

# JELD-WEN

## CLIPPED ALUMINUM TUBE MULLION - IMPACT RESISTANT MULLION SPAN VS. LOAD WIDTH TABLES - INSTALLATION ANCHORAGE DETAILS

### GENERAL NOTES:

1. THE SYSTEM DESCRIBED HEREIN IS DESIGNED TO COMPLY WITH THE 2018 INTERNATIONAL BUILDING CODE AND THE 2018 INTERNATIONAL RESIDENTIAL CODE AT THE DESIGN PRESSURES STATED HEREIN.
2. POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED BY OTHERS ON A JOB SPECIFIC BASIS IN ACCORDANCE WITH CHAPTER 16 OF THE 2018 INTERNATIONAL BUILDING CODE AND CHAPTER 3 OF THE 2018 INTERNATIONAL RESIDENTIAL CODE.
3. THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT IF REQUIRED.
4. PERMIT HOLDER SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS. WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
5. ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, UNLESS NOTED OTHERWISE.
6. ALL FENESTRATION PRODUCTS TO BE USED WITH THESE MULLIONS SHALL MEET ALL APPLICABLE CODE REQUIREMENTS, e.g. WIND LOAD RESISTANCE, AIR & WATER INFILTRATION, FORCED ENTRY, SAFEGUARDS, ETC.
7. TOP & BOTTOM DETAILS SHOWN MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE. MULLIONS MAY BE MOUNTED VERTICALLY OR HORIZONTALLY AS APPLICABLE.
8. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
9. MINIMUM ANCHOR EMBEDMENT SHALL BE AS NOTED IN HEREIN. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
10. MULLIONS SHOWN HEREIN MAY BE USED IN LARGE MISSILE IMPACT, SMALL MISSILE IMPACT, AND NON-IMPACT APPLICATIONS. WHERE OPENING PROTECTION IS REQUIRED, FENESTRATION PRODUCTS USED WITH THESE PRODUCTS MUST MEET WIND BORNE DEBRIS IMPACT RESISTANT REQUIREMENTS FOR OPENING PROTECTION OR AN APPROVED IMPACT RESISTANT SHUTTER USED.

### INSTALLATION NOTES:

1. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
2. ENSURE MINIMUM EDGE DISTANCE FOR ALL ANCHORS AS 2-1/4" TO CONCRETE AND 2" TO HOLLOW BLOCK.
3. WHERE ANCHORS FASTEN TO NARROW FACE OF STUD FRAMING, ANCHOR SHALL BE LOCATED IN CENTER OF NOMINAL 2x (MIN) WOOD STUD (i.e. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR ANCHORS TO WOOD FRAMING).
4. ANCHORS TO STEEL OR ALUMINUM SHALL HAVE A MINIMUM EDGE DISTANCE OF 1/2".
5. WOOD HOST STRUCTURE SHALL HAVE SPECIFIC GRAVITY (SG) = 0.55 OR GREATER.
6. ANCHOR REQUIREMENTS AS SHOWN HEREIN, INCLUDING MINIMUM EMBEDMENT AND EDGE DISTANCE, EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
7. WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO STRUCTURAL WOOD FRAMING MEMBERS, NOT SHEATHING.
8. PRESSURE TREATED WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
9. ANCHORS TO CONCRETE AND HOLLOW CONCRETE BLOCK MAY NOT BE USED IN CONJUNCTION WITH 'GOAL-POST' CLIP AND CUP PLATE.
10. INSTALLATION OF THE WINDOW TO MULLION SHALL USE THE SAME SIZE WOOD SUBSTRATE INSTALLATION SCREW REQUIRED BY THE WINDOW'S APPROVED TDI PRODUCT EVALUATION REPORT (WIN NO. LISTED BELOW IN NOTE 10.4). A THREAD-FORMING, THREAD-CUTTING OR SELF-DRILLING SCREW MEETING THE REQUIREMENTS SHOWN IN THE ANCHOR SCHEDULE, NOTE 5 BELOW SHALL BE USED. IN ALL CASES A MINIMUM NO. 10 SCREW IS REQUIRED UNLESS THE APPROVED TDI PRODUCT EVALUATION REPORT REQUIRES A LARGER DIAMETER SCREW, IN WHICH CASE THAT SIZE GOVERNS. THE FOLLOWING SHALL ALSO BE ADHERED TO.
  - 10.1. THE ANCHOR QUANTITY AND/OR SPACING SHOWN IN THE WINDOW'S APPROVED TDI PRODUCT EVALUATION REPORT FOR INSTALLATION INTO WOOD SUBSTRATE SHALL BE USED FOR THE INSTALLATION OF THE THREAD-FORMING, THREAD-CUTTING OR SELF-DRILLING SCREW WHEN ATTACHING THE WINDOW TO THE ALUMINUM MULLION.
  - 10.2. FOR FIN WINDOW INSTALLATIONS, THE FIN SHALL BE REMOVED AND THE WINDOW ATTACHED TO THE MULLION USING THE FRAME INSTALLATION METHOD. SEE SHEET 5 FOR TYPICAL DETAIL.
  - 10.3. FOR FRAME WINDOW INSTALLATIONS, THE WINDOW SHALL BE ATTACHED TO THE MULLION USING THE FRAME INSTALLATION METHOD. SEE SHEET 5 FOR TYPICAL DETAIL.
  - 10.4. THE FOLLOWING APPROVED TDI PRODUCT EVALUATION REPORTS ARE APPLICABLE FOR USE WITH THE MULLION SYSTEM.
    - 10.4.1. PREMIUM ATLANTIC ALUMINUM WIN NO. 1359, 1437, 1441, 1442.
    - 10.4.2. BUILDERS ATLANTIC ALUMINUM WIN NO. 1324 AND 1335
    - 10.4.3. PREMIUM ATLANTIC VINYL WIN NO. 760, 761, 782, 940, 1072, 1340, 1342, 1343, 1344, 1351 AND 1414.
    - 10.4.4. BUILDERS VINYL WIN NO. 1153 AND 1478

### ANCHOR SCHEDULE:

1. MULL CLIP TO CONCRETE BLOCK
  - 1.1. 3/16" DIA. ITW ADVANCED THREADFORM TAPCONS WITH 1" MINIMUM EMBEDMENT AND 2" MINIMUM EDGE DISTANCE.
  - 1.2. ATTACHMENT MAY BE MADE THROUGH 1X OR 2X WOOD BUCKS OR DIRECTLY INTO MASONRY.
2. MULL CLIP TO 2500 PSI MINIMUM CONCRETE
  - 2.1. 3/16" DIA. ITW ADVANCE THREADFORM TAPCONS WITH 1-1/2" MINIMUM EMBEDMENT AND 2-1/4" MINIMUM EDGE DISTANCE.
  - 2.2. ATTACHMENT MAY BE MADE THROUGH 1X OR 2X WOOD BUCKS OR DIRECTLY INTO CONCRETE.
3. MULL CLIP TO 2X WOOD BUCK OR 2X WOOD FRAME HOST SUBSTRATE
  - 3.1. #10 WOOD SCREWS OF #10 TAPPING SCREWS (SMS OR SDS) WITH 1-1/2" MINIMUM EMBEDMENT AND 3/4" MINIMUM EDGE DISTANCE.
4. MULL CLIP TO 1/8" THICK MINIMUM 6063-T5 ALUMINIUM OR STEEL SUBSTRATE (F<sub>tu</sub> = F<sub>ty</sub> = 22 KSI MINIMUM). INCLUDES CLIP TO MULLION ATTACHMENTS.
  - 4.1. #10 316 STAINLESS STEEL SHEET METAL SCREW (SMS) OR SELF DRILLING SCREW (SDS) WITH FULL THREAD PENETRATION THROUGH HOST SUBSTRATE AND 1/2" MINIMUM EDGE DISTANCE.
5. WINDOW TO MULLION
  - 5.1. MINIMUM #10 THREAD-FORMING, THREAD-CUTTING OR SELF-DRILLING TAPPING SCREW AS FOLLOWS. SEE INSTALLATION NOTE 10 ON THIS SHEET FOR MORE DETAILS.
    - 5.1.1. ASME B18.6.4, TYPE B THREAD-FORMING
    - 5.1.2. ASME B18.6.4, TYPE F, D(1) OR T(23) THREAD-CUTTING
    - 5.1.3. ITW TEKS OR SUPER TEKS SELF-DRILLING
6. ALL SCREWS SHALL BE MADE OF CORROSION RESISTANT MATERIAL OR HAVE A CORROSION RESISTANT COATING.

