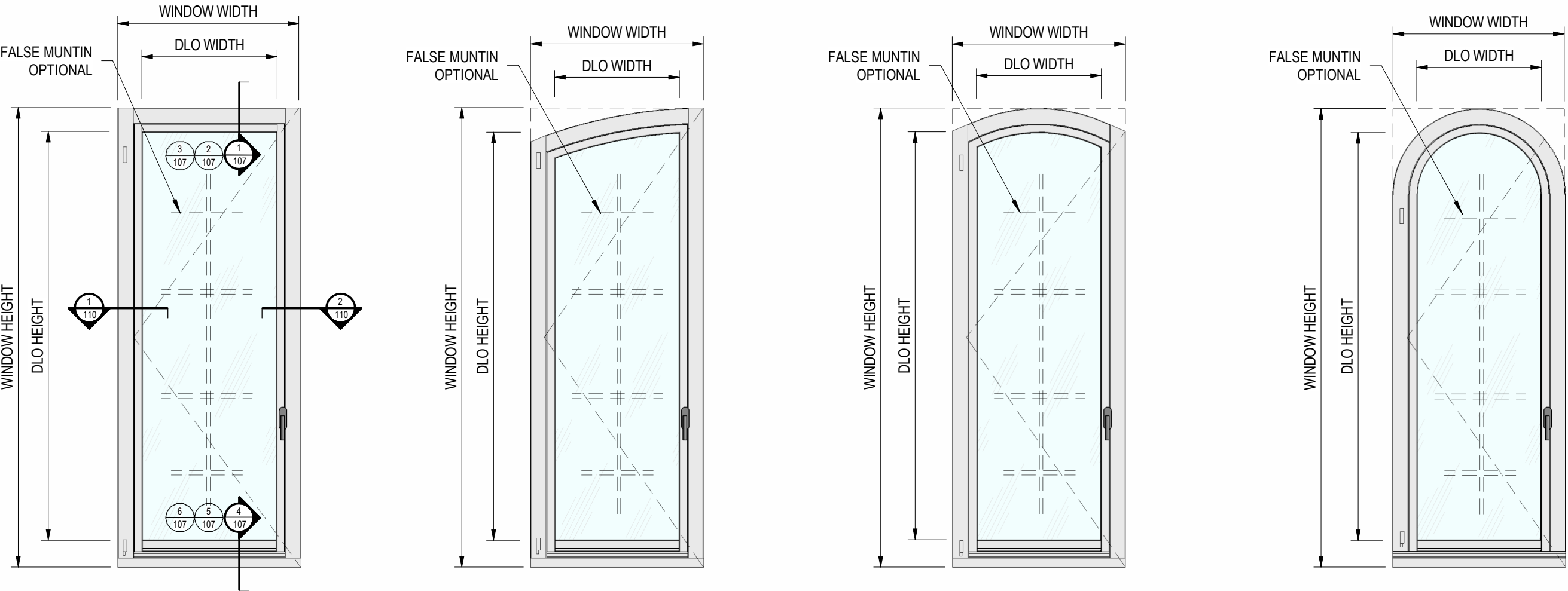






SINGLE VENT (X) TYPE "1"

| 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 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 | + 58 / - 68 |  |
| 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 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) |                                                                        |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------|
| WOOD PANEL TYPES K, L                                                         |                                                                        |
| WINDOW WIDTH (IN.)                                                            | WINDOW HEIGHT (IN.)                                                    |
|                                                                               | 24, 30, 36, 42 ,48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114, 120 |
| 24                                                                            |                                                                        |
| 30                                                                            | + 60 / -70                                                             |
| 36                                                                            | + 60 / -70                                                             |
| 42                                                                            | + 60 / -70                                                             |
| 48                                                                            | + 60 / -70                                                             |

WINDOW HARDWARE

THE HARDWARE SPECIFIED FOR THESE WINDOWS IS BY G.U.  
HARDWARE IS SUPPLIED AS FOLLOW

- LEVER HANDLE & TILT TURN SS GEAR HDW W/MUSHROOM HD LOCK CAMS
- SS KEEPERS & MUSHROOM HEAD LOCKING CAMS
- HEAVY DUTY TILT TURN & TURN HINGES
- SS CORNER DRIVE WITH MUSHROOM HD LOCKING CAMS

NOTES:

- 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.

- SEE ALLOWABLE PRESSURES ON THIS SHEET.



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

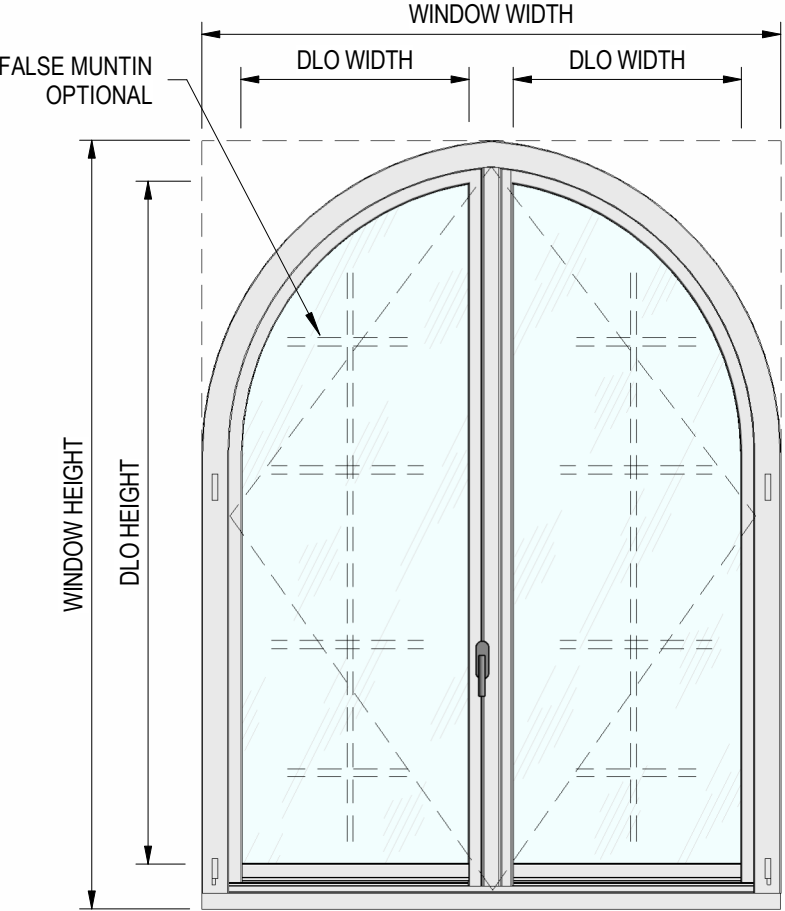
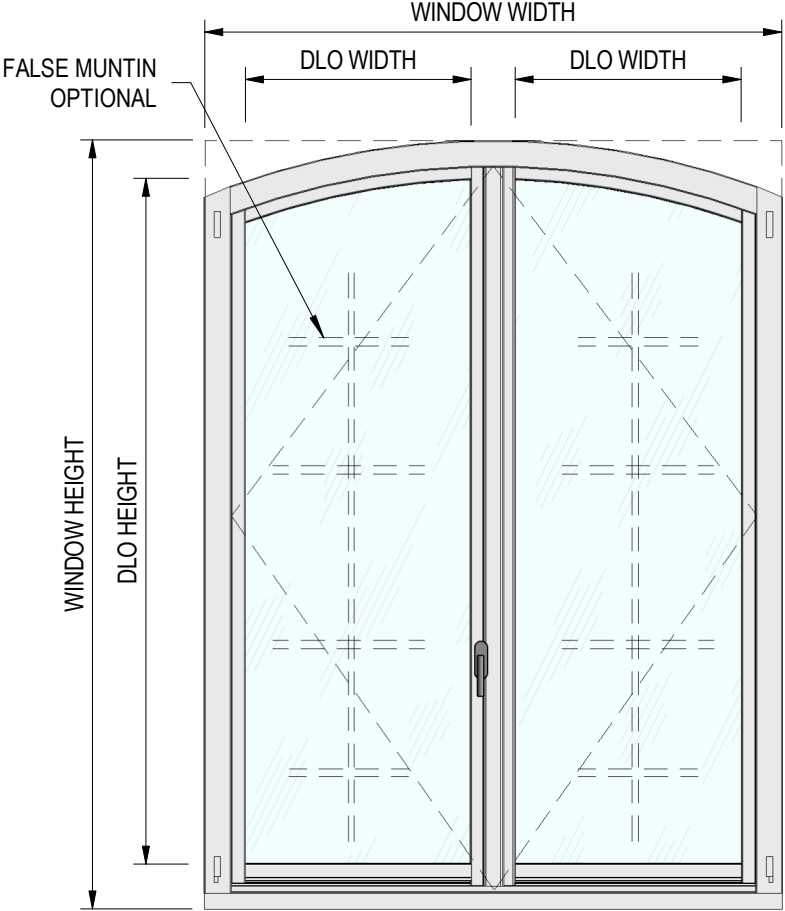
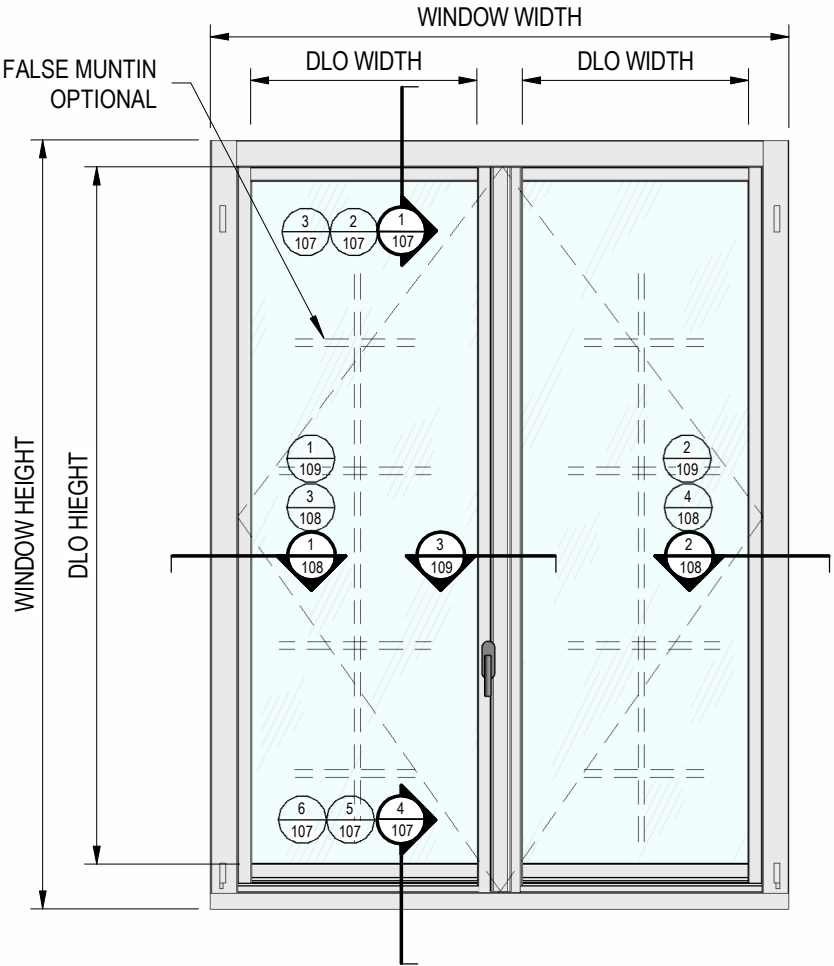
EUROPEAN SERIES INSWING  
CASEMENT WINDOWS  
(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

