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ADDITIONAL DETAILS:

FOR SPECIAL SITE CONDITION, CONTACT HARTMAN WINDOWS AND DOORS, LLC.

TO OBTAIN AUTOCAD/REVIT COMPATIBLE DETAILS OF THIS PRODUCT, KINDLY GET IN TOUCH WITH US BY SCANNING THE QR CODE PROVIDED BELOW OR CONTACTING US VIA OUR OFFICIAL EMAIL ADDRESS: CONTACT@JA-PE.COM.



THIS PRODUCT CAN BE COMBINED WITH ANY OTHER FBC APPROVED HARTMAN'S PRODUCTS. PLEASE REFER TO HARTMAN'S FBC APPROVED EUROPEAN MULLIONS TO DETERMINE THE APPROVED MULLION SIZES AND PRESSURES. WHEN MULLED COMBINATIONS ARE USED, THE LOWER DESIGN PRESSURE FROM EACH PRODUCT WILL APPLY TO THE ENTIRE SYSTEM. FINAL APPROVAL OF ALL DESIGNS SHALL BE GRANTED BY THE GOVERNING MUNICIPALITY.

DESIGN PRESSURES:
SEE SHEET 103

(LEVEL "D" IMPACT RESISTANT)

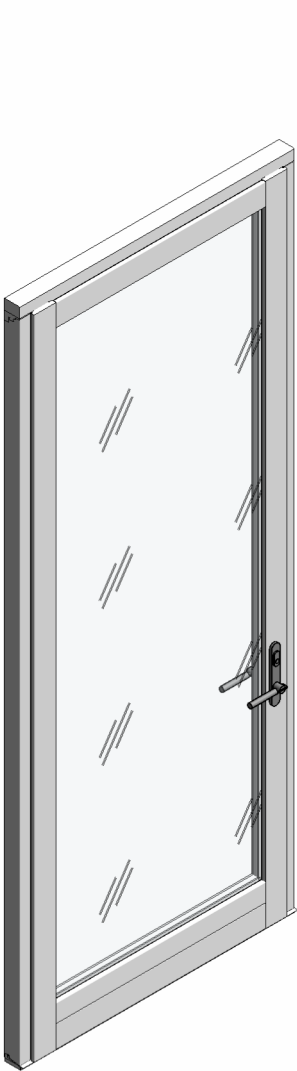
- APPROVAL APPLIES TO SINGLE OPERATING (X), STATIONARY (O) AND DOUBLE OPERATING (XX) UNITS.
- ALSO SIDE BY SIDE COMBINATIONS OF OPERATING/OPERATING OR OPERATING/STATIONARY UNITS IN MODULES OF TWO OR MORE WINDOWS.

HARTMAN WINDOWS & DOORS, LLC.

FLUSH EUROPEAN OUTSWING CASEMENT WINDOW

(LARGE AND SMALL MISSILE IMPACT RATED)

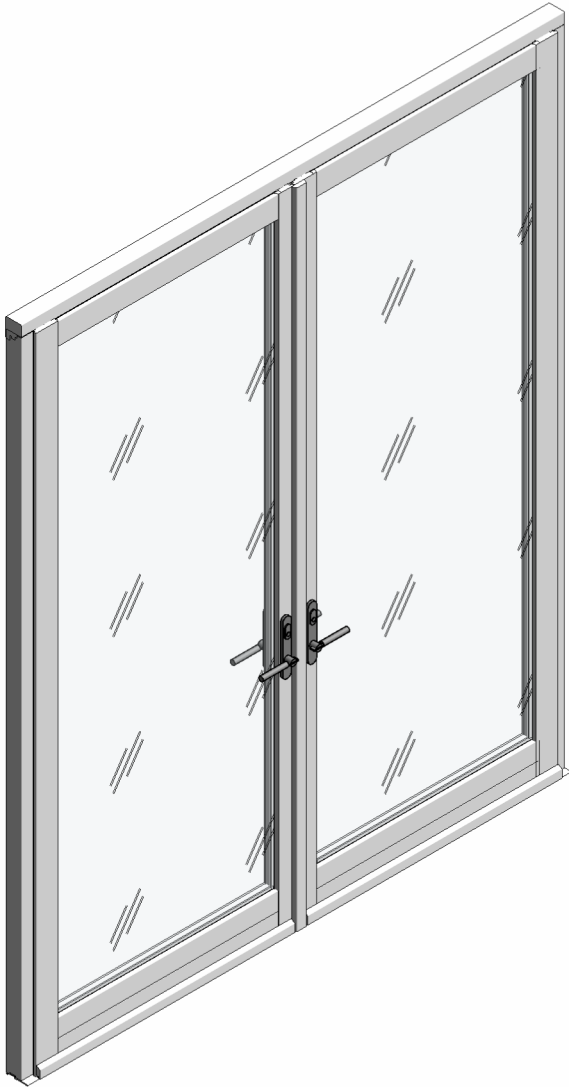
FL# 20516.1



SINGLE DOOR (X)



DOUBLE DOOR (XX)



DOUBLE DOOR (XX)

GENERAL NOTES:

1. THIS SYSTEM PRESENTED HEREIN HAS UNDERGONE DESIGN AND TESTING IN FULL COMPLIANCE WITH THE FLORIDA BUILDING CODE EIGHTH EDITION (2023) AND IS INTENDED FOR USE BOTH WITHIN AND OUTSIDE THE HIGH-VELOCITY HURRICANE ZONE (HVHZ) PER TAS 201/202/203.

2. THE GLASS CAPACITIES SPECIFIED IN THE CHARTS OF THIS CERTIFICATION ARE BASED ON ASTM E1300-16, UTILIZING A 3-SECOND GUST WIND SCENARIO.

3. THE DESIGN PRESSURES OUTLINED IN THIS DOCUMENT ARE DERIVED FROM MAXIMUM TESTED PRESSURES AND INCORPORATE A 1.5 SAFETY FACTOR.

4. THE PRESSURES PROVIDED IN THIS CERTIFICATION ARE DETERMINED USING THE ALLOWABLE STRESS DESIGN METHOD (ASD).

5. THIS PRODUCT HAS BEEN RIGOROUSLY TESTED IN ACCORDANCE WITH THE STANDARDS DESCRIBED IN NOTE 1 OF THE GENERAL NOTES. IT IS CONFIRMED TO BE RESISTANT TO LARGE MISSILE IMPACT, THEREBY NOT NECESSITATING THE USE OF IMPACT-RESISTANT SHUTTERS.

6. THE DESIGN OF THIS SYSTEM DOES NOT INCORPORATE A 33-1/3% INCREASE IN ALLOWABLE STRESS. FOR WOOD ANCHOR DESIGN, A WIND LOAD DURATION FACTOR OF CD=1.6 HAS BEEN EMPLOYED.

7. THE ARCHITECT/ENGINEER OF RECORD RESPONSIBLE FOR THE PROJECT'S SUPERSTRUCTURE, WITH WHICH THIS DESIGN IS ASSOCIATED, SHALL ENSURE THE INTEGRITY OF ALL SUPPORTING SURFACES. COORDINATION WITH THE PERMITTING CONTRACTOR IS REQUIRED, AND PROPER ANCHORING OF WOOD BUCKS (BY OTHERS) MUST FACILITATE LOAD TRANSFER TO THE EXISTING STRUCTURE.
8. THE DETAILS OF THE SYSTEM PROVIDED HEREIN ARE OF A GENERIC NATURE AND DO NOT OFFER SPECIFIC SITE INFORMATION. FOR SITE CONDITIONS THAT DIFFER FROM THOSE SPECIFIED HERE, A LICENSED ENGINEER OR REGISTERED ARCHITECT MUST PREPARE SITE-SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS CERTIFICATION.

9. THE CONTRACTOR IS ACCOUNTABLE FOR INSULATING ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS (E.G., STEEL WITH ALUMINUM).

10. THE SUBSTITUTION OF FASTENERS DESCRIBED IN THIS CERTIFICATION IS PERMISSIBLE, PROVIDED THE ALTERNATIVE ANCHOR EXHIBITS STRENGTH EQUAL TO OR GREATER THAN THE ORIGINALLY SPECIFIED ANCHOR. FINAL APPROVAL OF SUBSTITUTED ANCHORS SHALL BE GRANTED BY RELEVANT AUTHORITIES.

11. THE WOOD SCREWS REFERENCED IN THIS CERTIFICATION MUST MEET A MINIMUM GRADE OF 2 (FU = 74,000 PSI).

12. FASTENERS MUST BE CADMIUM PLATED OR COMPOSED OF OTHERWISE CORROSION-RESISTANT MATERIAL, CONFORMING TO "SPECIFICATIONS FOR ALUMINUM STRUCTURES" AS OUTLINED IN SECTION J.3 OF THE CURRENT CODE BY THE ALUMINUM ASSOCIATION, INC., IN ADDITION TO ANY APPLICABLE FEDERAL, STATE, AND/OR LOCAL CODES.

13. THE ENGINEER'S SEAL AFFIXED HERE VALIDATES THE STRUCTURAL DESIGN AS PRESENTED SOLELY. ANY USE OF THIS SPECIFICATION BY THE CONTRACTOR OR OTHERS INDEMNIFIES AND SAVES THE ENGINEER HARMLESS FROM ALL COSTS AND DAMAGES, INCLUDING LEGAL FEES AND APPELLATE FEES ARISING FROM MATERIAL FABRICATION, SYSTEM ERECTION, AND CONSTRUCTION PRACTICES BEYOND THE SCOPE CALLED FOR BY LOCAL, STATE, AND FEDERAL CODES OR DEVIATIONS FROM THE PLAN.

14. NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED BEYOND WHAT IS EXPRESSLY PROVIDED IN THIS DOCUMENT.
15. ALTERATIONS, ADDITIONS, OR ANY MARKINGS TO THIS DOCUMENT ARE STRICTLY PROHIBITED AND WILL INVALIDATE THIS CERTIFICATION.
16. PROPER SAFETY MEASURES MUST BE OBSERVED DURING THE INSTALLATION AND USE OF THIS SYSTEM, EVEN THOUGH THEY ARE NOT EXPLICITLY LISTED IN THIS CERTIFICATION.
17. EACH PRODUCT SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER SYSTEM, CONTAINING THE FOLLOWING REQUIRED INFORMATION:

HARTMAN WINDOWS AND DOORS, LLC
2107 WEST BLUE HERON BLVD
WEST PALM BEACH, FLORIDA 33404
TAS 201/202/203
APPROVED BY FLORIDA BUILDING COMMISSION
FLORIDA PRODUCT APPROVAL NUMBER FL #20516.1



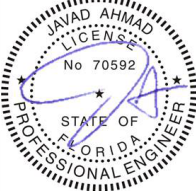
JAVAD AHMAD PE, inc

7875 NW 12th St., Suite 102
Doral, FL 33126
Ph: (305) 424-8001
support@ja-pe.com

FLUSH EUROPEAN OUTSWING CASEMENT WINDOW
(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.
2107 W. BLUE HERON BLVD.
WEST PALM BEACH, FL 33404
PH. (561) 296-9600

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date:	04-24-2024						DATE	
							No.	



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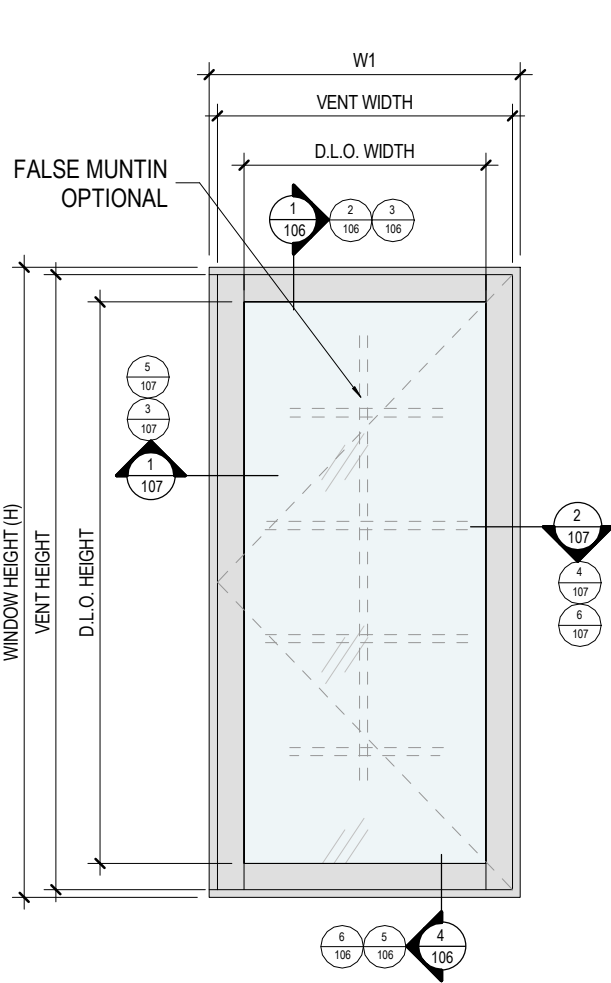
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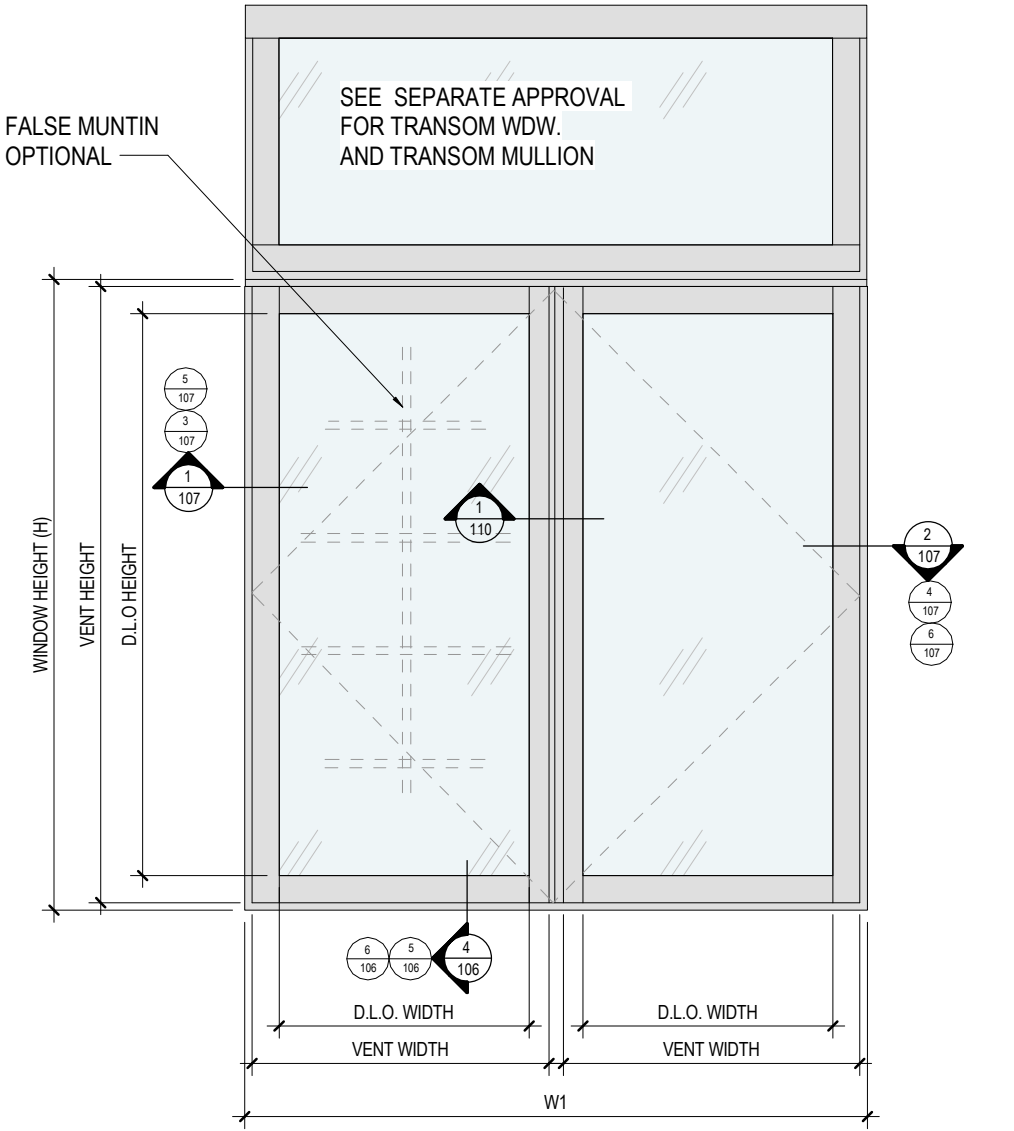
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FLUSH EUROPEAN OUTSWING
CASEMENT WINDOW
(LARGE AND SMALL MISSILE IMPACT RATED)