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3	ELEVATIONS 4 AND 5
4	COMPONENTS
5	C-CLIP AND T-CLIP INSTALLATION DETAILS
6	'GOAL-POST' CLIP INSTALLATION DETAILS
7 & 8	MULLION SPAN VS. LOAD WIDTH TABLES


PROJECT NO. 422-0210	
C	UPDATE TO 2018 I-CODES
B	ADD 4-WAY MULLION CONFIGURATION
A	REVISED FOR CLARIFICATION OF WINDOW TO MULLION ATTACHMENT
REV	DESCRIPTION
3/14/2022	DATE
RJA	BY

**JELD-WEN INC.**  
3737 LAKEPORT BOULEVARD  
KLAMATH FALLS, OR 97601

TITLE: CLIPPED ALUMINUM TUBE MULLION - IMPACT RESISTANT  
GENERAL NOTES, INST. NOTES & ANCHOR SCHEDULE

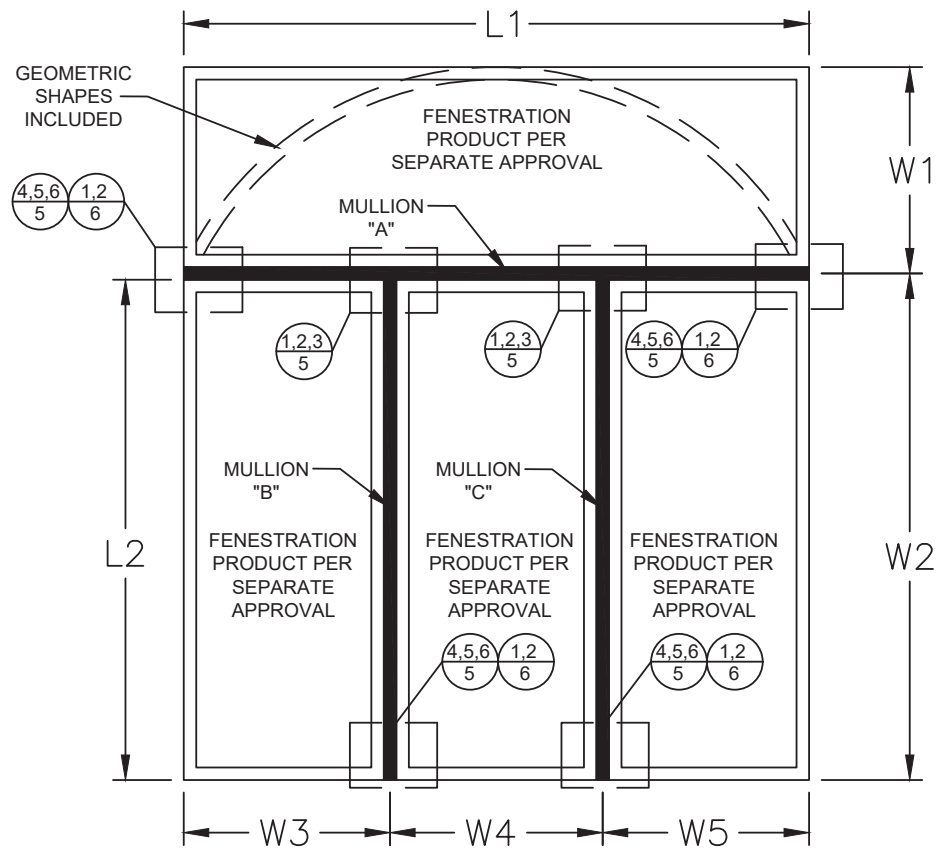
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DRAWING NO: JELD0109  
SHEET: 1 OF 8

DRAWN BY: RJA  
SCALE: NONE  
REV: C

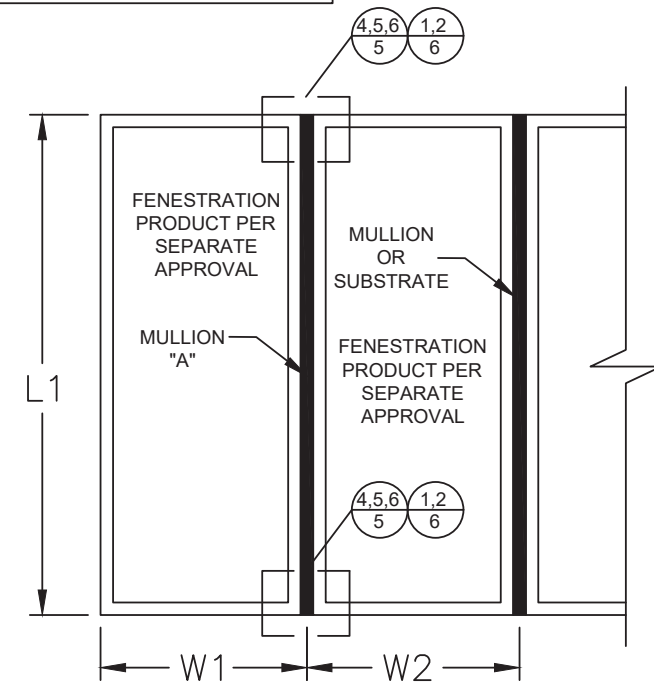
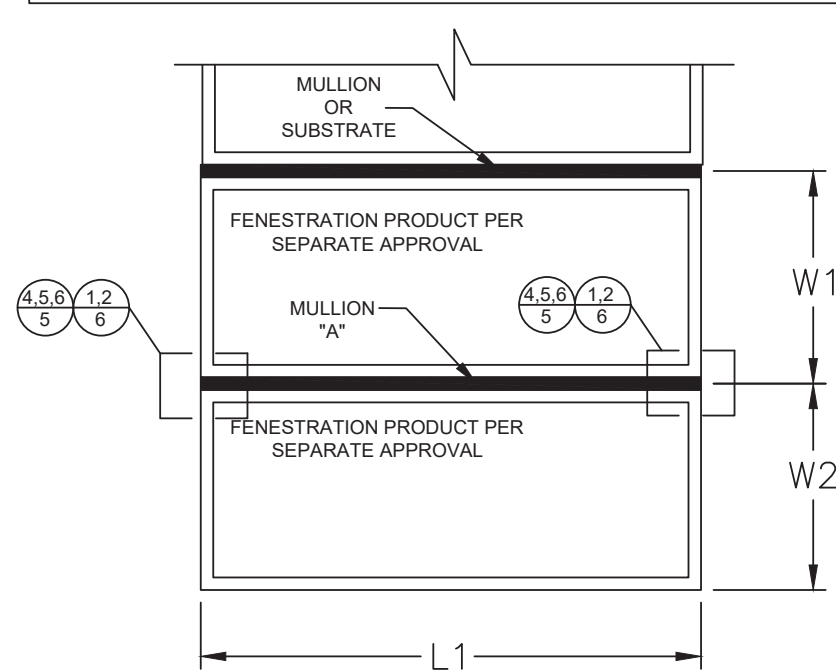
PREPARED BY: 

PDC PRODUCT DESIGN GROUP, LLC  
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Robert J. Amoroso, P.E.  
Texas PE No. 80817



**NOTE:** MULLION DESIGNATIONS (MULLION "A", MULLION "B" AND MULLION "C") SHOWN IN DETAILS 1/2, 2/2 AND 3/2 ARE PROVIDED ONLY TO ILLUSTRATE THE DETERMINATION OF MULLION SPANS AND TRIBUTARY WIDTHS. ALL MULLIONS SHOWN IN THE REFERENCED DETAILS MAY BE ANY MULLION APPROVED HEREIN.



- NOTES:
- NUMBER OF FENESTRATION PRODUCTS UNDERNEATH TRANSOM MAY BE UNLIMITED PROVIDED THAT MULLION LIMITATIONS NOTED HEREIN ARE NOT EXCEEDED.
  - ANCHORAGE OF FENESTRATION PRODUCTS TO MULLIONS SHALL BE PER INSTALLATION NOTE 10 ON SHEET 1.
  - ALLOWABLE DESIGN PRESSURES SHALL BE DETERMINED FROM DESIGN SCHEDULES.
  - MULLION SPANS AND TRIBUTARY WIDTHS SHALL BE DETERMINED AS FOLLOWS:
    - MULLION "A"
      - MULLION SPAN = L1
      - TRIBUTARY WIDTH =  $(W1 + W2)/2$
    - MULLION "B"
      - MULLION SPAN = L2
      - TRIBUTARY WIDTH =  $(W3 + W4)/2$
    - MULLION "C"
      - MULLION SPAN = L3
      - TRIBUTARY WIDTH =  $(W4 + W5)/2$

- NOTES:
- UNLIMITED NUMBER OF FENESTRATION PRODUCTS MAY BE MULLED TOGETHER AS SHOWN PROVIDED THAT MULLION LIMITATIONS NOTED HEREIN ARE NOT EXCEEDED.
  - ANCHORAGE OF FENESTRATION PRODUCTS TO MULLIONS SHALL BE PER INSTALLATION NOTE 10 ON SHEET 1.
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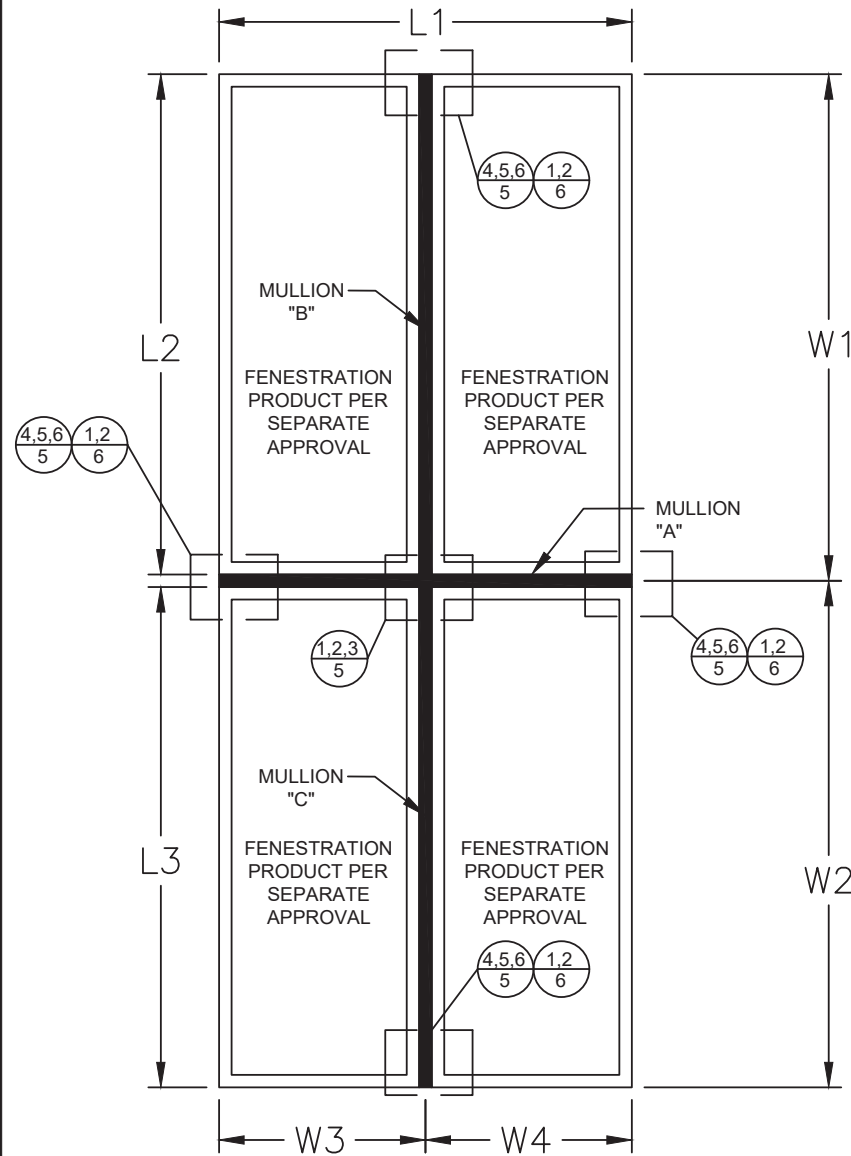
**1**  
**2**  
3-WAY MULLED FENESTRATION PRODUCTS WITH TRANSOM  
EXTERIOR ELEVATION SHOWN

