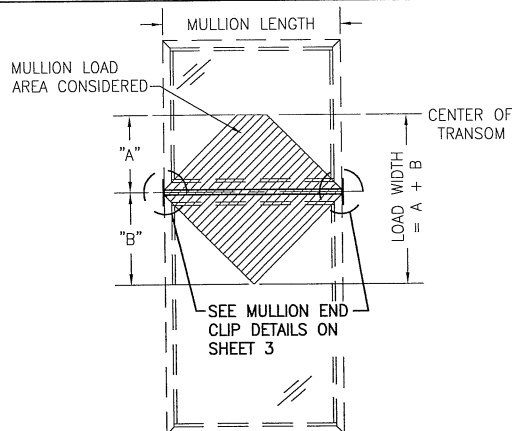


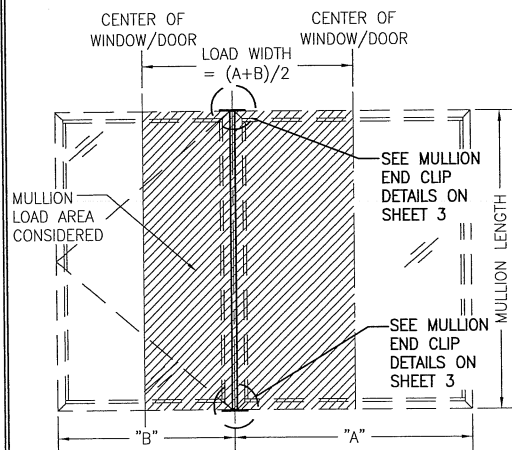


"A" = LESSER OF (MULLION LENGTH/2) OR (TRANSOM WINDOW HEIGHT/2)
 "B" = LESSER OF (MULLION LENGTH/2) OR (BOTTOM WINDOW/DOOR HEIGHT/2)

SINGLE WINDOW/DOOR WITH TRANSOM (SEE LOAD TABLE 1.0)

NOTES:

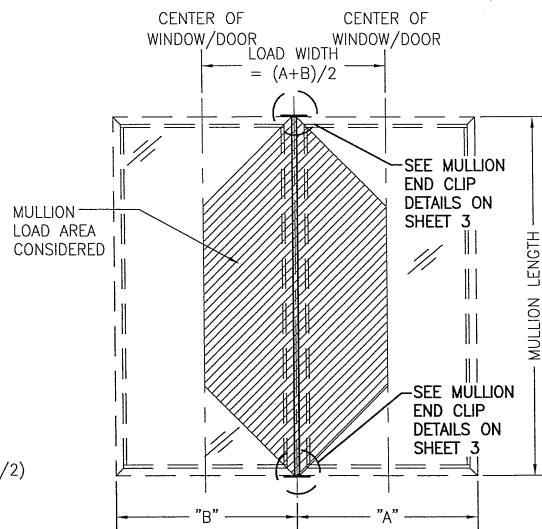
- * TOP WINDOW MAY BE ANY FIXED OR AWNING WINDOW.
- * BOTTOM WINDOW MAY BE A FIXED, CASEMENT, TILT/TURN, HOPPER, AWNING, SINGLE HUNG OR DOUBLE HUNG WINDOW.
- * BOTTOM DOOR MAY BE A FIXED OR SWING DOOR.



SINGLE OPERABLE WINDOW/DOOR TO A SINGLE OPERABLE OR FIXED WINDOW/DOOR (SEE LOAD TABLE 3.0)

NOTES:

- * WINDOWS MAY BE STACKED HORIZONTAL OR VERTICAL.
- * DOORS MAY BE STACKED HORIZONTALLY ONLY.
- * OPERABLE WINDOW(S) MAY BE CASEMENT, TILT/TURN, HOPPER, AWNING, SINGLE HUNG OR DOUBLE HUNG WINDOWS.
- * OPERABLE DOOR MAY BE A SWING DOOR.



