



COLUMBIA COUNTY PRODUCT APPROVAL SPECIFICATION SHEET

As required by Florida Statute 553.842 and Florida Administrative Code 9B-72, please provide the information and approval numbers on the building components listed below if they will be utilized on the construction project for which you are applying for a building permit. We recommend you contact your local product supplier should you not know the product approval number for any of the applicable listed products. Statewide approved products are listed online at www.floridabuilding.org.

Category/Subcategory	Manufacturer	Product Description	Approval Number(s)
1. EXTERIOR DOORS			
A. SWINGING			
B. SLIDING			
C. SECTIONAL/ROLL UP			
D. OTHER			
2. WINDOWS			
A. SINGLE/DOUBLE HUNG	ReliaBilt	Single Hung Window	20100.1 20100.2
B. HORIZONTAL SLIDER			
C. CASEMENT			
D. FIXED			
E. MULLION	Atrium	Mullion	22377.1
F. SKYLIGHTS			
G. OTHER			
3. PANEL WALL			
A. SIDING			
B. SOFFITS			
C. STOREFRONTS			
D. GLASS BLOCK			
E. OTHER			
4. ROOFING PRODUCTS			
A. ASPHALT SHINGLES			
B. NON-STRUCT METAL			
C. ROOFING TILES			
D. SINGLE PLY ROOF			
E. OTHER			
5. STRUCT COMPONENTS			
A. WOOD CONNECTORS			
B. WOOD ANCHORS			
C. TRUSS PLATES			
D. INSULATION FORMS			
E. LINTELS			
F. OTHERS			
6. NEW EXTERIOR			
A. ENVELOPE PRODUCTS			

The products listed below did not demonstrate product approval at plan review. I understand that at the time of inspection of these products, the following information must be available to the inspector on the jobsite; (1) copy of the product approval (2) performance characteristics which the product was tested and certified to comply with (3) copy of the applicable manufacturer's installation requirements. Further, I understand these products may have to be removed if approval cannot be demonstrated during inspection.

7/24/2023

APPLICANT SIGNATURE

DATE



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Product Approval
USER: Public User

[Product Approval Menu](#) > [Product or Application Search](#) > **Application List**

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Search Criteria

[Refine Search](#)

Code Version	2020	FL#	20100.1
Application Type	ALL	Product Manufacturer	ALL
Category	ALL	Subcategory	ALL
Application Status	ALL	Compliance Method	ALL
Quality Assurance Entity	ALL	Quality Assurance Entity Contract Expired	ALL
Product Model, Number or Name	ALL	Product Description	ALL
Approved for use in HVHZ	ALL	Approved for use outside HVHZ	ALL
Impact Resistant	ALL	Design Pressure	ALL
Other	ALL		

Search Results - Applications

FL#	Type	Manufacturer	Validated By	Status
FL20100-R11 History	Affirmation	Atrium Windows & Doors FL#: FL20100.1 Model: Series 120/130 Single Hung Continuous Head and Sill (CHS) Description: Twin and Triple CHS Windows Category: Windows Subcategory: Single Hung	National Accreditation & Management Institute (804) 684-5124	Approved

*Approved by DBPR. Approvals by DBPR shall be reviewed and ratified by the POC and/or the Commission if necessary.

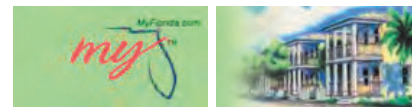
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Product Approval

USER: Public User

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FL #	FL20100-R11
Application Type	Affirmation
Code Version	2020
Application Status	Approved
Comments	
Archived	☐
Product Manufacturer	Atrium Windows & Doors
Address/Phone/Email	300 Welcome Center Blvd. Welcome, NC 27374 (800) 542-9118 Ext 413596 luanne.harris@cornerstone-bb.com
Authorized Signature	Harris Luanne luanne.harris@cornerstone-bb.com
Technical Representative	
Address/Phone/Email	
Quality Assurance Representative	Luanne Harris
Address/Phone/Email	300 Welcome Center Blvd. Welcome, NC 27374 (800) 542-9118 Ext 413596 luanne.harris@cornerstone-bb.com
Category	Windows
Subcategory	Single Hung
Compliance Method	Certification Mark or Listing
Certification Agency	National Accreditation & Management Institute
Validated By	National Accreditation & Management Institute

Referenced Standard and Year (of Standard)	<u>Standard</u>	<u>Year</u>
	AAMA 450	2010
	AAMA/WDMA/CSA 101/I.S.2/A440	2011
	AAMA/WDMA/CSA 101/I.S.2/A440	2008

Equivalence of Product Standards
Certified By

☒ I affirm that there are no changes in the new Florida Building Code which affect my product(s) and my product(s) are in compliance with the new Florida Building Code.

Documentation from approved Evaluation or Validation Entity ☐ Yes ☐ No ☐ N/A

INSTALLATION NOTES:

- ONE (1) INSTALLATION ANCHOR IS REQUIRED AT EACH ANCHOR LOCATION SHOWN.
- THE NUMBER OF INSTALLATION ANCHORS DEPICTED IS THE MINIMUM NUMBER OF ANCHORS TO BE USED FOR PRODUCT INSTALLATION OF THE MAXIMUM SIZE LISTED.
- INSTALL INDIVIDUAL INSTALLATION ANCHORS WITHIN A TOLERANCE OF ±1/2 INCH OF THE DEPICTED LOCATION IN THE ANCHOR LAYOUT DETAIL (I.E., WITHOUT CONSIDERATION OF TOLERANCES). TOLERANCES ARE NOT CUMULATIVE FROM ONE INSTALLATION ANCHOR TO THE NEXT.
- SHIM(S) AS REQUIRED AT EACH INSTALLATION ANCHOR WITH LOAD BEARING SHIM(S). MAXIMUM ALLOWABLE SHIM STACK TO BE 1/4 INCH. SHIM WHERE SPACE OF 1/16 INCH OR GREATER OCCURS. SHIM(S) SHALL BE CONSTRUCTED OF HIGH DENSITY PLASTIC OR BETTER.
- THROUGH FRAME:** FOR INSTALLATION INTO WOOD FRAMING USE #10 WOOD SCREWS THROUGH THE FRAME OF SUFFICIENT LENGTH TO ACHIEVE 1 1/2 INCH MINIMUM EMBEDMENT INTO WOOD SUBSTRATE.
- THROUGH FRAME:** FOR INSTALLATION THROUGH 1X BUCK TO CONCRETE/MASONRY, OR DIRECTLY INTO CONCRETE/MASONRY, USE 3/16 INCH DIAMETER ITW TAPCONS OF SUFFICIENT LENGTH TO ACHIEVE 1 1/4 INCH MINIMUM EMBEDMENT.
- THROUGH FRAME:** FOR INSTALLATION INTO METAL STUD OR APPROVED MULLION USE #10 ER-5 SELF TAPPING SCREWS THROUGH THE FRAME OF SUFFICIENT LENGTH TO ACHIEVE A MINIMUM OF 3 THREADS PENETRATION BEYOND METAL FRAME SUBSTRATE.
- THROUGH FIN:** FOR INSTALLATION INTO WOOD FRAMING USE #8 WOOD SCREWS THROUGH THE FIN OF SUFFICIENT LENGTH TO ACHIEVE 1 1/2 INCH MINIMUM EMBEDMENT INTO WOOD SUBSTRATE.
- THROUGH FIN:** FOR INSTALLATION INTO METAL STUD OR APPROVED MULLION USE #8 SELF TAPPING SCREWS THROUGH THE FIN OF SUFFICIENT LENGTH TO ACHIEVE A MINIMUM OF 3 THREADS PENETRATION BEYOND METAL FRAME SUBSTRATE.
- MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDE WALL FINISHES, INCLUDING BUT NOT LIMITED TO STUCCO, FOAM, BRICK VENEER, AND SIDING.
- INSTALLATION ANCHORS AND ASSOCIATED HARDWARE MUST BE MADE OF CORROSION RESISTANT MATERIAL OR HAVE A CORROSION RESISTANT COATING.
- FOR HOLLOW BLOCK AND GROUT FILLED BLOCK, DO NOT INSTALL INSTALLATION ANCHORS INTO MORTAR JOINTS. EDGE DISTANCE IS MEASURED FROM FREE EDGE OF BLOCK OR EDGE OF MORTAR JOINT INTO FACE SHELL OF BLOCK.
- INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BY THE ANCHOR MANUFACTURER.
- INSTALLATION ANCHOR CAPACITIES FOR PRODUCTS HEREIN ARE BASED ON SUBSTRATE MATERIALS WITH THE FOLLOWING PROPERTIES:
 - WOOD - MINIMUM SPECIFIC GRAVITY OF 0.55.
 - CONCRETE - MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
 - GROUT-FILLED CMU - UNIT STRENGTH CONFORMS TO ASTM C-90 WITH MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AND GROUT CONFORMS TO ASTM C-476. MINIMUM GROUT COMPRESSIVE STRENGTH OF 2000 PSI.
 - HOLLOW BLOCK CMU - UNIT STRENGTH CONFORMS TO ASTM C-90 WITH MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
 - STEEL - MINIMUM YIELD STRENGTH OF 33 KSI. MINIMUM 18 GA. WALL THICKNESS.
 - ALUMINUM - MINIMUM ALLOY 6063-T5. MINIMUM WALL THICKNESS OF 1/16" (0.0625").

ATRIUM CORPORATION

SERIES 130

SINGLE HUNG WINDOW

GENERAL NOTES:

- THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE CURRENT IRC/IBC AND CURRENT FLORIDA BUILDING CODE (FBC). EXCLUDING HVHZ AND HAS BEEN EVALUATED ACCORDING TO THE FOLLOWING:
 - AAMA/WOMA/CSA 101/1.5/2/4440-05/08
 - AAMA 450-10
- 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.
- 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.
- 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.
- APPROVED IMPACT PROTECTIVE SYSTEM **IS REQUIRED** ON THIS PRODUCT IN AREAS REQUIRING IMPACT RESISTANCE.
- WINDOW FRAME MATERIAL: PVC
- DISSIMILAR METALS INCLUDING FASTENERS THAT MAY COME INTO CONTACT WITH ALUMINUM UNIT FRAMING SHALL BE PROTECTED IN ACCORDANCE WITH THE CURRENT FBC.
- GLASS SHALL MEET THE REQUIREMENTS OF ASTM E 1300 GLASS CHARTS. SEE SHEET 7 FOR GLAZING DETAIL.