**2**  
**2**  
FENESTRATION PRODUCTS MULLED HORIZONTALLY  
EXTERIOR ELEVATION SHOWN

**3**  
**2**  
FENESTRATION PRODUCTS MULLED VERTICALLY  
EXTERIOR ELEVATION SHOWN

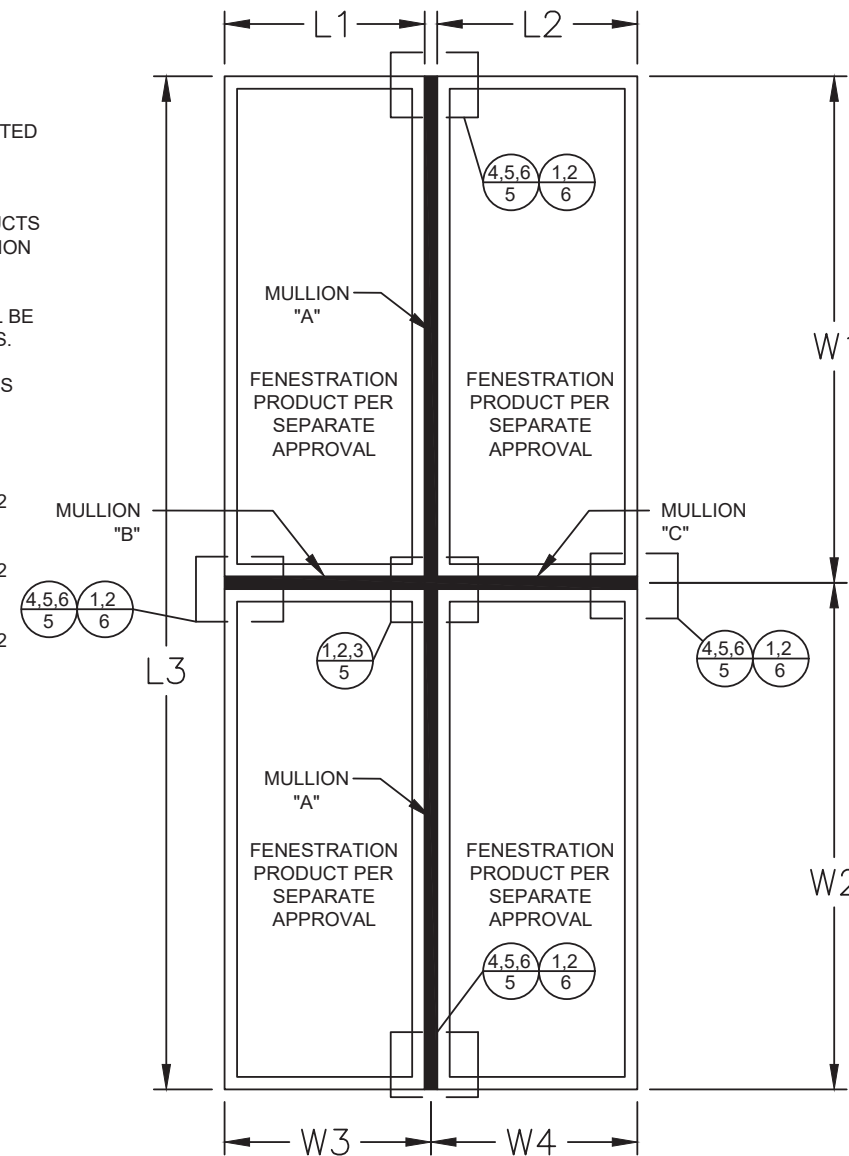
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C	UPDATE TO 2018 I-CODES	B	ADD 4-WAY MULLION CONFIGURATION	A	REVISED FOR CLARIFICATION OF WINDOW TO MULLION ATTACHMENT	REV	DESCRIPTION	DATE
JELD-WEN INC. 3737 LAKEPORT BOULEVARD KLAMATH FALLS, OR 97601		DRAWN BY:	RJA	DATE:	1/15/14	DRAWING NO.:	JELD0109	SHEET:
TITLE: CLIPPED ALUMINUM TUBE MULLION - IMPACT RESISTANT ELEVATIONS		SCALE:	NONE	REV:	C	2 OF 8		
PREPARED BY:	PTC PRODUCT DESIGN GROUP, LLC P.O. Box 520775 Longwood, FL 32752-0775 Phone: 321.690.1788 Fax: 321.690.1789 Texas Registration No. F-13740 Email: info@ptc-corp.com							

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4. MULLION SPANS AND TRIBUTARY WIDTHS SHALL BE DETERMINED AS FOLLOWS:
  - 4.1. MULLION "A"
    - 4.1.1. MULLION SPAN = L1
    - 4.1.2. TRIBUTARY WIDTH =  $(W1 + W2)/2$
  - 4.2. MULLION "B"
    - 4.2.1. MULLION SPAN = L2
    - 4.2.2. TRIBUTARY WIDTH =  $(W3 + W4)/2$
  - 4.3. MULLION "C"
    - 4.3.1. MULLION SPAN = L3
    - 4.3.2. TRIBUTARY WIDTH =  $(W3 + W4)/2$



NOTES:

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2. ANCHORAGE OF FENESTRATION PRODUCTS TO MULLIONS SHALL BE PER INSTALLATION NOTE 10 ON SHEET 1.
3. ALLOWABLE DESIGN PRESSURES SHALL BE DETERMINED FROM DESIGN SCHEDULES.
4. MULLION SPANS AND TRIBUTARY WIDTHS SHALL BE DETERMINED AS FOLLOWS:
  - 4.1. MULLION "A"
    - 4.1.1. MULLION SPAN = L3
    - 4.1.2. TRIBUTARY WIDTH =  $(W3 + W4)/2$
  - 4.2. MULLION "B"
    - 4.2.1. MULLION SPAN = L1
    - 4.2.2. TRIBUTARY WIDTH =  $(W1 + W2)/2$
  - 4.3. MULLION "C"
    - 4.3.1. MULLION SPAN = L2
    - 4.3.2. TRIBUTARY WIDTH =  $(W1 + W2)/2$

4  
3

4-WAY MULLED FENESTRATION PRODUCTS WITH VERTICAL MULLIONS "B" AND "C" FRAMING INTO HORIZONTAL MULLION "A"

EXTERIOR ELEVATION SHOWN

5  
3

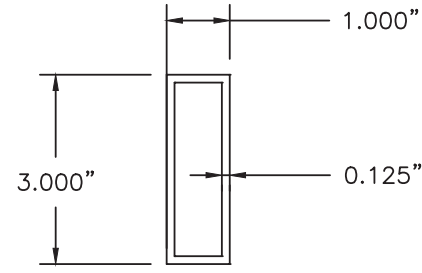
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EXTERIOR ELEVATION SHOWN

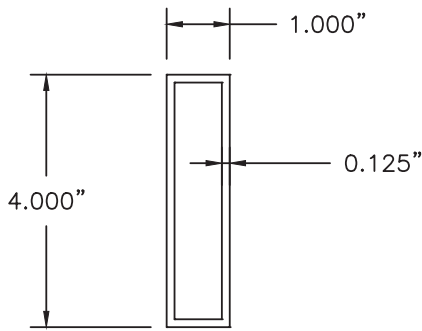
**NOTE:** MULLION DESIGNATIONS (MULLION "A", MULLION "B" AND MULLION "C") SHOWN IN DETAILS 4/3 AND 5/3 ARE PROVIDED ONLY TO ILLUSTRATE THE DETERMINATION OF MULLION SPANS AND TRIBUTARY WIDTHS. ALL MULLIONS SHOWN IN THE REFERENCED DETAILS MAY BE ANY MULLION APPROVED HEREIN.

