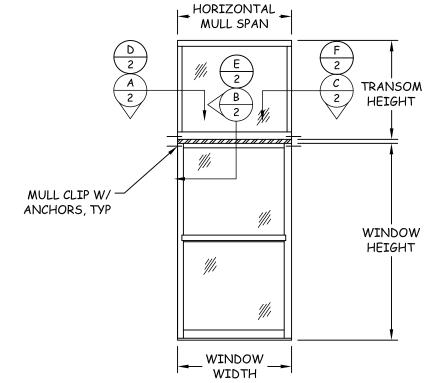
## CROFT, LLC

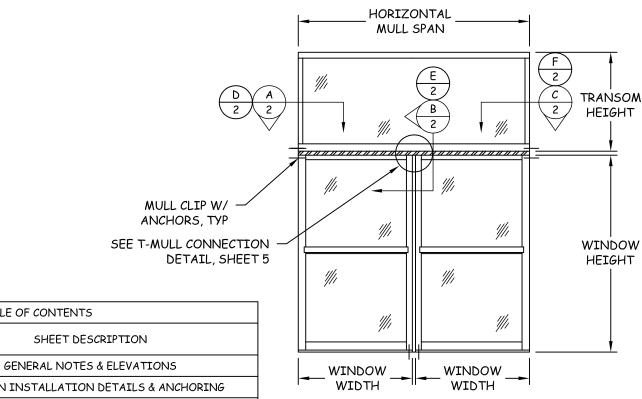
## SERIES 9100 WOODBUCK MULLION AND SERIES 9100 MULLION-HEAVY DUTY (HORIZONTAL)

#### NOTES:

- 1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE 5TH EDITION FBC, SECTION 1710.5.3.
- 2. MULLION INSTALLATION DETAILS APPLY TO EXTRUDED MULLIONS WITH EXTRUDED ALUMINUM ANCHOR CLIP WHEN USED TO MULL WINDOWS SIDE BY SIDE
- APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED ON THESE PRODUCTS IN WIND BORNE DEBRIS REGIONS ZONE 3 OR LESS SUCH THAT ADJOINING WINDOWS ARE IMPACT RATED.
- USE TWO (2) #10 WOOD SCREWS, PER CLIP, OF SUFFICIENT LENGTH TO ACHIEVE MINIMUM EMBEDMENT OF 1 1/2" INTO WOOD FRAMING. (SEE INSTALLATION DETAILS ON SHEET 2).
- USE TWO (2) 3/6" ITW TAPCONS, PER CLIP, OF SUFFICIENT LENGTH TO ACHIEVE MINIMUM EMBEDMENT OF 13/4" INTO CONCRETE OR 1" WHEN INTO HOLLOW BLOCK CMU. (SEE INSTALLATION DETAILS ON SHEET 2).
- USE ONE (1) ½" ITW TAPCON, PER CLIP, OF SUFFICIENT LENGTH TO ACHIEVE MINIMUM EMBEDMENT OF 1¾" WHEN ANCHORED INTO CONCRETE.
- 7. USE TWO (2) #10-16 SELF-DRILLING SCREWS, PER CLIP, OF SUFFICIENT LENGTH TO ACHIEVE A MINIMUM 3 THREADS PENETRATION BEYOND STEEL SUBSTRATE. (SEE INSTALLATION DETAILS ON SHEET 2).
- 2X WOOD BUCKS AND STEEL STUDS TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE AND IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF
- 9. SEE CHARTS & NOTES ON SHEETS 3-5 FOR DESIGN PRESSURE RATINGS.
- 10. THIS MULLION IS ONLY VALID WHEN USED IN CONJUNCTION WITH ALL APPLICABLE CROFT, LLC PRODUCTS.
- 11. ALL WINDOWS USED WITH THIS MULLION SHALL BE QUALIFIED UNDER SEPARATE APPROVAL. THE LESSER DESIGN PRESSURE RATING OF THE WINDOW OR THE MULLION OF INSTALLATION SHALL GOVERN THE OVERALL DESIGN PRESSURE OF THE ASSEMBLY.
- 12. MULLION MATERIAL: 6063-T5 ALUMINUM.
- 13. CLIP MATERIAL: 6063-T5 ALUMINUM.
- 14. INSTALLATION ANCHOR CAPACITIES FOR PRODUCTS HEREIN ARE BASED ON SUBSTRATE MATERIALS WITH THE **FOLLOWING PROPERTIES:** 
  - A. WOOD MINIMUM SPECIFIC GRAVITY OF 0.55.
  - CONCRETE MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
  - C. CMU SHALL CONFORM TO MINIMUM REQUIREMENTS OF ASTM C90
  - D. STEEL MINIMUM YIELD STRENGTH OF 33 KSI. MINIMUM 18 GA. WALL THICKNESS.



