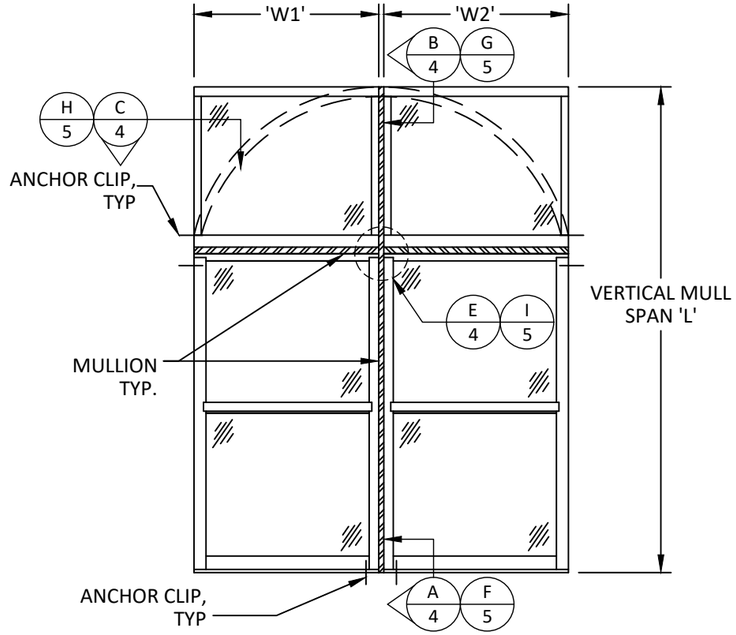
EASTERN ARCHITECTURAL SYSTEMS

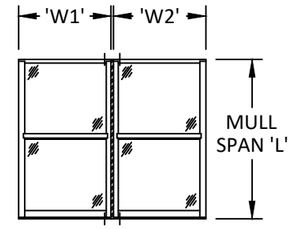
HVHZ CLIPPED ALUMINUM TUBE MULLIONS

GENERAL NOTES:

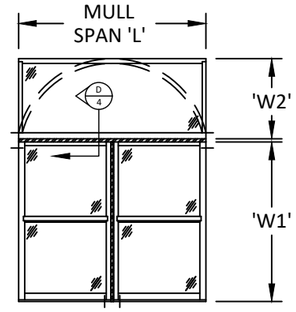
1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE CURRENT FLORIDA BUILDING CODE, **INCLUDING** THE HIGH VELOCITY HURRICANE ZONE.
3. APPROVED IMPACT PROTECTIVE SYSTEM **IS NOT REQUIRED** FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS . INDIVIDUAL UNITS ATTACHED TO MULLIONS MUST BE IMPACT RATED.
4. 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.
5. 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.
6. 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.
7. MULLION & CLIP MATERIAL: ALUMINUM 6005-T5 & 6063-T6 (AS NOTED)
8. MULLIONS MAY BE USED WITH ANY APPROVED FENESTRATION PRODUCT, UNDER SEPARATE APPROVAL.
9. SEE SHEETS 7-12 FOR INSTALLATION ANCHOR REQUIREMENTS FOR SPECIFIC ANCHORING REQUIREMENTS, MULLION CONFIGURATIONS, AND DESIGN LOAD CAPACITIES.
10. DISSIMILAR METALS INCLUDING FASTENERS THAT MAY COME INTO CONTACT WITH ALUMINUM UNIT FRAMING SHALL BE PROTECTED IN ACCORDANCE WITH THE CURRENT FLORIDA BUILDING CODE.



TYPICAL MULLION ASSEMBLY



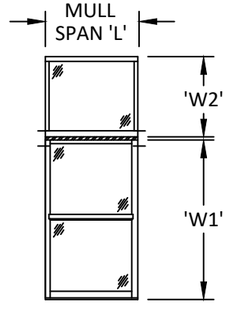
VERTICAL SPAN



HORIZONTAL "T" MULL SPAN

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 13 FOR ASSEMBLY AND LOAD 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 7-12.
5. QUALIFIED CLIP TYPES APPEAR ON SHEETS 7-12. MULTIPLE ANCHOR TYPE/SUBSTRATE/CLIP COMBINATIONS WITHIN AN OPENING ARE ALLOWED.
6. THE LESSER DESIGN PRESSURE OR MULLION OR FENESTRATION PRODUCT WILL GOVERN OVERALL ASSEMBLY DESIGN PRESSURE RATING.



HORIZONTAL SPAN

HERMES F. NORERO LICENSE No. 73778 STATE OF FLORIDA PROFESSIONAL ENGINEER
HERMES F. NORERO
FLORIDA LICENSE NO. 73778
398 EAST DANIA BEACH BLVD. STE. 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION NO. 29578

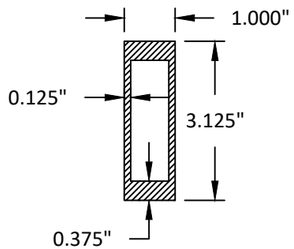
Digitally signed by Hermes F. Norero, P.E.
Reason: I am approving this document
Date: 2023.10.04 10:06:25 -04'00'

REVISIONS			
SH	9/7/23	MISC. UPDATES	3
SM	5/25/21	FBC UPDATE	2
SM	2/6/18	6TH ED. FBC UPDATES	1
BY	DATE	DESCRIPTION	REV

Eastern Architectural Systems — Aluminum and Vinyl Impact Windows and Doors
EASTERN ARCHITECTURAL SYSTEMS
A DIVISION OF
EASTERN METAL SYPPLY
16341 DOMESTIC AVE.
FT MYERS, FL 33912
1-877-401-2190

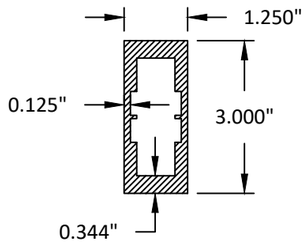
TITLE:
HVHZ CLIPPED ALUMINUM TUBE MULLIONS
VERTICAL AND HORIZONTAL CONFIGURATIONS
GENERAL AND INSTALLATION ELEVATIONS

DATE:	DRAWN BY:	PREPARED BY:
02/05/13	TJH	BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578
DRAWING NO: PA-0003	SCALE: N.T.S.	
SHEET: 1 OF 13	REV: -	



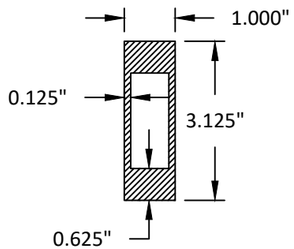
1" X 3-1/8" (LIGHT)
MULLION

SEE SHEET 7 FOR QUALIFIED CLIPS



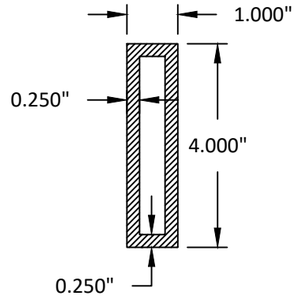
1-1/4" X 3"
MULLION

SEE SHEET 8 FOR QUALIFIED CLIPS



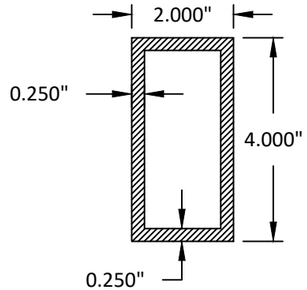
1" X 3-1/8" (HEAVY)
MULLION

SEE SHEET 9 FOR QUALIFIED CLIPS



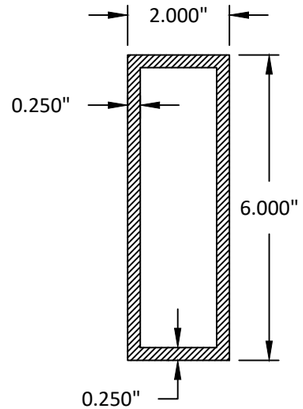
1" X 4"
MULLION

SEE SHEET 10 FOR QUALIFIED CLIPS



2" X 4"
MULLION

SEE SHEET 11 FOR QUALIFIED CLIPS



2" X 6"
MULLION

SEE SHEET 12 FOR QUALIFIED CLIPS

NOTE: SEE SHEET 3 FOR SPECIFIC CLIP TYPES AND DIMENSIONS.

