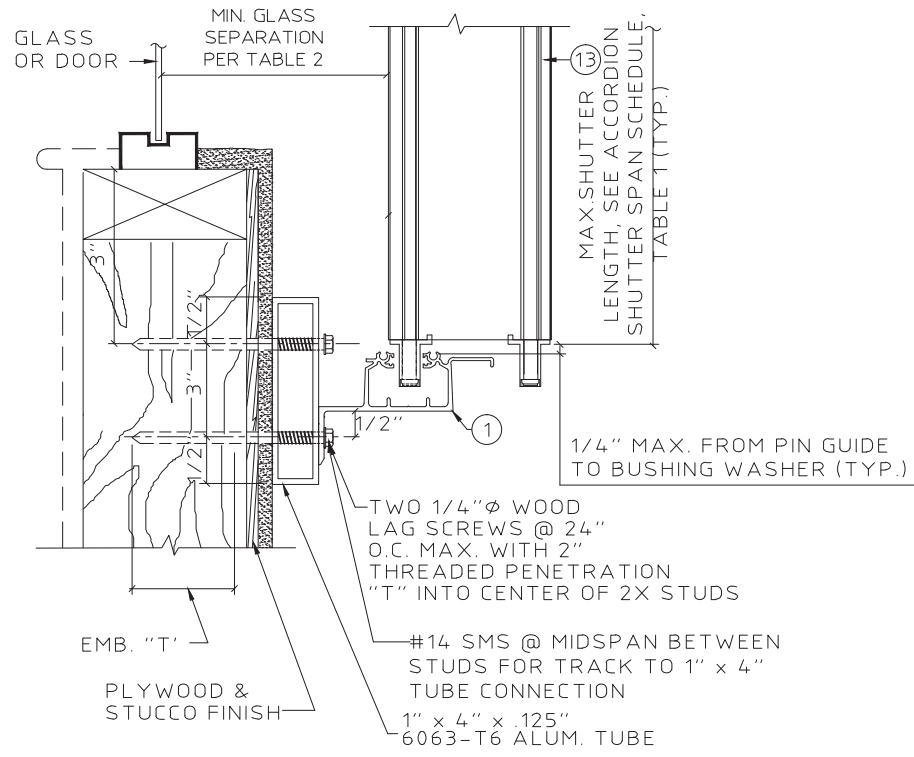
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62

OF 12

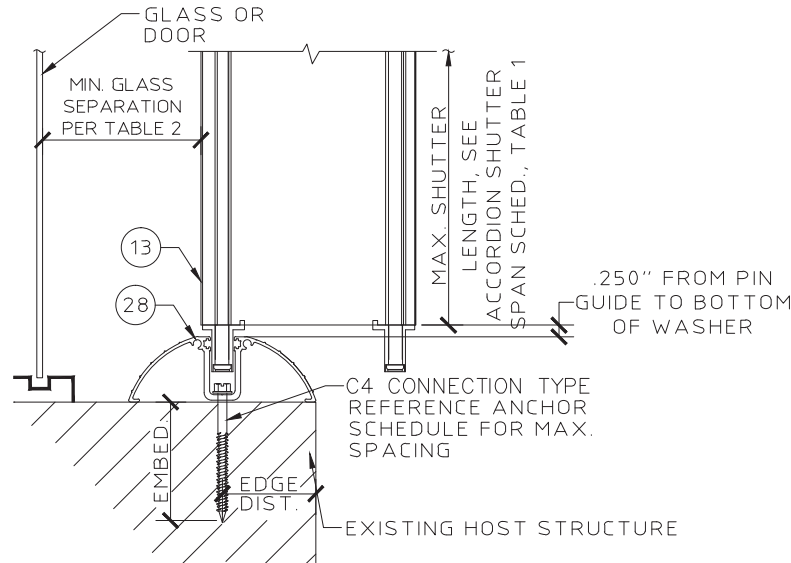
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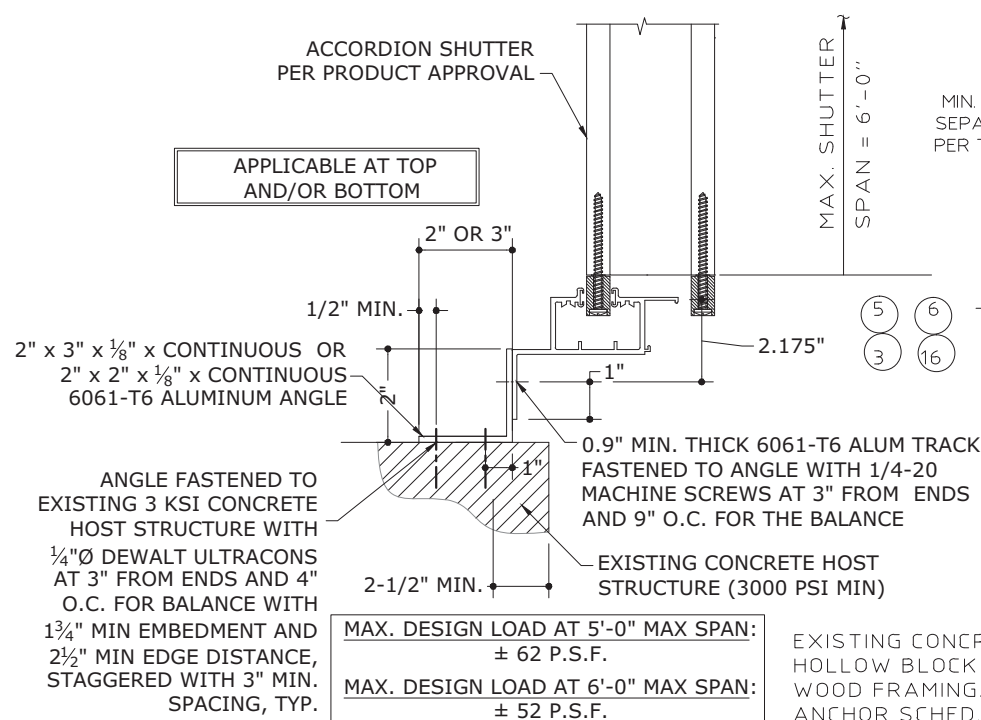
THIS DETAIL TO BE USED WHEN STUD SPACING EXCEEDS THE MAX. ALLOWABLE ANCHOR SPACING.

G WALL MOUNT SECTION
SCALE : 3" = 1'- 0"

THIS DETAIL MAY ALSO BE USED AT TOP

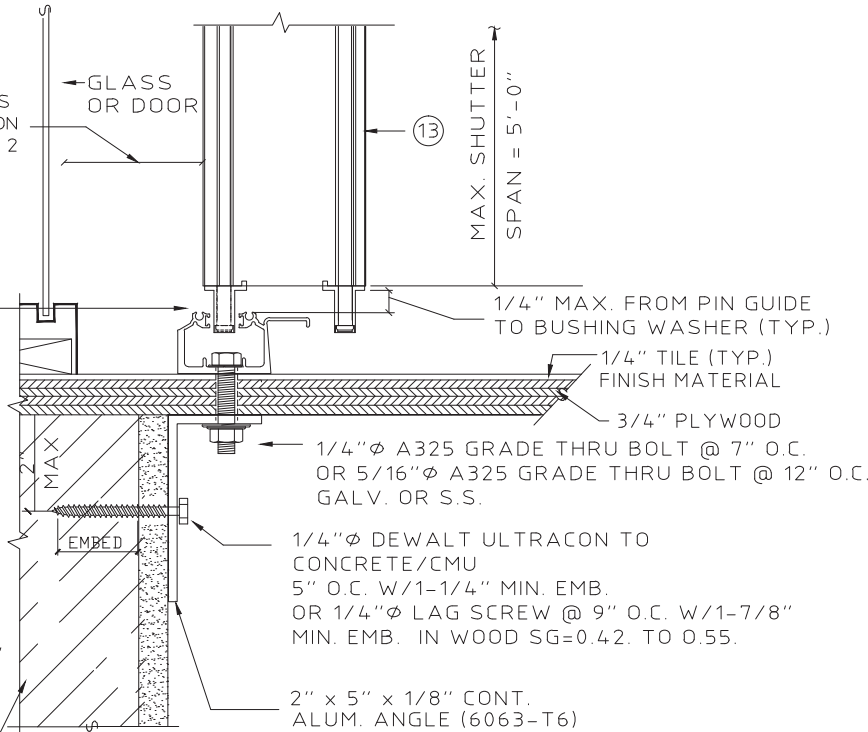


Na DECORATIVE FLOOR TRACK DETAIL
SCALE : 3" = 1'- 0"