MAX O.A. SIZE		CONFIGURATION	DESIGN PRESSURE THROUGH FRAME FIN	MISSILE IMPACT RATING
WIDTH	HEIGHT			
53"	77"	O/X	+/- 50 PSF +/- 50 PSF	NON-IMPACT
48"	108 1/2"	O / O/X	+/- 50 PSF +/- 50 PSF	NON-IMPACT
72 1/2"	108 1/2"	O / DOUBLE O/X	+/- 50 PSF +/- 50 PSF	NON-IMPACT
96 1/2"	84"	DOUBLE O/X	+/- 35 PSF +/- 50 PSF	NON-IMPACT
109"	77"	TRIPLE O/X	+/- 50 PSF +/- 50 PSF	NON-IMPACT

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4	D	ANCHOR LAYOUTS - THROUGH FIN
5	D	VERTICAL SECTIONS
6	D	HORIZONTAL SECTIONS
7	D	MULLION DETAILS & GLAZING DETAIL



PREPARED BY:

SINGLE HUNG WINDOW
SERIES 130
INSTALLATION & GENERAL NOTES

TITLE:

REMARKS	BY	DATE
A-FBC 5th ED. CODE CHANGE	SM	06.03.14
B-CERT AGENCY UPDATE	LS	02.27.17
C-FBC 2017 CODE CHANGE	AG	10.03.17
D-ALUMINUM SUBSTRATE	YC	04.16.20

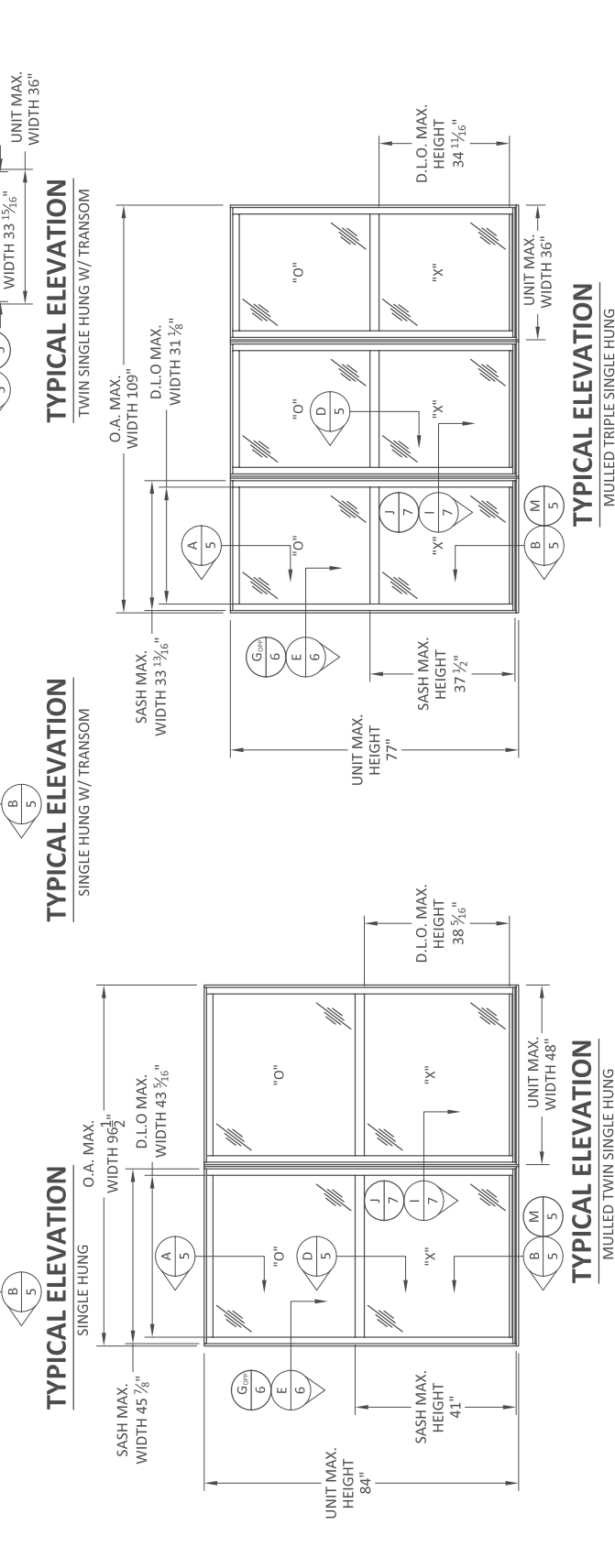
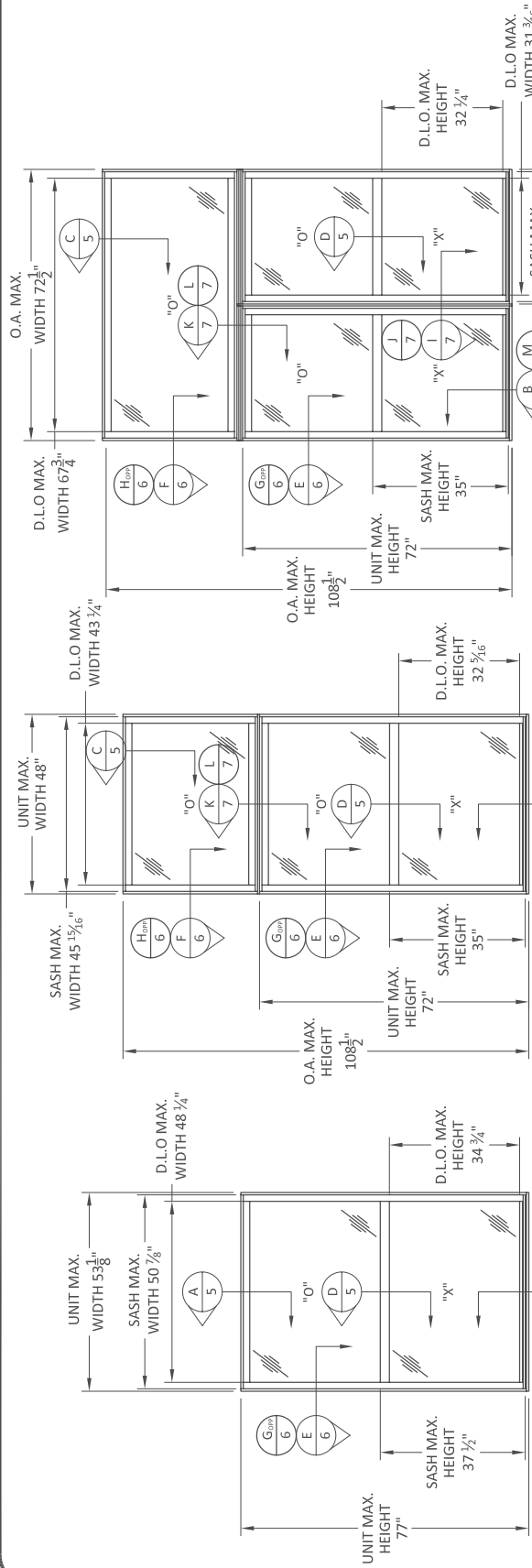
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Digitally signed by Thomas Mayago
Reason: I am approving this document
Date: 2020.04.17 15:01:38 -0400



HERNAN F. NERERO, P.E.
REGISTERED PROFESSIONAL ENGINEER
BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION No. 29578

FL #:	FL20100
DATE:	01.02.2020
DWG. BY:	CHK. BY:
YC	HFN
SCALE:	NTS
DWG. #:	ATR113
SECTION:	



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REMARKS

BY DATE

A-FBC 5th ED. CODE CHANGE SM 06.03.14

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D-ALUMINUM SUBSTRATE YC 04.16.20

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HERMES F. NORERO, P.E.
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BUILDING DROPS, INC.
398 E. DAVIA BEACH BLVD., STE. 338
DAVIA BEACH, FL 33004
FBC CERT. OF AUTHORIZATION No. 29578

FL #: FL20100

DATE: 01.02.2020

DWG. BY: YC

CHK. BY: HFN

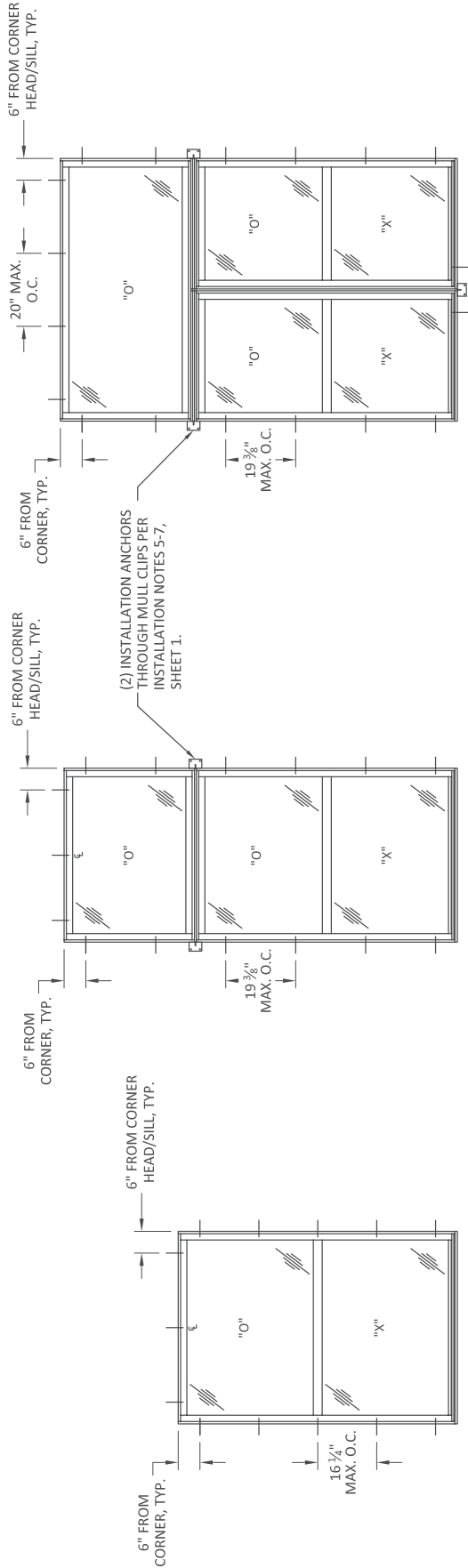
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DWG. #: ATR113