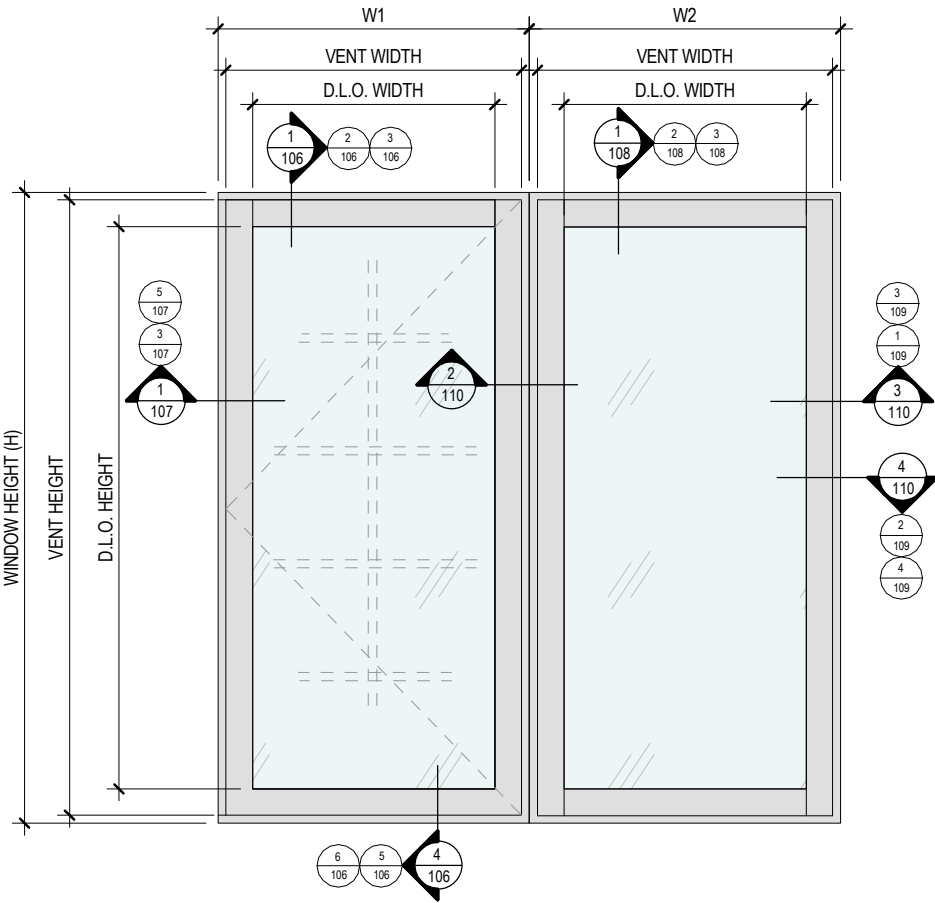
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1
102 SINGLE VENT (X)
NOT TO SCALE

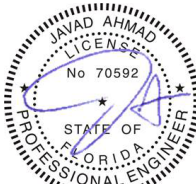


2
102 DUAL VENT (XX)
NOT TO SCALE

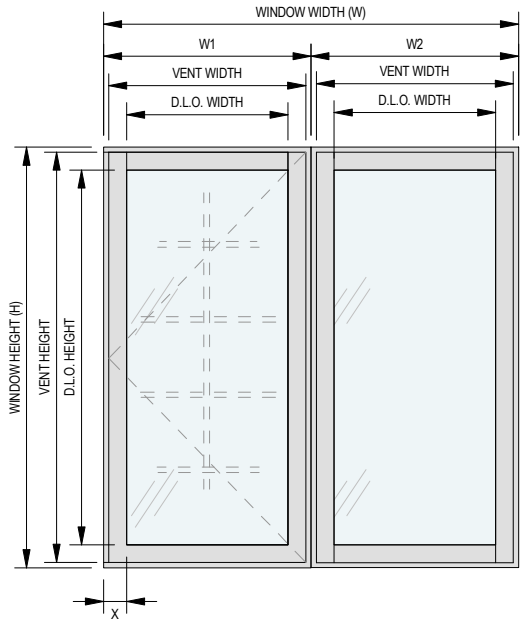


3
102 SIDE BY SIDE (X-0)
NOT TO SCALE

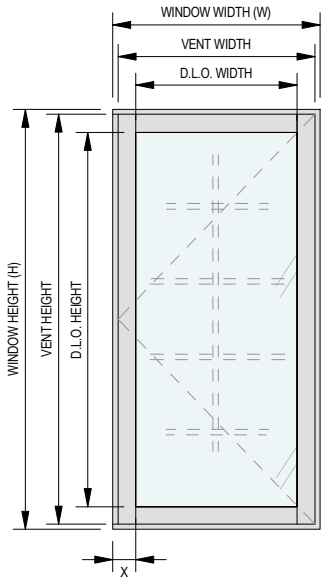
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ALSO SIDE BY SIDE COMBINATIONS OF OPERATING/ OPERATING
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MORE WINDOWS.



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LEAF WIDTH = $\frac{\text{WINDOW WIDTH} - 2X}{2}$



LEAF WIDTH = WINDOW WIDTH - 2X

LOADING CHART FOR SINGLE VENT WINDOW - PRESSURE IN PSF											
GLASS TYPES: C, E, II JI											
WINDOW WIDTH (in.)	WINDOW HEIGHT (in.)										
	24	30	36	38.25	42	48	54	60	66	72	78
24	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90
30	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90
36	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90
38.5	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90	± 90

LOADING CHART FOR SINGLE VENT WINDOW - PRESSURE IN PSF											
GLASS TYPES: C, E, II JI											
WINDOW WIDTH (In.)	WINDOW HEIGHT (in.)										
	24	30	36	38.25	42	48	54	60	66	72	78
24	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80
30	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80
36	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80
38.5	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80	± 80

LOADING CHART FOR SINGLE AND DOUBLE VENT WINDOW - PRESSURE IN PSF (ASD)											
GLASS TYPES: A, B, D, HI											
WINDOW WIDTH (In.)	WINDOW HEIGHT (in.)										
	24	30	36	38.25	42	48	54	60	66	72	78
24	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8
30	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8
36	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8
38	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8	± 42.8

LOADING CHART FOR SINGLE AND DOUBLE VENT WINDOW - PRESSURE IN PSF (ASD)											
GLASS TYPES: F, GI											
WINDOW WIDTH (In.)	WINDOW HEIGHT (in.)										
	24	30	36	38.25	42	48	54	60	66	72	78
24	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70
30	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70
36	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70
38	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70	60/-70



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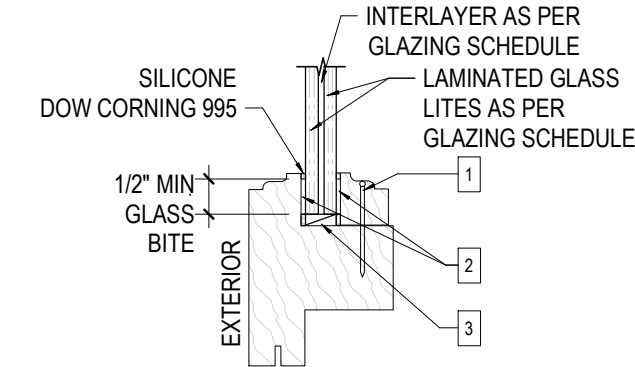
FLUSH EUROPEAN OUTSWING CASEMENT WINDOW
(LARGE AND SMALL MISSILE IMPACT RATED)

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WEST PALM BEACH, FL 33404
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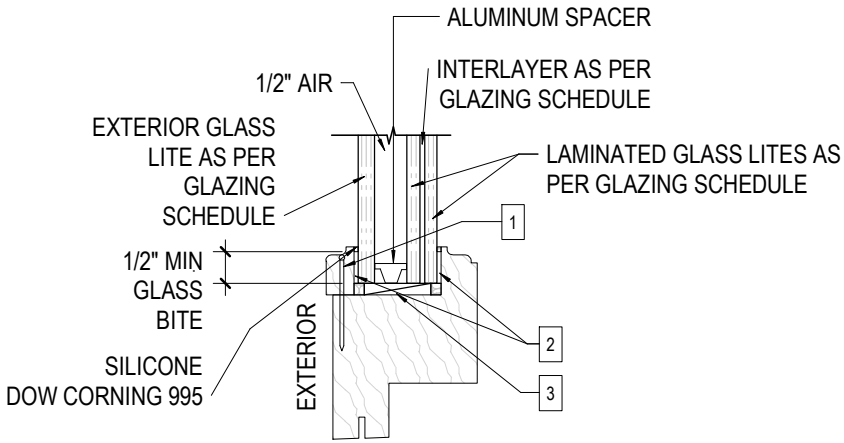
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						DATE	BY	DESCRIPTION	



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1
104 GLAZING DETAIL FOR GLASS TYPE A, B ,C ,D, E, F
N.T.S.

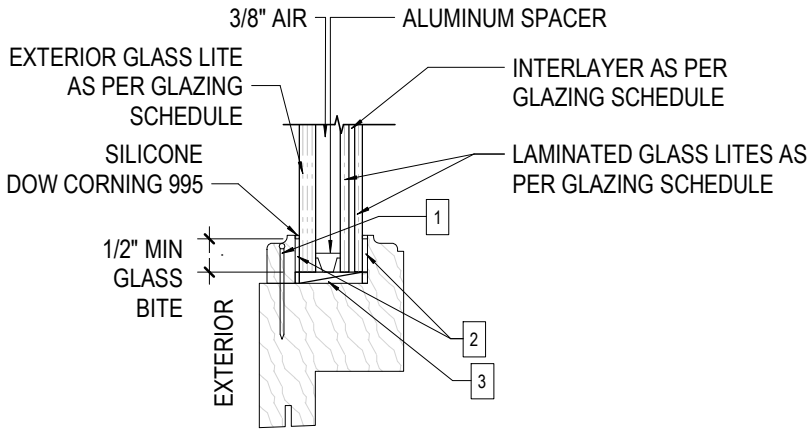


2
104 GLAZING DETAIL FOR GLASS TYPE GI, JI
N.T.S.

- 1
- 18 GA. X 1 1/2" BRAD NAILS AT 3" FROM ENDS AND 8" O.C. MAX
- 2
- GLAZING TAPE 1/16" X 1/2" NORTON HPF970
- 3
- NEOPRENE SETTING BLOCK 80 ± 5 DUROMETER AT 1/4 POINTS

GLAZING SCHEDULE

GLASS TYPE	LAMINATED GLASS LITE		INTERLAYER	REF. DETAIL
A	3/16" ANNEALED GLASS		0.09" PVB INTERLAYER BY EASTMAN CHEMICAL COMPANY	1/ 104
B	3/16" HEAT STREN'D GLASS		0.09" PVB INTERLAYER BY EASTMAN CHEMICAL COMPANY	
C	3/16" HEAT STREN'D GLASS		0.09" SENTRYGLAS INTERLAYER BY KURARAY AMERICA INC.	
D	3/16" ANNEALED GLASS		0.09" SENTRYGLAS INTERLAYER BY KURARAY AMERICA INC.	
E	1/4" HEAT STREN'D GLASS		0.09" SENTRYGLAS INTERLAYER BY KURARAY AMERICA INC.	
F	1/4" HEAT STREN'D GLASS		0.09" PVB INTERLAYER BY EASTMAN CHEMICAL COMPANY	
GLASS TYPE	EXTERIOR GLASS LITE	LAMINATED GLASS LITE	INTERLAYER	REF. DETAIL
GI	1/4" TEMPERED GLASS	3/16" HEAT STREN'D GLASS	0.075" PVB INTERLAYER BY EASTMAN CHEMICAL COMPANY	2/ 104
HI	1/4" TEMPERED GLASS	1/8" ANNEALED GLASS	0.09" SENTRYGLAS INTERLAYER BY KURARAY AMERICA INC.	3/ 104
II	1/4" TEMPERED GLASS	1/4" HEAT STREN'D GLASS	0.09" SENTRYGLAS INTERLAYER BY KURARAY AMERICA INC.	3/ 104
JI	3/16" TEMPERED GLASS	3/16" HEAT STREN'D GLASS	0.09" SENTRYGLAS INTERLAYER BY KURARAY AMERICA INC.	2/ 104



3
104 GLAZING DETAILS FOR GLASS TYPE HI, II
N.T.S.