### HORIZONTAL MULLION FOR **STACKED WINDOWS**



Α	MULLION INSTALLATION DETAILS & ANCHORING	WIDTH WIDTH
В	SERIES 9100 WOODBUCK MULL DP CHART & DETAILS	HORIZONTAL MULLION FOR
Α	SERIES 9100 MULLION-HEAVY DUTY DP CHART & DETAIL	T-MULL CONFIGURATION
Α	SERIES 9100 MULL-HEAVY DUTY T-MULL DP CHART & DETAILS	1-WOLL CONFIGURATION

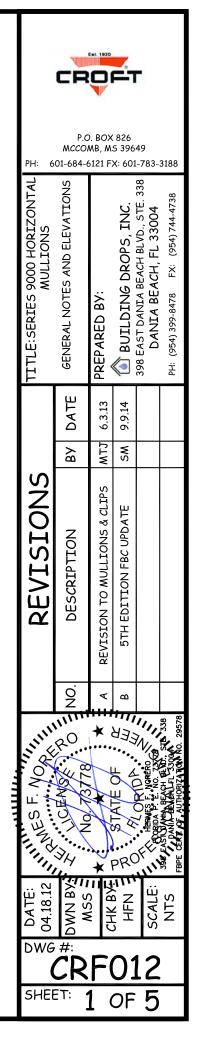
TABLE OF CONTENTS

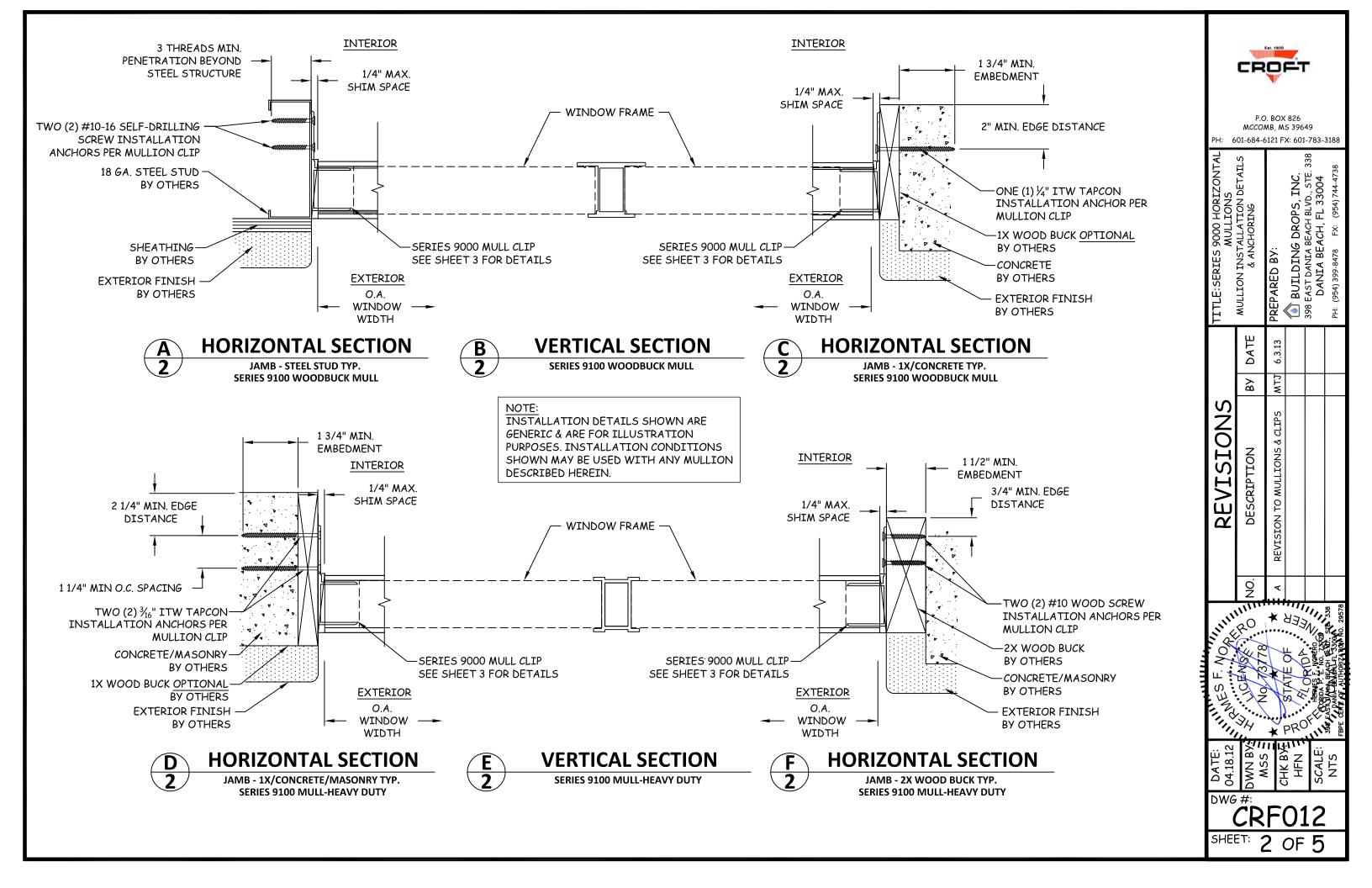
SHEET REVISION

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3

4





### SERIES 9100 WOODBUCK MULL DESIGN PRESSURE CHART

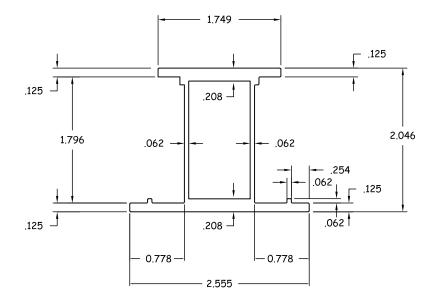
### Maximum design pressure capacity chart Series 9100 Woodbuck Horizontal Mullion - Stacked Windows

Design pressures are limited either by mullion or anchor screw or anchor clip capacity.

Heig	ght (in)				Un	it width	(in)			
