

GENERAL NOTES:
(IBC 2006 & IRC 2006 w/ 2006 TEXAS REVISIONS)

- 1- DEFINITION: THIS PRODUCT IS A HURRICANE PROTECTION DEVICE; DESIGNED, CONSTRUCTED AND ERECTED TO EASILY ENCLOSE AN AREA, PROVIDING PROTECTION FROM HURRICANE FORCE WINDS AND WIND BORNE DEBRIS WITHIN THE ALLOWABLE DESIGNED PRESSURES AND LIMITATIONS STATED IN THIS APPROVAL.
- 2- POSTING: A PERMANENT LABEL SHALL BE PROVIDED AS PER IBC 2006 SECTION 1703.5. IT SHALL BE PLACED ON A READILY VISIBLE LOCATION AND A MINIMUM OF ONE LABEL PER OPENING.
- 3- GLASS SEPARATION (GS): PRODUCT IS QUALIFIED AS "NON POROUS", THEREFORE GLAZING SEPARATION IS NOT REQUIRED WITH EXCEPTION FOR THE FOLLOWING LOCATIONS:
 - 3.1- WIND ZONE 4 AS DEFINED IN ASTM E 1996-05
 - 3.2- ESSENTIAL FACILITIES AS DEFINED IN ASCE 7
 FOR THE ABOVE LOCATIONS THE PRODUCT MUST BE SEPARATED FROM GLAZING AREAS AS PER TABLE 1.
- 4- LOADS: DESIGNED LOAD TO BE CALCULATED BASED ON THE ASCE 7 AND PROVIDED BY A PROFESSIONAL ARCHITECT OR ENGINEER FOR EACH SPECIFIC PROJECT. THE CALCULATED DESIGNED PRESSURE MUST NOT EXCEED THE ALLOWABLE PRESSURES FOR EACH SHUTTER COMPONENT TO BE USED.
- 5- MATERIAL: ALL EXTRUDED ALUMINUM SHAPES SHALL BE MADE OF 6063-T6 OR AS NOTED.
- 6- FASTENERS: ASSEMBLY SCREWS AND ANCHORS SHALL BE CORROSION RESISTANT AS SPECIFIED IN SECTION R325 (IRC 2006 TEXAS REVISIONS) AND CHAPTER 17 (IBC 2006 TEXAS REVISIONS). ANCHORS ARE TO BE SELECTED BASED ON AREA LOCATION (SEAWARD, INLAND I OR INLAND II).
- 7- USE: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, ARCHITECT OR ENGINEER OF RECORD TO VERIFY THE FOLLOWING:
 - 7.1- THE STABILITY OF THE STRUCTURE WHERE THE SHUTTER IS TO BE ATTACHED INSURING PROPER ANCHORAGE.
 - 7.2- THE SITE SPECIFIC PROJECT CRITERIA, SUCH AS BUT NOT LIMITED TO, WIND LOADS, LOCAL CODE REQUIREMENTS, DESIGNED PRESSURES ETC.
 - 7.3- THAT THIS APPROVAL IS ADEQUATE TO THE SPECIFIC PROJECT.

TYPICAL ELEVATION

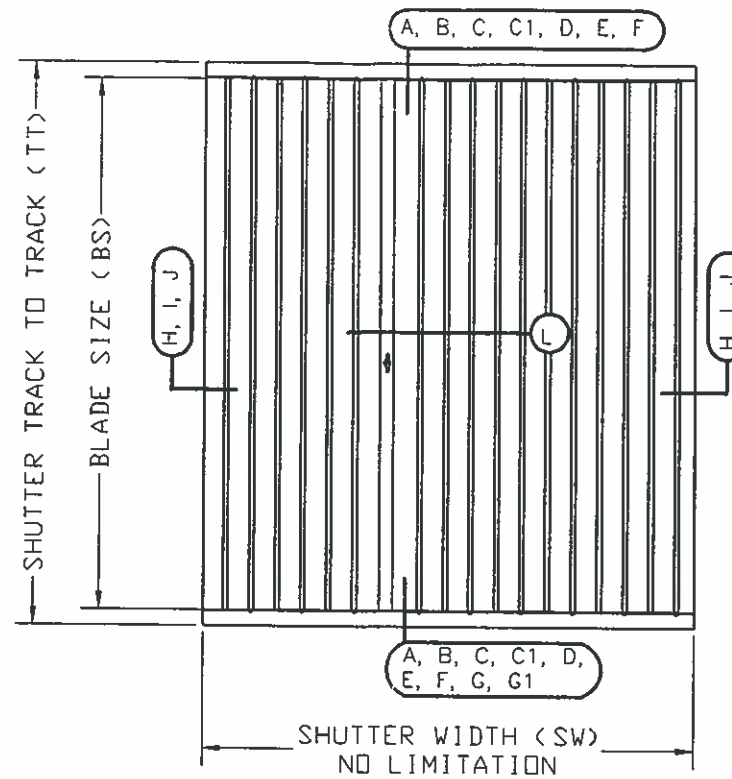
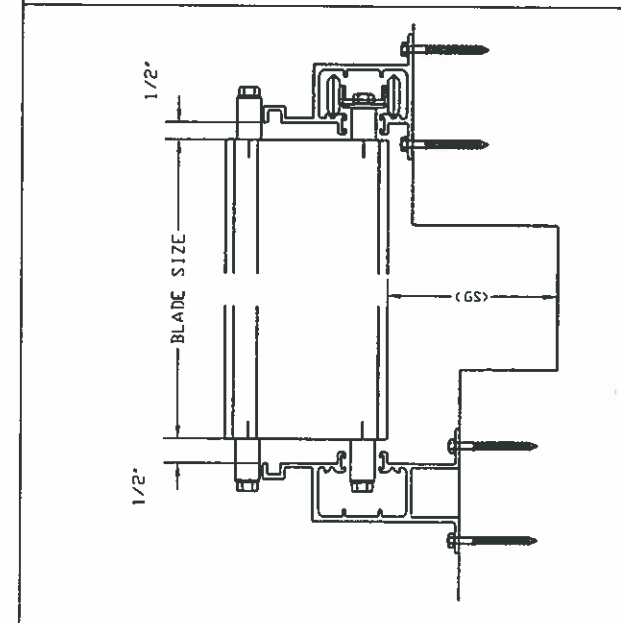


TABLE 1
ALLOWABLE DESIGNED LOADS
X
MAXIMUM BLADE SIZE

BLADE SPAN INCHES	PRESSURE RATING ± (PSF)	GS-GLASS SEPARATION FOR UNIT ELEVATION	
		ABOVE 30'	UP TO 30'
60	188	0.50	5.00
66	170	0.50	5.00
72	156	0.50	5.25
78	144	0.75	5.25
84	134	0.75	5.50
90	125	1.00	5.50
96	117	1.25	5.75
102	110	1.50	5.75
108	102	1.75	6.00
114	92	1.75	6.00
120	83	2.00	6.25
126	75	2.25	6.25
132	69	2.50	6.50
138	63	2.75	6.50
144	58	3.00	6.75
150	52	3.25	6.75

GS: GLASS SEPARATION APPLICABLE ONLY FOR LOCATION AS PER GENERAL NOTES 3



USER INSTRUCTIONS:

- 1- DETERMINE PROJECT DESIGN WIND LOAD PRESSURES AS PER ITEM 4 OF GENERAL NOTES, SHEET 1.
- 2- USING TABLE 1, CALCULATE THE MAXIMUM PRESSURE RATING FUNCTION OF BLADE SIZE. PROJECT WIND PRESSURE MUST NOT EXCEED PRESSURE RATING.
- 3- CHECK GLASS SEPARATION WHEN APPLICABLE
- 4- USING SHEETS 2, 3 AND/OR 4 CALCULATE ANCHOR CAPACITY FUNCTION OF MOUNT TYPE, ANCHOR SPACING AND ANCHOR TYPE. SECTIONS ARE INTERCHANGEABLE. PROJECT WIND PRESSURE MUST NOT EXCEED ANCHORAGE PRESSURE CAPACITY.

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- SHEET 6- LOCK SECTIONS L, MALE & FEMALE STACK
- SHEET 7- LOCK SECTION L1, UNIMATE STACK
- SHEET 8- ANCHOR SCHEDULE, BLADE ASSEMBLY & BILL OF MATERIALS
- SHEET 9- PRODUCT COMPONENTS

CODE AND STANDARD COMPLIANCE:
INTERNATIONAL BUILDING CODE (IBC 2006) WITH TEXAS REVISIONS
INTERNATIONAL RESIDENTIAL CODE (IRC 2006) WITH TEXAS REVISIONS
ASTM E330, E1886, E1996 (LEVEL D MISSILE)