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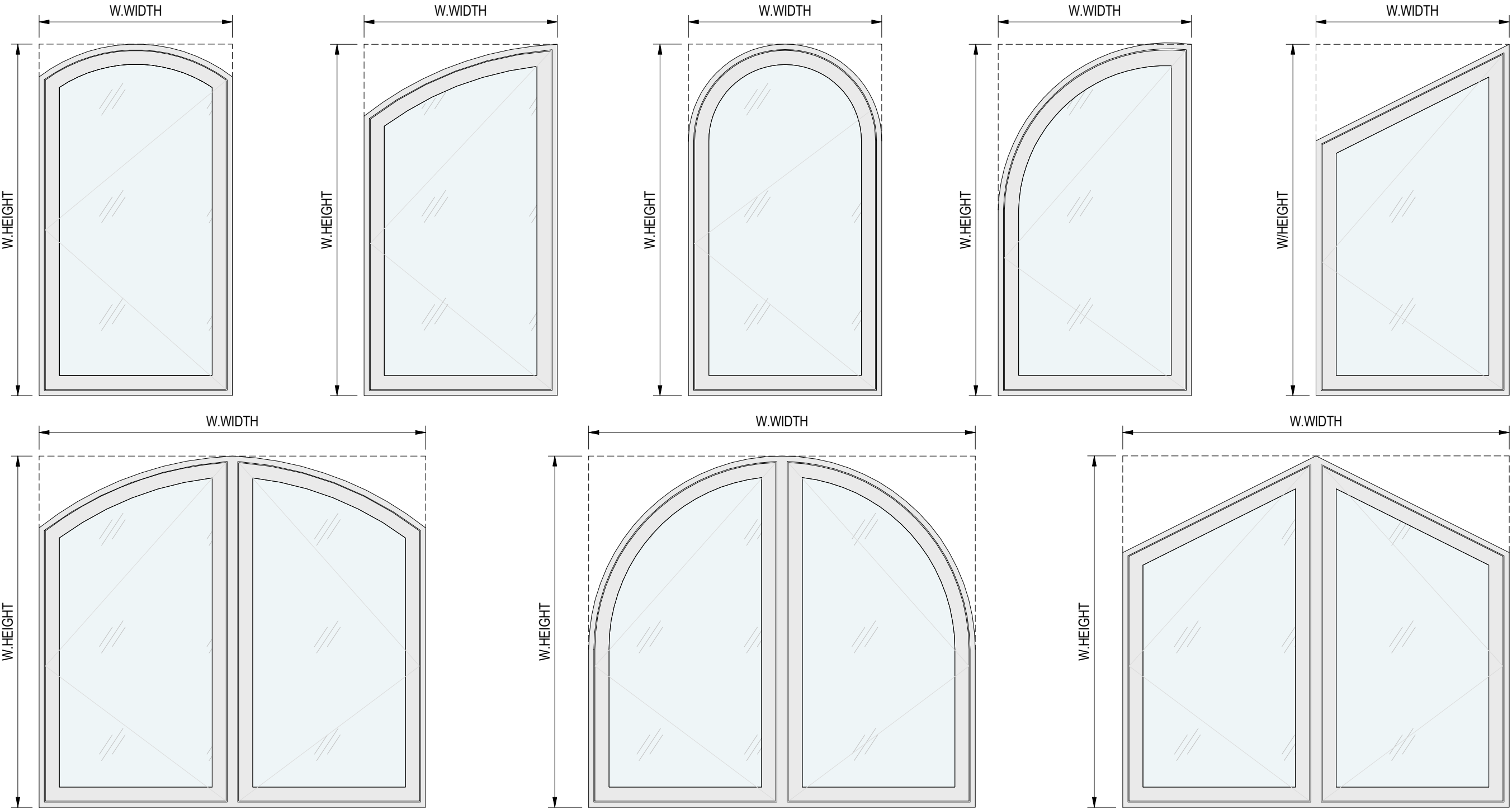
FLUSH EUROPEAN OUTSWING
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LOCKS:

12 POINT LOCK SYSTEM WITH KEEPERS BY 'GU'
SURFACE MOUNT ACTIVATING HANDLE AT 37" FROM
BOTTOM FASTENED WITH (2) #12 X 1-3/4" FH MS.
SURFACE MOUNT METALLIC KEEPERS FACING LOCKS
EACH FASTENED WITH (3) #8 X 1-1/4" FH SMS
(3) KEEPERS AT HEAD
(3) KEEPERS AT SILL
(6) KEEPERS AT JAMB

WINDOW HARDWARE

SNUBBERS:
TWO PIECE METALLIC/PLASTIC ANTI-BLOW OUT CLIPS
(40) PER VENT AT HINGE JAMBS LOCATED AT
7" FROM TOP & BOTTOM AND 22" O.C. MAX.
EACH FASTENED TO
FRAME W/ (2) #8 X 1-1/4" FH SMS
VENT W/ #8 X 1-1/2" FH SMS

HINGES AND LOCKS CAN BE USED IN ANY COMBINATIONS

HINGES:

OPTION #1:
3-1/2" LONG METALLIC BUTT HINGES
(3) PER VENT AT 9" FROM TOP & BOTTOM
AND AT CENTER,
FASTENED TO
FRAME W/ (3) #12 X 1-1/4" FH SMS
VENT W/ (3) #10 X 1" FH SMS

OPTION #2:
SURFACE MOUNT CONTURA HINGE (K-14932)
BY 'GU' (2) PER VENT,
FASTENED TO
FRAME W/ (3) #8 X 1" FH SMS
VENT W/ (4) #8 X 1-3/4" FH SMS

TO OBTAIN ALLOWABLE PRESSURES FOR ALTERNATIVE WINDOW SHAPES -

- INSCRIBE ATERNATIVE SHAPE IN A RECTANGULAR BOX, AS SHOW ABOVE
- USE THE WIDTH AND HEIGHT OF THE BOX TO DETERMINE THE ALLOWABLE PRESSURE



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**FLUSH EUROPEAN OUTSWING
CASEMENT WINDOW**
(LARGE AND SMALL MISSILE IMPACT RATED)

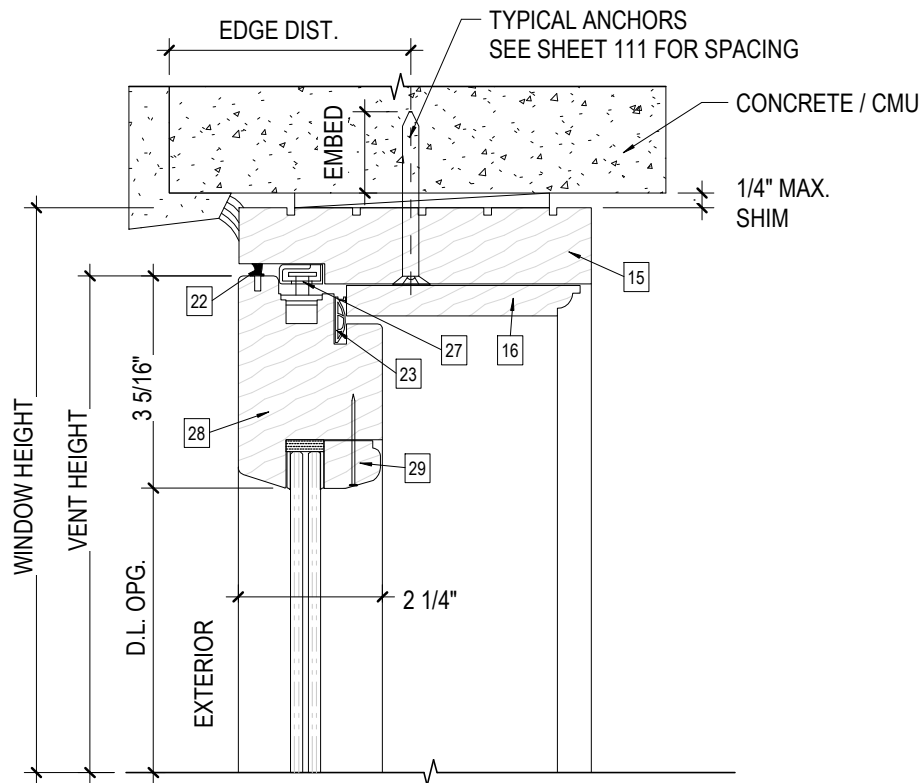
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REVISION			
No.	DATE	BY	DESCRIPTION

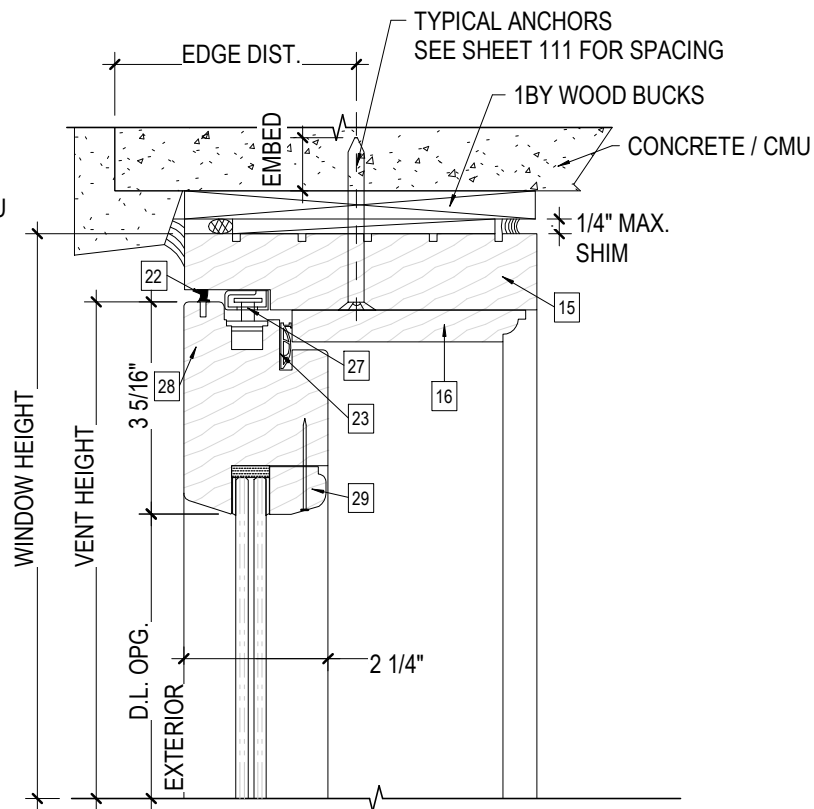


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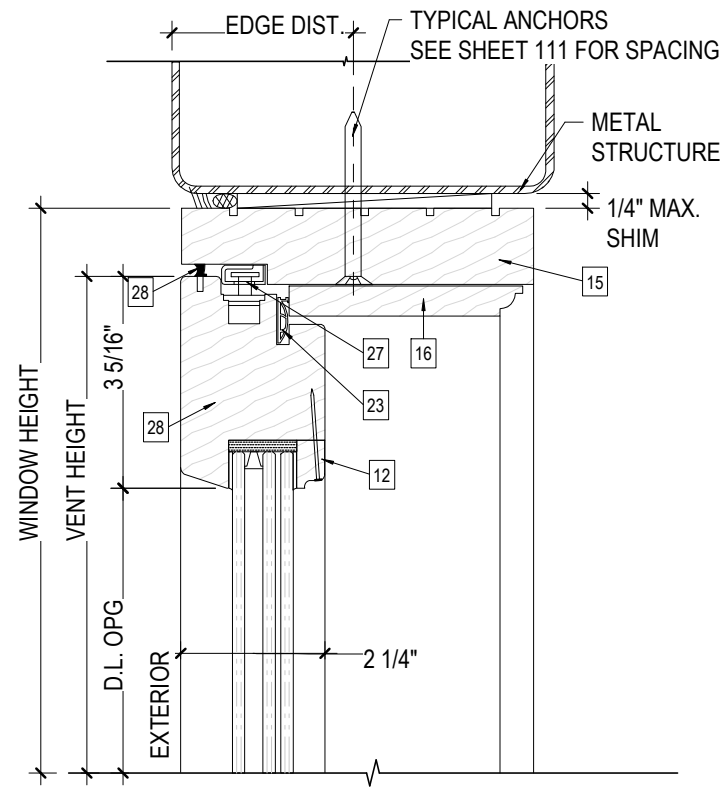
SECTIONAL DETAILS