Window	Transom	24.0	27.0	30.0	33.0	36.0	39.0	42.0	45.0	48.0
24.0	12.0	150.0	150.0	150.0	150.0	150.0	150.0	143.0	130.7	114.4
30.0	15.0	150.0	150.0	150.0	150.0	150.0	138.1	124.1	109.9	95.1
36.0	18.0	150.0	150.0	150.0	150.0	145.2	127.1	113.0	96.9	83.2
42.0	21.0	150.0	150.0	150.0	150.0	139.2	121.2	106.7	89.2	75.8
48.0	24.0	150.0	150.0	150.0	150.0	134.5	116.9	102.1	85.0	71.5
54.0	27.0	150.0	150.0	150.0	150.0	131.2	113.7	98.4	81.7	68.8
60.0	30.0	150.0	150.0	150.0	150.0	128.9	111.2	95.4	79.1	66.5
66.0	33.0	150.0	150.0	150.0	150.0	127.5	109.6	93.1	77.0	64.6
72.0	36.0	150.0	150.0	150.0	150.0	127.1	108.6	91.4	75.4	63.1
78.0	39.0	150.0	150.0	150.0	150.0	127.1	108.3	90.4	74.2	61.9
84.0	42.0	150.0	150.0	150.0	150.0	127.1	108.3	90.1	73.5	61.0
90.0	45.0	150.0	150.0	150.0	150.0	127.1	108.3	90.1	73.2	60.5
96.0	48.0	150.0	150.0	150.0	150.0	127.1	108.3	90.1	73.2	60.4