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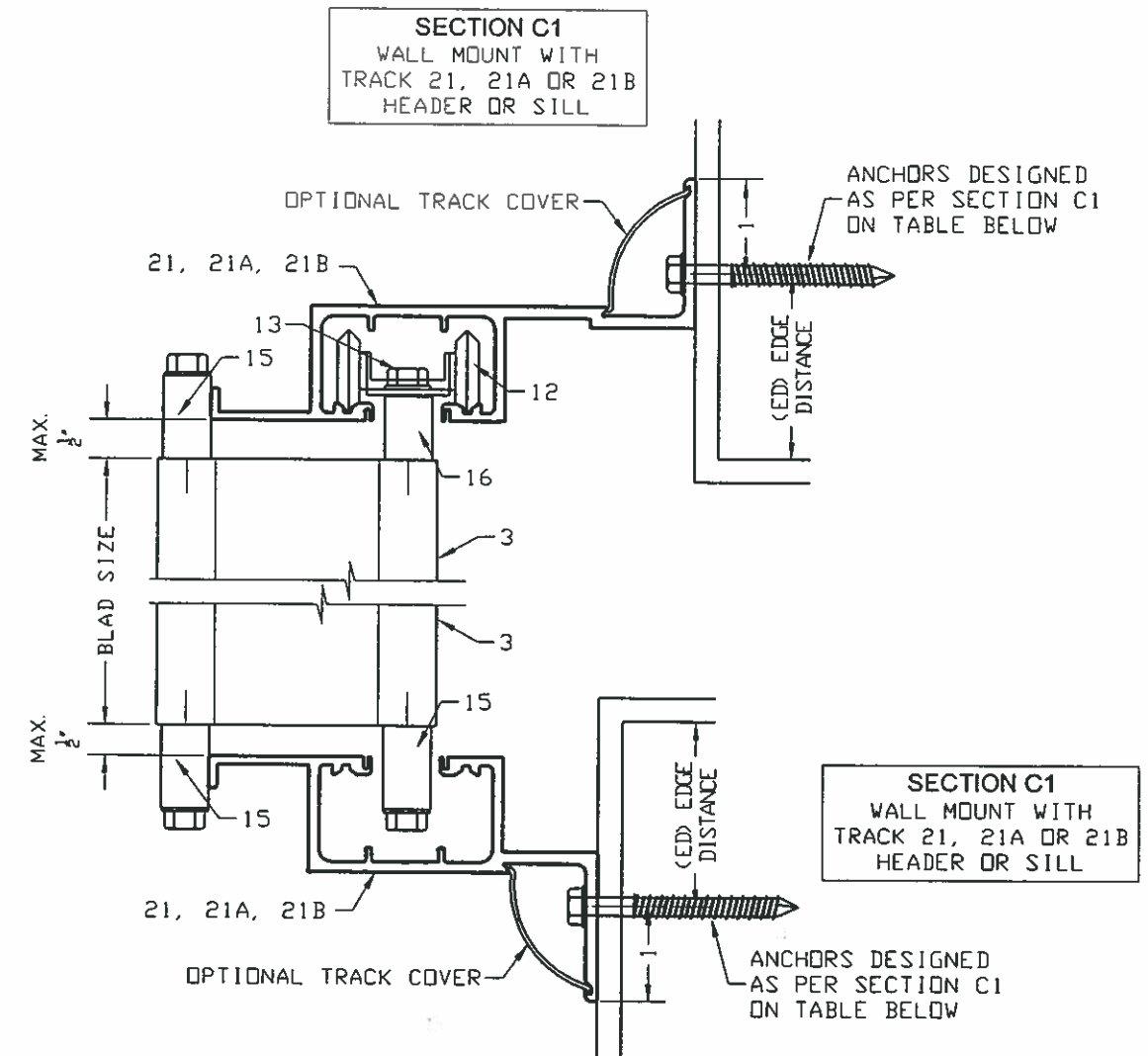
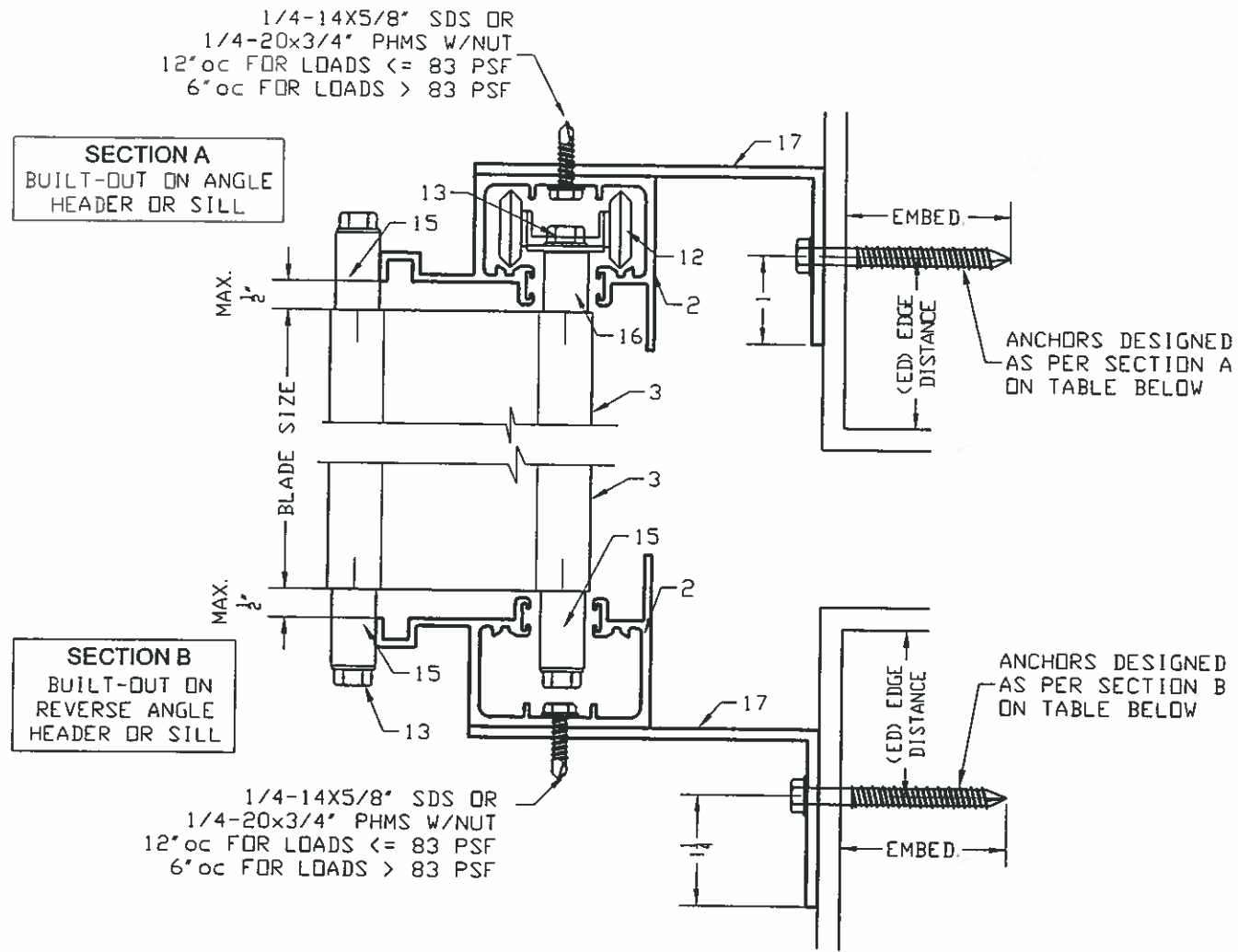
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TYPICAL VERTICAL SECTIONS AND ANCHOR SCHEDULE



MAX. BLADE SPAN IN INCHES
SEE ANCHOR SCHEDULE ON SHEET 8 FOR ANCHOR TYPE

ANCHORAGE SPACING

		MAXIMUM ANCHORAGE PRESSURE (PSF) BASED ON SPACING IN INCHES ON CENTER																									
		150					120					105					90					60					
		s	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
SECTION A SILL/HEADER	12	46	31	--	42	35	59	39	21	55	44	67	45	25	63	51	79	53	29	75	59	120	81	45	116	90	
	9	63	42	23	59	47	79	53	29	75	59	91	61	34	87	68	106	72	40	102	80	161	109	60	157	120	
	6	96	64	35	92	72	120	81	45	116	90	138	93	52	134	103	161	109	60	157	120	243	164	92	239	181	
	4	145	97	54	141	108	182	122	68	178	136	208	140	79	204	155	243	164	92	239	181	366	247	138	362	273	
	3	194	131	73	190	145	243	164	92	239	181	278	188	105	274	207	325	219	123	321	242	489	330	185	485	364	
SECTION B SILL/HEADER	12	25	--	--	22	--	31	21	--	29	23	36	24	--	34	27	42	28	--	40	31	64	43	24	61	48	
	9	33	22	--	31	25	42	28	--	40	31	48	32	--	46	36	56	38	21	54	42	85	57	32	83	64	
	6	51	34	19	48	38	64	43	24	61	48	73	49	27	71	54	85	57	32	83	64	128	87	48	126	96	
	4	76	51	29	74	57	96	65	36	94	72	110	74	41	108	82	128	87	48	126	96	193	131	73	191	144	
	3	102	69	39	100	77	128	87	48	126	96	147	99	55	145	110	172	116	65	170	128	258	175	98	256	192	
SECTION C1 SILL/HEADER	12	26	--	--	23	--	32	22	--	30	24	37	25	--	35	28	44	29	--	42	33	66	45	25	64	50	
	9	35	23	--	32	26	44	29	--	42	33	50	34	19	48	38	59	40	22	57	44	89	60	33	87	66	
	6	53	35	20	51	40	66	45	25	64	50	76	51	28	74	57	89	60	33	87	66	134	91	51	132	100	
	4	80	54	30	78	60	100	68	38	98	75	115	77	43	113	86	134	91	51	132	100	202	137	76	200	151	
	3	107	72	40	105	80	134	91	51	132	100	154	104	58	151	115	180	121	68	177	134	270	183	102	268	201	

NOTE: 1- USE IN CONJUNCTION WITH TABLE 1, THE LOWER OF THE PRESSURE CONTROL DESIGN.
2- LINEAR INTERPOLATION IS ALLOWABLE BETWEEN BLADE SPAN SIZES

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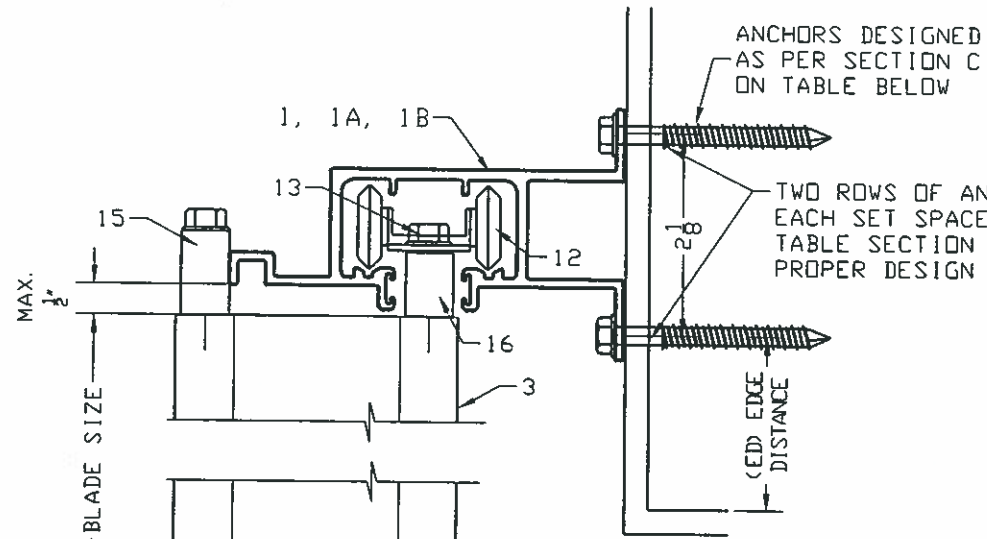
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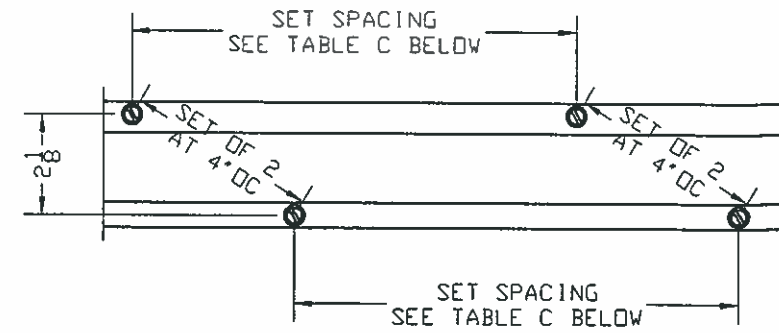
TYPICAL VERTICAL SECTIONS
AND ANCHOR SCHEDULE