PROJECT NO. 422-0210		3/14/2022	RJA	BY
UPDATE TO 2018 I-CODES	3/14/2022	RJA	DATE	
ADD 4-WAY MULLION CONFIGURATION	2/29/16	RJA	DATE	
REVISED FOR CLARIFICATION OF WINDOW TO MULLION ATTACHMENT	9/21/15	RJA	DATE	
REV	DESCRIPTION	REV	DATE	BY
JELD-WEN INC. 3737 LAKEPORT BOULEVARD KLAMATH FALLS, OR 97601		DATE: 1/15/14	DRAWING NO: JELD0109	SHEET: 3 OF 8
TITLE: CLIPPED ALUMINUM TUBE MULLION - IMPACT RESISTANT ELEVATIONS		DRAWN BY: RJA	SCALE: NONE	REV: C
PREPARED BY: PTC PRODUCT DESIGN GROUP, LLC P.O. Box 520775 Longwood, FL 32752-0775 Phone: 321.690.1788 Fax: 321.690.1789 Texas Registration No. F-13740 Email: info@ptc-corp.com				

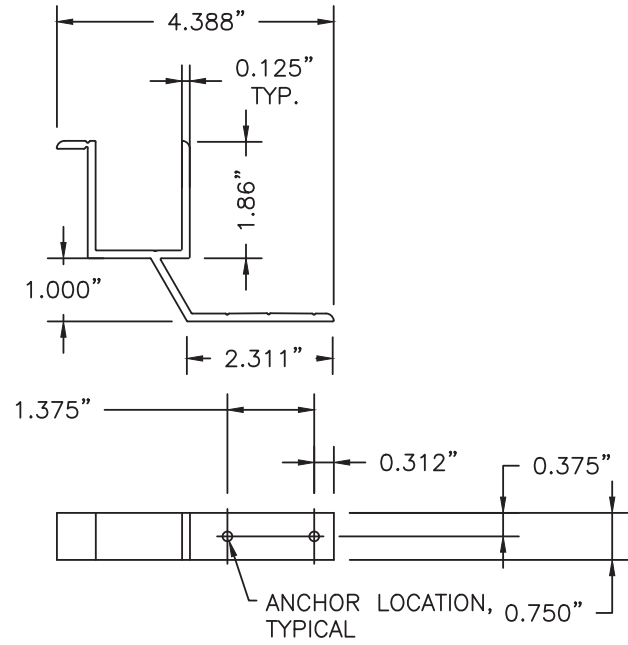
Robert J. Amoruso, P.E.  
Texas PE No. 80817



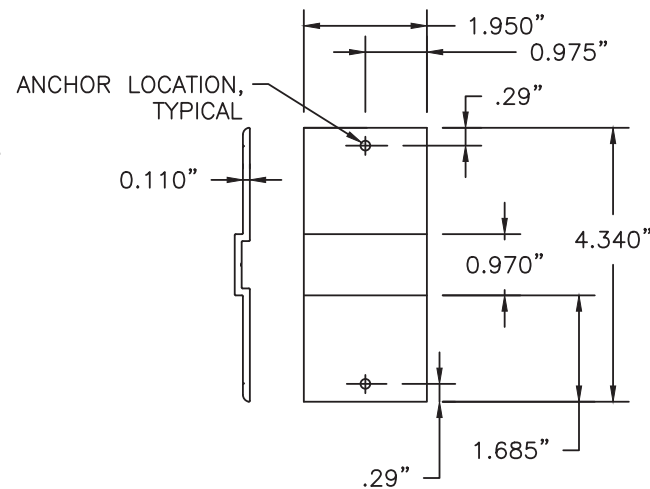
**1** 1" X 3" MULLION  
6063-T6 ALUM.



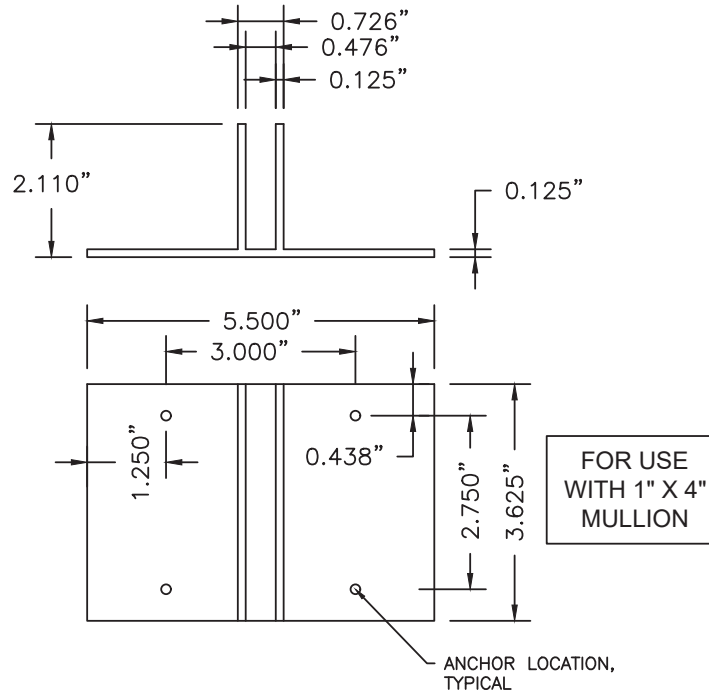
**2** 1" X 4" MULLION  
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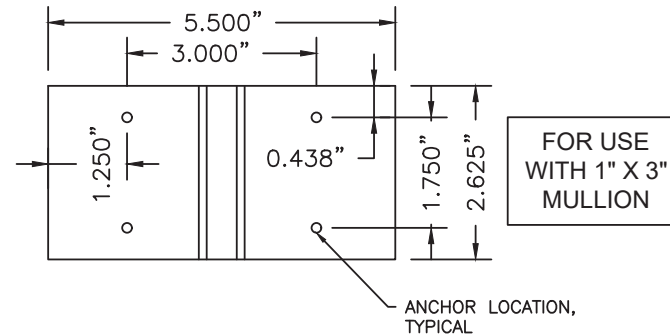
**3** 'GOAL-POST' CLIP  
6063-T6 ALUM.



**4** 'GOAL-POST' CLIP PLATE  
6063-T6 ALUM.

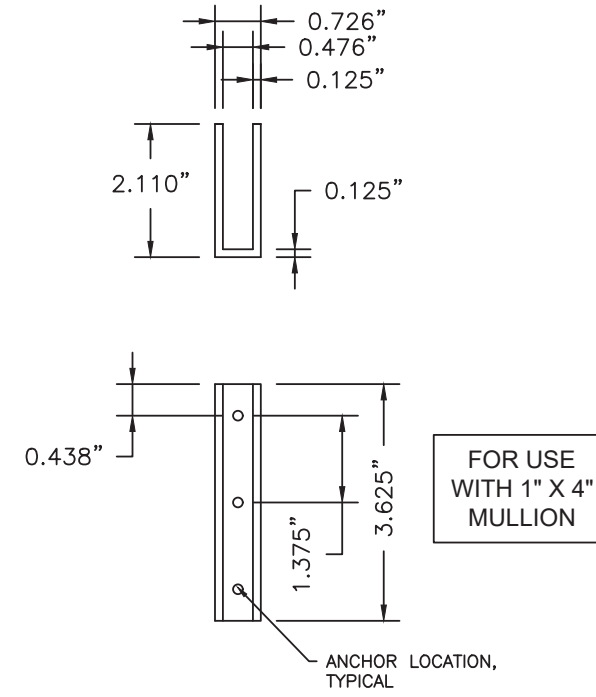


FOR USE WITH 1" X 4" MULLION

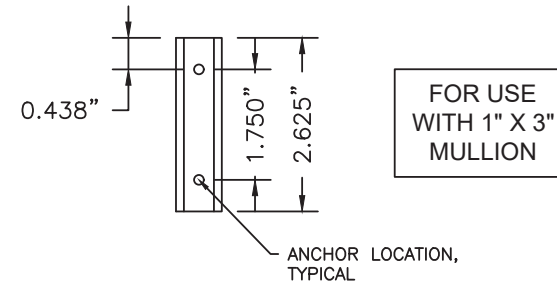


FOR USE WITH 1" X 3" MULLION

**5** T-CLIP  
6063-T6 ALUM.



FOR USE WITH 1" X 4" MULLION



FOR USE WITH 1" X 3" MULLION

**6** C-CLIP  
6063-T6 ALUM.

PROJECT NO. 422-0210		RJA	RJA	RJA	BY
C	UPDATE TO 2018 I-CODES	3/14/2022			DATE
B	ADD 4-WAY MULLION CONFIGURATION	2/29/16			
A	REVISED FOR CLARIFICATION OF WINDOW TO MULLION ATTACHMENT	9/21/15			
REV	DESCRIPTION				

**JELD-WEN INC.**  
3737 LAKEPORT BOULEVARD  
KLAMATH FALLS, OR 97601

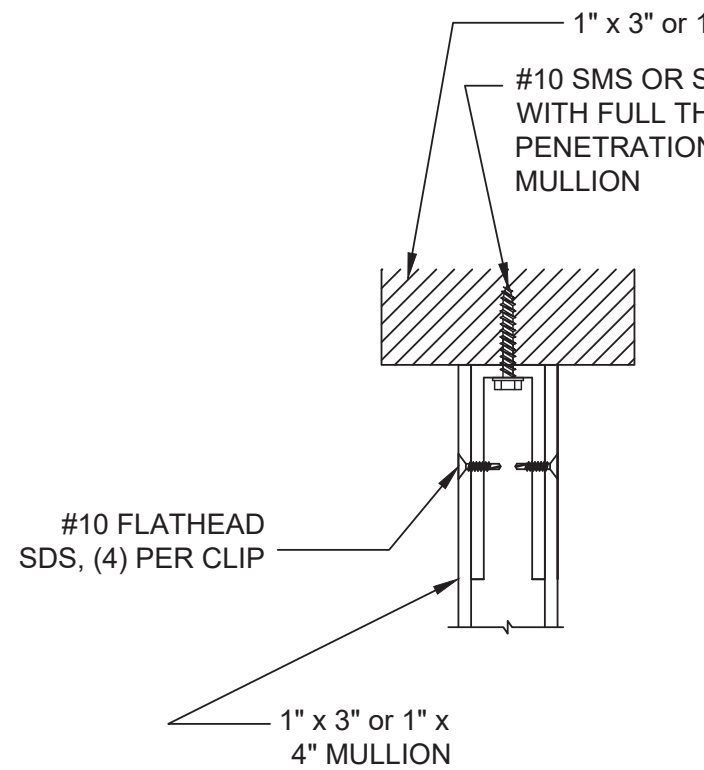
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PREPARED BY: RJA  
SCALE: NONE  
REV: C