### NOTES FOR SERIES 9100 WOODBUCK MULLION FOR STACK WINDOW

- 1. THE DESIGN PRESSURES IN THIS CHART ARE FOR THE MULLIONS LISTED ABOVE WHEN USED WITH THE CLIP LISTED ABOVE.
- FOR HORIZONTAL MULL CLIPS IN WOOD FRAMING INSTALLATION USE TWO (2) #10 WOOD SCREWS AT EACH MULLION CLIP. ANCHORS MUST BE OF SUFFICIENT LENGTH TO ACHIEVE A 1 1/2" MINIMUM EMBEDMENT INTO FRAMING. SEE SHEET 2 FOR DETAILS.
- FOR HORIZONTAL MULL CLIPS IN STEEL FRAME INSTALLATION, USE (2) TWO #10-16 SELF-DRILLING SCREWS AT EACH ANCHOR CLIP WITH SUFFICIENT LENGTH TO ACHIEVE A MINIMUM 3 THREAD PENETRATION BEYOND STEEL SUBSTRATE. SEE SHEET 2 FOR DETAILS.
- 4. FOR HORIZONTAL MULL CLIPS IN CONCRETE OR CMU INSTALLATION USE TWO (2) 3/16" ITW TAPCONS AT EACH MULLION CLIP. ANCHORS MUST BE OF SUFFICIENT LENGTH TO ACHIEVE A 1" MINIMUM EMBEDMENT INTO CMU (HOLLOW BLOCK) OR 1 3/4" EMBEDMENT INTO CONCRETE. SEE SHEET 2 FOR DETAILS. FOR ALTERNATE INSTALLATION TO CONCRETE, SEE
- 5. FOR HORIZONTAL MULL CLIPS IN CONCRETE INSTALLATION USE ONE (1) 1/4" ITW TAPCON AT EACH MULLION CLIP. ANCHORS MUST BE OF SUFFICIENT LENGTH TO ACHIEVE A 1 3/4" EMBEDMENT INTO CONCRETE. SEE SHEET 2 FOR DETAILS.
- 6. CHART APPLIES ONLY TO SERIES 9100 WOODBUCK MULLION AS SPECIFIED ABOVE WHEN USED TO MULL WINDOWS STACKED ONE ABOVE THE OTHER.
- 7. READ WINDOW HEIGHT AND MULL SPAN IN INCHES. DESIGN PRESSURE VALUES ON THIS CHART ARE POSITIVE AND NEGATIVE POUNDS PER SQUARE FOOT (PSF).
- DESIGN PRESSURE VALUES APPLY TO MULLION WHERE TWO OR MORE WINDOWS ARE LISTED IN A SINGLE OPENING. LESSER DESIGN PRESSURE OF INDIVIDUAL WINDOW OR MULLION OF INSTALLATION SHALL GOVERN.
- 9. REFER TO EVALUATION REPORT# 3215 FOR MORE MULLION SPECIFICATIONS.



### **SERIES 9100 WOODBUCK MULL DETAIL**

**TOP VIEW** 

# <del>-</del> 1.6250 -1.3750 1.5000 3.812

### **SERIES 9000 MULLION CLIP DETAIL**

FOR USE WITH ALL SERIES 9000 MULLIONS



P.O. BOX 826 MCCOMB, MS 39649

PH: 6	01-684-6	121 F		783-	3188
TITLE: SERIES 9000 HORIZONTAL RANULLIONS	SEKIES 9100 WOODBOCK MULL DP CHART & DETAILS		BUILDING DROPS, INC.	398 EAST DANIA BEACH BLVD., STE. 338 DANIA BEACH, FL 33004	PH: (954) 399-8478 FX: (954) 744-4738
	BY DATE	6.3.13	11.7.13		
	ВУ	MTJ	MSS		
REVISIONS	DESCRIPTION	REVISION TO MULLIONS & CLIPS MTJ 6.3.13	REV. TO MULL WALL THICKNESS MSS 11.7.13		
	NO.	A	ΔΔ.		
INTINES F. NOTH	CHART ON THE	* * *	A SIAIR OF SECTION OF	HENNES F. NORTHON	398 EASTUANA BEACH BEND. SIE 338

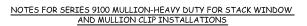
### **SERIES 9100 MULLION-HEAVY DUTY DESIGN PRESSURE CHARTS**

### Maximum design pressure capacity chart Series 9100 Horizontal Mullion - Heavy Duty - Stacked Windows

Design pressures are limited either by mullion or anchor screw or anchor clip capacity.