|            |           |          |           |          |      |    |             |
|------------|-----------|----------|-----------|----------|------|----|-------------|
| BVS        | drawn by: | BS       | check by: | REVISION |      |    |             |
| JA-1425-23 |           | 04-15-24 |           | No.      | DATE | BY | DESCRIPTION |
|            |           |          |           |          |      |    |             |
|            |           |          |           |          |      |    |             |
|            |           |          |           |          |      |    |             |
|            |           |          |           |          |      |    |             |



Sealed: 04-15-2024



DOUBLE VENT (X-X) TYPE "2"

| LOADING CHART FOR DOUBLE VENT (X-X) TYPE "2" WINDOW - PRESSURES IN P.S.F. (ASD) |                                                    |
|---------------------------------------------------------------------------------|----------------------------------------------------|
| GLASS TYPES A, B, C, D, E, F, Gi, HI, II, JI                                    |                                                    |
| 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                                        |

| LOADING CHART FOR DOUBLE VENT (X-X) TYPE "2" WINDOW - PRESSURES IN P.S.F. (ASD) |                                    |
|---------------------------------------------------------------------------------|------------------------------------|
| WOOD PANEL TYPES 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                        |

WINDOW HARDWARE

THE HARDWARE SPECIFIED FOR THESE WINDOWS IS BY G.U.  
HARDWARE IS SUPPLIED AS FOLLOW

- LEVER HANDLE & TILT TURN SS GEAR HDW W/MUSHROOM HD LOCK CAMS
- SS KEEPERS & MUSHROOM HEAD LOCKING CAMS
- HEAVY DUTY TILT TURN & TURN HINGES
- SS CORNER DRIVE WITH MUSHROOM HD LOCKING CAMS

NOTES:

- 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.
- SEE ALLOWABLE PRESSURES ON THIS SHEET.

\* SINGLE WINDOWS



JAVAD AHMAD PE, inc

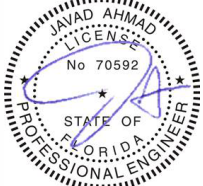
7875 NW 12th St., Suite 102  
Doral, FL 33126  
Ph: (305) 424-8001  
support@ja-pe.com

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

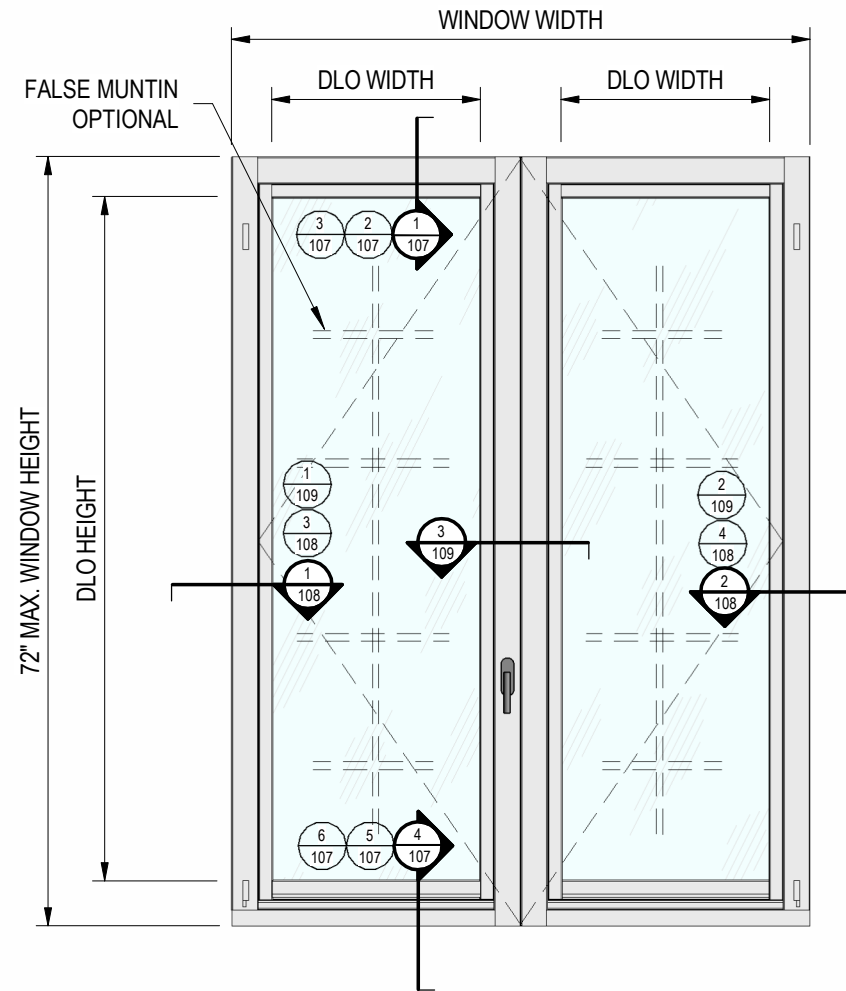
EUROPEAN SERIES INSWING  
CASEMENT WINDOWS  
(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