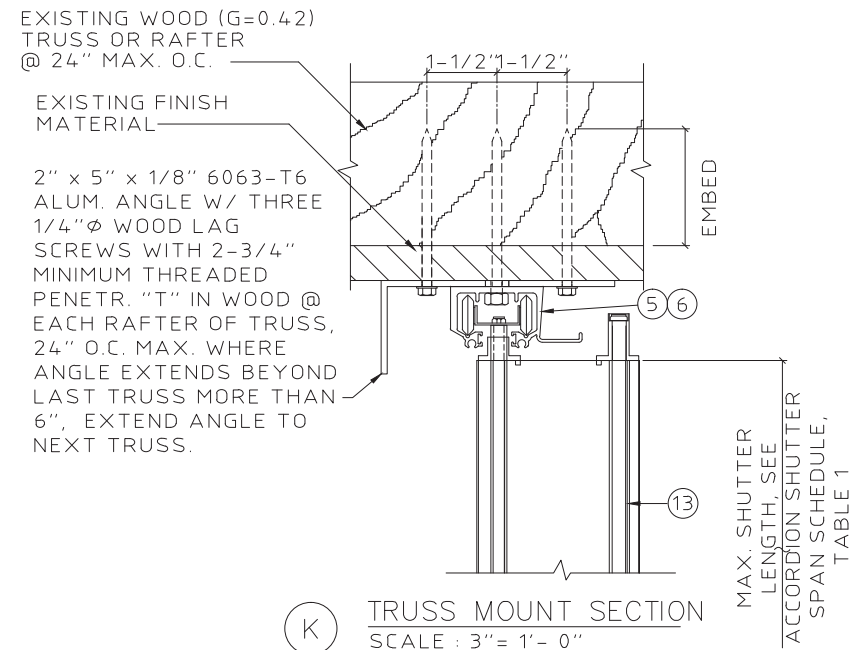


Ha BUILDOUT MOUNT
SCALE : NTS

EXISTING CONCRETE, HOLLOW BLOCK OR WOOD FRAMING. SEE ANCHOR SCHED. BASED ON TYPE OF STRUCTURE

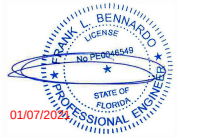


Hb PASS THRU DETAIL
SCALE : 3" = 1'- 0"



K TRUSS MOUNT SECTION
SCALE : 3" = 1'- 0"

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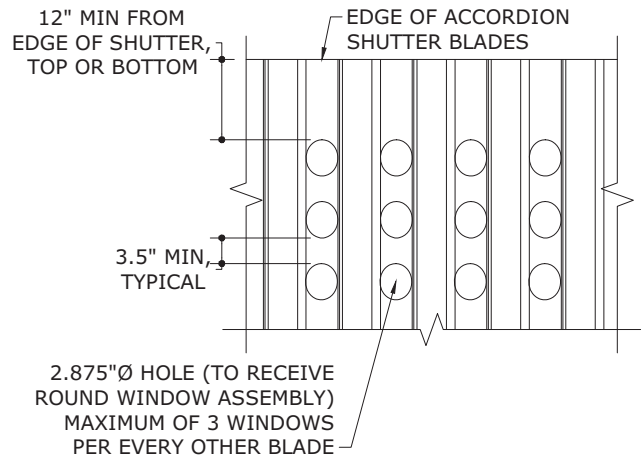
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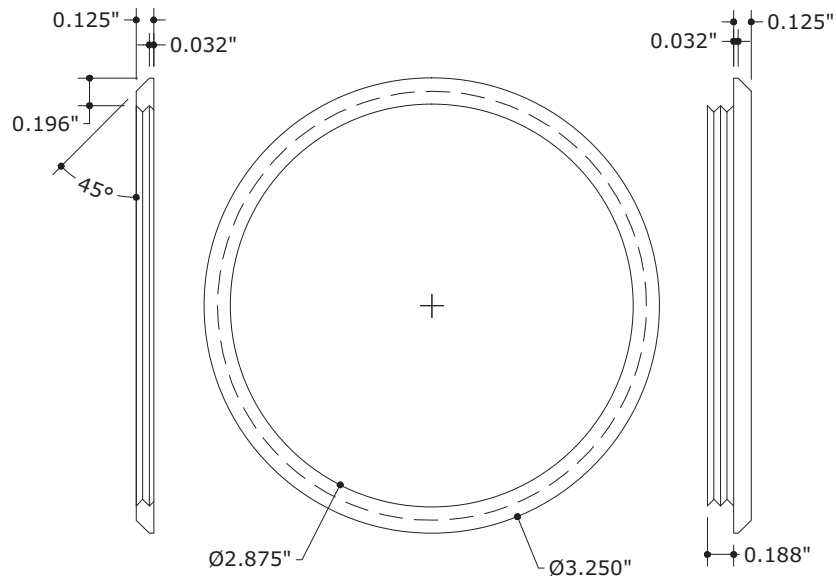
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PAGE DESCRIPTION:

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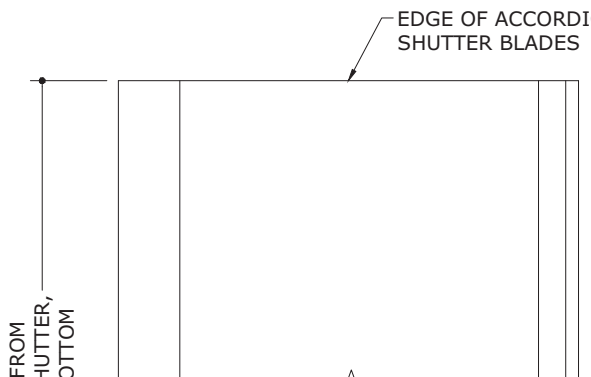
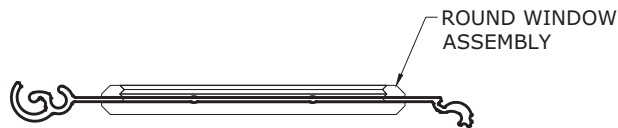
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1
8 **LIGHT-N-VIEW WINDOW**
N.T.S. EXTERIOR ELEV



29 **LIGHT-N-VIEW WINDOW**
N.T.S. SABIC PLASTICS SLX1431T-UL-94HB



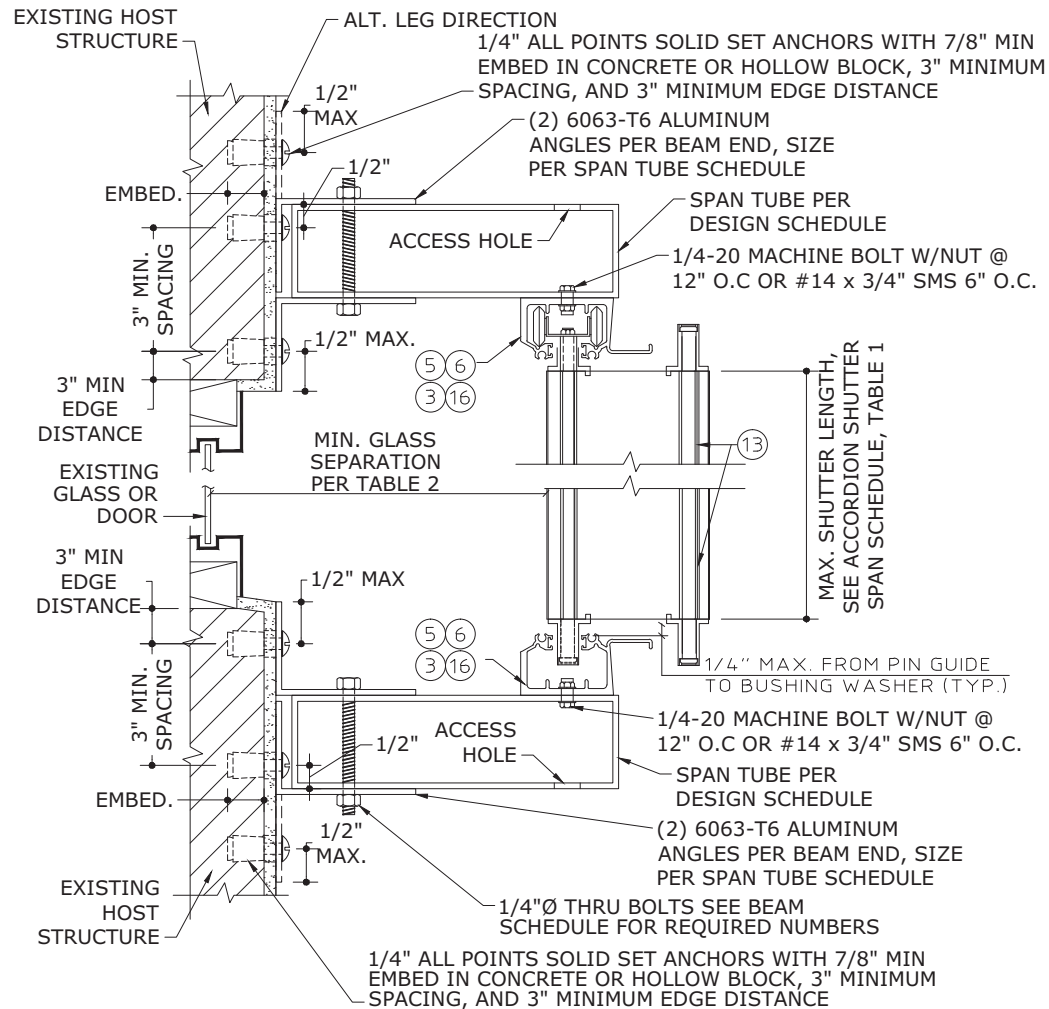
2.875"Ø HOLE TO
RECEIVE ROUND
WINDOW ASSEMBLY