SECTION:

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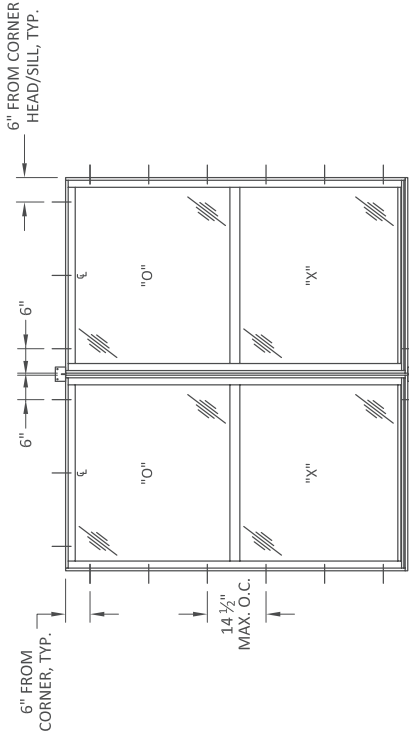
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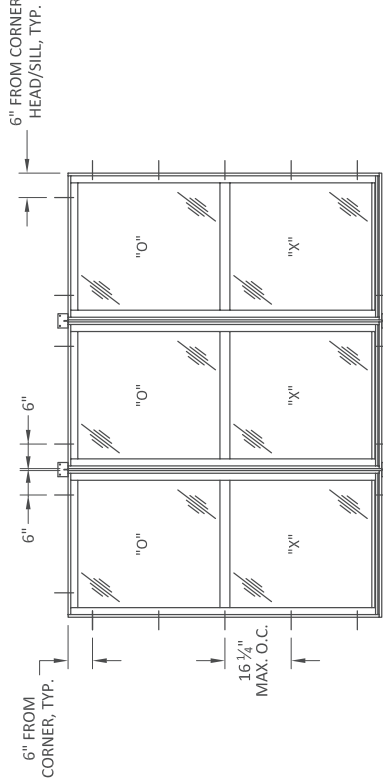
ANCHOR LAYOUT
SINGLE HUNG - THROUGH FRAME

ANCHOR LAYOUT
SINGLE HUNG W/ TRANSOM - THROUGH FRAME

ANCHOR LAYOUT
TWIN SINGLE HUNG W/ TRANSOM - THROUGH FRAME



ANCHOR LAYOUT
MULLED TWIN SINGLE HUNG - THROUGH FRAME



ANCHOR LAYOUT
MULLED TRIPLE SINGLE HUNG - THROUGH FRAME

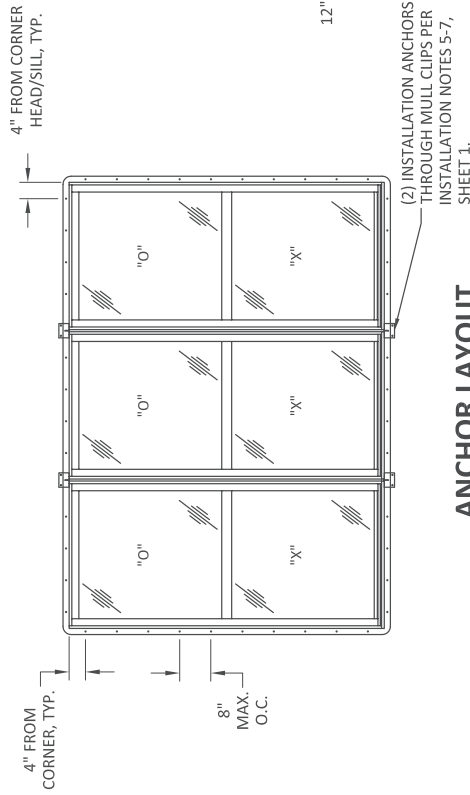
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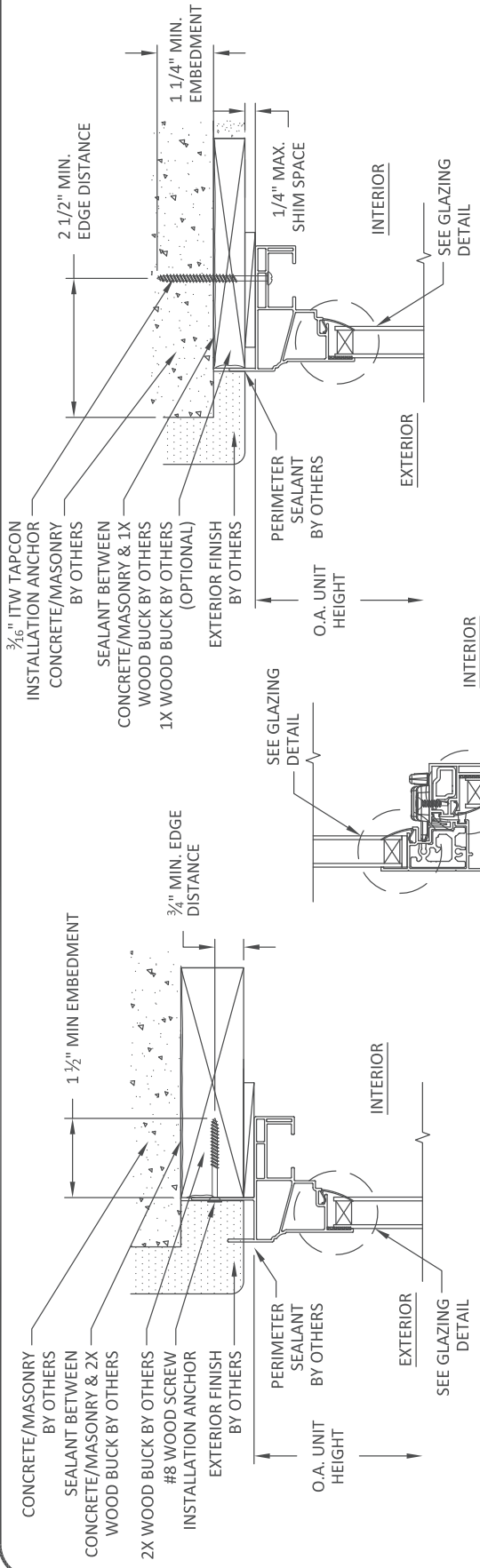
HERMES F. NORENO, P.E.
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BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION No. 29578

FL #:	FL20100
DATE:	01.02.2020
DWG. BY:	YC
CHK. BY:	HFN
SCALE:	NTS
DWG. #:	ATR113
SECTION:	3



TYPICAL WHEREVER MULLION CLIPS OCCUR

TYP. FOR TWIN & TRIPLE MULLED
UNITS - THROUGH FIN



A VERTICAL SECTION
5 SINGLE HUNG HEAD - 2X WOOD BUCK THROUGH FIN

B VERTICAL SECTION
5 SILL - CONCRETE/MASONRY THROUGH FRAME

C VERTICAL SECTION
5 TRANSOM HEAD - 1X/CONC./MASONRY THROUGH FRAME

D VERTICAL SECTION
5 MEETING RAIL

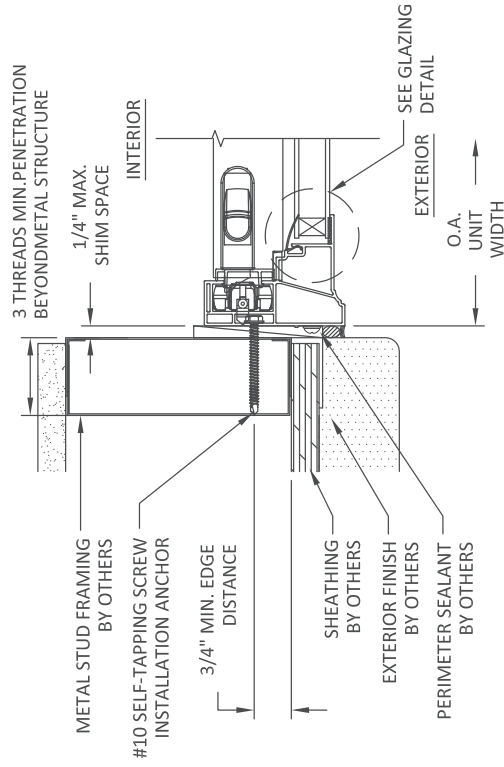
NOTES:
1. SILL ANCHORS ARE FOR FACTORY MULLED UNITS ONLY, SEE SHEET 3.
2. USE (1) SILL CLIP PER ANCHOR LOCATION. SILL CLIPS ARE TO BE USED IN MINIMUM 14 1/4" LENGTHS.

