

SHEET INDEX	
101	COVER PAGE
102	ELEVATIONS & LOADING CHARTS
103	ELEVATIONS & LOADING CHARTS
104	ELEVATIONS & LOADING CHARTS
105	ELEVATIONS & LOADING CHARTS
106	GLAZING DETAILS
107	SECTIONAL DETAILS
108	SECTIONAL DETAILS
109	SECTIONAL DETAILS
110	SECTIONAL DETAILS
111	SECTIONAL DETAILS
112	SECTIONAL DETAILS
113	ANCHOR SPACING LAYOUT
114	ALTERNATE ANCHORING
115	PARTS LIST
116	PARTS LIST
117	PARTS LIST
118	FRAME ASSEMBLY DETAILS

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:

SINGLE DOOR (X): SEE SHEET 102
DOUBLE DOOR (XX): SEE SHEET 103
JAMB TO JAMB DOOR (XX): SEE SHEET 104
DOUBLE VENT WITH TRANSOM (OX): SEE SHEET 105

- 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.



DOUBLE VENT (XX)

HARTMAN WINDOWS & DOORS, LLC.

EUROPEAN SERIES OUTSWING CASEMENT WINDOWS

(LARGE AND SMALL MISSILE IMPACT RATED)

FL #19164.2



DOUBLE VENT (OX)SINGLE VENT (X)

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 #19164.2

drawing no.

JA-1425-23

date:

04-15-2024

drawn by:

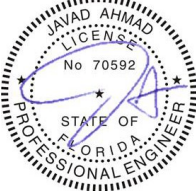
MK

check by:

BS

REVISION

DATE	BY	DESCRIPTION
No.		



Sealed: 04-15-2024

101

101 OF 118



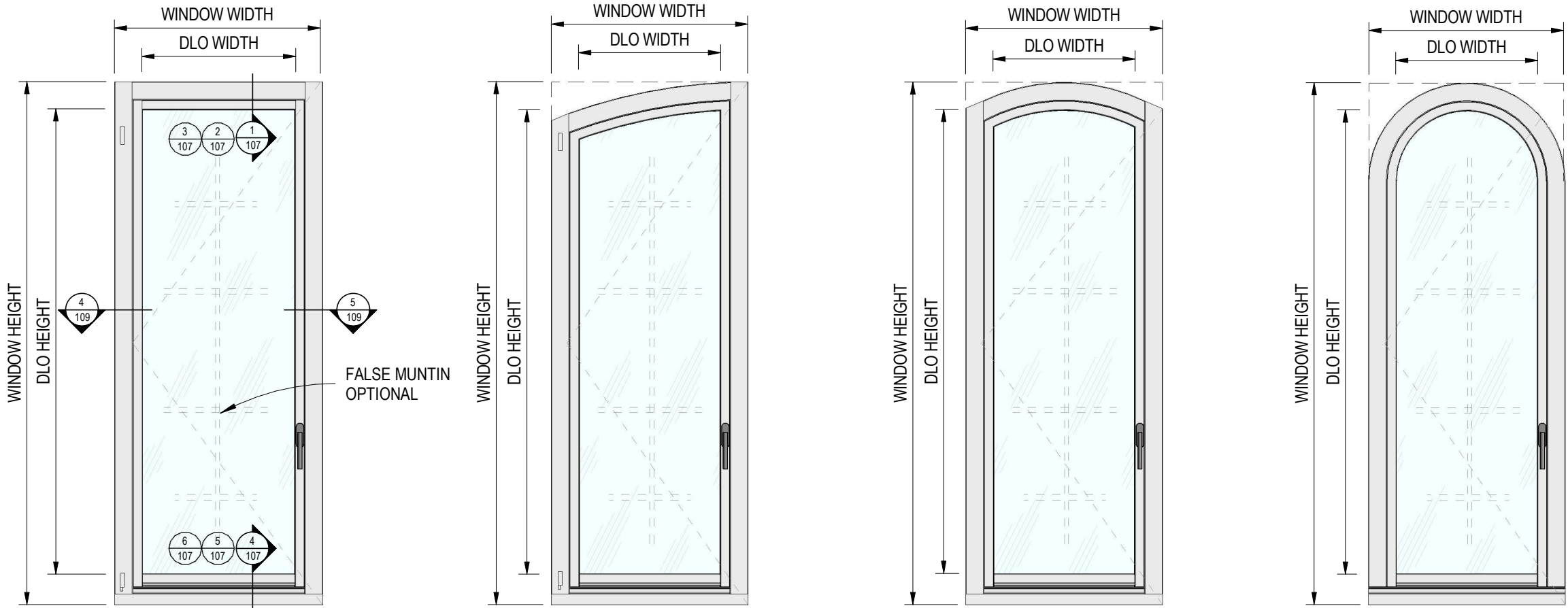
JAVAD AHMAD PE, inc

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

EUROPEAN SERIES OUTSWING CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

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

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS



SINGLE VENT (X) TYPE "1"

LOADING CHART FOR SINGLE VENT (X) TYPE "1" WINDOW - PRESSURES IN P.S.F. (ASD)						
GLASS TYPES A, B, D, HI						
WINDOW WIDTH (IN.)	WINDOW HEIGHT (IN.)					
	24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114, 120	126	132	138	144	
24	+/- 42.8	+/- 42.8	+/- 42.8	+/- 42.8	+/- 42.8	
30	+/- 42.8	+/- 42.8	+/- 42.8	+/- 42.8	+/- 42.8	
36	+/- 42.8	+/- 42.8	+/- 42.8	+/- 41	+/- 38	
42	+/- 42.8	+/- 42.8	+/- 39	-	-	
48	+/- 42.8	-	-	-	-	

LOADING CHART FOR SINGLE VENT (X) TYPE "1" WINDOW - PRESSURES IN P.S.F. (ASD)						
GLASS TYPES II, JI						
WINDOW WIDTH (IN.)	WINDOW HEIGHT (IN.)					
	24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114, 120	126	132	138	144	
24	+/- 45.8	+/- 45.8	+/- 45.8	+/- 45.8	+/- 45.8	
30	+/- 45.8	+/- 45.8	+/- 45.8	+/- 45.8	+/- 45.8	
36	+/- 45.8	+/- 45.8	+/- 45.8	+/- 44	+/- 40	
42	+/- 45.8	+/- 45.8	+/- 42	-	-	
48	+/- 45.8	-	-	-	-	

LOADING CHART FOR SINGLE VENT (X) TYPE "1" WINDOW - PRESSURES IN P.S.F. (ASD)						
GLASS TYPES C, E, F, GI						
WINDOW WIDTH (IN.)	WINDOW HEIGHT (IN.)					
	24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114, 120	126	132	138	144	
24	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	
30	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	
36	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 58 / - 68	+ 53 / - 62	
42	+ 60 / - 70	+ 60 / - 70	+ 55 / - 64	-	-	
48	+ 60 / - 70	-	-	-	-	

LOADING CHART FOR SINGLE VENT (X) TYPE "1" WINDOW - PRESSURES IN P.S.F. (ASD)						
GLASS TYPES K, L						
WINDOW WIDTH (IN.)	WINDOW HEIGHT (IN.)					
	24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96	126	132	138	144	
24	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	
30	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	
36	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	
42	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	
48	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	

WINDOW HARDWARE

THE HARDWARE SPECIFIED FOR THESE WINDOWS IS BY G.U., A.G.B. & SEGENIA
HARDWARE IS SUPPLIED AS FOLLOW:

- LEVER HANDLE & GEAR HDW W/MUSHROOM HD LOCK CAMS
- TURN SS GEAR HDW W/HIDDEN OPERATOR HANDLE & EXTENTIONS
- SS KEEPERS & MUSHROOM HEAD LOCKING CAMS
- PROPRTARY SS 4 WAY ADJUSTABLE BARREL HINGES W/CAPS
- SS CORNER DRIVE WITH MUSHROOM HD LOCKING CAMS

NOTE:
ALLOWABLE PRESSURES FOR ALTERNATE SHAPES AS SHOWN ON THIS SHEET OR SIMILAR CAN BE VERIFIED BY INSCRIBING WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES.



JAVAD AHMAD PE, inc

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

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

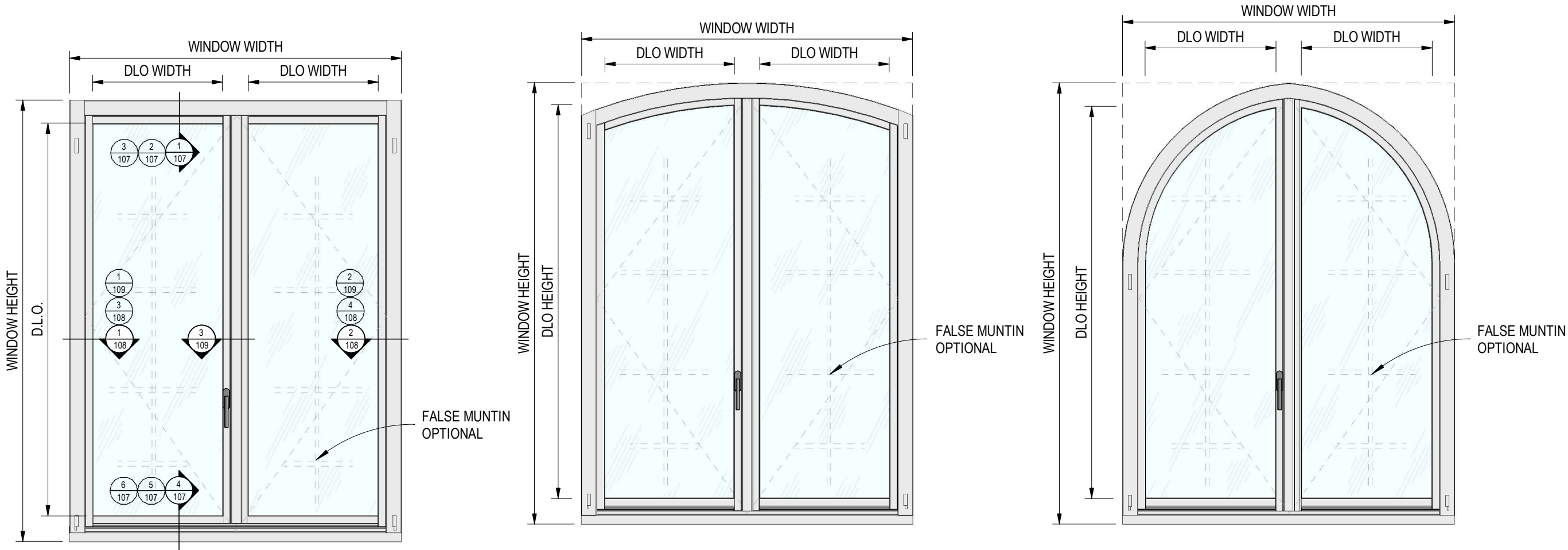
EUROPEAN SERIES OUTSWING
CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

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

drawing no.	date:	JA-1425-23	drawn by:	check by:	REVISION			
					DATE	BY	DESCRIPTION	
		04-15-2024			No.			



Sealed: 04-15-2024



DOUBLE VENT (XX) TYPE "2"

LOADING CHART FOR DOUBLE VENT (XX) TYPE "2" WINDOW - PRESSURES IN P.S.F. (ASD)	
GLASS TYPES A, B, C, D, E, F, GI, HI, II, JI, K, L	
WINDOW WIDTH (IN.)	WINDOW HEIGHT (IN.)
	24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96
24*	+ 60 / - 70
30*	+ 60 / - 70
36*	+ 60 / - 70
42	+ 60 / - 70
48	+ 60 / - 70
54	+ 60 / - 70
60	+ 60 / - 70
66	+ 60 / - 70
72	+ 60 / - 70

* SINGLE WINDOWS

WINDOW HARDWARE

THE HARDWARE SPECIFIED FOR THESE WINDOWS IS BY G.U., A.G.B. & SEGENIA
HARDWARE IS SUPPLIED AS FOLLOW:

- LEVER HANDLE & GEAR HDW W/MUSHROOM HD LOCK CAMS
- TURN SS GEAR HDW W/HIDDEN OPERATOR HANDLE & EXTENTIONS
- SS KEEPERS & MUSHROOM HEAD LOCKING CAMS
- PROPETARY SS 4 WAY ADJUSTABLE BARREL HINGES W/CAPS
- SS CORNER DRIVE WITH MUSHROOM HD LOCKING CAMS

NOTE:
ALLOWABLE PRESSURES FOR ALTERNATE SHAPES AS SHOWN ON THIS SHEET OR SIMILAR CAN BE VERIFIED BY INSCRIBING WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES.



JAVAD AHMAD PE, inc

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

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

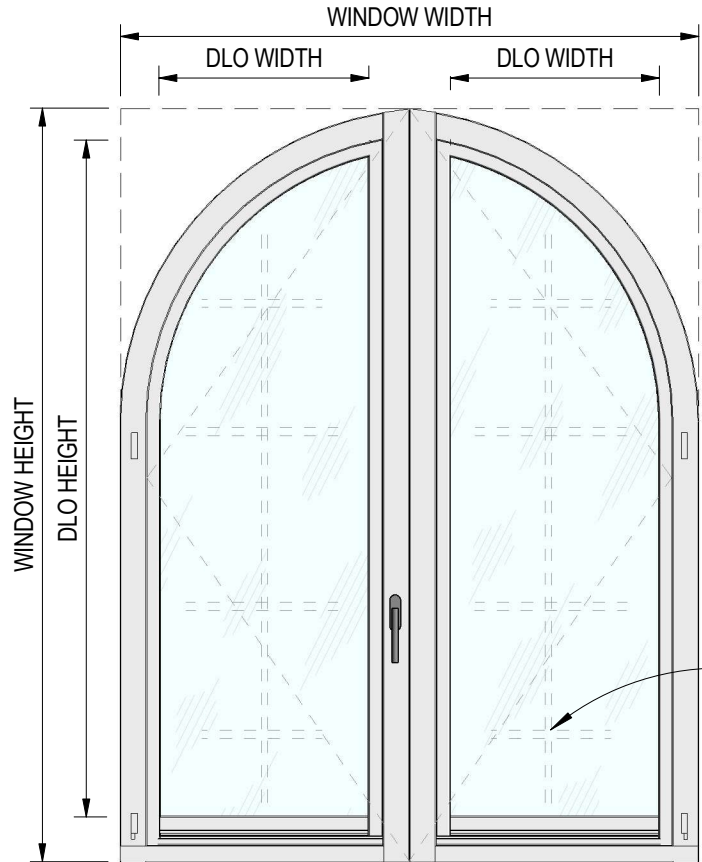
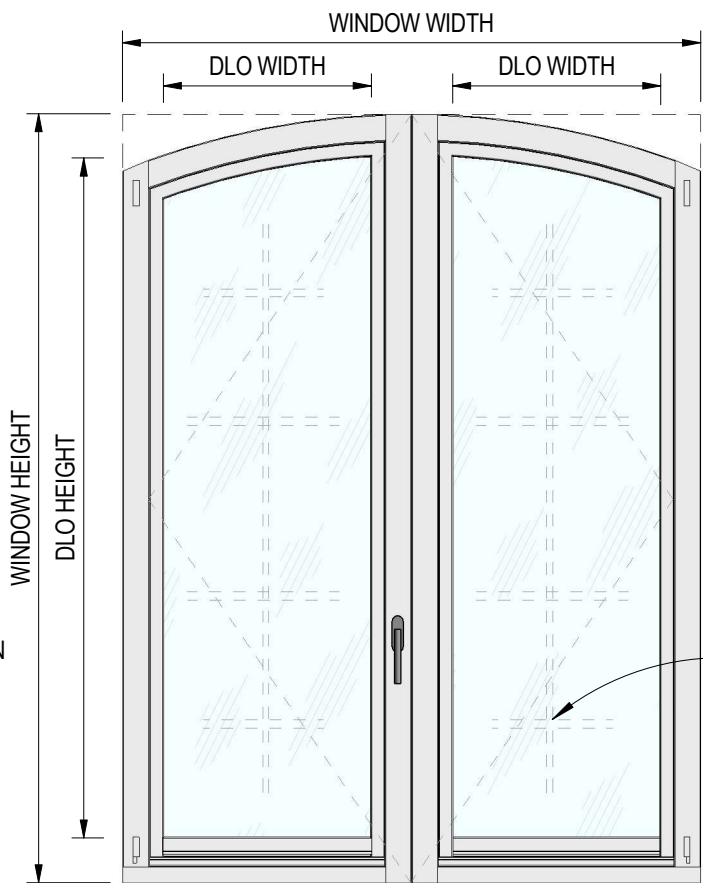
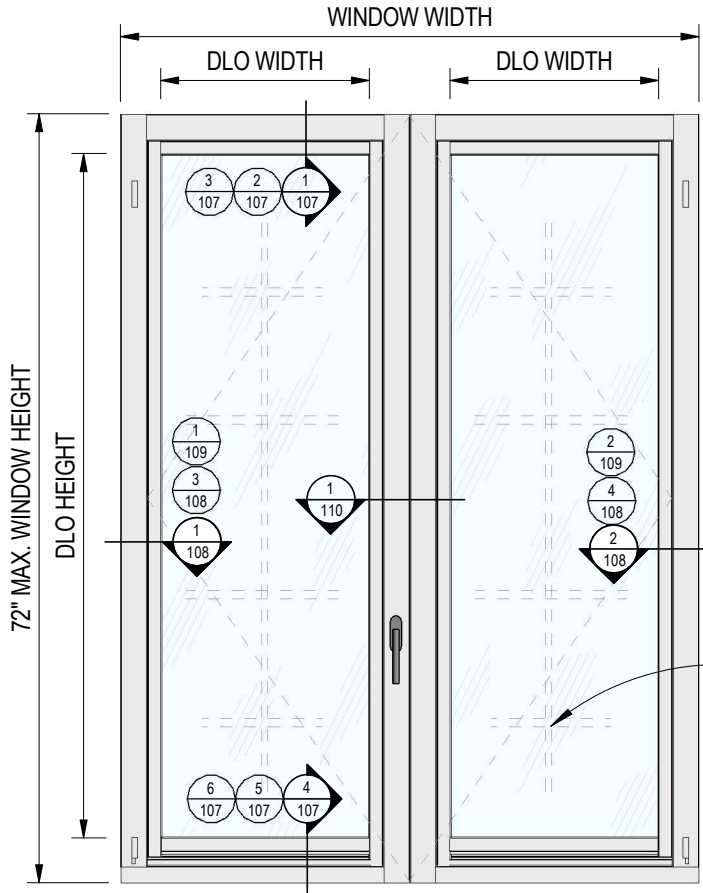
EUROPEAN SERIES OUTSWING
CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