12" MIN FROM
EDGE OF SHUTTER,
TOP OR BOTTOM

6.375" MIN.,
TYPICAL

ROUND
WINDOW
ASSEMBLY

2
8 **BLADE W/ ROUND WINDOW**
N.T.S. EXTERIOR ELEV



3
8 **SPAN TUBE SECTION**
N.T.S. VERT SECTION

SPAN TUBE SCHEDULE									
TUBE SIZE	SHUTTER SPAN	ALLOWABLE TUBE SPAN		NUMBER OF THRU-BOLTS		NUMBER OF ANCHORS PER ANGLE		MINIMUM ANGLE LENGTH	
		TOP TUBE	BOTTOM TUBE	TOP TUBE	BOTTOM TUBE	TOP TUBE	BOTTOM TUBE	TOP TUBE	BOTTOM TUBE
2"x5"x 0.125"	60"	123.8"	135.2"	2	2	2	3	4"	7"
	96"	101.7"	106.9"	2	2	3	3	7"	7"
	123"	89.9"	94.4"	2	2	3	3	7"	7"
2"x6"x 0.125"	60"	129.1"	157.0"	2	2	2	3	4"	7"
	96"	114.8"	124.1"	2	2	3	3	7"	7"
	123"	102.8"	109.6"	2	2	4	4	10"	10"
2"x8"x 0.125"	60"	138.0"	196.9"	2	2	3	3	7"	7"
	96"	122.7"	155.7"	2	2	3	4	7"	10"
	123"	115.4"	137.5"	2	3	4	5	10"	13"
2"x10"x 0.1875"	60"	158.1"	240.0"	2	2	3	4	7"	10"
	96"	140.6"	229.9"	2	3	4	6	10"	16"
	123"	132.2"	203.1"	3	4	5	7	13"	19"

- SPAN TUBE SCHEDULE NOTES:**
- USE 2"x3"x1/4" OR 2"x5"x1/4" ANGLES FOR 2"x5" & 2"x6" BEAMS.
 - USE 2"x5"x1/4" ANGLES FOR 2"x8" & 2"x10" BEAMS.
 - USE BEAM SCHEDULE FOR DETAIL 3/8.
 - TOP & BOTTOM BEAMS MAY BE USED TOGETHER OR IN COMBINATION WITH OTHER CONNECTION DETAILS. WHERE USED TOGETHER, BEAM MUST BE LIMITED TO TOP BEAM SPANS. SPAN TUBES MAY BE USED IN A MID-SPAN CONDITION WITH SHUTTERS SPANNING ABOVE AND BELOW THE BEAM. MID-SPAN TUBES SHALL HAVE TOP BEAM LIMITATIONS (INCLUDING SPANS, ANCHORS, ANGLES AND BOLTS), WITH THE SHUTTER SPAN TAKEN AS THE SUM OF THE SPANS ABOVE AND BELOW THE BEAM.
 - LAP BEAMS ARE NOT ALLOWED.
 - ALL BEAMS AND ANGLES TO BE 6063-T6 ALUMINUM.

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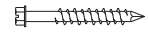
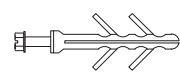
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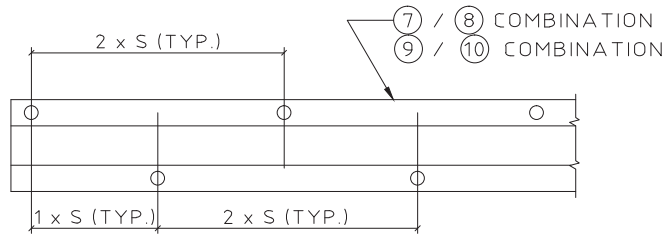
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ANCHOR SCHEDULE: CONCRETE