SECTION C
WALL MOUNT WITH
TRACK 1, 1A OR 1B
HEADER OR SILL

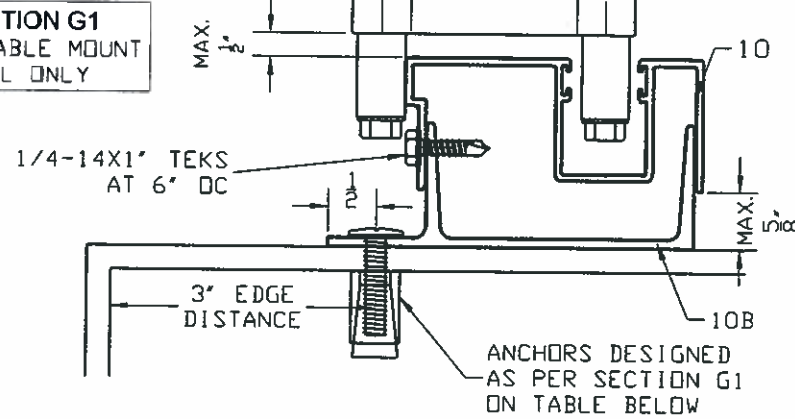


ANCHORS DESIGNED
AS PER SECTION C
ON TABLE BELOW

TWO ROWS OF ANCHORS
EACH SET SPACED AT 4°DC USE
TABLE SECTION C BELOW TO
PROPER DESIGN ANCHORAGE

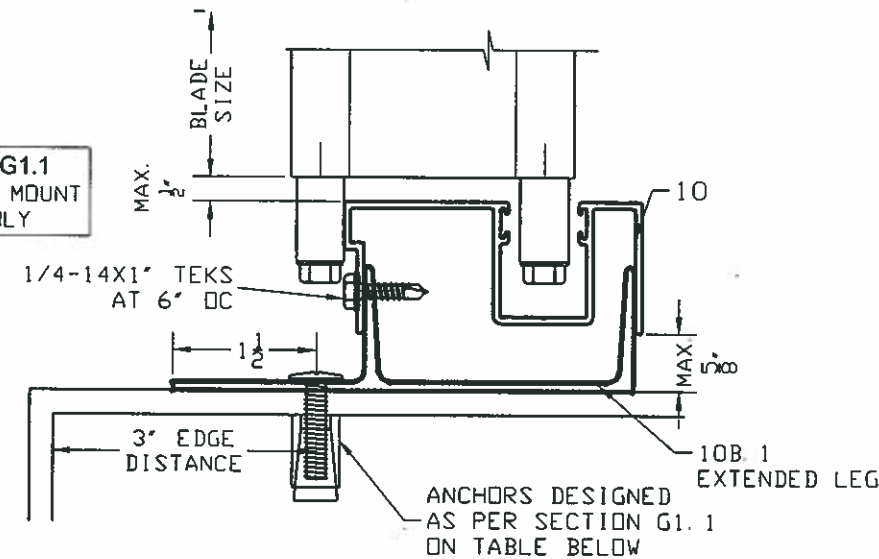


SECTION G1
ADJUSTABLE MOUNT
SILL ONLY



ANCHORS DESIGNED
AS PER SECTION G1
ON TABLE BELOW

SECTION G1.1
ADJUSTABLE MOUNT
SILL ONLY



ANCHORS DESIGNED
AS PER SECTION G1.1
ON TABLE BELOW

MAX. BLADE SPAN IN INCHES

SEE ANCHOR SCHEDULE ON
SHEET 8 FOR ANCHOR TYPE

ANCHORAGE SPACING

MAXIMUM ANCHORAGE PRESSURE (PSF) BASED ON SPACING IN INCHES ON CENTER

SECTION C SILL/HEADER	s	150					120					105					90					60				
		A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
	24	24	24	--	22	26	31	30	--	29	32	35	35	22	33	37	42	41	26	39	43	63	63	39	61	66
	16	37	37	23	35	39	47	47	29	45	49	54	53	34	52	56	63	63	39	61	66	95	95	60	93	99
	12	50	50	31	48	52	63	63	39	61	66	72	72	45	70	75	85	84	53	82	88	128	127	80	125	132
	8	76	76	48	74	79	95	95	60	93	99	109	109	69	107	113	128	127	80	125	132	192	192	121	190	199
	6	102	101	64	100	106	128	127	80	125	132	146	146	92	144	151	171	170	108	169	177	257	257	162	255	266

MAXIMUM ANCHORAGE PRESSURE (PSF) BASED ON SPACING IN INCHES ON CENTER

SECTION G1 SILL ONLY	s	150				120				105				90				60			
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E				
	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25	24	20	27		
	9	--	--	--	--	--	--	--	--	--	--	20	22	21	--	24	33	32	27	35	
	6	20	--	--	21	25	24	20	27	28	27	23	30	33	32	27	35	50	48	41	53
	4	30	29	24	32	37	36	31	40	42	41	35	45	50	48	41	53	74	71	61	80
	3	40	38	33	42	50	48	41	53	57	54	46	61	66	63	54	71	99	95	81	106
SECTION G1.1 SILL ONLY	12	32	23	--	30	40	28	24	37	45	32	28	43	53	38	32	50	80	57	48	75
	9	42	30	26	40	53	38	32	50	61	43	37	57	71	51	43	67	106	76	64	100
	6	64	45	39	60	80	57	48	75	91	65	55	86	106	76	64	100	159	114	96	150
	4	95	68	58	90	119	85	72	112	136	97	83	128	159	114	96	150	239	171	145	225
	3	127	91	77	120	159	114	96	150	182	130	110	171	212	152	129	200	318	227	193	300