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

drawing no.	JA-1425-23	drawn by:	MK
date:	04-15-2024	check by:	BS
REVISION		DATE	BY
		No.	DESCRIPTION



Sealed: 04-15-2024



JAMB TO JAMB (XX) TYPE "3"

LOADING CHART FOR JAMB TO JAMB (XX) TYPE "3" WINDOW - PRESSURES IN P.S.F. (ASD)		
GLASS TYPES A, B, D, F, G, I, H, J, K, L		
WINDOW WIDTH (IN.)	WINDOW HEIGHT (IN.)	
	24, 30, 36, 42, 48, 54, 60, 66, 72	
24"	+ 60 / - 70	
30"	+ 60 / - 70	
36"	+ 60 / - 70	
42	+ 60 / - 70	
48	+ 60 / - 70	
54	+ 60 / - 70	
60	+ 60 / - 70	
66	+ 60 / - 70	
72	+ 60 / - 70	

* SINGLE WINDOWS

LOADING CHART FOR JAMB TO JAMB (XX) TYPE "3" WINDOW - PRESSURES IN P.S.F. (ASD)		
GLASS TYPES C, E		
WINDOW WIDTH (IN.)	WINDOW HEIGHT (IN.)	
	24, 30, 36, 42, 48, 54, 60, 66, 72	
24"	+/- 80	
30"	+/- 80	
36"	+/- 80	
42	+/- 80	
48	+/- 80	
54	+/- 80	
60	+/- 80	
66	+/- 80	
72	+/- 80	

* SINGLE WINDOWS

WINDOW HARDWARE

THE HARDWARE SPECIFIED FOR THESE WINDOWS IS BY G.U., A.G.B. & SEGENIA
HARDWARE IS SUPPLIED AS FOLLOW:

- LEVER HANDLE & GEAR HDW W/MUSHROOM HD LOCK CAMS
- TURN SS GEAR HDW W/HIDDEN OPERATOR HANDLE & EXTENTIONS
- SS KEEPERS & MUSHROOM HEAD LOCKING CAMS
- PROPETARY SS 4 WAY ADJUSTABLE BARREL HINGES W/CAPS
- SS CORNER DRIVE WITH MUSHROOM HD LOCKING CAMS

NOTE:
ALLOWABLE PRESSURES FOR ALTERNATE SHAPES AS SHOWN ON THIS SHEET OR SIMILAR CAN BE VERIFIED BY INSCRIBING WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES.



JAVAD AHMAD PE, inc

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

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

EUROPEAN SERIES OUTSWING
CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

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

drawing no.	JA-1425-23	date:	drawn by:	check by:	REVISION			
					No.	DATE	BY	DESCRIPTION



Sealed: 04-15-2024



JAVAD AHMAD PE, inc

7875 NW 12th St., Suite 102

Doral, FL 33126

Ph: (305) 424-8001

support@ja-pe.com

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

EUROPEAN SERIES OUTSWING

CASEMENT WINDOWS

(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.

2107 W. BLUE HERON BLVD.

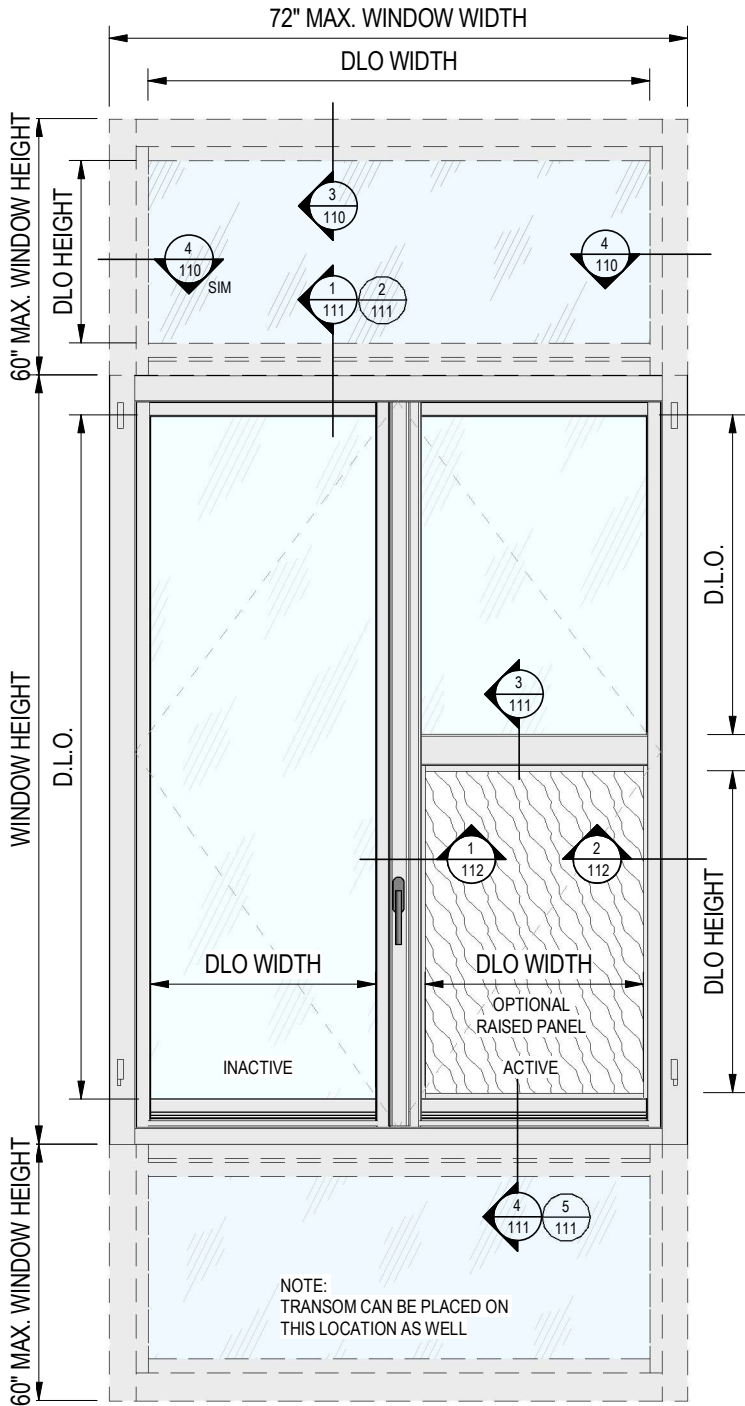
WEST PALM BEACH, FL 33404

PHN. (561) 296-9600

drawing no.	date:	JA-1425-23	04-15-2024	REVISION				drawn by:	MK
				No.	DATE	BY	DESCRIPTION		



Sealed: 04-15-2024



DOUBLE VENT WITH TRANSOM (OX) TYPE "4"

LOADING CHART FOR DOUBLE VENT WITH TRANSOM (OX) TYPE "4" CASEMENT WINDOW - PRESSURES IN P.S.F. (ASD)	
GLASS TYPES: A, B, C, D, E, F, G, I, H, J, K, L	
WINDOW WIDTH (IN.)	WINDOW HEIGHT (IN.)
	24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96
24*	+ 60 / - 70
30*	+ 60 / - 70
36*	+ 60 / - 70
42	+ 60 / - 70
48	+ 60 / - 70
54	+ 60 / - 70
60	+ 60 / - 70
66	+ 60 / - 70
72	+ 60 / - 70

* SINGLE WINDOWS

LOADING CHART FOR DOUBLE VENT WITH TRANSOM (OX) TYPE "4" FIXED WINDOW - PRESSURES IN P.S.F. (ASD)											
GLASS TYPES: A, G, I, H											
WINDOW WIDTH (IN.)	WINDOW HEIGHT (IN.)										
	24, 30, 36	42	48	54	60	66	72	78	84	90	96
24*	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 68	+/- 59	+/- 51
30*	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 64	+/- 55	+/- 48	+/- 42
36*	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 65	+/- 55	+/- 47	+/- 40
42	+ 60 / - 70	+ 60 / - 67	+ 60 / - 67	+ 60 / - 67	+ 60 / - 67	+ 60 / - 67	+/- 58	+/- 48	+/- 41	+/- 35	+/- 31
48	+ 60 / - 70	+ 60 / - 67	+/- 58	+/- 58	+/- 58	+/- 58	+/- 53	+/- 44	+/- 37	+/- 31	-
54	+ 60 / - 70	+ 60 / - 67	+/- 58	+/- 52	+/- 52	+/- 52	+/- 49	+/- 40	-	-	-
60	+ 60 / - 70	+ 60 / - 67	+/- 58	+/- 52	+/- 47	+/- 47	+/- 47	-	-	-	-
66	+ 60 / - 70	+ 60 / - 67	+/- 58	+/- 52	+/- 47	-	-	-	-	-	-
72	+ 60 / - 70	+ 60 / - 67	+/- 58	+/- 52	+/- 47	-	-	-	-	-	-

* SINGLE WINDOWS

LOADING CHART FOR DOUBLE VENT WITH TRANSOM (OX) TYPE "4" FIXED WINDOW - PRESSURES IN P.S.F. (ASD)						
GLASS TYPES: B, C, D, E, F, I, J						
WINDOW WIDTH (IN.)	WINDOW HEIGHT (IN.)					
	24, 30, 36, 42, 48, 54, 60	66, 72	78	84	90	96
24*	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70
30*	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 53 / - 62
36*	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 51 / - 60	+ 45 / - 52
42	+ 60 / - 70	+ 60 / - 70	+ 60 / - 70	+ 52 / - 61	+ 45 / - 53	+ 39 / - 46
48	+ 60 / - 70	+ 60 / - 70	+ 56 / - 65	+ 47 / - 55	+ 40 / - 47	-
54	+ 60 / - 70	+ 60 / - 70	+ 51 / - 60	-	-	-
60	+ 60 / - 70	+ 60 / - 70	-	-	-	-
66	+ 60 / - 70	-	-	-	-	-
72	+ 60 / - 70	-	-	-	-	-

* SINGLE WINDOWS

LOADING CHART FOR DOUBLE VENT WITH TRANSOM (OX) TYPE "4" FIXED WINDOW - PRESSURES IN P.S.F. (ASD)	
GLASS TYPES: K, L	
WINDOW WIDTH (IN.)	WINDOW HEIGHT (IN.)
	24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96
24	+ 60 / - 70
30	+ 60 / - 70
36	+ 60 / - 70
42	+ 60 / - 70
48	+ 60 / - 70

WINDOW HARDWARE

THE HARDWARE SPECIFIED FOR THESE WINDOWS IS BY G.U., A.G.B. & SEGENIA
HARDWARE IS SUPPLIED AS FOLLOW:

- LEVER HANDLE & GEAR HDW W/MUSHROOM HD LOCK CAMS
- TURN SS GEAR HDW W/HIDDEN OPERATOR HANDLE & EXTENTIONS
- SS KEEPERS & MUSHROOM HEAD LOCKING CAMS
- PROPRTARY SS 4 WAY ADJUSTABLE BARREL HINGES W/CAPS
- SS CORNER DRIVE WITH MUSHROOM HD LOCKING CAMS

NOTE:
ALLOWABLE PRESSURES FOR ALTERNATE SHAPES AS SHOWN ON THIS SHEET OR SIMILAR CAN BE VERIFIED BY INSCRIBING WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES.



JAVAD AHMAD PE, inc

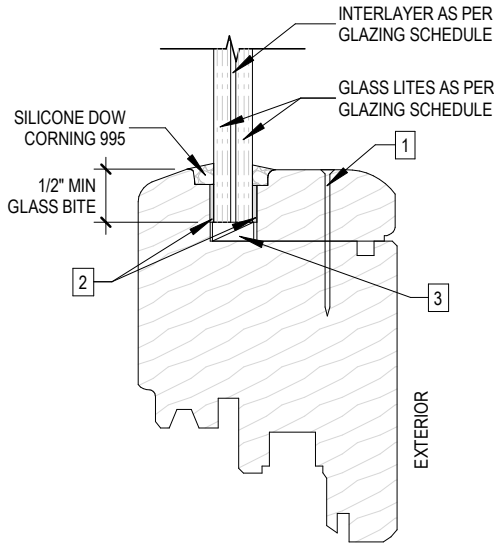
7875 NW 12th St., Suite 102

Doral, FL 33126

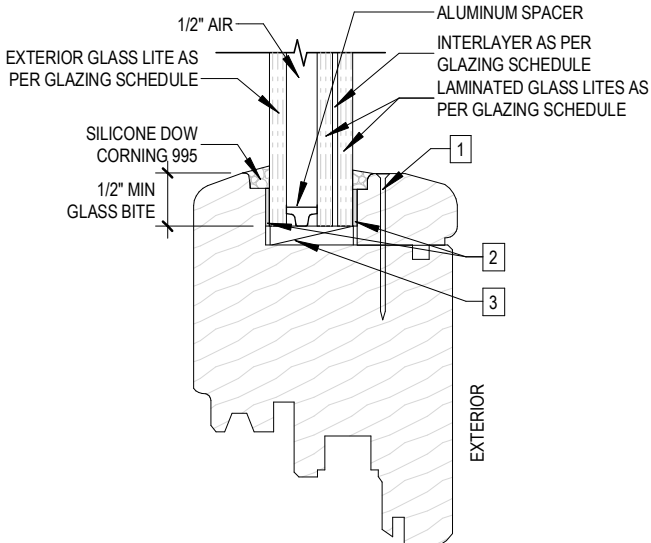
Ph: (305) 424-8001

support@ja-pe.com

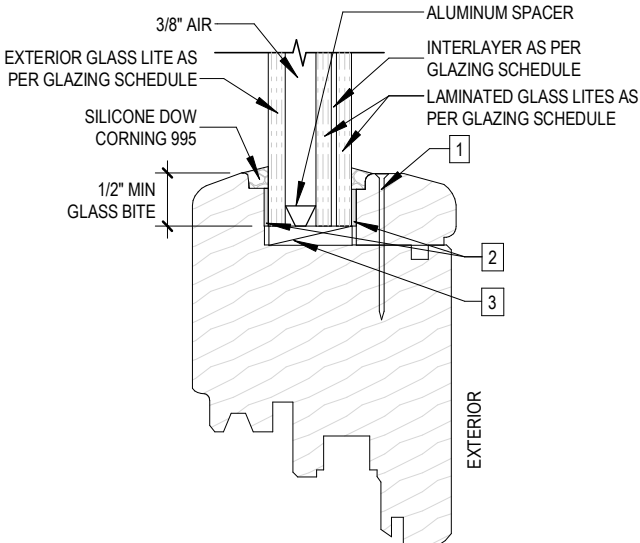
CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS



GLASS TYPE A, B, C, D, E, F



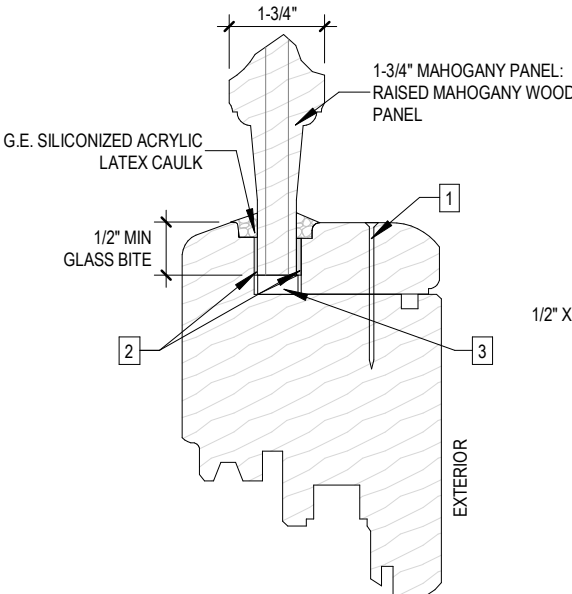
GLASS TYPE GI, JI



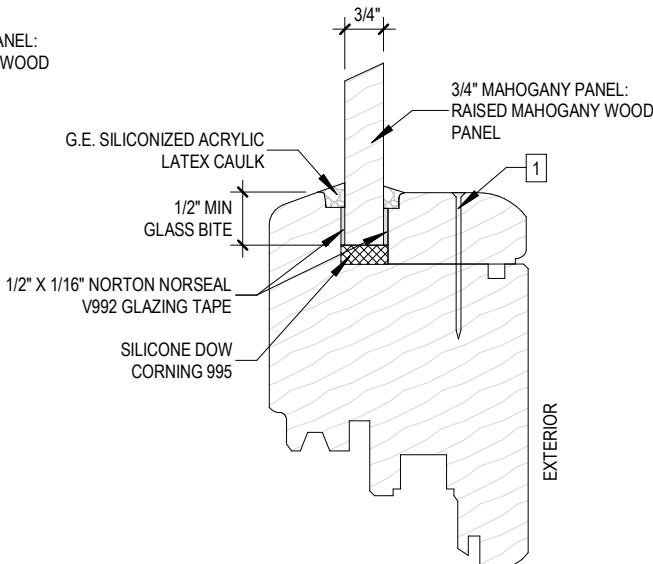
GLASS TYPE HI, II

GLAZING SCHEDULE

GLASS TYPE	LAMINATED GLASS LITE	INTERLAYER
A	3/16" ANNEALED GLASS	0.09" PVB BY EASTMAN CHEMICAL COMPANY
B	3/16" HEAT STREN'D GLASS	0.09" PVB BY EASTMAN CHEMICAL COMPANY
C	3/16" HEAT STREN'D GLASS	0.09" SENTRYGLAS BY KURARAY AMERICA INC.
D	3/16" ANNEALED GLASS	0.09" SENTRYGLAS BY KURARAY AMERICA INC.
E	1/4" HEAT STREN'D GLASS	0.09" SENTRYGLAS BY KURARAY AMERICA INC.
F	1/4" HEAT STREN'D GLASS	0.075" PVB BY EASTMAN CHEMICAL COMPANY



GLASS TYPE K
WOOD PANEL DETAIL



GLASS TYPE L
WOOD PANEL DETAIL

- 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

GLASS TYPE	EXTERIOR GLASS LITE	LAMINATED GLASS LITE	INTERLAYER
GI	1/4" TEMPERED GLASS	3/16" HEAT STREN'D GLASS	0.075" PVB BY EASTMAN CHEMICAL COMPANY
HI	1/4" TEMPERED GLASS	1/8" ANNEALED GLASS	0.09" SENTRYGLAS BY KURARAY AMERICA INC.
II	1/4" TEMPERED GLASS	1/4" HEAT STREN'D GLASS	0.09" SENTRYGLAS BY KURARAY AMERICA INC.
Jl	3/16" TEMPERED GLASS	3/16" HEAT STREN'D GLASS	0.09" SENTRYGLAS BY KURARAY AMERICA INC.

EUROPEAN SERIES OUTSWING CASEMENT WINDOWS

(LARGE AND SMALL MISSILE IMPACT RATED)

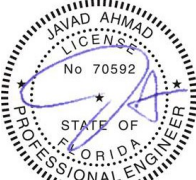
HARTMAN WINDOWS & DOORS, LLC.

2107 W. BLUE HERON BLVD.

WEST PALM BEACH, FL 33404

PHN. (561) 296-9600

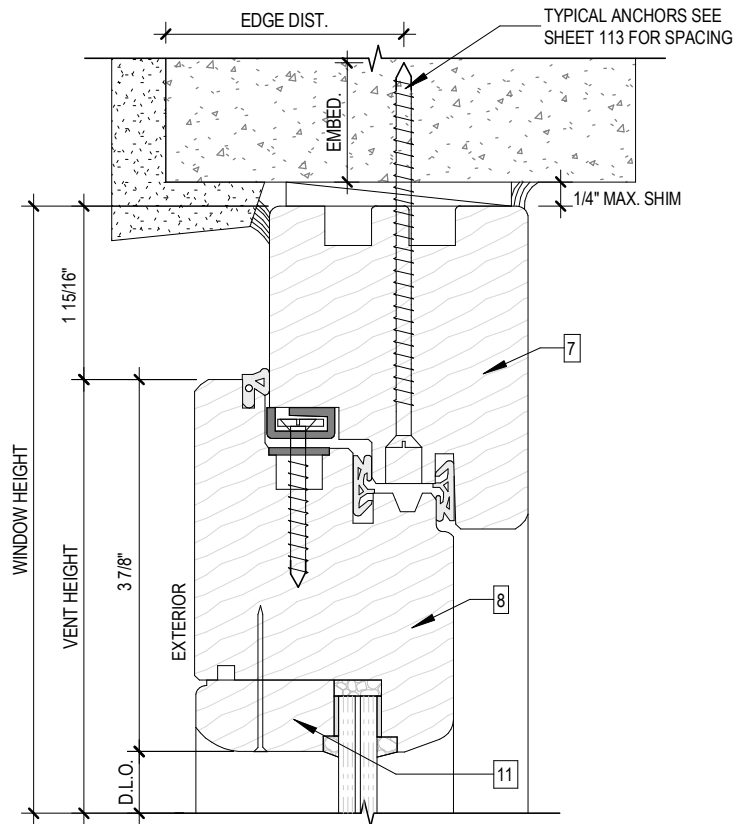
drawing no.	date:	JA-1425-23	drawn by:	04-15-2024	check by:	REVISION			
						No.	DATE	BY	DESCRIPTION



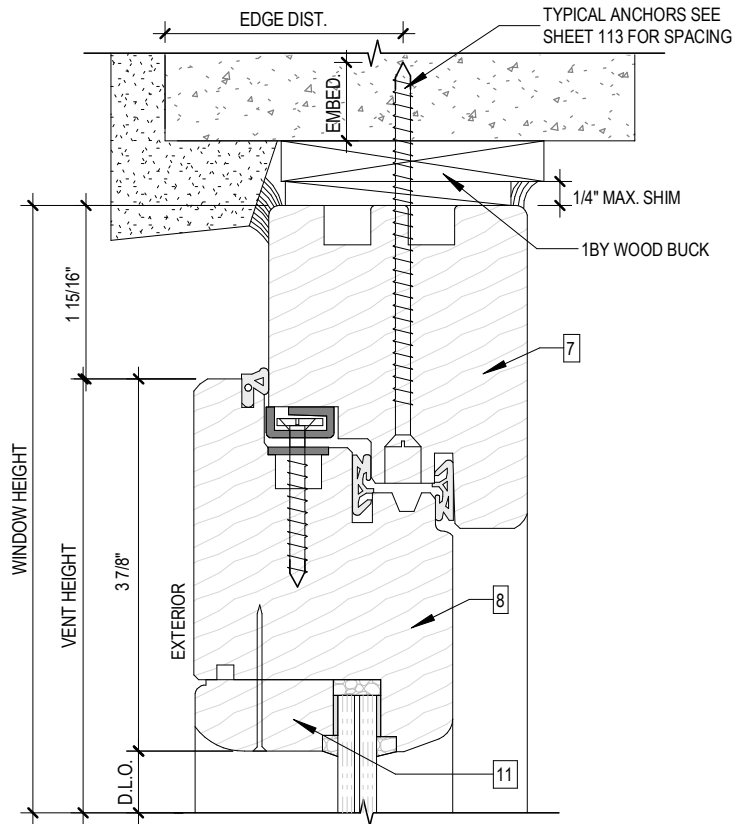
Sealed: 04-15-2024

SECTIONAL DETAILS

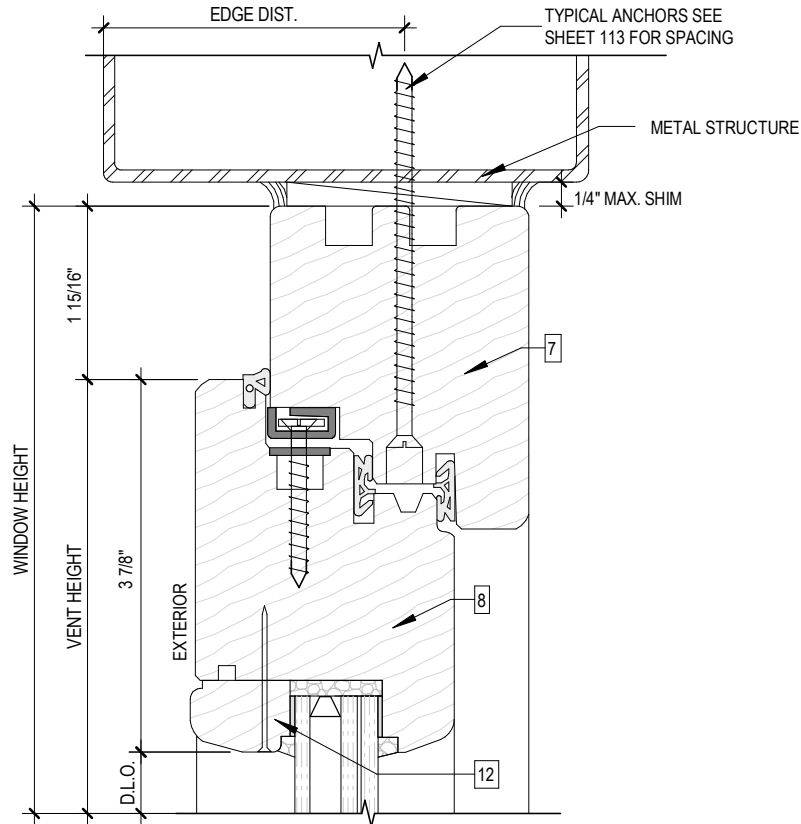
FL #19164.2



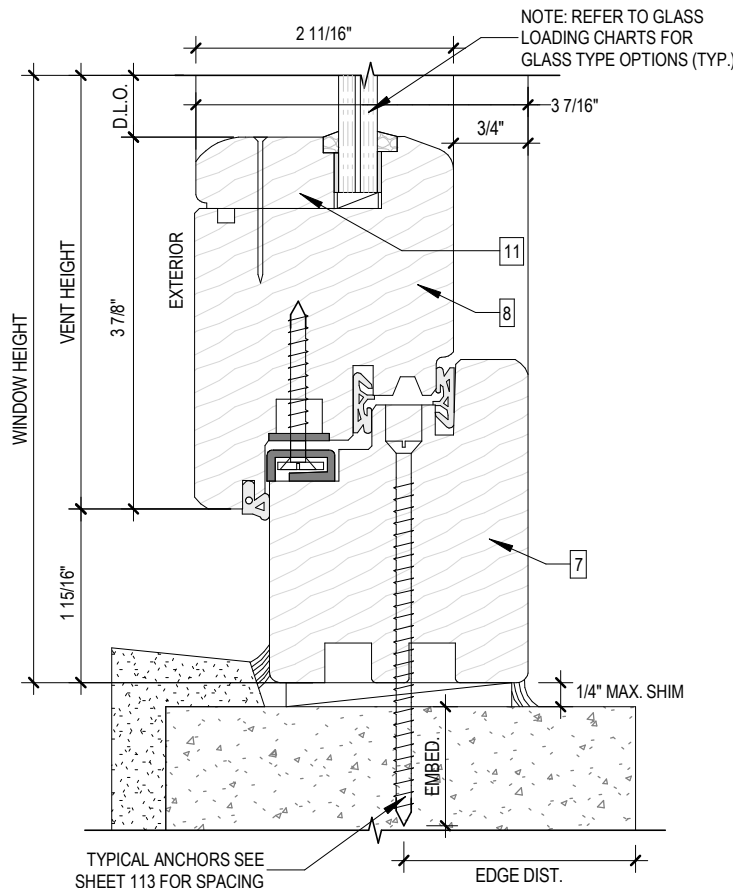
1 HEAD DETAIL 1 INTO CONCRETE
107 N.T.S.



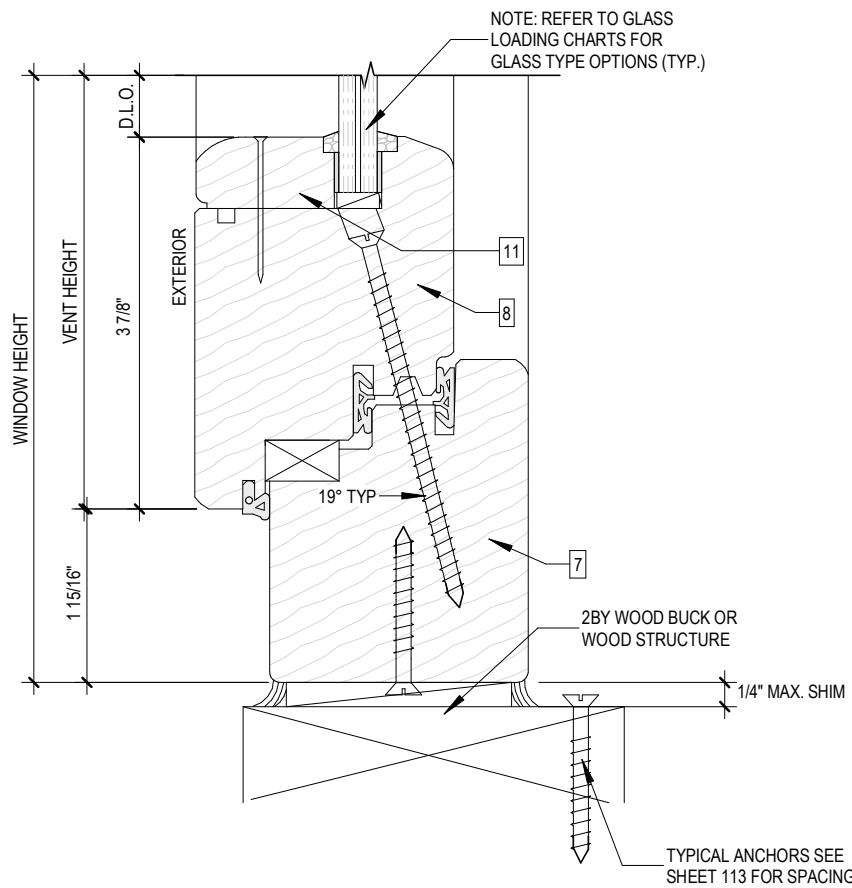
2 HEAD DETAIL 2 INTO CONCRETE
107 N.T.S.