HOST STRUCT.	ANCHOR	LOAD (psf)	2.5" MIN EDGE DISTANCE															
			Spans Up To 6'-0"					Spans Up To 8'-3"					Spans Up To 12'-0"					
			CONN TYPE					CONN TYPE					CONN TYPE					
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
CONCRETE	1/4" ITW TAPCON OR ELCO ULTRACON WITH 1-3/4" EMBED (3192psi MIN CONC) 	43	16.0"	16.0"	15.0"	16.0"	16.0"	16.0"	16.0"	9.0"	13.0"	16.0"	16.0"	9.5"	5.5"	8.5"	14.5"	
		53	16.0"	16.0"	10.5"	14.5"	16.0"	16.0"	12.0"	7.0"	10.5"	16.0"	15.0"	7.5"	4.5"	7.5"	10.5"	
		62	16.0"	16.0"	8.5"	12.5"	16.0"	16.0"	9.5"	5.5"	8.5"	15.0"	15.0"	7.5"	4.5"	7.5"	10.5"	
		70	16.0"	13.0"	7.0"	11.0"	16.0"	15.5"	8.0"	5.0"	7.5"	11.5"	15.0"	7.5"	4.5"	7.5"	10.5"	
		100	15.0"	7.5"	4.5"	7.5"	10.5"	15.0"	7.5"	4.5"	7.5"	10.5"	15.0"	7.5"	4.5"	7.5"	10.5"	
	1/4" MILLENNIUM MILLFAST WITH 1-3/4" EMBED (3275psi MIN CONCRETE) 	43	16.0"	16.0"	15.0"	16.0"	16.0"	16.0"	16.0"	9.0"	13.5"	16.0"	16.0"	8.5"	5.5"	9.0"	13.5"	
		53	16.0"	16.0"	11.0"	15.0"	16.0"	16.0"	11.0"	7.0"	10.5"	16.0"	13.5"	7.0"	4.5"	7.5"	9.5"	
		62	16.0"	15.0"	8.5"	13.0"	16.0"	16.0"	8.5"	5.5"	9.0"	13.5"	13.5"	7.0"	4.5"	7.5"	9.5"	
		70	16.0"	12.0"	7.0"	11.0"	16.0"	14.0"	7.0"	4.5"	8.0"	10.5"	13.5"	7.0"	4.5"	7.5"	9.5"	
		100	13.5"	7.0"	4.5"	7.5"	9.5"	13.5"	7.0"	4.5"	7.5"	9.5"	13.5"	7.0"	4.5"	7.5"	9.5"	
	1/4" DEWALT CRETEFLEX SS4 W/ 2" EMBED (3350psi MIN CONC) 	43	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	13.5"	16.0"	16.0"	16.0"	12.5"	8.0"	13.0"	16.0"	
		53	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	10.0"	15.5"	16.0"	16.0"	10.0"	6.5"	11.0"	14.0"	
		62	16.0"	16.0"	12.5"	16.0"	16.0"	16.0"	12.5"	8.0"	13.0"	16.0"	16.0"	10.0"	6.5"	11.0"	14.0"	
		70	16.0"	16.0"	10.5"	16.0"	16.0"	16.0"	10.5"	7.0"	11.5"	15.0"	16.0"	10.0"	6.5"	11.0"	14.0"	
		100	16.0"	10.0"	6.5"	11.0"	14.0"	16.0"	10.0"	6.5"	11.0"	14.0"	16.0"	10.0"	6.5"	11.0"	14.0"	
	1/4" ITW TAPCON OR ELCO ULTRACON WITH 1-3/4" EMBED (3192psi MIN CONC) 			1" MIN EDGE DISTANCE														
				C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5
		43	16.0"	16.0"	7.5"	8.0"	16.0"	16.0"	16.0"	5.0"	5.5"	16.0"	16.0"	9.0"	3.0"	4.0"	14.0"	
		53	16.0"	16.0"	5.5"	6.5"	16.0"	16.0"	12.0"		4.5"	16.0"	14.5"	7.5"			10.0"	
		62	16.0"	15.5"	4.5"	5.5"	16.0"	16.0"	9.0"		4.0"	14.5"	14.5"	7.5"			10.0"	
70		16.0"	12.5"	4.0"	5.0"	16.0"	15.0"	7.5"			11.0"	14.5"	7.5"			10.0"		
100		14.5"	7.5"			10.0"	14.5"	7.5"			10.0"	14.5"	7.5"			10.0"		
1/4" MILLENNIUM MILLFAST WITH 1-3/4" EMBED (3275psi MIN CONCRETE) 		43	16.0"	16.0"	11.0"	13.5"	16.0"	16.0"	13.0"	6.5"	9.5"	16.0"	13.0"	7.0"	4.0"	6.5"	10.5"	
		53	16.0"	16.0"	8.0"	11.0"	16.0"	16.0"	9.0"	5.0"	7.5"	16.0"	10.5"	5.5"		5.5"	7.5"	
		62	16.0"	11.5"	6.0"	9.0"	16.0"	13.5"	7.0"	4.0"	6.5"	11.0"	10.5"	5.5"		5.5"	7.5"	
	70	16.0"	9.5"	5.5"	8.0"	16.0"	11.5"	5.5"		5.5"	8.5"	10.5"	5.5"		5.5"	7.5"		
	100	10.5"	5.5"		5.5"	7.5"	10.5"	5.5"		5.5"	7.5"	10.5"	5.5"		5.5"	7.5"		
1/4" ALL-POINTS SOLID-SET ANCHOR W/ 7/8" EMBED & 1/4-20 SS MACHINE SCREW (3000psi MIN CONC) 			1-1/4" MIN EDGE DISTANCE															
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
	43	16.0"	16.0"	8.5"	10.5"	16.0"	16.0"	12.0"	5.5"	7.5"	16.0"	12.5"	6.5"	3.0"	5.0"	10.0"		
	53	16.0"	15.0"	6.5"	8.0"	16.0"	16.0"	8.5"	4.0"	6.0"	15.5"	10.0"	5.0"		4.0"	7.0"		
	62	16.0"	11.0"	5.0"	7.0"	16.0"	12.5"	6.5"	3.5"	5.0"	10.0"	10.0"	5.0"		4.0"	7.0"		
	70	16.0"	9.0"	4.5"	6.0"	16.0"	10.5"	5.5"	3.0"	4.0"	8.0"	10.0"	5.0"		4.0"	7.0"		
1/4" ALL-POINTS SOLID-SET ANCHOR W/ 7/8" EMBED & 1/4-20 SS MACHINE SCREW (3000psi MIN CONC) 	100	10.0"	5.0"		4.0"	7.0"	10.0"	5.0"		4.0"	7.0"	10.0"	5.0"		4.0"	7.0"		
			3" MIN EDGE DISTANCE															
	43	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	11.5"	16.0"	16.0"	16.0"	11.0"	7.0"	11.0"	16.0"		
	53	16.0"	16.0"	13.5"	16.0"	16.0"	16.0"	14.0"	8.5"	13.5"	16.0"	16.0"	8.5"	5.5"	9.5"	12.0"		
	62	16.0"	16.0"	10.5"	16.0"	16.0"	16.0"	11.0"	7.0"	11.0"	16.0"	16.0"	8.5"	5.5"	9.5"	12.0"		
1/4" DEWALT SS DROP-IN W/ 1/4-20 SS BOLT AND 1" EMBED (3000psi MIN CONC) 	70	16.0"	15.0"	9.0"	14.0"	16.0"	16.0"	9.0"	6.0"	10.0"	13.0"	16.0"	8.5"	5.5"	9.5"	12.0"		
	100	16.0"	8.5"	5.5"	9.5"	12.0"	16.0"	8.5"	5.5"	9.5"	12.0"	16.0"	8.5"	5.5"	9.5"	12.0"		
			2-5/8" MIN EDGE DISTANCE															
	43	16.0"	16.0"	14.0"	16.0"	16.0"	16.0"	14.0"	8.0"	12.5"	16.0"	14.0"	7.5"	5.0"	8.0"	11.5"		
	53	16.0"	16.0"	9.5"	14.0"	16.0"	16.0"	9.5"	6.0"	10.0"	16.0"	11.5"	6.0"	4.0"	7.0"	8.0"		
	62	16.0"	12.5"	7.5"	12.0"	16.0"	14.5"	7.5"	5.0"	8.5"	11.5"	11.5"	6.0"	4.0"	7.0"	8.0"		
1/4" DEWALT SS DROP-IN W/ 1/4-20 SS BOLT AND 1" EMBED (3000psi MIN CONC) 	70	16.0"	10.0"	6.5"	10.5"	16.0"	12.0"	6.0"	4.0"	7.5"	9.0"	11.5"	6.0"	4.0"	7.0"	8.0"		
	100	11.5"	6.0"	4.0"	7.0"	8.0"	11.5"	6.0"	4.0"	7.0"	8.0"	11.5"	6.0"	4.0"	7.0"	8.0"		
			3-1/2" MIN EDGE DISTANCE															
	43	16.0"	16.0"	15.0"	16.0"	16.0"	16.0"	14.5"	9.0"	13.5"	16.0"	15.0"	7.5"	5.0"	9.0"	12.0"		
	53	16.0"	16.0"	10.5"	15.0"	16.0"	16.0"	10.0"	6.5"	10.5"	16.0"	12.0"	6.0"	4.0"	7.5"	8.5"		
#12 SMS W/ 2" EYEWALL ARMOR INSERT W/ 2" EMBED (2000psi MIN CONC) 	62	16.0"	13.0"	8.0"	12.5"	16.0"	15.0"	8.0"	5.0"	9.0"	12.0"	12.0"	6.0"	4.0"	7.5"	8.5"		
	70	16.0"	10.5"	7.0"	11.0"	16.0"	12.5"	6.5"	4.5"	8.0"	9.5"	12.0"	6.0"	4.0"	7.5"	8.5"		
	100	12.0"	6.0"	4.0"	7.5"	8.5"	12.0"	6.0"	4.0"	7.5"	8.5"	12.0"	6.0"	4.0"	7.5"	8.5"		
			2" MIN EDGE DISTANCE															
	43	16.0"	16.0"	11.5"	14.0"	16.0"	16.0"	16.0"	7.5"	10.0"	16.0"	16.0"	9.0"	4.5"	6.5"	13.5"		
#12 SMS W/ 2.75" EYEWALL ARMOR INSERT W/ 2.5" EMBED (2000psi MIN CONC) 	53	16.0"	16.0"	8.5"	11.0"	16.0"	16.0"	11.5"	5.5"	8.0"	16.0"	14.0"	7.0"	3.5"	5.5"	10.0"		
	62	16.0"	15.0"	7.0"	9.5"	16.0"	16.0"	9.0"	4.5"	6.5"	14.0"	14.0"	7.0"	3.5"	5.5"	10.0"		
	70	16.0"	12.0"	6.0"	8.0"	16.0"	14.5"	7.5"	4.0"	6.0"	10.5"	14.0"	7.0"	3.5"	5.5"	10.0"		
	100	14.0"	7.0"	3.5"	5.5"	10.0"	14.0"	7.0"	3.5"	5.5"	10.0"	14.0"	7.0"	3.5"	5.5"	10.0"		
	43	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	10.0"	14.0"	16.0"	16.0"	11.5"	6.0"	9.5"	16.0"		
#12 SMS W/ 2.75" EYEWALL ARMOR INSERT W/ 2.5" EMBED (2000psi MIN CONC) 	53	16.0"	16.0"	12.0"	16.0"	16.0"	16.0"	15.0"	7.5"	11.0"	16.0"	16.0"	9.0"	5.0"	8.0"	13.0"		
	62	16.0"	16.0"	9.5"	13.5"	16.0"	16.0"	11.5"	6.5"	9.5"	16.0"	16.0"	9.0"	5.0"	8.0"	13.0"		
	70	16.0"	16.0"	8.0"	11.5"	16.0"	16.0"	9.5"	5.5"	8.5"	14.0"	16.0"	9.0"	5.0"	8.0"	13.0"		
	100	16.0"	9.0"	5.0"	8.0"	13.0"	16.0"	9.0"	5.0"	8.0"	13.0"	16.0"	9.0"	5.0"	8.0"	13.0"		



NOTE: "S" INDICATES ANCHOR SCHEDULE SPACING.
SPACING DIAGRAM FOR C2 & C4 CONNECTION TYPE:
- C2 CONNECTION TYPE USING PIECE ⑩ WITH OUTSIDE ANCHORS ONLY
- C4 CONNECTION TYPE USING PIECE ⑧ WITH OUTSIDE ANCHORS ONLY

ANCHOR NOTES:

- SPANS AND LOADS SHOWN HERE ARE FOR DETERMINING ANCHOR SPACING ONLY. ALLOWABLE STORM SHUTTER SPANS FOR SPECIFIC LOADS MUST BE LIMITED TO THOSE SHOWN IN TABLE 1 (Pg 1).
- ENTER ANCHOR SCHEDULE BASED ON THE EXISTING STRUCTURE MATERIAL, ANCHOR TYPE AND EDGE DISTANCE. SELECT DESIGN LOAD GREATER THAN OR EQUAL TO NEGATIVE DESIGN LOAD ON SHUTTER AND SELECT SPAN GREATER THAN OR EQUAL TO SHUTTER SPAN.
- SEE MOUNTING SECTION DETAILS FOR IDENTIFICATION OF CONNECTION TYPE.
- EXISTING STRUCTURE MAY BE CONCRETE, ASTM C-90 HOLLOW CONCRETE BLOCK OR WOOD FRAMING. REFERENCE ANCHOR SCHEDULE FOR PROPER ANCHOR TYPE BASED ON TYPE OF EXISTING STRUCTURE AND APPROPRIATE CONNECTION TYPE. SEE CONNECTION DETAILS FOR IDENTIFICATION OF CONNECTION TYPE.
- ALL CONCRETE ANCHORS SHALL BE INSTALLED TO NON-CRACKED CONCRETE ONLY.
- THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ANCHORS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS. EMBEDMENT LENGTHS SHALL BE AS NOTED AND DO NOT INCLUDE STUCCO OR OTHER FINISHES.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, WOOD FRAMING CONDITIONS VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT PLYWOOD. FASTENING TO PLYWOOD IS ACCEPTABLE ONLY FOR SIDE CLOSURE PIECES.
- WHERE LAG SCREWS FASTEN TO NARROW FACE OF STUD FRAMING, FASTENER SHALL BE LOCATED IN CENTER OF NOMINAL 2" x 4" (MIN.) WOOD STUD. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR WOOD FRAMING. LAG SCREWS SHALL HAVE PHILLIPS PAN HEAD OR HEX HEAD.
- MACHINE SCREWS SHALL HAVE MINIMUM OF 1/2" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD (SIDEWALK BOLT), U.O.N.
-  DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE USES.
- * DESIGNATES ANCHORS WHICH ARE REMOVABLE BY REMOVING MACHINE SCREW, NUT OR WASHER WINGNUT.
- MINIMUM CONCRETE STRENGTHS ARE AS INDICATED IN ANCHOR SCHEDULE.
- WHEN ANCHORING TO HOLLOW BLOCK, SDS DRILLS SHOULD NOT BE USED TO DRILL INTO HOLLOW BLOCK, NOR SHOULD IMPACT DRILLS BE USED TO INSTALL CONCRETE SCREWS TO HOLLOW BLOCK
- ALL MILLENNIUM MILLFAST CONCRETE SCREWS SHALL HAVE T&C ULTRACOTE

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REMARKS	DRWN	CHKD	DATE
INIT ISSUE	KL	FLB	4/28/10
2010 FBC	CSL	KL	12/16/11
CLIENT REVISIONS	KL	FLB	10/25/13
2014 FBC	RWN	CSL	3/29/15
2017 FBC	RWN	FLB	8/04/17
2020 FBC UPDATE	CB	RWN	6/17/20

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ANCHOR SCHEDULE: CONCRETE (CONT.)

HOST STRUCT.	ANCHOR	LOAD (psf)	2-3/16" MIN EDGE DISTANCE															3-1/8" MIN EDGE DISTANCE																	
			Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE					Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE							
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5			
CONCRETE	5/16" ITW TAPCON XL WITH 1-3/4" EMBED (2899psi MIN CONC) 	43	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	12.0"	16.0"	16.0"	16.0"	11.0"	7.0"	12.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	12.5"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	11.5"	7.5"	12.0"	16.0"
		53	16.0"	16.0"	14.0"	16.0"	16.0"	16.0"	14.5"	9.0"	14.0"	16.0"	16.0"	9.0"	6.0"	10.0"	12.5"	16.0"	16.0"	14.5"	16.0"	16.0"	16.0"	16.0"	15.0"	9.0"	14.5"	16.0"	16.0"	9.5"	6.0"	10.5"	13.0"		
		62	16.0"	16.0"	11.5"	16.0"	16.0"	16.0"	11.5"	7.5"	12.0"	16.0"	16.0"	9.0"	6.0"	10.0"	12.5"	16.0"	16.0"	11.5"	16.0"	16.0"	16.0"	16.0"	11.5"	7.5"	12.0"	16.0"	16.0"	9.5"	6.0"	10.5"	13.0"		
		70	16.0"	15.5"	9.5"	15.0"	16.0"	16.0"	9.5"	6.0"	10.5"	13.5"	16.0"	9.0"	6.0"	10.0"	12.5"	16.0"	16.0"	10.0"	15.0"	16.0"	16.0"	10.0"	6.5"	10.5"	14.0"	16.0"	9.5"	6.0"	10.5"	13.0"			
		100	16.0"	9.0"	6.0"	10.0"	12.5"	16.0"	9.0"	6.0"	10.0"	12.5"	16.0"	9.0"	6.0"	10.0"	12.5"	16.0"	9.5"	6.0"	10.5"	13.0"	16.0"	9.5"	6.0"	10.5"	13.0"								
	5/16" DEWALT ULTRA CON WITH 1-3/4" EMBED (3500psi MIN CONC) 	43	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	13.5"	16.0"	16.0"	16.0"	12.0"	8.0"	13.5"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	15.0"	16.0"	16.0"	16.0"	16.0"	13.0"	9.0"	15.0"	16.0"	
		53	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	15.5"	10.0"	16.0"	16.0"	16.0"	9.5"	6.5"	11.5"	13.5"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	11.0"	16.0"	16.0"	16.0"	16.0"	10.5"	7.5"	12.5"	15.0"	
		62	16.0"	16.0"	12.5"	16.0"	16.0"	16.0"	12.0"	8.0"	14.0"	16.0"	16.0"	9.5"	6.5"	11.5"	13.5"	16.0"	16.0"	14.0"	16.0"	16.0"	16.0"	16.0"	13.5"	9.0"	15.0"	16.0"	16.0"	10.5"	7.5"	12.5"	15.0"		
		70	16.0"	16.0"	10.5"	16.0"	16.0"	16.0"	10.0"	7.0"	12.0"	14.5"	16.0"	9.5"	6.5"	11.5"	13.5"	16.0"	16.0"	11.5"	16.0"	16.0"	16.0"	16.0"	11.0"	7.5"	13.0"	16.0"	16.0"	10.5"	7.5"	12.5"	15.0"		
		100	16.0"	9.5"	6.5"	11.5"	13.5"	16.0"	9.5"	6.5"	11.5"	13.5"	16.0"	9.5"	6.5"	11.5"	13.5"	16.0"	10.5"	7.5"	12.5"	15.0"	16.0"	10.5"	7.5"	12.5"	15.0"								
	1/4" 304 SS DEWALT TAPPER W/ 1-3/4" EMBED (3000psi MIN CONC) 		1-1/2" MIN EDGE DISTANCE															3" MIN EDGE DISTANCE																	
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5			
		43	16.0"	14.5"	6.5"	8.5"	16.0"	12.5"	7.0"	4.0"	6.0"	12.5"	7.0"	3.5"		4.0"	5.5"	16.0"	16.0"	13.5"	16.0"	16.0"	16.0"	16.0"	14.0"	8.0"	12.0"	16.0"	14.5"	7.5"	4.5"	8.0"	11.5"		
		53	14.0"	8.5"	4.5"	6.5"	14.0"	9.0"	4.5"	3.0"	4.5"	9.0"	6.0"	3.0"		3.0"	4.0"	16.0"	16.0"	9.5"	13.5"	16.0"	16.0"	9.5"	6.0"	9.5"	16.0"	12.0"	6.0"	4.0"	6.5"	8.5"			
		62	11.5"	6.5"	3.5"	5.5"	12.0"	7.0"	3.5"		4.0"	6.0"	6.0"	3.0"		3.0"	4.0"	16.0"	13.0"	7.5"	11.0"	16.0"	14.5"	7.5"	5.0"	8.0"	12.0"	12.0"	6.0"	4.0"	6.5"	8.5"			
		70	9.5"	5.0"	3.0"	5.0"	10.0"	6.0"	3.0"		3.5"	4.5"	6.0"	3.0"		3.0"	4.0"	16.0"	10.5"	6.5"	10.0"	16.0"	12.5"	6.5"	4.0"	7.0"	9.0"	12.0"	6.0"	4.0"	6.5"	8.5"			
		100	6.0"	3.0"		3.0"	4.0"	6.0"	3.0"		3.0"	4.0"	6.0"	3.0"		3.0"	4.0"	12.0"	6.0"	4.0"	6.5"	8.5"	12.0"	6.0"	4.0"	6.5"	8.5"								