M VERTICAL SECTION
5 SILL - CONCRETE/MASONRY THROUGH SILL CLIP

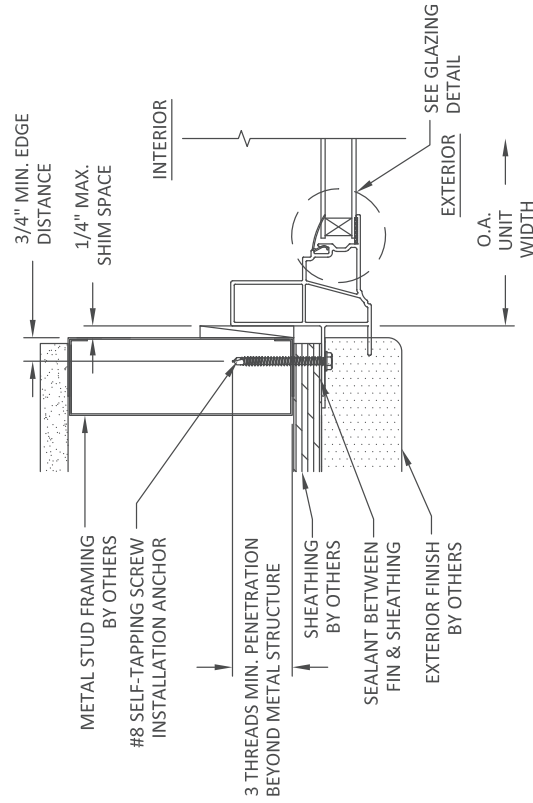
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HERNANDEZ, FLORENCE
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STATE OF FLORIDA
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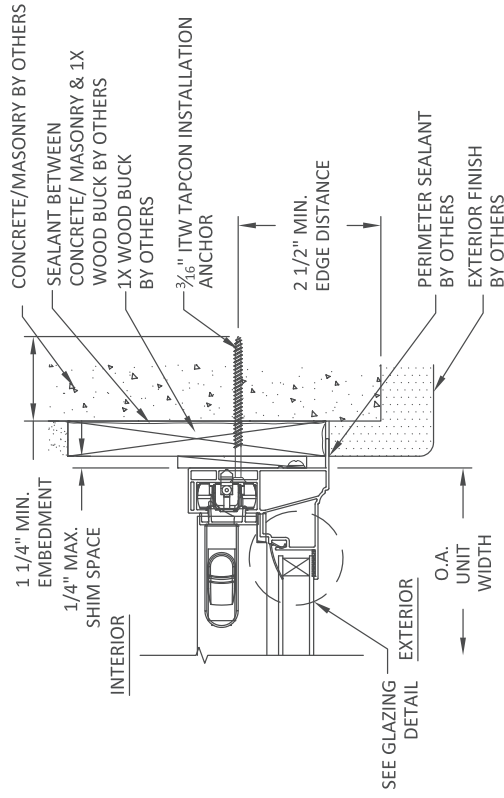
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SECTION:	



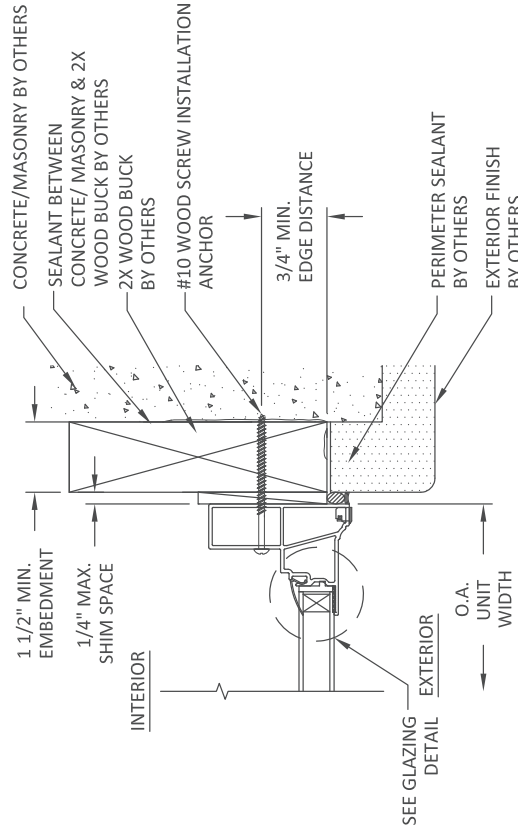
E **HORIZONTAL SECTION**
6 SINGLE HUNG JAMB - METAL STUD FRAME THROUGH FRAME



F6 HORIZONTAL SECTION
TRANSOM JAMB - METAL STUD FRAME
THROUGH FIN



G **HORIZONTAL SECTION**
6 SINGLE HUNG JAMB - 1X WOOD/CONC./MASONRY THROUGH FRAME



H6 HORIZONTAL SECTION

TRANSOM JAMB - 2X WOOD BUCK
THROUGH FRAME



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PREPARED BY:

SERIES 130
SINGLE HUNG WINDOW
HORIZONTAL SECTIONS

REMARKS	BY	DATE
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HERMES F. NORERO, P.E.
FLORIDA P.E. No 73778
BUILDING DROPS, INC
398 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
BPPE CERT. OF AUTHORIZATION No. 29

FL#: FL20100

DATE: 01.02.2020

DWG. BY: VC	CHK. BY: HCH
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SCALE: NTS

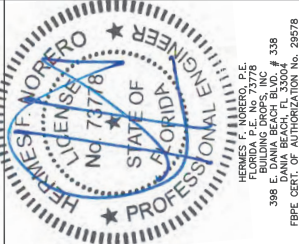
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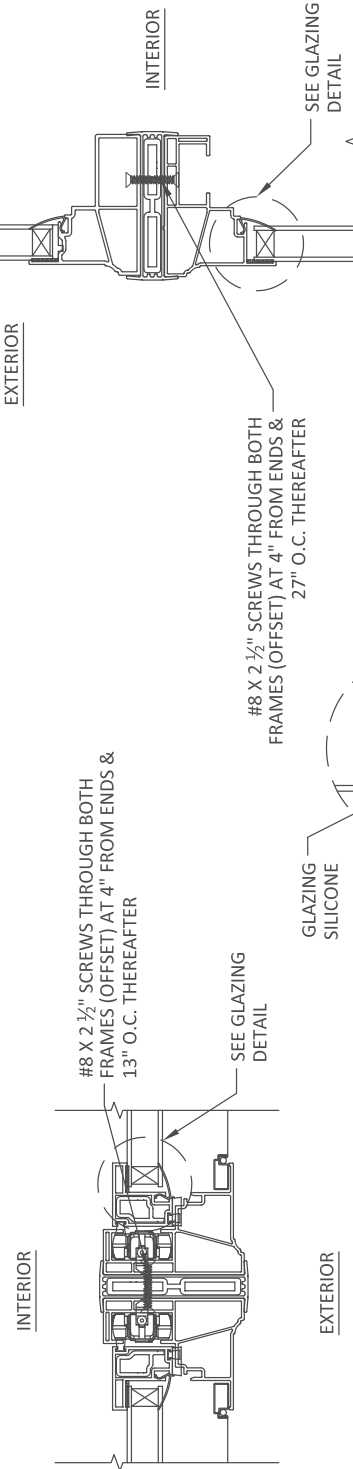
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THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERAL INSTRUCTIONS AND NOT A SUBSTITUTE FOR THE SPECIFICATIONS FROM THE REQUIREMENTS DETAILED HEREIN. A LICENSED ENGINEER HAS REVIEWED THESE INSTALLATION DETAILS FOR CONFORMANCE WITH THE FBC DOCUMENTS FOR USE WITH THIS DOCUMENT.



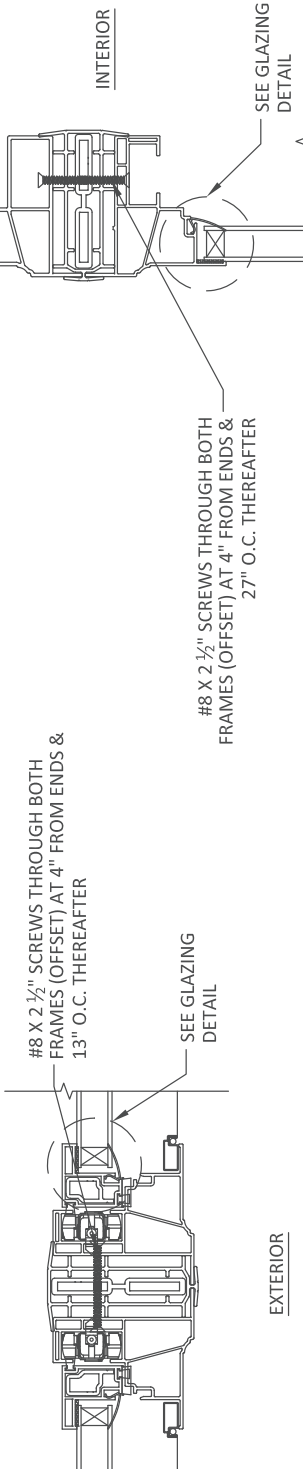
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DWG. BY:	YC
CHK. BY:	HFN
SCALE:	NTS
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SECTION:	



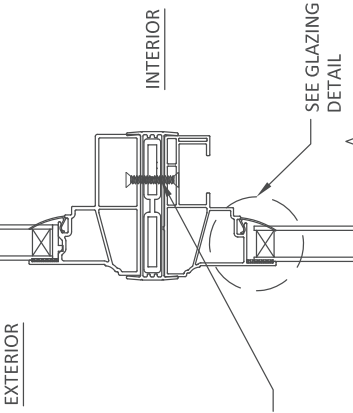
I HORIZONTAL SECTION
1/2" VERTICAL MULLION
7

NOTE:
GLASS TYPE & THICKNESS SHALL MEET THE REQUIREMENTS OF ASTM E 1300 GLASS CHARTS AND SAFETY GLAZING REQUIREMENTS OF FBC CHAPTER 24

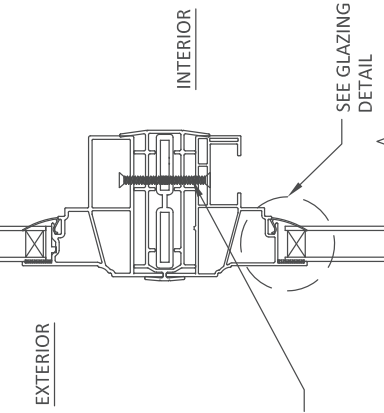
GLAZING DETAIL



J HORIZONTAL SECTION
1 1/4" VERTICAL MULLION
(OPTIONAL)
7



K VERTICAL SECTION
1/2" HORIZONTAL MULLION
7



L VERTICAL SECTION
1 1/4" HORIZONTAL MULLION
(OPTIONAL)
7

FLORIDA DEPARTMENT OF
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Product Approval
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Search Criteria

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Code Version	2020	FL#	20100.2
Application Type	ALL	Product Manufacturer	ALL
Category	ALL	Subcategory	ALL
Application Status	ALL	Compliance Method	ALL
Quality Assurance Entity	ALL	Quality Assurance Entity Contract Expired	ALL
Product Model, Number or Name	ALL	Product Description	ALL
Approved for use in HVHZ	ALL	Approved for use outside HVHZ	ALL
Impact Resistant	ALL	Design Pressure	ALL
Other	ALL		

Search Results - Applications

FL#	Type	Manufacturer	Validated By	Status
FL20100-R11 History	Affirmation	Atrium Windows & Doors FL#: FL20100.2 Model: Series 130 Single Hung Description: Single Hung Window Category: Windows Subcategory: Single Hung	National Accreditation & Management Institute (804) 684-5124	Approved

*Approved by DBPR. Approvals by DBPR shall be reviewed and ratified by the POC and/or the Commission if necessary.