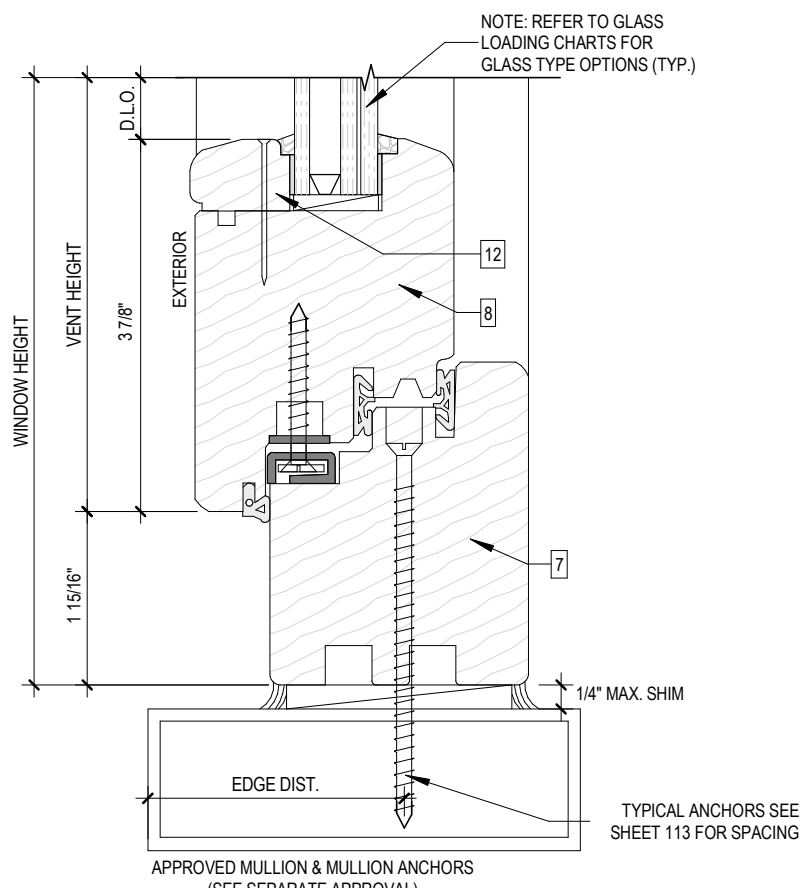
3 HEAD DETAIL 3 INTO METAL STRUCTURES
107 N.T.S.



4 SILL DETAIL 1 INTO CONCRETE
107 N.T.S.



5 SILL DETAIL 2 FIXED UNITS INTO WOOD STRUCTURES
107 N.T.S.



6 SILL DETAIL 3
107 N.T.S.

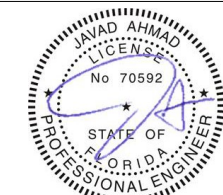


JAVAD AHMAD PE, inc
7875 NW 12th St., Suite 102
Doral, FL 33126
Ph: (305) 424-8001
support@ja-pe.com

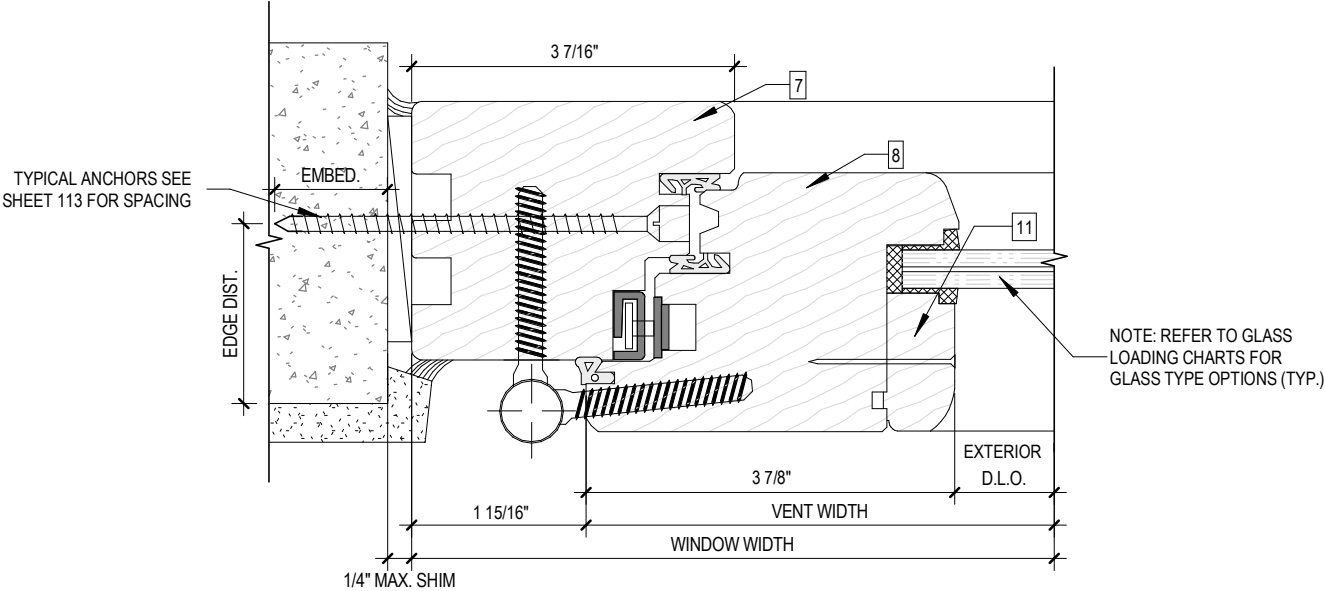
**EUROPEAN SERIES OUTSWING
CASEMENT WINDOWS**
(LARGE AND SMALL MISSILE IMPACT RATED)

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

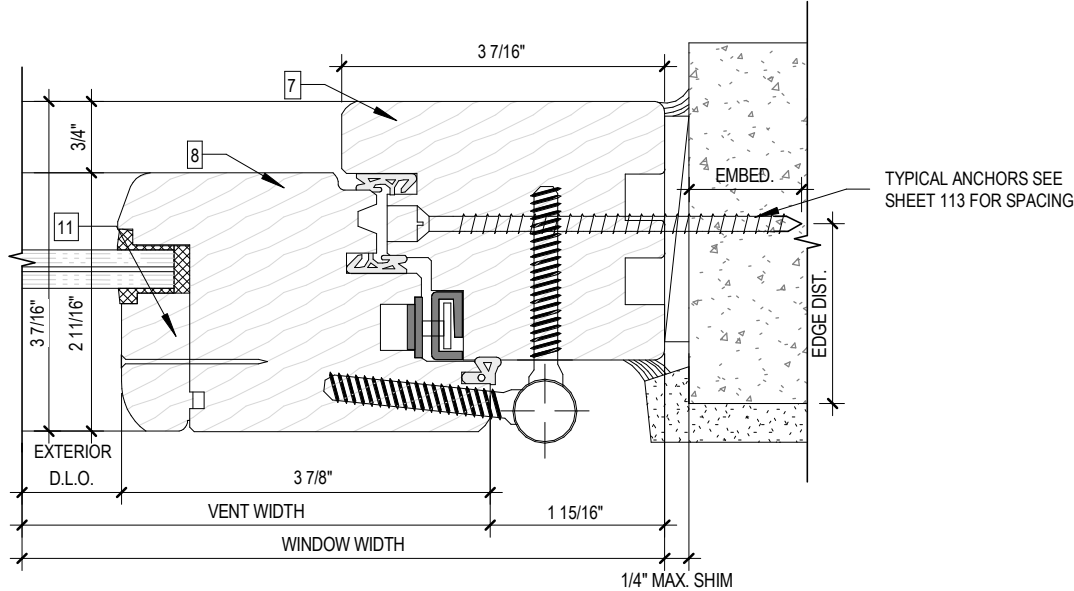
drawing no.	JA-1425-23	drawn by:	MK	date:	04-15-2024	check by:	BS	REVISION			
								No.	DATE	BY	DESCRIPTION



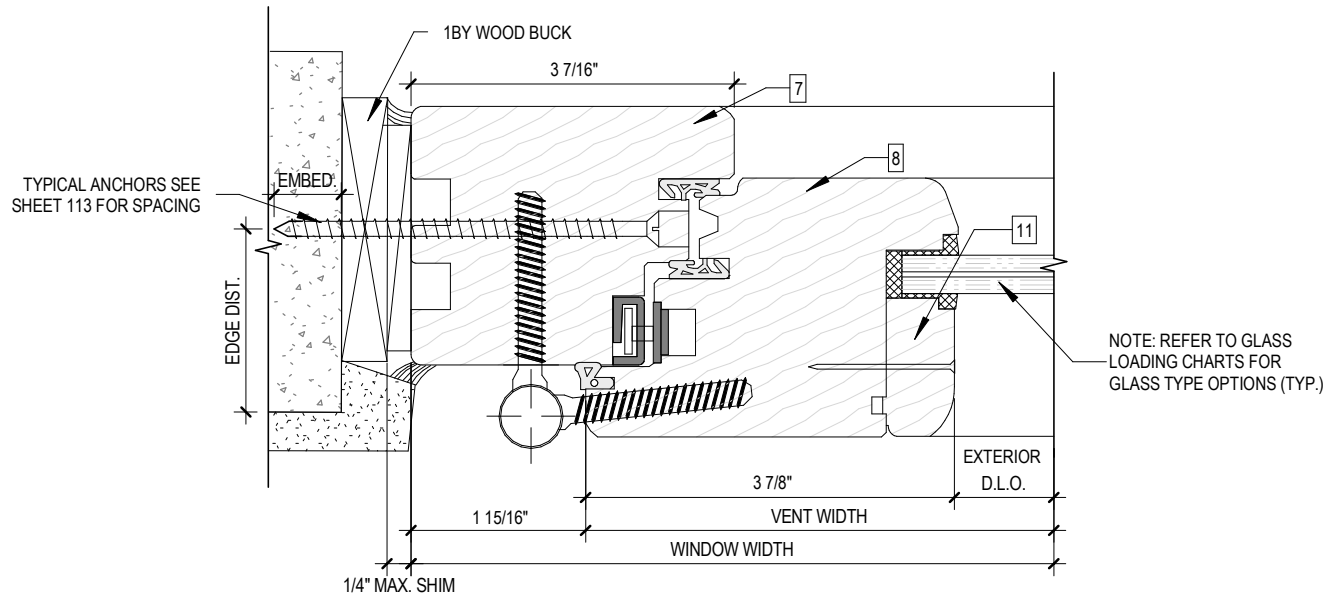
Sealed: 04-15-2024



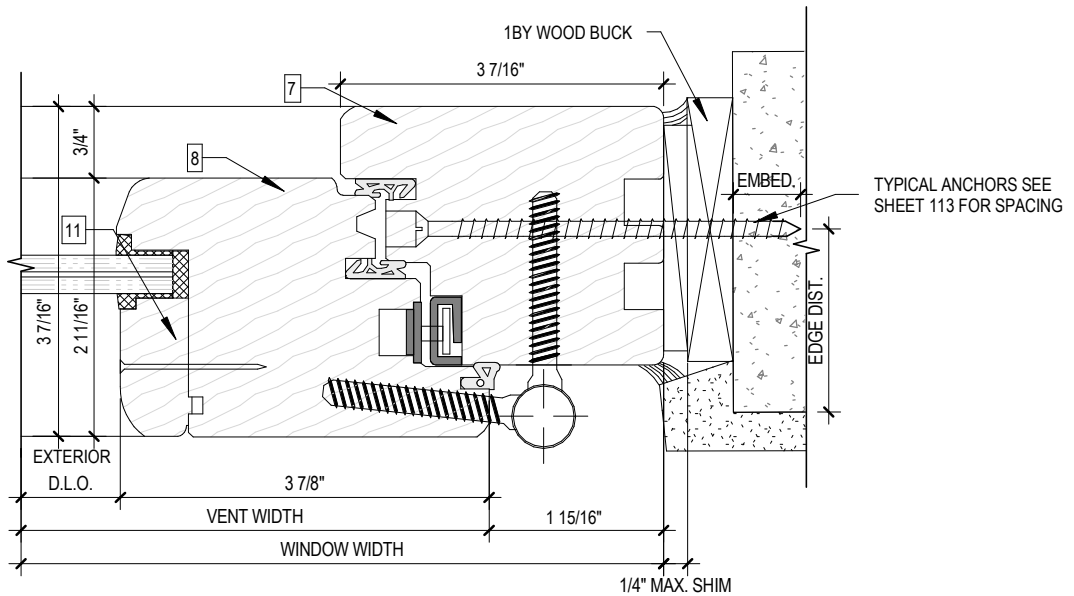
1
108 JAMB DETAIL 1A INTO CONCRETE
N.T.S.



2
108 JAMB DETAIL 1B INTO CONCRETE
N.T.S.



3
108 JAMB DETAIL 2A INTO CONCRETE
N.T.S.



4
108 JAMB DETAIL 2B FIXED UNITS INTO WOOD STRUCTURES
N.T.S.



JAVAD AHMAD PE, inc

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

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

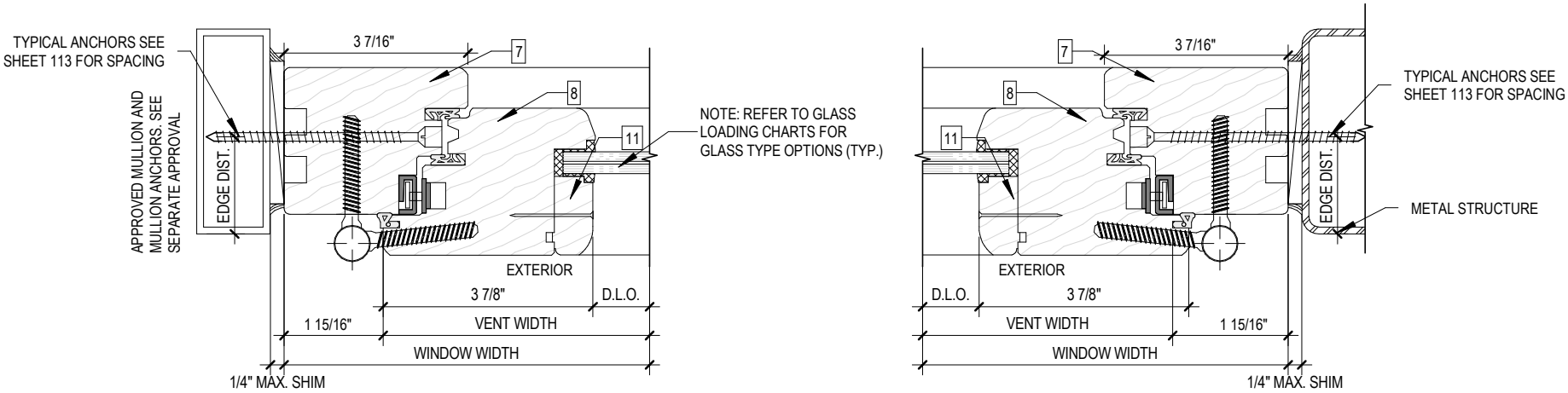
EUROPEAN SERIES OUTSWING
CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

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

drawing no.	date:	JA-1425-23	drawn by:	check by:	REVISION			
					No.	DATE	BY	DESCRIPTION

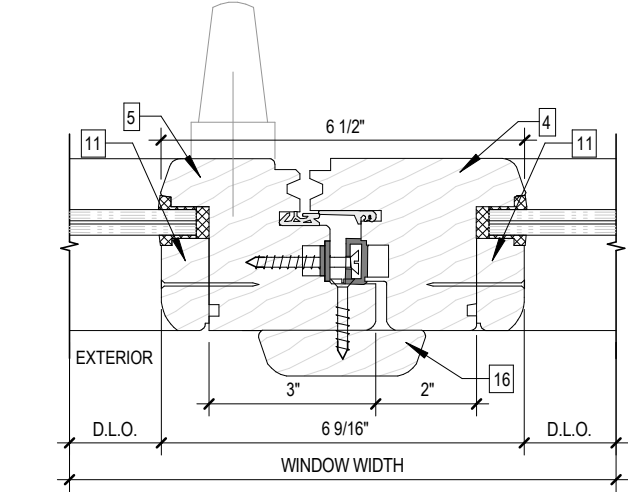


Sealed: 04-15-2024

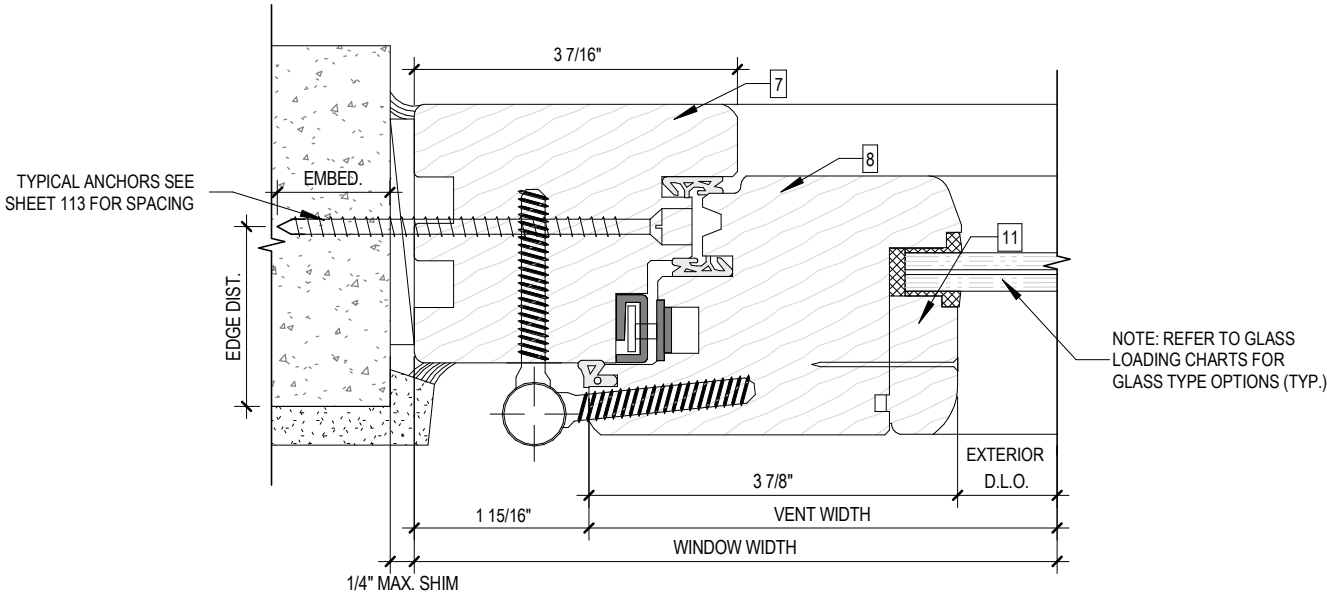


1
109 JAMB DETAIL 3A
N.T.S.