ANCHOR SCHEDULE: HOLLOW CONCRETE BLOCK

HOST STRUCT.	ANCHOR	LOAD (psf)	1" MIN EDGE DISTANCE															2-1/2" MIN EDGE DISTANCE															
			Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE					Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE					
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
HOLLOW CONCRETE BLOCK	1/4" ITW TAPCON WITH 1-1/4" EMBED 	43	8.5"	7.0"		3.5"	8.5"	6.0"	3.5"			6.0"	3.5"					11.5"	10.0"	5.0"	6.5"	11.5"	8.5"	4.5"	3.0"	4.5"	8.5"	4.5"			3.0"	4.0"	
		53	7.0"	4.0"			7.0"	4.5"				4.5"							9.5"	6.0"	3.5"	5.0"	9.5"	6.0"	3.0"		3.5"	6.0"	4.0"			3.0"	4.0"
		62	5.5"	3.0"			6.0"	3.5"											8.0"	4.0"		4.5"	8.0"	5.0"			3.0"	4.0"	4.0"				
		70	4.5"				5.0"	3.0"											6.5"	3.5"		3.5"	6.5"	4.0"				3.0"	4.0"	4.0"			
		100																	4.0"					4.0"					4.0"	4.0"			
	1/4" DEWALT ULTRA CON WITH 1-1/4" EMBED 	43	13.0"	10.5"		6.5"	13.0"	9.0"				9.0"							13.0"	10.5"	4.5"	6.0"	13.0"	9.0"	5.0"	3.0"	4.0"	9.0"	5.0"				4.0"
		53	10.5"	6.5"			10.5"	6.5"				6.5"							10.5"	6.5"	3.5"	5.0"	10.5"	6.5"	3.5"	3.5"	6.5"	4.0"				3.0"	
		62	8.5"				9.0"												8.5"	4.5"		4.0"	9.0"	5.0"			4.0"	4.0"				3.0"	
		70	7.0"				7.5"												7.0"	3.5"		3.5"	7.5"	4.5"			3.0"	4.0"	4.0"			3.0"	
		100																	4.0"			3.0"	4.0"				3.0"	4.0"	4.0"			3.0"	
	1/4" MILLENNIUM MILLFAST ANCHOR W/ 1-1/4" EMBED 	43	12.5"	10.5"	4.0"	5.0"	12.5"	9.0"	5.0"			9.0"	5.0"				4.0"	13.5"	11.5"	5.5"	7.5"	13.5"	10.0"	5.5"		5.0"	10.0"	5.5"				4.5"	
		53	10.0"	6.0"		4.0"	10.0"	6.5"				6.0"	4.0"					11.0"	6.5"	4.0"	5.5"	11.0"	7.0"		4.0"	7.0"	4.5"						
		62	8.0"	4.5"			8.5"	5.0"				4.0"	4.0"					9.0"	5.0"		5.0"	9.5"	5.5"			4.5"	4.5"						
		70	6.5"				7.0"	4.0"					4.0"					7.5"	4.0"		4.0"	8.0"	4.5"			4.5"	4.5"						
		100	4.0"					4.0"					4.0"					4.5"					4.5"				4.5"	4.5"					
	1/4" ALL-POINTS SOLID-SET ANCHOR W/ 7/8" EMBED & 1/4-20 SS MACHINE SCREW 		1-1/4" MIN EDGE DISTANCE															2" MIN EDGE DISTANCE															
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
		43	15.0"	13.0"	5.0"	6.0"	15.0"	11.0"	6.0"	3.0"	4.0"	11.0"	6.0"	3.0"			5.0"	16.0"	16.0"	8.5"	10.0"	16.0"	16.0"	10.5"	5.0"	7.0"	16.0"	11.0"	5.5"	3.0"	4.5"	8.5"	
		53	12.5"	7.5"	3.5"	4.5"	12.5"	8.0"	4.0"		3.5"	8.0"	5.0"			3.5"	16.0"	13.0"	6.0"	8.0"	16.0"	14.0"	7.5"	4.0"	5.5"	13.5"	9.0"	4.5"		4.0"	6.5"		
		62	10.0"	5.5"		4.0"	10.5"	6.5"	3.0"			5.0"	5.0"			3.5"	16.0"	9.5"	5.0"	6.5"	16.0"	11.0"	5.5"	3.0"	4.5"	9.0"	9.0"	4.5"		4.0"	6.5"		
5/16" ITW TAPCON XL WITH 1-3/4" EMBED 	70	8.5"	4.5"		3.5"	9.0"	5.5"				4.0"	5.0"			3.5"	14.5"	8.0"	4.0"	6.0"	15.5"	9.5"	4.5"		4.0"	7.0"	9.0"	4.5"		4.0"	6.5"			
	100	5.0"				3.5"	5.0"				3.5"	5.0"			3.5"	9.0"	4.5"		4.0"	6.5"	9.0"	4.5"		4.0"	6.5"	9.0"	4.5"		4.0"	6.5"			
	5/16" DEWALT ULTRA CON WITH 1-1/4" EMBED 		3" MIN EDGE DISTANCE															4" MIN EDGE DISTANCE															
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
		43																16.0"	16.0"	9.0"	12.0"	16.0"	14.0"	7.5"	5.0"	8.5"	14.0"	8.0"	4.0"	3.0"	5.5"	6.5"	
53																	15.5"	9.5"	6.0"	9.5"	15.5"	10.0"	5.0"		6.5"	10.0"	6.5"			4.5"	4.5"		
62																	13.0"	7.0"	4.5"	8.0"	13.0"	8.0"	4.0"		5.5"	6.5"	6.5"			4.5"	4.5"		
5/16" DEWALT ULTRA CON WITH 1-1/4" EMBED	70																10.5"	5.5"	4.0"	7.0"	11.0"	6.5"			5.0"	5.0"	6.5"			4.5"	4.5"		
	100																6.5"	3.0"		4.5"	4.5"				4.5"	4.5"	6.5"			4.5"	4.5"		

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08/12/2020 - 4:51pm

ANCHOR SCHEDULE: HOLLOW CONCRETE BLOCK

HOST STRUCT.	ANCHOR	LOAD (psf)	2" MIN EDGE DISTANCE														
			Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE				
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5
HOLLOW BLOCK	#12 SMS W/ 2" EYEWALL ARMOR INSERT W/ 1-1/4" EMBED 	43	16.0"	16.0"	7.5"	9.0"	16.0"	15.5"	8.5"	4.5"	6.5"	15.5"	8.5"	4.5"		4.0"	7.0"
		53	16.0"	10.5"	5.0"	7.0"	16.0"	11.0"	6.0"	3.5"	5.0"	11.0"	7.0"	3.5"		3.5"	5.0"
		62	14.0"	7.5"	4.0"	6.0"	14.5"	9.0"	4.5"		4.0"	7.0"	7.0"	3.5"		3.5"	5.0"
		70	11.5"	6.0"	3.5"	5.5"	12.5"	7.5"	3.5"		3.5"	5.5"	7.0"	3.5"		3.5"	5.0"
		100	7.0"	3.5"		3.5"	5.0"	7.0"	3.5"		3.5"	5.0"	7.0"	3.5"		3.5"	5.0"

ANCHOR SCHEDULE: WOOD (G=0.55)

HOST STRUCT.	ANCHOR	LOAD (psf)	3/4" MIN EDGE DISTANCE														
			Spans Up To 6'-0"					Spans Up To 8'-3"					Spans Up To 12'-0"				
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5
WOOD (G=0.55)	1/4" LAG SCREW WITH 1-3/4" MIN THREAD PENETRATION	43	16.0"	16.0"	11.5"	12.5"	16.0"	16.0"	16.0"	7.5"	9.0"	16.0"	16.0"	14.5"	4.5"	6.0"	16.0"
		53	16.0"	16.0"	8.5"	10.0"	16.0"	16.0"	16.0"	6.0"	7.0"	16.0"	16.0"	11.5"	4.0"	5.0"	16.0"
		62	16.0"	16.0"	7.0"	8.5"	16.0"	16.0"	14.5"	5.0"	6.0"	16.0"	16.0"	11.5"	4.0"	5.0"	16.0"
		70	16.0"	16.0"	6.0"	7.5"	16.0"	16.0"	12.5"	4.0"	5.5"	16.0"	16.0"	11.5"	4.0"	5.0"	16.0"
		100	16.0"	11.5"	4.0"	5.0"	16.0"	16.0"	11.5"	4.0"	5.0"	16.0"	16.0"	11.5"	4.0"	5.0"	16.0"
	7/16" WOOD BUSHING WITH 1.13" MIN EMBED & 1/4-20 SS MACHINE SCREW	43	16.0"	16.0"	8.0"	10.0"	16.0"	15.5"	8.5"	4.5"	7.0"	15.5"	8.5"	4.5"		4.5"	7.0"
		53	16.0"	10.5"	5.5"	8.0"	16.0"	11.0"	6.0"	3.5"	5.5"	11.0"	7.0"	3.5"		4.0"	5.0"
		62	14.0"	8.0"	4.5"	6.5"	14.5"	9.0"	4.5"	3.0"	4.5"	7.0"	7.0"	3.5"		4.0"	5.0"
		70	12.0"	6.0"	3.5"	5.5"	12.5"	7.5"	3.5"		4.0"	5.5"	7.0"	3.5"		4.0"	5.0"
		100	7.0"	3.5"		4.0"	5.0"	7.0"	3.5"		4.0"	5.0"	7.0"	3.5"		4.0"	5.0"
	#14 SMS OR #14 WOOD SCREW WITH 1-3/4" MIN THREAD PENETRATION	43	16.0"	16.0"	12.5"	14.5"	16.0"	16.0"	16.0"	8.0"	10.0"	16.0"	16.0"	11.5"	5.0"	7.0"	16.0"
		53	16.0"	16.0"	9.0"	11.5"	16.0"	16.0"	15.0"	6.0"	8.0"	16.0"	16.0"	9.5"	4.0"	5.5"	13.0"
		62	16.0"	16.0"	7.5"	9.5"	16.0"	16.0"	11.5"	5.0"	7.0"	16.0"	16.0"	9.5"	4.0"	5.5"	13.0"
		70	16.0"	16.0"	6.5"	8.5"	16.0"	16.0"	10.0"	4.5"	6.0"	14.0"	16.0"	9.5"	4.0"	5.5"	13.0"
		100	16.0"	9.5"	4.0"	5.5"	13.0"	16.0"	9.5"	4.0"	5.5"	13.0"	16.0"	9.5"	4.0"	5.5"	13.0"