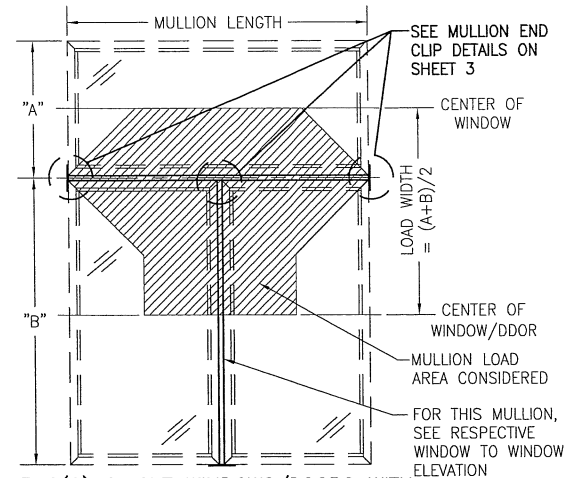
FIXED WINDOW/DOOR TO FIXED WINDOW/DOOR WHEN WINDOW/DOOR WIDTHS ARE LESS THAN OR EQUAL TO THE MULLION LENGTH (SEE LOAD TABLE 1.0)

NOTES:

- * WINDOWS MAY BE STACKED HORIZONTAL OR VERTICAL.
- * DOORS MAY BE STACKED HORIZONTALLY ONLY.

GENERAL NOTES:

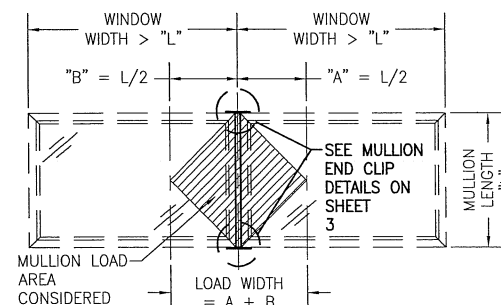
1. THIS MULLION SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH AND MEETS THE REQUIREMENTS OF THE FLORIDA BUILDING CODE & IS APPROVED FOR DESIGN PRESSURES NOT TO EXCEED THOSE SHOWN IN THE "ALLOWABLE DESIGN PRESSURE TABLE(S)".
2. OPENINGS, BUCKING & BUCKING FASTENERS MUST BE PROPERLY DESIGNED & INSTALLED TO TRANSFER WIND LOADS FROM THE MULLIONS AND WINDOWS TO THE STRUCTURE.
3. ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & SHALL NOT VARY UNLESS SPECIFICALLY MENTIONED ON THE DRAWINGS. SPECIFIED ANCHOR EMBED TO BASE MATERIAL SHALL BE BEYOND WALL FINISH OR STUCCO.
4. THIS MULLION SYSTEM IS IMPACT RATED FOR USE IN HVHZ & NON-HVHZ AREAS.
5. THIS MULLION SYSTEM HAS BEEN TESTED IN ACCORDANCE WITH TAS-201, 202 & 203 FOR LARGE MISSILE IMPACT, STRUCTURAL & CYCLIC TESTING.
6. ALL ANCHORS SECURING MULLION CLIPS TO PRESSURE TREATED BUCKS OR WOOD FRAMING SHALL BE CAPABLE OF RESISTING CORROSION CAUSED BY THE PRESSURE TREATING CHEMICALS IN THE WOOD.
7. DETERMINE THE POSITIVE & 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 THE FLORIDA BUILDING CODE, A DIRECTIONALITY FACTOR OF $K_d = 0.85$ MAY BE APPLIED PER THE ASCE-7 STANDARD.
8. MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF FLORIDA BUILDING CODE.
9. CERTIFICATION OF THIS MULLION SYSTEM SHALL BE CONSIDERED VOID IF INSTALLED WITHOUT A BUILDING PERMIT FROM THE APPLICABLE LOCAL BUILDING DEPARTMENT OR IF INSTALLED BY ANYONE OTHER THAN A LICENSED CONTRACTOR EXPERIENCED WITH WINDOW & DOOR INSTALLATIONS.
10. WINDOWS/DOORS SHALL BE UNDER SEPARATE APPROVAL.
11. ALL KOLBE IMPACT & NON-IMPACT FORGENT GLASTRA & WOOD GLASTRA WINDOWS & DOORS MAY BE SUPPORTED BY THIS MULLION SYSTEM PROVIDING THEY ARE PROPERLY ANCHORED TO THE MULLION AS REQUIRED HERE-IN.
12. ALLOWABLE PRESSURE ON THE MULLION UNITS SHALL BE CONTROLLED BY THE LESSER ALLOWABLE PRESSURE OF THE MULLION & ITS END CONNECTIONS OR THE WINDOWS/DOORS IT SUPPORTS.
13. WINDOW/DOOR SIZES SHALL BE RESTRICTED BY THEIR OWN INDIVIDUAL APPROVAL.
14. ANCHORING OF WINDOWS/DOORS TO THE OPENING SHALL BE PER THEIR RESPECTIVE APPROVAL.
15. CONDITIONS NOT SHOWN OR COVERED IN THIS DRAWING SHALL BE SUBJECT TO SEPARATE REVIEW AND JOB SPECIFIC CERTIFICATION BY A FLORIDA LICENSED ENGINEER.
16. THE ALLOWABLE PRESSURES STATED IN THE LOAD TABLES CONSIDER THE WORSE CASE OF MULLION STRESS, DEFLECTION AND END REACTION.
17. MULLION MEMBER SHALL BE CONTINUOUS FROM END TO END.
18. WHEN VERTICALLY STACKED, THE MANUFACTURER/INSTALLER SHALL INSURE THAT THE DEAD WEIGHT OF THE ABOVE WINDOW(S) WILL NOT CAUSE UNDO STRESS ON THE BELOW WINDOWS/DOORS. THIS MULLION SYSTEM IS DESIGNED FOR WIND LOAD RESISTANCE ONLY & IS NOT CONSIDERED TO SUPPORT THE WEIGHT OF THE WINDOWS.