[Contact Us](#) :: [2601 Blair Stone Road, Tallahassee FL 32399](#) Phone: 850-487-1824

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FL #	FL20100-R11
Application Type	Affirmation
Code Version	2020
Application Status	Approved
Comments	
Archived	☐
Product Manufacturer	Atrium Windows & Doors
Address/Phone/Email	300 Welcome Center Blvd. Welcome, NC 27374 (800) 542-9118 Ext 413596 luanne.harris@cornerstone-bb.com
Authorized Signature	Harris Luanne luanne.harris@cornerstone-bb.com
Technical Representative	
Address/Phone/Email	
Quality Assurance Representative	Luanne Harris
Address/Phone/Email	300 Welcome Center Blvd. Welcome, NC 27374 (800) 542-9118 Ext 413596 luanne.harris@cornerstone-bb.com
Category	Windows
Subcategory	Single Hung
Compliance Method	Certification Mark or Listing
Certification Agency	National Accreditation & Management Institute
Validated By	National Accreditation & Management Institute

Referenced Standard and Year (of Standard)	<u>Standard</u>	<u>Year</u>
	AAMA 450	2010
	AAMA/WDMA/CSA 101/I.S.2/A440	2011
	AAMA/WDMA/CSA 101/I.S.2/A440	2008

Equivalence of Product Standards
Certified By

☒ I affirm that there are no changes in the new Florida Building Code which affect my product(s) and my product(s) are in compliance with the new Florida Building Code.

Documentation from approved Evaluation or Validation Entity ☐ Yes ☐ No ☐ N/A

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Search Criteria

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Code Version	2020	FL#	22377.1
Application Type	ALL	Product Manufacturer	ALL
Category	ALL	Subcategory	ALL
Application Status	ALL	Compliance Method	ALL
Quality Assurance Entity	ALL	Quality Assurance Entity Contract Expired	ALL
Product Model, Number or Name	ALL	Product Description	ALL
Approved for use in HVHZ	ALL	Approved for use outside HVHZ	ALL
Impact Resistant	ALL	Design Pressure	ALL
Other	ALL		

Search Results - Applications

FL#	Type	Manufacturer	Validated By	Status
FL22377	New	Atrium Windows & Doors FL#: FL22377.1 Model: Series 130 Mullion Description: 1.25" Aluminum Tube Mullion, Non-Impact Category: Windows Subcategory: Mullions	Locke Bowden P.E. (334) 300-1800	Approved

*Approved by DBPR. Approvals by DBPR shall be reviewed and ratified by the POC and/or the Commission if necessary.

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Product Approval Accepts:



GENERAL NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE CURRENT FLORIDA BUILDING CODE (FBC), EXCLUDING HVHZ, AND HAVE BEEN EVALUATED TO 7TH EDITION (2020) FLORIDA BUILDING CODE, SECTION 1709.8.
2. 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.
3. 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.
4. 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.
5. APPROVED IMPACT PROTECTIVE SYSTEM **IS REQUIRED** ON THIS PRODUCT IN AREAS REQUIRING IMPACT RESISTANCE.
6. MULLION & CLIP MATERIAL: ALUMINUM 6063-T6
7. SEE SHEETS 5-8 FOR INSTALLATION ANCHOR REQUIREMENTS FOR SPECIFIC MULLION CONFIGURATIONS AND DESIGN LOAD CAPACITIES.
8. IN ACCORDANCE WITH THE CURRENT FBC, DISSIMILAR METALS INCLUDING FASTENERS THAT MAY COME INTO CONTACT WITH ALUMINUM UNIT FRAMING SHALL BE PROTECTED AS DEFINED IN CHAPTER 20.
9. INSTALLATION ANCHOR CAPACITIES FOR PRODUCTS HEREIN ARE BASED ON SUBSTRATE MATERIALS WITH THE FOLLOWING PROPERTIES:
 - A. WOOD - MINIMUM SPECIFIC GRAVITY OF 0.42
 - B. CONCRETE - MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI
 - C. GROUT-FILLED CMU - UNIT STRENGTH CONFORMS TO ASTM C-90 WITH MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AND GROUT CONFORMS TO ASTM C 476, MINIMUM GROUT COMPRESSIVE STRENGTH OF 2000 PSI.
 - D. HOLLOW BLOCK CMU - UNIT STRENGTH CONFORMS TO ASTM C-90 WITH MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
 - E. STEEL - MINIMUM YIELD STRENGTH OF 33 KSI, MINIMUM 18 GA. WALL THICKNESS.

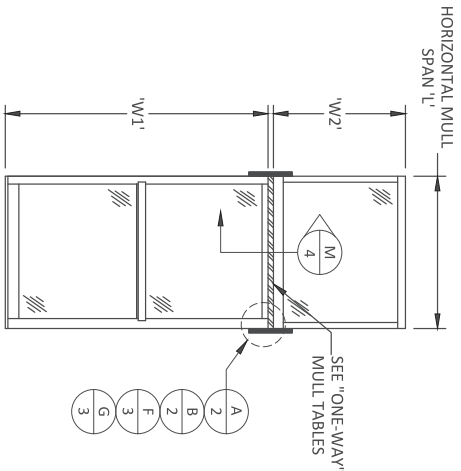
TRIBUTARY WIDTH = $\frac{W1 + W2}{2}$

SHEET	SHEET DESCRIPTION
1	INSTALLATION, GENERAL NOTES & ELEVATIONS
2	MULLION DETAILS (STANDARD CLIP)
3	MULLION DETAILS (OFFSET CLIP)
4	TWO-WAY DETAILS & FRAME DETAIL
5	ONE-WAY MULL TABLES (TAPCONS ONLY)
6	ONE-WAY MULL TABLES (ALL OTHER ANCHORS)
7	TWO-WAY MULL TABLES (TAPCONS ONLY)
8	TWO-WAY MULL TABLES (ALL OTHER ANCHORS)

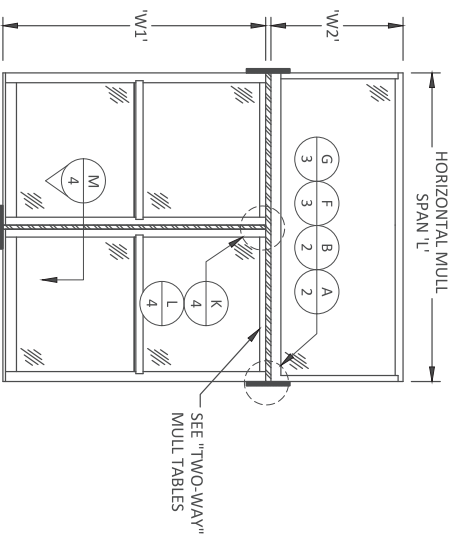
ATRIUM CORPORATION

SERIES 130 1.25" TUBE MULLION

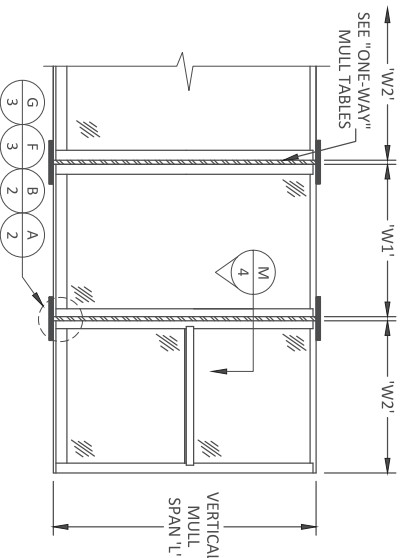
(NON-HVHZ)(NON-IMPACT)



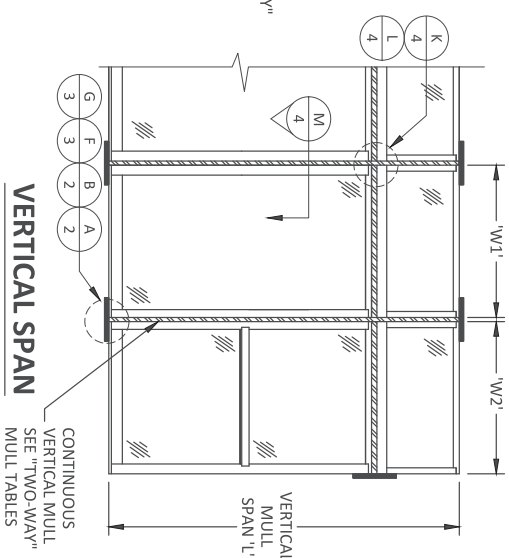
HORIZONTAL SPAN



HORIZONTAL "T" MULL SPAN



VERTICAL SPAN



VERTICAL SPAN

CONTINUOUS
VERTICAL MULL
SEE "TWO-WAY"
MULL TABLES

TITLE: 130 1.25" TUBE MULLION
VERTICAL & HORIZONTAL
(NON-HVHZ)(NON-IMPACT)

INSTALLATION, GENERAL NOTES &
ELEVATIONS

PREPARED BY:
BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PH: (954)399-8478
FAX: (954)744-4738
WEB: www.buildingdrops.com

REMARKS

FBC 5th ED CODE CHANGE SM 06.03.14

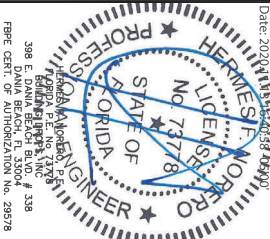
ADDITIONAL SIZING LS 04.14.16

FBC 2017 CODE CHANGE AG 10.03.17

FBC 2020 CODE CHANGE LC 11.11.20

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REPRODUCED ON ALL CERTIFICATIONS

Digitally signed by Hermes F. Noreno
Reason: I am approving this document
Date: 2020.04.14 15:44:15 -0400