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DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION NO. 29578

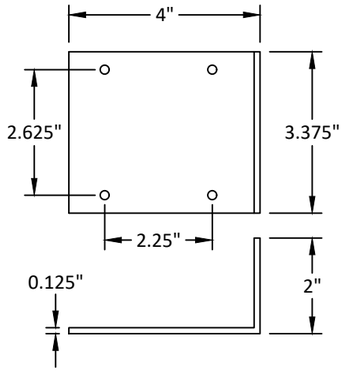
REVISIONS

BY	DATE	DESCRIPTION	REV

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

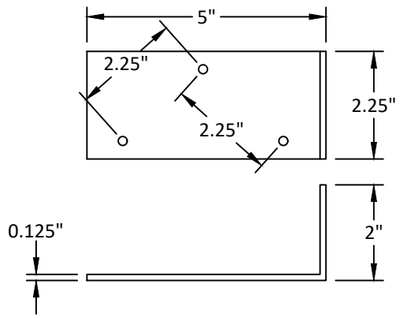
TITLE:
HVHZ CLIPPED ALUMINUM TUBE MULLIONS
VERTICAL AND HORIZONTAL CONFIGURATIONS
MULLION CROSS SECTIONS

DATE:	DRAWN BY:	PREPARED BY:
02/05/13	TJH	BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578
DRAWING NO: PA-0003	SCALE: N.T.S.	
SHEET: 2 OF 13	REV: -	



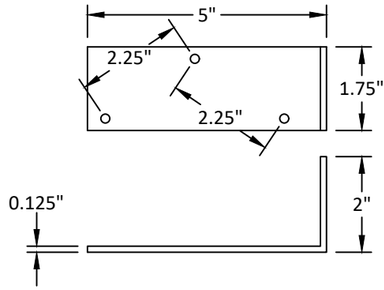
2" X 4" X 3 3/8" L-CLIP

ALUMINUM 6063-T6



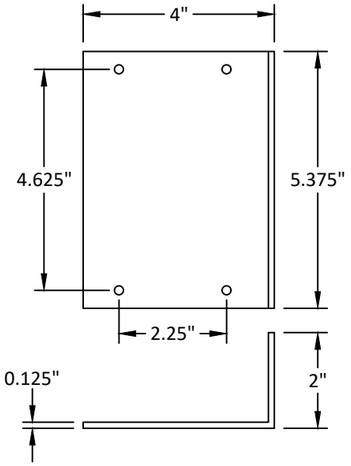
2" X 5" X 2 1/4" L-CLIP

ALUMINUM 6063-T6



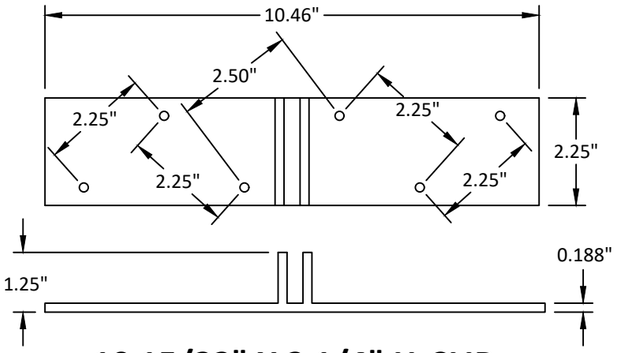
2" X 5" X 1 3/4" L-CLIP

ALUMINUM 6063-T6



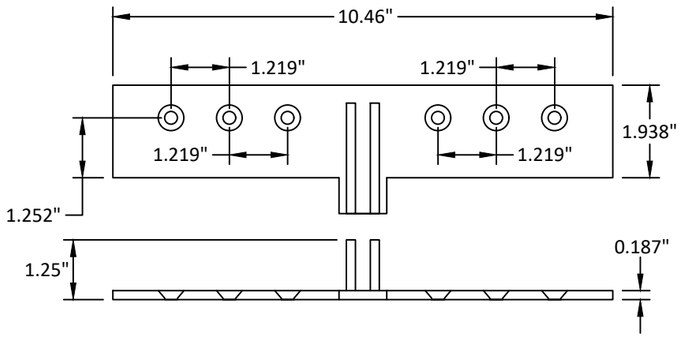
2" X 4" X 5 3/8" L-CLIP

ALUMINUM 6063-T6



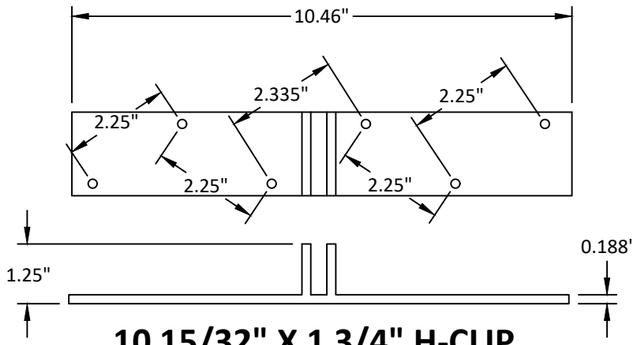
10 15/32" X 2 1/4" H-CLIP

ALUMINUM 6063-T6



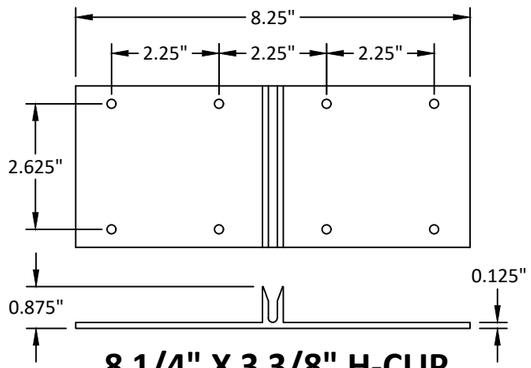
10 15/32" X 1 15/16" FIN H-CLIP

ALUMINUM 6063-T6



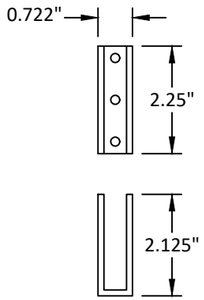
10 15/32" X 1 3/4" H-CLIP

ALUMINUM 6063-T6



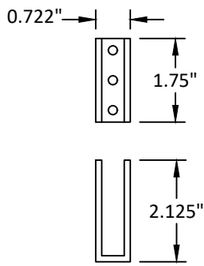
8 1/4" X 3 3/8" H-CLIP

ALUMINUM 6063-T6



2 1/4" U-CLIP

ALUMINUM 6005-T5



1 3/4" U-CLIP

ALUMINUM 6005-T5

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DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION NO. 29578

REVISIONS

BY	DATE	DESCRIPTION	REV

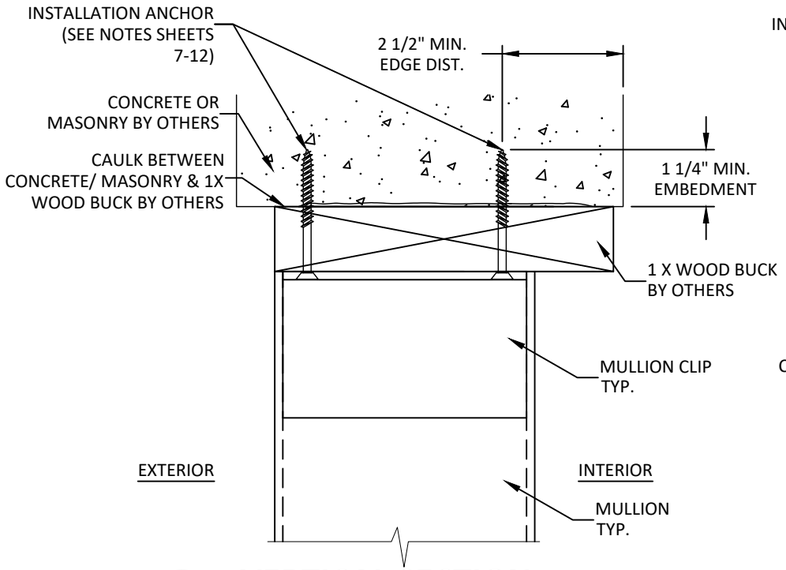
EASTERN ARCHITECTURAL SYSTEMS
A DIVISION OF
EASTERN METAL SYPPLY

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

TITLE:

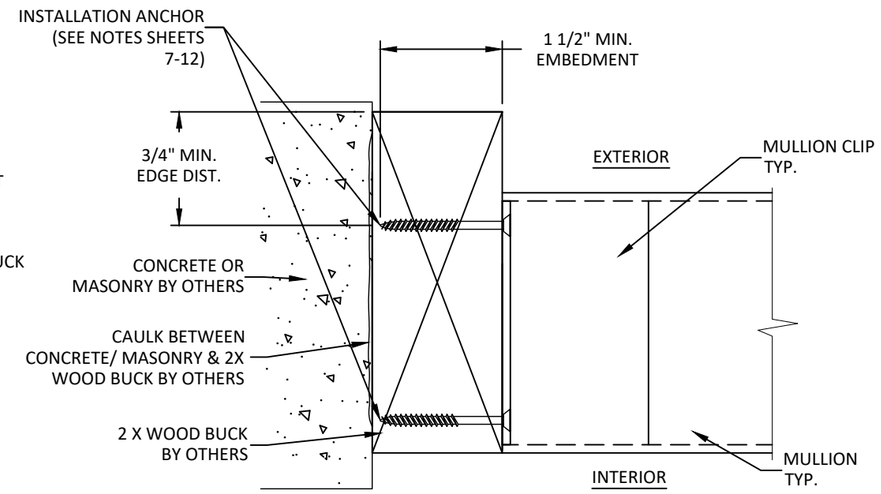
HVHZ CLIPPED ALUMINUM TUBE MULLIONS
VERTICAL AND HORIZONTAL CONFIGURATIONS
CLIP DETAILS

DATE:	DRAWN BY:	PREPARED BY:
02/05/13	TJH	BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578
DRAWING NO: PA-0003	SCALE: N.T.S.	
SHEET: 3 OF 13	REV: -	