TWO(2) SINGLE WINDOWS/DOORS WITH A SINGLE FIXED WINDOW TRANSOM (SEE LOAD TABLE 2.0)

NOTES:

- * BOTTOM WINDOWS MAY BE A FIXED, CASEMENT, TILT/TURN, HOPPER, AWNING, SINGLE HUNG OR DOUBLE HUNG WINDOW.
- * BOTTOM DOORS MAY BE ANY FIXED OR SWING DOOR.
- * BOTTOM WINDOWS/DOORS MAY BE MULLED TOGETHER PER THIS DRAWING OR PER THEIR INDIVIDUAL WINDOW APPROVAL.



FIXED WINDOW TO FIXED WINDOW WHEN WINDOW WIDTHS ARE GREATER THAN THE MULLION LENGTH (SEE LOAD TABLE 1.0)

NOTE: WINDOWS MAY BE STACKED HORIZONTAL OR VERTICAL

THESE DRAWINGS ARE APPLICABLE ONLY TO THE PRODUCT SPECIFIED. THEY MAY NOT BE USED FOR THE ASSEMBLY AND/OR INSTALLATION OF ANY OTHER PRODUCT NOR MAY THEY BE USED FOR RATIONAL AND/OR LOCAL APPROVAL OF ANY PRODUCT NOT PRODUCED BY THE MANUFACTURER STATED ON THESE DRAWINGS.

DRAWN BY:	W.W.S.	CHECKED BY:	W.W.S.
PLOT:	1=24	DATE:	08/09/16
NO.	REVISION	DESCRIPTION	DATE
1	ADD LENGTHS TO LOAD TABLES	W.W.S.	08/17/16
2	REPLACED MULLION PART	W.W.S.	