FL #: FL22377

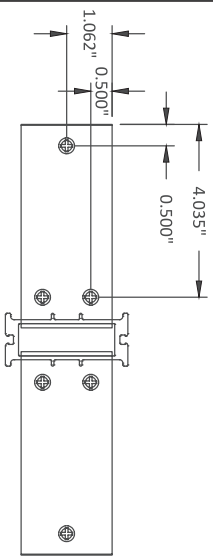
DATE: 10.03.17

DWG. BY: AR/AG CHK. BY: HFN

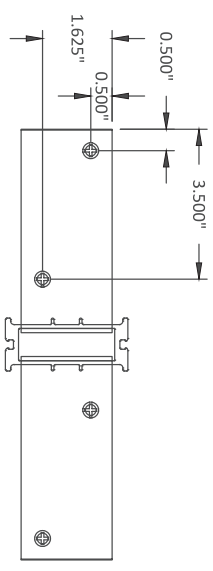
SCALE: NTS

DWG. #: ATR110

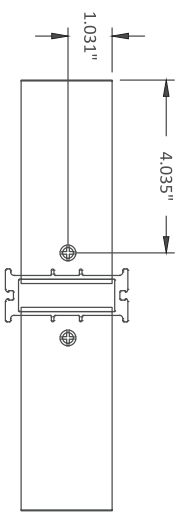
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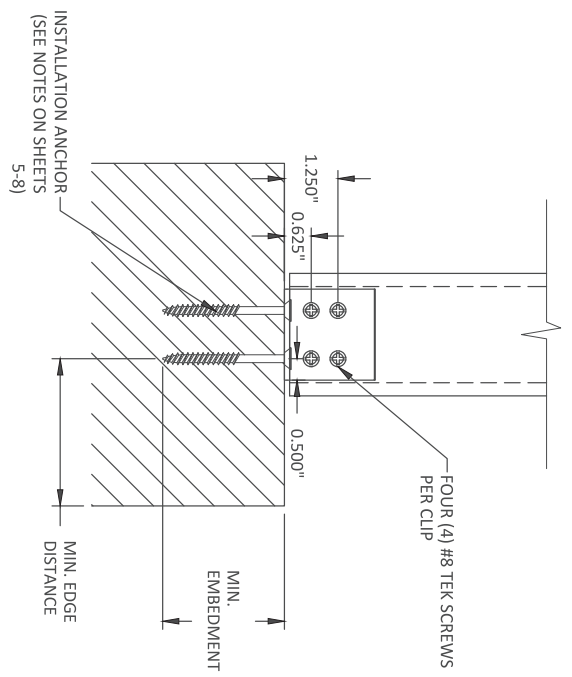
C
2 TOP VIEW
END CLIP DETAIL WITH HOLE LAYOUT
WOOD OR STEEL STUD INSTALLATION



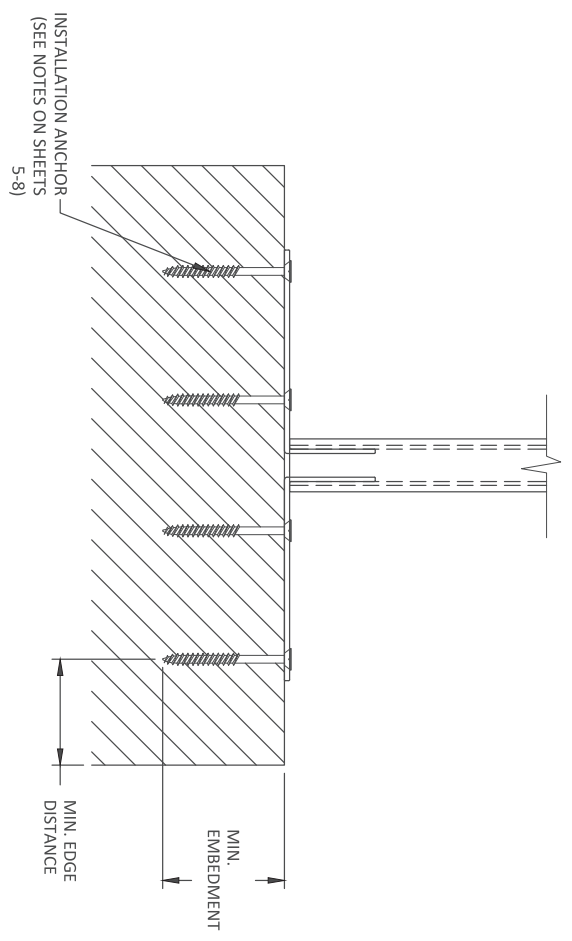
D
2 TOP VIEW
END CLIP DETAIL WITH HOLE LAYOUT
ITW TAPCONS INTO CONCRETE/MASONRY



E
2 TOP VIEW
END CLIP DETAIL WITH HOLE LAYOUT
HILTI KWIK BOLTS INTO CONCRETE/MASONRY



A
2 SIDE VIEW
MULLION W/ END CLIPS (ONE OR TWO WAY)
STANDARD CLIP



B
2 FRONT VIEW
MULLION W/ END CLIPS (ONE OR TWO WAY)
STANDARD CLIP

ATRUM
WINDOWS AND DOORS
ATRILUM WINDOWS AND DOORS
5001 AMBASSADOR ROW
DALLAS, TEXAS 75247
PH: (214)937-2696 FAX: (214)424-6734

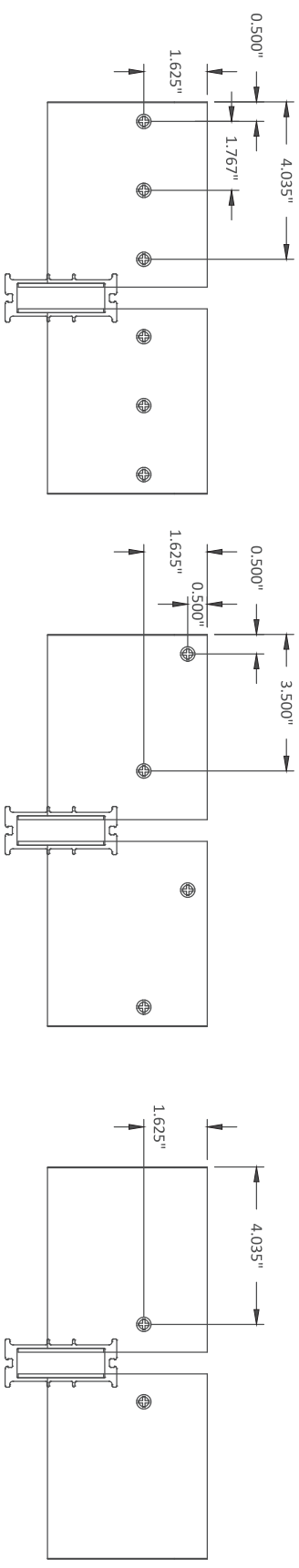
TITLE: 130 1.25" TUBE MULLION
VERTICAL & HORIZONTAL
(NON-HVHZ)(NON-IMPACT)
MULLION DETAILS
(STANDARD CLIP)
PREPARED BY:
BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PH: (954)399-8476
FAX: (954)744-4738
WEB: www.buildingdrops.com

REMARKS	BY	DATE
FBC 5th ED CODE CHANGE	SM	06.03.14
ADDITIONAL SIZING	LS	04.14.16
FBC 2017 CODE CHANGE	AG	10.03.17
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LICENSED PROFESSIONAL ENGINEER
No. 73778
STATE OF FLORIDA
FL22377
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PHONE: (954)399-8476
FAX: (954)744-4738
WEB: www.buildingdrops.com

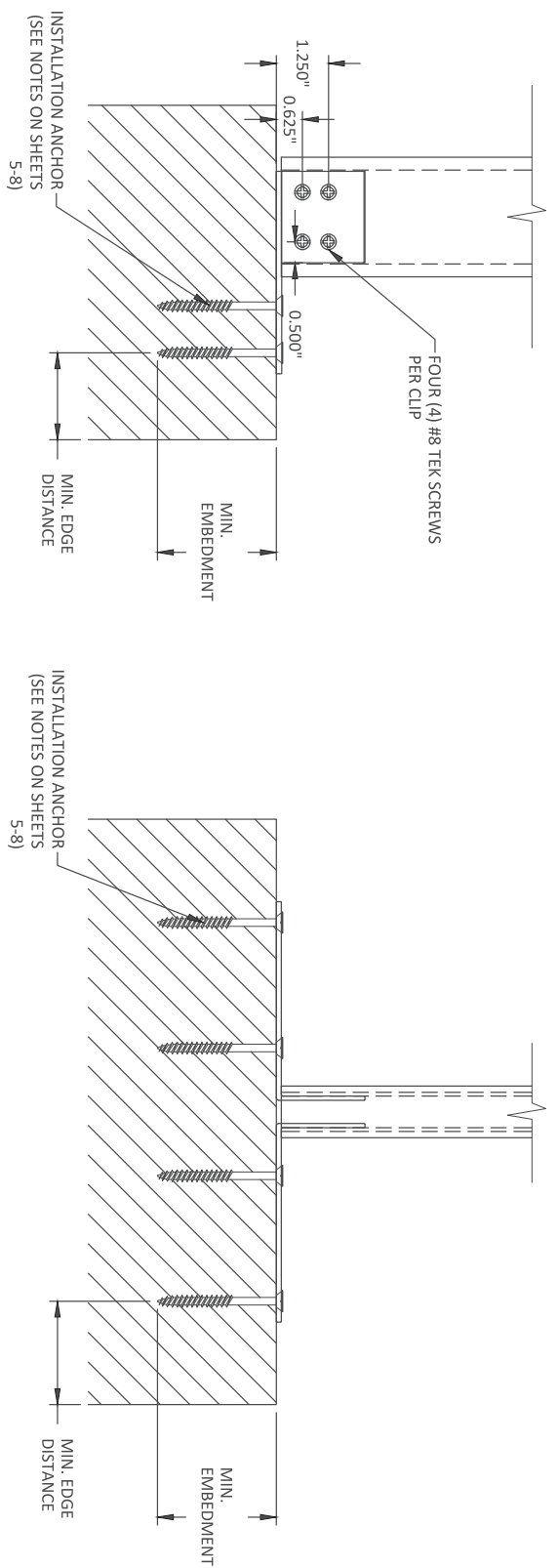
FL #: FL22377
DATE: 10.03.17
DWG. BY: AR/AG CHK. BY: HFN
SCALE: NTS
DWG. #: ATR110
SECTION: 2
OF 8