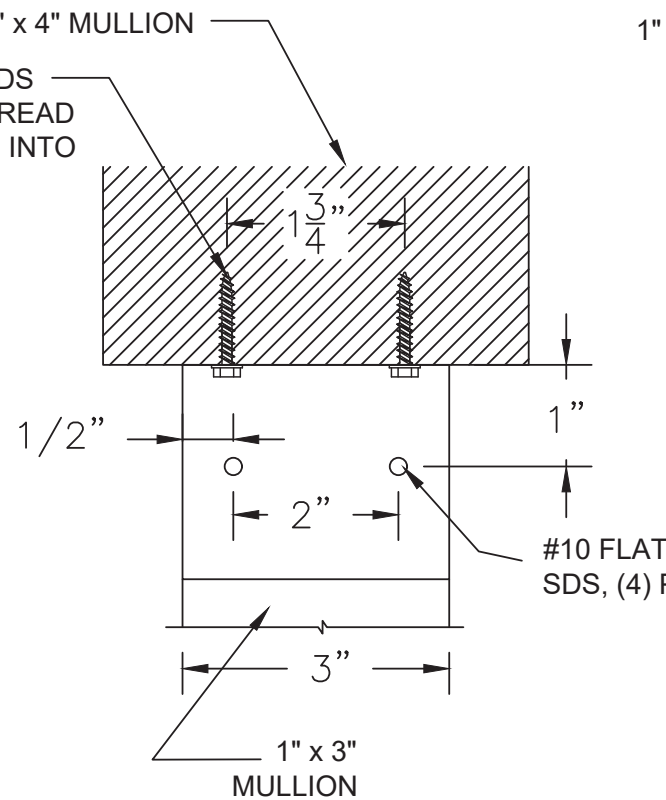
DATE: 1/15/14  
DRAWING NO: JELD0109  
SHEET: 4 OF 8

PTC PRODUCT DESIGN GROUP, LLC  
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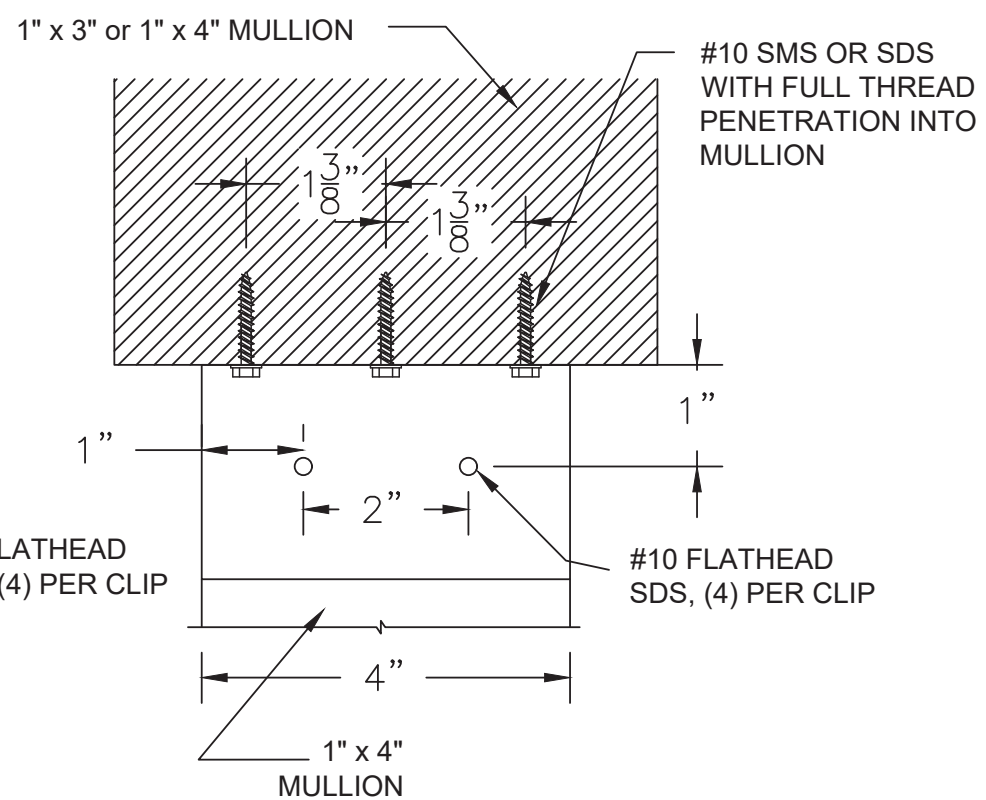
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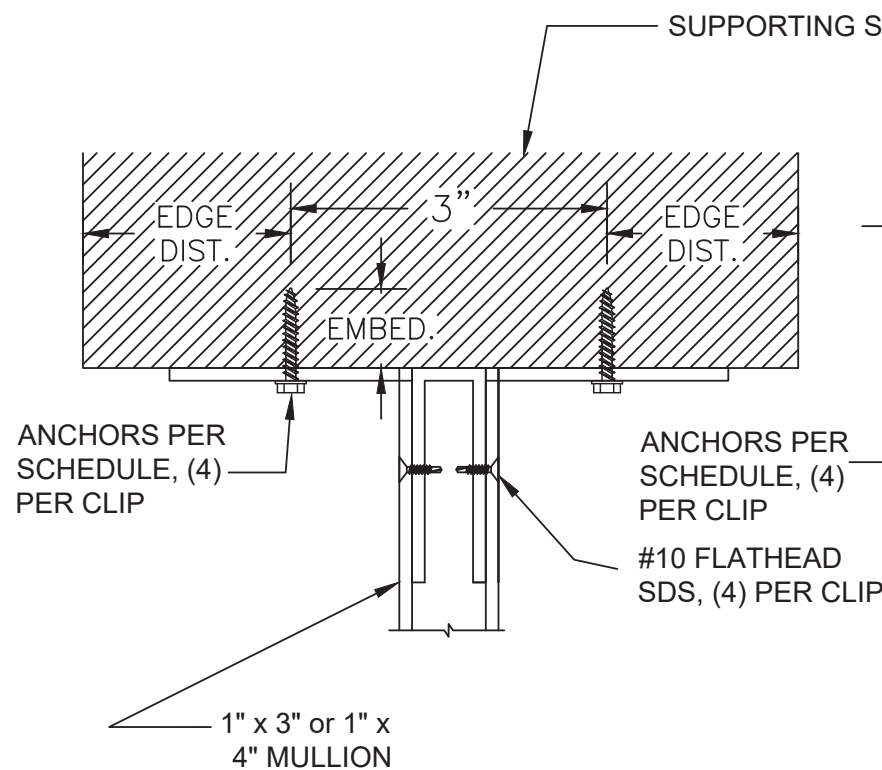
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5 VERTICAL SECTION



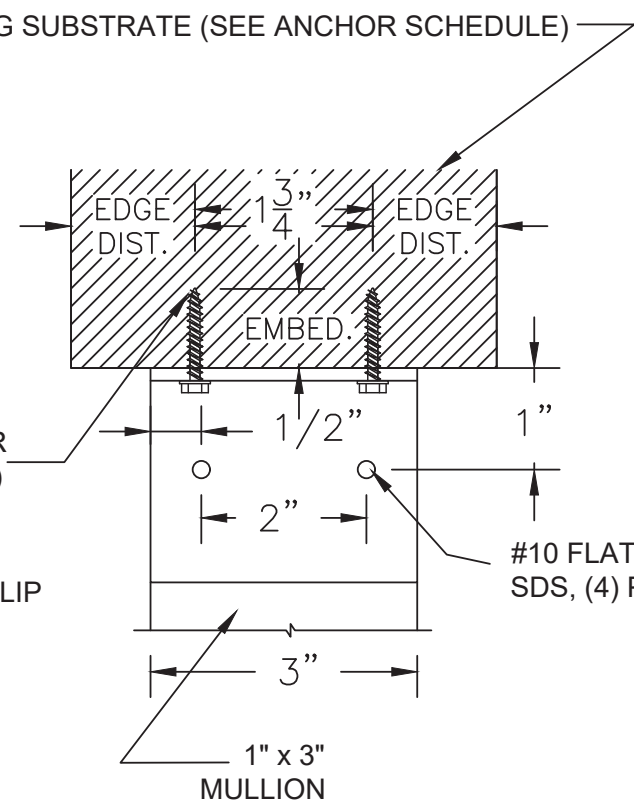
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5 MULLION INTERSECTION W/C-CLIP  
5 SIDE ELEVATION



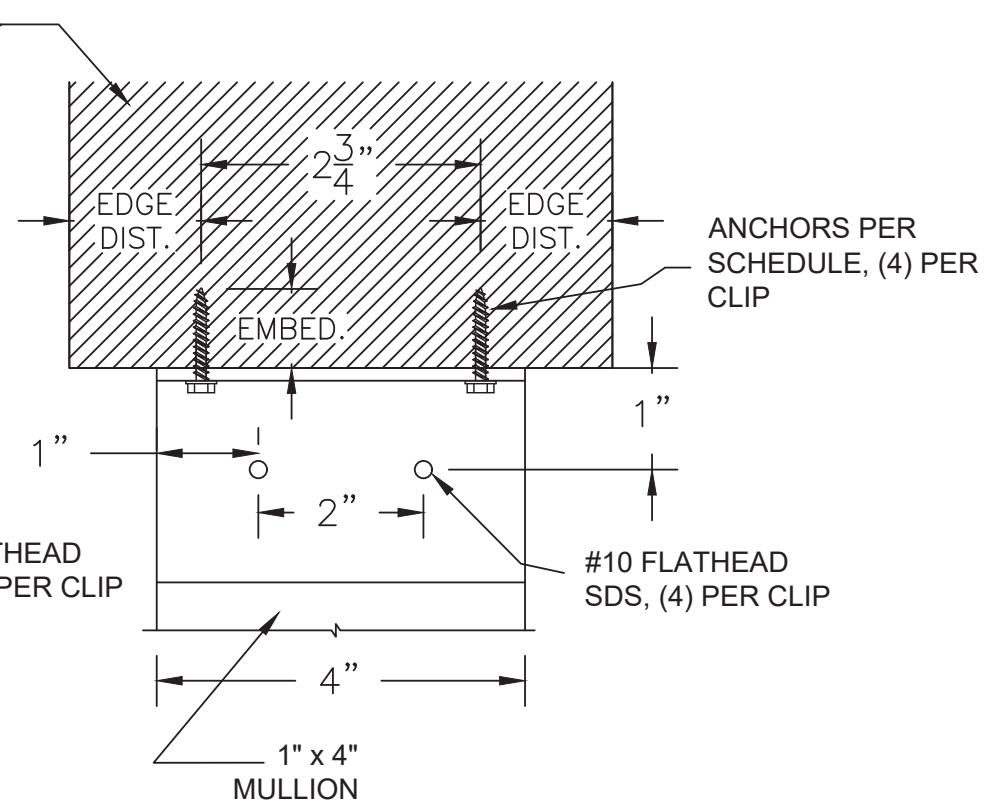
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5 MULLION INTERSECTION W/C-CLIP  
5 SIDE ELEVATION



4 TYPICAL ATTACHMENT  
5 WITH T-CLIP  
5 VERTICAL SECTION



5 1\"/>5 MULLION  
5 ATTACHMENT WITH T-CLIP  
5 SIDE ELEVATION



6 1\"/>5 MULLION  
5 ATTACHMENT WITH T-CLIP  
5 SIDE ELEVATION

PROJECT NO. 422-0210

C	UPDATE TO 2018 I-CODES	RJA	3/14/2022
B	ADD 4-WAY MULLION CONFIGURATION	RJA	2/29/16
A	REVISED FOR CLARIFICATION OF WINDOW TO MULLION ATTACHMENT	RJA	9/21/15
REV	DESCRIPTION	DATE	BY

JELD-WEN INC.  
3737 LAKEPORT BOULEVARD  
KLAMATH FALLS, OR 97601

TITLE: CLIPPED ALUMINUM TUBE MULLION - IMPACT RESISTANT C-CLIP AND T-CLIP INSTALLATION DETAILS

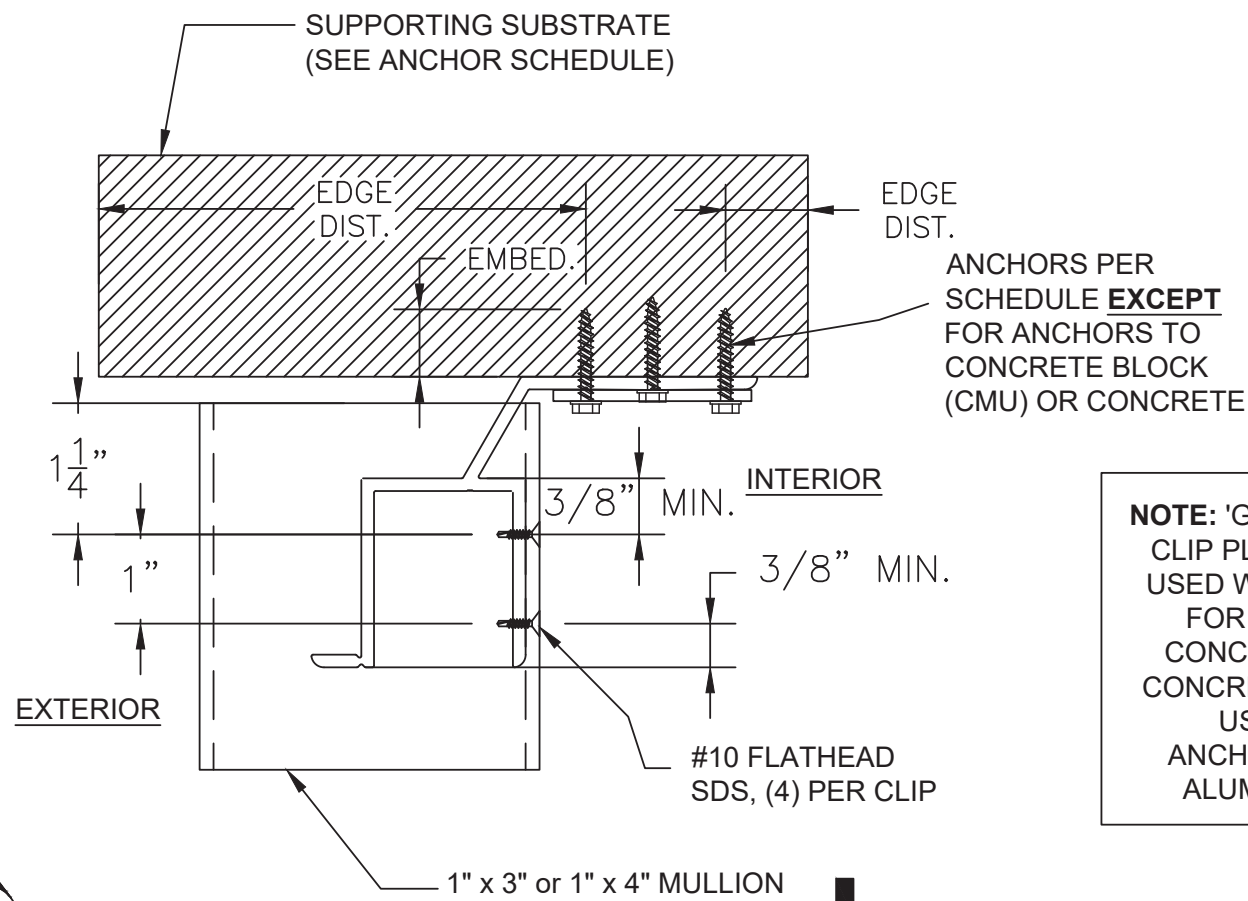
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SHEET: 5 OF 8

PREPARED BY: RJA  
DRAWN BY: RJA  
REV: C

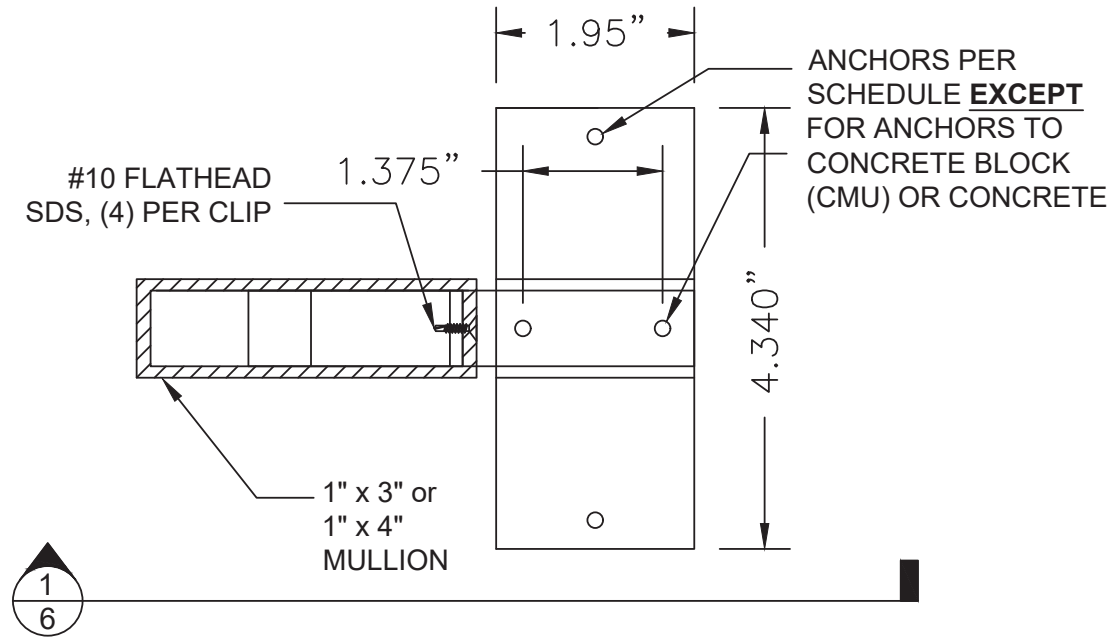
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P.O. Box 520775  
Longwood, FL 32752-0775  
Phone: 321.690.1788  
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Texas Registration No. F-13740  
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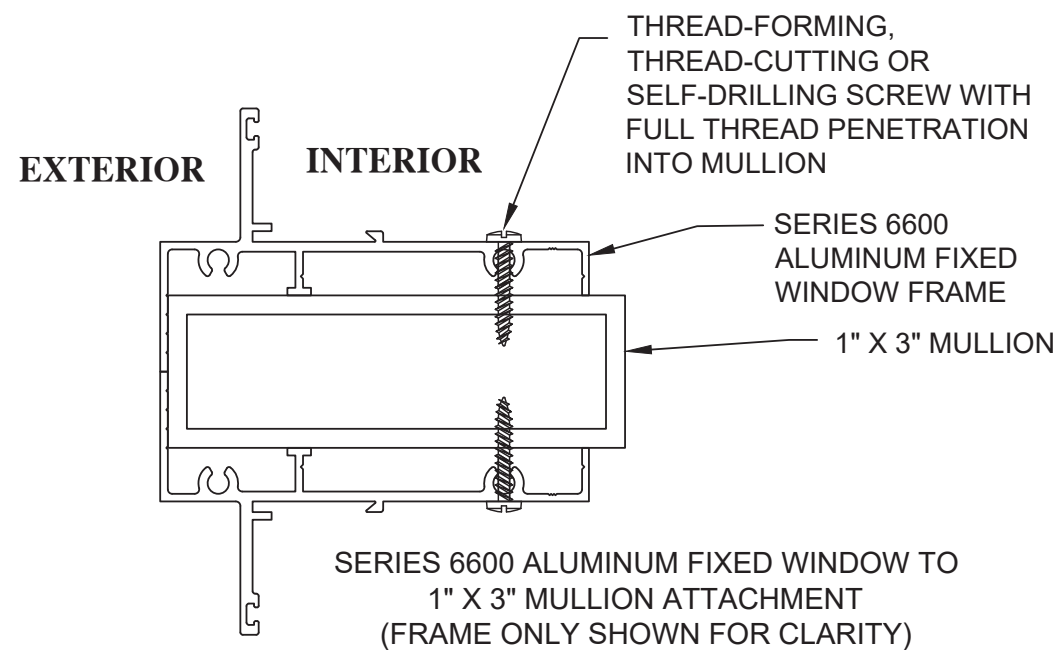


**NOTE: 'GOAL-POST' CLIP AND CLIP PLATE SHALL NOT BE USED WITH 3/16" TAPCONS FOR ANCHORAGE TO CONCRETE OR HOLLOW CONCRETE BLOCK. MAY BE USED ONLY FOR ANCHORAGE TO WOOD, ALUMINUM OR STEEL.**



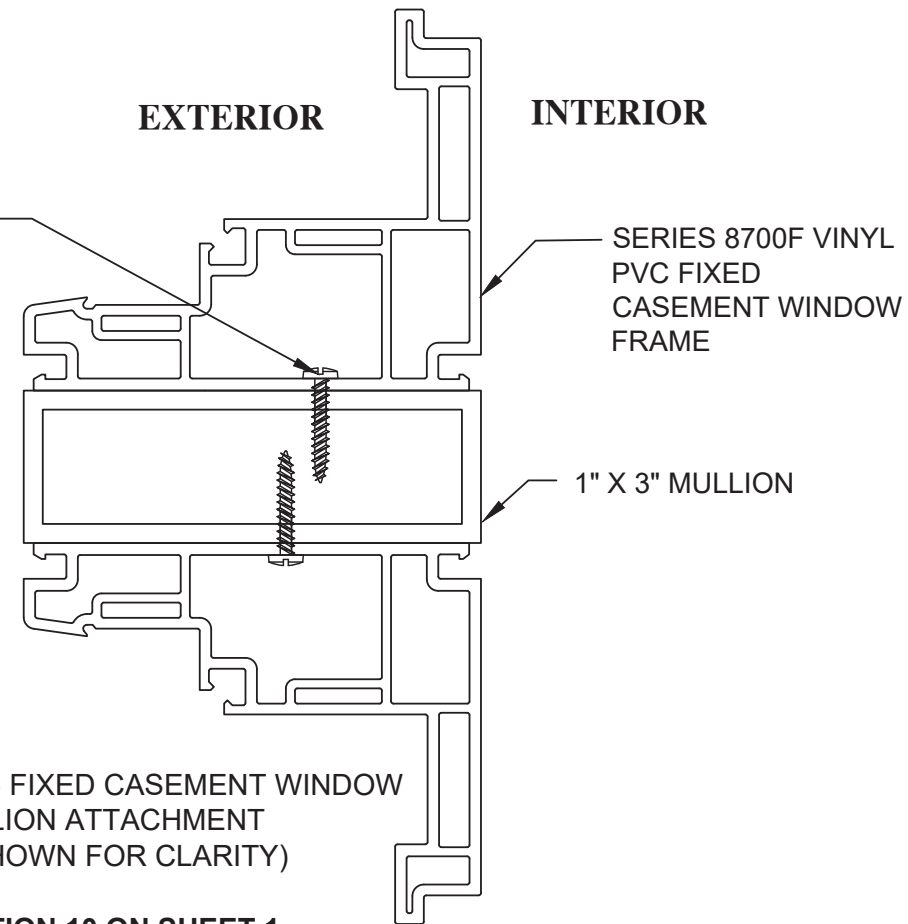
**1**  
**6** SECTION  
TYPICAL ATTACHMENT WITH 'GOAL-POST' CLIP

**2**  
**6** SIDE ELEVATION  
TYPICAL ATTACHMENT WITH 'GOAL-POST' CLIP



SERIES 6600 ALUMINUM FIXED WINDOW TO 1" X 3" MULLION ATTACHMENT (FRAME ONLY SHOWN FOR CLARITY)

THREAD-FORMING, THREAD-CUTTING OR SELF-DRILLING SCREW WITH FULL THREAD PENETRATION INTO MULLION



SERIES 8700F VINYL PVC FIXED CASEMENT WINDOW TO 1" X 3" MULLION ATTACHMENT (FRAME ONLY SHOWN FOR CLARITY)

**WINDOW TO MULLION INSTALLATION EXAMPLES - SEE INSTALLATION 10 ON SHEET 1**

PROJECT NO. 422-0210		RJA	DATE
C	UPDATE TO 2018 I-CODES	3/14/2022	BY
B	ADD 4-WAY MULLION CONFIGURATION	2/29/16	BY
A	REVISED FOR CLARIFICATION OF WINDOW TO MULLION ATTACHMENT	9/21/15	BY
REV	DESCRIPTION		DATE

JELD-WEN INC. 3737 LAKEPORT BOULEVARD KLAMATH FALLS, OR 97601		DRAWN BY: RJA	DATE: 1/15/14
TITLE: CLIPPED ALUMINUM TUBE MULLION - IMPACT RESISTANT 'GOAL-POST' CLIP INSTALLATION DETAILS		SCALE: NONE	DRAWING NO: JELD0109
PREPARED BY:		REV: C	SHEET: 6 OF 8

PTC PRODUCT DESIGN GROUP, LLC  
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Texas Registration No. F-13740  
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Robert J. Amoruso, P.E.  
Texas PE No. 80817

# DESIGN SCHEDULE - 1" X 3" MULLION SPAN/LOAD WIDTH TABLES

1" x 3" MULLION AND GOAL-POST CLIP W/O PLATE													
Span vs. LW		Tributary Load Width (in)											
		18	21	24	27	30	33	36	39	42	45	48	53
Mullion Span (in)	106	28.3	24.4	21.4	19.2	17.4	15.9	14.7	13.7	12.8	12.1	11.4	10.5
	100	33.8	29.1	25.6	22.9	20.8	19.0	17.6	16.4	15.4	14.5	13.7	12.7
	96	38.2	32.9	29.0	26.0	23.5	21.6	20.0	18.6	17.5	16.5	15.7	14.5
	90	46.5	40.1	35.3	31.6	28.7	26.4	24.4	22.8	21.4	20.3	19.3	17.9
	86	53.4	46.0	40.6	36.4	33.1	30.4	28.2	26.3	24.8	23.5	22.4	20.9
	84	57.3	49.5	43.6	39.1	35.6	32.7	30.3	28.4	26.7	25.3	24.2	22.5
	80	64.4	55.6	49.0	43.9	39.9	36.6	34.0	31.8	29.9	28.3	27.0	25.2
	78	67.8	58.5	51.6	46.3	42.1	38.7	35.9	33.6	31.6	30.0	28.6	26.7
	76	71.5	61.7	54.5	48.9	44.4	40.9	37.9	35.5	33.5	31.8	30.4	28.5
	72	75.0	69.0	60.9	54.7	49.8	45.9	42.7	40.0	37.8	36.0	34.4	32.4
	66	75.0	75.0	73.0	65.7	60.0	55.4	51.7	48.6	46.1	44.1	42.4	40.3
	60	75.0	75.0	75.0	75.0	73.7	68.3	64.0	60.5	57.7	55.4	53.7	51.7
	54	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	74.6	72.4	70.8	69.6
	50.6	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	48	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	42	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	38.4	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	36	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	30	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	24	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0

1" X 3" MULLION AND GOAL-POST CLIP W/PLATE OR T-CLIP													
Span vs. LW		Tributary Load Width (in)											
		18	21	24	27	30	33	36	39	42	45	48	53
Mullion Span (in)	106	28.3	24.4	21.4	19.2	17.4	15.9	14.7	13.7	12.8	12.1	11.4	10.5
	100	33.8	29.1	25.6	22.9	20.8	19.0	17.6	16.4	15.4	14.5	13.7	12.7
	96	38.2	32.9	29.0	26.0	23.5	21.6	20.0	18.6	17.5	16.5	15.7	14.5
	90	46.5	40.1	35.3	31.6	28.7	26.4	24.4	22.8	21.4	20.3	19.3	17.9
	86	53.4	46.0	40.6	36.4	33.1	30.4	28.2	26.3	24.8	23.5	22.4	20.9
	84	57.3	49.5	43.6	39.1	35.6	32.7	30.3	28.4	26.7	25.3	24.2	22.5
	80	64.4	55.6	49.0	43.9	39.9	36.6	34.0	31.8	29.9	28.3	27.0	25.2
	78	67.8	58.5	51.6	46.3	42.1	38.7	35.9	33.6	31.6	30.0	28.6	26.7
	76	71.5	61.7	54.5	48.9	44.4	40.9	37.9	35.5	33.5	31.8	30.4	28.5
	72	75.0	69.0	60.9	54.7	49.8	45.9	42.7	40.0	37.8	36.0	34.4	32.4
	66	75.0	75.0	73.0	65.7	60.0	55.4	51.7	48.6	46.1	44.1	42.4	40.3
	60	75.0	75.0	75.0	75.0	73.7	68.3	64.0	60.5	57.7	55.4	53.7	51.7
	54	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	50.6	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	48	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	42	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	38.4	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	36	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	30	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	24	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0

1" x 3" MULLION AND C-CLIP													
Span vs. LW		Tributary Load Width (in)											
		18	21	24	27	30	33	36	39	42	45	48	53
Mullion Span (in)	106	28.3	24.4	21.4	19.2	17.4	15.9	14.7	13.7	12.8	12.1	11.4	10.5
	100	33.8	29.1	25.6	22.9	20.8	19.0	17.6	16.4	15.4	14.5	13.7	12.7
	96	38.2	32.9	29.0	26.0	23.5	21.6	20.0	18.6	17.5	16.5	15.7	14.5
	90	46.5	40.1	35.3	31.6	28.7	26.4	24.4	22.8	21.4	20.3	19.3	17.9
	86	53.4	46.0	40.6	36.4	33.1	30.4	28.2	26.3	24.8	23.5	22.4	20.9
	84	57.3	49.5	43.6	39.1	35.6	32.7	30.3	28.4	26.7	25.3	24.2	22.5
	80	64.4	55.6	49.0	43.9	39.9	36.6	34.0	31.8	29.9	28.3	27.0	25.2
	78	67.8	58.5	51.6	46.3	42.1	38.7	35.9	33.6	31.6	30.0	28.6	26.7
	76	71.5	61.7	54.5	48.9	44.4	40.9	37.9	35.5	33.5	31.8	30.4	28.5
	72	75.0	69.0	60.9	54.7	49.8	45.9	42.7	40.0	37.8	36.0	34.4	32.4
	66	75.0	75.0	73.0	65.7	60.0	55.4	51.7	48.6	46.1	44.1	42.4	40.3
	60	75.0	75.0	75.0	75.0	73.7	68.3	64.0	60.5	57.7	55.4	53.7	51.7
	54	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	50.6	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	48	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	42	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	38.4	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	36	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	30	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	24	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0

**DESIGN SCHEDULE NOTES:**

- DESIGN SCHEDULES PROVIDE MAXIMUM ALLOWABLE POSITIVE (+) AND NEGATIVE(-) DESIGN PRESSURES FOR USE WITH MULLION SYSTEM IN POUNDS PER SQUARE FOOT (PSF).
- FOR DETERMINATION OF MULLION SPANS AND TRIBUTARY WIDTHS, SEE ELEVATIONS ON SHEETS 2 AND 3.
- FOR INSTALLATIONS UTILIZING MORE THAN ONE TYPE OF CLIP PER MULLION, USE THE LESSER ALLOWABLE DESIGN PRESSURE.
- 'GOAL-POST' CLIP MAY NOT BE USED FOR INSTALLATIONS TO CONCRETE OR CONCRETE BLOCK (CMU).

C	3/14/2022	RJA	BY
	DATE		
B	2/29/16	RJA	
A	9/21/15	RJA	

**PROJECT NO. 422-0210**

**JELD-WEN INC.**  
3737 LAKEPORT BOULEVARD  
KLAMATH FALLS, OR 97601

TITLE: CLIPPED ALUMINUM TUBE MULLION - IMPACT RESISTANT MULLION SPAN VS. LOAD WIDTH TABLES

PREPARED BY: RJA  
DRAWN BY: RJA  
SCALE: NONE  
REV: C

DATE: 1/15/14  
DRAWING NO: JELD0109  
SHEET: 7 OF 8

PTC PRODUCT DESIGN GROUP, LLC  
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Texas Registration No. F-13740  
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Robert J. Amoruso, P.E.  
Texas PE No. 80817

# DESIGN SCHEDULE - 1" X 4" MULLION SPAN/LOAD WIDTH TABLES

1" x 4" MULLION AND GOAL-POST CLIP W/O PLATE													
Span vs. LW		Tributary Load Width (in)											
		18	21	24	27	30	33	36	39	42	45	48	53
Mullion Span (in)	106	58.6	50.4	44.3	39.5	35.8	32.7	30.2	28.0	26.2	24.7	23.4	21.5
	100	65.9	56.7	49.9	44.5	40.3	36.9	34.1	31.7	29.7	28.0	26.5	24.4
	96	71.6	61.6	54.2	48.4	43.9	40.2	37.1	34.6	32.4	30.5	28.9	26.7
	90	75.0	70.3	61.8	55.3	50.2	46.0	42.5	39.6	37.2	35.1	33.3	30.9
	86	75.0	75.0	67.9	60.8	55.1	50.6	46.8	43.7	41.0	38.8	36.9	34.3
	84	75.0	75.0	71.2	63.8	57.9	53.1	49.2	45.9	43.2	40.9	38.9	36.2
	80	75.0	75.0	75.0	70.6	64.1	58.9	54.6	51.1	48.1	45.6	43.4	40.5
	78	75.0	75.0	75.0	74.4	67.6	62.2	57.7	54.0	50.8	48.2	46.0	43.0
	76	75.0	75.0	75.0	75.0	71.4	65.7	61.0	57.1	53.9	51.1	48.8	45.8
	72	75.0	75.0	75.0	75.0	75.0	73.8	68.6	64.3	60.8	57.8	55.4	52.1
	66	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	74.2	70.8	68.1	64.7
	60	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	54	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	50.6	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	48	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	42	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	38.4	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	36	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	30	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	24	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0

1" X 4" MULLION AND GOAL-POST CLIP W/PLATE OR T-CLIP													
Span vs. LW		Tributary Load Width (in)											
		18	21	24	27	30	33	36	39	42	45	48	53
Mullion Span (in)	106	58.6	50.4	44.3	39.5	35.8	32.7	31.7	28.0	26.2	24.7	23.4	21.5
	100	65.9	56.7	49.9	44.5	40.3	36.9	34.6	31.7	29.7	28.0	26.5	24.4
	96	71.6	61.6	54.2	48.4	43.9	40.2	39.6	34.6	32.4	30.5	28.9	26.7
	90	75.0	70.3	61.8	55.3	50.2	46.0	43.7	39.6	37.2	35.1	33.3	30.9
	86	75.0	75.0	67.9	60.8	55.1	50.6	45.9	43.7	41.0	38.8	36.9	34.3
	84	75.0	75.0	71.2	63.8	57.9	53.1	51.1	45.9	43.2	40.9	38.9	36.2
	80	75.0	75.0	75.0	70.6	64.1	58.9	54.0	51.1	48.1	45.6	43.4	40.5
	78	75.0	75.0	75.0	74.4	67.6	62.2	57.1	54.0	50.8	48.2	46.0	43.0
	76	75.0	75.0	75.0	75.0	71.4	65.7	64.3	57.1	53.9	51.1	48.8	45.8
	72	75.0	75.0	75.0	75.0	75.0	73.8	75.0	64.3	60.8	57.8	55.4	52.1
	66	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	74.2	70.8	68.1	64.7
	60	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	54	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	50.6	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	48	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	42	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	38.4	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	36	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	30	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	24	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0

1" x 4" MULLION AND C-CLIP													
Span vs. LW		Tributary Load Width (in)											
		18	21	24	27	30	33	36	39	42	45	48	53
Mullion Span (in)	106	58.6	50.4	44.3	39.5	35.8	32.7	30.2	28.0	26.2	24.7	23.4	21.5
	100	65.9	56.7	49.9	44.5	40.3	36.9	34.1	31.7	29.7	28.0	26.5	24.4
	96	71.2	61.6	54.2	48.4	43.9	40.2	37.1	34.6	32.4	30.5	28.9	26.7
	90	75.0	66.8	59.5	54.0	49.5	46.0	42.5	39.6	37.2	35.1	33.3	30.9
	86	75.0	70.3	62.8	56.9	52.3	48.6	45.5	43.0	40.8	38.8	36.9	34.3
	84	75.0	72.2	64.5	58.6	53.8	50.0	46.9	44.3	42.1	40.3	38.7	36.2
	80	75.0	75.0	68.3	62.1	57.2	53.2	49.9	47.2	45.0	43.1	41.5	39.3
	78	75.0	75.0	70.4	64.0	59.0	54.9	51.6	48.9	46.6	44.6	43.0	40.8
	76	75.0	75.0	72.6	66.0	60.9	56.8	53.4	50.6	48.2	46.3	44.7	42.5
	72	75.0	75.0	75.0	70.6	65.2	60.9	57.3	54.4	52.0	50.0	48.4	46.2
	66	75.0	75.0	75.0	75.0	72.8	68.2	64.5	61.5	59.0	56.9	55.3	53.2
	60	75.0	75.0	75.0	75.0	75.0	75.0	73.7	70.6	68.0	66.0	64.5	62.8
	54	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	50.6	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	48	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	42	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	38.4	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	36	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	30	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	24	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0

### DESIGN SCHEDULE NOTES:

- DESIGN SCHEDULES PROVIDE MAXIMUM ALLOWABLE POSITIVE (+) AND NEGATIVE(-) DESIGN PRESSURES FOR USE WITH MULLION SYSTEM IN POUNDS PER SQUARE FOOT (PSF).
- FOR DETERMINATION OF MULLION SPANS AND TRIBUTARY WIDTHS, SEE ELEVATIONS ON SHEETS 2 AND 3.
- FOR INSTALLATIONS UTILIZING MORE THAN ONE TYPE OF CLIP PER MULLION, USE THE LESSER ALLOWABLE DESIGN PRESSURE.
- 'GOAL-POST' CLIP MAY NOT BE USED FOR INSTALLATIONS TO CONCRETE OR CONCRETE BLOCK (CMU).

C	3/14/2022	RJA	BY
	DATE	REV	DESCRIPTION
B	2/29/16	RJA	ADD 4-WAY MULLION CONFIGURATION
A	9/21/15	RJA	REVISED FOR CLARIFICATION OF WINDOW TO MULLION ATTACHMENT

**JELD-WEN INC.**  
 3737 LAKEPORT BOULEVARD  
 KLAMATH FALLS, OR 97601

TITLE: CLIPPED ALUMINUM TUBE MULLION - IMPACT RESISTANT MULLION SPAN VS. LOAD WIDTH TABLES

DATE: 1/15/14  
 DRAWING NO: JELD0109  
 SHEET: 8 OF 8

DRAWN BY: RJA  
 SCALE: NONE  
 REV: C

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