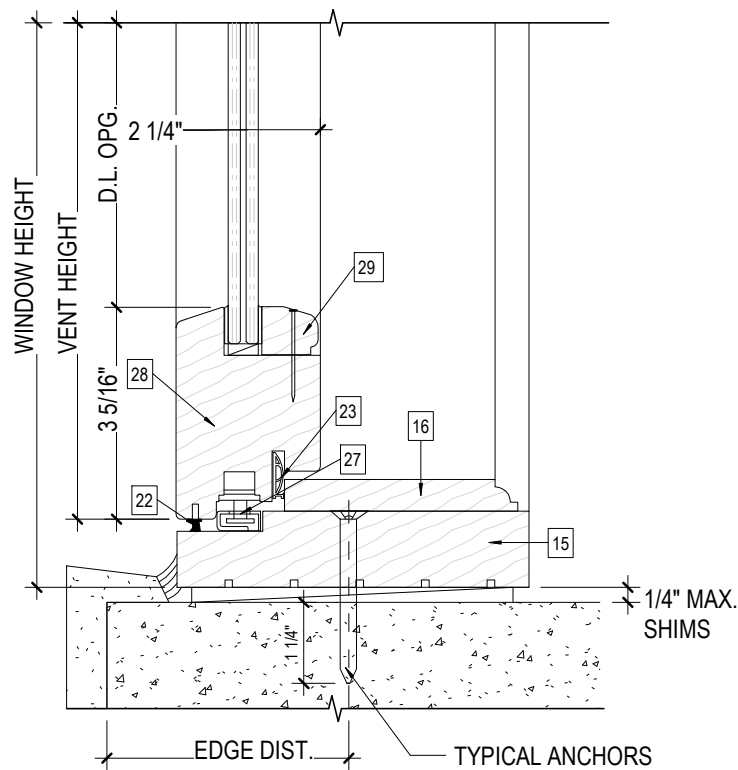
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106 HEAD DETAIL 1
106 INTO CONCRETE



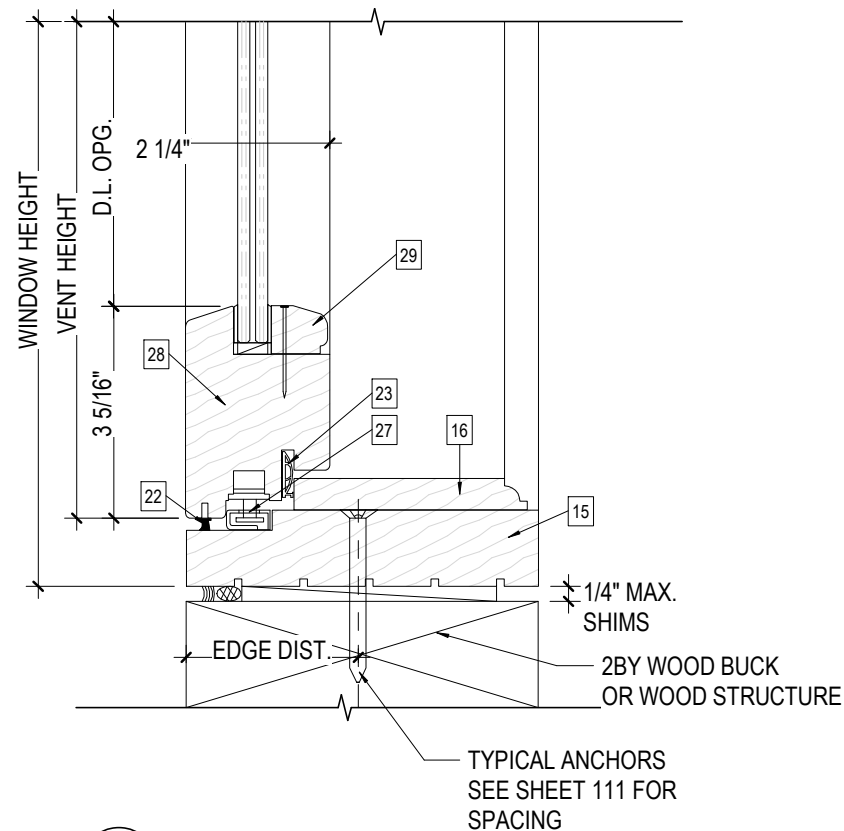
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106 HEAD DETAIL 2
106 INTO CONCRETE



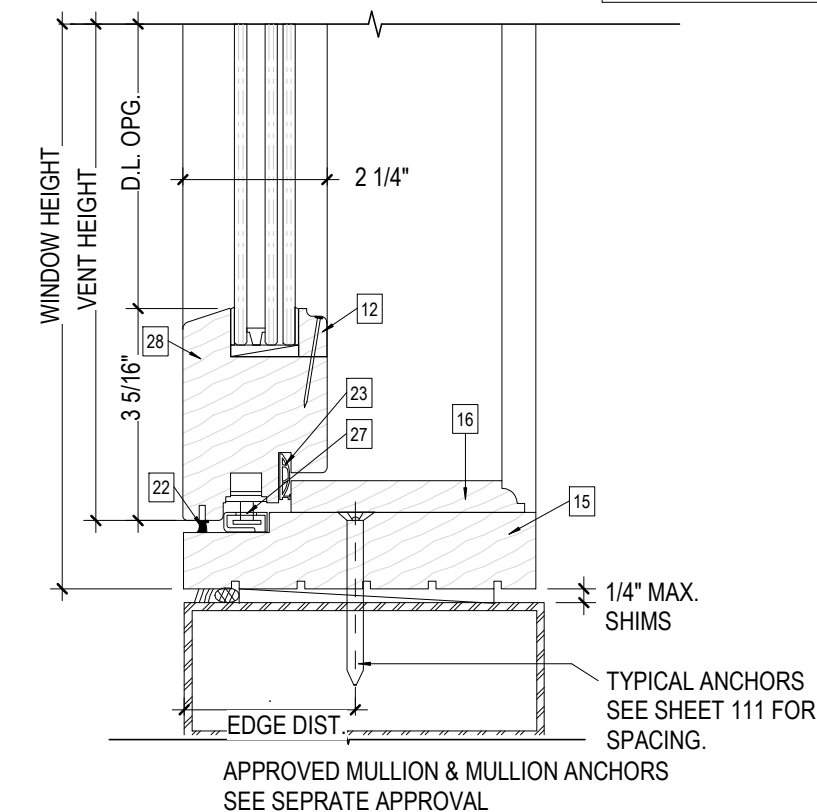
3
106 HEAD DETAIL 3
106 INTO METAL STRUCTURES



4
106 SILL DETAIL 1
106 INTO CONCRETE



5
106 SILL DETAIL 2
106 INTO CONCRETE



6
106 SILL DETAIL 3
106 N.T.S.

NOTE: REFER TO GLASS LOADING
CHARTS FOR GLASS TYPE OPTIONS (TYP.)

FL# 20516.1



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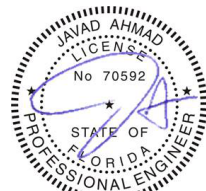
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106

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SECTIONAL DETAILS

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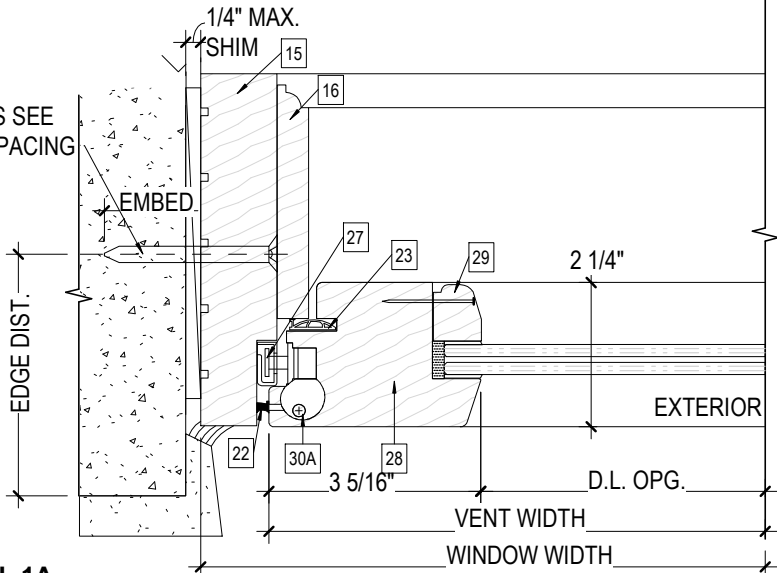


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107

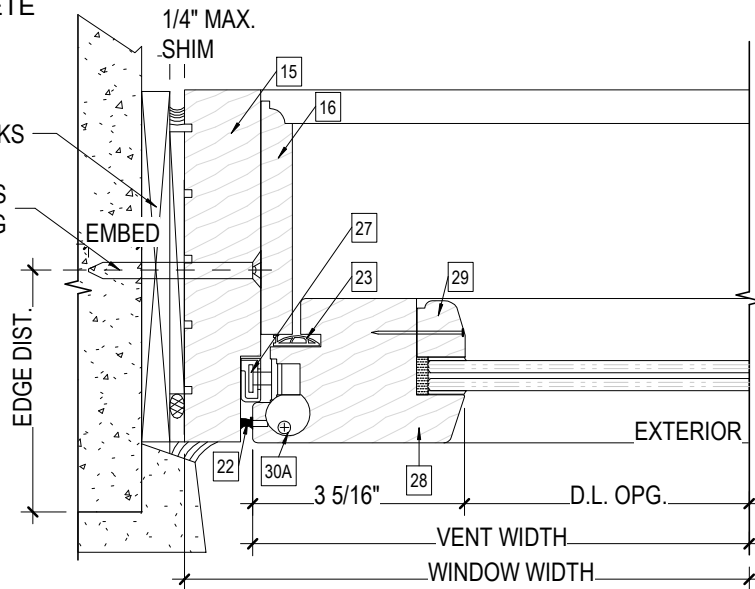
107 OF 114

TYPICAL ANCHORS SEE
SHEET 111 FOR SPACING



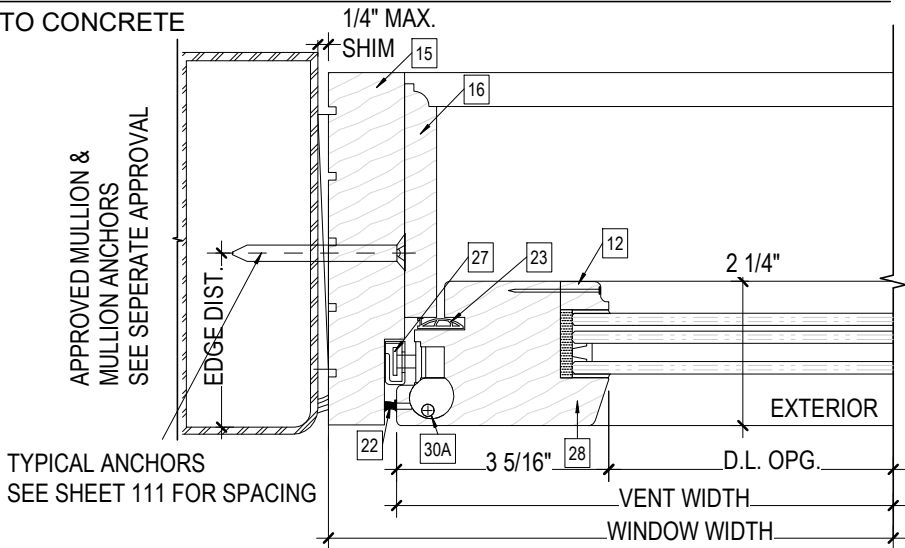
1
107 JAMB DETAIL 1A
INTO CONCRETE

1BY
WOOD BUCKS
TYPICAL ANCHORS
SEE SHEET 111 FOR SPACING

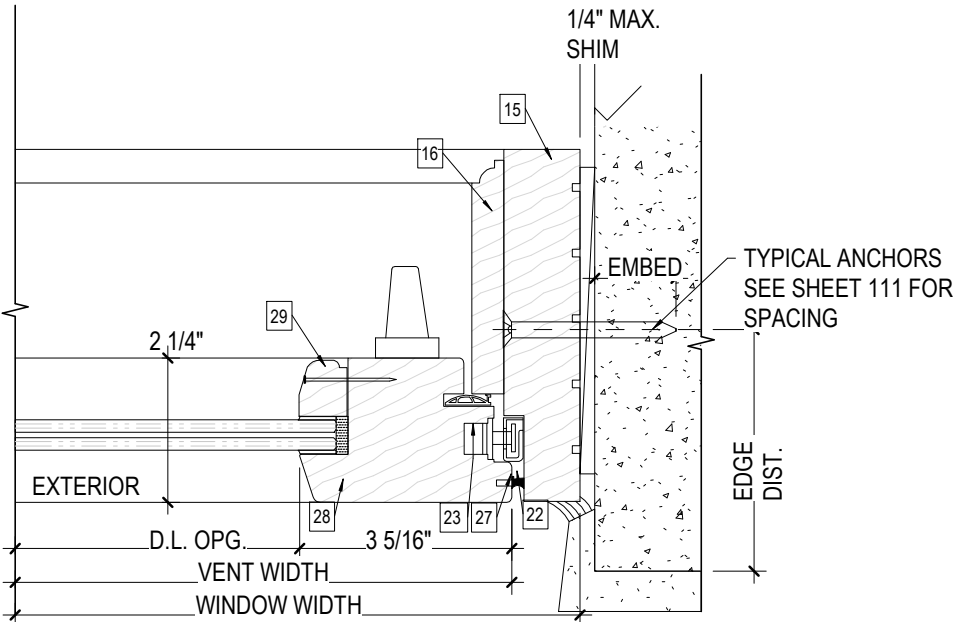


3
107 JAMB DETAIL 2A
INTO CONCRETE

APPROVED MULLION &
MULLION ANCHORS
SEE SEPERATE APPROVAL



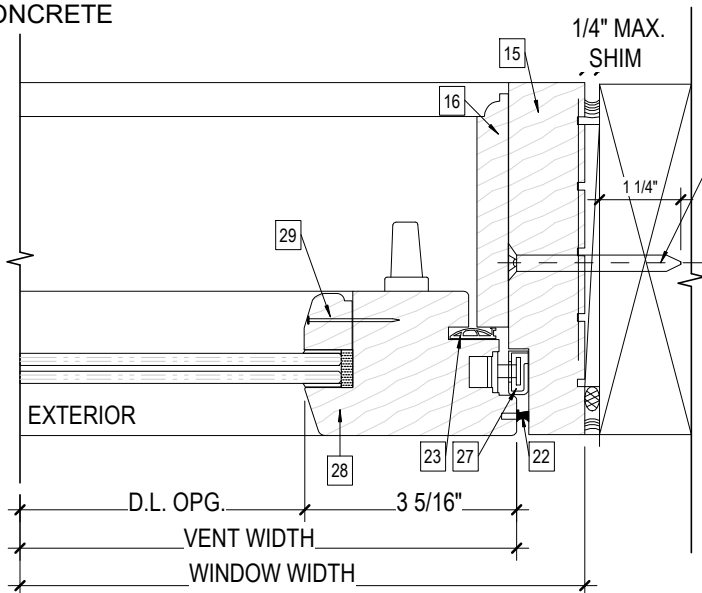
5
107 JAMB DETAIL 3A
N.T.S.