H
3
TOP VIEW
END CLIP DETAIL WITH HOLE LAYOUT
WOOD OR STEEL STUD INSTALLATION

I
3
TOP VIEW
END CLIP DETAIL WITH HOLE LAYOUT
ITW TAPCONS INTO CONCRETE/MASONRY

J
3
TOP VIEW
END CLIP DETAIL WITH HOLE LAYOUT
HILTI KWIK BOLTS INTO CONCRETE/MASONRY



F
3
SIDE VIEW
MULLION W/ END CLIPS (ONE OR TWO WAY)
OFFSET CLIP

G
3
FRONT VIEW
MULLION W/ END CLIPS (ONE OR TWO WAY)
OFFSET CLIP

ATRium
WINDOWS AND DOORS
5001 AMBASSADOR ROW
DALLAS, TEXAS 75247
PH: (214)937-2696 FAX: (214)424-6734

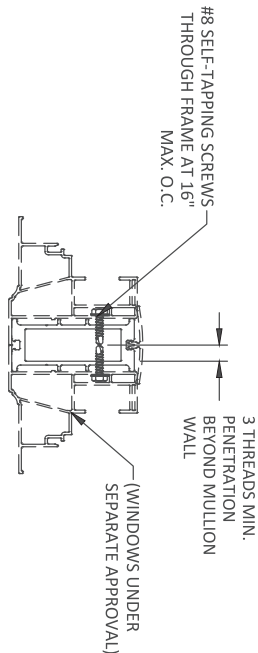
TITLE: 130 1.25" TUBE MULLION
VERTICAL & HORIZONTAL
(NON-HVHZ)(NON-IMPACT)
MULLION DETAILS
(OFFSET CLIP)
PREPARED BY:
BUILDING DROPS, INC.
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DANIA BEACH, FL 33004
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FBC 2020 CODE CHANGE	LL	11.11.20

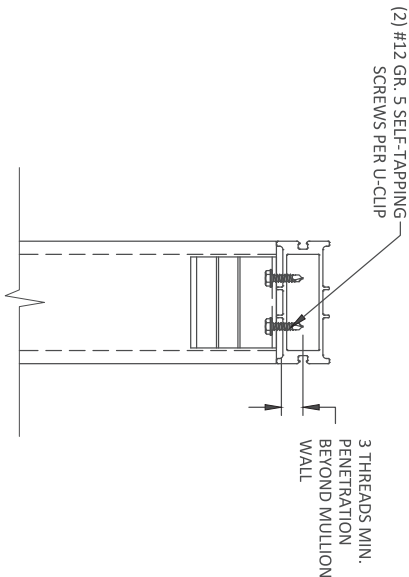
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MULLION: INVALIDATE OUR CERTIFICATION

HERMES ENGINEERING
PROFESSIONAL ENGINEER
STATE OF FLORIDA
No. 73778
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
FBC CERT. OF AUTHORITY No. 29578

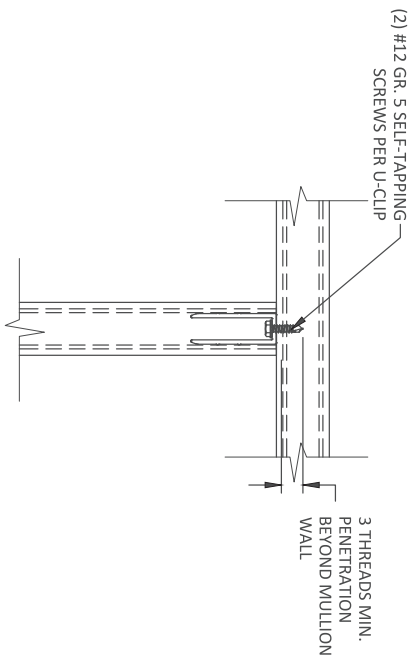
FL #: FL22377
DATE: 10.03.17
DWG. BY: AR/AG **CHK. BY:** HFN
SCALE: NTS
DWG. #: ATR110
SECTION: 3
OF 8



M **HORIZONTAL SECTION**
4 **FRAME CONNECTION TO MULLION**
TYPICAL



K **SIDE VIEW**
4 **MULLION WITH U-CLIP (TWO WAY)**
TYPICAL



L **FRONT VIEW**
4 **MULLION WITH U-CLIP (TWO WAY)**
TYPICAL

TITLE: 130 1.25" TUBE MULLION
VERTICAL & HORIZONTAL
(NON-HVHZ)(NON-IMPACT)
TWO-WAY DETAILS &
FRAME DETAIL

PREPARED BY:
BUILDING DROPS, INC.
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DANIA BEACH, FL 33004
PH: (954)399-8478
FAX: (954)744-4738
WEB: www.buildingdrops.com

REMARKS	BY	DATE
FBC 5th ED CODE CHANGE	SM	06.03.14
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REGISTERED PROFESSIONAL ENGINEER
No. 73778
STATE OF FLORIDA
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
FLPE CERT. OF AUTHORIZATION No. 29578

FL #: FL22377
DATE: 10.03.17
DWG. BY: AR/AG **CHK. BY:** HFN
SCALE: NTS
DWG. #: ATR110
SECTION:

Maximum design pressure capacity chart (psf)
One-Way Mullions (Tapcons only)

L - Mull Length (in)	W - Tributary Width (in)															
	18.0	21.0	24.0	27.0	30.0	33.0	36.0	42.0	48.0	54.0	60.0	66.0	72.0	78.0		
24.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0		
30.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0		
36.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0		
42.0	150.0	150.0	143.7	134.5	127.8	123.0	119.8	117.3	117.3	117.3	117.3	117.3	117.3	117.3		
48.0	147.4	131.4	119.8	111.1	104.5	99.6	95.8	91.3	89.8	89.8	89.8	89.8	89.8	89.8		
54.0	127.8	113.3	102.7	94.6	88.5	83.6	79.9	74.7	71.0	71.0	71.0	71.0	71.0	71.0		
60.0	112.7	99.6	89.8	82.4	76.7	72.1	68.4	63.2	59.9	58.1	57.5	57.5	57.5	57.5		
66.0	100.9	88.8	79.9	73.0	67.6	63.4	59.9	54.8	51.3	49.1	47.9	47.5	47.5	47.5		
72.0	91.3	80.1	71.9	65.5	60.5	56.5	53.2	48.3	44.9	42.6	41.1	40.2	39.9	39.9		
78.0	83.3	73.0	65.1	58.4	53.2	49.0	45.5	40.3	36.6	34.0	32.2	31.0	30.3	30.1		
84.0	68.0	58.7	51.8	46.5	42.2	38.8	36.0	31.7	28.7	26.5	24.9	23.7	23.0	22.5		
90.0	55.2	47.6	41.9	37.6	34.1	31.3	29.0	25.5	22.9	21.0	19.6	18.6	17.9	17.4		
96.0	45.4	39.1	34.4	30.8	28.0	25.6	23.7	20.8	18.6	17.0	15.8	-	-	-		

NOTES:

- MULLION CHART APPLIES TO MULLION ASSEMBLIES WHEN USED TO MULL WINDOWS IN ONE-WAY CONFIGURATIONS SHOWN ON SHEET 1 USING ITW TAPCON ANCHORS ONLY. SEE DETAILS D/2 & I/3.
- DESIGN PRESSURE VALUES ARE POSITIVE AND NEGATIVE IN PSF.
- MAXIMUM DEFLECTION HAS BEEN LIMITED TO L/175.
- DESIGN PRESSURE OF ASSEMBLY IS LIMITED TO THE LESSER DESIGN PRESSURE OF THE MULLION ASSEMBLY OR THE INDIVIDUAL WINDOW UNITS OF INSTALLATION UNDER SEPARATE APPROVAL.
- FOR CONCRETE/MASONRY INSTALLATION USE TWO (2) 1/4" DIAMETER ITW TAPCON SCREWS AT EACH ANCHOR CLIP. TAPCONS SHALL BE OF SUFFICIENT LENGTH TO ACHIEVE A MINIMUM 1-1/4" EMBEDMENT AND MINIMUM 2-1/2" EDGE DISTANCE. SEE DETAILS D/2 & I/3.



5001 AMHERSTWOODS BLVD.
DALLAS, TEXAS 75247
PH: (214)937-2696 FAX: (214)242-6734

TITLE: 130 1.25" TUBE MULLION
VERTICAL & HORIZONTAL
(NON-HVHZ)(NON-IMPACT)
ONE-WAY MULL TABLES
(TAPCONS ONLY)

PREPARED BY:
BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PH: (954)399-8478
FAX: (954)744-4738
WEB: www.buildingdrops.com

REMARKS

BY DATE

FBC 5th ED CODE CHANGE SM 06/03/14

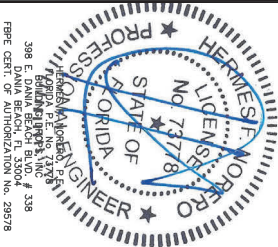
ADDITIONAL SIZING LS 04/14/16

FBC 2017 CODE CHANGE AG 10/03/17

FBC 2020 CODE CHANGE LT 11/11/20

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REVISIONS: REEVALUATE OUR CERTIFICATION



FL #: FL22377

DATE: 10.03.17

DWG. BY: AR/AG CHK. BY: HFN

SCALE: NTS

DWG. #: ATR110

SECTION:



Maximum design pressure capacity chart (psf)
One-Way Mullions (All other anchors)

L - Mull Length (in)	W - Tributary Width (in)													
	18.0	21.0	24.0	27.0	30.0	33.0	36.0	42.0	48.0	54.0	60.0	66.0	72.0	78.0
24.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
30.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
36.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
42.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
48.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	148.3	148.3	148.3	148.3	148.3	148.3
54.0	150.0	150.0	150.0	150.0	146.0	138.0	131.8	123.2	118.6	117.1	117.1	117.1	117.1	117.1
60.0	150.0	150.0	146.8	132.8	121.9	113.3	106.4	96.5	90.4	87.1	86.0	86.0	86.0	86.0
66.0	142.0	123.1	109.1	98.4	90.0	83.3	77.9	69.9	64.6	61.2	59.4	58.7	58.7	58.7
72.0	108.8	94.2	83.3	74.9	68.4	63.1	58.8	52.3	47.9	44.9	42.9	41.8	41.5	41.5
78.0	85.2	73.7	65.1	58.4	53.2	49.0	45.5	40.3	36.6	34.0	32.2	31.0	30.3	30.1
84.0	68.0	58.7	51.8	46.5	42.2	38.8	36.0	31.7	28.7	26.5	24.9	23.7	23.0	22.5
90.0	55.2	47.6	41.9	37.6	34.1	31.3	29.0	25.5	22.9	21.0	19.6	18.6	17.9	17.4
96.0	45.4	39.1	34.4	30.8	28.0	25.6	23.7	20.8	18.6	17.0	15.8	-	-	-