NOTE: 1- USE IN CONJUNCTION WITH TABLE 1, THE LOWER OF THE PRESSURE CONTROL DESIGN.
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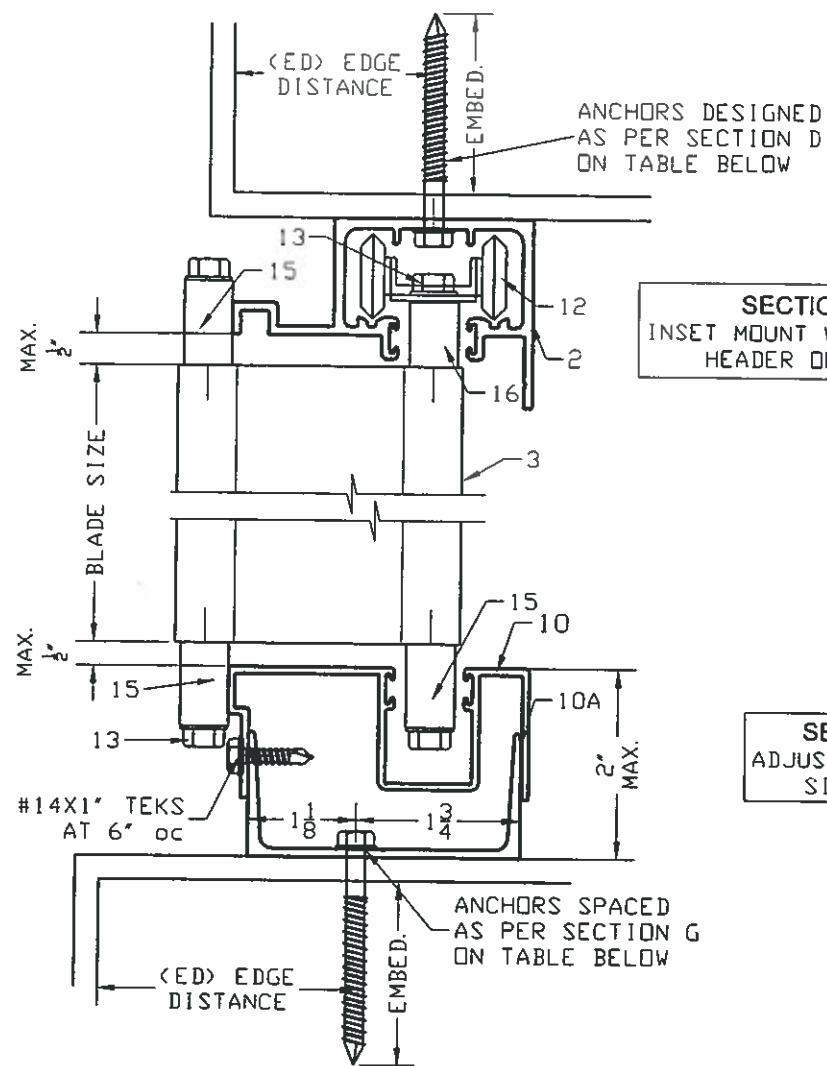
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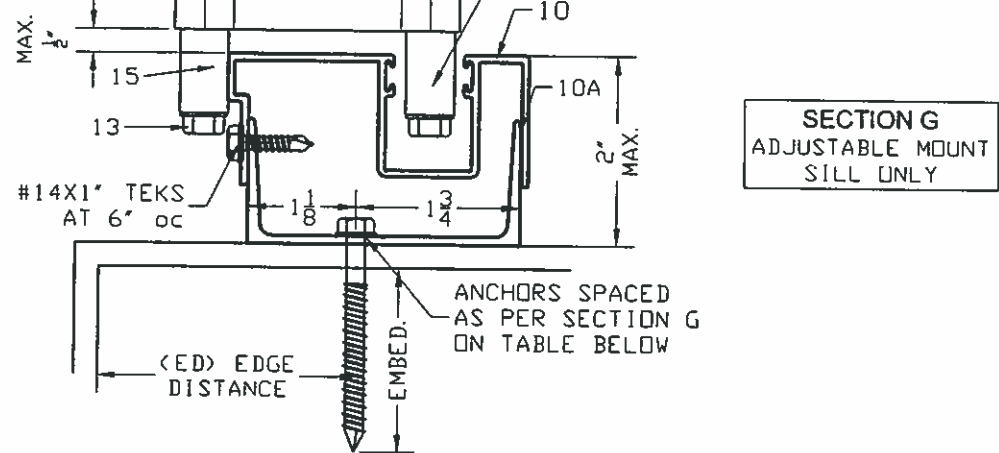
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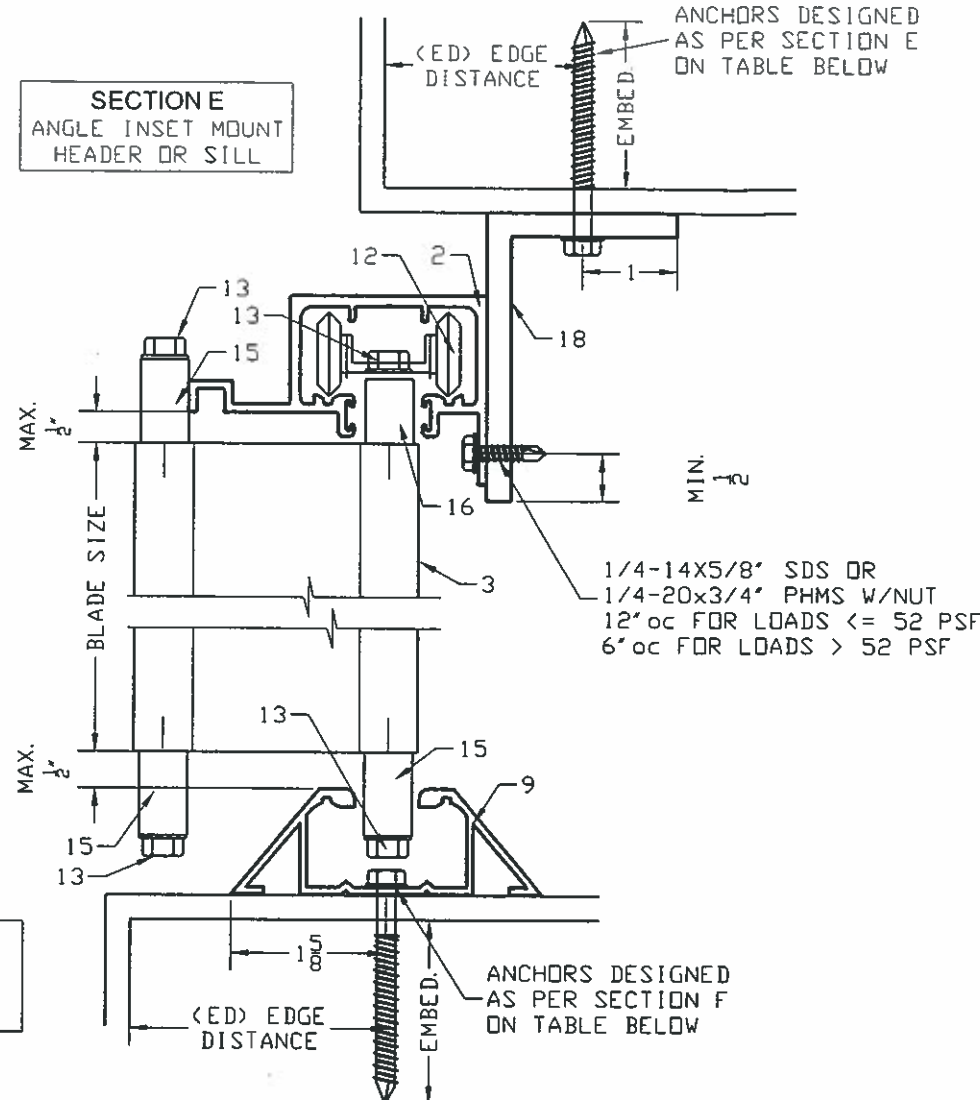
TYPICAL VERTICAL SECTIONS AND ANCHOR SCHEDULE



SECTION D
INSET MOUNT W/ TRACK 2
HEADER OR SILL



SECTION G
ADJUSTABLE MOUNT
SILL ONLY



SECTION E
ANGLE INSET MOUNT
HEADER OR SILL

SECTION F
THRESHOLD TRACK
INSET MOUNT
HEADER OR SILL

MAX. BLADE SPAN IN INCHES
SEE ANCHOR SCHEDULE ON
SHEET 8 FOR ANCHOR TYPE
ANCHORAGE SPACING

MAXIMUM ANCHORAGE PRESSURE (PSF) BASED ON SPACING IN INCHES ON CENTER

	S	150				120				105				90				60			
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
SECTION G SILL ONLY	12	--	--	--	21	24	22	--	26	27	25	--	30	32	29	22	35	48	44	34	53
	9	25	23	--	28	32	29	22	35	36	34	26	40	42	39	30	47	63	59	45	70
	6	38	35	27	42	48	44	34	53	54	50	38	60	63	59	45	70	95	88	67	106
	4	57	53	40	63	71	66	50	79	82	75	57	91	95	88	67	106	143	132	101	158
	3	76	70	54	85	95	88	67	106	109	101	77	121	127	117	89	141	190	176	134	211
SECTION D SILL ONLY	12	21	--	--	23	26	24	--	30	30	28	20	34	36	33	24	40	55	50	36	62
	9	28	26	--	32	36	33	24	40	41	38	27	46	48	44	32	55	74	67	49	83
	6	43	39	29	49	55	50	36	62	63	57	42	71	74	67	49	83	112	102	74	126
	4	66	60	44	75	83	76	55	94	95	87	64	108	112	102	74	126	169	154	112	190
	3	89	81	59	100	112	102	74	126	128	117	85	144	150	136	100	169	226	206	150	255
SECTION E SILL ONLY	12	--	--	--	--	24	--	--	20	29	--	--	24	34	23	23	28	53	36	36	45
	9	26	--	--	22	34	23	23	28	39	26	27	33	47	31	32	40	72	49	49	62
	6	42	28	28	35	53	36	36	45	61	42	42	52	72	49	49	62	110	76	75	95
	4	64	44	44	55	82	56	56	70	94	65	64	81	110	76	75	95	167	116	114	145
	3	87	60	59	75	110	76	75	95	126	88	86	109	148	103	101	128	224	156	153	195
SECTION F SILL ONLY	12	31	27	--	37	40	35	23	48	46	40	26	55	55	47	31	65	84	73	47	99
	9	43	37	24	51	55	47	31	65	63	55	36	75	74	64	42	88	113	98	64	134
	6	66	58	37	79	84	73	47	99	96	84	54	114	113	98	64	134	171	148	97	202
	4	101	88	57	120	127	111	72	151	146	127	82	173	171	148	97	202	257	224	146	305
	3	136	118	77	161	171	148	97	202	195	170	111	232	229	199	129	271	344	300	195	408