ANCHOR SCHEDULE: WOOD (G=0.42)

HOST STRUCT.	ANCHOR	LOAD (psf)	3/4" MIN EDGE DISTANCE														
			Spans Up To 6'-0"					Spans Up To 8'-3"					Spans Up To 12'-0"				
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5
WOOD (G=0.42)	1/4" LAG SCREW WITH 1-3/4" MIN THREAD PENETRATION	43	16.0"	16.0"	9.0"	10.0"	16.0"	16.0"	16.0"	5.5"	7.0"	16.0"	16.0"	9.5"	3.5"	4.5"	15.0"
		53	16.0"	16.0"	6.5"	8.0"	16.0"	16.0"	12.5"	4.5"	5.5"	16.0"	15.0"	7.5"	3.0"	4.0"	11.0"
		62	16.0"	16.0"	5.5"	6.5"	16.0"	16.0"	9.5"	3.5"	5.0"	15.0"	15.0"	7.5"	3.0"	4.0"	11.0"
		70	16.0"	13.5"	4.5"	6.0"	16.0"	16.0"	8.0"	3.0"	4.0"	11.5"	15.0"	7.5"	3.0"	4.0"	11.0"
		100	15.0"	7.5"	3.0"	4.0"	11.0"	15.0"	7.5"	3.0"	4.0"	11.0"	15.0"	7.5"	3.0"	4.0"	11.0"
	#14 SMS OR #14 WOOD SCREW WITH 1-3/4" MIN THREAD PENETRATION	43	16.0"	16.0"	8.5"	10.5"	16.0"	16.0"	12.5"	5.5"	7.0"	16.0"	13.0"	6.5"	3.5"	5.0"	10.5"
		53	16.0"	16.0"	6.5"	8.0"	16.0"	16.0"	8.5"	4.0"	5.5"	16.0"	10.5"	5.5"	2.5"	4.0"	7.5"
		62	16.0"	11.5"	5.0"	7.0"	16.0"	13.0"	6.5"	3.5"	5.0"	10.5"	10.5"	5.5"	2.5"	4.0"	7.5"
		70	16.0"	9.5"	4.5"	6.0"	16.0"	11.0"	5.5"	3.0"	4.0"	8.0"	10.5"	5.5"	2.5"	4.0"	7.5"
		100	10.5"	5.5"	2.5"	4.0"	7.5"	10.5"	5.5"	2.5"	4.0"	7.5"	10.5"	5.5"	2.5"	4.0"	7.5"

ANCHOR SCHEDULE: GROUT-FILLED CONCRETE BLOCK

HOST STRUCT.	ANCHOR	LOAD (psf)	4" MIN EDGE DISTANCE														
			Spans Up To 6'-0"					Spans Up To 8'-3"					Spans Up To 12'-0"				
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5
GROUT-FILLED CONCRETE BLOCK	5/16" ITW TAPCON XL W/ 2-1/4" MIN. EMBED	43	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	15.0"	16.0"	16.0"	16.0"	15.0"	9.0"	14.0"	16.0"
		53	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	11.0"	16.0"	16.0"	16.0"	12.0"	7.5"	12.0"	16.0"
		62	16.0"	16.0"	14.0"	16.0"	16.0"	16.0"	15.0"	9.0"	14.0"	16.0"	16.0"	12.0"	7.5"	12.0"	16.0"
		70	16.0"	16.0"	11.5"	16.0"	16.0"	16.0"	12.5"	8.0"	12.5"	16.0"	16.0"	12.0"	7.5"	12.0"	16.0"
		100	16.0"	12.0"	7.5"	12.0"	16.0"	16.0"	12.0"	7.5"	12.0"	16.0"	16.0"	12.0"	7.5"	12.0"	16.0"
	5/16" DEWALT ULTRAICON W/ 2-1/4" MIN. EMBED	43	16.0"	16.0"	10.5"	14.0"	16.0"	16.0"	10.5"	6.5"	9.5"	16.0"	11.0"	5.5"		6.5"	9.0"
		53	16.0"	13.5"	7.5"	11.0"	16.0"	14.0"	7.5"		7.5"	13.5"	9.0"				6.5"
		62	16.0"	10.0"	6.0"	9.0"	16.0"	11.0"	5.5"		6.5"	9.0"	9.0"				6.5"
		70	15.0"	8.0"	5.0"	8.0"	15.5"	9.5"			5.5"	7.0"	9.0"				6.5"
		100	9.0"			5.5"	6.5"	9.0"			5.5"	6.5"	9.0"				6.5"
	#12 SMS W/ 2" EYEWALL ARMOR INSERT W/ 2" EMBED		2" MIN EDGE DISTANCE														
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5
		43	16.0"	16.0"	9.5"	11.5"	16.0"	16.0"	14.0"	6.0"	8.0"	16.0"	14.5"	7.5"	3.5"	5.5"	11.5"
		53	16.0"	16.0"	7.0"	9.0"	16.0"	16.0"	9.5"	4.5"	6.5"	16.0"	11.5"	6.0"	3.0"	4.5"	8.5"
		62	16.0"	13.0"	5.5"	7.5"	16.0"	14.5"	7.5"	3.5"	5.5"	12.0"	11.5"	6.0"	3.0"	4.5"	8.5"
		70	16.0"	10.5"	5.0"	6.5"	16.0"	12.5"	6.5"	3.0"	4.5"	9.0"	11.5"	6.0"	3.0"	4.5"	8.5"
		100	11.5"	6.0"	3.0"	4.5"	8.5"	11.5"	6.0"	3.0"	4.5"	8.5"	11.5"	6.0"	3.0"	4.5"	8.5"

ANCHOR NOTES: SEE SHEET
9 FOR ANCHOR NOTES.