2
107 JAMB DETAIL 1B
INTO CONCRETE

TYPICAL ANCHOR
SEE SHEET 111 FOR
SPACING

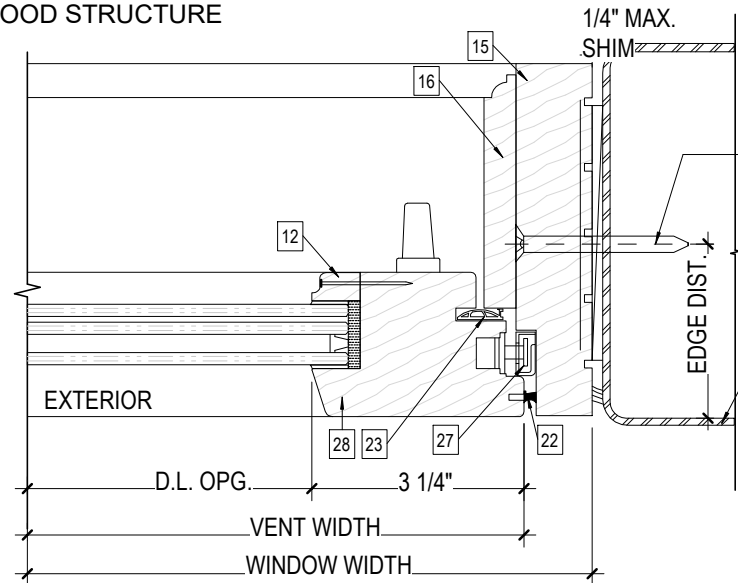
NOTE: REFER TO GLASS LOADING
CHARTS FOR GLASS TYPE OPTIONS (TYP.)



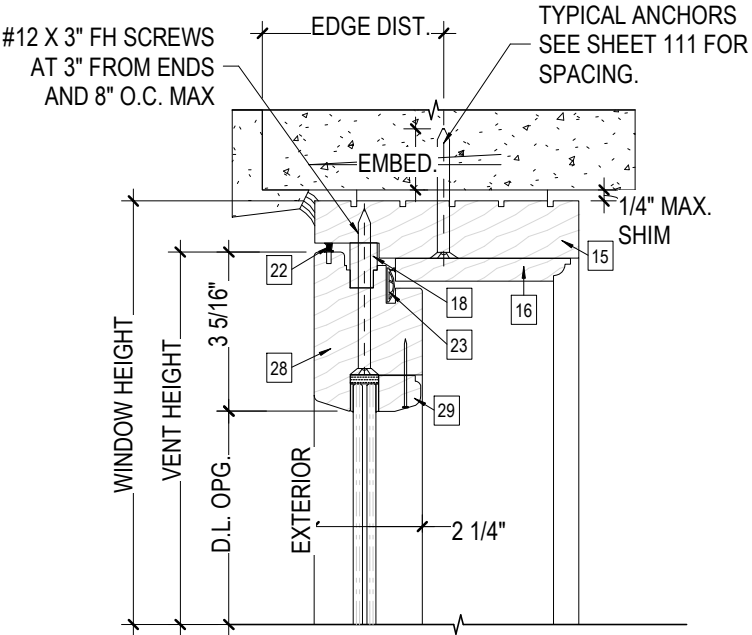
4
107 JAMB DETAIL 2B
INTO WOOD STRUCTURE

TYPICAL ANCHORS
SEE SHEET 111 FOR
SPACING

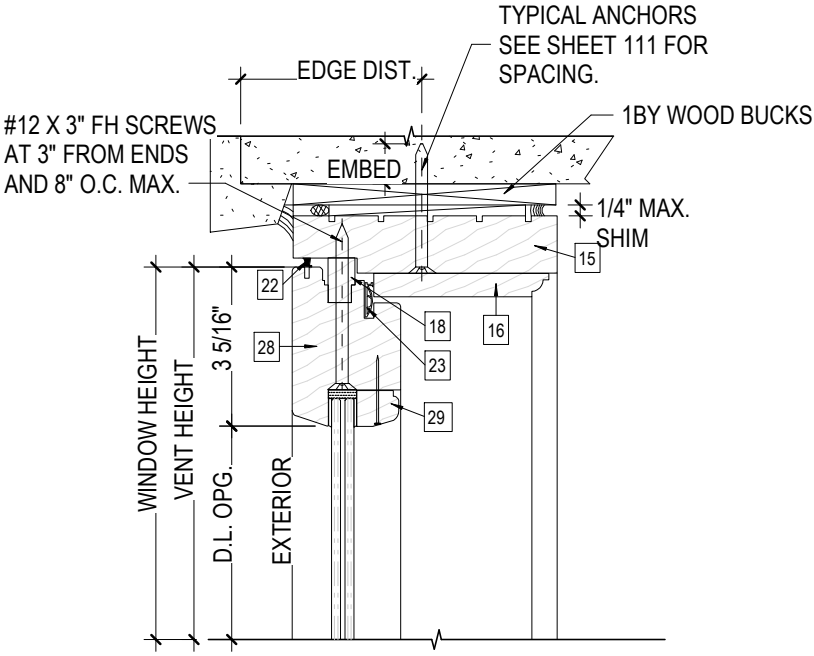
METAL
STRUCTURE



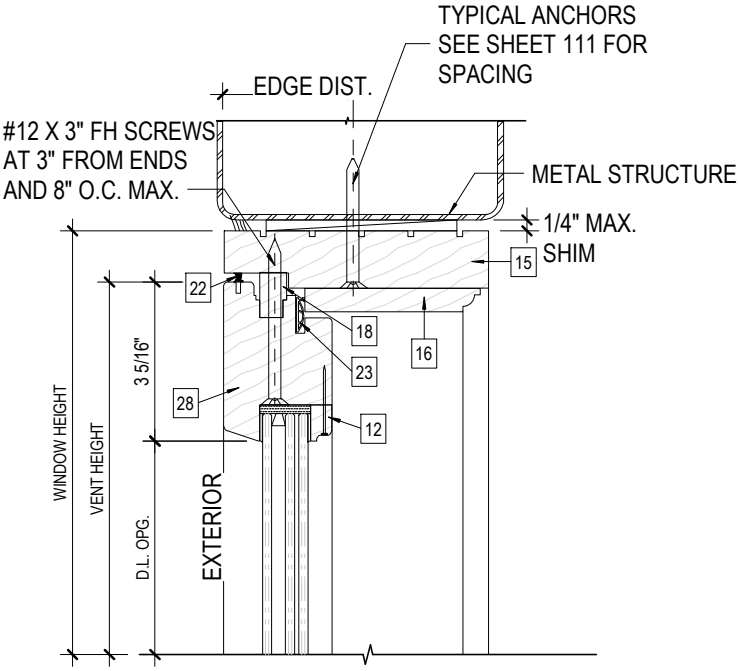
6
107 JAMB DETAIL 3B
INTO METAL STRUCTURE



1 HEAD DETAIL (FIXED) 1
108 INTO CONCRETE

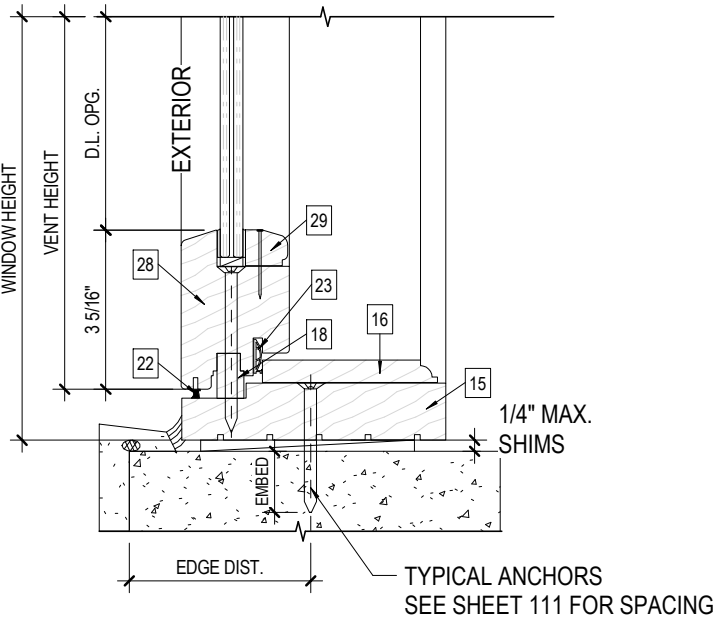


2 HEAD DETAIL FIXED (2)
108 INTO CONCRETE

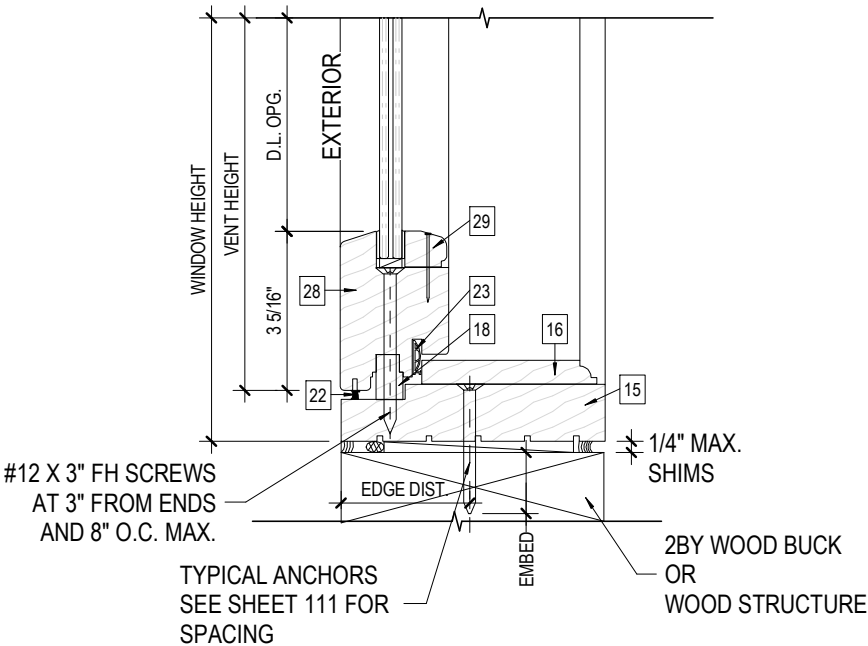


3 HEAD DETAIL FIXED (3)
108 INTO METAL STRUCTURE

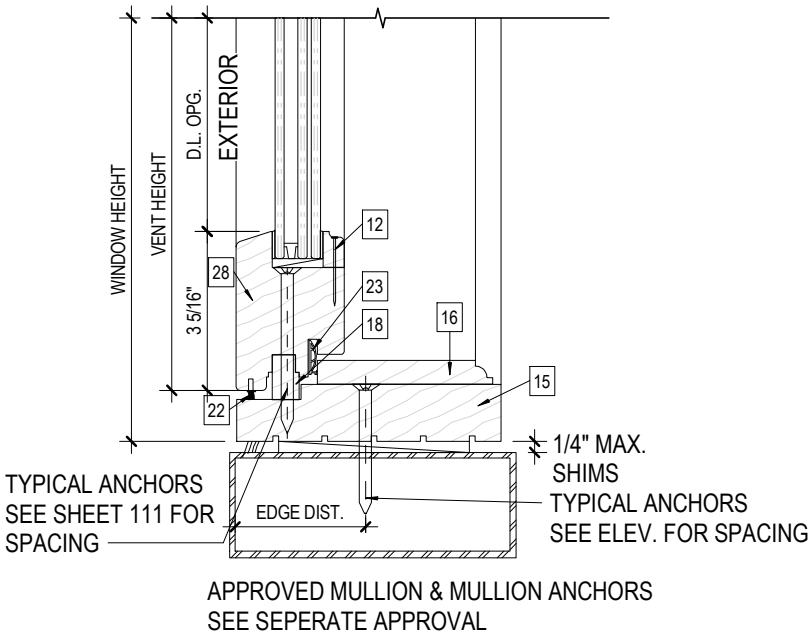
REFER TO GLASS LOADING
CHARTS FOR GLASS TYPE OPTIONS
(TYP.)



4 SILL DETAIL (FIXED) 1
108 INTO CONCRETE



5 SILL DETAIL FIXED (2)
108 INTO WOOD STRUCTURE



6 SILL DETAIL FIXED (3)
108 3" = 1'-0"



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FLUSH EUROPEAN OUTSWING
CASEMENT WINDOW
(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.
2107 W. BLUE HERON BLVD.
WEST PALM BEACH, FL 33404
PH. (561) 296-9600

drawing no.	JA-1425-23	date:	drawn by:	check by:	REVISION			
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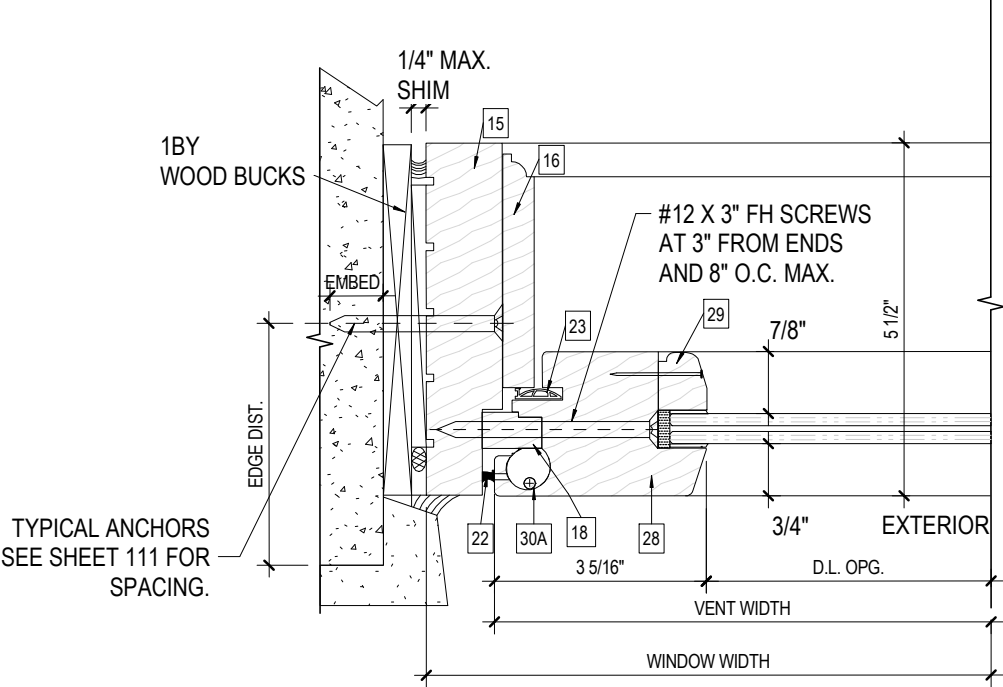
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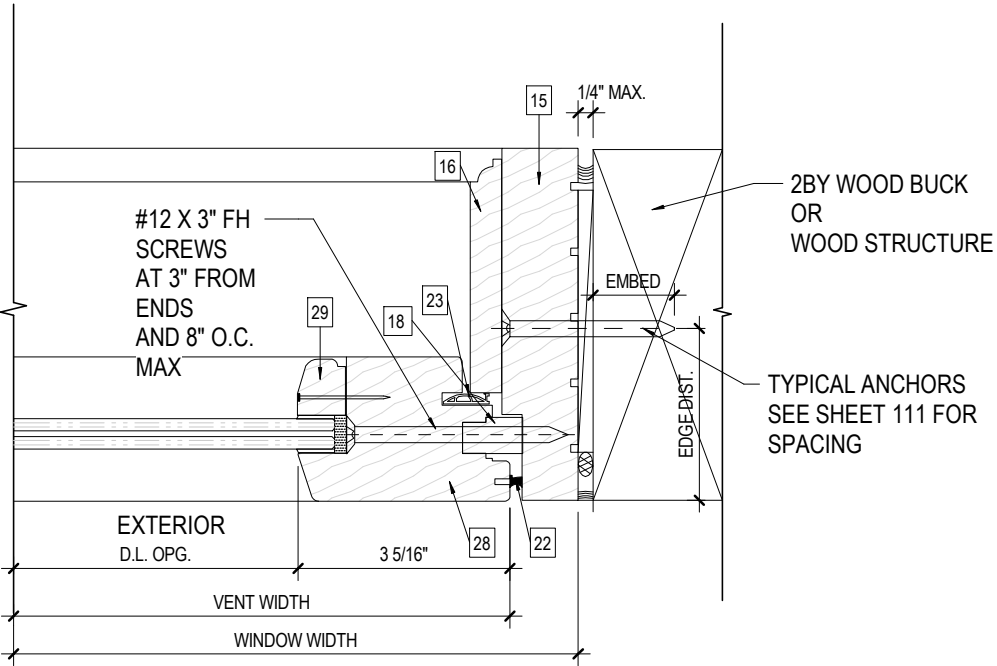
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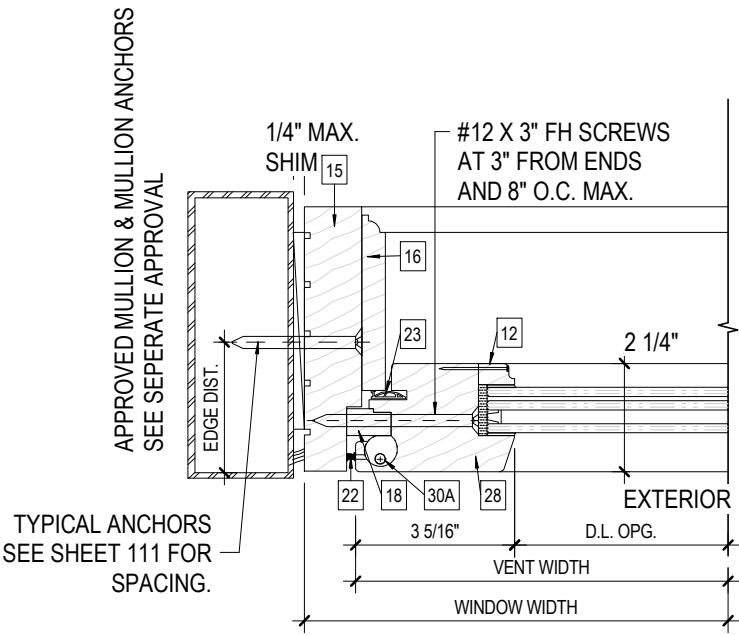


1
109 JAMB DETAIL 5A
INTO CONCRETE

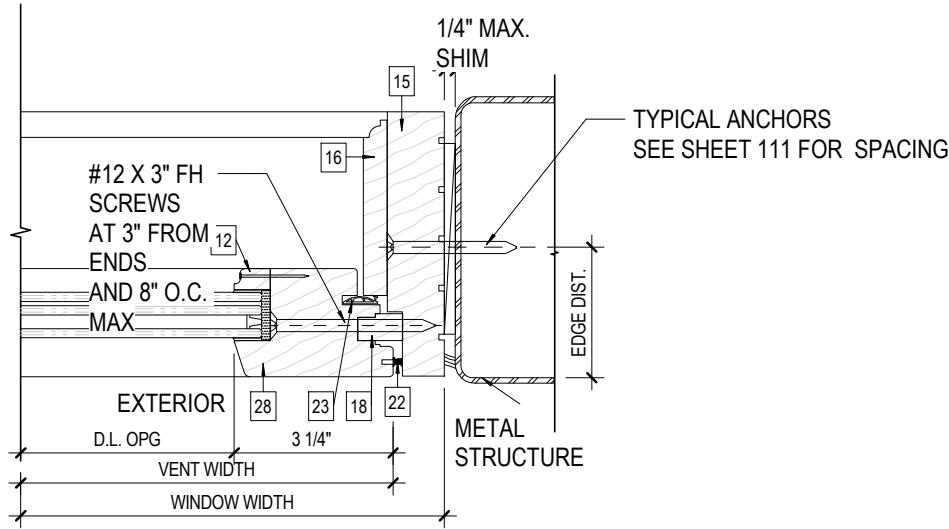


2
109 JAMB DETAIL 5B
INTO WOOD STRUCTURE

NOTE: REFER TO GLASS LOADING CHARTS FOR GLASS TYPE
OPTIONS. (TYP.)



3
109 JAMB DETAIL 6A
N.T.S.



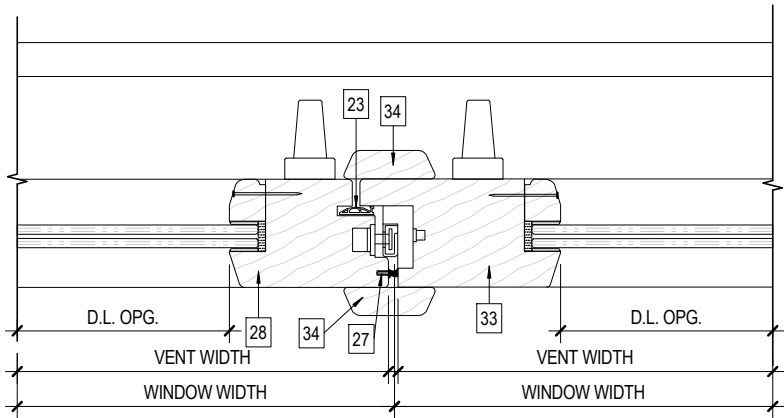
4
109 JAMB DETAIL 6B
INTO METAL STRUCTURE



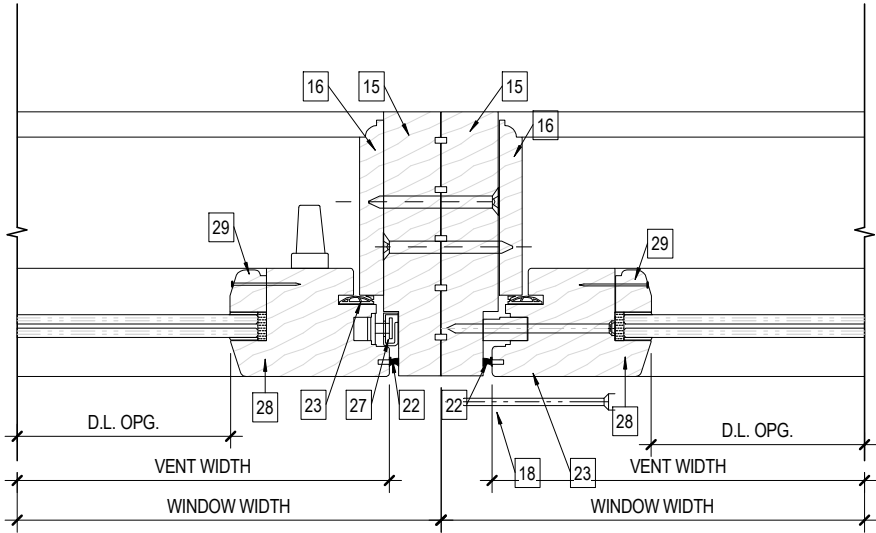
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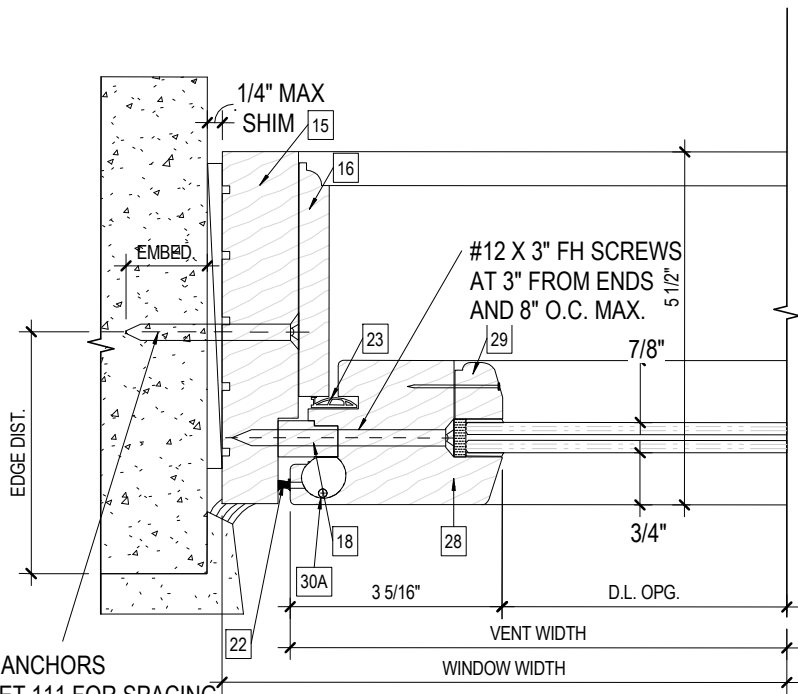


1
110 JOINT JAMB DETAIL 1
N.T.S

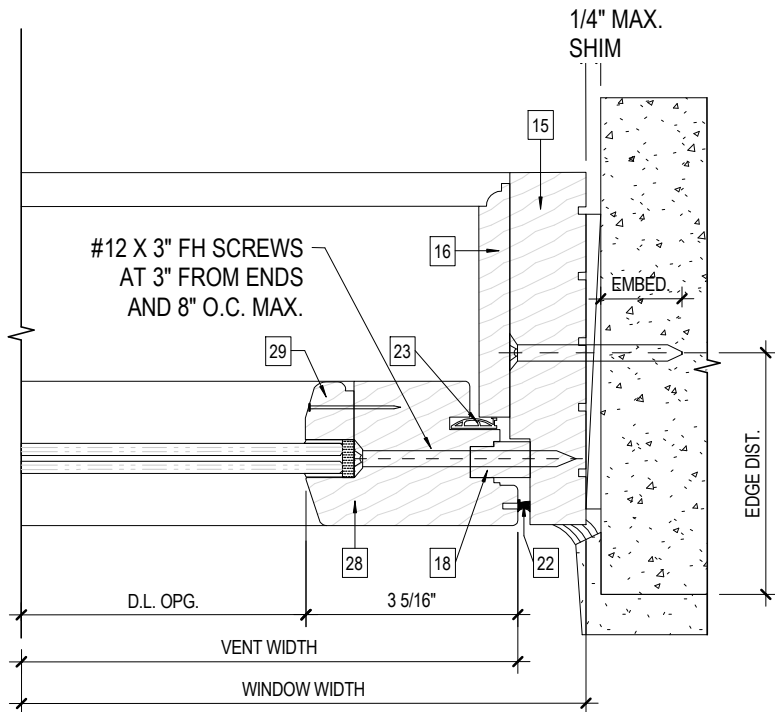


2
110 JOINT JAMB DETAIL 2
N.T.S

NOTE: REFER TO GLASS LOADING CHARTS
FOR GLASS TYPE OPTIONS (TYP.)