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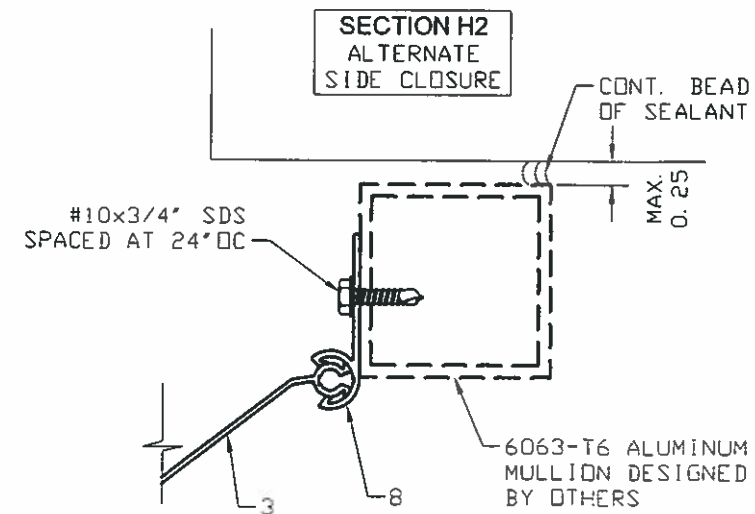
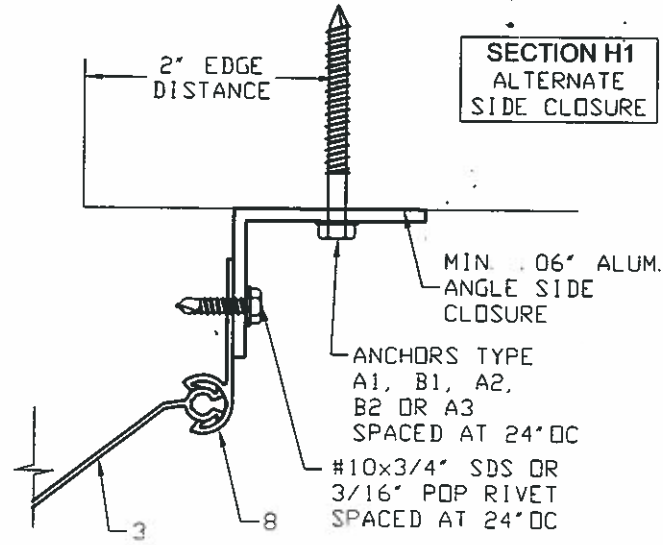
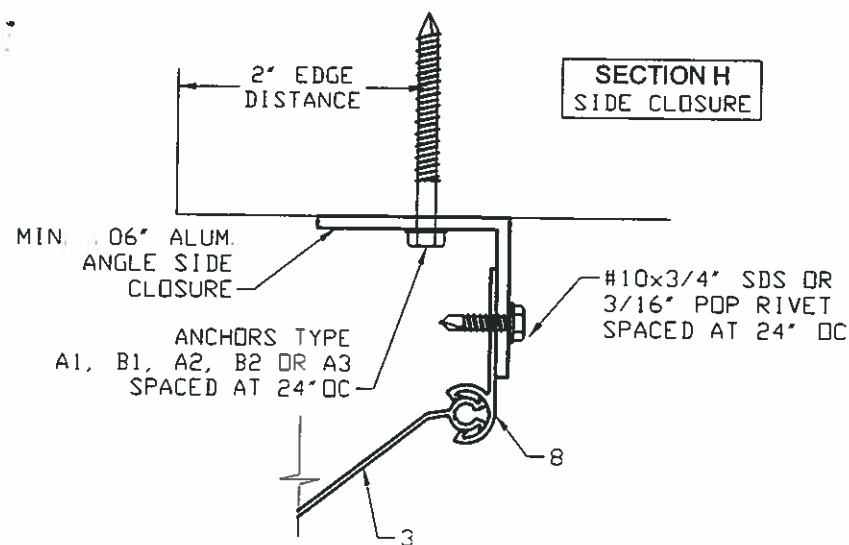
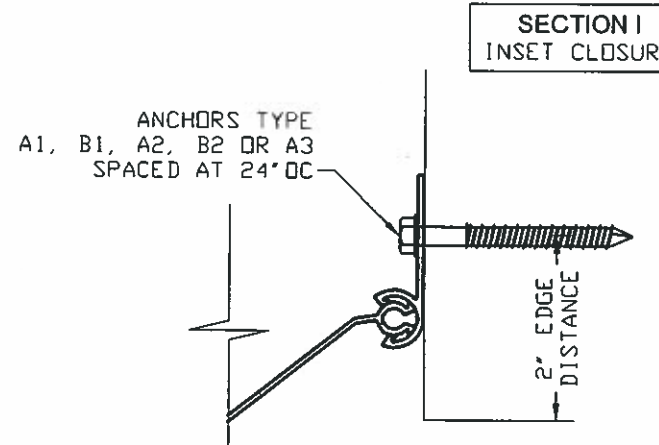
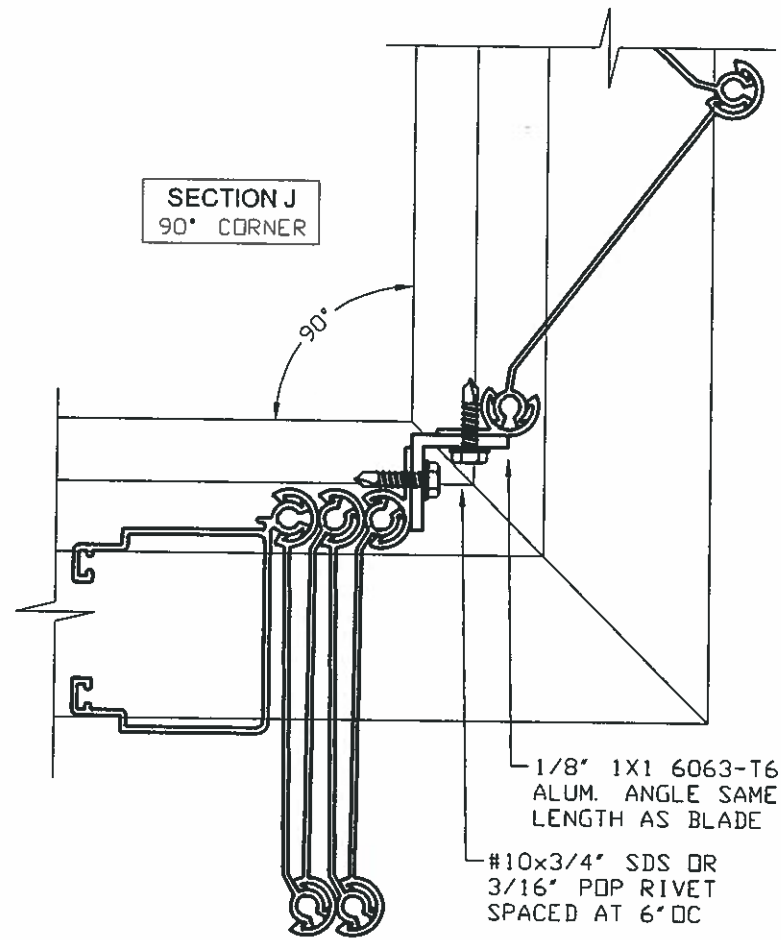
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TYPICAL HORIZONTAL SECTIONS
JAMB & CORNER SECTIONS



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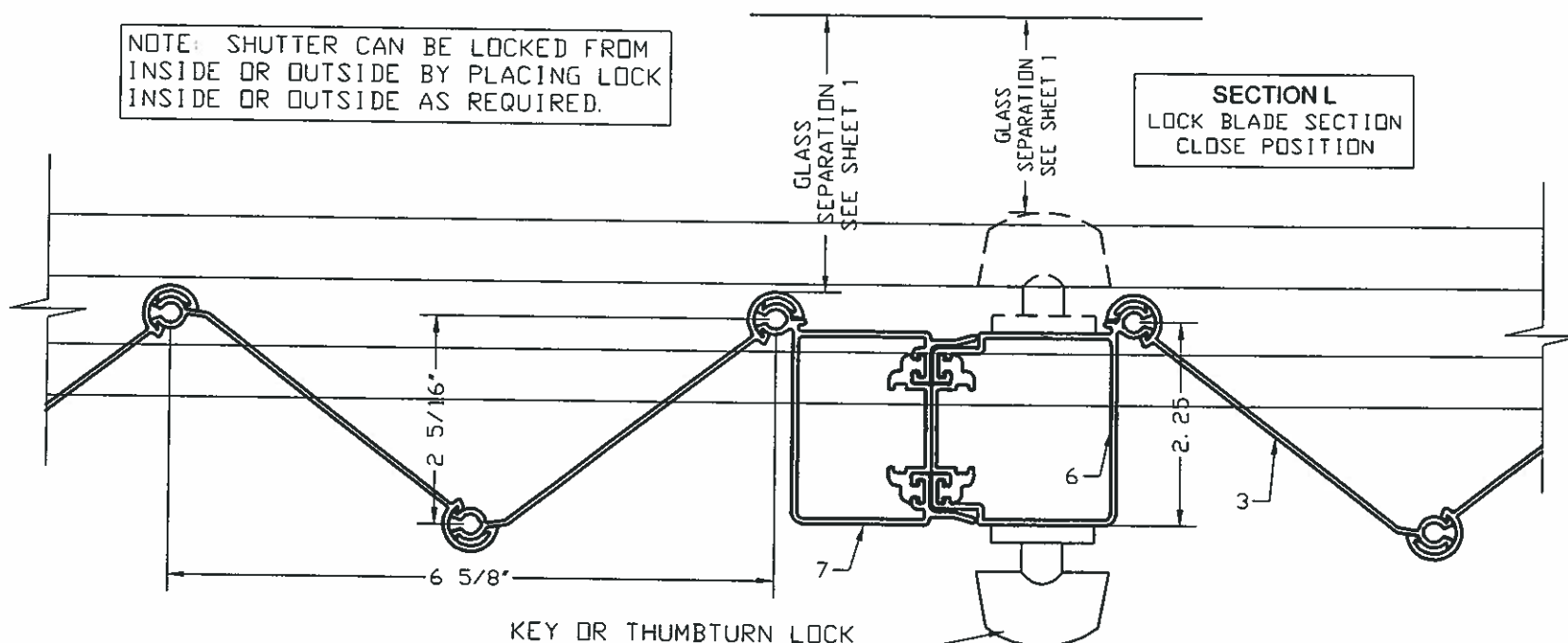
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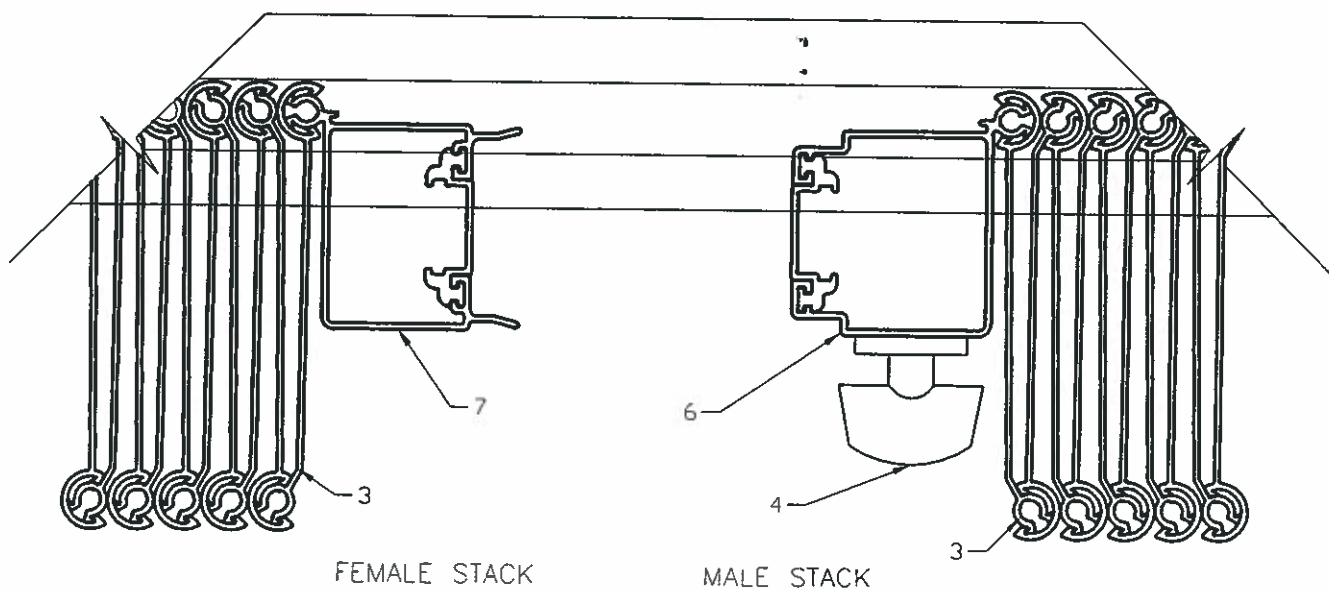
TYPICAL HORIZONTAL SECTIONS
LOCK SECTIONS

NOTE: SHUTTER CAN BE LOCKED FROM
INSIDE OR OUTSIDE BY PLACING LOCK
INSIDE OR OUTSIDE AS REQUIRED.