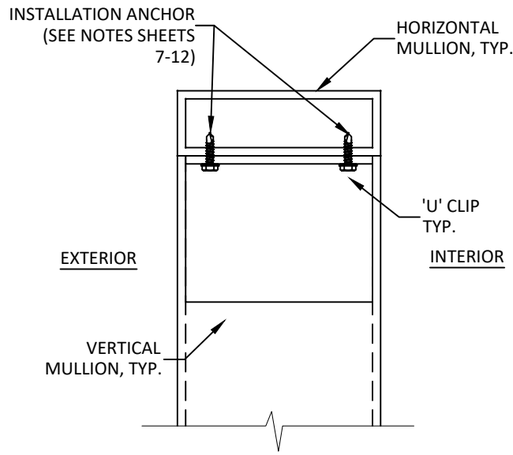
B/4 VERTICAL SECTION

HEAD - CONCRETE/MASONRY
SIDE VIEW-VERTICAL



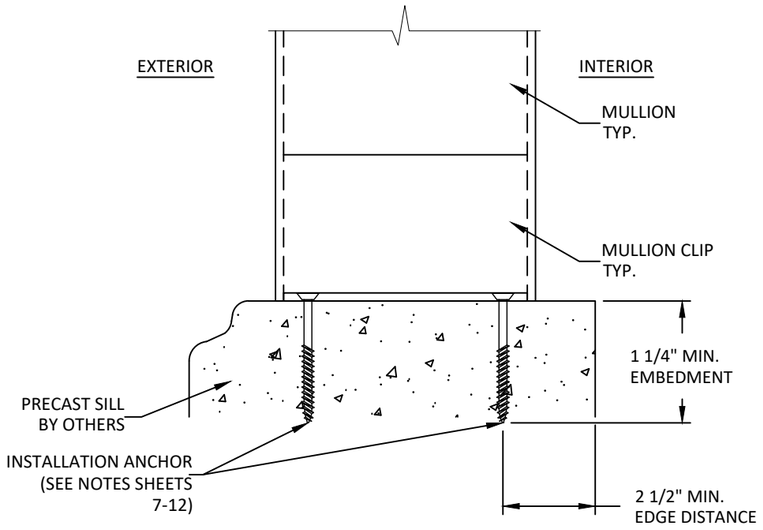
C/4 HORIZONTAL SECTION

JAMB - 2X WOOD BUCK
SIDE VIEW-HORIZONTAL



D/4 HORIZONTAL SECTION

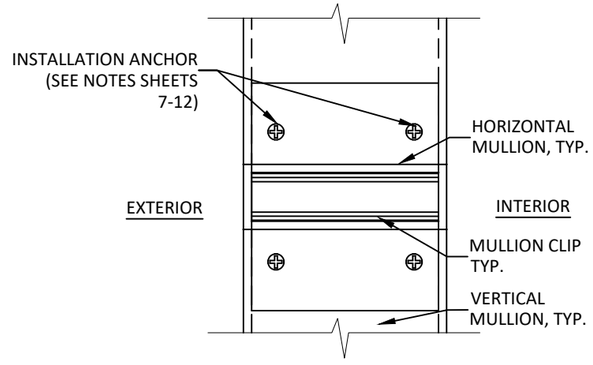
T-MULLION INTERSECT DETAIL
SIDE VIEW



A/4 VERTICAL SECTION

SILL - CONCRETE/MASONRY
SIDE VIEW-VERTICAL

NOTE
DETAILS SHOWN ARE TYPICAL FOR ALL MULLION & CLIP ASSEMBLIES. SEE SHEETS 7-12 FOR ALLOWABLE MULLION CONFIGURATIONS, SIZES, AND DESIGN PRESSURES.



E/4 HORIZONTAL SECTION

X-MULLION INTERSECT DETAIL
SIDE VIEW

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FLORIDA P.E. No. 73778
398 EAST DANIA BEACH BLVD. STE. 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION NO. 29578

REVISIONS

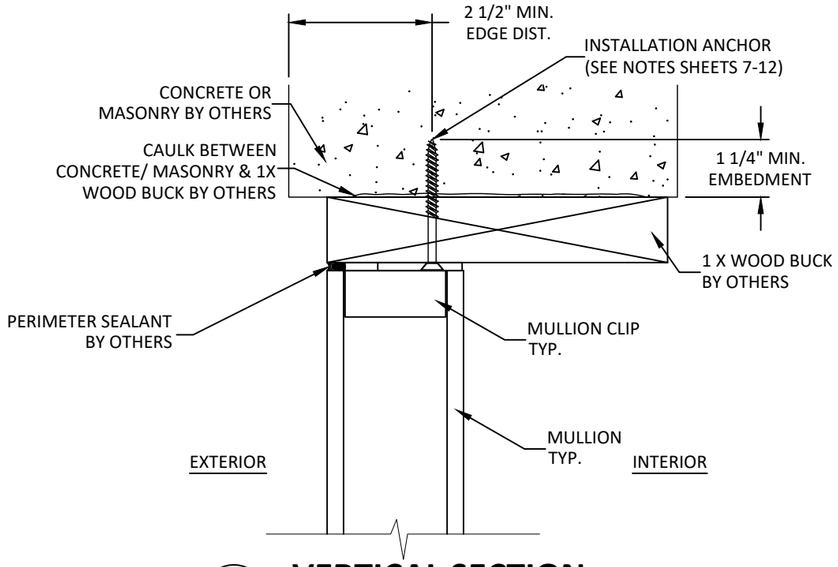
BY	DATE	DESCRIPTION	REV

EASTERN ARCHITECTURAL SYSTEMS
A DIVISION OF
EASTERN METAL SYPPLY

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

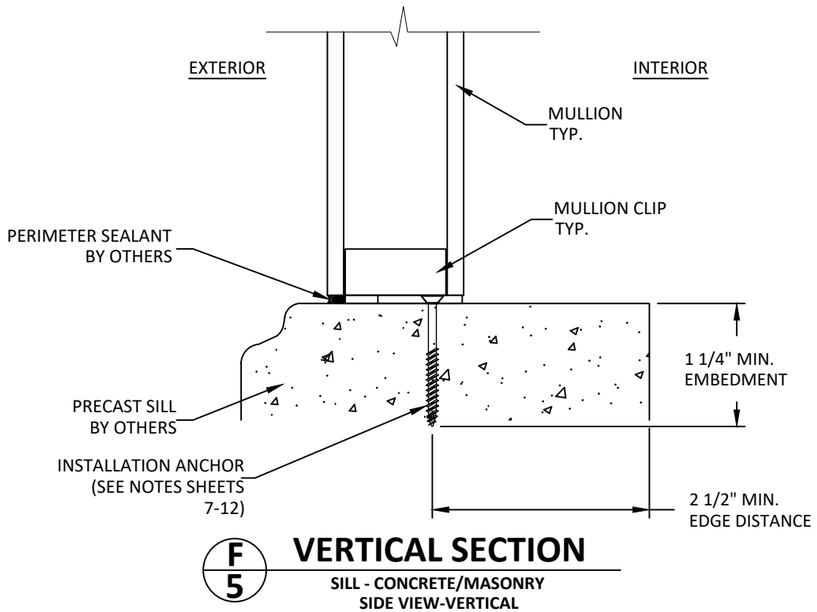
TITLE:
HVHZ CLIPPED ALUMINUM TUBE MULLIONS
VERTICAL AND HORIZONTAL CONFIGURATIONS
INSTALLATION DETAILS

DATE:	DRAWN BY:	PREPARED BY:
02/05/13	TJH	BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578
DRAWING NO: PA-0003	SCALE: N.T.S.	
SHEET: 4 OF 13	REV: -	



G/5 VERTICAL SECTION

HEAD - CONCRETE/MASONRY
SIDE VIEW-VERTICAL

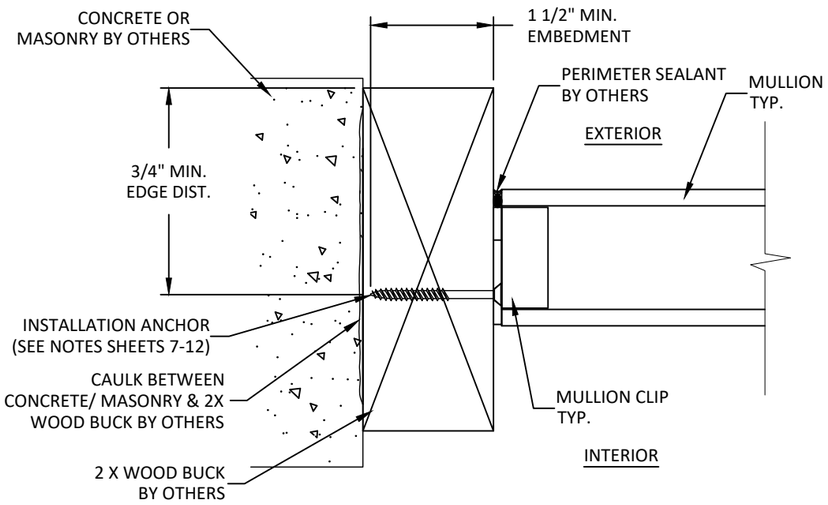


F/5 VERTICAL SECTION

SILL - CONCRETE/MASONRY
SIDE VIEW-VERTICAL

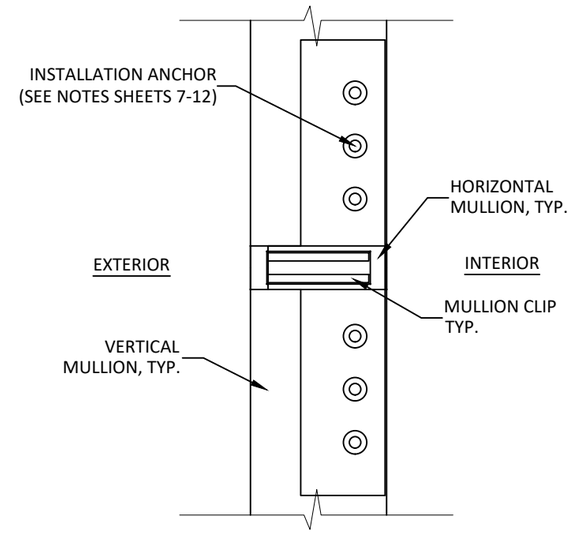
NOTE

DETAILS SHOWN ARE TYPICAL FOR MULLIONS ON SHEETS 7 & 8. SEE SHEETS 7 & 8 FOR ALLOWABLE MULLION CONFIGURATIONS, SIZES, AND DESIGN PRESSURES.



H/5 HORIZONTAL SECTION

JAMB - 2X WOOD BUCK
SIDE VIEW-HORIZONTAL



I/5 HORIZONTAL SECTION

X-MULLION INTERSECT DETAIL
SIDE VIEW

HERMES F. NORERO LICENSE No. 73778 STATE OF FLORIDA PROFESSIONAL ENGINEER

HERMES F. NORERO
FLORIDA P.E. NO. 73778
398 EAST DANIA BEACH BLVD. STE. 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION NO. 29578

REVISIONS

BY	DATE	DESCRIPTION	REV

Eastern Architectural Systems
Aluminum and Vinyl Impact Windows and Doors

EASTERN ARCHITECTURAL SYSTEMS
A DIVISION OF
EASTERN METAL SYPPLY

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

TITLE:

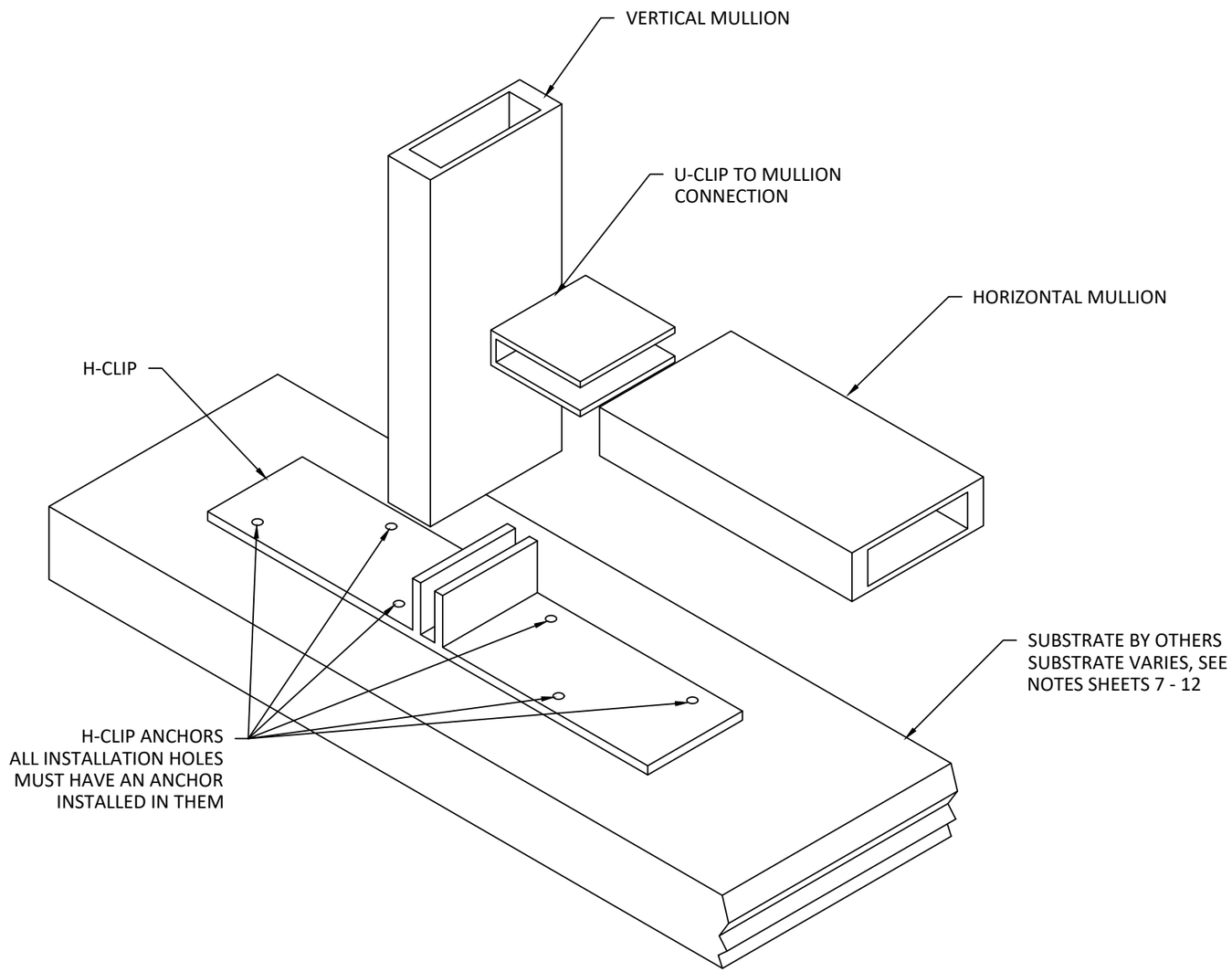
HVHZ CLIPPED ALUMINUM TUBE MULLIONS
VERTICAL AND HORIZONTAL CONFIGURATIONS
INSTALLATION DETAILS

DATE:	DRAWN BY:
02/05/13	TJH
DRAWING NO:	SCALE:
PA-0003	N.T.S.
SHEET:	REV:
5 OF 13	-

PREPARED BY:

BUILDING DROPS

BUILDING DROPS, INC.
FBPE CERTIFICATE OF
AUTHORIZATION NO. 29578



MULLION AND CLIP ASSEMBLY

TYPICAL ASSEMBLY SHOWN WITH 1" x 3 1/8" MULLI0N AND H-CLIP. OTHER MULLIONS AND CLIPS ARE APPROVED. SEE INDIVIDUAL MULLION SHEETS

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DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION NO. 29578

REVISIONS			
BY	DATE	DESCRIPTION	REV

Eastern Architectural Systems — Aluminum and Vinyl Impact Windows and Doors

EASTERN ARCHITECTURAL SYSTEMS
A DIVISION OF
EASTERN METAL SYPPLY

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

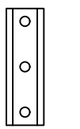
TITLE:
HVHZ CLIPPED ALUMINUM TUBE MULLIONS
VERTICAL AND HORIZONTAL CONFIGURATIONS
MULLIION AND CLIP ASSEMBLY DETAILS

DATE:	DRAWN BY:	PREPARED BY:
02/05/13	TJH	BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578
DRAWING NO: PA-0003	SCALE: N.T.S.	
SHEET: 6 OF 13	REV: -	

DESIGN PRESSURE LIMITS FOR MULLION: 1" x 3-1/8" (LIGHT) - ONE-WAY MULLIONS									
SPAN 'L'	TRIBUTARY WIDTH 'W' (IN.)								
(IN.)	18	24	30	36	42	48	53.125	54	60
24	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
48	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
72	90.0	90.0	90.0	87.3	77.7	71.1	67.2	66.7	63.8
84	90.0	76.9	62.7	53.5	47.1	42.6	39.7	39.3	36.9
96	67.4	51.1	41.5	35.2	30.8	27.6	25.6	25.2	23.5
108	47.2	35.7	28.9	24.4	21.3	19.0	17.5	17.2	15.9

DESIGN PRESSURE LIMITS FOR MULLION: 1" x 3-1/8" (LIGHT) - TWO-WAY MULLIONS									
SPAN 'L'	TRIBUTARY WIDTH 'W' (IN.)								
(IN.)	18	24	30	36	42	48	53.125	54	60
24	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
48	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	89.3	80.4
72	90.0	90.0	90.0	78.8	67.5	59.1	53.4	52.5	47.3
84	90.0	74.4	59.5	49.6	42.5	37.2	33.6	33.1	29.8
96	66.5	49.9	39.9	33.2	28.5	24.9	22.5	22.2	19.9
108	46.7	35.0	28.0	23.3	20.0	17.5	15.8	15.6	14.0

QUALIFIED ANCHOR CLIPS

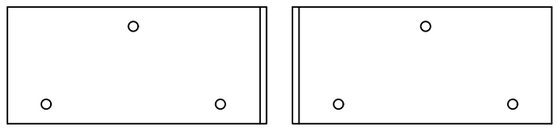


2 1/4" U-CLIP

ALUMINUM 6005-T5

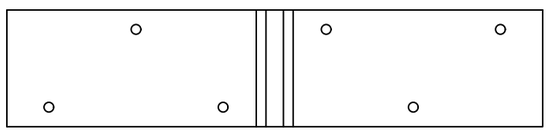
U-CLIP FOR USE ONLY IN MULLION-TO-MULLION CONNECTIONS

NOTE: SEE SHEET 3 FOR SPECIFIC CLIP TYPES AND DIMENSIONS.



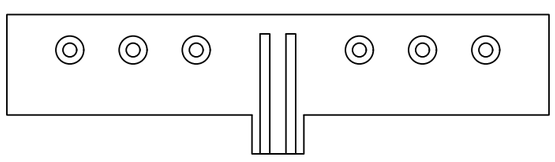
2" X 5" X 2 1/4" L-CLIP

ALUMINUM 6063-T6
**MUST BE USED IN PAIRS



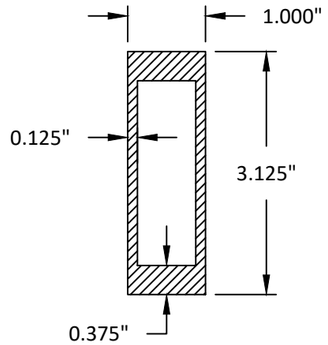
10 15/32" X 2 1/4" H-CLIP

ALUMINUM 6063-T6



10 15/32" X 1 15/16" FIN H-CLIP

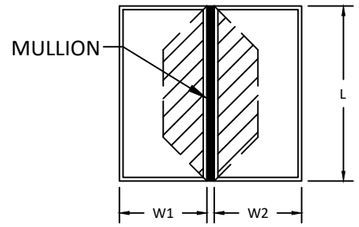
ALUMINUM 6063-T6

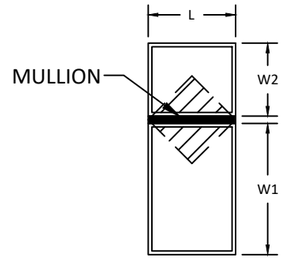


1" X 3-1/8" (LIGHT) MULLION

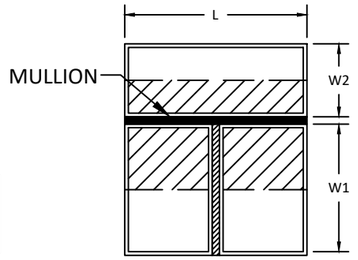
ALUMINUM 6005-T5

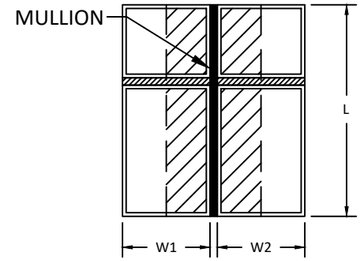
TRIBUTARY WIDTH = $\frac{W1 + W2}{2}$





ONE-WAY MULLION DIAGRAMS





TWO-WAY MULLION DIAGRAMS

TABLE NOTES:

1. SEE SHEET 1 FOR INSTRUCTIONS ON USING TABLES. SEE SHEETS 4, 5, & 6 FOR TYPICAL INSTALLATION METHODS & CLIP DETAILS.
2. LINEAR INTERPOLATION BETWEEN LISTED WIDTHS AND SPANS IS ALLOWED.
3. SEE THIS SHEET FOR SPECIFIC MULLION DIMENSIONS.
4. SEE SHEET 3 FOR SPECIFIC CLIP DIMENSIONS.
5. ANCHOR REQUIREMENTS:
   - WOOD: #14 WOOD SCREWS
   - CMU: 1/4" ITW TAPCONS
   - CONCRETE: 1/4" ITW TAPCONS
   - METAL: 1/4" SELF-DRILLING SCREWS (GRADE 5)
6. INSTALLATION SUBSTRATES:
   - WOOD ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-1/2" & EDGE DISTANCE OF 1". 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.

HERMES F. NORERO LICENSE No. 73778 STATE OF FLORIDA PROFESSIONAL ENGINEER
HERMES F. NORERO
FLORIDA LICENSE NO. 73778
398 EAST DANIA BEACH BLVD. STE. 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION NO. 29578

REVISIONS			
BY	DATE	DESCRIPTION	REV

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

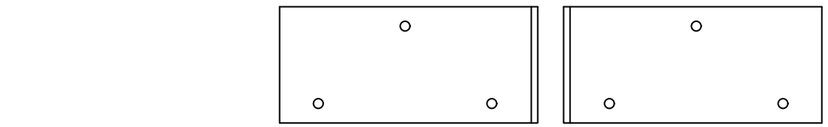
TITLE:
HVHZ CLIPPED ALUMINUM TUBE MULLIONS
VERTICAL AND HORIZONTAL CONFIGURATIONS
1" x 3 1/8" LIGHT MULLION

DATE:	DRAWN BY:	PREPARED BY:
02/05/13	TJH	BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578
DRAWING NO: PA-0003	SCALE: N.T.S.	
SHEET: 7 OF 13	REV: -	

DESIGN PRESSURE LIMITS FOR MULLION: 1-1/4" X 3" - ONE-WAY MULLION									
SPAN 'L'	TRIBUTARY WIDTH 'W' (IN.)								
(IN.)	18	24	30	36	42	48	53.125	54	60
24	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
48	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
72	90.0	90.0	90.0	87.3	77.7	71.1	67.2	66.7	63.8
84	90.0	76.9	62.7	53.5	47.1	42.6	39.7	39.3	36.9
96	67.4	51.1	41.5	35.2	30.8	27.6	25.6	25.2	23.5
108	47.2	35.7	28.9	24.4	21.3	19.0	17.5	17.2	15.9

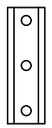
DESIGN PRESSURE LIMITS FOR MULLION: 1-1/4" X 3" - TWO-WAY MULLION									
SPAN 'L'	TRIBUTARY WIDTH 'W' (IN.)								
(IN.)	18	24	30	36	42	48	53.125	54	60
24	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
36	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
48	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
60	90.0	90.0	90.0	90.0	90.0	90.0	90.0	89.3	80.4
72	90.0	90.0	90.0	78.8	67.5	59.1	53.4	52.5	47.3
84	90.0	74.4	59.5	49.6	42.5	37.2	33.6	33.1	29.8
96	66.5	49.9	39.9	33.2	28.5	24.9	22.5	22.2	19.9
108	46.7	35.0	28.0	23.3	20.0	17.5	15.8	15.6	14.0

QUALIFIED ANCHOR CLIPS



2" X 5" X 2 1/4" L-CLIP

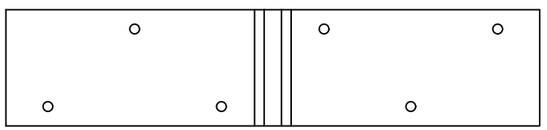
ALUMINUM 6063-T6
**MUST BE USED IN PAIRS



2 1/4" U-CLIP

ALUMINUM 6005-T5

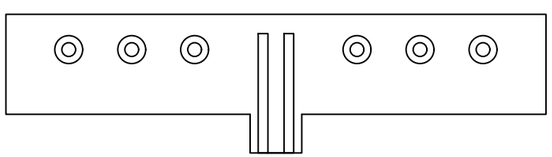
U-CLIP FOR USE ONLY IN MULLION-TO-MULLION CONNECTIONS



10 15/32" X 2 1/4" H-CLIP

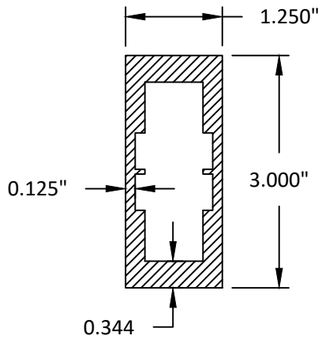
ALUMINUM 6063-T6

NOTE: SEE SHEET 3 FOR SPECIFIC CLIP TYPES AND DIMENSIONS.



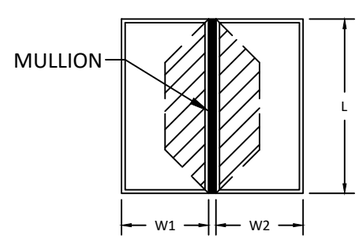
10 15/32" X 1 15/16" FIN H-CLIP

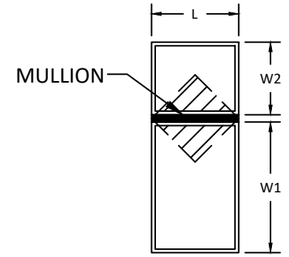
ALUMINUM 6063-T6



1-1/4" X 3" MULLION

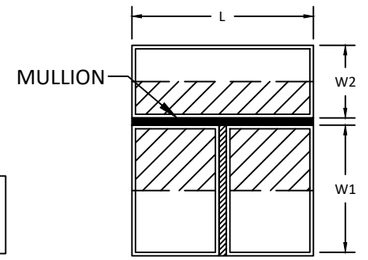
ALUMINUM 6005-T5

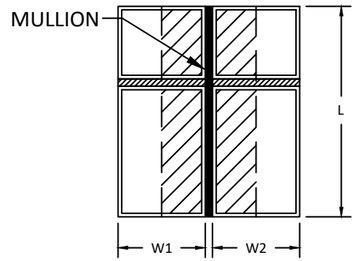




ONE-WAY MULLION DIAGRAMS

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





TWO-WAY MULLION DIAGRAMS

TABLE NOTES:

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3. SEE THIS SHEET FOR SPECIFIC MULLION DIMENSIONS.
4. SEE SHEET 3 FOR SPECIFIC CLIP DIMENSIONS.
5. ANCHOR REQUIREMENTS:
   - WOOD: #14 WOOD SCREWS
   - CMU: 1/4" ITW TAPCONS
   - CONCRETE: 1/4" ITW TAPCONS
   - METAL: 1/4" SELF-DRILLING SCREWS (GRADE 5)
6. INSTALLATION SUBSTRATES:
   - WOOD ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-1/2" & EDGE DISTANCE OF 1". 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.

HERMES F. NORERO LICENSE No. 73778 STATE OF FLORIDA PROFESSIONAL ENGINEER
HERMES F. NORERO
FLORIDA LICENSE NO. 73778
398 EAST DANIA BEACH BLVD. STE. 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION NO. 29578

REVISIONS			
SH	9/7/2023	NEW SHEET ADDED	1
BY	DATE	DESCRIPTION	REV

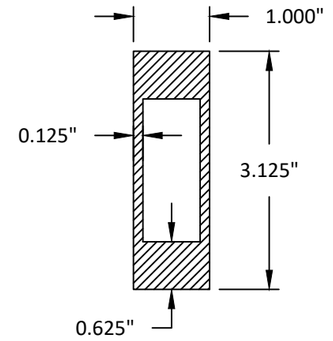
Eastern Architectural Systems — Aluminum and Vinyl Impact Windows and Doors
EASTERN ARCHITECTURAL SYSTEMS
A DIVISION OF
EASTERN METAL SYPPLY
16341 DOMESTIC AVE.
FT MYERS, FL 33912
1-877-401-2190

TITLE:
HVHZ CLIPPED ALUMINUM TUBE MULLIONS
VERTICAL AND HORIZONTAL CONFIGURATIONS
1 1/4" x 3" MULLION

DATE:	DRAWN BY:	PREPARED BY:
02/05/13	TJH	BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578
DRAWING NO: PA-0003	SCALE: N.T.S.	
SHEET: 8 OF 13	REV: -	

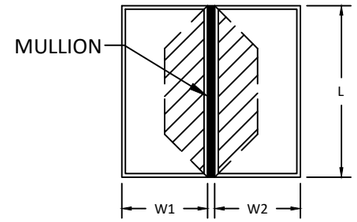
DESIGN PRESSURE LIMITS FOR MULLION: 1" x 3-1/8" (HEAVY) - ONE-WAY MULLIONS									
SPAN 'L'	TRIBUTARY WIDTH 'W' (IN.)								
(IN.)	18	24	30	36	42	48	53.125	54	60
24	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
36	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
48	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
60	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
72	90.0	90.0	90.0	90.0	90.0	88.9	84.0	83.3	79.7
84	90.0	90.0	78.4	66.8	58.9	53.2	49.6	49.1	46.1
96	84.2	63.9	51.8	44.0	38.5	34.5	31.9	31.5	29.3
108	58.9	44.6	36.1	30.5	26.6	23.7	21.8	21.5	19.9

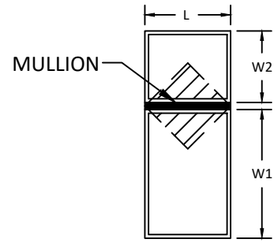
DESIGN PRESSURE LIMITS FOR MULLION: 1" x 3-1/8" (HEAVY) - TWO-WAY MULLIONS									
SPAN 'L'	TRIBUTARY WIDTH 'W' (IN.)								
(IN.)	18	24	30	36	42	48	53.125	54	60
24	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
36	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
48	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
60	90.0	90.0	90.0	90.0	90.0	90.0	90.0	89.3	80.4
72	90.0	90.0	90.0	90.0	84.4	73.8	66.7	65.6	59.1
84	90.0	90.0	74.4	62.0	53.1	46.5	42.0	41.3	37.2
96	83.0	62.3	49.8	41.5	35.6	31.1	28.1	27.7	24.9
108	58.3	43.7	35.0	29.2	25.0	21.9	19.8	19.4	17.5



1" X 3-1/8" (HEAVY) MULLION

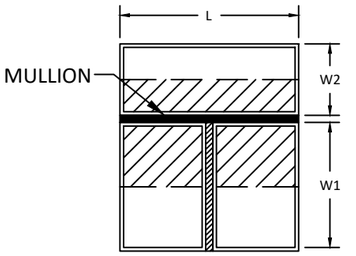
ALUMINUM 6005-T5

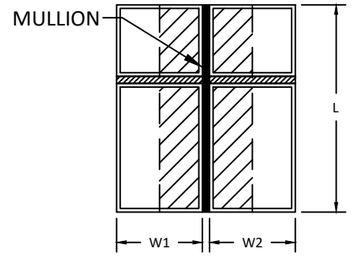




ONE-WAY MULLION DIAGRAMS

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





TWO-WAY MULLION DIAGRAMS

TABLE NOTES:

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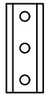
6. INSTALLATION SUBSTRATES:
   - WOOD ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-1/2" & EDGE DISTANCE OF 1". WOOD SHALL BE MIN. S.G.=0.55.
   - HOLLOW CMU ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-1/4" & EDGE DISTANCE OF 2-1/2". HOLLOW CMU SHALL BE MEDIUM WEIGHT CONFORMING TO ASTM C 90.
   - CONCRETE ANCHORS 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.

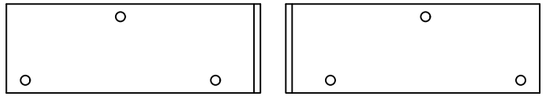
QUALIFIED ANCHOR CLIPS



1 3/4" U-CLIP

ALUMINUM 6005-T5

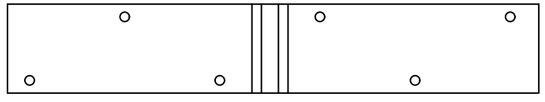
U-CLIP FOR USE ONLY IN MULLION-TO-MULLION CONNECTIONS



2" X 5" X 1 3/4" L-CLIP

ALUMINUM 6063-T6
**MUST BE USED IN PAIRS

NOTE: SEE SHEET 3 FOR SPECIFIC CLIP TYPES AND DIMENSIONS.



10 15/32" X 1 3/4" H-CLIP

ALUMINUM 6063-T6

HERMES F. NORERO LICENSE No. 73778 STATE OF FLORIDA PROFESSIONAL ENGINEER

HERMES F. NORERO
FLORIDA LICENSE No. 73778
398 EAST DANIA BEACH BLVD. STE. 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION NO. 29578

REVISIONS

BY	DATE	DESCRIPTION	REV

Eastern Architectural Systems — Aluminum and Vinyl Impact Windows and Doors

EASTERN ARCHITECTURAL SYSTEMS
A DIVISION OF
EASTERN METAL SYPPLY

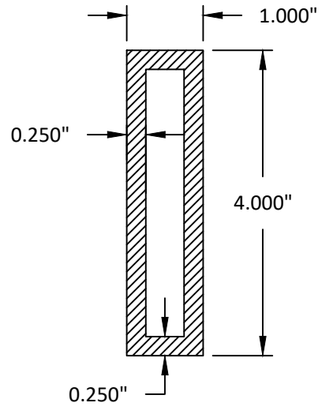
16341 DOMESTIC AVE.
FT MYERS, FL 33912
1-877-401-2190

TITLE:
HVHZ CLIPPED ALUMINUM TUBE MULLIONS
VERTICAL AND HORIZONTAL CONFIGURATIONS
1" x 3 1/8" HEAVY MULLION

DATE:	DRAWN BY:	PREPARED BY:
02/05/13	TJH	BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578
DRAWING NO: PA-0003	SCALE: N.T.S.	
SHEET: 9 OF 13	REV: -	

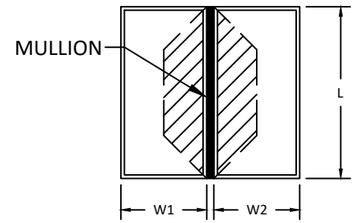
DESIGN PRESSURE LIMITS FOR MULLION: 1" x 4" - ONE-WAY MULLIONS									
SPAN 'L'	TRIBUTARY WIDTH 'W' (IN.)								
(IN.)	18	24	30	36	42	48	53.125	54	60
24	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
36	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
48	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
60	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
72	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	88.5	82.5	81.7	76.7
96	90.0	90.0	86.3	73.2	64.1	57.4	53.1	52.5	48.8
108	90.0	74.2	60.1	50.8	44.3	39.5	36.3	35.9	33.1

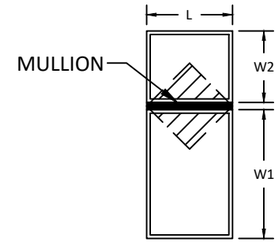
DESIGN PRESSURE LIMITS FOR MULLION: 1" x 4" - TWO-WAY MULLIONS									
SPAN 'L'	TRIBUTARY WIDTH 'W' (IN.)								
(IN.)	18	24	30	36	42	48	53.125	54	60
24	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
36	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
48	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
60	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
72	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	88.4	77.4	69.9	68.8	61.9
96	90.0	90.0	82.9	69.1	59.2	51.8	46.8	46.1	41.5
108	90.0	72.8	58.2	48.5	41.6	36.4	32.9	32.4	29.1



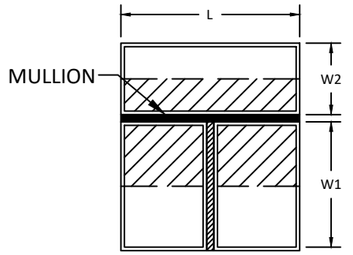
1" X 4" MULLION

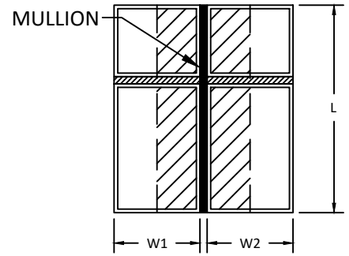
ALUMINUM 6005-T5





ONE-WAY MULLION DIAGRAMS





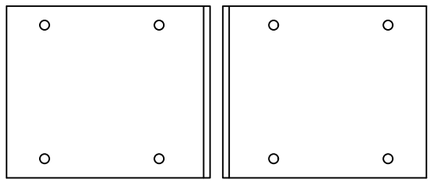
TWO-WAY MULLION DIAGRAMS

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

TABLE NOTES:

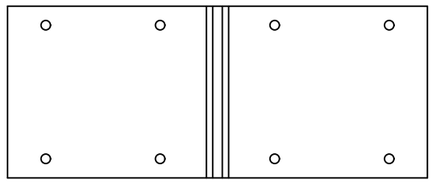
1. SEE SHEET 1 FOR INSTRUCTIONS ON USING TABLES. SEE SHEETS 4, 5, & 6 FOR TYPICAL INSTALLATION METHODS & CLIP DETAILS.
2. LINEAR INTERPOLATION BETWEEN LISTED WIDTHS AND SPANS IS ALLOWED.
3. SEE THIS SHEET FOR SPECIFIC MULLION DIMENSIONS.
4. SEE SHEET 3 FOR SPECIFIC CLIP DIMENSIONS.
5. ANCHOR REQUIREMENTS:
   - WOOD: #14 WOOD SCREWS
   - CMU: 1/4" ITW TAPCONS
   - CONCRETE: 1/4" ITW TAPCONS
   - METAL: 1/4" SELF-DRILLING SCREWS (GRADE 5)
6. INSTALLATION SUBSTRATES:
   - WOOD ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-1/2" & EDGE DISTANCE OF 1". 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



2" X 4" X 3 3/8" L-CLIP

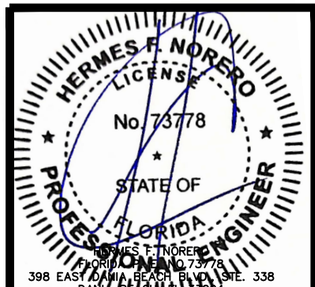
ALUMINUM 6063-T6
**MUST BE USED IN PAIRS



8 1/4" X 3 3/8" H-CLIP

ALUMINUM 6063-T6

NOTE: SEE SHEET 3 FOR SPECIFIC CLIP TYPES AND DIMENSIONS.



HERMES F. NORIEGA
FLORIDA LICENSE NO. 73778
398 EAST DANIA BEACH BLVD. STE. 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION NO. 29578

REVISIONS			
BY	DATE	DESCRIPTION	REV

EASTERN ARCHITECTURAL SYSTEMS
A DIVISION OF
EASTERN METAL SYPPLY

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

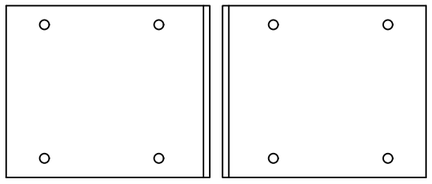
TITLE:
HVHZ CLIPPED ALUMINUM TUBE MULLIONS
VERTICAL AND HORIZONTAL CONFIGURATIONS
1" x 4" MULLION

DATE:	DRAWN BY:	PREPARED BY:
02/05/13	TJH	BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578
DRAWING NO: PA-0003	SCALE: N.T.S.	
SHEET: 10 OF 13	REV: -	

DESIGN PRESSURE LIMITS FOR MULLION: 2" x 4" - ONE-WAY MULLIONS									
SPAN 'L'	TRIBUTARY WIDTH 'W' (IN.)								
(IN.)	18	24	30	36	42	48	53.125	54	60
24	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
48	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
72	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
96	90.0	90.0	90.0	90.0	90.0	85.9	79.5	78.5	73.0
108	90.0	90.0	89.9	76.0	66.2	59.1	54.4	53.7	49.5

DESIGN PRESSURE LIMITS FOR MULLION: 2" x 4" - TWO-WAY MULLIONS									
SPAN 'L'	TRIBUTARY WIDTH 'W' (IN.)								
(IN.)	18	24	30	36	42	48	53.125	54	60
24	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
48	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
72	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
96	90.0	90.0	90.0	90.0	88.6	77.6	70.1	68.9	62.0
108	90.0	90.0	87.1	72.6	62.2	54.5	49.2	48.4	43.6

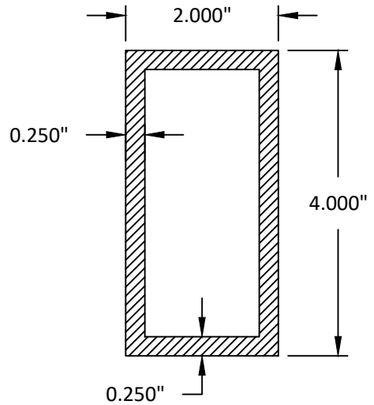
QUALIFIED ANCHOR CLIPS



2" X 4" X 3 3/8" L-CLIP

ALUMINUM 6063-T6
**MUST BE USED IN PAIRS

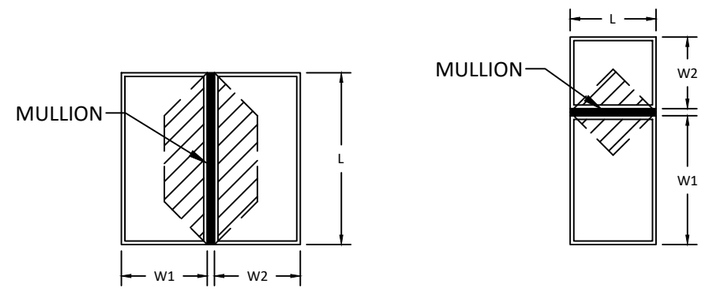
NOTE: SEE SHEET 3 FOR SPECIFIC CLIP TYPES AND DIMENSIONS.



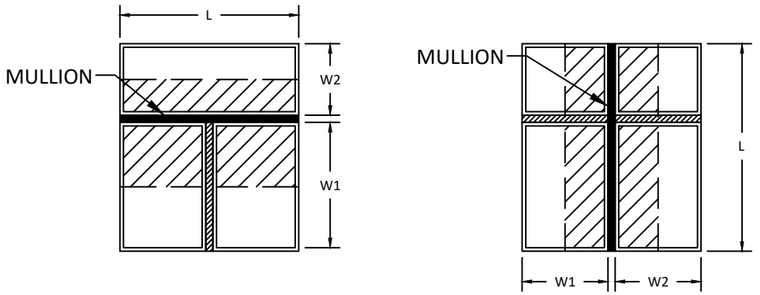
2" X 4"MULLION

ALUMINUM 6005-T5

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



ONE-WAY MULLION DIAGRAMS



TWO-WAY MULLION DIAGRAMS

TABLE NOTES:

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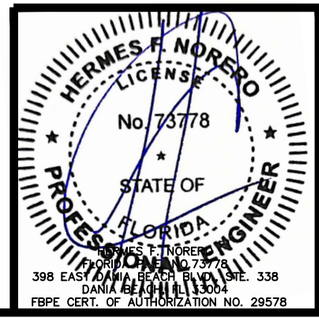


REVISIONS

BY	DATE	DESCRIPTION	REV

EASTERN ARCHITECTURAL SYSTEMS
A DIVISION OF
EASTERN METAL SYPPLY

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

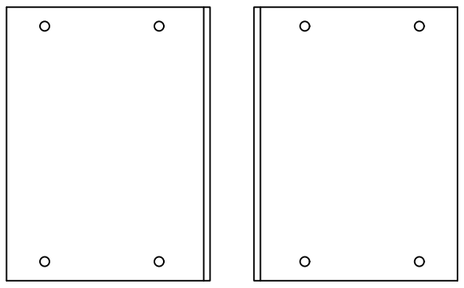
TITLE:
HVHZ CLIPPED ALUMINUM TUBE MULLIONS
VERTICAL AND HORIZONTAL CONFIGURATIONS
2" x 4" MULLION

DATE:	DRAWN BY:	PREPARED BY:
02/05/13	TJH	BUILDING DROPS, INC. FBPE CERTIFICATE OF AUTHORIZATION NO. 29578
DRAWING NO: PA-0003	SCALE: N.T.S.	
SHEET: 11 OF 13	REV: -	

DESIGN PRESSURE LIMITS FOR MULLION: 2" x 6" - ONE-WAY MULLIONS									
SPAN 'L'	TRIBUTARY WIDTH 'W' (IN.)								
(IN.)	18	24	30	36	42	48	53.125	54	60
24	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
48	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
72	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
96	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
108	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0

DESIGN PRESSURE LIMITS FOR MULLION: 2" x 6" - TWO-WAY MULLIONS									
SPAN 'L'	TRIBUTARY WIDTH 'W' (IN.)								
(IN.)	18	24	30	36	42	48	53.125	54	60
24	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
48	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
72	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
96	90.0	90.0	90.0	90.0	90.0	90.0	89.0	87.6	78.8
108	90.0	90.0	90.0	90.0	90.0	87.6	79.1	77.8	70.0

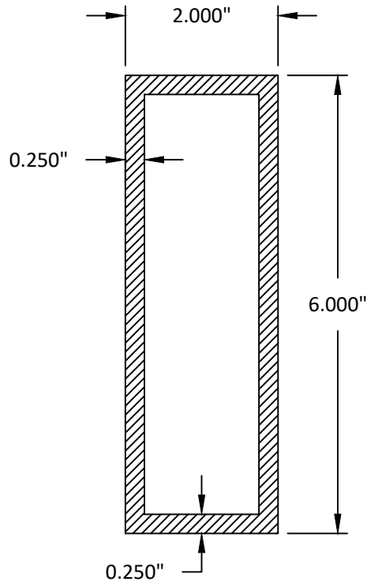
QUALIFIED ANCHOR CLIPS



2" X 4" X 5 3/8" L-CLIP

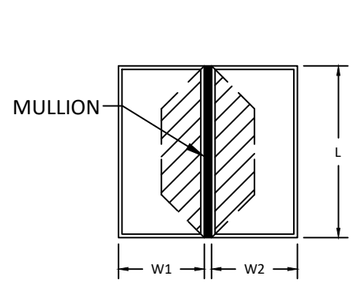
ALUMINUM 6063-T6
**MUST BE USED IN PAIRS

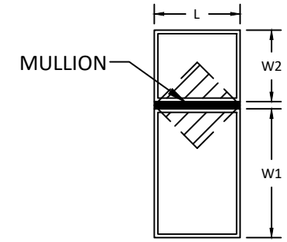
NOTE: SEE SHEET 3 FOR SPECIFIC CLIP TYPES AND DIMENSIONS.



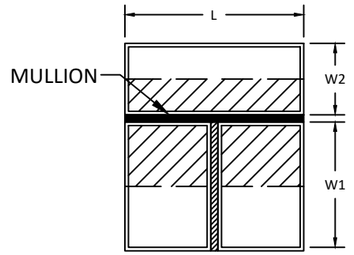
2" X 6"MULLION

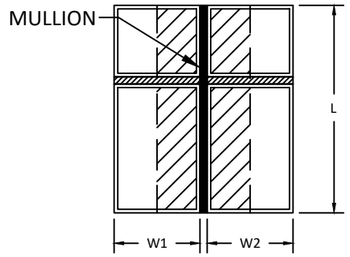
ALUMINUM 6005-T5





ONE-WAY MULLION DIAGRAMS





TWO-WAY MULLION DIAGRAMS

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

TABLE NOTES:

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HERMES F. NORERO
LICENSE
No. 73778
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
HERMES F. NORERO
FLORIDA P.E. No. 73778
398 EAST DANIA BEACH BLVD. STE. 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION NO. 29578

REVISIONS			
BY	DATE	DESCRIPTION	REV

EASTERN ARCHITECTURAL SYSTEMS
A DIVISION OF
EASTERN METAL SYPPLY
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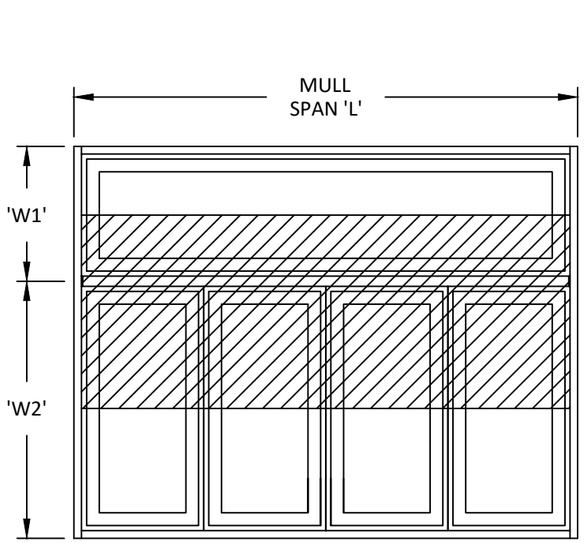
1-877-401-2190

TITLE:
HVHZ CLIPPED ALUMINUM TUBE MULLIONS
VERTICAL AND HORIZONTAL CONFIGURATIONS
2" x 6" MULLION

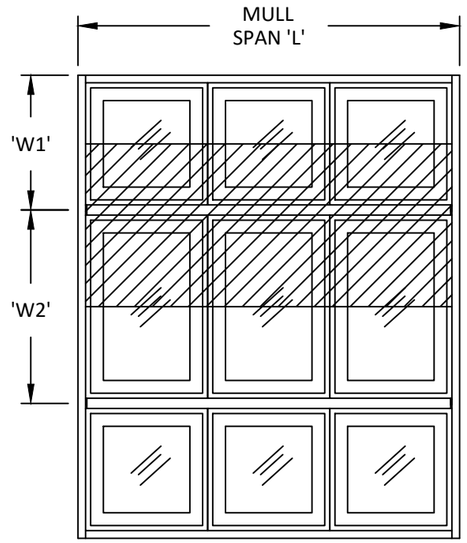
DATE:	DRAWN BY:
02/05/13	TJH
DRAWING NO: PA-0003	SCALE: N.T.S.
SHEET: 12 OF 13	REV: -

PREPARED BY:
BUILDING DROPS, INC.
FBPE CERTIFICATE OF AUTHORIZATION NO. 29578

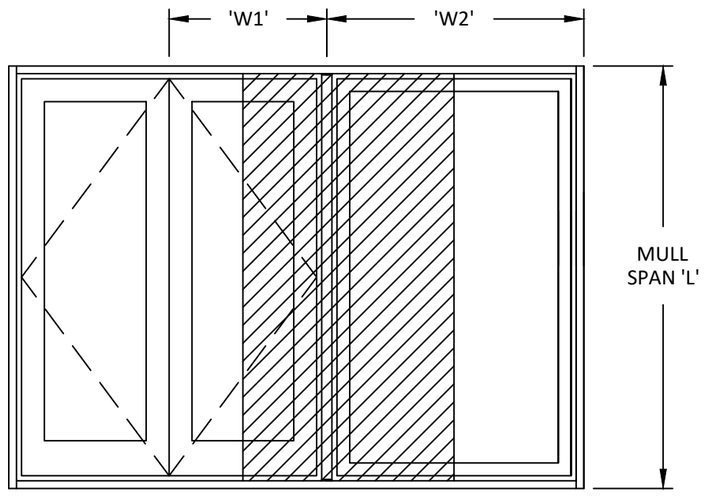
EXAMPLES OF TWO-WAY MULLION ASSEMBLIES



HORIZONTAL MULLION
TRANSOM OVER MULTIPLE UNITS

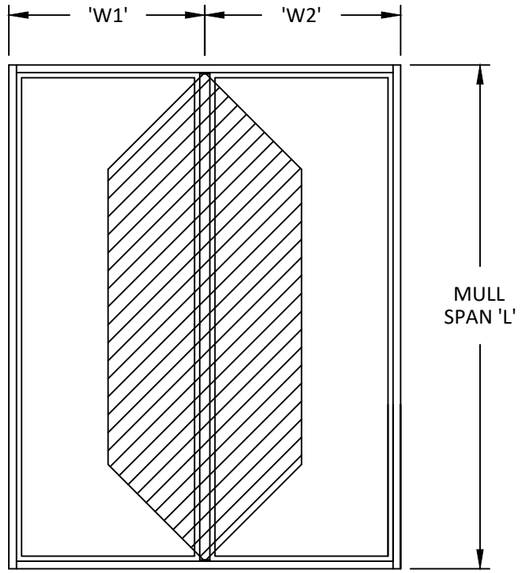


HORIZONTAL MULLION
MULTIPLE UNIT ASSEMBLY

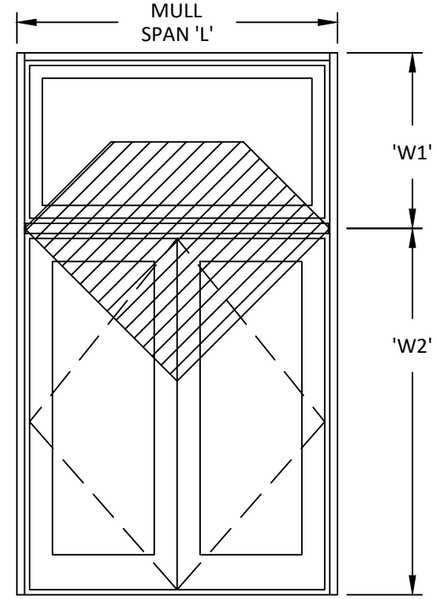


VERTICAL MULLION
HINGED DOOR W/ SIDELITE

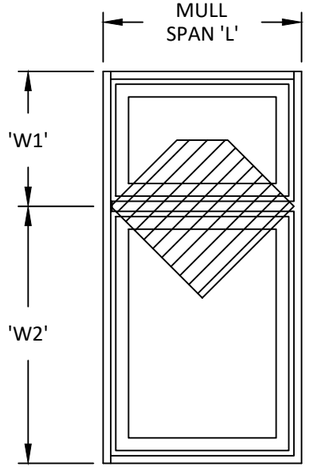
EXAMPLES OF ONE-WAY MULLION ASSEMBLIES



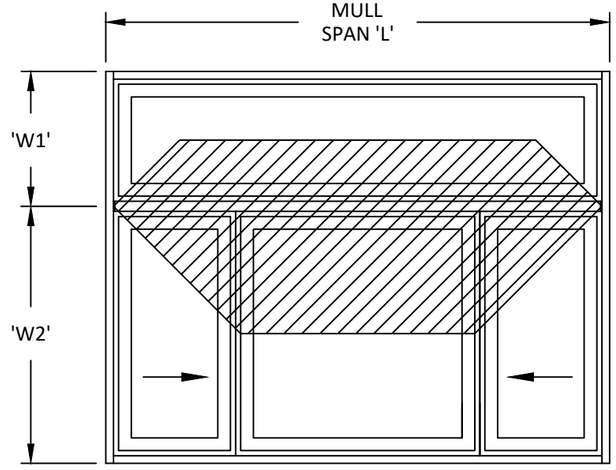
VERTICAL MULLION



HORIZONTAL MULLION



HORIZONTAL MULLION



HORIZONTAL MULLION

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.

HERMES F. NORERO
LICENSE
No. 73778
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

HERMES F. NORERO
FLORIDA PE LICENSE NO. 73778
398 EAST DANIA BEACH BLVD. STE. 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION NO. 29578

REVISIONS

BY	DATE	DESCRIPTION	REV

Eastern Architectural Systems
Aluminum and Vinyl Impact Windows and Doors

EASTERN ARCHITECTURAL SYSTEMS
A DIVISION OF
EASTERN METAL SYPPLY

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

TITLE:
HVHZ CLIPPED ALUMINUM TUBE MULLIONS
VERTICAL AND HORIZONTAL CONFIGURATIONS
MULLION ASSEMBLY AND LOAD EXAMPLES

DATE:	DRAWN BY:
02/05/13	TJH
DRAWING NO: PA-0003	SCALE: N.T.S.
SHEET: 13 OF 13	REV: -

PREPARED BY:
BUILDING DROPS
BUILDING DROPS, INC.
FBPE CERTIFICATE OF
AUTHORIZATION NO. 29578