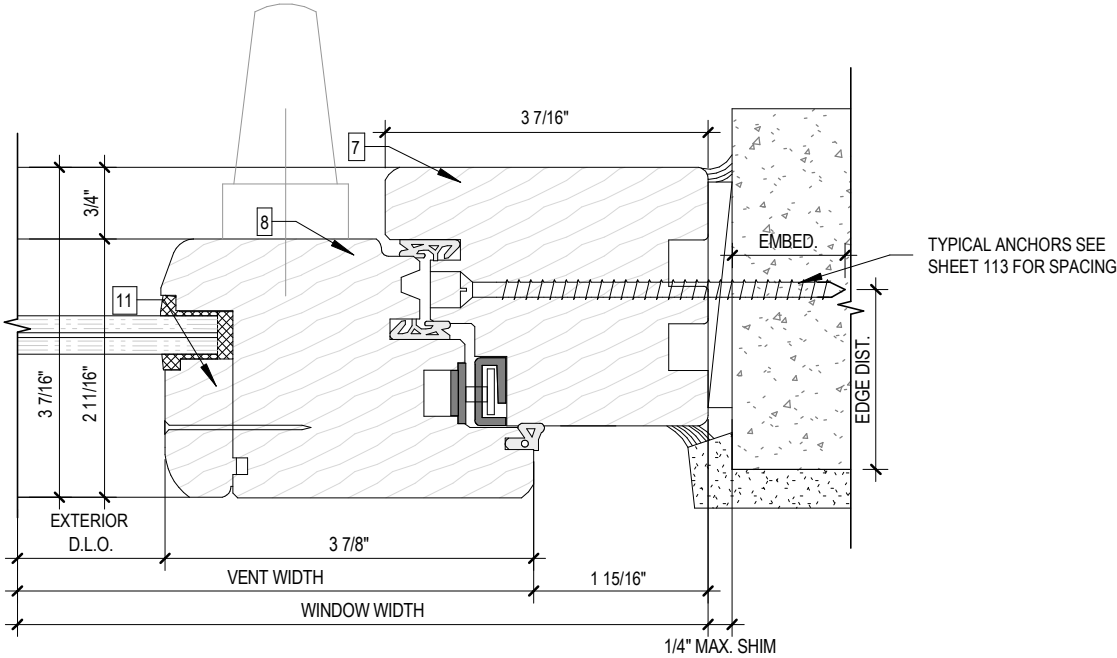
2
109 JAMB DETAIL 3B INTO METAL STRUCTURES
N.T.S.



3
109 MEETING STILE DETAIL
N.T.S.



4
109 JAMB DETAIL 4A INTO CONCRETE
N.T.S.



5
109 JAMB DETAIL 4B INTO CONCRETE
N.T.S.



JAVAD AHMAD PE, inc

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

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

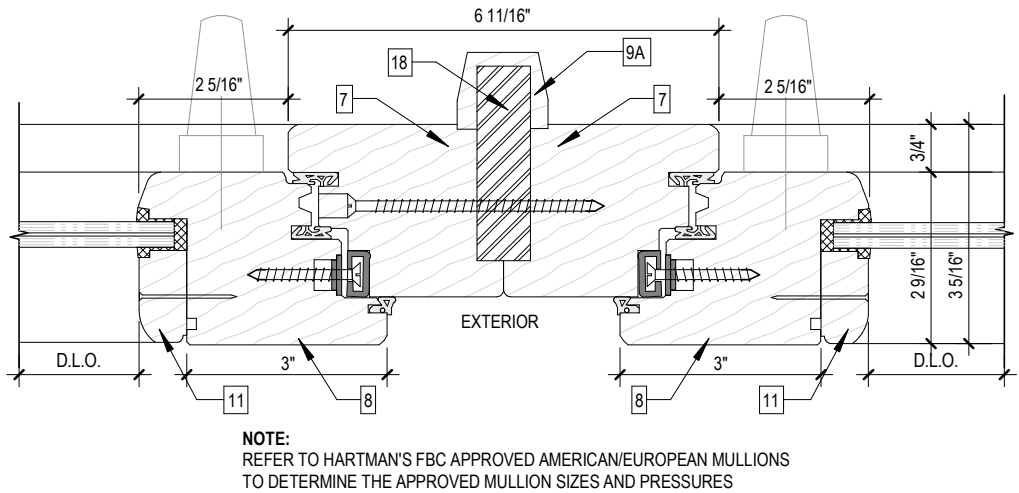
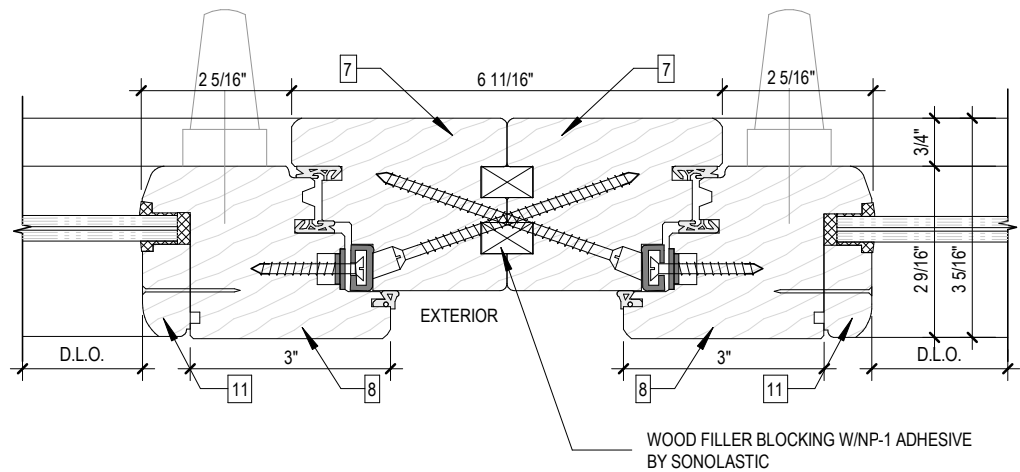
EUROPEAN SERIES OUTSWING
CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

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

drawing no.	JA-1425-23	drawn by:	MK
date:	04-15-2024	check by:	BS
REVISION			
No.	DATE	BY	DESCRIPTION



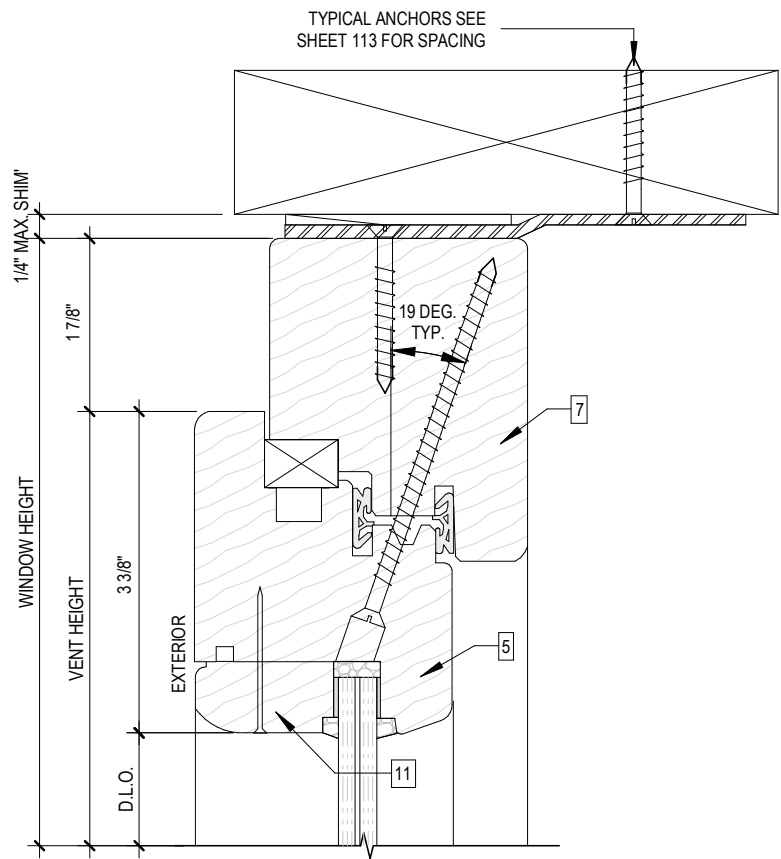
Sealed: 04-15-2024



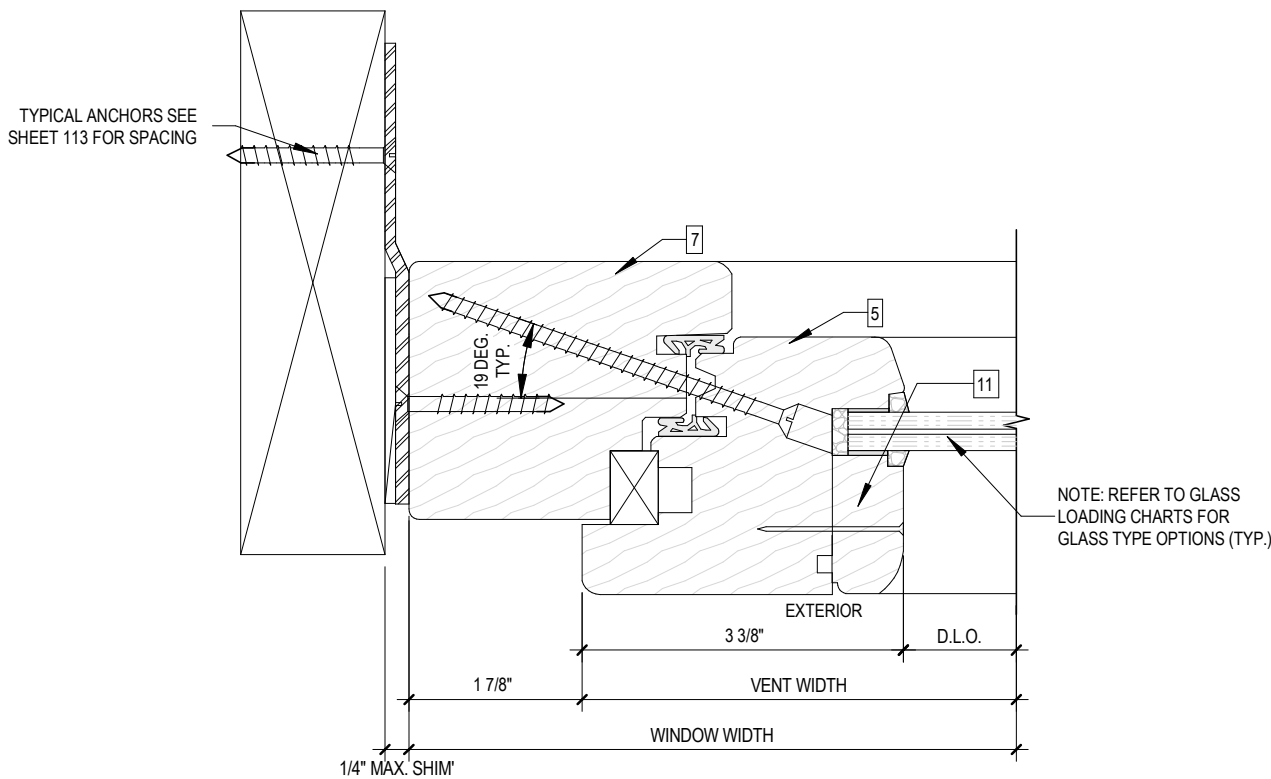
NOTE:
REFER TO HARTMAN'S FBC APPROVED AMERICAN/EUROPEAN MULLIONS
TO DETERMINE THE APPROVED MULLION SIZES AND PRESSURES

1
110
MULLION JAMB DETAIL
N.T.S.

2
110
MULLION JAMB DETAIL FOR FRAME HEIGHT 8'-10'
N.T.S.



3
110
TRANSOM/FIXED HEAD DETAIL
N.T.S.



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

4
110
TRANSOM/FIXED JAMB DETAIL
N.T.S.



JAVAD AHMAD PE, inc

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

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

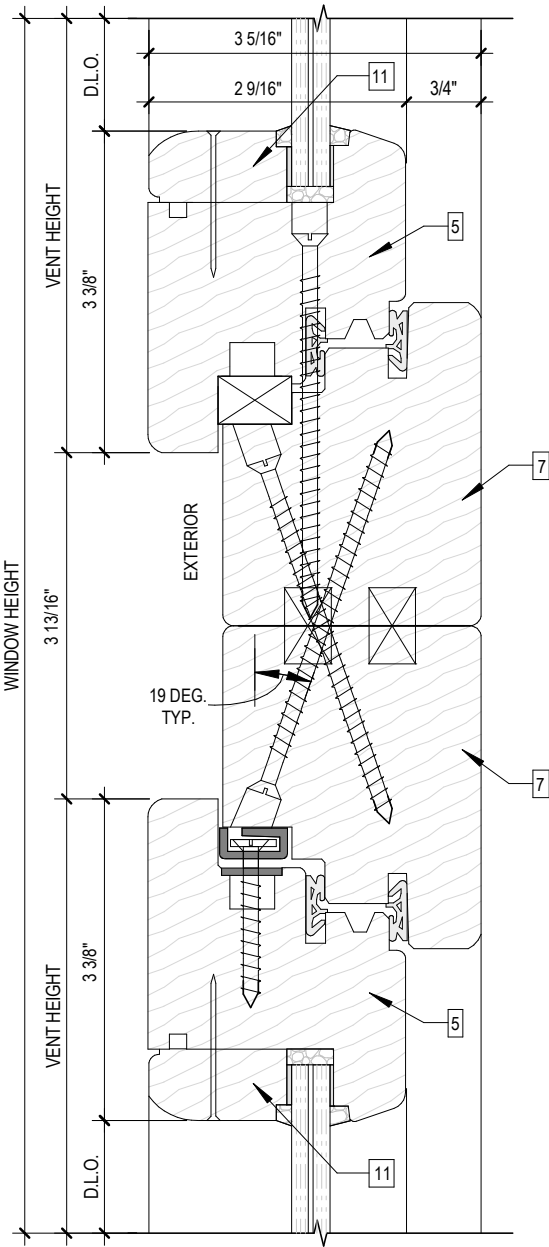
EUROPEAN SERIES OUTSWING
CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

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

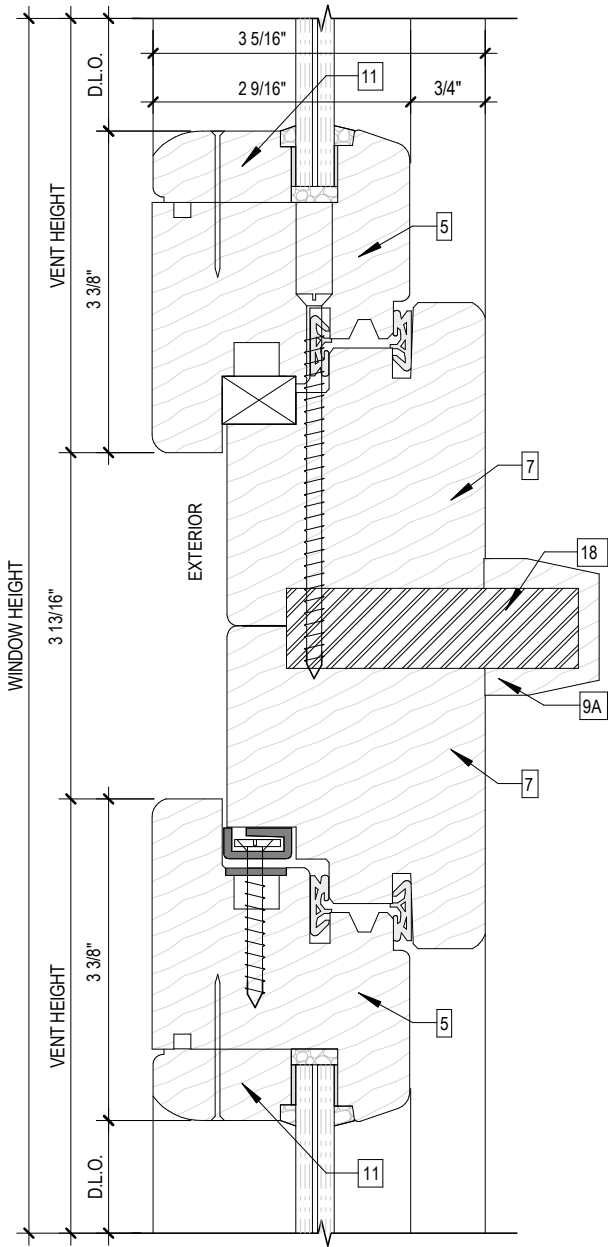
drawing no.	date:	JA-1425-23	drawn by:	check by:	REVISION			
					No.	DATE	BY	DESCRIPTION



