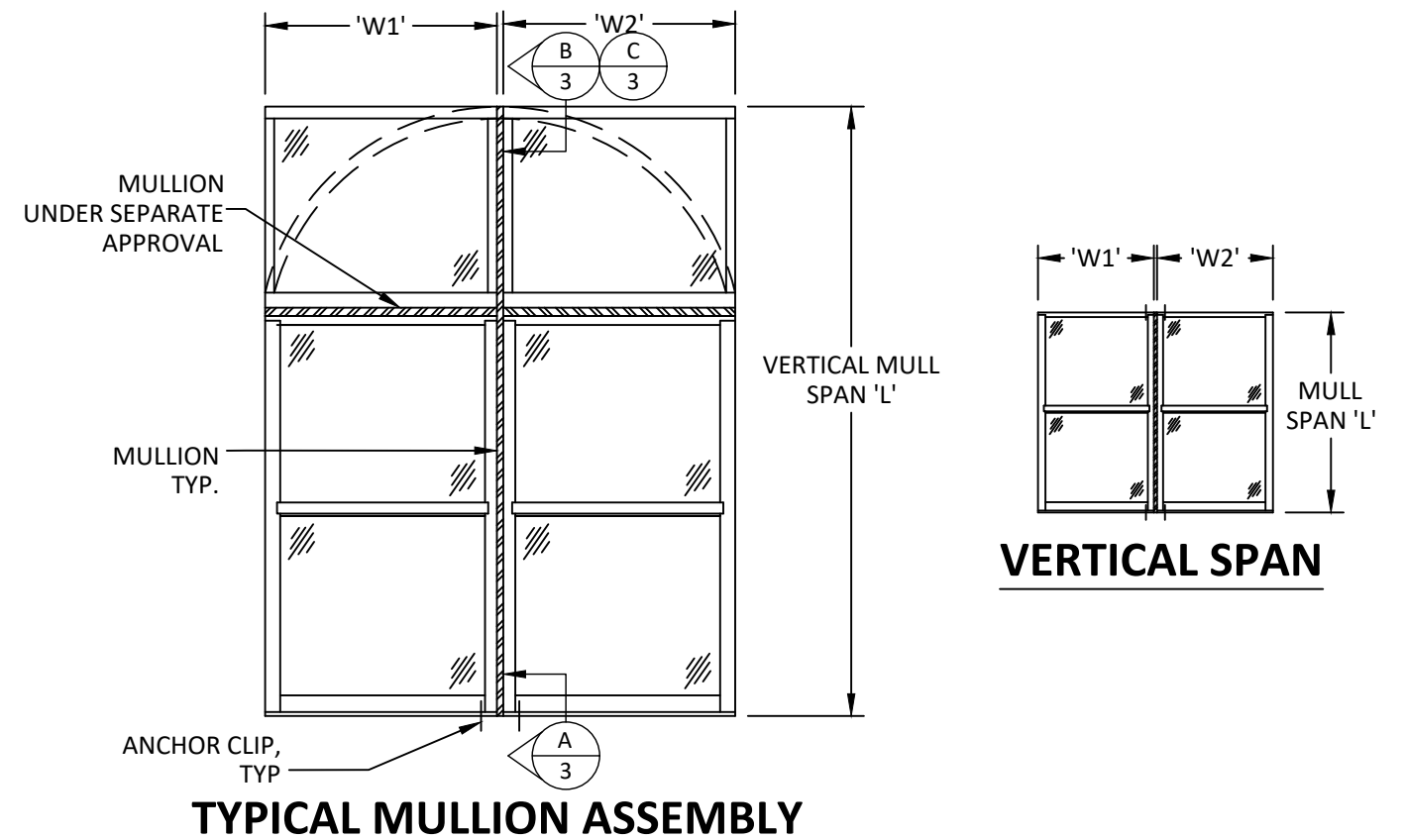


# EASTERN ARCHITECTURAL SYSTEMS

## WZ3 CLIPPED ALUMINUM BAY/BOW MULLIONS

### GENERAL NOTES:

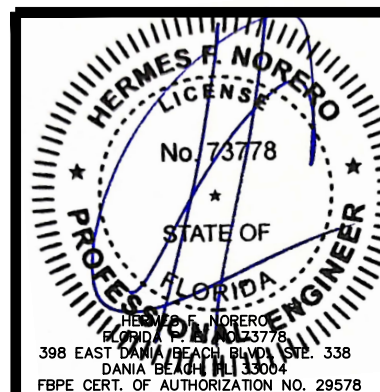
1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE CURRENT FLORIDA BUILDING CODE, **EXCLUDING** THE HIGH VELOCITY HURRICANE ZONE (HVHZ).
3. APPROVED IMPACT PROTECTIVE SYSTEM **IS NOT REQUIRED** FOR THIS PRODUCT IN AREAS REQUIRING IMPACT RESISTANCE IN WIND ZONE 3 OR LESS. INDIVIDUAL UNITS ATTACHED TO MULLIONS MUST BE IMPACT RATED.
4. APPROVED IMPACT PROTECTIVE SYSTEM **IS REQUIRED** FOR THIS PRODUCT IN AREAS REQUIRING IMPACT RESISTANCE IN WIND ZONE 4. INDIVIDUAL UNITS ATTACHED TO MULLIONS MUST BE IMPACT RATED.
5. ADEQUACY OF THE EXISTING STRUCTURAL CONCRETE/MASONRY AND 2X FRAMING AS A MAIN WIND FORCE RESISTING SYSTEM CAPABLE OF WITHSTANDING AND TRANSFERRING APPLIED PRODUCT LOADS TO THE FOUNDATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
6. 1X AND 2X BUCKS (WHEN USED) SHALL BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO THE STRUCTURE. BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
7. THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT IN NON-HVHZ AREAS. IN HVHZ AREAS, ONE TIME PRODUCT APPROVAL TO BE OBTAINED FROM MIAMI-DADE RER.
8. MULLION & CLIP MATERIAL: ALUMINUM 6005-T5 & 6063-T6 (AS NOTED)
9. MULLIONS MAY BE USED WITH ANY APPROVED FENESTRATION PRODUCT, UNDER SEPARATE APPROVAL.
10. SEE SHEETS 3-7 FOR INSTALLATION ANCHOR REQUIREMENTS FOR SPECIFIC ANCHORING REQUIREMENTS, MULLION CONFIGURATIONS, AND DESIGN LOAD CAPACITIES.
11. DISSIMILAR METALS INCLUDING FASTENERS THAT MAY COME INTO CONTACT WITH ALUMINUM UNIT FRAMING SHALL BE PROTECTED IN ACCORDANCE WITH CURRENT FLORIDA BUILDING CODE.



### INSTRUCTIONS:

1. DETERMINE REQUIRED DESIGN PRESSURE FOR OPENING.
2. CHOOSE A MULLION THAT PROPERLY FITS THE FENESTRATION PRODUCT.
3. DETERMINE WHETHER ASSEMBLY REQUIRES ONE-WAY OR TWO-WAY MULLIONS:
  - ASSEMBLIES CONSISTING OF STACKED OR SIDE-BY-SIDE UNITS REQUIRE USE OF ONE-WAY MULLIONS.
  - ASSEMBLIES CONSISTING OF MULTIPLE UNITS MULLED TOGETHER WITH MULTIPLE MULLIONS REQUIRE USE OF TWO-WAY MULLIONS.
  - SEE SHEET 8 FOR ASSEMBLY EXAMPLES.
  - IF ASSEMBLY TYPE CANNOT BE DETERMINED USE TWO-WAY MULLION CHART.
4. VERIFY THAT MULLION DESIGN PRESSURE MEETS OR EXCEEDS REQUIRED DESIGN PRESSURE OF OPENING USING CHARTS ON SHEETS 4-7.
5. QUALIFIED CLIP TYPES APPEAR ON SHEETS 4-7. MULTIPLE ANCHOR TYPE/SUBSTRATE/CLIP COMBINATIONS WITHIN AN OPENING ARE ALLOWED.
6. MULLIONS SHOWN HEREIN SHALL BE USED IN A VERTICAL MANNER ONLY. HOWEVER, HORIZONTAL MULLIONS UNDER SEPARATE APPROVAL MAY BE USED IN CONJUNCTION WITH MULLIONS SHOWN HEREIN IN A TWO-WAY CONFIGURATION.
7. THE LESSER DESIGN PRESSURE OF MULLION OR FENESTRATION PRODUCT WILL GOVERN OVERALL ASSEMBLY DESIGN PRESSURE RATING.