FRANK BENNARDO, PE
PE# 0046549 CA#9885



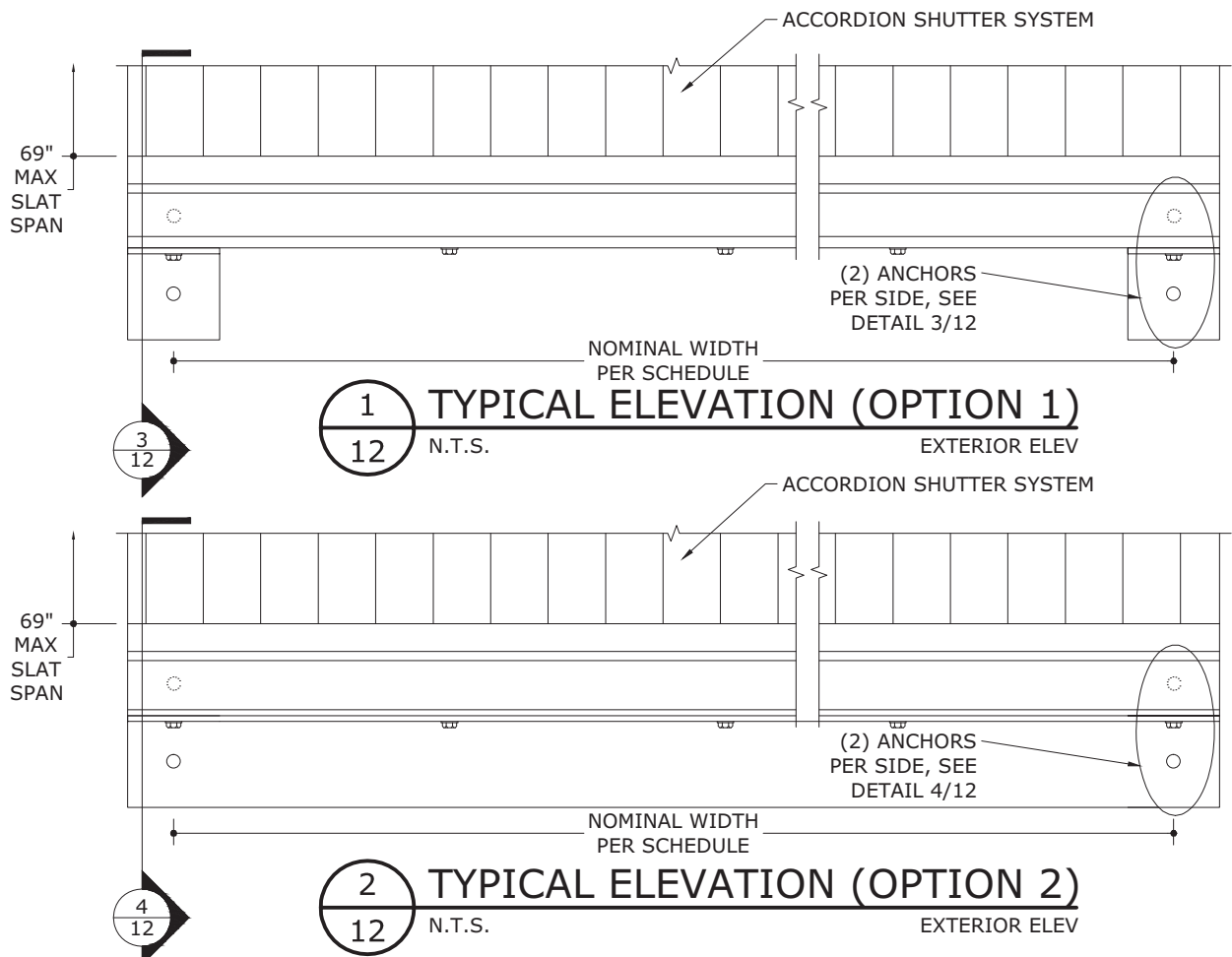
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REMARKS	DRWN	CHKD	DATE
INIT ISSUE	KL	FLB	4/28/10
2010 FBC	CSL	KL	12/16/11
CLIENT REVISIONS	KL	FLB	10/25/13
2014 FBC	RWN	CSL	3/29/15
2017 FBC	RWN	FLB	8/04/17
2020 FBC UPDATE	CB	RWN	6/17/20
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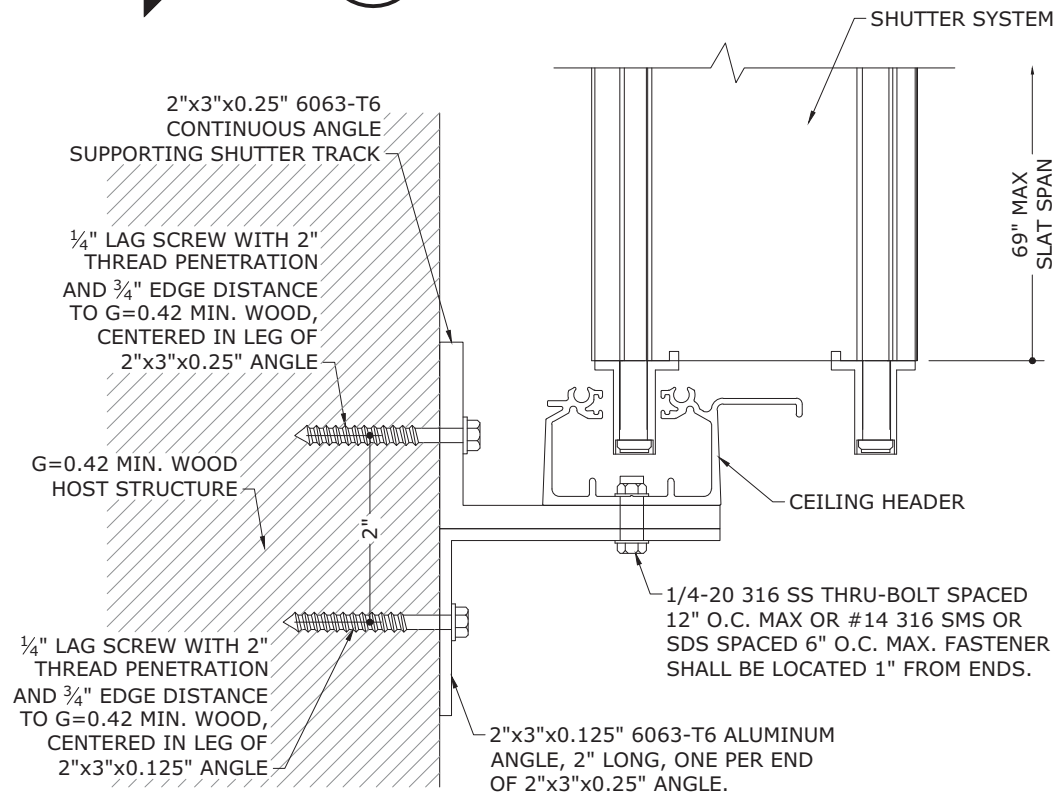


ALTERNATE MOUNTING OPTION

DESIGN SCHEDULES

OPTION 1			OPTION 2		
(1) 2x3x0.25 ANGLE (6063-T6)			(2) 2x3x0.125 ANGLES (6063-T6)		
NOMINAL WIDTH	ALLOWABLE DESIGN PRESSURE		NOMINAL WIDTH	ALLOWABLE DESIGN PRESSURE	
	POSITIVE (+)	NEGATIVE (-)		POSITIVE (+)	NEGATIVE (-)
42"	151 psf	200 psf	42"	80 psf	173 psf
45"	131 psf	200 psf	45"	69 psf	151 psf
48"	116 psf	177 psf	48"	61 psf	132 psf
51"	102 psf	147 psf	51"	54 psf	117 psf
54"	91 psf	124 psf	54"	48 psf	105 psf
57"	82 psf	106 psf	57"	43 psf	94 psf
60"	74 psf	91 psf	60"	39 psf	85 psf
63"	67 psf	78 psf	63"	35 psf	77 psf
66"	61 psf	68 psf	66"	32 psf	70 psf
69"	56 psf	60 psf	69"	30 psf	63 psf
72"	51 psf	52 psf	72"	27 psf	56 psf
75"	46 psf	46 psf	75"	25 psf	49 psf
78"	41 psf	41 psf	78"	23 psf	44 psf
81"	37 psf	37 psf	81"	21 psf	39 psf

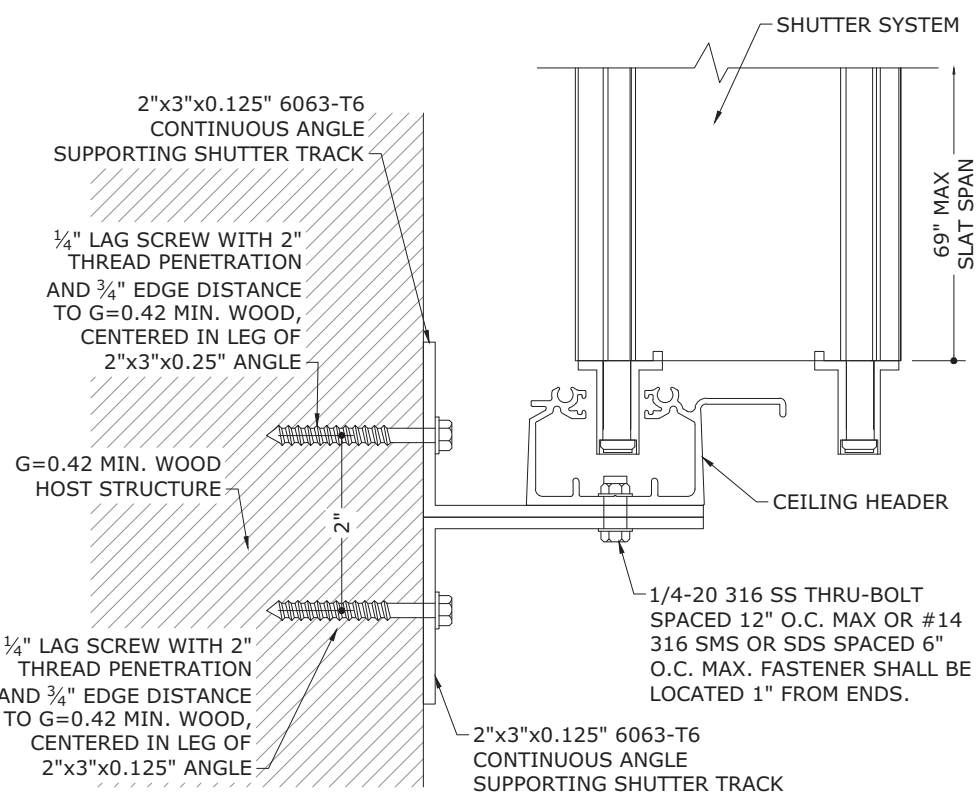
NOTE: DESIGN PRESSURES SHOWN IN DESIGN SCHEDULE ARE FOR DETERMINING MAXIMUM ALLOWABLE HORIZONTAL SUPPORT ANGLE SPAN. SHUTTER SPANS AND ALLOWABLE LOADS SHALL NOT EXCEED THOSE PERMITTED IN DESIGN SCHEDULES.



3
12
N.T.S.

TYPICAL END ATTACHMENT (OPTION 1)

VERT SECTION



4
12
N.T.S.

TYPICAL END ATTACHMENT (OPTION 2)

VERT SECTION

ANCHOR NOTE: 1/4" MILLENIUM MILLFAST SCREWS W/ T&C ULTRACOTE MAY BE USED IN LIEU OF THE LAG SCREWS CALLED OUT ON THIS SHEET UTILIZING THE SAME CRITERIA.

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2017 FBC	RWN	FLB	8/04/17
2020 FBC UPDATE	CB	RWN	6/17/20

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12
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