Heig	ght (in)				Un	it width	(in)			
100000000000000000000000000000000000000	Transom	24.0	27.0	30.0	33.0	36.0	39.0	42.0	45.0	48.0
24.0	12.0	150.0	150.0	150.0	150.0	150.0	146.6	124.6	107.3	93.5
30.0	15.0	150.0	150.0	150.0	150.0	150.0	124.6	105.0	89.7	77.7
36.0	18.0	150.0	150.0	150.0	150.0	138.5	112.5	93.5	79.1	68.0
42.0	21.0	150.0	150.0	150.0	150.0	131.6	106.3	87.2	72.8	61.9
48.0	24.0	150.0	150.0	150.0	150.0	126.2	101.7	83.4	69.4	58.4
54.0	27.0	150.0	150.0	150.0	150.0	122.1	98.2	80.4	66.8	56.2
60.0	30.0	150.0	150.0	150.0	150.0	119.2	95.4	77.9	64.6	54.3
66.0	33.0	150.0	150.0	150.0	150.0	117.4	93.5	76.0	62.9	52.8
72.0	36.0	150.0	150.0	150.0	150.0	116.8	92.3	74.7	61.5	51.5
78.0	39.0	150.0	150.0	150.0	150.0	116.8	91.9	73.9	60.6	50.5
84.0	42.0	150.0	150.0	150.0	150.0	116.8	91.9	73.6	60.0	49.9
90.0	45.0	150.0	150.0	150.0	150.0	116.8	91.9	73.6	59.8	49.4
C 50 (0.00 (0.00 ) 10 (0.00 )	THE PROPERTY OF THE PARTY OF TH	110000000000000000000000000000000000000		(Propolicization - Appro-		10 20 1 4 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	TOTAL TOTAL STATE	roccontictor would	00mm hcs/07/ssc/07	27 LL C LL C C LL C C LL C C LL C LL C L

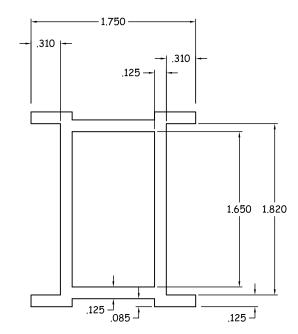
150.0 | 150.0 | 150.0 | 150.0 | 116.8 | 91.9 | 73.6 | 59.8 |



96.0

48.0

- 1. THE DESIGN PRESSURES IN THIS CHART ARE FOR THE MULLIONS LISTED ABOVE WHEN USED WITH THE CLIP LISTED ABOVE.
- 2. FOR HORIZONTAL MULL CLIPS IN WOOD FRAMING INSTALLATION USE TWO (2) #10 WOOD SCREWS AT EACH MULLION CLIP. ANCHORS MUST BE OF SUFFICIENT LENGTH TO ACHIEVE A 1 1/2" MINIMUM EMBEDMENT INTO FRAMING. SEE SHEET 2 FOR DETAILS.
- 3. FOR HORIZONTAL MULL CLIPS IN STEEL FRAME INSTALLATION, USE (2) TWO #10-16
  SELF-DRILLING SCREWS AT EACH ANCHOR CLIP WITH SUFFICIENT LENGTH TO ACHIEVE A
  MINIMUM 3 THREAD PENETRATION BEYOND STEEL SUBSTRATE. SEE SHEET 2 FOR DETAILS.
- 4. FOR HORIZONTAL MULL CLIPS IN CONCRETE OR CMU INSTALLATION USE TWO (2) 3/16" ITW TAPCONS AT EACH MULLION CLIP. ANCHORS MUST BE OF SUFFICIENT LENGTH TO ACHIEVE A 1" MINIMUM EMBEDMENT INTO CMU (HOLLOW BLOCK) OR 1 3/4" EMBEDMENT INTO CONCRETE. SEE SHEET 2 FOR DETAILS. FOR ALTERNATE INSTALLATION TO CONCRETE, SEE NOTE 5 BELOW.
- FOR HORIZONTAL MULL CLIPS IN CONCRETE INSTALLATION USE ONE (1) 1/4" ITW TAPCON
  AT EACH MULLION CLIP. ANCHORS MUST BE OF SUFFICIENT LENGTH TO ACHIEVE A 1 3/4"
  EMBEDMENT INTO CONCRETE. SEE SHEET 2 FOR DETAILS.
- 6. CHART APPLIES ONLY TO SERIES 9100 HEAVY DUTY MULLION AS SPECIFIED ABOVE WHEN USED TO MULL WINDOWS STACKED ONE ABOVE THE OTHER.
- 7. READ WINDOW HEIGHT AND MULL SPAN IN INCHES. DESIGN PRESSURE VALUES ON THIS CHART ARE POSITIVE AND NEGATIVE POUNDS PER SQUARE FOOT (PSF).
- DESIGN PRESSURE VALUES APPLY TO MULLION WHERE TWO OR MORE WINDOWS ARE LISTED IN A SINGLE OPENING. LESSER DESIGN PRESSURE OF INDIVIDUAL WINDOW OR MULLION OF INSTALLATION SHALL GOVERN.
- 9. REFER TO EVALUATION REPORT# 3215 FOR MORE MULLION SPECIFICATIONS.



### **SERIES 9100 MULLION-HEAVY DUTY DETAIL**



P.O. BOX 826 MCCOMB, MS 39649

: 601-684-6121 FX: 601-783-3188

DWG	DATE: 04.18.12	WINES F NOTH		REVISIONS				PH: 6
#: <b>^</b> B	DWN BY	A COENSKI'S	NO.	DESCRIPTION BY	BY DATE	АТЕ	SEKIES 9100 MULLION-HEAVY DUTY DP CHART & DETAIL	01-684-6
F		*	۲	REVISION TO MULLIONS & CLIPS MTJ 6.3.13 PREPARED BY:	гл 6.	3.13	PREPARED BY:	5121 F.
$\bigcap$ 1	HFN VI	A SIAIR OF SECTION AND A SECTI					BUILDING DROPS, INC.	X: 601
12	SCALE:	HENNES F. NORERO					398 EAST DANIA BEACH BLVD., STE. 338 DANIA BEACH, FL 33004	
)	NTS	398 FASTUZAMMA BEACH REWD., STE. 338 PANIA BENEALLEL 3300A FBPE CERT OF AUTHORIZATION NO. 29578					PH: (954) 399-8478 FX: (954) 744-4738	3188

### **SERIES 9100 MULLION-HEAVY DUTY DESIGN PRESSURE CHARTS**

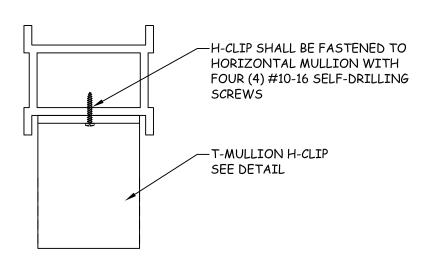
## Maximum design pressure capacity chart (psf) Series 9100 Horizontal Mullion - Heavy Duty - T-Mullion Configuration

Design pressures are limited either by mullion or anchor screw or anchor clip capacity.

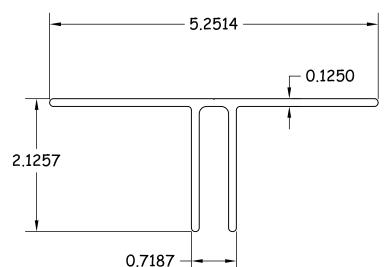
Heig	ht (in)						Un	it width	(in)									
Window	Transom	24.0	27.0	30.0	33.0	36.0	39.0	42.0	45.0	48.0	54.0	60.0	66.0	72.0	78.0	84.0	90.0	96.0
24.0	12.0	150.0	150.0	150.0	150.0	150.0	150.0	142.4	130.6	120.4	104.0	91.5	80.2	67.2	57.1	49.2	42.8	37.5
30.0	15.0	150.0	150.0	150.0	150.0	145.8	132.0	120.4	110.5	101.9	88.0	77.0	64.7	54.2	46.0	39.6	34.4	30.2
36.0	18.0	150.0	150.0	150.0	141.7	127.1	115.0	104.9	96.2	88.8	76.7	66.0	54.3	45.5	38.6	33.2	28.8	25.3
42.0	21.0	150.0	150.0	143.0	126.5	113.3	102.4	93.4	85.7	79.0	68.3	57.1	46.9	39.2	33.3	28.6	24.9	21.8
48.0	24.0	150.0	149.8	130.2	115.0	102.8	92.8	84.5	77.5	71.5	61.7	50.4	41.4	34.6	29.3	25.2	21.9	19.2
54.0	27.0	150.0	139.0	120.4	106.0	94.6	85.3	77.5	71.0	65.5	56.3	45.2	37.1	31.0	26.3	22.5	19.6	17.1
60.0	30.0	150.0	130.6	112.6	98.8	88.0	79.2	71.9	65.8	60.6	51.2	41.1	33.7	28.1	23.8	20.4	17.7	15.5
66.0	33.0	148.2	124.0	106.4	93.1	82.6	74.2	67.3	61.5	56.6	47.0	37.7	30.9	25.7	21.8	18.7	16.2	14.2
72.0	36.0	143.0	118.7	101.4	88.3	78.2	70.1	63.4	57.9	53.2	43.6	34.9	28.5	23.8	20.1	17.2	14.9	13.1
78.0	39.0	139.2	114.6	97.3	84.5	74.5	66.6	60.2	54.8	50.3	40.6	32.5	26.5	22.1	18.7	16.0	13.9	12.1
84.0	42.0	136.6	111.5	94.1	81.3	71.5	63.7	57.5	52.3	47.9	38.1	30.4	24.9	20.7	17.5	15.0	13.0	11.3
90.0	45.0	135.0	109.2	91.5	78.7	68.9	61.3	55.1	50.0	45.8	36.0	28.7	23.4	19.5	16.4	14.1	12.2	10.6
96.0	48.0	134.5	107.6	89.5	76.5	66.8	59.2	53.1	48.1	44.0	34.1	27.1	22.1	18.4	15.5	13.3	11.5	10.0

NOTES FOR SERIES 9100 MULLION-HEAVY DUTY FOR T-MULLION CONFIGURATIONS AND MULLION CLIP INSTALLATIONS

- 1. THE DESIGN PRESSURES IN THIS CHART ARE FOR THE MULLIONS LISTED ABOVE WHEN USED WITH THE CLIP LISTED ABOVE.
- 2. FOR HORIZONTAL MULL CLIPS IN WOOD FRAMING INSTALLATION USE TWO (2) #10 WOOD SCREWS AT EACH MULLION CLIP. ANCHORS MUST BE OF SUFFICIENT LENGTH TO ACHIEVE A 1 1/2" MINIMUM EMBEDMENT INTO FRAMING. SEE SHEET 2 FOR DETAILS.
- 3. FOR HORIZONTAL MULL CLIPS IN STEEL FRAME INSTALLATION, USE (2) TWO #10-16 SELF-DRILLING SCREWS AT EACH ANCHOR CLIP WITH SUFFICIENT LENGTH TO ACHIEVE A MINIMUM 3 THREAD PENETRATION BEYOND STEEL SUBSTRATE. SEE SHEET 2 FOR DETAILS.
- 4. FOR HORIZONTAL MULL CLIPS IN CONCRETE OR CMU INSTALLATION USE TWO (2) 3/16" ITW TAPCONS AT EACH MULLION CLIP. ANCHORS MUST BE OF SUFFICIENT LENGTH TO ACHIEVE A 1" MINIMUM EMBEDMENT INTO CMU (HOLLOW BLOCK) OR 1 3/4" EMBEDMENT INTO CONCRETE. SEE SHEET 2 FOR DETAILS. FOR ALTERNATE INSTALLATION TO CONCRETE, SEE NOTE 5 BELOW.
- 5. FOR HORIZONTAL MULL CLIPS IN CONCRETE INSTALLATION USE ONE (1) 1/4" ITW TAPCON AT EACH MULLION CLIP. ANCHORS MUST BE OF SUFFICIENT LENGTH TO ACHIEVE A 13/4" EMBEDMENT INTO CONCRETE. SEE SHEET 2 FOR DETAILS.
- 6. CHART APPLIES ONLY TO SERIES 9100 MULLION-HEAVY DUTY AS SPECIFIED ABOVE WHEN USED TO MULL TRANSOM WINDOWS STACKED ABOVE TWIN WINDOWS IN T-MULLION CONFIGURATION
- 7. READ WINDOW HEIGHT AND MULL SPAN IN INCHES. DESIGN PRESSURE VALUES ON THIS CHART ARE POSITIVE AND NEGATIVE POUNDS PER SQUARE FOOT (PSF).
- 8. DESIGN PRESSURE VALUES APPLY TO MULLION WHERE TWO OR MORE WINDOWS ARE LISTED IN A SINGLE OPENING. LESSER DESIGN PRESSURE OF INDIVIDUAL WINDOW OR MULLION OF INSTALLATION SHALL GOVERN.
- 9. REFER TO EVALUATION REPORT# 3215 FOR MORE MULLION SPECIFICATIONS.







T-MULLION H-CLIP DETAIL



P.O. BOX 826 MCCOMB, MS 39649

DUTY NC. STE. 338 44738 44738

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