TABLE OF CONTENTS	
SHEET	SHEET DESCRIPTION
1	GENERAL NOTES, INSTRUCTIONS, AND ELEVATIONS
2	MULLION ASSEMBLY AND MULLION AND CLIP DETAILS
3	MULLION CROSS SECTIONS
4	22.50° MULLION DESIGN LOAD TABLES
5	30° MULLION DESIGN LOAD TABLES
6	45° MULLION DESIGN LOAD TABLES
7	90° MULLION DESIGN LOAD TABLES
8	MULLION ASSEMBLY AND LOAD EXAMPLES



REVISIONS			
BY	DATE	DESCRIPTION	REV



**Eastern**  
ARCHITECTURAL SYSTEMS  
ALUMINUM AND VINYL  
IMPACT WINDOWS AND DOORS

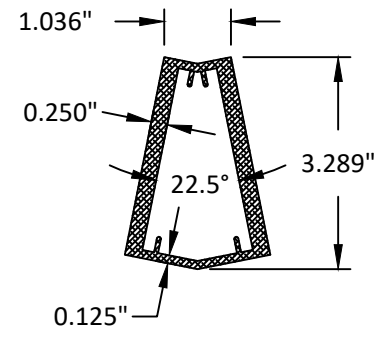
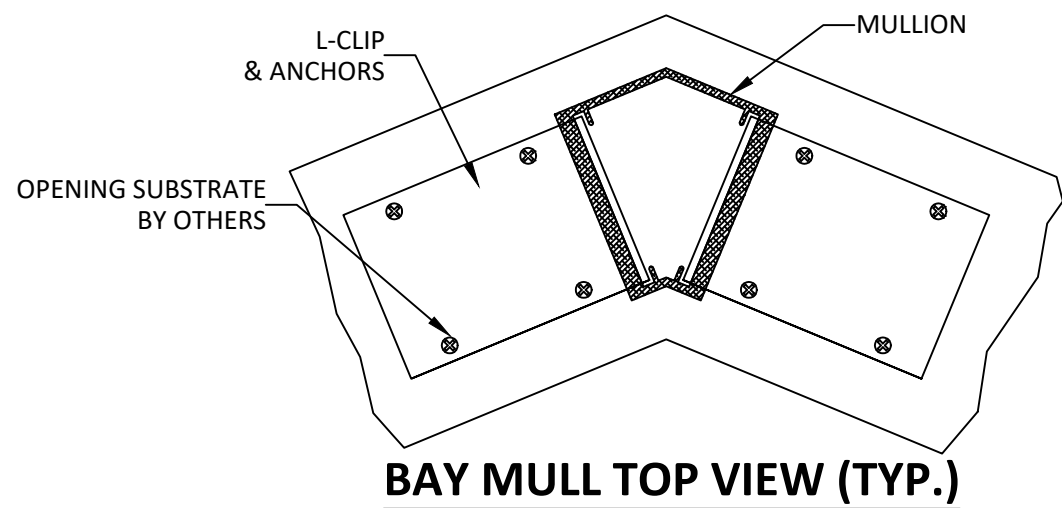
EASTERN ARCHITECTURAL SYSTEMS  
A DIVISION OF  
EASTERN METAL SUPPLY

16341 DOMESTIC AVE.  
FT MYERS, FL 33912  
1-877-401-2190

TITLE: **WZ3 CLIPPED ALUMINUM BAY/BOW MULLIONS  
VERTICAL AND HORIZONTAL CONFIGURATIONS  
GENERAL AND INSTALLATION ELEVATIONS**

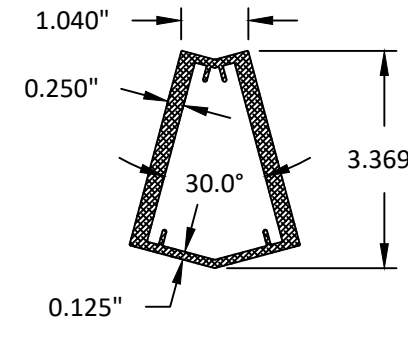
DATE: <b>09/07/23</b>	DRAWN BY: <b>SH</b>	PREPARED BY:
DRAWING NO: <b>EAS067</b>	SCALE: <b>N.T.S.</b>	 BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578
SHEET: <b>1 OF 8</b>	REV: <b>-</b>	

NOTE: USE (2) ANGLE CLIPS PER MULLION END. INSERT CLIPS INSIDE MULLION



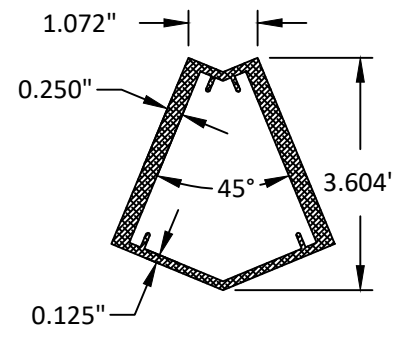
**22.50 DEGREE MULLION**

USE WITH CLIP TYPE(S):  
 • L-CLIPS (PAIRS)  
 USE CLIP DEPTH= 2-3/4"



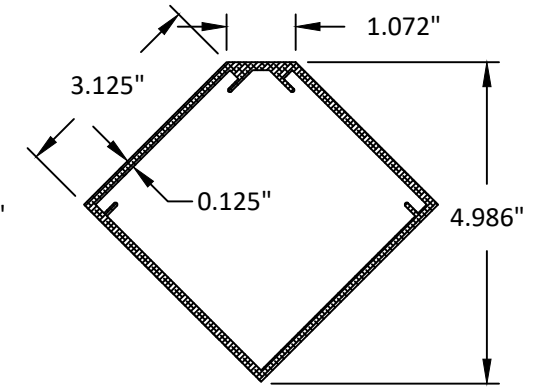
**30 DEGREE MULLION**

USE WITH CLIP TYPE(S):  
 • L-CLIPS (PAIRS)  
 USE CLIP DEPTH= 2-3/4"



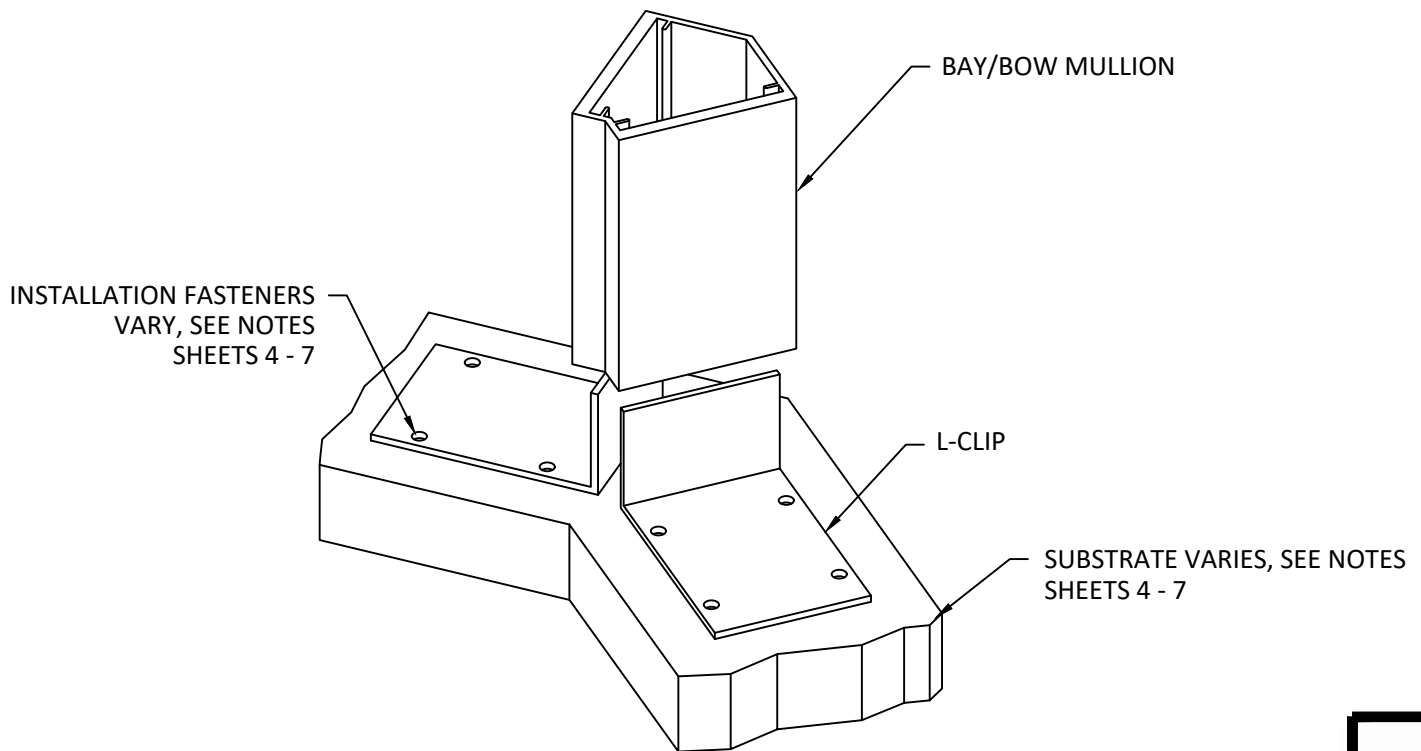
**45 DEGREE MULLION**

USE WITH CLIP TYPE(S):  
 • L-CLIPS (PAIRS)  
 USE CLIP DEPTH= 2-3/4"

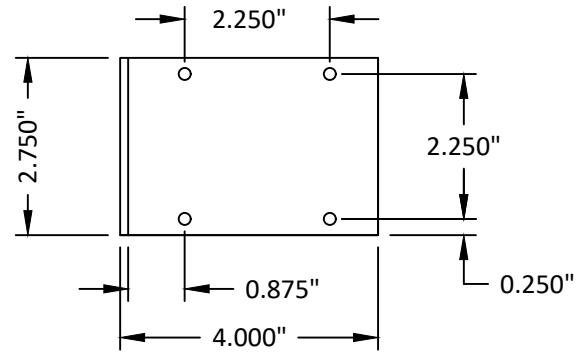
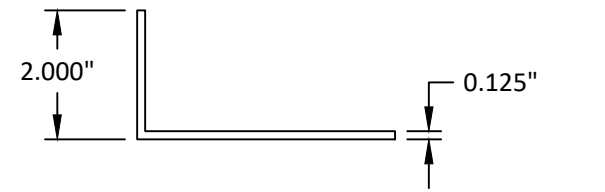


**90 DEGREE MULLION**

USE WITH CLIP TYPE(S):  
 • L-CLIPS (PAIRS)  
 USE CLIP DEPTH= 2-3/4"



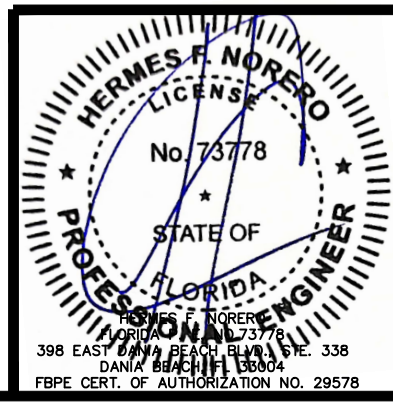
NOTE: L-CLIPS MUST BE USED WITH ANY 'BAY/BOW' MULLION TYPE. SEE SPECIFIC MULLION SHEET FOR DETAILS.



**2" x 4" L-CLIP**

ALUMINUM 6063-T6

L-CLIPS SHALL BE USED IN PAIRS AT MULLION ENDS.



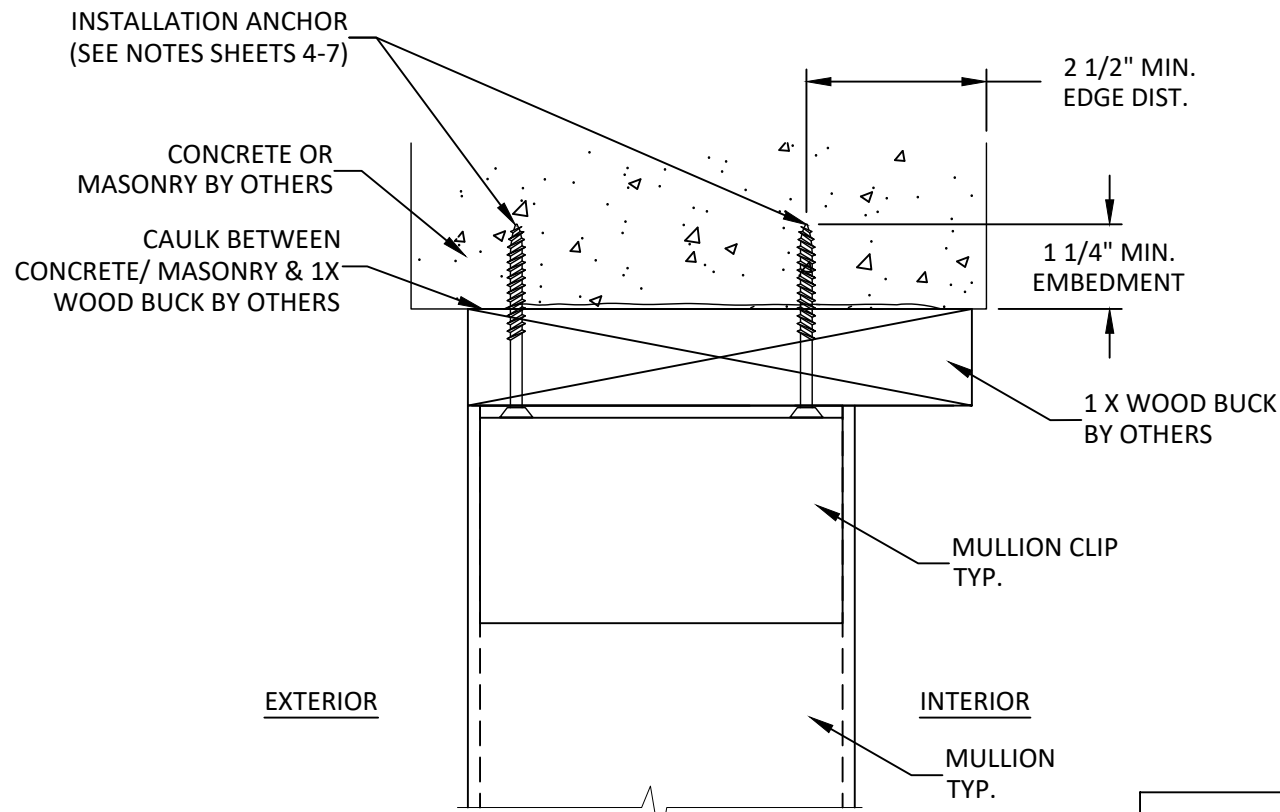
REVISIONS			
BY	DATE	DESCRIPTION	REV

**Eastern**  
ARCHITECTURAL SYSTEMS  
ALUMINUM AND VINYL  
IMPACT WINDOWS AND DOORS

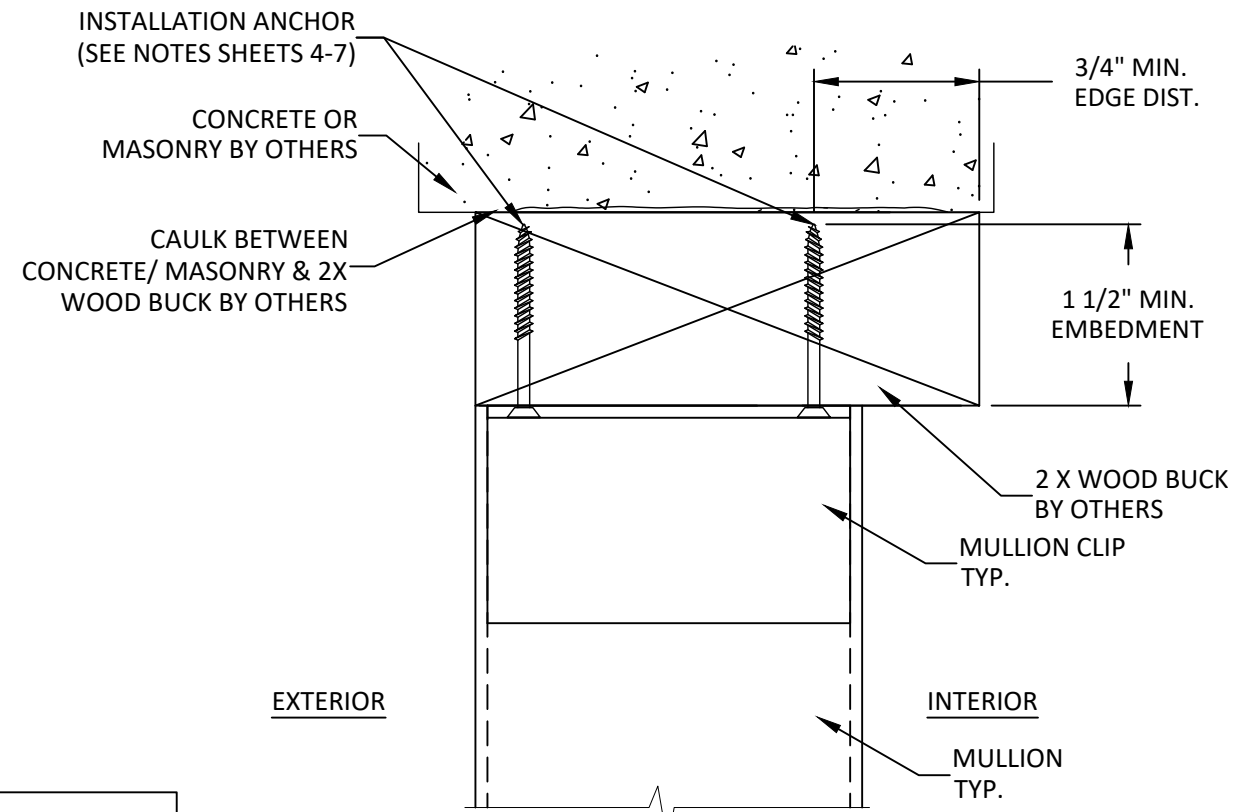
EASTERN ARCHITECTURAL SYSTEMS  
A DIVISION OF  
EASTERN METAL SUPPLY  
16341 DOMESTIC AVE.  
FT MYERS, FL 33912  
1-877-401-2190

TITLE: HVHZ CLIPPED ALUMINUM BAY/BOW MULLIONS VERTICAL AND HORIZONTAL CONFIGURATIONS MULLION ASSEMBLY AND MULLION AND CLIP DETAILS

DATE: 09/07/23	DRAWN BY: SH	PREPARED BY:
DRAWING NO: EAS067	SCALE: N.T.S.	<p>BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578</p>
SHEET: 2 OF 8	REV: -	

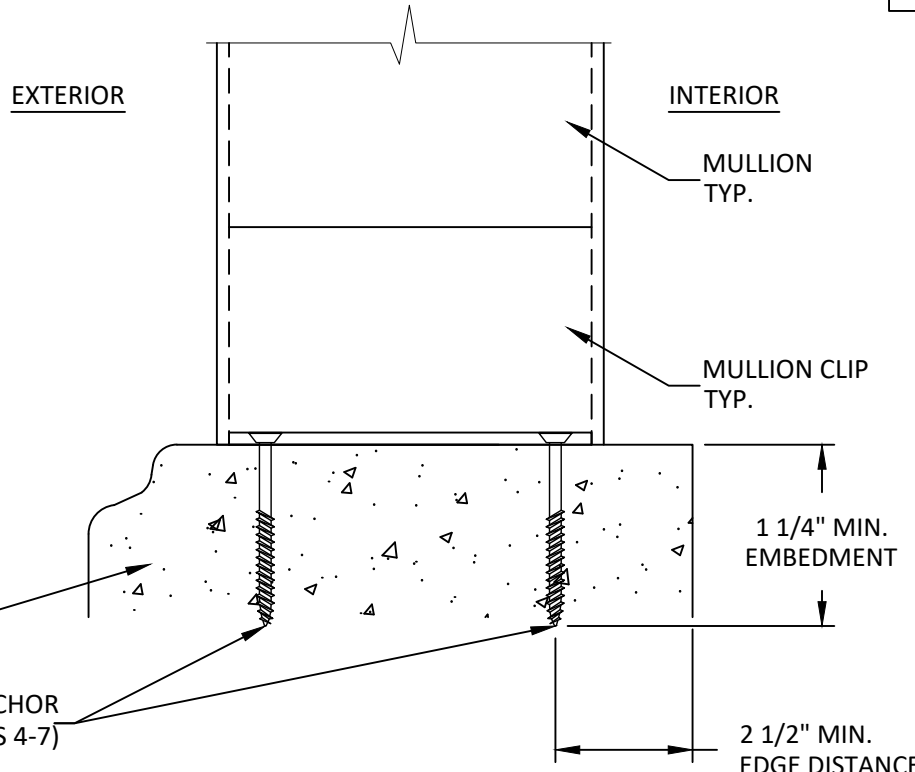


**B**  
**3**  
**VERTICAL SECTION**  
HEAD - CONCRETE/MASONRY  
SIDE VIEW-VERTICAL

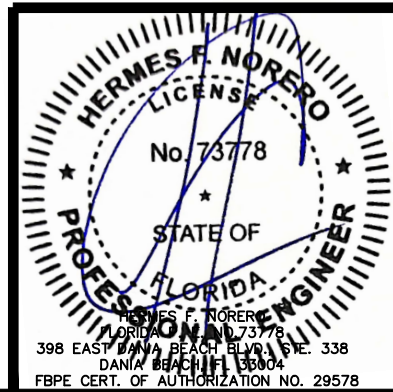


**C**  
**3**  
**VERTICAL SECTION**  
HEAD - 2X WOOD BUCK  
SIDE VIEW-VERTICAL


**NOTE**  
DETAILS SHOWN ARE TYPICAL FOR ALL MULLION & CLIP ASSEMBLIES. SEE SHEETS 4-7 FOR ALLOWABLE MULLION CONFIGURATIONS, SIZES, AND DESIGN PRESSURES.



**A**  
**3**  
**VERTICAL SECTION**  
SILL - CONCRETE/MASONRY  
SIDE VIEW-VERTICAL




REVISIONS			
BY	DATE	DESCRIPTION	REV



**Eastern**  
ARCHITECTURAL SYSTEMS  
ALUMINUM AND VINYL  
IMPACT WINDOWS AND DOORS

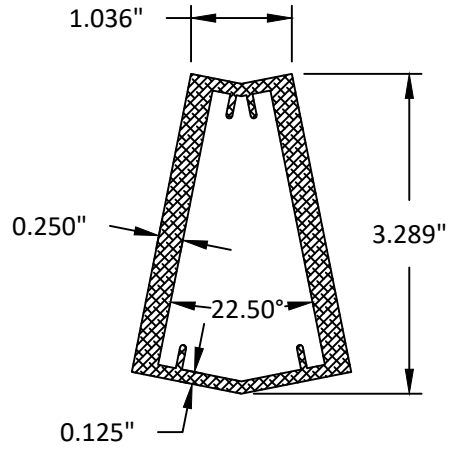
EASTERN ARCHITECTURAL SYSTEMS  
A DIVISION OF  
EASTERN METAL SUPPLY  
16341 DOMESTIC AVE.  
FT MYERS, FL 33912  
1-877-401-2190

TITLE: HVHZ CLIPPED ALUMINUM BAY/BOW MULLIONS VERTICAL AND HORIZONTAL CONFIGURATIONS MULLION SECTIONS

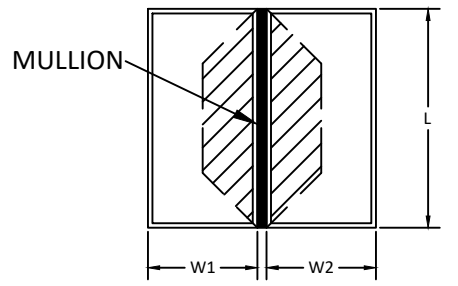
DATE: 09/07/23	DRAWN BY: SH	PREPARED BY:
DRAWING NO: EAS067	SCALE: N.T.S.	 BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578
SHEET: 3 OF 8	REV: -	

DESIGN PRESSURE LIMITS FOR MULLION: 22.5 Deg. - ONE-WAY MULLIONS												
SPAN 'L' (IN.)	TRIBUTARY WIDTH 'W' (IN.)											
	12	18	24	30	36	42	48	53.125	54	60	66	72
24	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
36	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
48	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
60	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
72	90.0	90.0	90.0	90.0	90.0	90.0	85.5	80.8	80.1	76.7	74.7	74.0
84	90.0	90.0	90.0	75.4	64.3	56.7	51.2	47.7	47.2	44.4	42.3	41.0
96	90.0	81.0	61.5	49.9	42.3	37.0	33.2	30.7	30.4	28.2	26.6	25.4
108	84.5	56.7	42.9	34.7	29.4	25.6	22.8	21.0	20.7	19.1	17.9	16.9
120	61.6	41.3	31.2	25.2	21.2	18.4	16.4	15.0	14.8	13.6	12.6	11.9
132	46.2	30.9	23.3	18.8	15.8	13.7	12.2	11.1	11.0	10.0	9.3	8.7
144	35.6	23.8	17.9	14.5	12.1	10.5	9.3	8.5	8.4	7.6	7.0	6.6

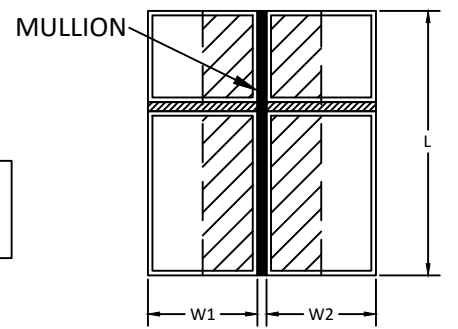
DESIGN PRESSURE LIMITS FOR MULLION: 22.5 Deg. - TWO-WAY MULLIONS												
SPAN 'L' (IN.)	TRIBUTARY WIDTH 'W' (IN.)											
	12	18	24	30	36	42	48	53.125	54	60	66	72
24	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
36	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
48	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
60	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	89.3	81.8
72	90.0	90.0	90.0	90.0	90.0	81.2	71.0	64.2	63.1	56.8	51.7	47.4
84	90.0	90.0	89.5	71.6	59.7	51.1	44.7	40.4	39.8	35.8	32.5	29.8
96	90.0	79.9	59.9	48.0	40.0	34.3	30.0	27.1	26.6	24.0	21.8	20.0
108	84.2	56.1	42.1	33.7	28.1	24.1	21.0	19.0	18.7	16.8	15.3	14.0
120	61.4	40.9	30.7	24.6	20.5	17.5	15.3	13.9	13.6	12.3	11.2	10.2
132	46.1	30.7	23.1	18.4	15.4	13.2	11.5	10.4	10.2	9.2	8.4	7.7
144	35.5	23.7	17.8	14.2	11.8	10.1	8.9	8.0	7.9	7.1	6.5	5.9



**22.50 DEGREE MULLION**  
ALUMINUM 6005-T5



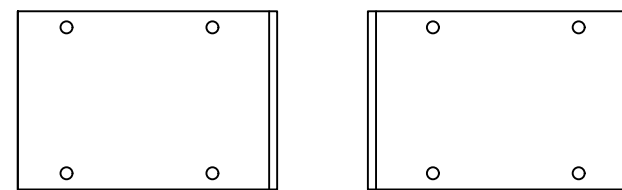
**ONE-WAY MULLION DIAGRAMS**



**TWO-WAY MULLION DIAGRAMS**

TRIBUTARY WIDTH =  $\frac{W1 + W2}{2}$

**QUALIFIED ANCHOR CLIPS**

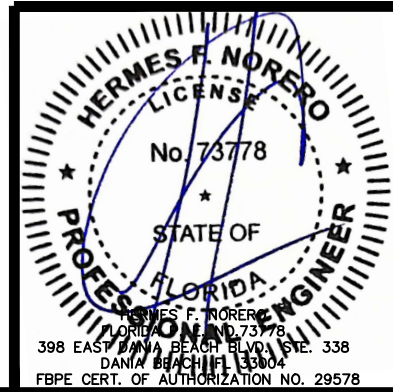


**L-CLIP**  
ALUMINUM 6063-T6  
\*\*MUST BE USED IN PAIRS

NOTE: SEE SHEET 2 FOR SPECIFIC CLIP DIMENSIONS.

**TABLE NOTES:**

- SEE SHEET 1 FOR INSTRUCTIONS ON USING TABLES. SEE SHEETS 2-3 FOR TYPICAL INSTALLATION METHODS & CLIP DETAILS.
- LINEAR INTERPOLATION BETWEEN LISTED WIDTHS AND SPANS IS ALLOWED.
- SEE THIS SHEET FOR SPECIFIC MULLION DIMENSIONS.
- SEE SHEET 3 FOR SPECIFIC CLIP DIMENSIONS.
- ANCHOR REQUIREMENTS:
  - WOOD: #14 WOOD SCREWS
  - CMU: 1/4" ITW TAPCONS
  - CONCRETE: 1/4" ITW TAPCONS
  - METAL: 1/4" SELF-DRILLING SCREWS (GRADE 5)
- INSTALLATION SUBSTRATES:
  - WOOD ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-1/2" & EDGE DISTANCE OF 3/4". WOOD SHALL BE MIN. S.G.=0.55.
  - HOLLOW CMU ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-1/4" & EDGE DISTANCE OF 2-1/2". HOLLOW CMU SHALL BE MEDIUM WEIGHT CONFORMING TO ASTM C 90.
  - CONCRETE ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-3/4" & EDGE DISTANCE OF 2-1/2". CONCRETE SHALL BE MIN. 4000 PSI.
  - METAL ANCHORS SHALL HAVE A MIN. (3) THREADS PENETRATION BEYOND METAL STRUCTURE. STEEL SHALL BE MIN. 18 GA. (0.045" THICK) 33 KSI YIELD. ALUMINUM SHALL BE MIN. 1/8" THICK ALUMINUM 6063-T5.



REVISIONS			
BY	DATE	DESCRIPTION	REV

**Eastern**  
ARCHITECTURAL SYSTEMS  
ALUMINUM AND VINYL  
IMPACT WINDOWS AND DOORS

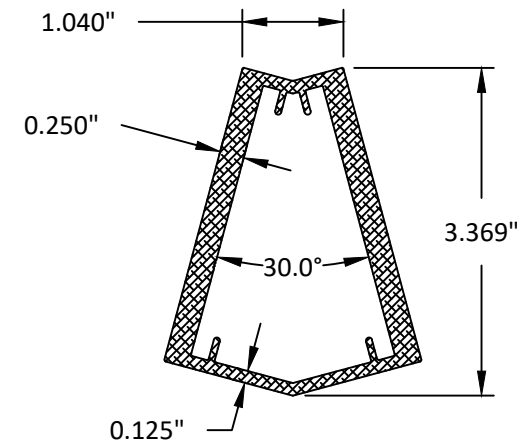
EASTERN ARCHITECTURAL SYSTEMS  
A DIVISION OF  
EASTERN METAL SUPPLY  
16341 DOMESTIC AVE.  
FT MYERS, FL 33912  
1-877-401-2190

TITLE: HVHZ CLIPPED ALUMINUM BAY/BOW MULLIONS  
VERTICAL AND HORIZONTAL CONFIGURATIONS  
22.5° MULLION

DATE: 09/07/23	DRAWN BY: SH	PREPARED BY:
DRAWING NO: EAS067	SCALE: N.T.S.	<p>BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578</p>
SHEET: 4 OF 8	REV: -	

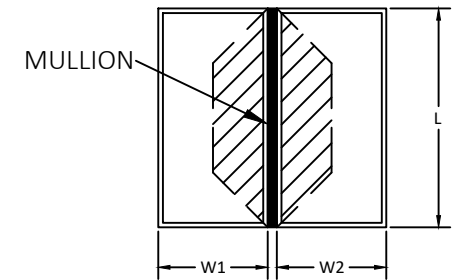
DESIGN PRESSURE LIMITS FOR MULLION: 30 Deg. - ONE-WAY MULLIONS												
SPAN 'L' (IN.)	TRIBUTARY WIDTH 'W' (IN.)											
	12	18	24	30	36	42	48	53.125	54	60	66	72
24	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
36	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
48	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
60	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
72	90.0	90.0	90.0	90.0	90.0	90.0	90.0	85.0	84.4	80.7	78.4	77.9
84	90.0	90.0	90.0	79.4	67.7	59.6	53.9	50.2	49.7	46.7	44.3	43.1
96	90.0	85.3	64.7	52.5	44.5	39.0	35.0	32.3	31.9	29.7	27.7	26.7
108	89.0	59.7	45.2	36.6	30.9	26.9	24.0	22.1	21.8	20.1	18.6	17.8
120	64.8	43.4	32.8	26.5	22.3	19.4	17.2	15.8	15.6	14.3	13.2	12.5
132	48.6	32.6	24.6	19.8	16.7	14.5	12.8	11.7	11.6	10.6	9.7	9.1
144	37.4	25.1	18.9	15.2	12.8	11.1	9.8	8.9	8.8	8.0	7.3	6.9

DESIGN PRESSURE LIMITS FOR MULLION: 30 Deg. - TWO-WAY MULLIONS												
SPAN 'L' (IN.)	TRIBUTARY WIDTH 'W' (IN.)											
	12	18	24	30	36	42	48	53.125	54	60	66	72
24	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
36	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
48	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
60	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	83.0
72	90.0	90.0	90.0	90.0	90.0	85.5	74.8	67.6	66.5	59.8	54.4	49.8
84	90.0	90.0	90.0	75.3	62.8	53.8	47.1	42.5	41.9	37.7	34.2	31.4
96	90.0	84.1	63.1	50.5	42.1	36.1	31.5	28.5	28.0	25.2	22.9	21.0
108	88.6	59.1	44.3	35.4	29.5	25.3	22.2	20.0	19.7	17.7	16.1	14.8
120	64.6	43.1	32.3	25.8	21.5	18.5	16.2	14.6	14.4	12.9	11.7	10.8
132	48.5	32.4	24.3	19.4	16.2	13.9	12.1	11.0	10.8	9.7	8.8	8.1
144	37.4	24.9	18.7	15.0	12.5	10.7	9.3	8.4	8.3	7.5	6.8	6.2

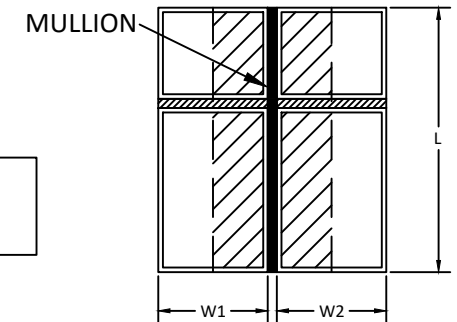


**30 DEGREE MULLION**

ALUMINUM 6005-T5



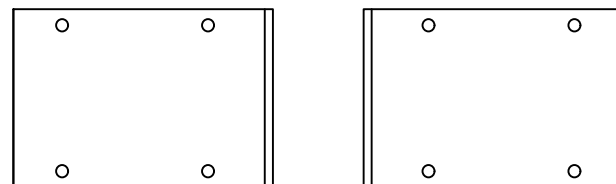
**ONE-WAY MULLION DIAGRAMS**



**TWO-WAY MULLION DIAGRAMS**

TRIBUTARY WIDTH =  $\frac{W1 + W2}{2}$

**QUALIFIED ANCHOR CLIPS**



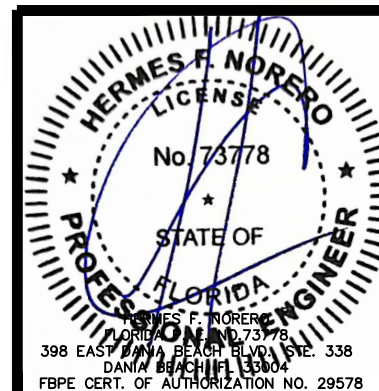
**L-CLIP**

ALUMINUM 6063-T6  
\*\*MUST BE USED IN PAIRS

NOTE: SEE SHEET 2 FOR SPECIFIC CLIP DIMENSIONS.

**TABLE NOTES:**

- SEE SHEET 1 FOR INSTRUCTIONS ON USING TABLES. SEE SHEETS 2-3 FOR TYPICAL INSTALLATION METHODS & CLIP DETAILS.
- LINEAR INTERPOLATION BETWEEN LISTED WIDTHS AND SPANS IS ALLOWED.
- SEE THIS SHEET FOR SPECIFIC MULLION DIMENSIONS.
- SEE SHEET 3 FOR SPECIFIC CLIP DIMENSIONS.
- ANCHOR REQUIREMENTS:
  - WOOD: #14 WOOD SCREWS
  - CMU: 1/4" ITW TAPCONS
  - CONCRETE: 1/4" ITW TAPCONS
  - METAL: 1/4" SELF-DRILLING SCREWS (GRADE 5)
- INSTALLATION SUBSTRATES:
  - WOOD ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-1/2" & EDGE DISTANCE OF 3/4". WOOD SHALL BE MIN. S.G.=0.55.
  - HOLLOW CMU ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-1/4" & EDGE DISTANCE OF 2-1/2". HOLLOW CMU SHALL BE MEDIUM WEIGHT CONFORMING TO ASTM C 90.
  - CONCRETE ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-3/4" & EDGE DISTANCE OF 2-1/2". CONCRETE SHALL BE MIN. 4000 PSI.
  - METAL ANCHORS SHALL HAVE A MIN. (3) THREADS PENETRATION BEYOND METAL STRUCTURE. STEEL SHALL BE MIN. 18 GA. (0.045" THICK) 33 KSI YIELD. ALUMINUM SHALL BE MIN. 1/8" THICK ALUMINUM 6063-T5.



REVISIONS			
BY	DATE	DESCRIPTION	REV

**Eastern**  
ARCHITECTURAL SYSTEMS  
ALUMINUM AND VINYL  
IMPACT WINDOWS AND DOORS

EASTERN ARCHITECTURAL SYSTEMS  
A DIVISION OF  
EASTERN METAL SUPPLY

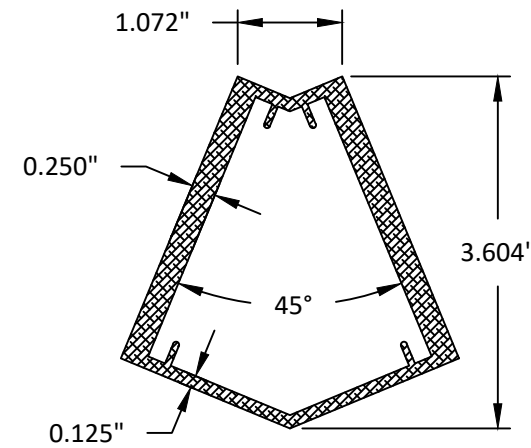
16341 DOMESTIC AVE.  
FT MYERS, FL 33912  
1-877-401-2190

TITLE: HVHZ CLIPPED ALUMINUM BAY/BOW MULLIONS  
VERTICAL AND HORIZONTAL CONFIGURATIONS  
30° MULLION

DATE: 09/07/23	DRAWN BY: SH	PREPARED BY:
DRAWING NO: EAS067	SCALE: N.T.S.	<p>BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578</p>
SHEET: 5 OF 8	REV: -	

DESIGN PRESSURE LIMITS FOR MULLION: 45 Deg. - ONE-WAY MULLIONS												
SPAN 'L' (IN.)	TRIBUTARY WIDTH 'W' (IN.)											
	12	18	24	30	36	42	48	53.125	54	60	66	72
24	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
36	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
48	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
60	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
72	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
84	90.0	90.0	90.0	89.9	76.7	67.6	61.0	56.9	56.3	52.9	50.5	48.9
96	90.0	90.0	73.3	59.5	50.5	44.2	39.6	36.6	36.2	33.6	31.7	30.2
108	90.0	67.6	51.2	41.4	35.0	30.5	27.2	25.0	24.7	22.8	21.3	20.1
120	73.4	49.2	37.2	30.0	25.3	22.0	19.5	17.9	17.7	16.2	15.1	14.2
132	55.1	36.9	27.8	22.5	18.9	16.4	14.5	13.3	13.1	12.0	11.1	10.4
144	42.4	28.4	21.4	17.2	14.5	12.5	11.1	10.1	10.0	9.1	8.4	7.8

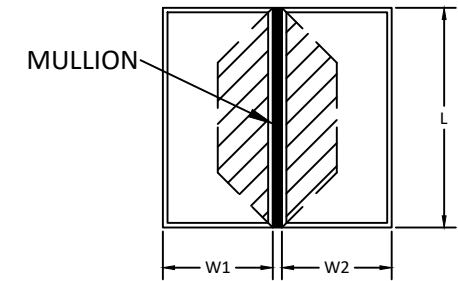
DESIGN PRESSURE LIMITS FOR MULLION: 45 Deg. - TWO-WAY MULLIONS												
SPAN 'L' (IN.)	TRIBUTARY WIDTH 'W' (IN.)											
	12	18	24	30	36	42	48	53.125	54	60	66	72
24	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
36	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
48	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
60	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	83.0
72	90.0	90.0	90.0	90.0	90.0	90.0	90.0	84.7	76.5	75.3	67.8	61.6
84	90.0	90.0	90.0	85.4	71.1	61.0	53.4	48.2	47.4	42.7	38.8	35.6
96	90.0	90.0	71.5	57.2	47.7	40.8	35.7	32.3	31.8	28.6	26.0	23.8
108	90.0	66.9	50.2	40.2	33.5	28.7	25.1	22.7	22.3	20.1	18.3	16.7
120	73.2	48.8	36.6	29.3	24.4	20.9	18.3	16.5	16.3	14.6	13.3	12.2
132	55.0	36.7	27.5	22.0	18.3	15.7	13.7	12.4	12.2	11.0	10.0	9.2
144	42.4	28.2	21.2	16.9	14.1	12.1	10.6	9.6	9.4	8.5	7.7	7.1



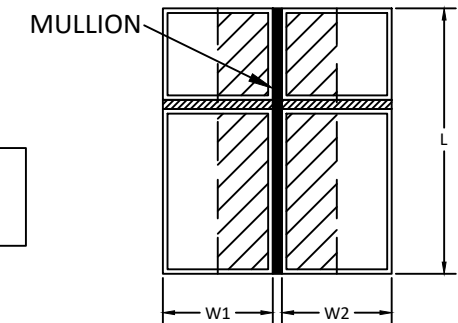
### 45 DEGREE MULLION

ALUMINUM 6005-T5

$$\text{TRIBUTARY WIDTH} = \frac{W1 + W2}{2}$$

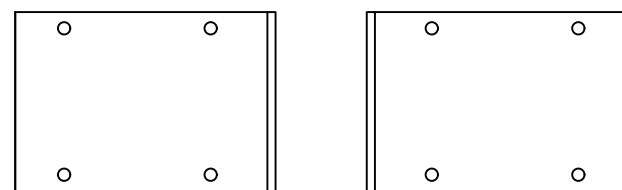


### ONE-WAY MULLION DIAGRAMS



### TWO-WAY MULLION DIAGRAMS

### QUALIFIED ANCHOR CLIPS



### L-CLIP

ALUMINUM 6063-T6  
\*\*MUST BE USED IN PAIRS

NOTE: SEE SHEET 2 FOR SPECIFIC CLIP DIMENSIONS.