NOTES:

- MULLION CHART APPLIES TO MULLION ASSEMBLIES WHEN USED TO MULL WINDOWS IN ONE-WAY CONFIGURATIONS SHOWN ON SHEET 1 USING ALL OTHER ANCHOR OPTIONS. SEE DETAILS C/2, E/2, H/3, & J/3.
- DESIGN PRESSURE VALUES ARE POSITIVE AND NEGATIVE IN PSF.
- MAXIMUM DEFLECTION HAS BEEN LIMITED TO L/175.
- DESIGN PRESSURE OF ASSEMBLY IS LIMITED TO THE LESSER DESIGN PRESSURE OF THE MULLION ASSEMBLY OR THE INDIVIDUAL WINDOW UNITS OF INSTALLATION UNDER SEPARATE APPROVAL.
- FOR WOOD FRAME INSTALLATION USE THREE (3) #14 WOOD SCREWS AT EACH ANCHOR CLIP. WOOD SCREWS SHALL BE OF SUFFICIENT LENGTH TO ACHIEVE A MINIMUM 1-1/2" EMBEDMENT AND MINIMUM 3/4" EDGE DISTANCE. SEE DETAILS C/2 & H/3.
- FOR STEEL STUD INSTALLATION USE THREE (3) 1/4" TEK SCREWS AT EACH ANCHOR CLIP. TEK SCREWS SHALL BE OF SUFFICIENT LENGTH TO ACHIEVE A MINIMUM OF 3 THREADS PENETRATION BEYOND STEEL STRUCTURE EMBEDMENT AND MINIMUM 1/2" EDGE DISTANCE. SEE DETAILS C/2 & H/3.
- FOR CONCRETE INSTALLATION USE ONE (1) 3/8" DIAMETER HILTI KWIK BOLT III EXPANSION ANCHOR AT EACH ANCHOR CLIP. BOLTS SHALL BE OF SUFFICIENT LENGTH TO ACHIEVE A MINIMUM 2-1/2" EMBEDMENT AND MINIMUM 2-1/2" EDGE DISTANCE. SEE DETAILS E/2 & J/3.
- FOR GROUT-FILLED CMU INSTALLATION USE ONE (1) 3/8" DIAMETER HILTI KWIK BOLT III EXPANSION ANCHOR AT EACH ANCHOR CLIP. BOLTS SHALL BE OF SUFFICIENT LENGTH TO ACHIEVE A MINIMUM 2-1/2" EMBEDMENT AND MINIMUM 3-1/2" EDGE DISTANCE. SEE DETAILS E/2 & J/3



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TITLE: 130 1.25" TUBE MULLION
VERTICAL & HORIZONTAL
(NON-HVHZ)(NON-IMPACT)

ONE-WAY MULL TABLES
(ALL OTHER ANCHORS)

PREPARED BY:

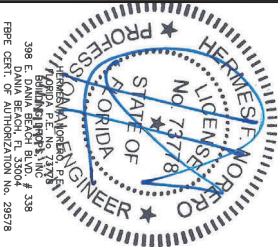


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REMARKS

BY	DATE
SM	06.03.14
LS	04.14.16
AG	10.03.17
LL	11.11.20

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FPEE CERT. OF AUTHORIZATION No. 29578

FL #: FL22377

DATE: 10.03.17

DWG. BY: AR/AG CHK. BY: HFN

SCALE: NTS

DWG. #: ATR110

SECTION:



Maximum design pressure capacity chart (psf)
Two-Way Mullions (Tapcons Only)

L - Mull Length (in)	W - Tributary Width (in)														
	18.0	21.0	24.0	27.0	30.0	33.0	36.0	42.0	48.0	54.0	55.0	60.0	66.0	72.0	78.0
24.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	143.7	130.7	119.8	110.6
30.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	143.7	127.8	125.4	115.0	104.5	95.8	88.5
36.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	136.9	119.8	106.5	104.5	95.8	87.1	79.9	73.7
42.0	150.0	150.0	150.0	150.0	150.0	149.3	136.9	117.3	102.7	91.3	89.6	82.1	74.7	68.4	63.2
48.0	150.0	150.0	150.0	150.0	143.7	130.7	119.8	102.7	89.8	79.9	78.4	71.9	65.3	59.9	55.3
54.0	150.0	150.0	150.0	142.0	127.8	116.2	106.5	91.3	79.9	71.0	69.7	63.9	58.1	53.2	49.1
60.0	150.0	150.0	137.5	122.2	110.0	100.0	91.7	78.6	68.8	61.1	60.0	55.0	50.0	45.8	42.3
66.0	137.8	118.1	103.3	91.8	82.7	75.1	68.9	59.0	51.7	45.9	45.1	41.3	37.6	34.4	31.8
72.0	106.1	91.0	79.6	70.7	63.7	57.9	53.1	45.5	39.8	35.4	34.7	31.8	28.9	26.5	24.5
74.0	97.7	83.8	73.3	65.2	58.6	53.3	48.9	41.9	36.7	32.6	32.0	29.3	26.7	24.4	22.6
78.0	83.5	71.5	62.6	55.6	50.1	45.5	41.7	35.8	31.3	27.8	27.3	25.0	22.8	20.9	19.3
84.0	66.8	57.3	50.1	44.6	40.1	36.5	33.4	28.6	25.1	22.3	21.9	20.0	18.2	16.7	15.4
90.0	54.3	46.6	40.7	36.2	32.6	29.6	27.2	23.3	20.4	18.1	17.8	16.3	-	-	-
96.0	44.8	38.4	33.6	29.8	26.9	24.4	22.4	19.2	16.8	-	-	-	-	-	-

NOTES:

- MULLION CHART APPLIES TO MULLION ASSEMBLIES WHEN USED TO MULL WINDOWS IN TWO-WAY CONFIGURATIONS SHOWN ON SHEET 1 USING ITW TAPCON ANCHORS ONLY. SEE DETAILS D/2, 1/3, K/4 & L/4.
- DESIGN PRESSURE VALUES ARE POSITIVE AND NEGATIVE IN PSF.
- MAXIMUM DEFLECTION HAS BEEN LIMITED TO L/175.
- DESIGN PRESSURE OF ASSEMBLY IS LIMITED TO THE LESSER DESIGN PRESSURE OF THE MULLION ASSEMBLY OR THE INDIVIDUAL WINDOW UNITS OF INSTALLATION
- FOR CONCRETE/MASONRY INSTALLATION USE TWO (2) 1/4" DIAMETER ITW TAPCON SCREWS AT EACH ANCHOR CLIP. TAPCONS SHALL BE OF SUFFICIENT LENGTH TO ACHIEVE A MINIMUM 1-1/4" EMBEDMENT AND MINIMUM 2-1/2" EDGE DISTANCE. SEE DETAILS D/2 & 1/3.
- FOR TWO-WAY CONNECTION OF U-CLIP TO MULLION USE TWO (2) 1/4" TEK SCREWS AT EACH ANCHOR CLIP. TEK SCREWS SHALL BE OF SUFFICIENT LENGTH TO ACHIEVE A MINIMUM OF 3 THREADS PENETRATION BEYOND ALUMINUM MULLION STRUCTURE. SEE DETAILS K/4 & L/4.



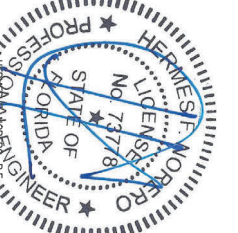
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TITLE: 130 1.25" TUBE MULLION
VERTICAL & HORIZONTAL
(NON-HVHZ)(NON-IMPACT)
TWO-WAY MULL TABLES
(TAPCONS ONLY)

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REMARKS	BY	DATE
FBC 5th ED CODE CHANGE	SM	06.03.14
ADDITIONAL SIZING	LS	04.14.16
FBC 2017 CODE CHANGE	AG	10.03.17
FBC 2020 CODE CHANGE	LT	11.11.20

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FL #: FL22377

DATE: 10.03.17

DWG. BY: AR/AG CHK. BY: HFN

SCALE: NTS

DWG. #: ATR110

SECTION: 7

OF 8

Maximum design pressure capacity chart (psf)
Two-Way Mullions (All other anchors)

L - Mull Length (in)	W - Tributary Width (in)														
	18.0	21.0	24.0	27.0	30.0	33.0	36.0	42.0	48.0	54.0	55.0	60.0	66.0	72.0	78.0
24.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
30.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	146.0
36.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	143.8	131.8	121.6
42.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	143.1	140.5	128.8	117.1	107.3	99.1
48.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	140.9	123.3	109.6	107.6	98.6	89.7	82.2	75.9
54.0	150.0	150.0	150.0	150.0	150.0	137.2	125.8	107.8	94.3	83.8	82.3	75.5	68.6	62.9	58.0
60.0	150.0	150.0	137.5	122.2	110.0	100.0	91.7	78.6	68.8	61.1	60.0	55.0	50.0	45.8	42.3
66.0	137.8	118.1	103.3	91.8	82.7	75.1	68.9	59.0	51.7	45.9	45.1	41.3	37.6	34.4	31.8
72.0	106.1	91.0	79.6	70.7	63.7	57.9	53.1	45.5	39.8	35.4	34.7	31.8	28.9	26.5	24.5
74.0	97.7	83.8	73.3	65.2	58.6	53.3	48.9	41.9	36.7	32.6	32.0	29.3	26.7	24.4	22.6
78.0	83.5	71.5	62.6	55.6	50.1	45.5	41.7	35.8	31.3	27.8	27.3	25.0	22.8	20.9	19.3
84.0	66.8	57.3	50.1	44.6	40.1	36.5	33.4	28.6	25.1	22.3	21.9	20.0	18.2	16.7	15.4
90.0	54.3	46.6	40.7	36.2	32.6	29.6	27.2	23.3	20.4	18.1	17.8	16.3	-	-	-
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NOTES:

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TWO-WAY MULL TABLES
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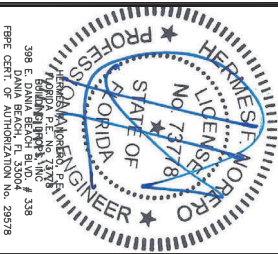
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DWG. BY: AR/AG
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SECTION:

