1. The product shown herein is designed and manufactured to comply with the current Florida Building Code, excluding the High Velocity Hurricane Zone (HVHZ).

2. 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.

3. 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.

4. ADEQUACY OF THE EXISTING STRUCTURAL CONCRETES/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. MULLIONS & CLIP MATERIAL: ALUMINUM 6065-T5 & 6063-T6 (AS NOTED)

8. MULLIONS MAY BE USED WITH ANY APPROVED FENESTRATION PRODUCT, UNDER SEPARATE APPROVAL.

9. SEE SHEETS 3-7 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 CURRENT FLORIDA BUILDING CODE.

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**REVISIONS**

Digitally signed by Hermes F. Norens, P.E.
Reason: I am approving this document
Date: 2023.10.04 10:40:27 -04'00'

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**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 MUDDLED TOGETHER WITH MULTIPLE MULLIONS REQUIRE USE OF TWO-WAY MULLIONS.
   - SEE SHEET 8 FOR ASSEMBLY EXAMPLES.

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

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

INSTALLATION FASTENERS VARY, SEE NOTES SHEETS 4 - 7

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

2" x 4" L-CLIP
ALUMINUM 6063-T6

VERTICAL AND HORIZONTAL CONFIGURATIONS
MULLION ASSEMBLY AND MULLION AND CLIP DETAILS

BAY/BOW MULLION

SUBSTRATE VARIES, SEE NOTES SHEETS 4 - 7

BAY MULL TOP VIEW (TYP.)

L-CLIP ATTACHMENT (TYP.)

L-CLIP & ANCHORS
OPENING SUBSTRATE BY OTHERS

MULLION

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

L-CLIP ATTACHMENT (TYP.)

NOTE: L-CLIPS MUST BE USED WITH ANY "BAY/BOW" MULLION TYPE. SEE SPECIFIC MULLION SHEET FOR DETAILS.
DETAILS SHOWN ARE TYPICAL FOR ALL MULLION & CLIP ASSEMBLIES. SEE SHEETS 4-7 FOR ALLOWABLE MULLION CONFIGURATIONS, SIZES, AND DESIGN PRESSURES.
**QUALIFIED ANCHOR CLIPS**

L-CLIP
ALUMINUM 6063-T6

**MUST BE USED IN PAIRS**

**NOTE:** SEE SHEET 2 FOR SPECIFIC CLIP DIMENSIONS.

---

**TABLE NOTES:**
1. SEE SHEET 1 FOR INSTRUCTIONS ON USING TABLES. SEE SHEETS 2-3 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 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.
**30 DEGREE MULLION**

**ALUMINUM 6005-T5**

**MUST BE USED IN PAIRS**

**NOTE:** SEE SHEET 2 FOR SPECIFIC CLIP DIMENSIONS.

**L-CLIP**

ALUMINUM 6063-T6

**QUALIFIED ANCHOR CLIPS**

- **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.

**TABLE NOTES:**

1. SEE SHEET 1 FOR INSTRUCTIONS ON USING TABLES. SEE SHEETS 2-3 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.

**DESIGN PRESSURE LIMITS FOR MULLION - 30 Deg. - ONE-WAY MULLIONS**

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<thead>
<tr>
<th>SPAN 'L' (IN)</th>
<th>12</th>
<th>18</th>
<th>24</th>
<th>30</th>
<th>36</th>
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**DESIGN PRESSURE LIMITS FOR MULLION - 30 Deg. - TWO-WAY MULLIONS**

<table>
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<tr>
<th>SPAN 'L' (IN)</th>
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<th>30</th>
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</tbody>
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**ONE-WAY MULLION DIAGRAMS**

**TWO-WAY MULLION DIAGRAMS**

**NOTE:** SEE SHEET 2 FOR SPECIFIC CLIP DIMENSIONS.
**HVN2 CLIPPED ALUMINUM BAY/BOW MULLIONS VERTICAL AND HORIZONTAL CONFIGURATIONS 45° MULLION**

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**TABLE NOTES:**

1. **SEE SHEET 1 FOR INSTRUCTIONS ON USING TABLES. SEE SHEETS 2-3 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 3/4". WOOD SHALL BE MIN. S.G.=0.55.**
   - **HOLLOW CMU ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 1-3/4" & 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 6005-T6

**MUST BE USED IN PAIRS**

**NOTE:** SEE SHEET 2 FOR SPECIFIC CLIP DIMENSIONS.

---

**ONE-WAY MULLION DIAGRAMS**

**TWO-WAY MULLION DIAGRAMS**
90 DEGREE MULLION
ALUMINUM 6005-T5

TRIBUTARY WIDTH = \( \frac{W_1 + W_2}{2} \)

TABLE NOTES:
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QUALIFIED ANCHOR CLIPS

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

NOTE: SEE SHEET 2 FOR SPECIFIC CLIP DIMENSIONS.
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.