#### TABLE NOTES:

- SEE SHEET 1 FOR INSTRUCTIONS ON USING TABLES. SEE SHEETS 2-3 FOR TYPICAL INSTALLATION METHODS & CLIP DETAILS.
- LINEAR INTERPOLATION BETWEEN LISTED WIDTHS AND SPANS IS ALLOWED.
- SEE THIS SHEET FOR SPECIFIC MULLION DIMENSIONS.
- SEE SHEET 3 FOR SPECIFIC CLIP DIMENSIONS.
- ANCHOR REQUIREMENTS:
  - WOOD: #14 WOOD SCREWS
  - CMU: 1/4" ITW TAPCONS
  - CONCRETE: 1/4" ITW TAPCONS
  - METAL: 1/4" SELF-DRILLING SCREWS (GRADE 5)
- INSTALLATION SUBSTRATES:
  - WOOD ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-1/2" & EDGE DISTANCE OF 3/4". WOOD SHALL BE MIN. S.G.=0.55.
  - HOLLOW CMU ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-1/4" & EDGE DISTANCE OF 2-1/2". HOLLOW CMU SHALL BE MEDIUM WEIGHT CONFORMING TO ASTM C 90.
  - CONCRETE ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-3/4" & EDGE DISTANCE OF 2-1/2". CONCRETE SHALL BE MIN. 4000 PSI.
  - METAL ANCHORS SHALL HAVE A MIN. (3) THREADS PENETRATION BEYOND METAL STRUCTURE. STEEL SHALL BE MIN. 18 GA. (0.045" THICK) 33 KSI YIELD. ALUMINUM SHALL BE MIN. 1/8" THICK ALUMINUM 6063-T5.



REVISIONS			
BY	DATE	DESCRIPTION	REV

**Eastern**  
ARCHITECTURAL SYSTEMS  
ALUMINUM AND VINYL  
IMPACT WINDOWS AND DOORS

EASTERN ARCHITECTURAL SYSTEMS  
A DIVISION OF  
EASTERN METAL SUPPLY

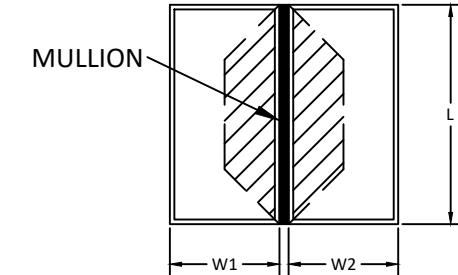
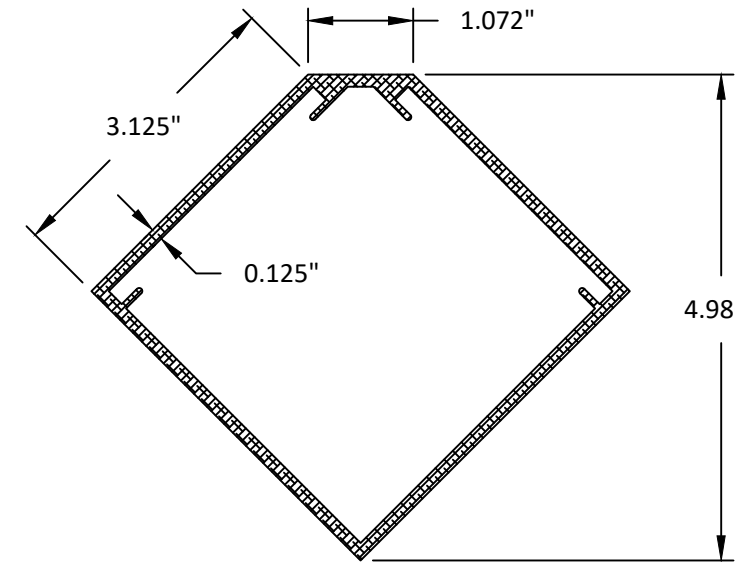
16341 DOMESTIC AVE.  
FT MYERS, FL 33912  
1-877-401-2190

TITLE: HVHZ CLIPPED ALUMINUM BAY/BOW MULLIONS  
VERTICAL AND HORIZONTAL CONFIGURATIONS  
45° MULLION

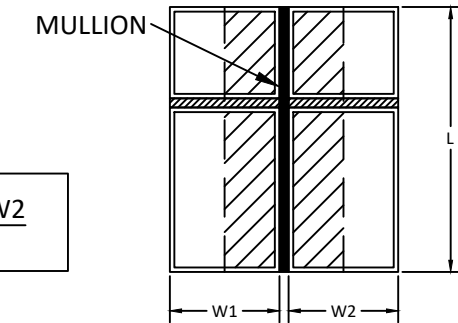
DATE: 09/07/23	DRAWN BY: SH	PREPARED BY:
DRAWING NO: EAS067	SCALE: N.T.S.	<p>BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578</p>
SHEET: 6 OF 8	REV: -	

DESIGN PRESSURE LIMITS FOR MULLION: 90 Deg. - ONE-WAY MULLIONS												
SPAN 'L' (IN.)	TRIBUTARY WIDTH 'W' (IN.)											
	12	18	24	30	36	42	48	53.125	54	60	66	72
24	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
36	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
48	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
60	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
72	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
84	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	89.0
96	90.0	90.0	90.0	90.0	90.0	80.5	72.1	66.7	65.9	61.2	57.7	55.1
108	90.0	90.0	90.0	75.5	63.8	55.6	49.6	45.6	45.0	41.5	38.8	36.7
120	90.0	89.6	67.7	54.7	46.1	40.0	35.6	32.6	32.2	29.5	27.5	25.8
132	90.0	67.2	50.7	40.9	34.4	29.8	26.4	24.2	23.8	21.8	20.2	18.9
144	77.3	51.7	39.0	31.4	26.4	22.8	20.2	18.4	18.2	16.6	15.3	14.2

DESIGN PRESSURE LIMITS FOR MULLION: 90 Deg. - TWO-WAY MULLIONS												
SPAN 'L' (IN.)	TRIBUTARY WIDTH 'W' (IN.)											
	12	18	24	30	36	42	48	53.125	54	60	66	72
24	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
36	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
48	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
60	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	83.0
72	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	83.0	75.5	69.2
84	90.0	90.0	90.0	90.0	90.0	90.0	88.9	80.4	79.1	71.2	64.7	59.3
96	90.0	90.0	90.0	90.0	86.8	74.4	65.1	58.8	57.9	52.1	47.3	43.4
108	90.0	90.0	90.0	73.1	60.9	52.2	45.7	41.3	40.6	36.6	33.2	30.5
120	90.0	88.9	66.6	53.3	44.4	38.1	33.3	30.1	29.6	26.7	24.2	22.2
132	90.0	66.8	50.1	40.1	33.4	28.6	25.0	22.6	22.3	20.0	18.2	16.7
144	77.1	51.4	38.6	30.9	25.7	22.0	19.3	17.4	17.1	15.4	14.0	12.9



**ONE-WAY MULLION DIAGRAMS**



**TWO-WAY MULLION DIAGRAMS**

**90 DEGREE MULLION**

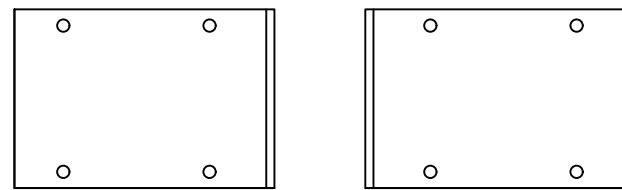
ALUMINUM 6005-T5

TRIBUTARY WIDTH =  $\frac{W1 + W2}{2}$

**TABLE NOTES:**

- SEE SHEET 1 FOR INSTRUCTIONS ON USING TABLES. SEE SHEETS 2-3 FOR TYPICAL INSTALLATION METHODS & CLIP DETAILS.
- LINEAR INTERPOLATION BETWEEN LISTED WIDTHS AND SPANS IS ALLOWED.
- SEE THIS SHEET FOR SPECIFIC MULLION DIMENSIONS.
- SEE SHEET 3 FOR SPECIFIC CLIP DIMENSIONS.
- ANCHOR REQUIREMENTS:
  - WOOD: #14 WOOD SCREWS
  - CMU: 1/4" ITW TAPCONS
  - CONCRETE: 1/4" ITW TAPCONS
  - METAL: 1/4" SELF-DRILLING SCREWS (GRADE 5)
- INSTALLATION SUBSTRATES:
  - WOOD ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-1/2" & EDGE DISTANCE OF 3/4". WOOD SHALL BE MIN. S.G.=0.55.
  - HOLLOW CMU ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-1/4" & EDGE DISTANCE OF 2-1/2". HOLLOW CMU SHALL BE MEDIUM WEIGHT CONFORMING TO ASTM C 90.
  - CONCRETE ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-3/4" & EDGE DISTANCE OF 2-1/2". CONCRETE SHALL BE MIN. 4000 PSI.
  - METAL ANCHORS SHALL HAVE A MIN. (3) THREADS PENETRATION BEYOND METAL STRUCTURE. STEEL SHALL BE MIN. 18 GA. (0.045" THICK) 33 KSI YIELD. ALUMINUM SHALL BE MIN. 1/8" THICK ALUMINUM 6063-T5.

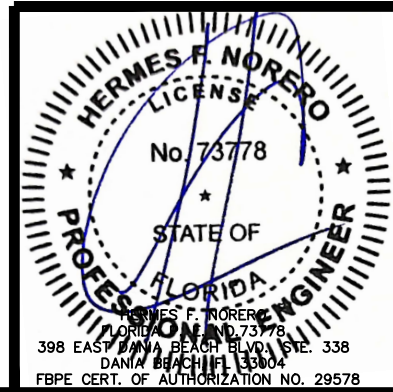
**QUALIFIED ANCHOR CLIPS**



**L-CLIP**

ALUMINUM 6063-T6  
\*\*MUST BE USED IN PAIRS

NOTE: SEE SHEET 2 FOR SPECIFIC CLIP DIMENSIONS.



REVISIONS			
BY	DATE	DESCRIPTION	REV

**Eastern**  
ARCHITECTURAL SYSTEMS  
ALUMINUM AND VINYL  
IMPACT WINDOWS AND DOORS

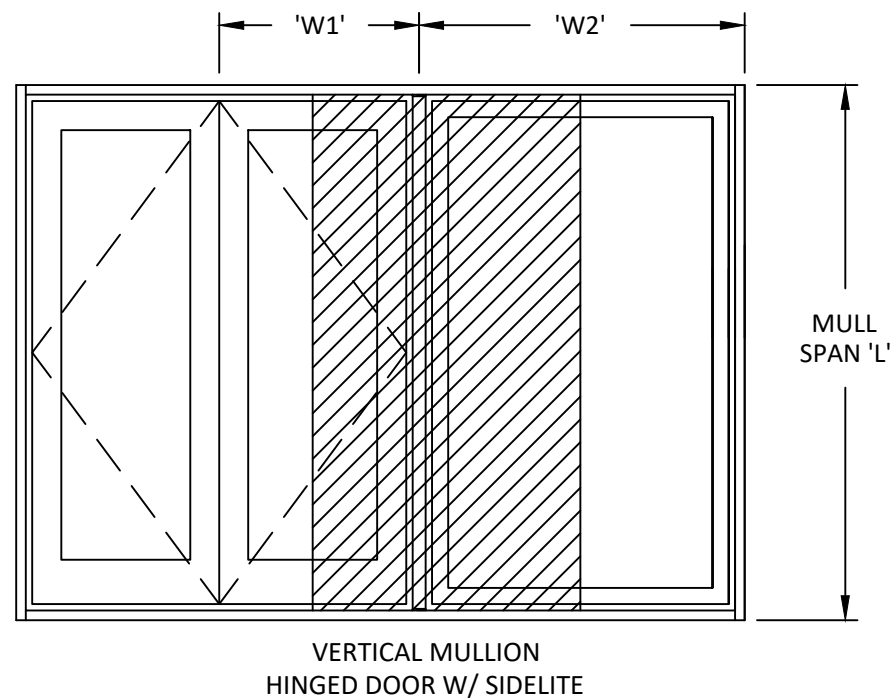
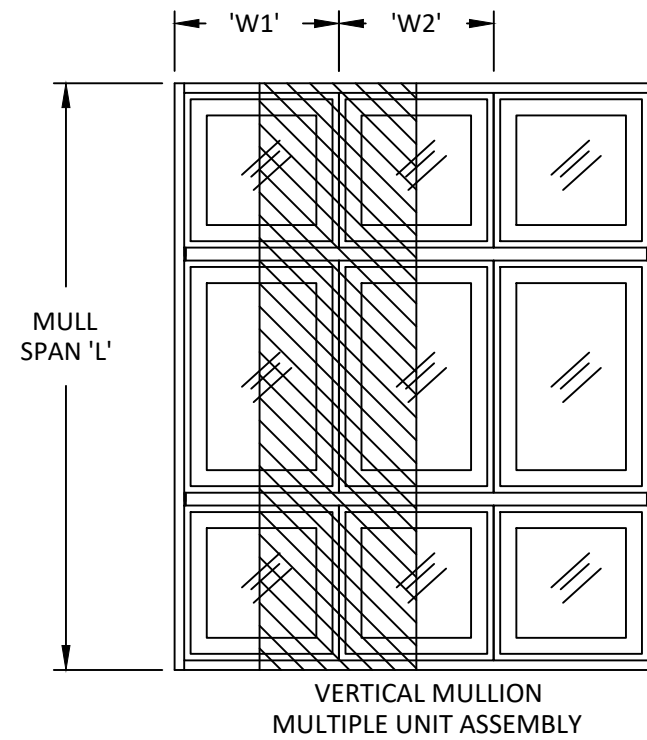
EASTERN ARCHITECTURAL SYSTEMS  
A DIVISION OF  
EASTERN METAL SUPPLY

16341 DOMESTIC AVE.  
FT MYERS, FL 33912  
1-877-401-2190

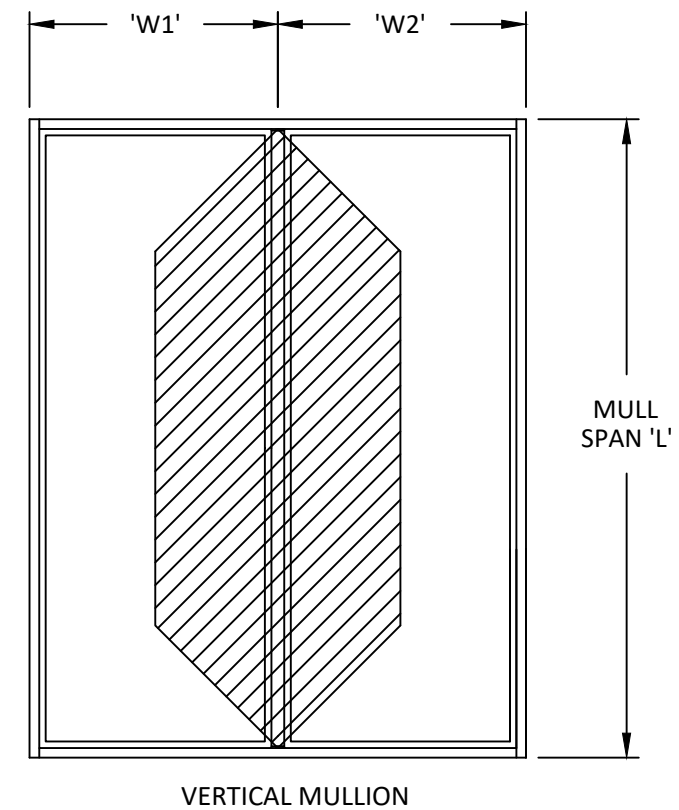
TITLE: **HVHZ CLIPPED ALUMINUM BAY/BOW MULLIONS VERTICAL AND HORIZONTAL CONFIGURATIONS 90° MULLION**

DATE: 09/07/23	DRAWN BY: SH	PREPARED BY:
DRAWING NO: EAS067	SCALE: N.T.S.	<p>BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578</p>
SHEET: 7 OF 8	REV: -	

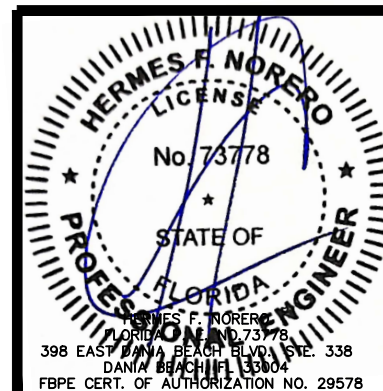
**EXAMPLES OF TWO-WAY MULLION ASSEMBLIES**




**EXAMPLES OF ONE-WAY MULLION ASSEMBLIES**



- NOTES:**
1. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND CONFIGURATIONS NOT SPECIFICALLY SHOWN MAY BE EXTRAPOLATED FROM THOSE SHOWN.
  2. IF THE LOADING TYPE CANNOT BE DETERMINED, USE TWO-WAY ASSEMBLY CONFIGURATION VALUES.
  3. FENESTRATION PRODUCTS SHALL BE ANCHORED AS APPROVED.




REVISIONS			
BY	DATE	DESCRIPTION	REV



EASTERN ARCHITECTURAL SYSTEMS  
A DIVISION OF  
EASTERN METAL SUPPLY  
16341 DOMESTIC AVE.  
FT MYERS, FL 33912  
1-877-401-2190

**TITLE:** HVHZ CLIPPED ALUMINUM BAY/BOW MULLIONS  
VERTICAL AND HORIZONTAL CONFIGURATIONS  
MULLION ASSEMBLY AND LOAD EXAMPLES

DATE: 09/07/23	DRAWN BY: SH	PREPARED BY:
DRAWING NO: EAS067	SCALE: N.T.S.	 BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578
SHEET: 8 OF 8	REV: -	