3
110 JAMB DETAIL 4A
INTO CONCRETE



4
110 JAMB DETAIL 4B
INTO CONCRETE

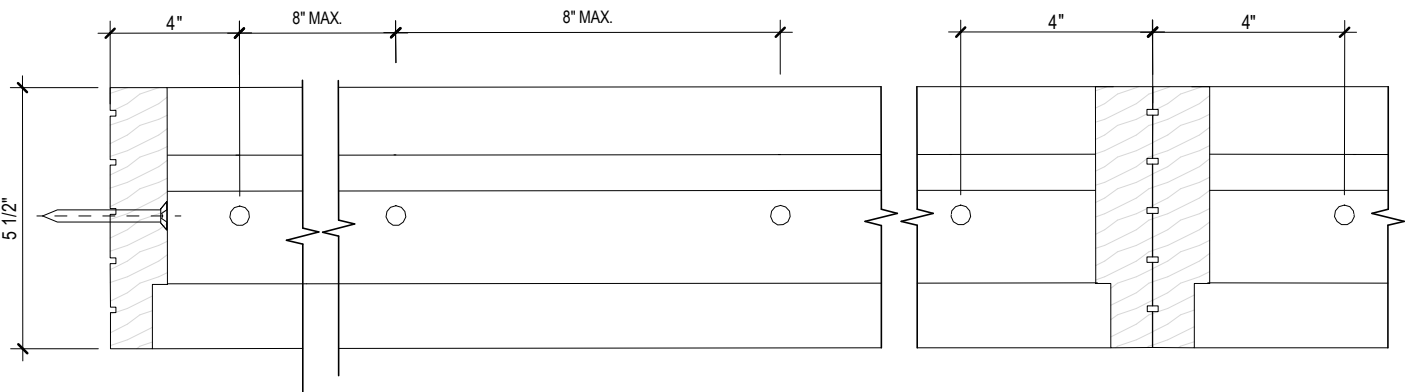
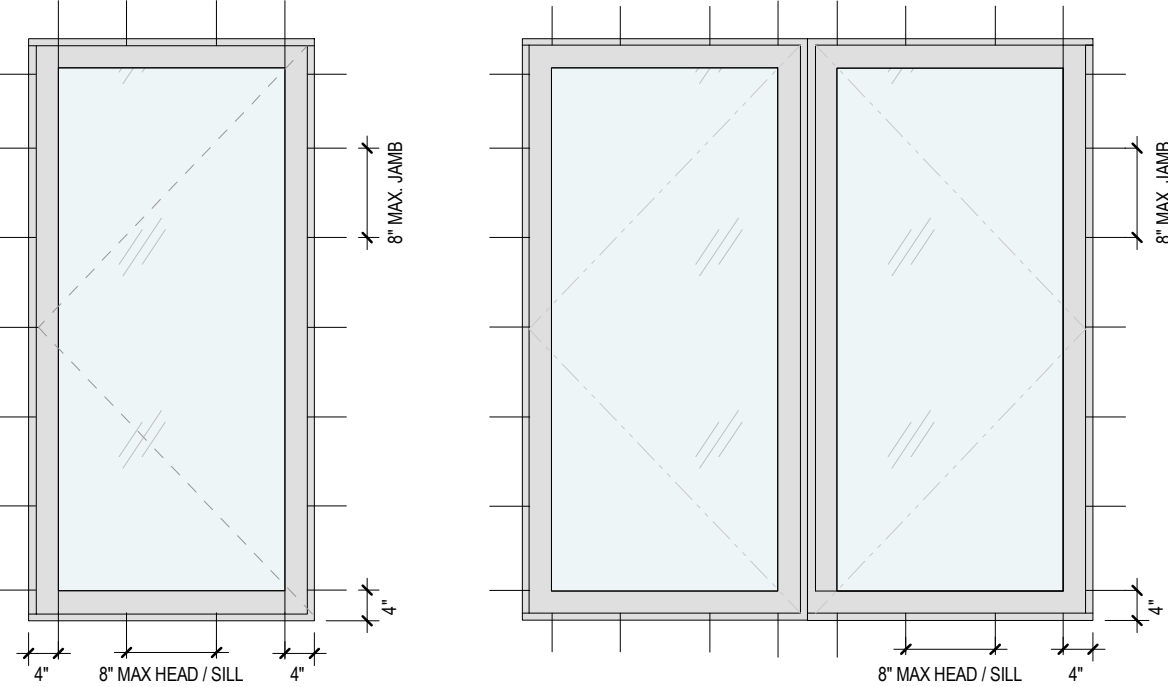
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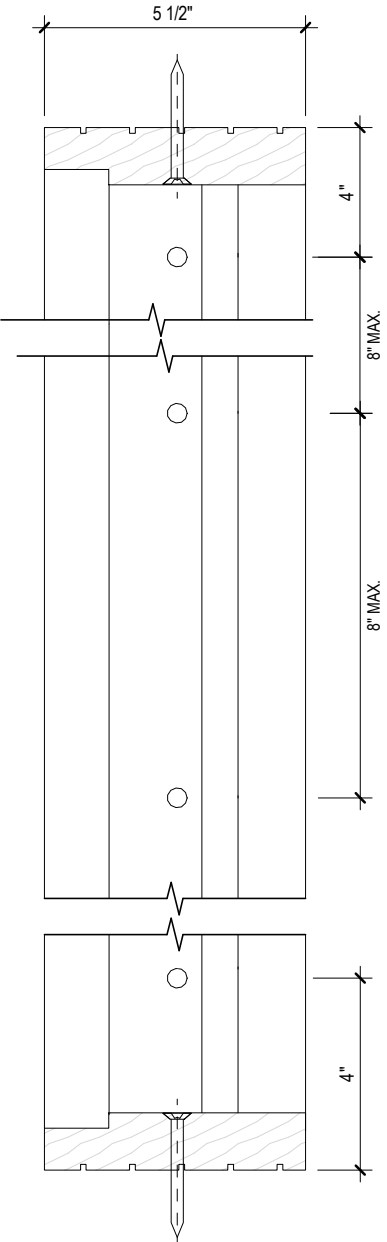
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1
111 HEAD ANCHORAGE DETAIL
N.T.S.



2
111 JAMB ANCHORAGE DETAIL
N.T.S.

TYPICAL ANCHOR TYPES

(APPLIES TO ANCHOR GOING THROUGH THE WINDOW FRAME)

TYPE A - 1/4" DEWALT ULTRACON (Fu = 177,000 PSI, Fy = 155,000 PSI)
INTO 2BY WOOD* WITH 1-1/2" MIN ENGAGEMENT, AND 1-1/4" MIN EDGE DISTANCE

THRU 1BY WOOD INTO CONCRETE, OR HOLLOW/GROUT FILLED MASONRY* WITH 1-3/4" EMBEDMENT, AND 2-1/2" MIN EDGE DISTANCE

DIRECTLY INTO CONCRETE, OR HOLLOW/GROUT FILLED MASONRY* WITH 1-3/4" EMBEDMENT, AND 2-1/2" MIN EDGE DISTANCE

TYPE B-1/4" "TEKS" SCREWS* SMS OR SDS (GRADE 5 MIN)
INTO ALUMINUM / STEEL* WITH 5 PITCHES PASSED THE THREAD PLANE, AND 1" MIN EDGE DISTANCE

INTO APPROVED MULLIONS WITH 5 PITCHES PASSED THE THREAD PLANE, AND 3/4" MIN EDGE DISTANCE

ANCHOR / SUBSTRATE NOTES:

- WOOD AT HEAD, SILL OR JAMBS IS SOUTHERN YELLOW PINE #2 (SG=0.55 MIN.)
- CONCRETE AT HEAD, SILL OR JAMBS fc= 3000 PSI
- HOLLOW/GROUT FILLED MASONRY UNITS AT JAMBS f'm= 2000 PSI
- STEEL ("THICK, A36 MIN) AT HEAD, SILL OR JAMBS
- ALUMINUM (" THICK, 6063-T6 MIN) AT HEAD, SILL OR JAMBS

- #14 316 SS SMS OR SDS IS PERMITTED TO BE SUBSTITUTED WITH TEKS SCREWS

NOTE:
FOR INSTRUCTIONS TO ANCHOR THIS PRODUCT USING CLIPS, STRAPS OR ANGLES, PLEASE REFER TO PAGE 112 FOR DETAILING REGARDING THE ANCHOR TYPE AND SPACING.



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FLUSH EUROPEAN OUTSWING CASEMENT WINDOW
(LARGE AND SMALL MISSILE IMPACT RATED)

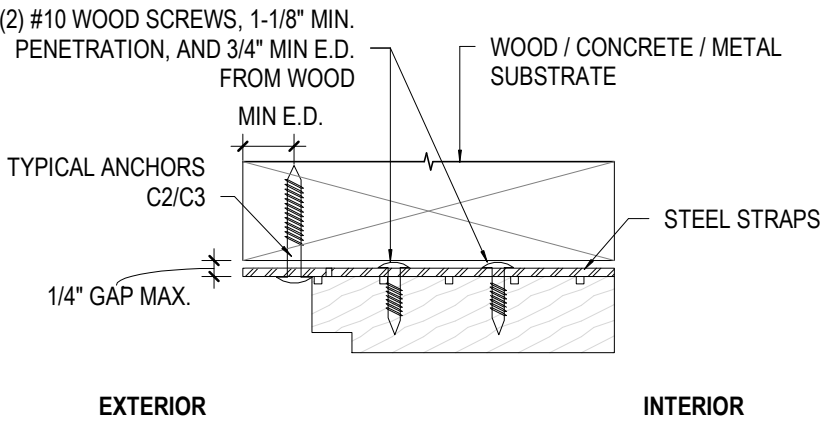
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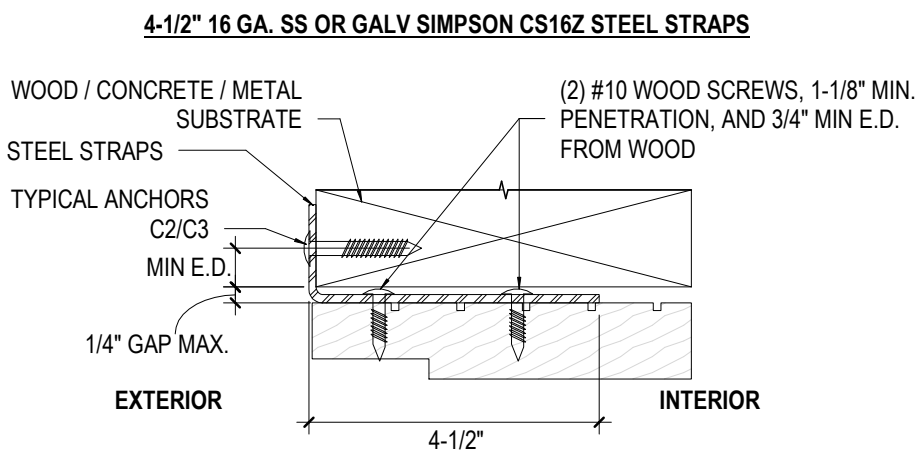


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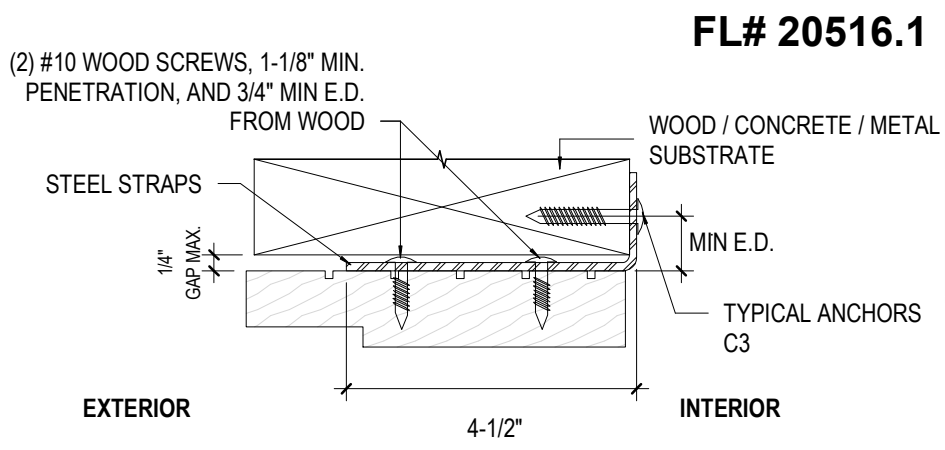
ALTERNATE ANCHORING