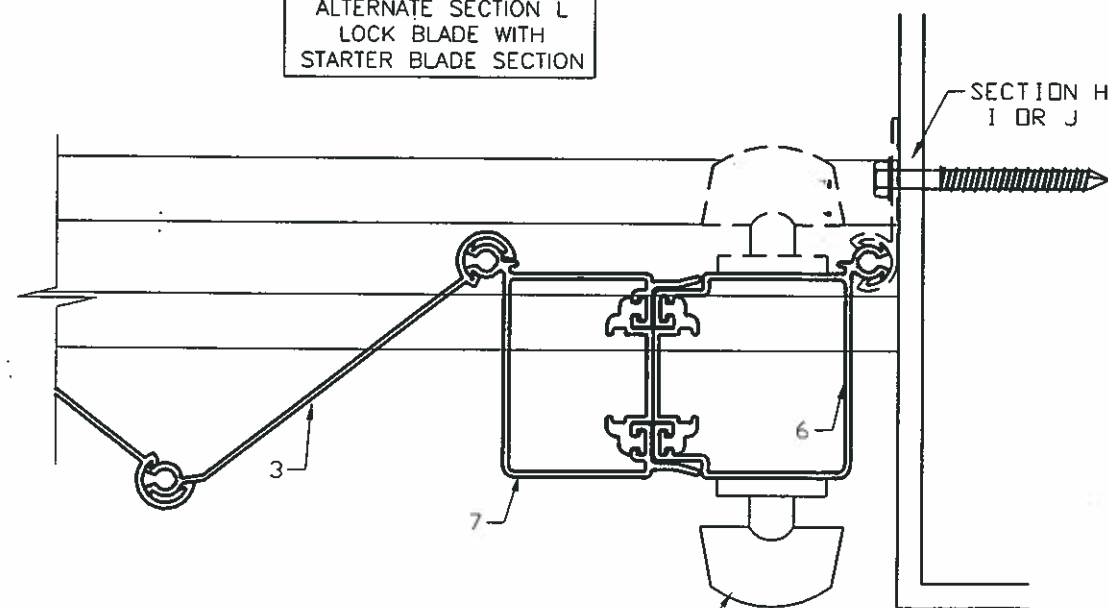


KEY OR THUMBTURN LOCK
LOCATED ON ACCORDION
INTERIOR OR EXTERIOR SIDE

SECTION L
LOCK BLADE SECTION
OPEN POSITION



ALTERNATE SECTION L
ALTERNATE SECTION L
LOCK BLADE WITH
STARTER BLADE SECTION



KEY OR THUMBTURN LOCK
LOCATED ON ACCORDION
INTERIOR OR EXTERIOR SIDE

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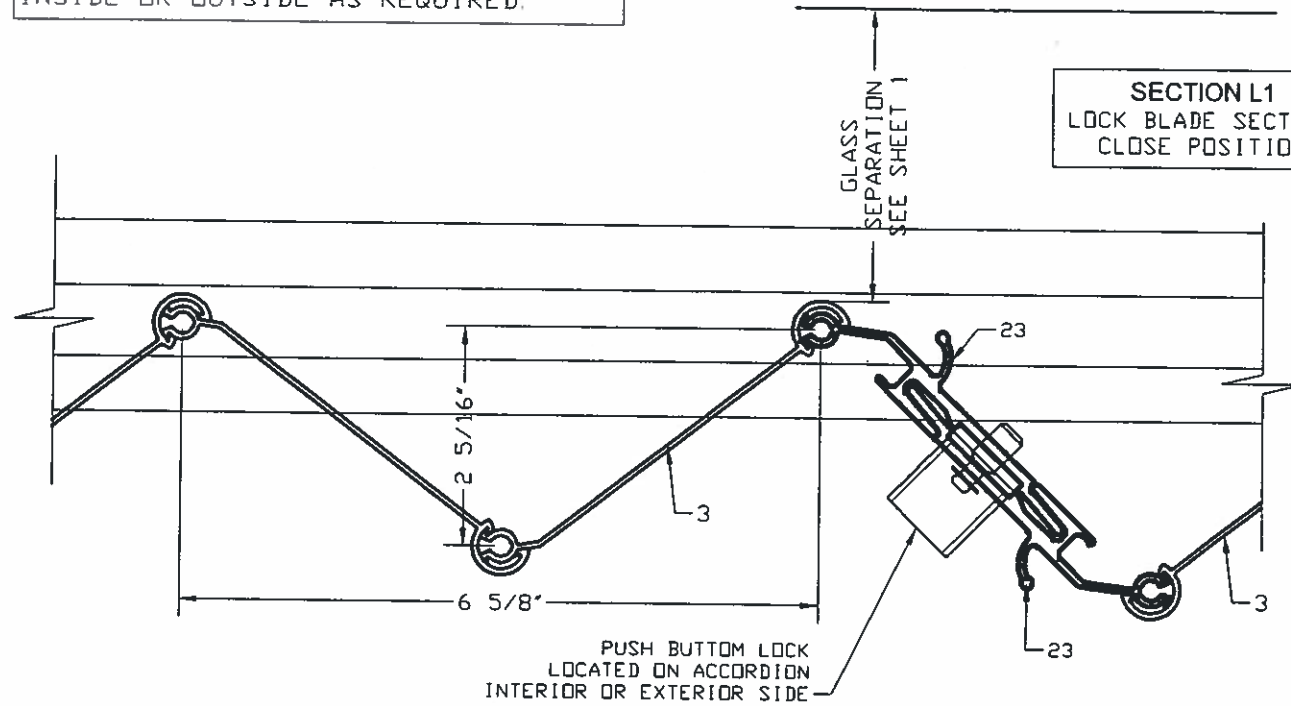
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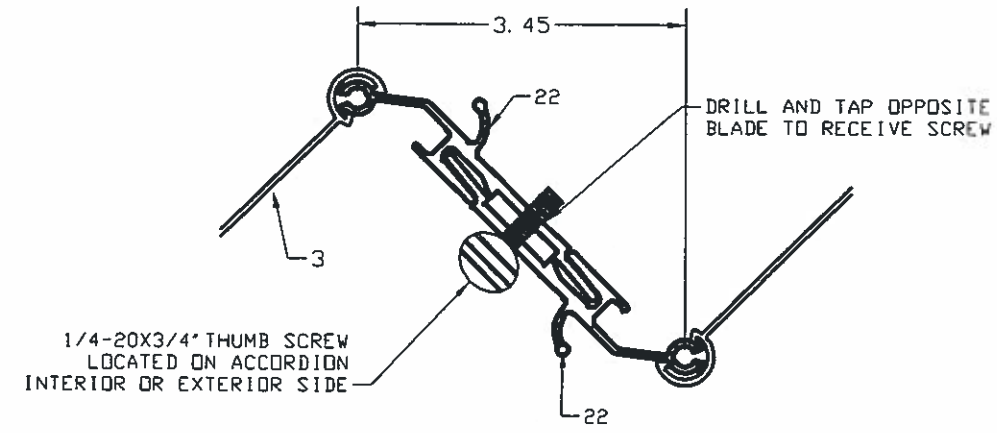
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TYPICAL HORIZONTAL
UNIMATE LOCK SECTIONS

NOTE: SHUTTER CAN BE LOCKED FROM
INSIDE OR OUTSIDE BY PLACING
THE PUSH BUTTON LOCK OR THUMB SCREW
INSIDE OR OUTSIDE AS REQUIRED.