JOB INFORMATION:

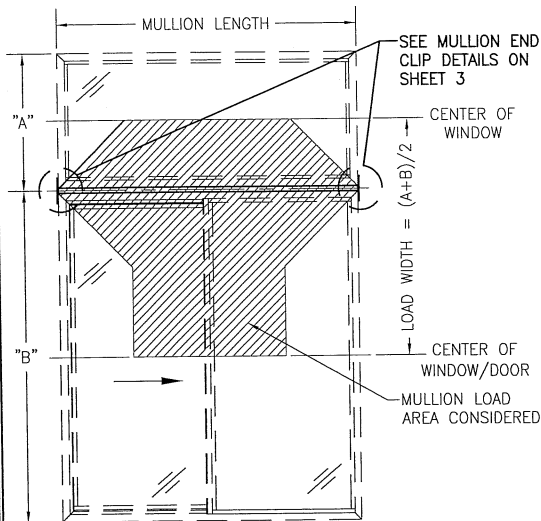
KOLBE FORGENT V707 IMPACT & NON-IMPACT MULLION

KOLBE WINDOWS & DOORS
 1211 DEPOT STREET
 MANAWA, WI 54949
 (920) 596-2501

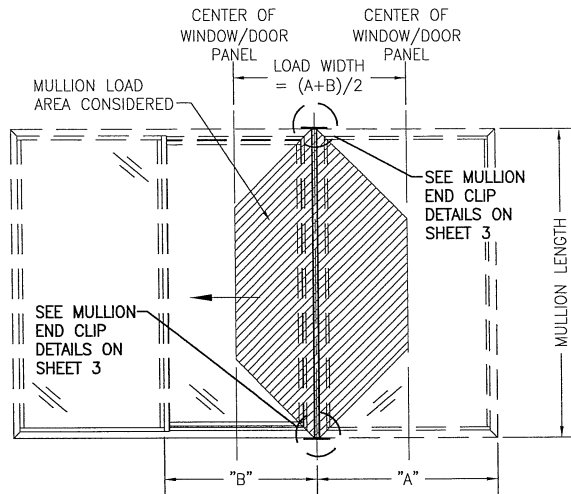
CONSULTANTS
 W. W. SCHAEFER ENGINEERING
 & CONSULTING, P.A. (CA 6809)
 1460 150TH COURT NORTH
 PALM BEACH GARDENS, FL 33418
 PHONE: 951-744-3424

CERTIFICATION
 NO. 44118
 DATE OF
 SEP 1 2019
 W. W. SCHAEFER, P.E.
 LICENSE NO. 15033

DRAWING NO. REV.
 1923 B
 SHEET NO.
 1 OF 5

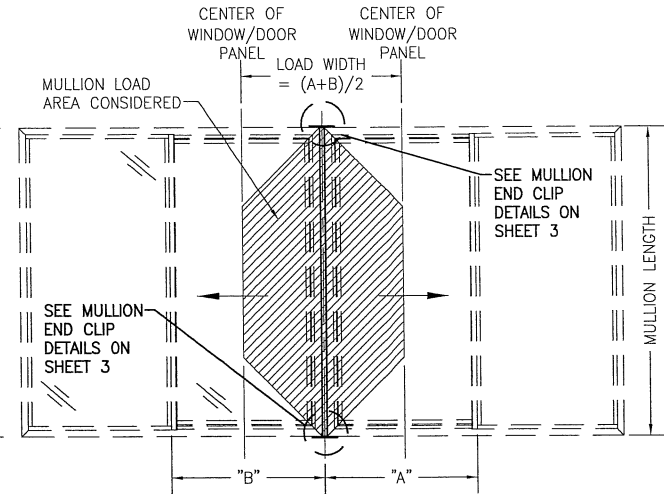


**TWO(2) PANEL SLIDING WINDOW/DOOR
WITH A SINGLE FIXED WINDOW
TRANSOM
(SEE LOAD TABLE 2.0)**



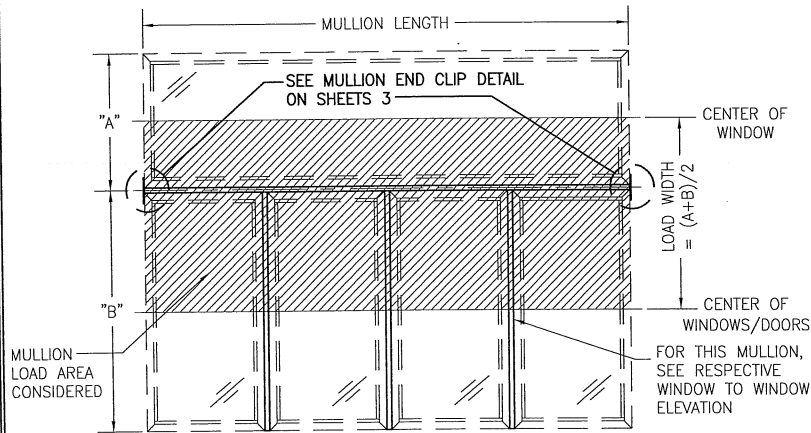
**SLIDING WINDOW/DOOR NEXT TO A
SINGLE FIXED WINDOW/DOOR
(SEE LOAD TABLE 1.0)**

NOTE: 2-PANEL SLIDING WINDOW/DOOR IS SHOWN. MORE THAN 2 PANELS MAY APPLY TO THE SLIDING WINDOW/DOOR.



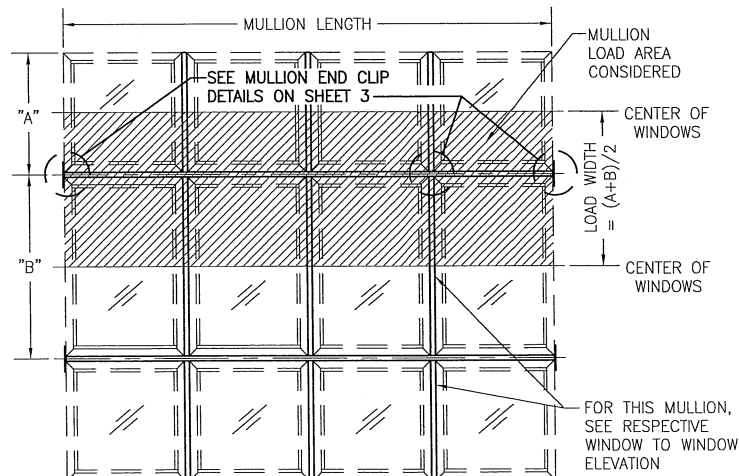
**SLIDING WINDOW/DOOR NEXT TO A
SLIDING WINDOW/DOOR
(SEE LOAD TABLE 1.0)**

NOTE: 2-PANEL SLIDING WINDOWS/DOORS ARE SHOWN. MORE THAN 2 PANELS MAY APPLY TO THE SLIDING WINDOWS/DOORS.



**MULTIPLE WINDOWS/DOORS WITH TRANSOM
(SEE LOAD TABLE 3.0)**

NOTES:
* TRANSOM MAY BE SINGLE OR MULTIPLE WINDOWS
* BOTTOM WINDOWS MAY BE ANY QUANTITY OF FIXED, CASEMENT, TILT/TURN, HOPPER, AWNING, SINGLE HUNG, DOUBLE HUNG OR SLIDING WINDOWS.
* BOTTOM DOORS MAY BE ANY QUANTITY OF FIXED, SWING OR SLIDING DOORS.



MULTIPLE WINDOWS (SEE LOAD TABLE 3.0)

NOTES:
* CONTINUOUS MULLIONS MAY BE HORIZONTAL OR VERTICAL (HORIZONTAL SHOWN).
* WINDOWS MAY BE ANY QUANTITY OF FIXED OR OPERABLE WINDOWS.

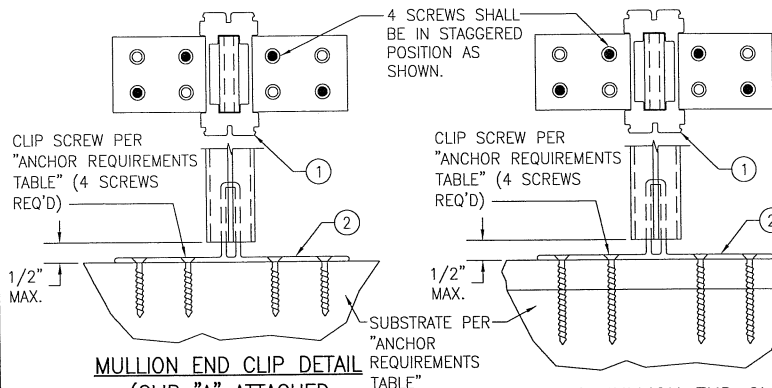
DRAWN BY:	W.W.S.	CHECKED BY:	W.W.S.
PLOT:	1-24	DATE:	05/09/16
DATE:			
BY:			
REVISION DESCRIPTION:			
NO.			

KOLBE FORGENT V707 IMPACT & NON-IMPACT MULLION
JOB INFORMATION:
KOLBE WINDOWS & DOORS
1211 DEPOT STREET
MANAWA, WI 54949
(920) 596-2501

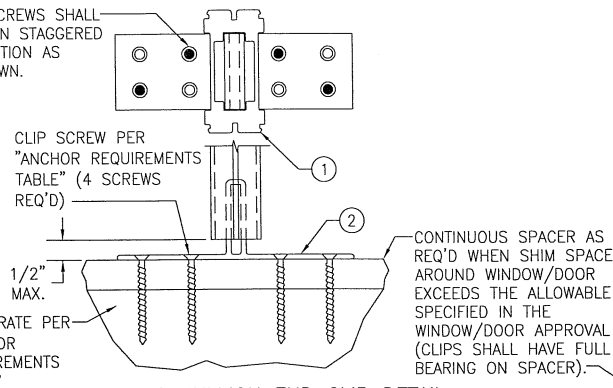
CONSULTANTS:
**W. W. SCHAEFER ENGINEERING
& CONSULTING, P.A. (CA 6809)**
14001 N. 11TH COURT NORTH, 33418
PALM BEACH GARDENS, FL
PHONE: 561-744-3424

DRAWING TITLE:
KOLBE FORGENT V707 IMPACT & NON-IMPACT MULLION
No. 44136
CERTIFICATION:
SEP 11 2019
WARREN W. SCHAEFER, P.E.
P.E. No. 44136

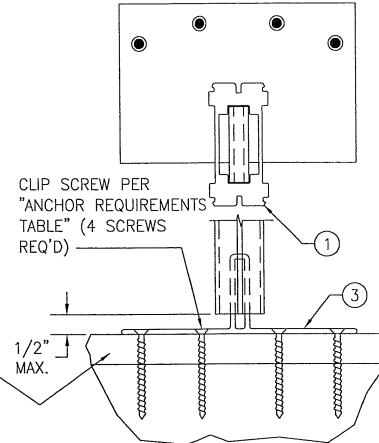
DRAWING NO.:
1923
SHEET NO.:
2 OF 5



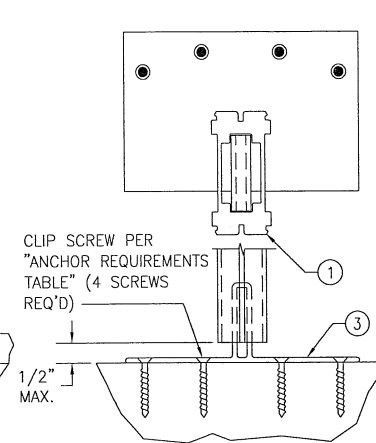
MULLION END CLIP DETAIL
(CLIP "A" ATTACHED
DIRECTLY TO SUBSTRATE)



ALTERNATE MULLION END CLIP DETAIL
(CLIP "A" ATTACHED TO SUBSTRATE WITH
CONTINUOUS SPACER)



ALTERNATE MULLION END CLIP DETAIL
(CLIP "B" ATTACHED TO SUBSTRATE WITH
CONTINUOUS SPACER)



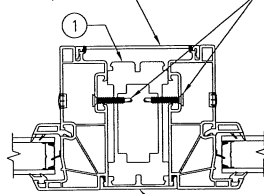
MULLION END CLIP DETAIL
(CLIP "B" ATTACHED
DIRECTLY TO SUBSTRATE)

ANCHOR REQUIREMENTS TABLE

OPENING TYPE (SUBSTRATE)	FASTENER TYPE	MINIMUM EMBED	MINIMUM EDGE DIST.
CLIP SCREWS			
MIN. 2X4 WOOD FRAME OR BUCK (MIN. GR. 3 & G=0.55)	NO. 10 SMS OR WOOD SCREW	1 1/4"	1"
MIN. 18 GA. 33 KSI METAL STUD	NO. 10 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 1/8" THK A36 STEEL	NO. 10 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 0.100" THK 6063-T5 ALUM.	NO. 10 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. C-90 CMU	(1) 3/16" CONCRETE SCREW	1 1/4"	2"
MIN. 2500 PSI CONCRETE	(1) 3/16" CONCRETE SCREW	1 1/2"	2"

(1) CONCRETE SCREWS SHALL BE ELCO ULTRACONS, ELCO CRETE-FLEX, ITW RAMSET/RED HEAD TAPCONS OR HILTI KWIK-CON II (C.S. OR S.S.).

VINYL MULL CAP AS SUPPLIED
WITH WINDOWS/DOORS



EXTERIOR

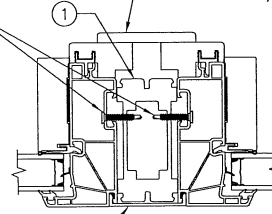
**TYPICAL JAMB TO MULLION DETAIL (GLASTRA
PRODUCTS)**

(FIXED WINDOW FRAMES SHOWN. FRAMES OF OTHER WINDOW/DOOR TYPES ARE ALSO APPLICABLE PROVIDING THEY ARE SECURED TO THE MULLION IN A SIMILAR MANNER & MEET THE GUIDELINES OF THEIR OWN INDIVIDUAL APPROVAL)

FRAME SCREWS AS REQUIRED BY WINDOW/DOOR APPROVAL FOR ATTACHMENT TO ALUMINUM SUBSTRATE. IF ALUMINUM SUBSTRATE IS NOT INCLUDED IN THE WINDOW/DOOR APPROVAL, THEN THE SAME SCREWS SHALL BE USED AS SPECIFIED FOR WOOD SUBSTRATE EXCEPT THEY SHALL BE SELF TAP/DRILL SCREWS.

VINYL MULL CAP AS SUPPLIED WITH WINDOWS/DOORS.
FILL/SEAL SNAP JOINTS WITH SILICONE SEALANT

WOOD MULL CAP AS SUPPLIED
WITH WINDOWS/DOORS



EXTERIOR

**TYPICAL JAMB TO MULLION DETAIL (WOOD
GLASTRA PRODUCTS)**

(FIXED WINDOW FRAMES SHOWN. FRAMES OF OTHER WINDOW/DOOR TYPES ARE ALSO APPLICABLE PROVIDING THEY ARE SECURED TO THE MULLION IN A SIMILAR MANNER & MEET THE GUIDELINES OF THEIR OWN INDIVIDUAL APPROVAL)

DRAWN BY: W.W.S.		CHECKED BY: W.W.S.	
PLOT: 1=3		DATE: 05/05/16	
DATE	BY	REVISION DESCRIPTION	NO.
DRAWING TITLE: KOLBE FORGENT V707 IMPACT & NON-IMPACT MULLION			
CONSULTANTS		MANUFACTURER	
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809)		KOLBE WINDOWS & DOORS	
7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424		1211 DEPOT STREET MANAWA, WI 54949 (920) 596-2501	
CERTIFICATION		SEP 11 2019	
W. W. SCHAEFER, P.E.		P.E. NO. 44136	
DRAWING NO. 1923		REV. B	
SHEET NO. 3		OF 5	

DRAWN BY: W.W.S.		CHECKED BY: W.W.S.	
PLOT: 1-3		DATE: 08/09/16	
NO.		REVISION DESCRIPTION	
BY		DATE	
DRAWING TITLE KOLBE FORGENT V707 IMPACT & NON-IMPACT MULLION			
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809)		MANUFACTURER KOLBE WINDOWS & DOORS	
7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418		1211 DEPOT STREET MANAWA, WI 54949 (920) 596-2501	
CERTIFICATION I, WARREN W. SCHAEFER, P.E. SEP 11 2019 PROFESSIONAL ENGINEER STATE OF FLORIDA			
DRAWING NO. 1923		RD E	
SHEET NO. 4		OF 5	

LOAD TABLE 3.0

MAXIMUM MULLION LENGTH (IN.)	MAXIMUM LOAD WIDTH (IN.)	ALLOWABLE PRESSURE (+/- PSF)	MAXIMUM MULLION LENGTH (IN.)	MAXIMUM LOAD WIDTH (IN.)	ALLOWABLE PRESSURE (+/- PSF)
120	42	23.2	84	72	29.7
	36	27.0		66	32.4
	30	32.4		60	35.6
	24	40.5		54	39.6
	18	54.0		48	44.5
114	48	23.6	78	42	50.9
	42	27.0		36	59.3
	36	31.5		30	70.0
	30	37.8		72	31.9
	24	47.3		66	34.9
108	18	63.0	72	60	38.3
	60	22.2		54	42.6
	54	24.7		48	47.9
	48	27.8		42	54.8
	42	31.8		36	63.9
102	36	37.1	66	32	70.0
	30	44.5		72	34.6
	24	55.6		66	37.8
	19	70.0		60	41.5
	72	22.0		54	46.1
96	66	24.0	60	48	51.9
	60	26.4		42	59.3
	54	29.3		36	69.2
	48	33.0		35	70.0
	42	37.7		72	37.8
90	36	44.0	54	66	41.2
	30	52.8		60	50.3
	24	66.0		54	56.6
	22	70.0		48	64.7
	72	26.0		38	70.0
	66	28.3	48	72	41.5
	60	31.2		66	45.3
	54	34.6		60	49.8
	48	38.9		54	55.4
	42	44.5		48	62.3
	36	51.9	42	42	70.0
	30	62.3		72	46.1
	26	70.0		66	50.3
	72	27.7		60	55.4
	66	30.2		54	61.5
	60	33.2		48	69.2
	54	36.9		47	70.0
	48	41.5		72	51.9
	42	47.5		66	56.6
	36	55.4		60	62.3
	30	66.5		54	69.2
	28	70.0		53	70.0
	42			66	64.7
				60	70.0

DRAWN BY: W.W.S.		CHECKED BY: W.W.S.	
PLOT: 1=3		DATE: 08/09/16	
DATE	BY	REVISION	DESCRIPTION
DRAWING TITLE: KOLBE FORGENT V707 IMPACT & NON-IMPACT MULLION MANUFACTURER: KOLBE WINDOWS & DOORS 1211 DEPOT STREET MANAWA, WI 54949 (920) 596-2501			
CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809) 7489 130TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424			
CERTIFICATION: SEP 11 2019 WARDEN W. SCHAEFER, P.E. P.E. NO. 44135			
DRAWING NO. 1923		REV. B	
SHEET NO. 5		OF 5	