Sealed: 04-15-2024

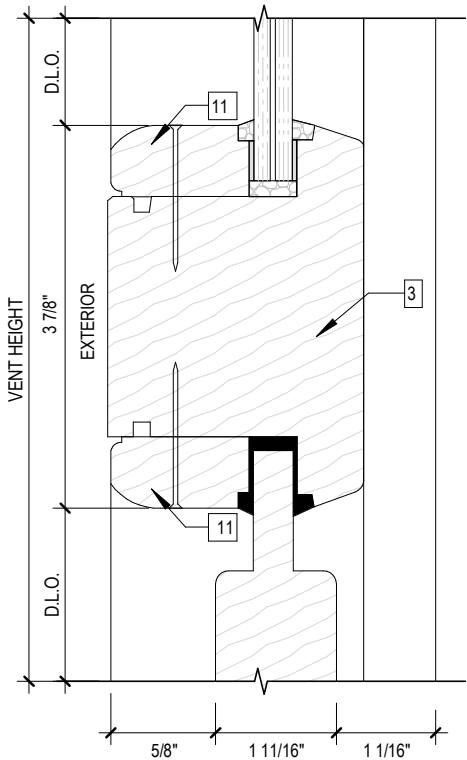


1
111 TRANSOM/FIXED SILL DETAIL 1
N.T.S.

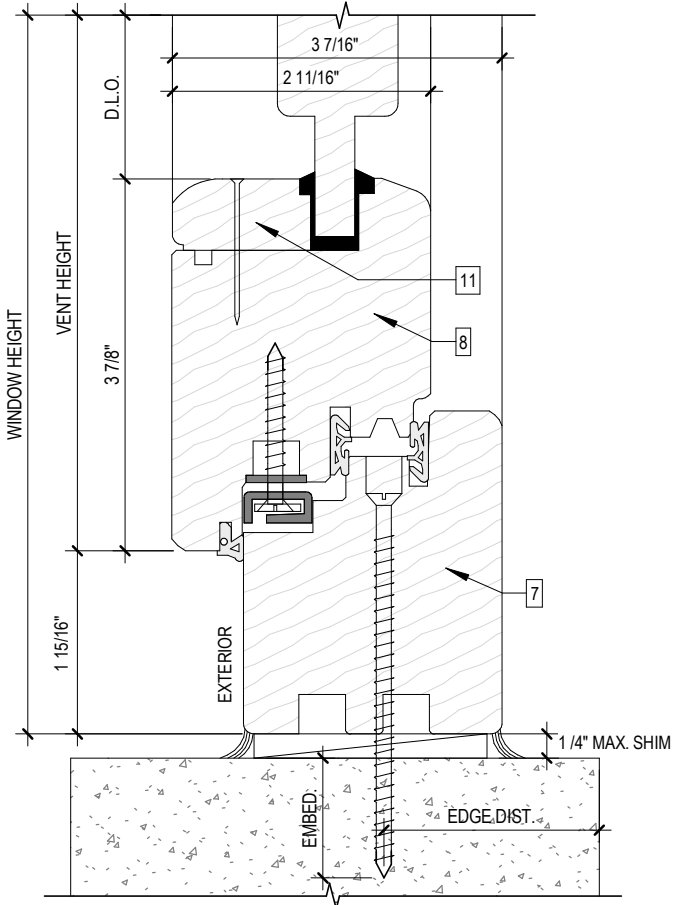


NOTE:
REFER TO HARTMAN'S FBC APPROVED AMERICAN/EUROPEAN MULLIONS
TO DETERMINE THE APPROVED MULLION SIZES AND PRESSURES

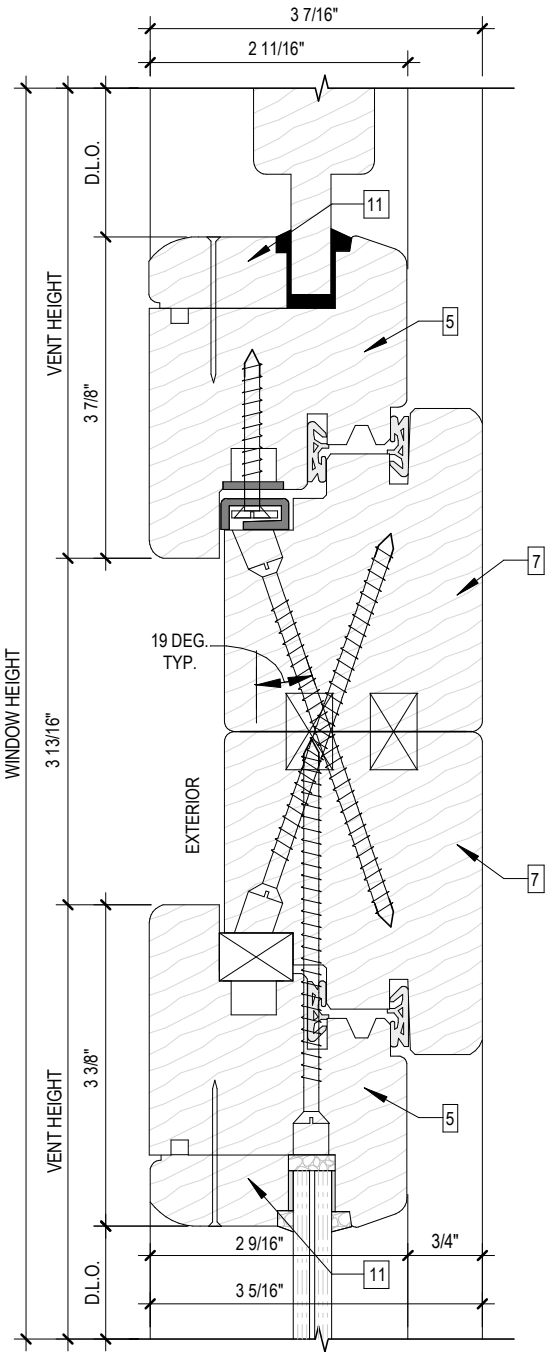
2
111 TRANSOM/FIXED SILL DETAIL 2
N.T.S.



3
111 HORIZONTAL MUNTIN DETAIL
N.T.S.



4
111 WOODEN PANEL SILL DETAIL 1
N.T.S.



5
111 WOODEN PANEL SILL DETAIL 2
N.T.S.



JAVAD AHMAD PE, inc

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

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

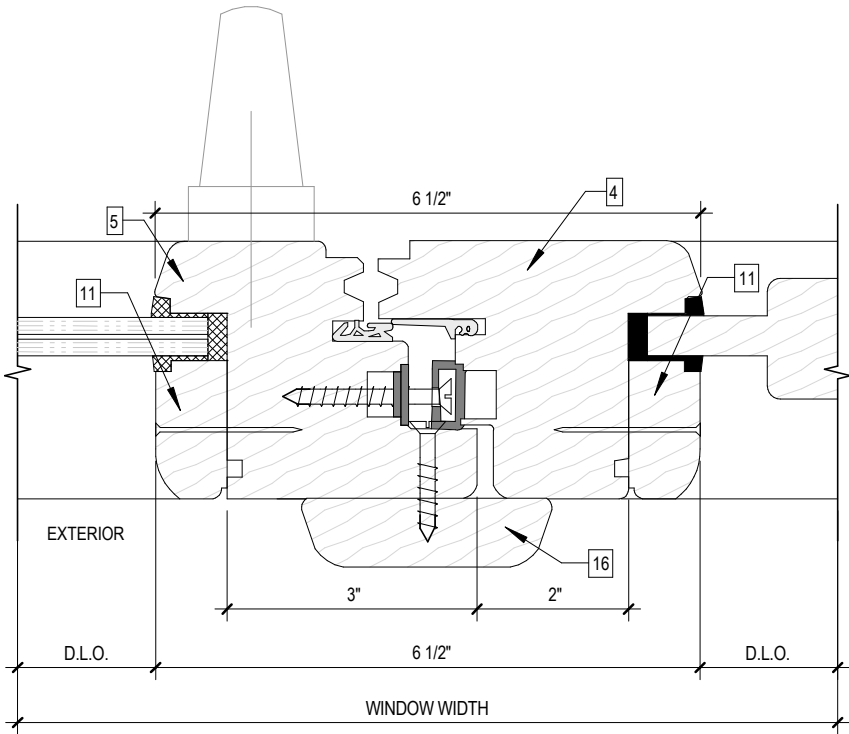
EUROPEAN SERIES OUTSWING
CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

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

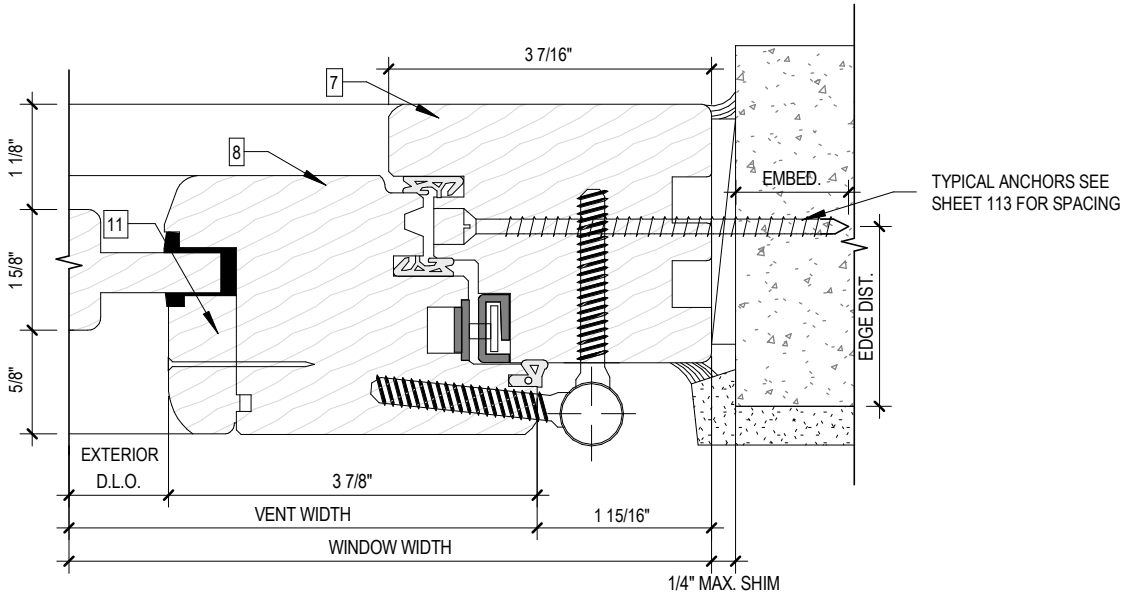
drawing no.	date:	JA-1425-23	drawn by:	04-15-2024	check by:	REVISION			
						No.	DATE	BY	DESCRIPTION



Sealed: 04-15-2024



1
112 WOODEN PANEL MEETING STILE DETAIL
N.T.S.



2
112 WOODEN PANEL JAMB DETAIL
N.T.S.



JAVAD AHMAD PE, inc

7875 NW 12th St., Suite 102

Doral, FL 33126

Ph: (305) 424-8001

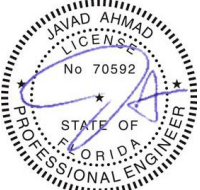
support@ja-pe.com

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

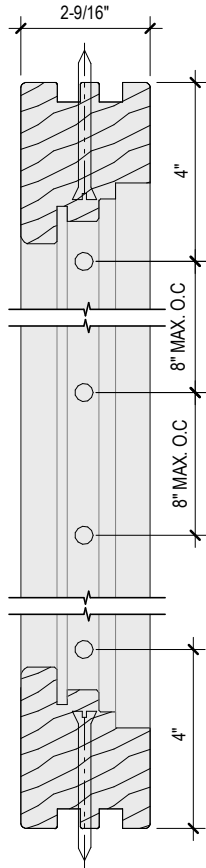
EUROPEAN SERIES OUTSWING
CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

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

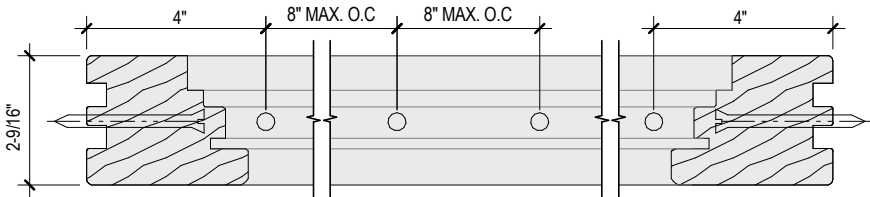
drawing no.	JA-1425-23	drawn by:	MK
date:		check by:	BS
REVISION			
No.	DATE	BY	DESCRIPTION



Sealed: 04-15-2024



JAMB ANCHORAGE LAYOUT



HEAD/SILL ANCHORAGE LAYOUT

TYPICAL ANCHOR TYPES

(APPLIES TO ANCHOR GOING THROUGH THE DOOR FRAME):

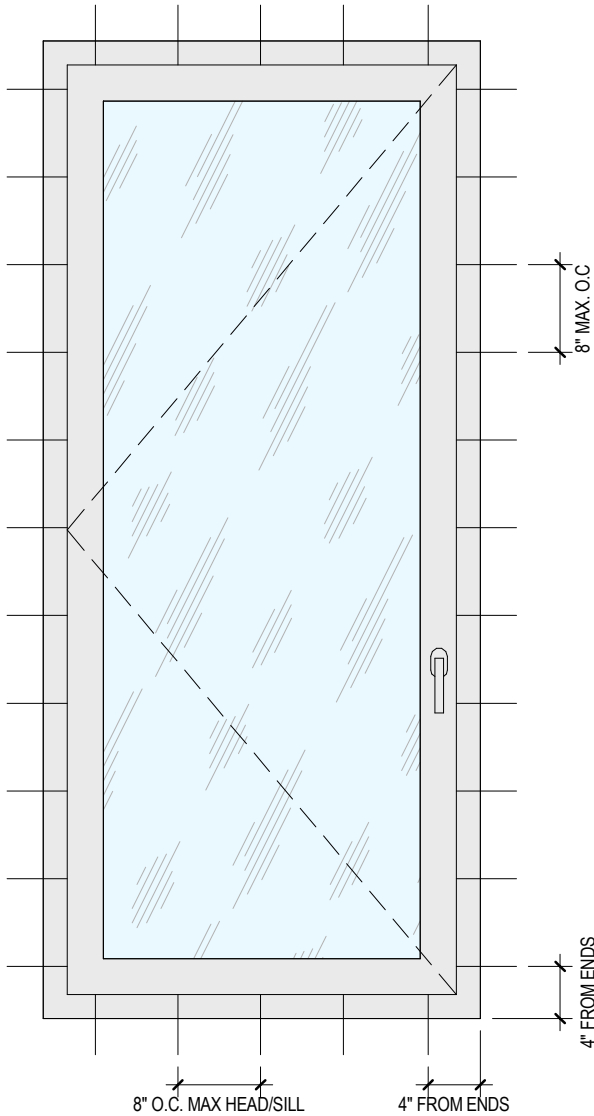
TYPE A - 1/4" DEWALT ULTRA CON (Fu = 177,000 PSI, Fy = 155,000 PSI)
INTO 2BY WOOD WITH 1-1/2" MIN EMBEDMENT AND 1-1/4" MIN EDGE DISTANCE

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

ANCHORAGE LAYOUT (THROUGH THE FRAME)



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

NOTES:

- FOR INSTRUCTIONS TO ANCHOR THIS PRODUCT USING CLIPS, STRAPS, OR ANGLES, PLEASE REFER TO PAGE 114 FOR DETAILS REGARDING THE ANCHOR TYPE AND SPACING.
- THE ANCHOR INSTRUCTIONS DESCRIBED IN THIS SHEET ARE ONLY APPLICABLE FOR OPERABLE UNITS.