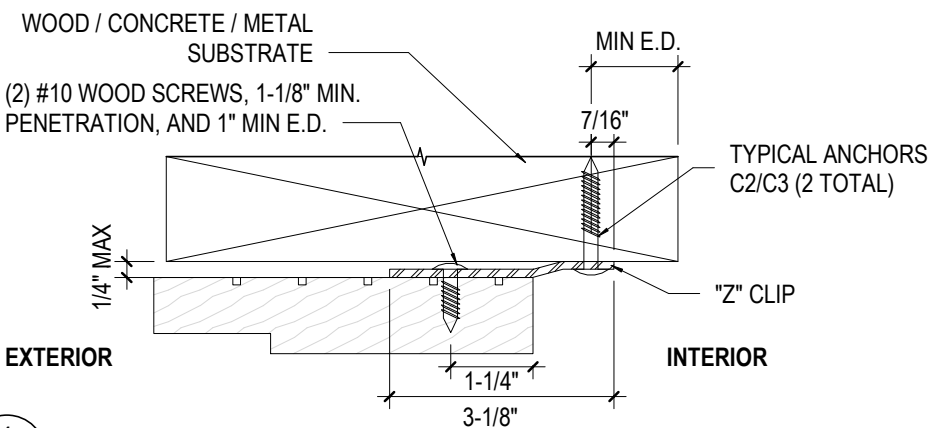
1
112 EXTERIOR FLAT STRAP
N.T.S



2
112 EXTERIOR BENT STRAP
N.T.S

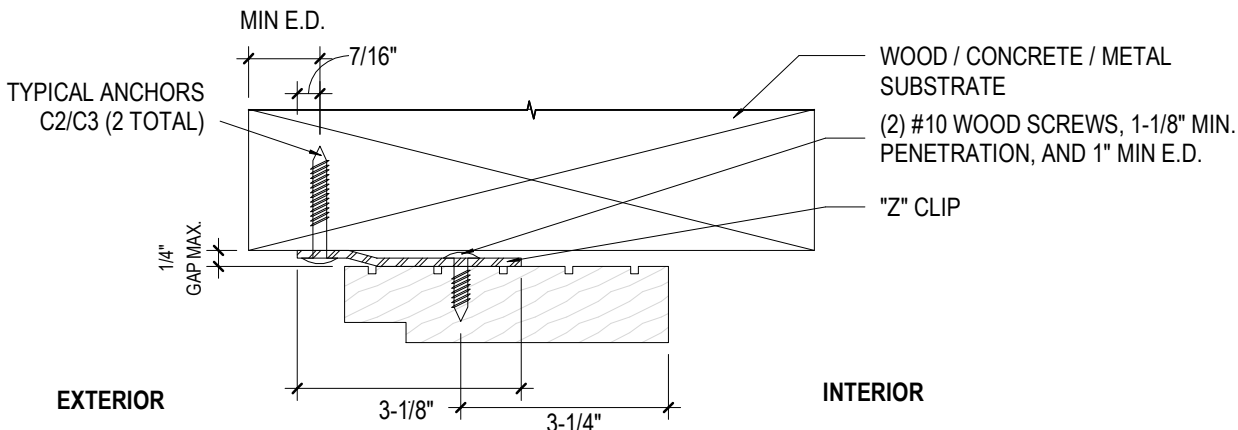


3
112 INTERIOR BENT STRAP
N.T.S



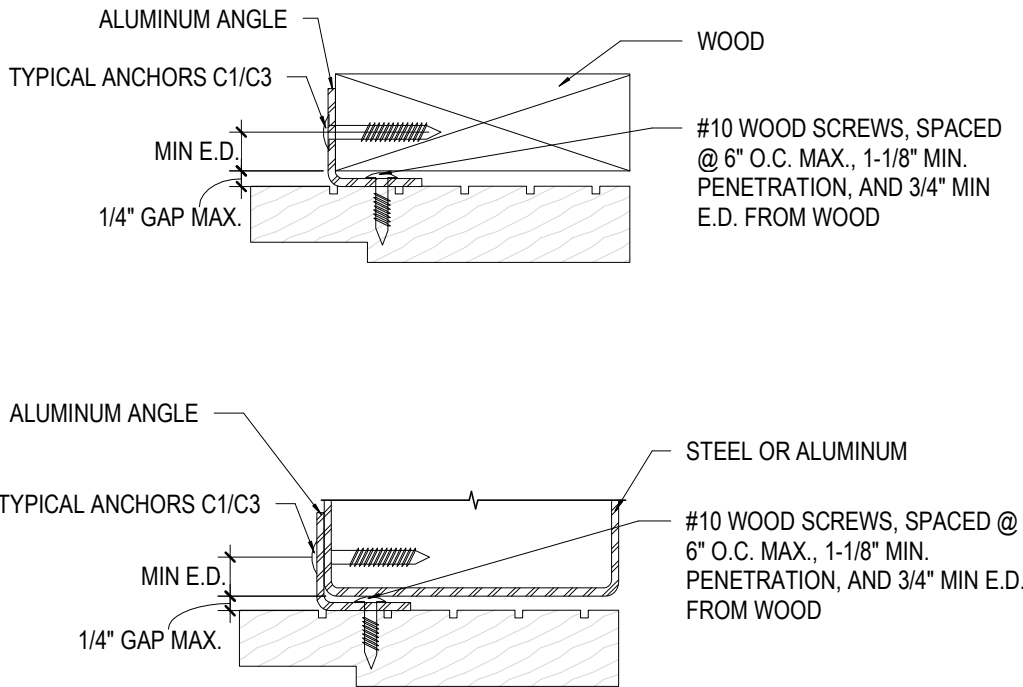
4
112 INTERIOR Z-CLIP STRAP
N.T.S

GALVANIZED STEEL "Z" CLIP (14 GA)



5
112 EXTERIOR Z-CLIP STRAP
N.T.S

1-1/2" X 1-1/2" X 1/8" ALUMINUM ANGLE (CONT.)



TYPICAL ANCHOR TYPES

TYPE C1 - 1/4" DEWALT ULTRACON (Fu = 177,000 PSI, Fy = 155,000 PSI)

- INTO 2BY WOOD WITH 1-1/2" MIN EMBEDMENT, AND 3/4" MIN EDGE DISTANCE

TYPE C2 - 1/4" DEWALT ULTRACON (Fu = 177,000 PSI, Fy = 155,000 PSI)

- INTO 2BY WOOD WITH 1-1/2" MIN EMBEDMENT, AND 3/4" MIN EDGE DISTANCE
- DIRECTLY INTO CONCRETE, OR HOLLOW/GROUT FILLED MASONRY* WITH 1-3/4" EMBEDMENT, AND 2-1/2" MIN EDGE DISTANCE

TYPE C3 - #12 SMS OR SDS (GRADE 5 MIN/316 SS)

- INTO ALUMINUM / STEEL WITH 5 PITCHES PASSED THE THREAD PLANE, AND 3/4" MIN EDGE DISTANCE
- INTO APPROVED MULLIONS WITH 5 PITCHES PASSED THE THREAD PLANE, AND 3/4" MIN EDGE DISTANCE
- INTO 2BY WOOD WITH 1-1/2" MIN ENGAGEMENT, AND 3/4" MIN EDGE DISTANCE

SUBSTRATE NOTES:

- WOOD AT HEAD, SILL OR JAMBS IS SOUTHERN YELLOW PINE #2 (SG=0.55 MIN.)
- CONCRETE AT HEAD, SILL OR JAMBS f'c= 3000 PSI
- HOLLOW/GROUT FILLED MASONRY UNITS AT JAMBS f'm= 2000 PSI
- STEEL (1/8" THICK, A36 MIN) AT HEAD, SILL OR JAMBS
- ALUMINUM (1/8" THICK, 6063-T6 MIN) AT HEAD, SILL OR JAMBS

NOTE:

CONTRACTOR SHALL BE RESPONSIBLE FOR INSULATING ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS (EXAMPLE: STEEL WITH ALUMINUM)

ANCHOR LAYOUT / SPACING:

FOR 1-1/2" X 1-1/2" X 1/8" ALUMINUM ANGLE (CONT.)-

- ANCHORS C1/C2/C3 SHALL BE PLACED AT-
- MAX. 6" O.C. SPACING
- MAX. 3" FROM UNIT CORNER FOR HEAD
- MAX. 4" FROM UNIT CORNER FOR JAMB

FOR GALVANIZED STEEL "Z" CLIP (14 GA) OR 4-1/2" 16 GA. SS OR GALV SIMPSON CS16Z STEEL STRAPS-

ANCHORS C1/C2/C3 SHALL BE PLACED AS PER ANCHOR LAYOUT SHOWN ON SHEET 111

THE STEEL CLIPS SHALL BE PLACED AT-

- MAX. 8" O.C. SPACING
- MAX. 3" FROM UNIT CORNER FOR HEAD
- MAX. 4" FROM UNIT CORNER FOR JAMB



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FLUSH EUROPEAN OUTSWING
CASEMENT WINDOW
(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.

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WEST PALM BEACH, FL 33404

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15. FRAME HEAD/ SILL/ JAMB

16. INTERIOR TRIM

14. TOP/BOTTOM RAIL JAMB/LOCK/
ACTIVE MTG. STILE I.G. LAM.
INSUL. GLASS

33. INACTIVE MEETING STILE
O.G. LAM. GLASS

28 A. ALT. HINGE STILE
O.G. LAM. GLASS

28. TOP/BOTTOM RAIL
JAMB/LOCK/ACTIVE MTG. STILE
O.G. LAM. GLASS

15A. FRAME JAMB 2

29. GLASS STOP
LAM. GLASS

34. ASTRAGAL

18. FIX. SASH BLOCK

12. GLASS STOP
LAM. INSUL. GLASS

ANCHOR TYPE AND
SPACING AS PER
SHEET 112

37. 1-1/2" X 1-1/2" X 1/8"
ALUMINUM ANGLE (CONT.)

STRAP CENTRELINE

38. 4-1/2" 16ga SS OR GALV SIMPSON
CS16Z STEEL STRAPS

39. GALVANISED STEEL
"Z" CLIP (14 ga)

#ITEM	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
12	–	GLASS STOP IG	WOOD	MAHOGANY OR EQUAL
14	–	CONTURA STILE & RAIL	WOOD	MAHOGANY OR EQUAL
15	–	CONTURA JAMB	WOOD	MAHOGANY OR EQUAL
15A	–	CONTURA JAMB	WOOD	MAHOGANY OR EQUAL
16	–	CONTURA TRIM	WOOD	MAHOGANY OR EQUAL
17	–	CONTURA GLASS STOP IG	WOOD	MAHOGANY OR EQUAL
18	–	CONTURA FIXED SASH BLOCK	WOOD	MAHOGANY OR EQUAL
22	–	FIN SEAL W' STRIPPING	–	SCHLEGAL
23	–	GS 250 W' STRIPPING	VINYL	EUROPROFILI
27	–	LOCK POINT	–	GENERIC
28	–	CONTURA STILE & RAIL	WOOD	MAHOGANY OR EQUAL
28A	–	ALT. HINGE STILE	WOOD	MAHOGANY OR EQUAL
29	–	CONTURA GLASS STOP	WOOD	MAHOGANY OR EQUAL
30	–	3 1/2" X 3 1/2" BUTT HINGE	–	GENERIC
30A	SEE SHEET 2	CONTURA HINGE	–	–
33	SEE SHEET 2	CONTURA INACT. MEETING RAIL	WOOD	MAHOGANY OR EQUAL
34	–	ASTRAGAL	WOOD	MAHOGANY OR EQUAL
35	–	SPACER	ST. STEEL	CARDINAL IG
36	–	SETTING BLOCKS AT 1/4 POINTS	EPDM	DUROMETER 80±5 SHORE A
37	–	1- 1/2" X 1- 1/2" X 1/8" ANGLE	ALUMINUM	6063 - T5 MIN.
38	–	4 1/2" SIMPSON CS 16Z STEEL STRAPS	SS OR GALV	(16ga)
39	–	GALVANIZED STEEL "Z" CLIP	STEEL	(14 ga)

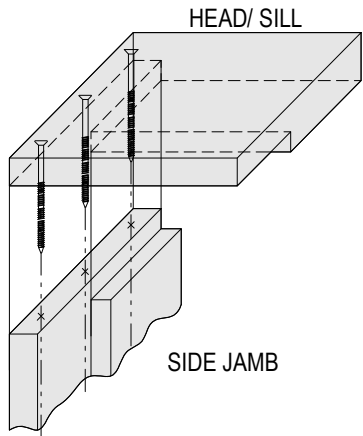
TYPICAL WOOD - HONDURES MAHOGANY LUMBER

SPECIFIC GRAVITY = 0.45 MIN.
GRADE = 2 MIN.
MOISTURE CONTENT = 19% MAX.



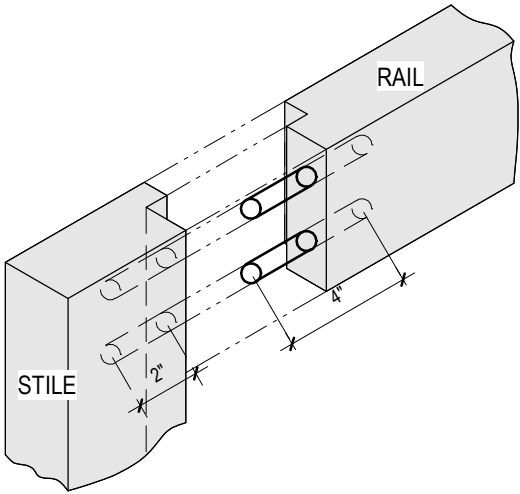
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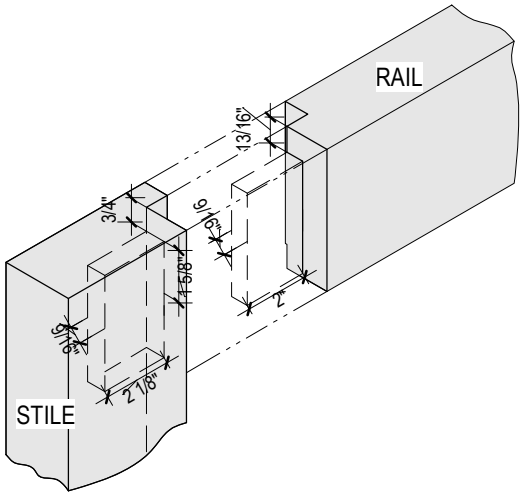


FRAME CORNERS HAVE HALF LAP
JOINT TYPICAL AT HEAD AND SILL
WITH 3 #12 BY 3 1/2" SS SCREWS AND
GLUED WITH NP1

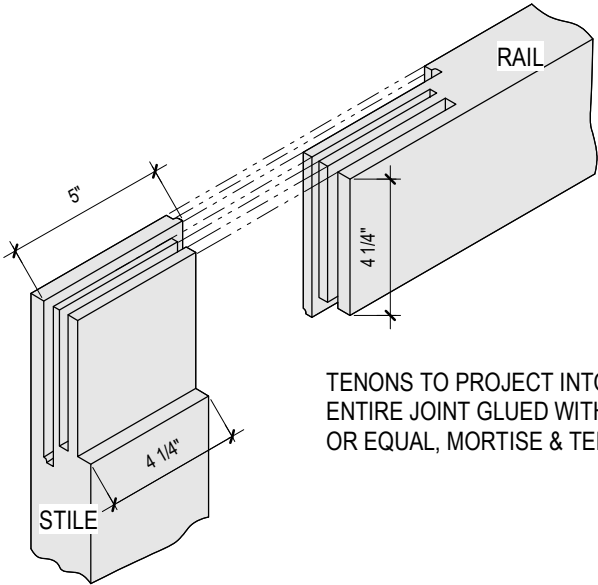
FRAME CORNER DETAILS



5/8" X 4" DOWEL TO PROJECT INTO
STILE, ENTIRE JOINT GLUED WITH
"TITE BOND" OR EQUAL.



9/16" THICK TENON TO PROJECT
INTO STILE, ENTIRE JOINT GLUED
WITH "TITE BOND" OR EQUAL, MORTISE
& TENON TYPE 1



TENONS TO PROJECT INTO STILE,
ENTIRE JOINT GLUED WITH "TITE BOND"
OR EQUAL, MORTISE & TENON TYPE 2

VENT CORNER DETAILS

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