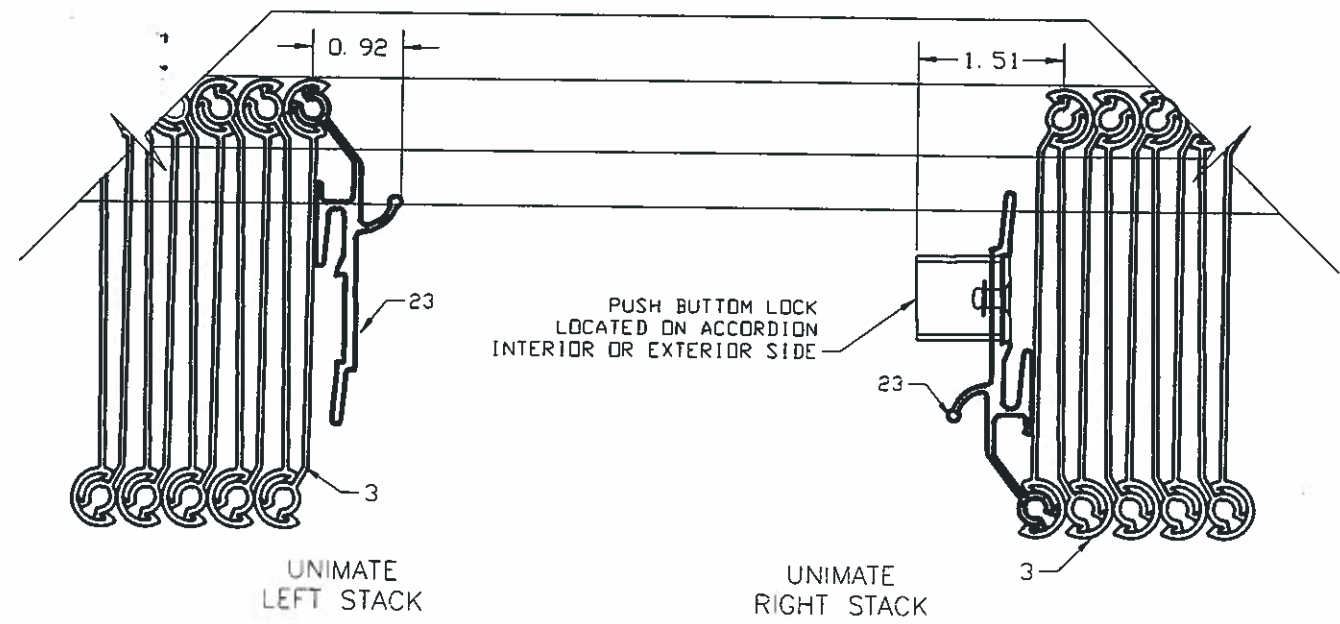


SECTION L1
LOCK BLADE SECTION
CLOSE POSITION
W/ THUMB SCREW

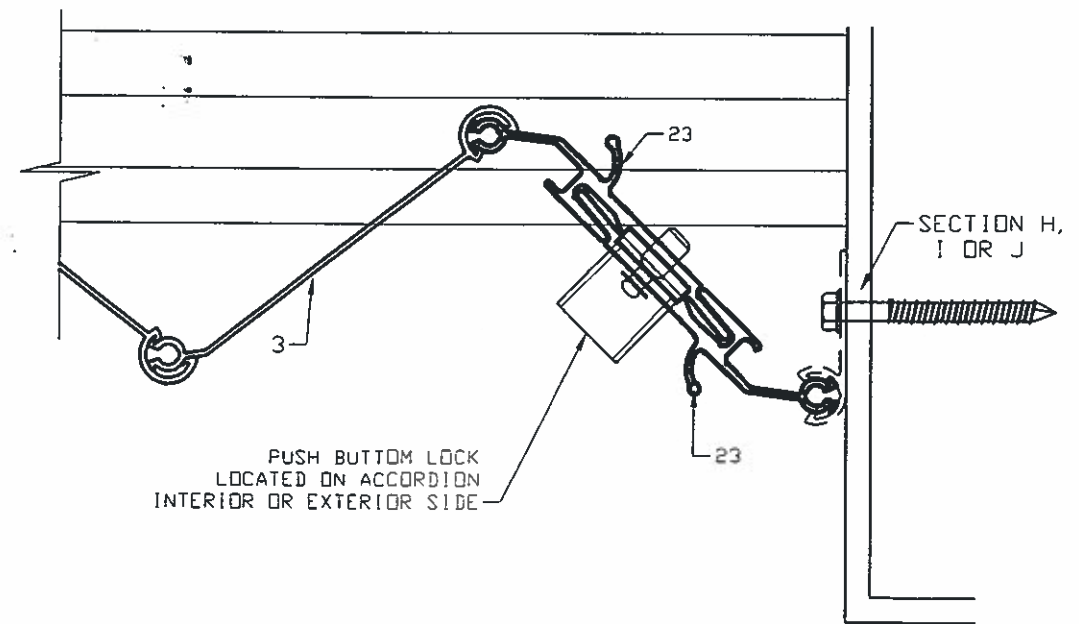


1/4-20X3/4" THUMB SCREW
LOCATED ON ACCORDION
INTERIOR OR EXTERIOR SIDE

SECTION L1
LOCK BLADE SECTION
OPEN POSITION



ALTERNATE SECTION L1
UNIMATE LOCK BLADE WITH
STARTER BLADE SECTION



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Fax: (239) 278-5977
EMAIL: INFO@CROCIUSA.COM

PRODUCT:
CROCI
EXTRUDED ALUMINUM
ACCORDION SHUTTER

Engineering:
EngCo Inc.
CR 11234
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www.engcoinc.com



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Pedro De Figueiredo
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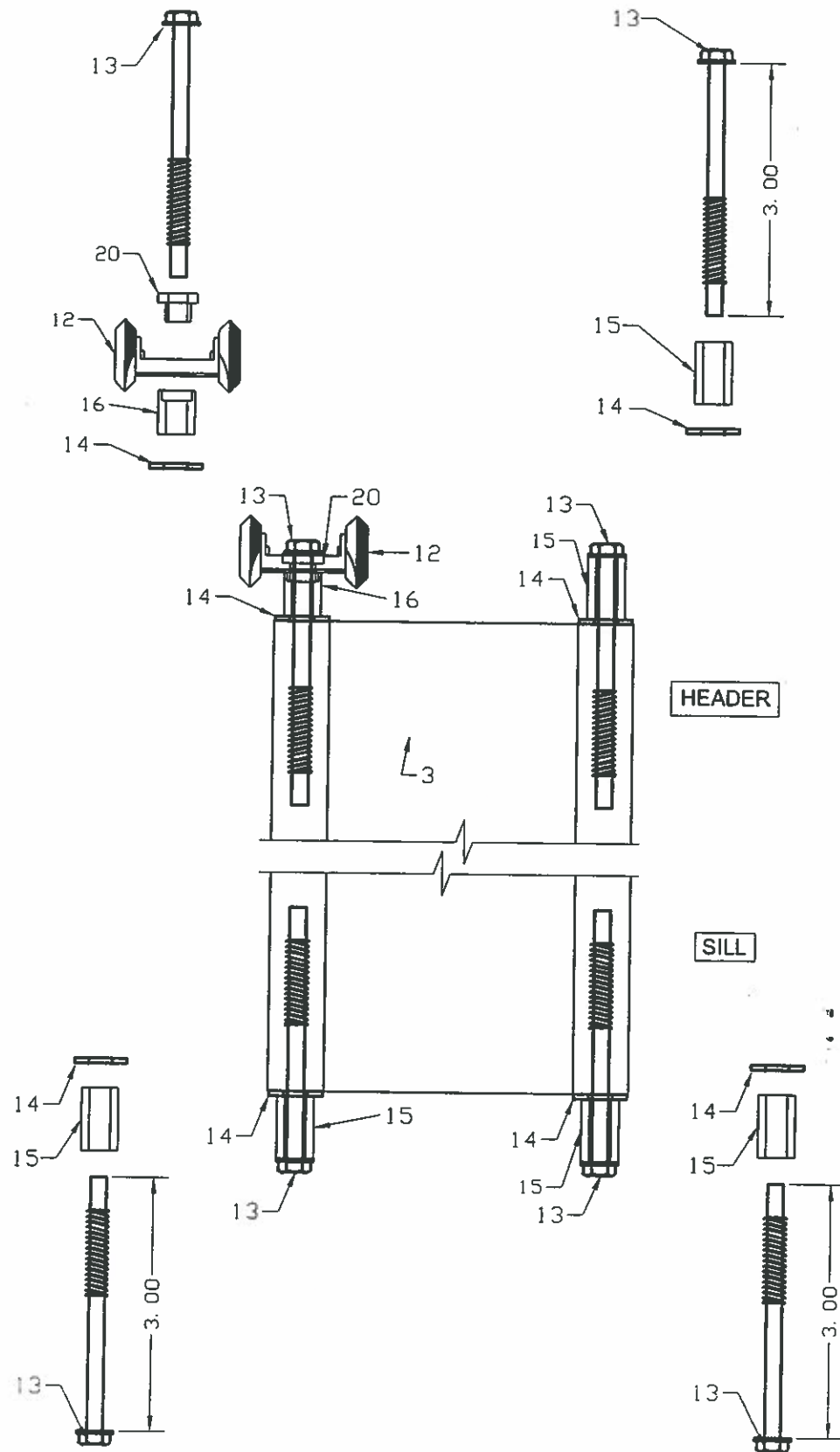
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DATE: 3/18/13
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DESIGN BY: PPMF

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13-071

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TYPICAL BLADE ASSEMBLY



BILL OF MATERIALS

ITEM	DESCRIPTION	MATERIAL	MANUFACTURER
1	1" WALL MOUNT TRACK	6063-T6 ALUMINUM	CROCI
1A	2" WALL MOUNT TRACK	6063-T6 ALUMINUM	CROCI
1B	3" WALL MOUNT TRACK	6063-T6 ALUMINUM	CROCI
2	CEILING TRACK	6063-T6 ALUMINUM	CROCI
3	ACCORDION BLADE	6063-T6 ALUMINUM	CROCI
4	LOCK		
5	LOCK BLADE INSERT	6063-T6 ALUMINUM	CROCI
6	MALE LOCK BLADE	6063-T6 ALUMINUM	CROCI
7	FEMALE LOCK BLADE	6063-T6 ALUMINUM	CROCI
8	STARTER BLADE	6063-T6 ALUMINUM	CROCI
9	"A" TRACK	6063-T6 ALUMINUM	CROCI
10	ADJUSTABLE TRACK	6063-T6 ALUMINUM	CROCI
10A	ADJUST. CHANNEL	6063-T6 ALUMINUM	CROCI
10B	ADJUST. CHANNEL W/ FLANGE	6063-T6 ALUMINUM	CROCI
12	WHEEL CARRIER	PLATED STEEL/ NYLON	CROCI
13	1/4"X3" SCREW BLADE	410 STAINLESS STEEL	CROCI
14	1/2" SS FLAT WASHER	STAINLESS STEEL	CROCI
15	1"X7/16" BUSHING	NYLON	CROCI
16	1/2"X7/8" WHEEL BUSHING	NYLON	CROCI
17	1/8 BUILT-OUT ANGLES	6063-T6 ALUMINUM	CROCI
18	1/4"-2X3 ANGLE	6063-T6 ALUMINUM	CROCI
19	PUSH-BOTTOM LOCK		
20	1/2" x 1/4" WHEEL SPACER	NYLON	CROCI
21	1" WALL MOUNT TRACK	6063-T6 ALUMINUM	CROCI
21A	2" WALL MOUNT TRACK	6063-T6 ALUMINUM	CROCI
21B	3" WALL MOUNT TRACK	6063-T6 ALUMINUM	CROCI
22	0.04" OPTIONAL COVER	ALUMINUM BREAK METAL	CROCI
23	UNIMATE LOCK BLADE	6063-T6 ALUMINUM	CROCI

ANCHOR SCHEDULE

ANCHOR	SUBSTRATE	DESCRIPTION	EMBED.	ED	S MIN
A	3000 PSI CONCRETE	1/4" ss TAPCON BY ITW BUILDEX	1-3/4"	2-1/2"	3"
		1/4" ULTRACON BY ELCO	1-3/4"	2-1/2"	4"
		1/4" AGGRE-GATOR BY ELCO	1-3/4"	3"	3"
		1/4"-20 SOLID-SET BY ALL-POINTS	7/8"	2-1/2"	3"
B	CONCRETE GF BLOCK	1/4" ULTRACON BY ELCO	1-3/4"	2-1/2"	4"
		1/4" AGGRE-GATOR BY ELCO	2"	3"	3"
C	CONCRETE HOLLOW BLOCK	1/4" ss TAPCON BY ITW BUILDEX	1-3/4"	2-1/2"	3"
		1/4" ULTRACON BY ELCO	1-3/4"	2-1/2"	4"
		1/4" AGGRE-GATOR BY ELCO	1-3/4"	3"	3"
D	WOOD	1/4-14 ss SMS	1-1/2"	3/4"	3"
E	METAL	1/4-14 ss SMS	1/2"	3/4"	3"

- NOTES:
 1- Smin- MINIMUM ANCHOR SPACING ALLOWABLE WITHOUT REDUCTION
 2- USE THESE ANCHORS IN CONJUNCTION WITH TABLES ON SHEETS 2, 3 AND 4
 3- ED: EDGE DISTANCE BEYOND WALL DRESSING
 4- EMBED.: ANCHOR EMBEDMENT INTO SUBSTRATE BEYOND WALL DRESSING
 5- WOOD SUBTRATE WITH MINIMUM 0.46 SG
 6- METAL: MINIMUM 1/8" THICK ASTM A36 STEEL OR 6063-T6 ALUMINUM

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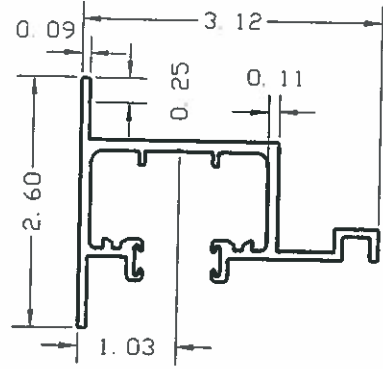
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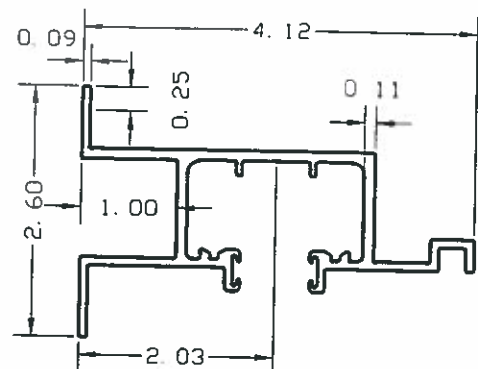
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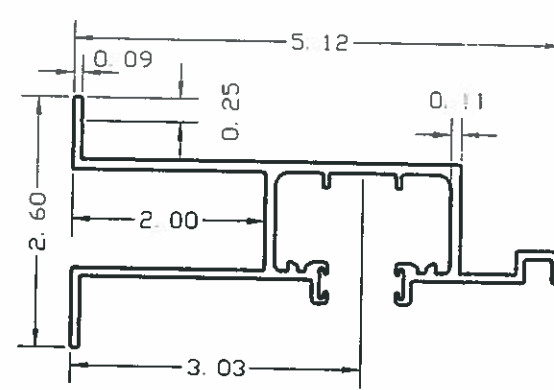
COMPONENTS



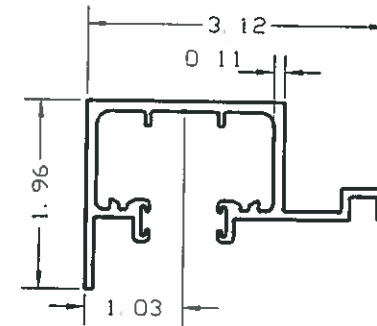
1- 1" WALL MOUNT TRACK



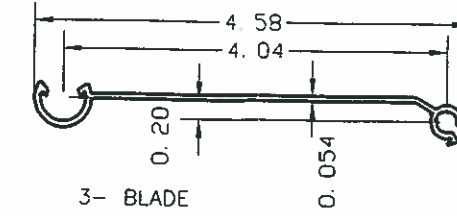
1A- 2" WALL MOUNT TRACK



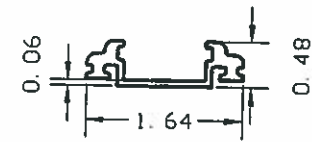
1B- 3" WALL MOUNT TRACK



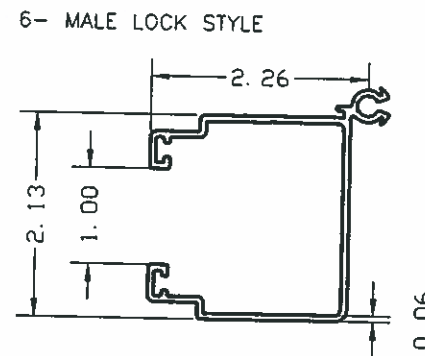
2- CEILING TRACK



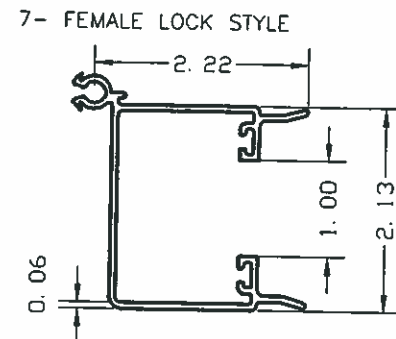
3- BLADE



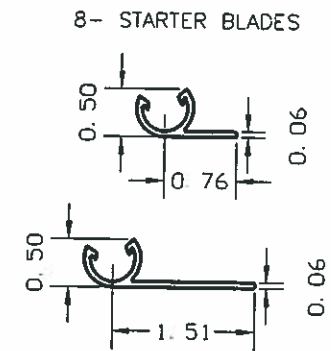
5- LOCK BLADE INSERT



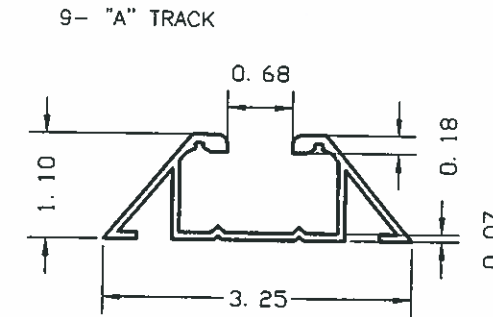
6- MALE LOCK STYLE



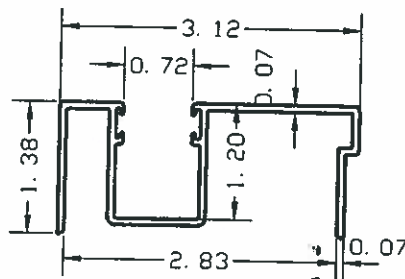
7- FEMALE LOCK STYLE



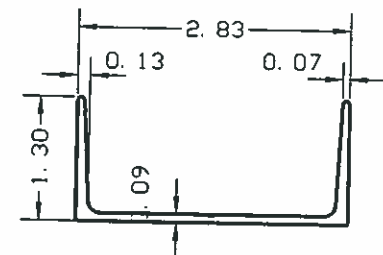
8- STARTER BLADES



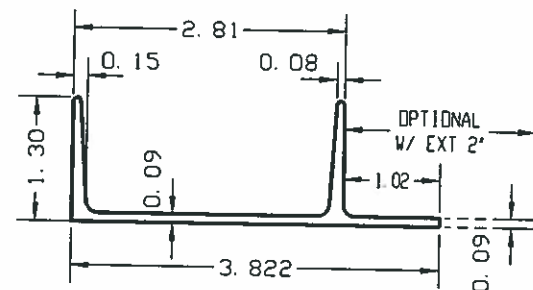
9- "A" TRACK



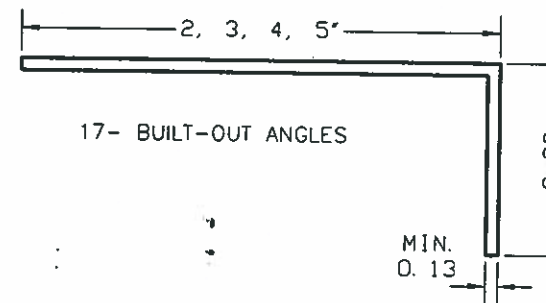
10- ADJUSTABLE SILL TRACK



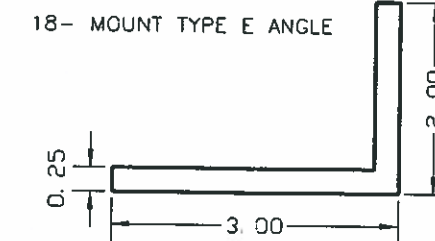
10A- ADJUSTABLE SILL CHANNEL



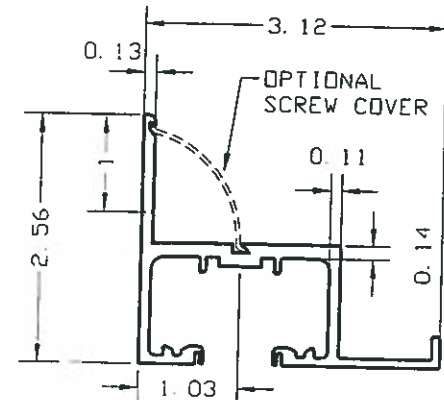
10B- ADJUSTABLE SILL CHANNEL W/ FLANGE
10B.1- ADJ. SILL CHANNEL W/ EXTENDED FLANGE



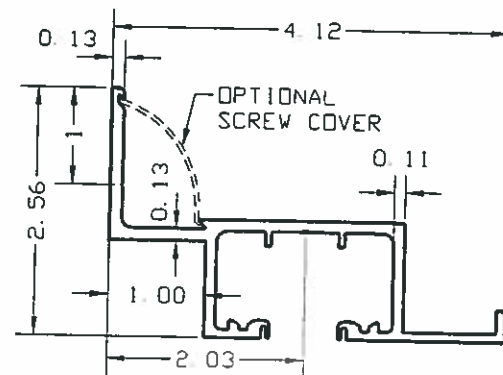
17- BUILT-OUT ANGLES



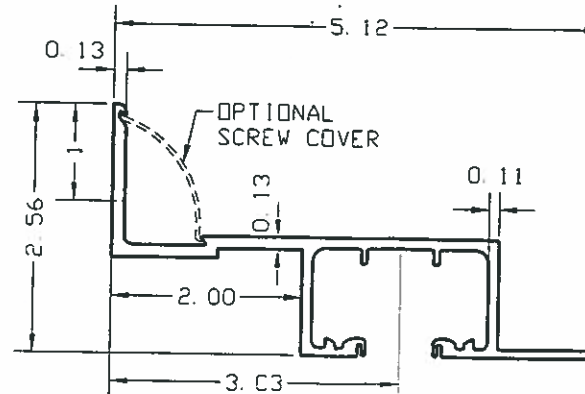
18- MOUNT TYPE E ANGLE



21- 1" WALL MOUNT TRACK



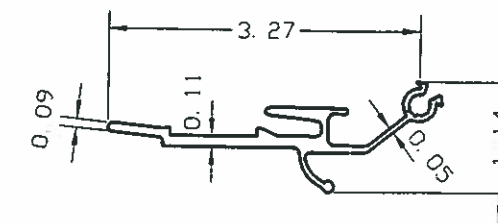
21A- 2" WALL MOUNT TRACK



21B- 3" WALL MOUNT TRACK



22- 0.04" BREAK METAL
OPTIONAL SCREW COVER



23- UNIMATE LOCK STYLE

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