JAVAD AHMAD PE, inc

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

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

EUROPEAN SERIES OUTSWING
CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

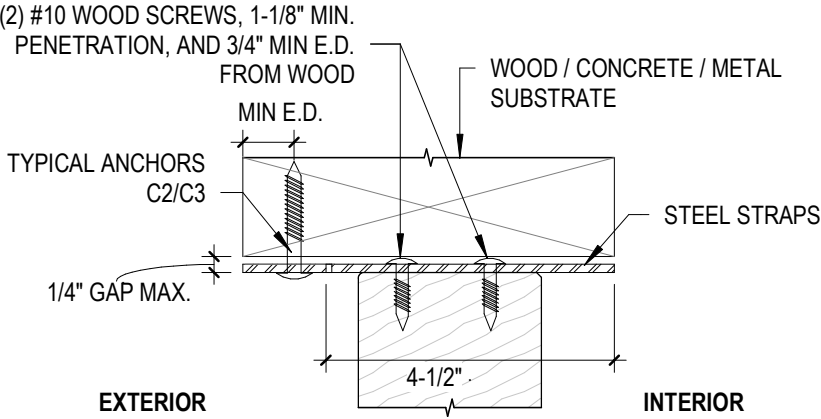
HARTMAN WINDOWS & DOORS, LLC.
2107 W. BLUE HERON BLVD.
WEST PALM BEACH, FL 33404
PHN. (561) 296-9600

drawing no.	date:	JA-1425-23	drawn by:	check by:	REVISION			
					No.	DATE	BY	DESCRIPTION

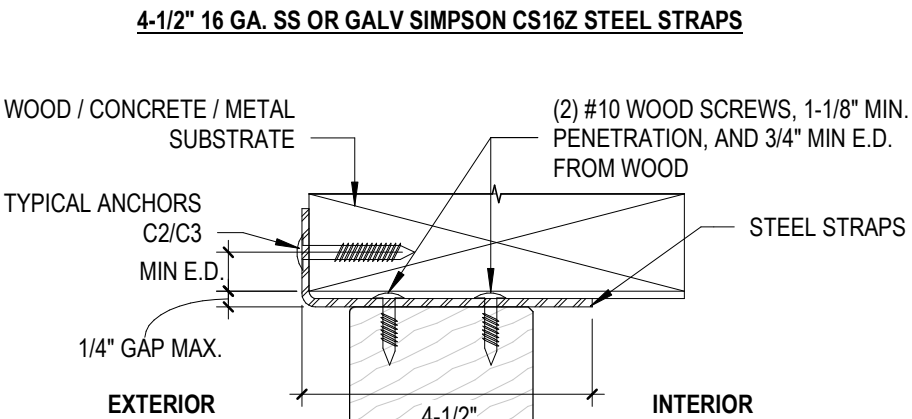


Sealed: 04-15-2024

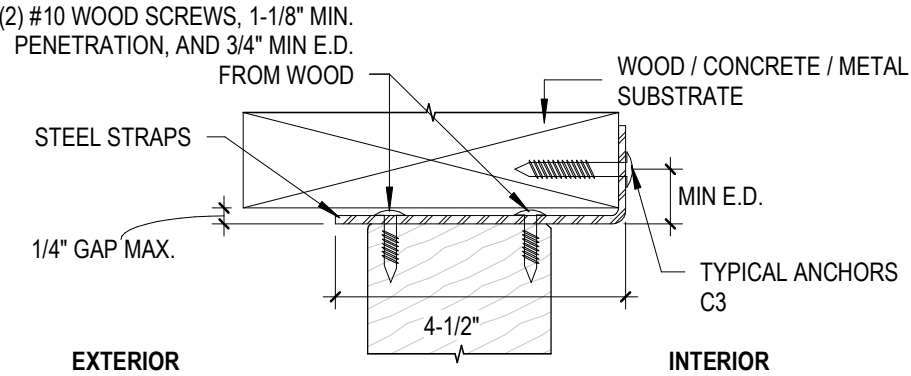
ALTERNATE ANCHORING



1
114
EXTERIOR FLAT STRAP
N.T.S

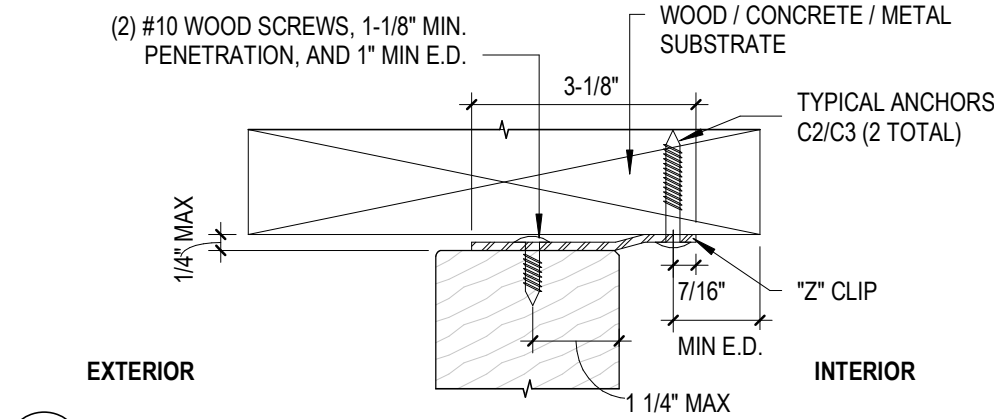


2
114
EXTERIOR BENT STRAP
N.T.S

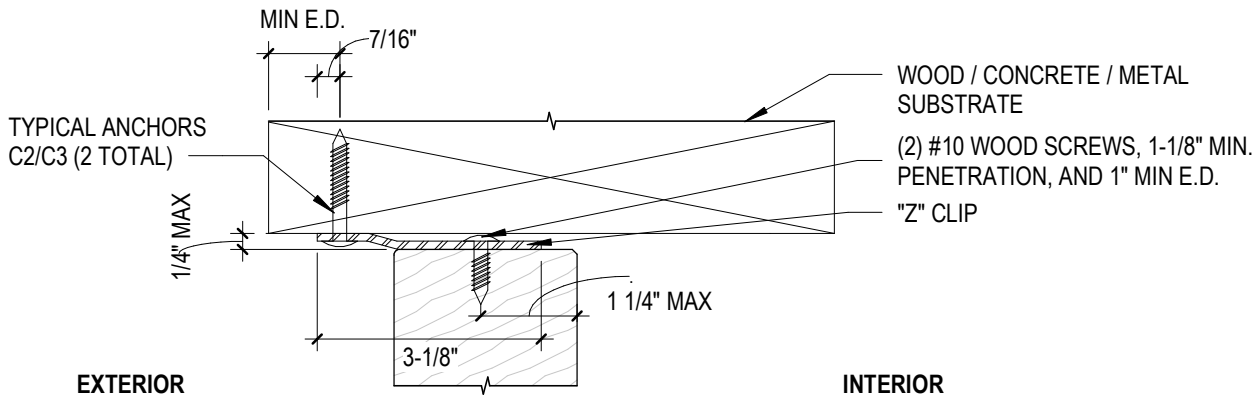


3
114
INTERIOR BENT STRAP
N.T.S

FL #19164.2



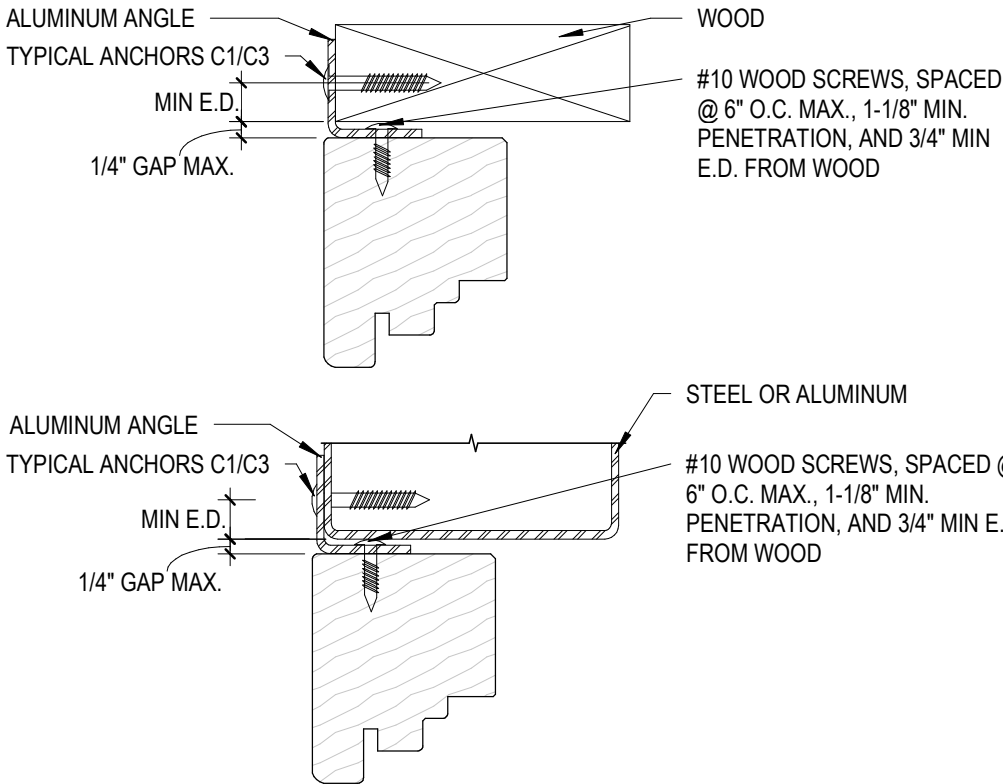
4
114
INTERIOR Z-CLIP STRAP
N.T.S



5
114
EXTERIOR Z-CLIP STRAP
N.T.S

GALVANIZED STEEL "Z" CLIP (14 GA)

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



TYPICAL ANCHOR TYPES

TYPE C1 - 1/4" DEWALT ULTRA CON (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 ULTRA CON (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 113

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



JAVAD AHMAD PE, inc

7875 NW 12th St., Suite 102

Doral, FL 33126

Ph: (305) 424-8001

support@ja-pe.com

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

EUROPEAN SERIES OUTSWING CASEMENT WINDOWS

(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.

2107 W. BLUE HERON BLVD.

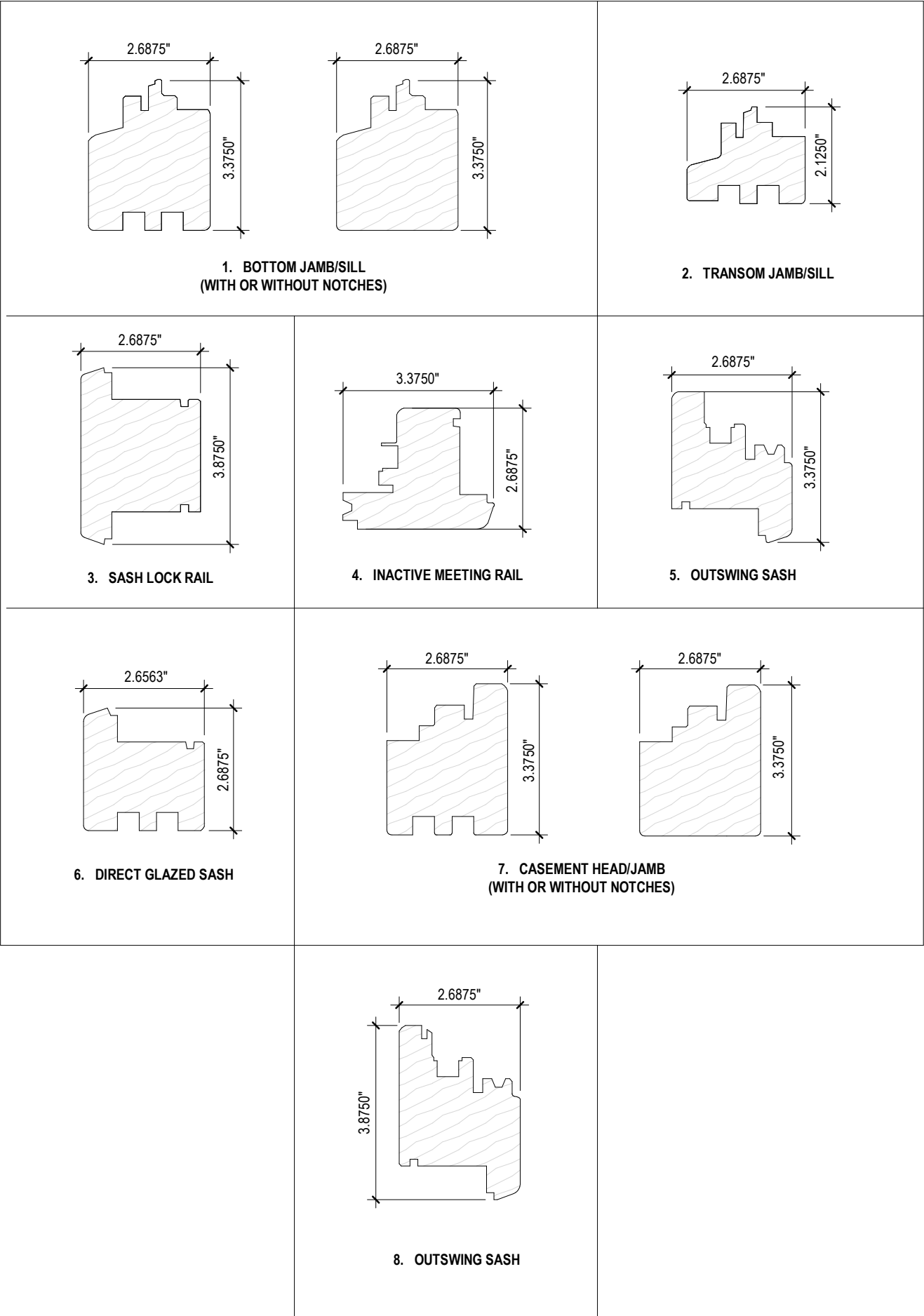
WEST PALM BEACH, FL 33404

PHN. (561) 296-9600

drawing no.	date:	JA-1425-23	drawn by:	check by:	REVISION			
					No.	DATE	BY	DESCRIPTION



Sealed: 04-15-2024



ITEM#	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	-	BOTTOM JAMB/SILL	WOOD	MAHOGANY OR EQUAL
2	-	TRANSOM JAMB/SILL	WOOD	MAHOGANY OR EQUAL
3	-	SASH LOCK RAIL	WOOD	MAHOGANY OR EQUAL
4	-	INACTIVE MEETING RAIL	WOOD	MAHOGANY OR EQUAL
5	-	OUTSWING SASH	WOOD	MAHOGANY OR EQUAL
6	-	DIRECT GLAZED SASH	WOOD	MAHOGANY OR EQUAL
7	-	CASEMENT HEAD/JAMB	WOOD	MAHOGANY OR EQUAL
8	-	OUTSWING SASH	WOOD	MAHOGANY OR EQUAL

TYPICAL WOOD-HONDURES MAHOGANY LUMBER
SPECIFIC GRAVITY = 0.45 MIN.
GRADE = 2 MIN.
MOISTURE CONTENT = 19% MAX.



JAVAD AHMAD PE, inc

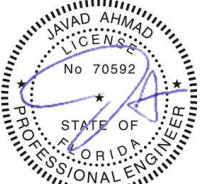
7875 NW 12th St., Suite 102
Doral, FL 33126
Ph: (305) 424-8001
support@ja-pe.com

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

EUROPEAN SERIES OUTSWING CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

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

drawing no.	JA-1425-23	drawn by:	MK
date:		check by:	BS
REVISION			
No.	DATE	BY	DESCRIPTION



Sealed: 04-15-2024

PARTS LIST

FL #19164.2



JAVAD AHMAD PE, inc

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

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

9. DRIP CAP/STEEL COVER

9A. DRIP CAP/STEEL COVER

10. WOOD PANEL

11. GLAZING BEAD

12. I.G GLAZING BEAD

13. ALUMINUM DRAIN CHANNEL

14. FIXED SASH BLOCKING

15. MULL SPLINE

16. ASTRAGAL CAP

17. GLAZING BEAD

18. STEEL REINFORCEMENT

ITEM #	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
9/9A	-	DRIP CAP/STEEL COVER	WOOD	MAHOGANY OR EQUAL
10	-	WOOD PANEL	WOOD	MAHOGANY OR EQUAL
11	-	GLAZING BEAD	WOOD	MAHOGANY OR EQUAL
12	-	I.G. GLAZING BEAD	WOOD	MAHOGANY OR EQUAL
13	-	ALUMINUM DRAIN CHANNEL	ALUMINUM	-
14	-	FIXED SASH BLOCKING	-	-
15	-	MULL SPLINE	-	-
16	-	ASTRAGAL CAP	WOOD	MAHOGANY OR EQUAL
17	-	GLAZING BEAD	WOOD	MAHOGANY OR EQUAL
18	-	REINFORCEMENT	STEEL	A36 MIN.

TYPICAL WOOD-HONDURES MAHOGANY LUMBER
SPECIFIC GRAVITY = 0.45 MIN.
GRADE = 2 MIN.
MOISTURE CONTENT = 19% MAX.

EUROPEAN SERIES OUTSWING
CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

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

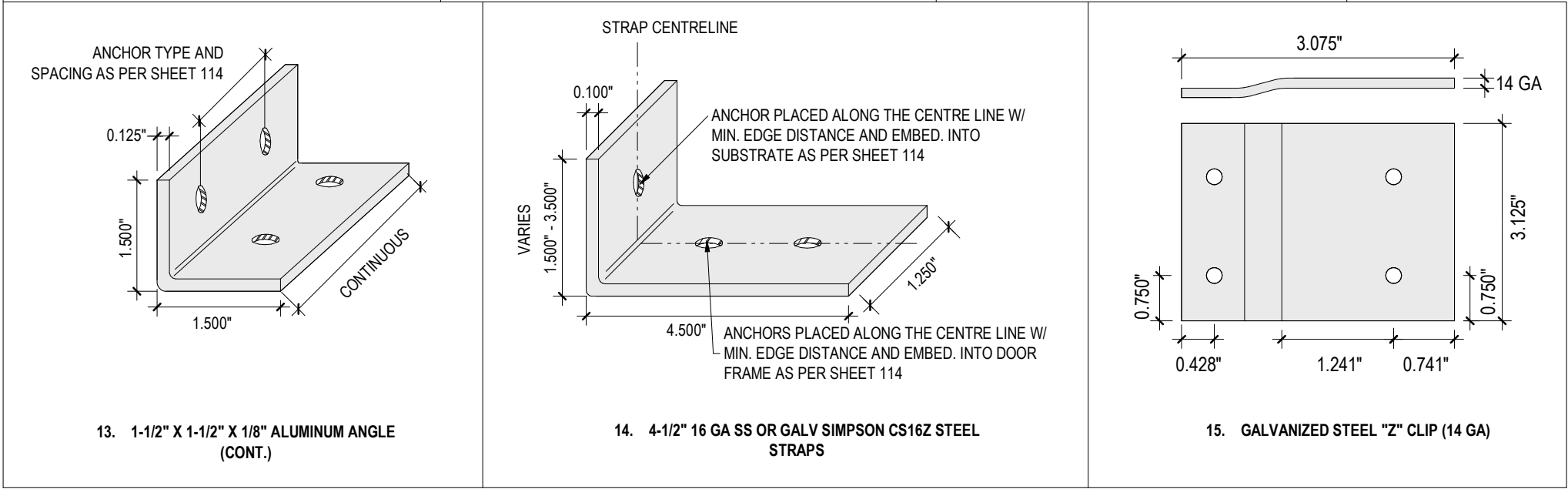
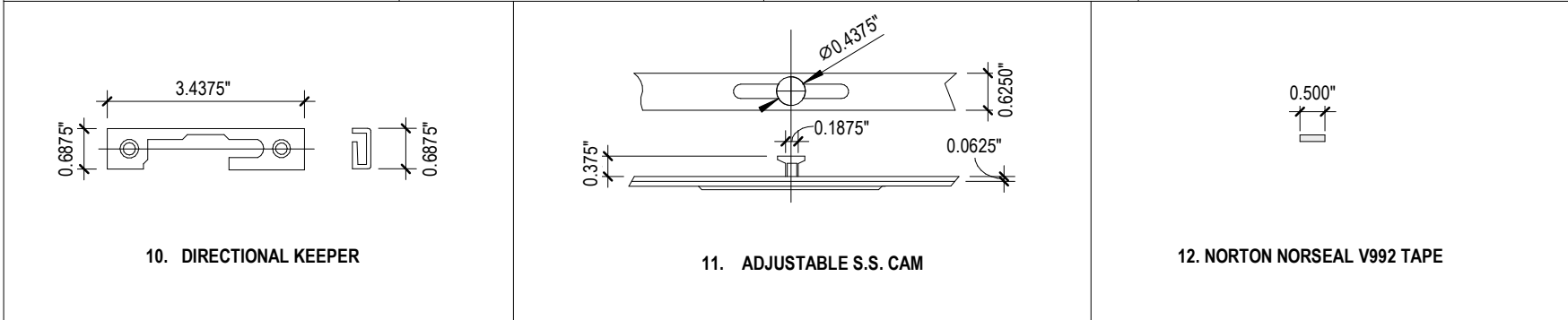
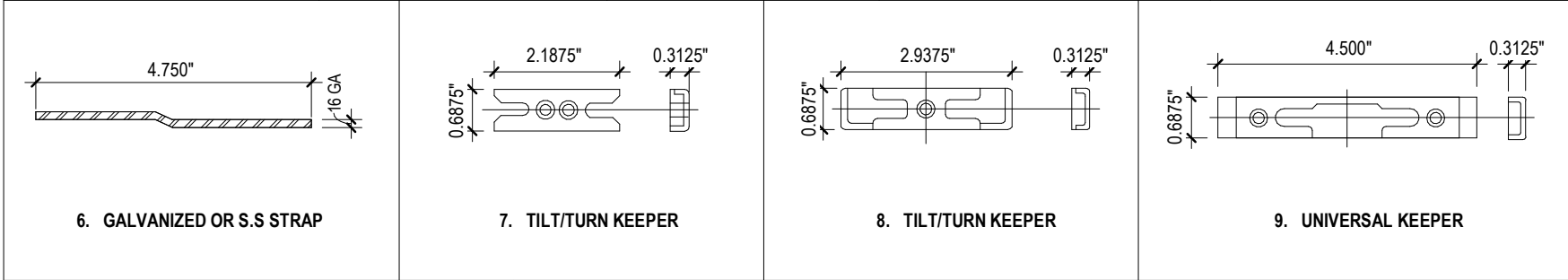
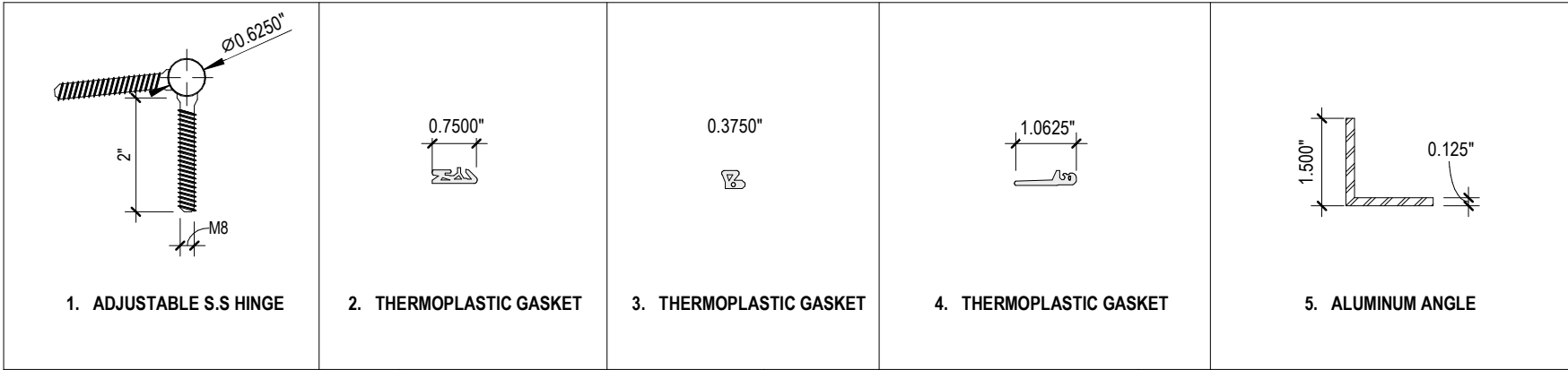
drawing no.	JA-1425-23	drawn by:	MK
date:		check by:	BS
REVISION			
No.	DATE	BY	DESCRIPTION



Sealed: 04-15-2024

PARTS LIST

FL #19164.2



ITEM	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	-	ADJUSTABLE S.S HINGE	-	-
2	-	THERMOPLASTIC GASKET	-	-
3	-	THERMOPLASTIC GASKET	-	-
4	-	THERMOPLASTIC GASKET	-	-
5	-	ALUMINUM ANGLE	-	-
6	-	GALVANIZED OR S.S STRAP	-	-
7	-	TILT/TURN KEEPER	-	-
8	-	TILT/TURN KEEPER	-	-
9	-	UNIVERSAL KEEPER	-	-
10	-	DIRECTIONAL KEEPER	-	-
11	-	ADJUSTABLE S.S CAM	-	-
12	-	NORTON NORSEAL V992 TAPE	-	-
13	-	1-1/2" X 1-1/2" X 1/8" ANGLE	ALUMINUM	6063-T5 MIN.
14	-	4-1/2" SIMPSON CS16Z STEEL STRAPS	SS OR GALV	16GA
15	-	GALVANIZED STEEL "Z" CLIP	STEEL	14GA

TYPICAL WOOD-HONDURES MAHOGANY LUMBER
SPECIFIC GRAVITY = 0.45 MIN.
GRADE = 2 MIN.
MOISTURE CONTENT = 19% MAX.



JAVAD AHMAD PE, inc

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

EUROPEAN SERIES OUTSWING
CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

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

drawing no.	JA-1425-23	drawn by:	MK
date:	04-15-2024	check by:	BS
REVISION			
No.	DATE	BY	DESCRIPTION



JAVAD AHMAD PE, inc

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

CONSULTING • STRUCTURAL DESIGN • FACADES • BUILDING ENVELOPE • SYSTEM DESIGN • PRODUCT APPROVALS

EUROPEAN SERIES OUTSWING
CASEMENT WINDOWS
(LARGE AND SMALL MISSILE IMPACT RATED)

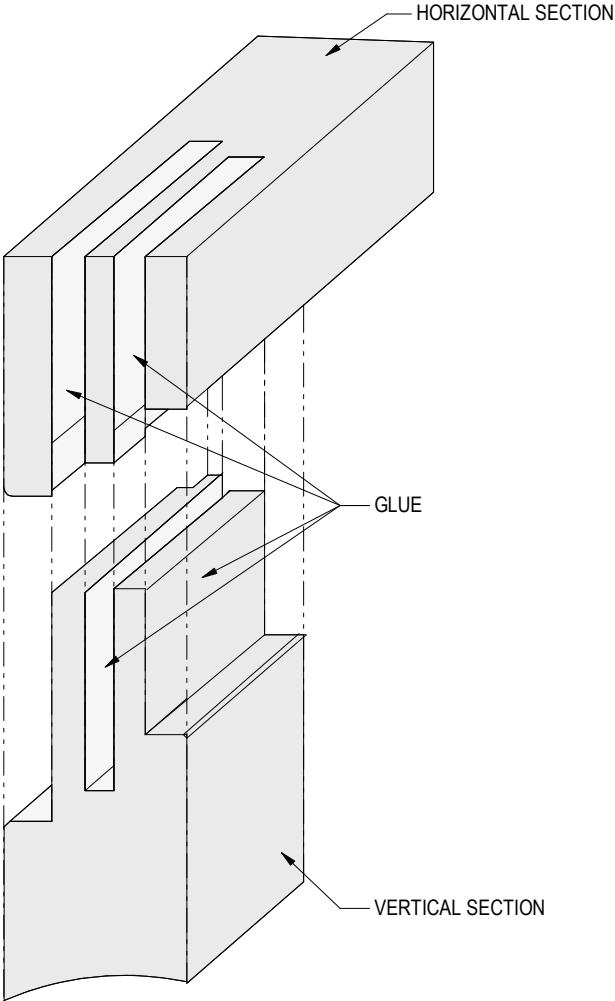
HARTMAN WINDOWS & DOORS, LLC.
2107 W. BLUE HERON BLVD.
WEST PALM BEACH, FL 33404
PHN. (561) 296-9600

drawing no.	JA-1425-23	drawn by:	MK
date:		check by:	BS
REVISION			
No.	DATE	BY	DESCRIPTION

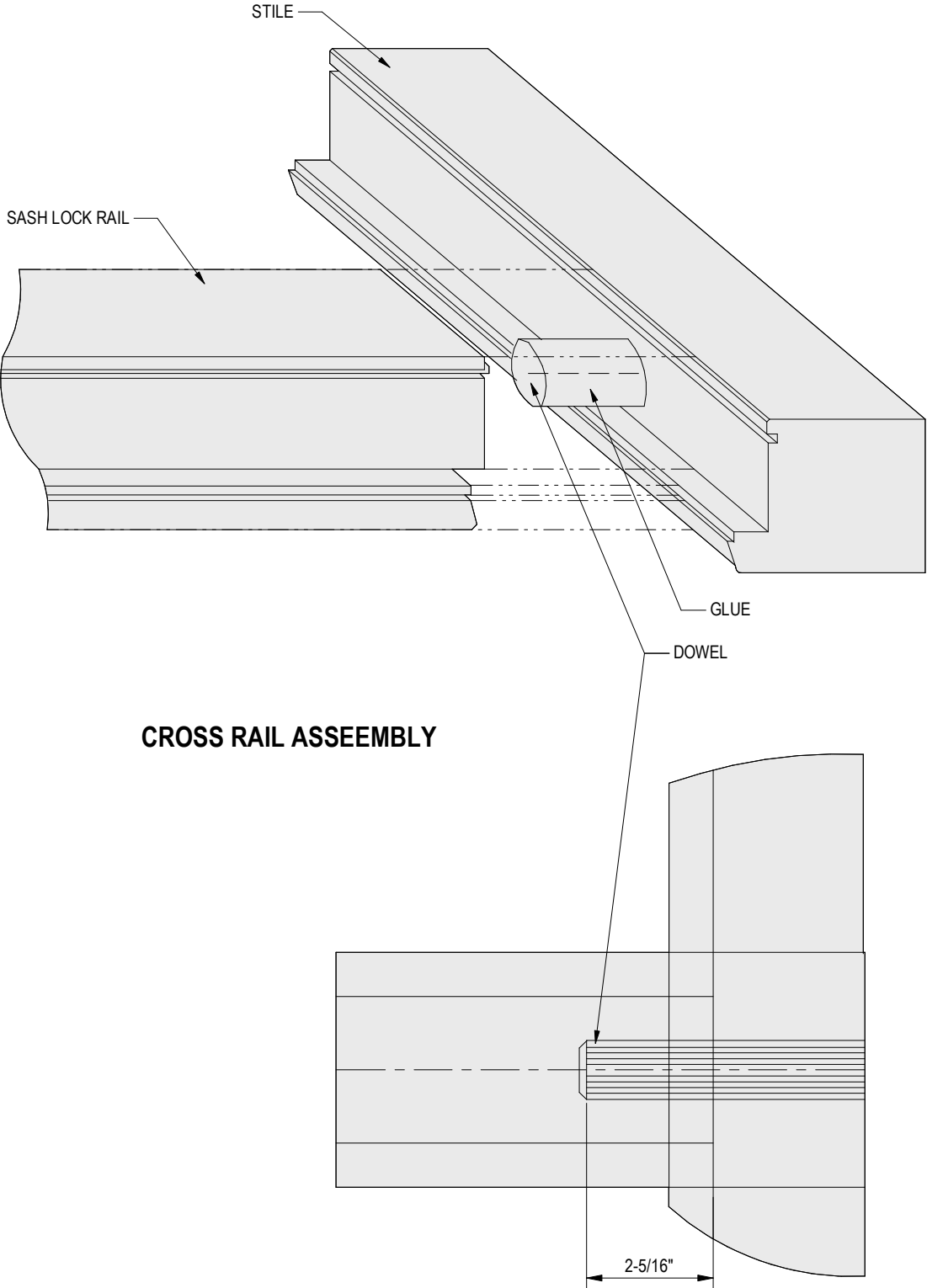


Sealed: 04-15-2024

MULTI-FORK FRAME AND VENT
CORNER ASSEMBLY



CROSS RAIL ASSEMBLY



SECTIONAL DETAIL