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



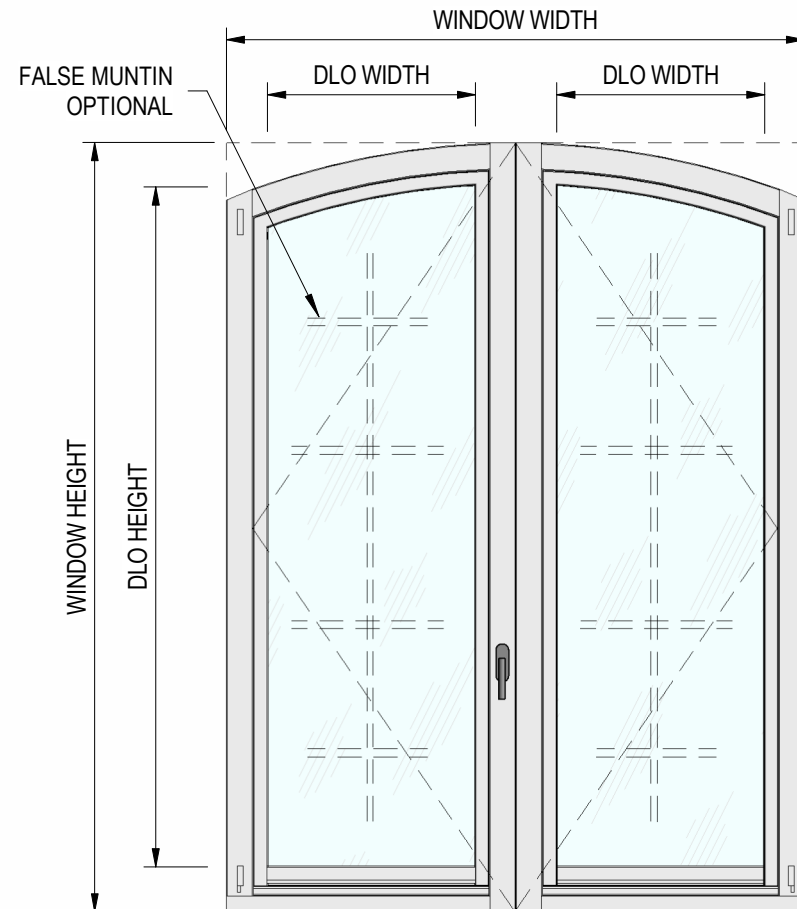
Sealed: 04-15-2024



**JAMB TO JAMB (X-X) TYPE "3"**

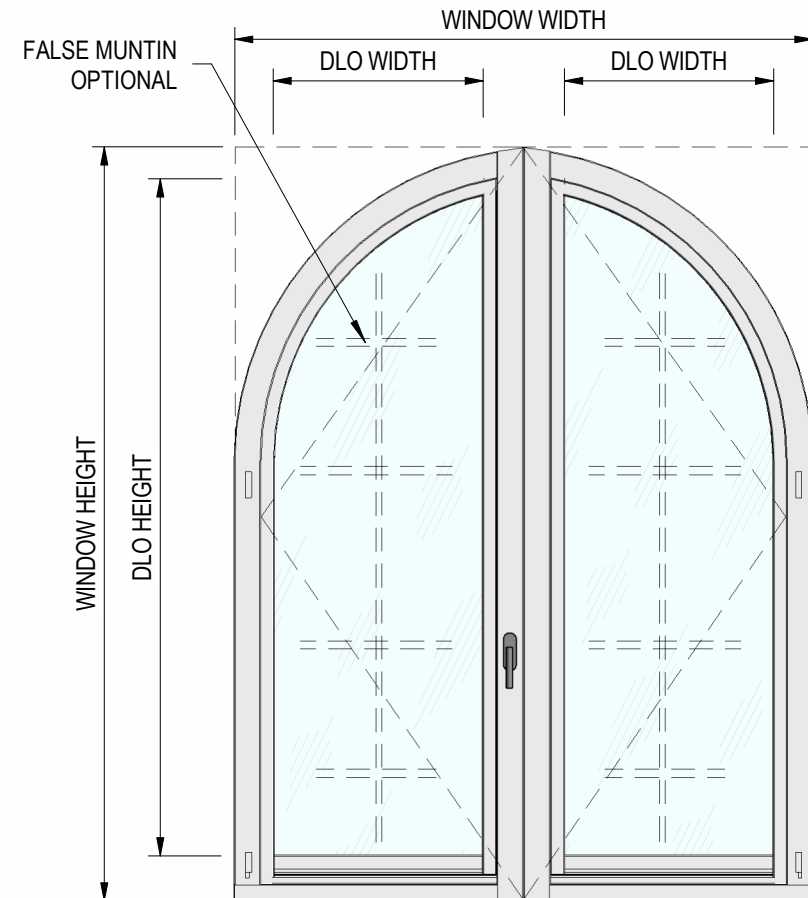
| LOADING CHART FOR JAMB TO JAMB (X-X) TYPE "3" WINDOW - PRESSURES IN P.S.F. (ASD) |                                    |
|----------------------------------------------------------------------------------|------------------------------------|
| GLASS TYPES A, B, D, F, G, H, I, J, L AND WOOD PANEL TYPES K, L                  |                                    |
| WINDOW<br>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 (X-X) TYPE "3" WINDOW - PRESSURES IN P.S.F. (ASD) |                                    |
|----------------------------------------------------------------------------------|------------------------------------|
| GLASS TYPES C, E                                                                 |                                    |
| WINDOW<br>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.  
HARDWARE IS SUPPLIED AS FOLLOW

- LEVER HANDLE & TILT TURN SS GEAR HDW W/MUSHROOM HD LOCK CAMS
- SS KEEPERS & MUSHROOM HEAD LOCKING CAMS
- HEAVY DUTY TILT TURN & TURN HINGES
- SS CORNER DRIVE WITH MUSHROOM HD LOCKING CAMS

**NOTES:**

- 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.
- SEE ALLOWABLE PRESSURES ON THIS SHEET.



**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 INSWING  
CASEMENT WINDOWS**  
(LARGE AND SMALL MISSILE IMPACT RATED)

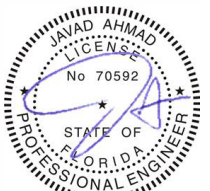
**HARTMAN WINDOWS & DOORS, LLC.**

2107 W. BLUE HERON BOULEVARD

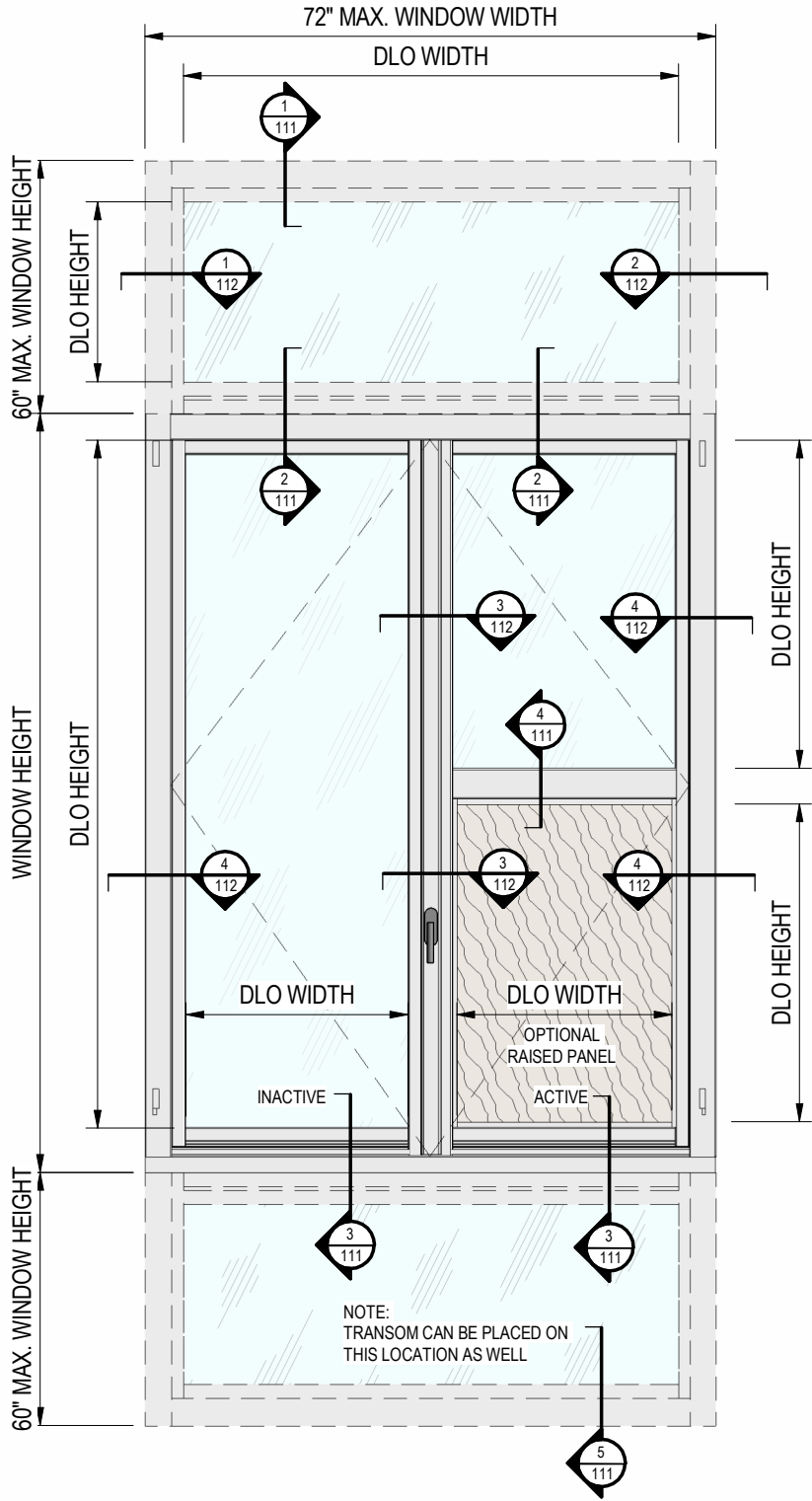
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600

FAX: (561) 296-9601

| drawing no. | JA-1425-23 | drawn by: | BVS         |
|-------------|------------|-----------|-------------|
| date:       | 04-15-24   | check by: | BS          |
| REVISION    |            |           |             |
| No.         | DATE       | BY        | DESCRIPTION |
|             |            |           |             |
|             |            |           |             |
|             |            |           |             |
|             |            |           |             |



Sealed: 04-15-2024



DOUBLE VENT WITH TRANSOM (O-X) TYPE "4"

| LOADING CHART FOR DOUBLE VENT WITH TRANSOM (O-X) TYPE "4"<br>CASEMENT WINDOW - PRESSURES IN P.S.F. (ASD) |                                                    |
|----------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| GLASS TYPES A, B, C, D, E, F, GI, HI, II, JI                                                             |                                                    |
| WINDOW<br>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 (O-X) TYPE "4" FIXED WINDOW - PRESSURES IN P.S.F. (ASD) |                     |             |             |             |             |             |             |             |             |          |          |
|----------------------------------------------------------------------------------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|----------|
| GLASS TYPES A, GI, HI                                                                              |                     |             |             |             |             |             |             |             |             |          |          |
| WINDOW<br>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 / - 65 | + / - 55    | + / - 47    | + / - 40 | + / - 35 |
| 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 (O-X) TYPE "4" FIXED WINDOW -<br>PRESSURES IN P.S.F. (ASD) |                            |             |             |             |             |             |
|-------------------------------------------------------------------------------------------------------|----------------------------|-------------|-------------|-------------|-------------|-------------|
| GLASS TYPES A, B, C, D, E, F, GI, HI, II, JI                                                          |                            |             |             |             |             |             |
| WINDOW<br>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 (O-X) TYPE "4" FIXED WINDOW -<br>PRESSURES IN P.S.F. (ASD) |                       |
|-------------------------------------------------------------------------------------------------------|-----------------------|
| WINDOW<br>WIDTH (IN.)                                                                                 | WOOD PANEL TYPES K, L |
|                                                                                                       | WINDOW HEIGHT (IN.)   |
|                                                                                                       | 24, 30, 36, 42 ,48    |
| 24                                                                                                    | + 60 / -70            |
| 30                                                                                                    | + 60 / -70            |
| 36                                                                                                    | + 60 / -70            |

WINDOW HARDWARE

THE HARDWARE SPECIFIED FOR THESE WINDOWS IS BY G.U.  
HARDWARE IS SUPPLIED AS FOLLOW

- LEVER HANDLE & TILT TURN SS GEAR HDW W/MUSHROOM HD LOCK CAMS
- SS KEEPERS & MUSHROOM HEAD LOCKING CAMS
- HEAVY DUTY TILT TURN & TURN HINGES
- SS CORNER DRIVE WITH MUSHROOM HD LOCKING CAMS

NOTES:

- 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.
- SEE ALLOWABLE PRESSURES ON THIS SHEET.



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

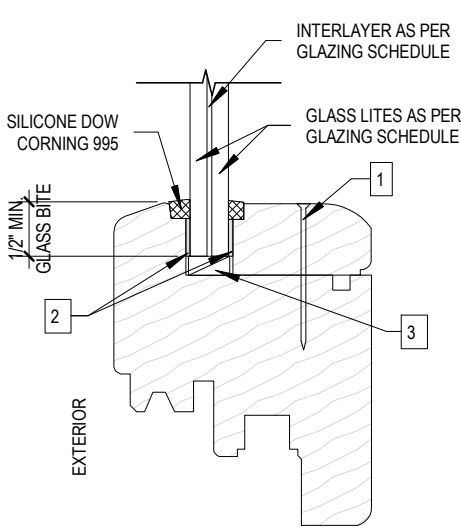
EUROPEAN SERIES INSWING  
CASEMENT WINDOWS  
(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

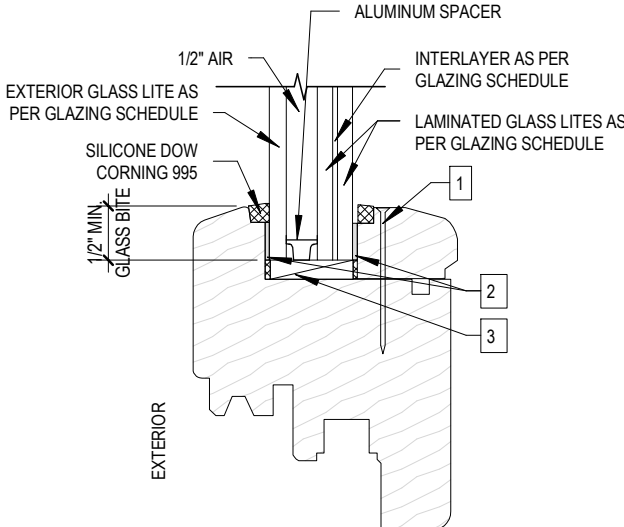
| drawing no. | JA-1425-23 | drawn by: | BVS         |
|-------------|------------|-----------|-------------|
| date:       | 04-15-24   | check by: | BS          |
| REVISION    |            |           |             |
| No.         | DATE       | BY        | DESCRIPTION |
|             |            |           |             |
|             |            |           |             |
|             |            |           |             |



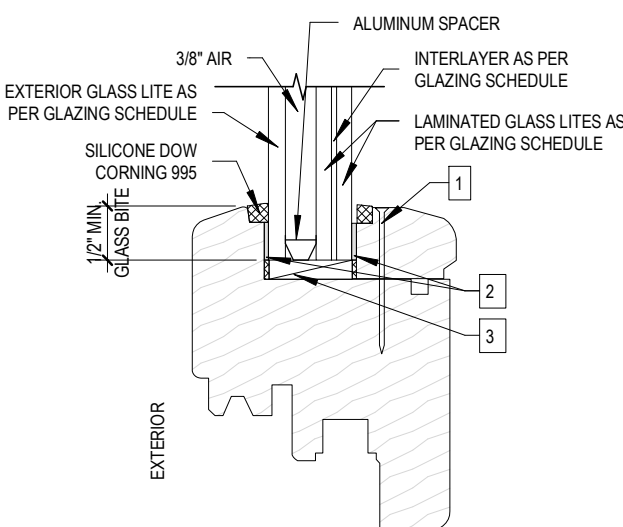
Sealed: 04-15-2024



GLAZING DETAIL FOR GLASS TYPE A, B, C, D, E, F



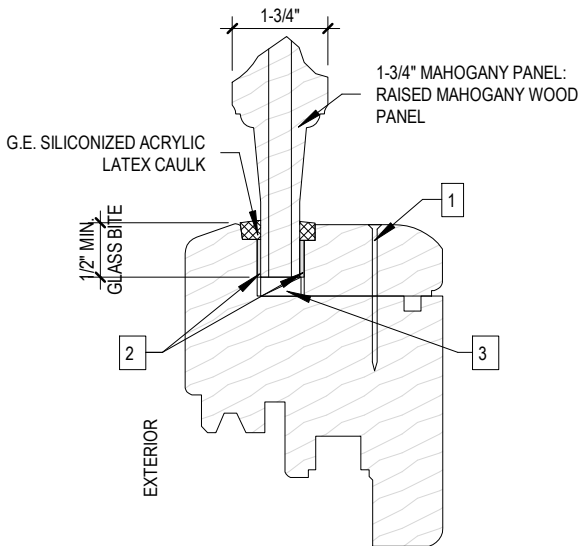
GLAZING DETAIL FOR GLASS TYPE GI, JI



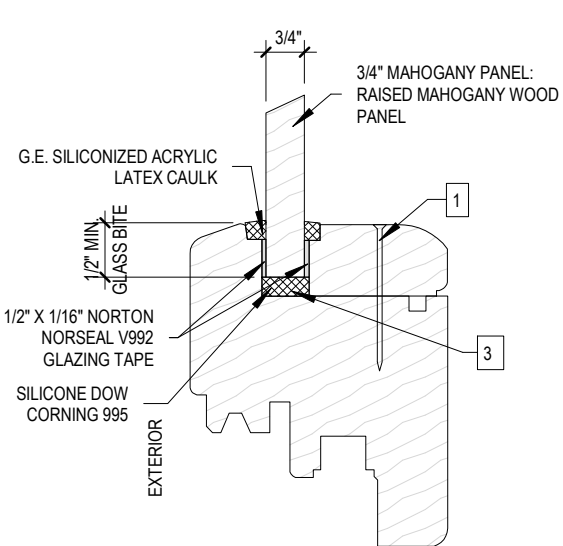
GLAZING DETAIL FOR GLASS TYPE HI, II

GLAZING SCHEDULE

| GLASS TYPE | LAMINATED GLASS LITE     | INTERLAYER                  |
|------------|--------------------------|-----------------------------|
| A          | 3/16" ANNEALED GLASS     | 0.09" PVB INTERLAYER        |
| B          | 3/16" HEAT STREN'D GLASS | 0.09" PVB INTERLAYER        |
| C          | 3/16" HEAT STREN'D GLASS | 0.09" SENTRYGLAS INTERLAYER |
| D          | 3/16" ANNEALED GLASS     | 0.09" SENTRYGLAS INTERLAYER |
| E          | 1/4" HEAT STREN'D GLASS  | 0.09" SENTRYGLAS INTERLAYER |
| F          | 1/4" HEAT STREN'D GLASS  | 0.075" PVB INTERLAYER       |



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 INTERLAYER       |
| HI         | 1/4" TEMPERED GLASS  | 1/8" ANNEALED GLASS      | 0.09" SENTRYGLAS INTERLAYER |
| II         | 1/4" TEMPERED GLASS  | 1/4" HEAT STREN'D GLASS  | 0.09" SENTRYGLAS INTERLAYER |
| JII        | 3/16" TEMPERED GLASS | 3/16" HEAT STREN'D GLASS | 0.09" SENTRYGLAS INTERLAYER |



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 INSWING  
CASEMENT WINDOWS  
(LARGE AND SMALL MISSILE IMPACT RATED)

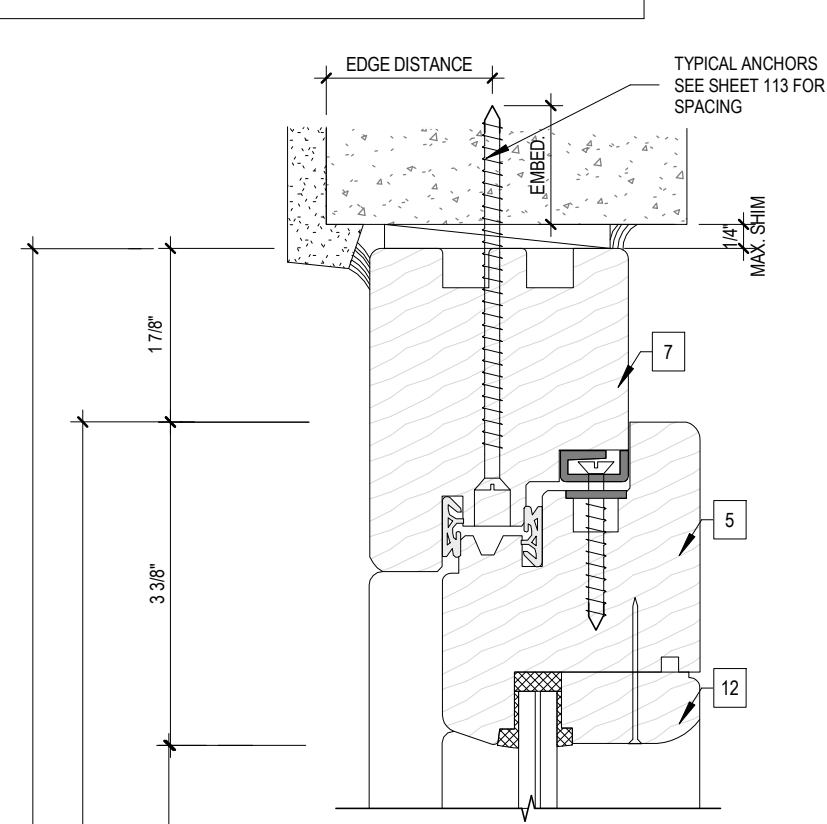
HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

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

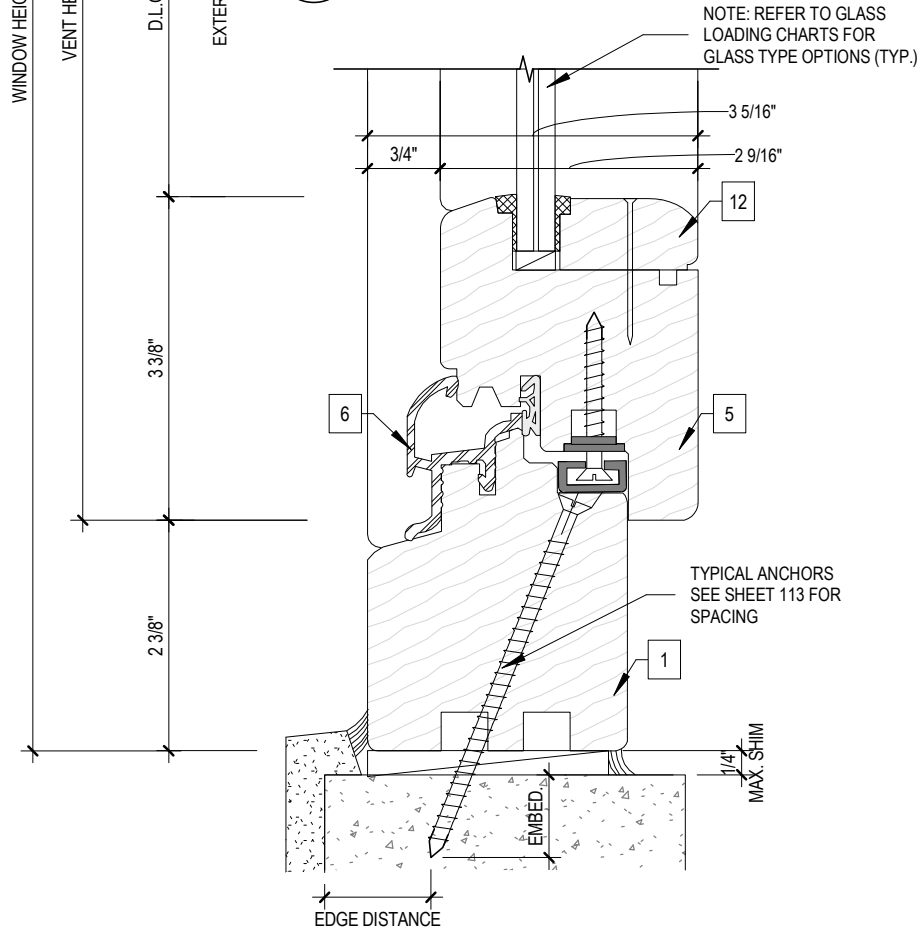


Sealed: 04-15-2024

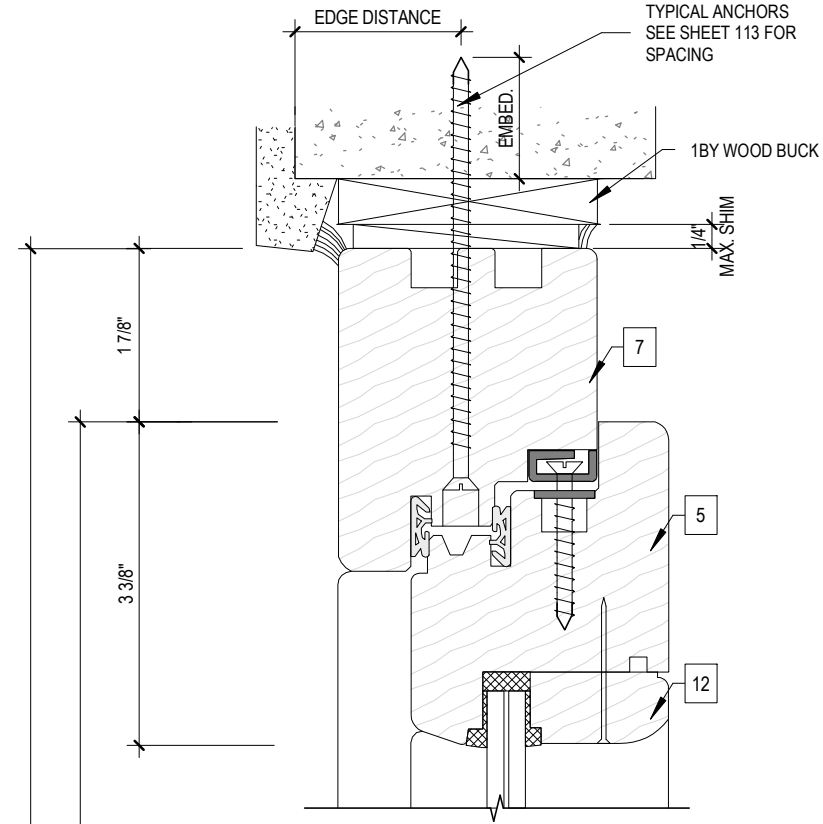
SECTIONAL DETAILS



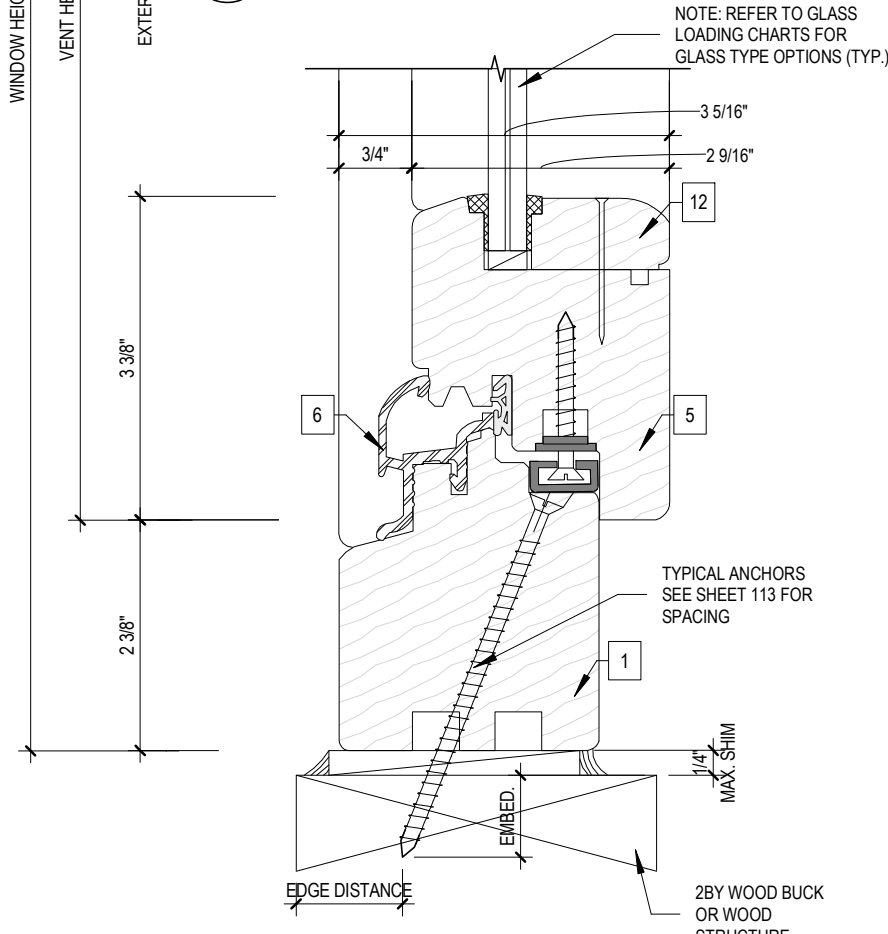
1 HEAD DETAIL 1  
107 6" = 1'-0"



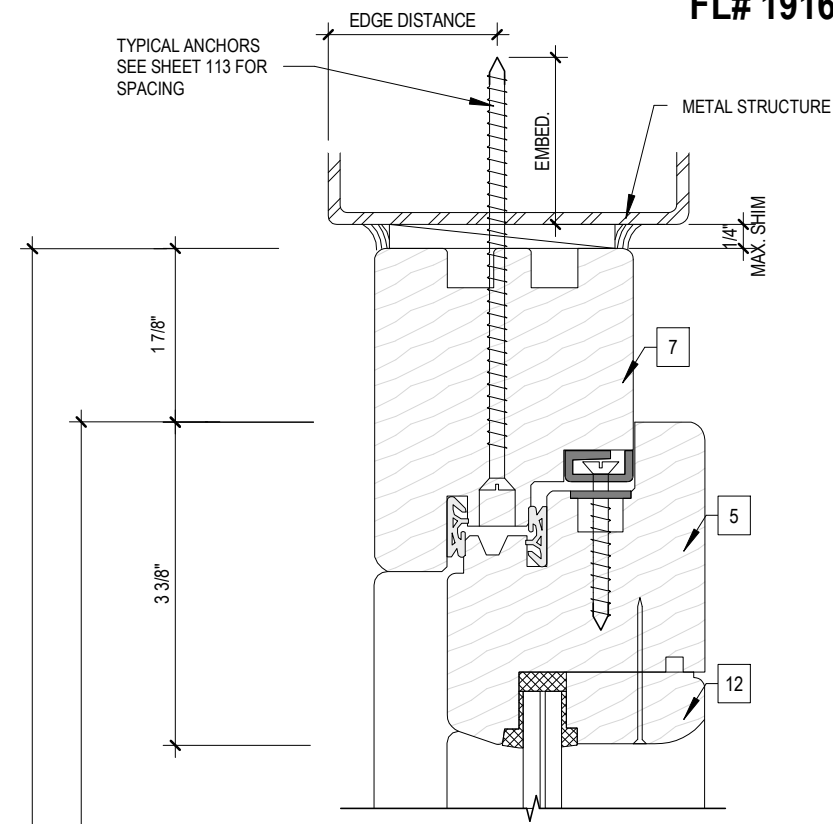
4 SILL DETAIL 1  
107 6" = 1'-0"



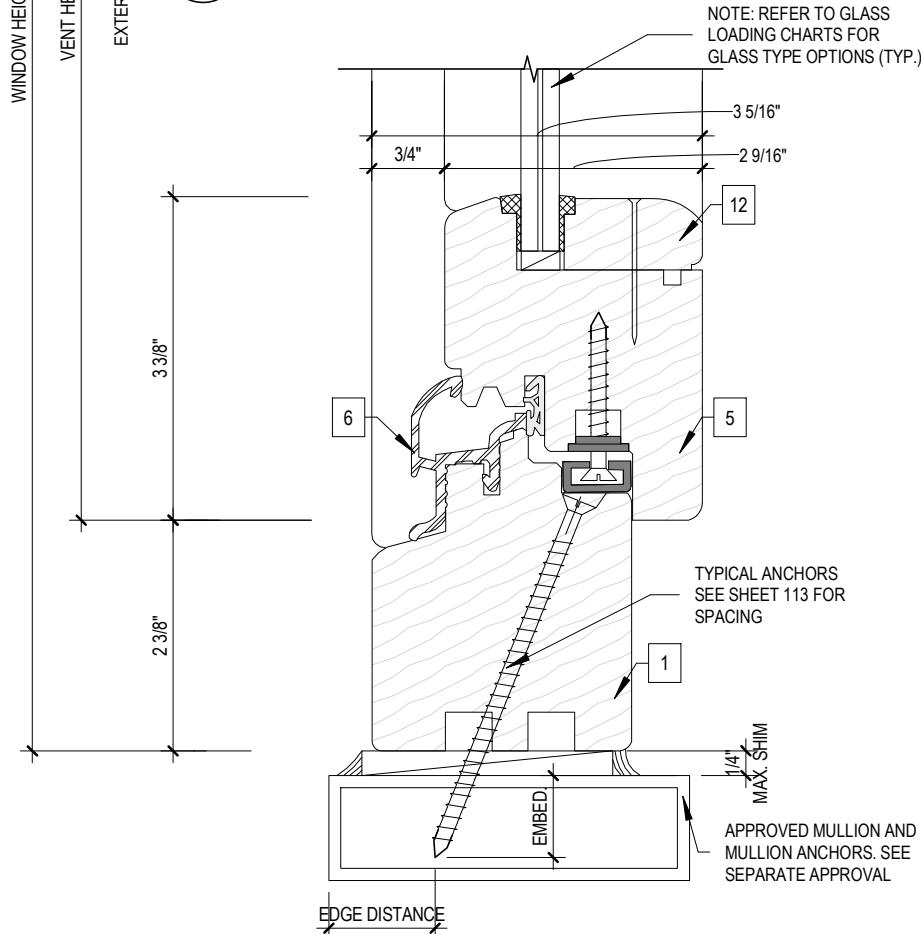
2 HEAD DETAIL 2  
107 6" = 1'-0"



5 SILL DETAIL 2  
107 6" = 1'-0"



3 HEAD DETAIL 3  
107 6" = 1'-0"



6 SILL DETAIL 3  
107 6" = 1'-0"

FL# 19164.1



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

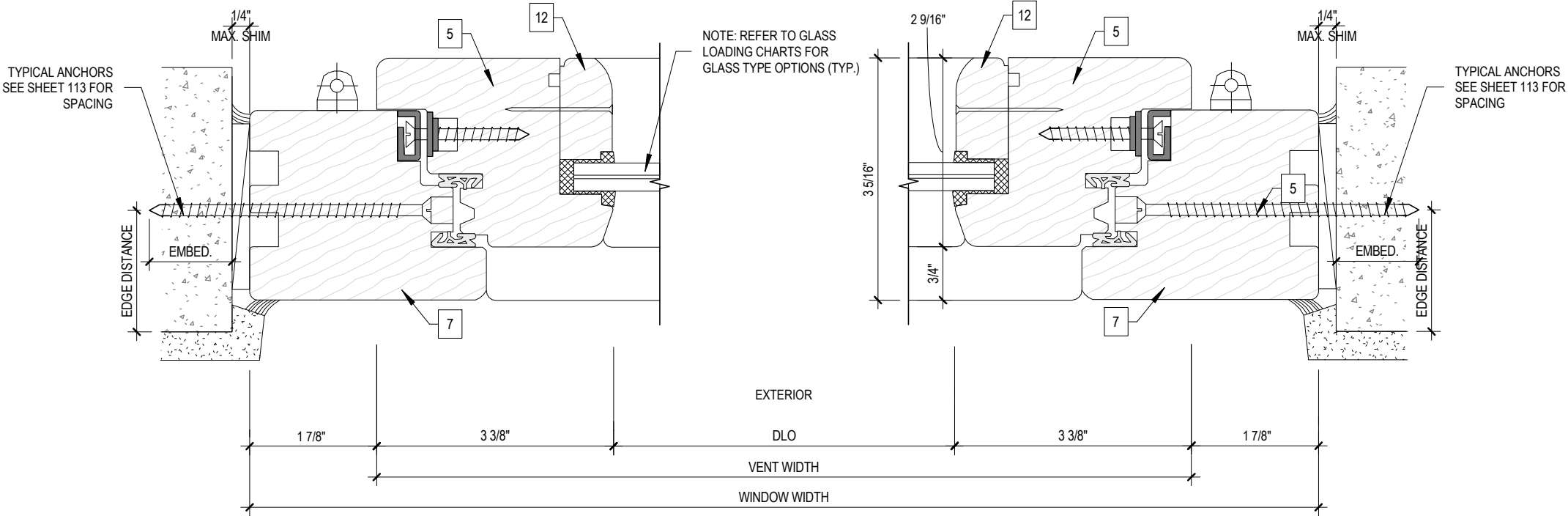
EUROPEAN SERIES INSWING  
CASEMENT WINDOWS  
(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

|             |            |           |     |          |    |             |  |
|-------------|------------|-----------|-----|----------|----|-------------|--|
| drawing no. | JA-1425-23 | drawn by: | BVS | REVISION |    |             |  |
|             |            |           |     |          |    |             |  |
| date:       | 04-15-24   | check by: | BS  | DATE     | BY | DESCRIPTION |  |
|             |            |           |     | No.      |    |             |  |

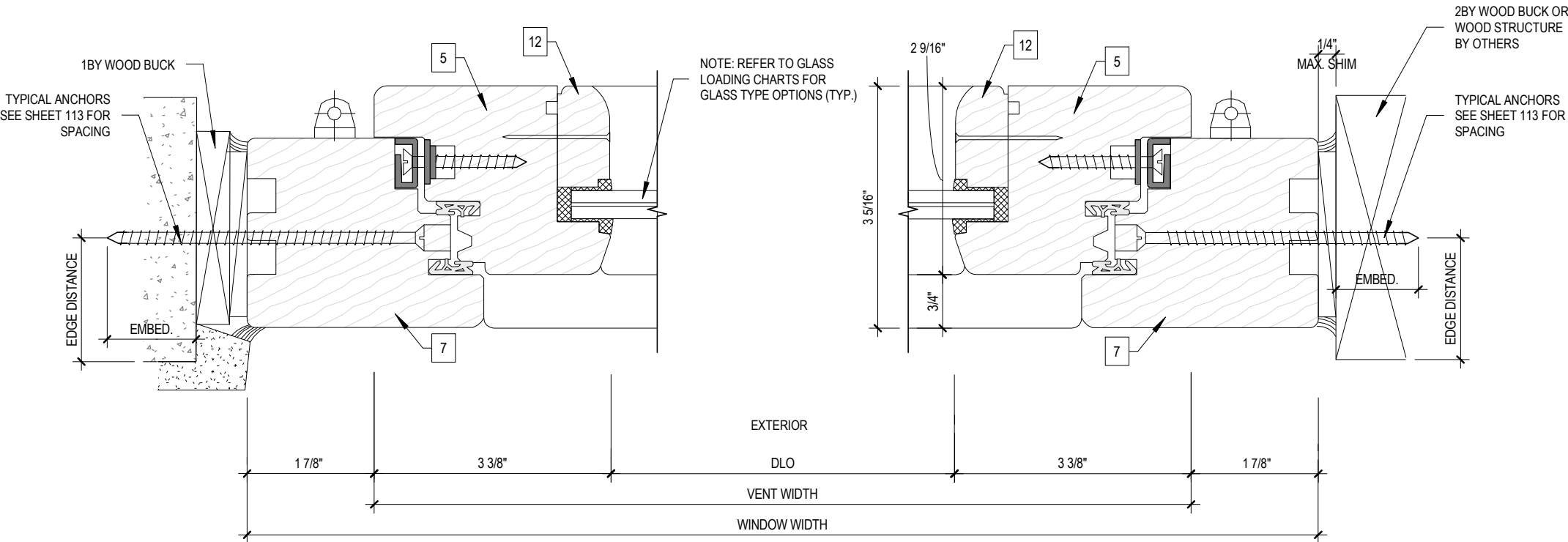


Sealed: 04-15-2024



1  
108 JAMB DETAIL 1A  
NOT TO SCALE

2  
108 JAMB DETAIL 1B  
NOT TO SCALE



3  
108 JAMB DETAIL 2A  
NOT TO SCALE

4  
108 JAMB DETAIL 2B  
NOT TO SCALE



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

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

**HARTMAN WINDOWS & DOORS, LLC.**  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

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



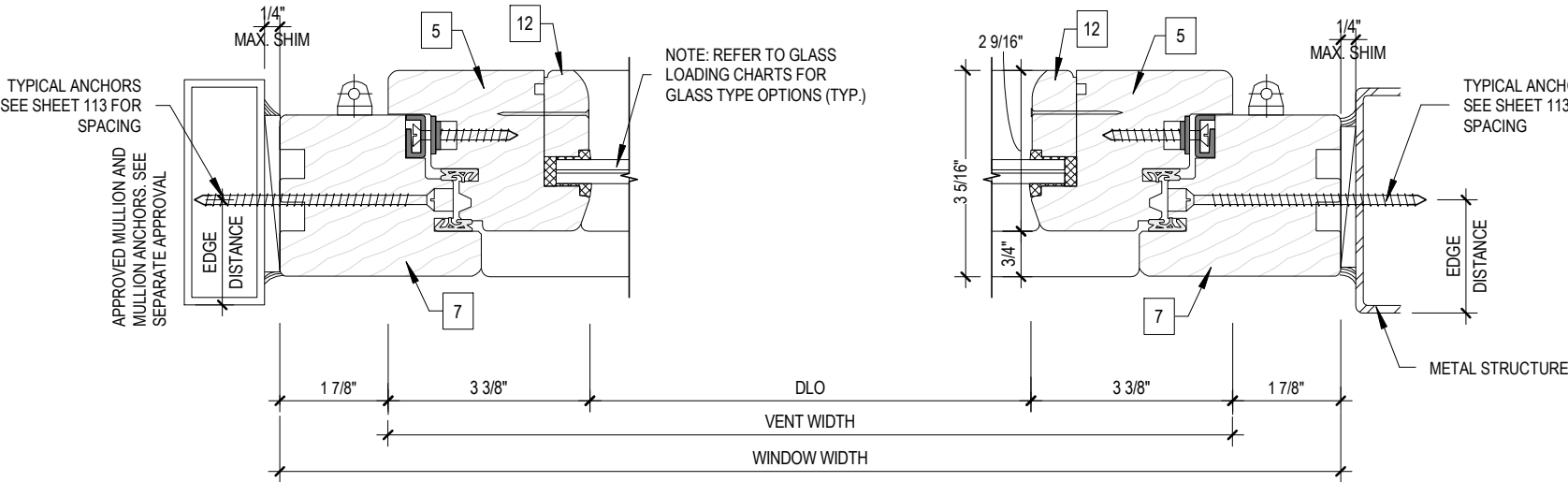
Sealed: 04-15-2024



JAVAD AHMAD PE, inc

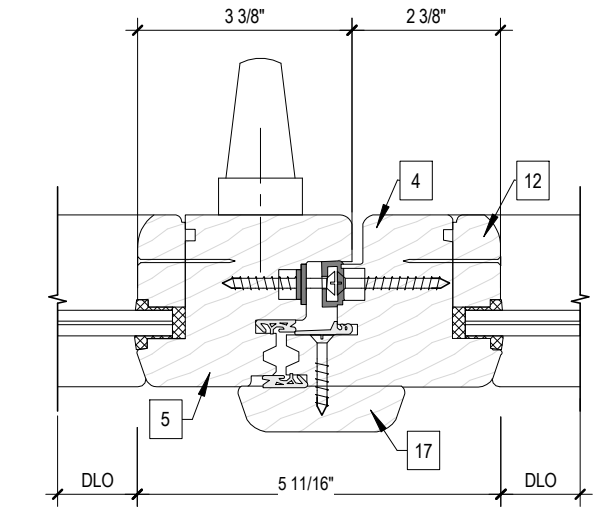
7875 NW 12th St., Suite 102  
Doral, FL 33126  
Ph: (305) 424-8001  
support@ja-pe.com

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

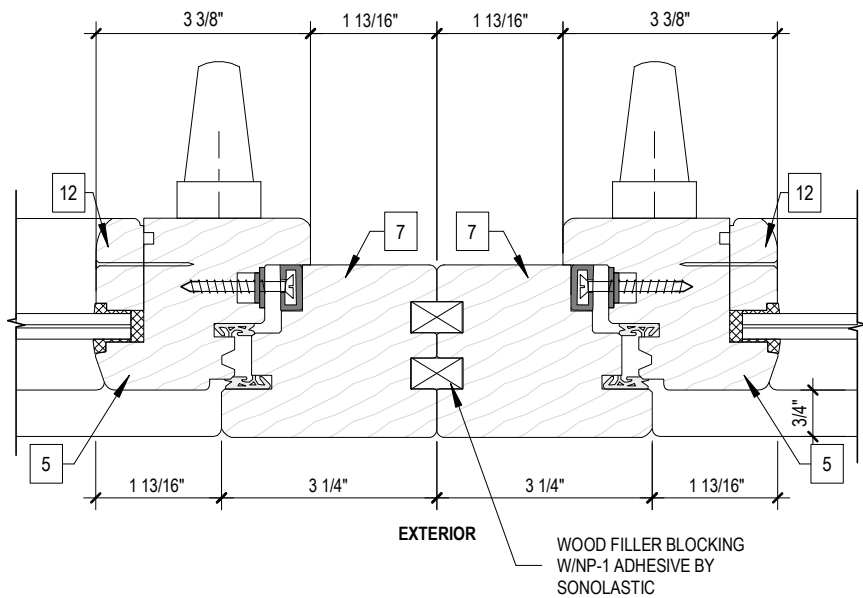


1  
109 JAMB DETAIL 3A  
NOT TO SCALE

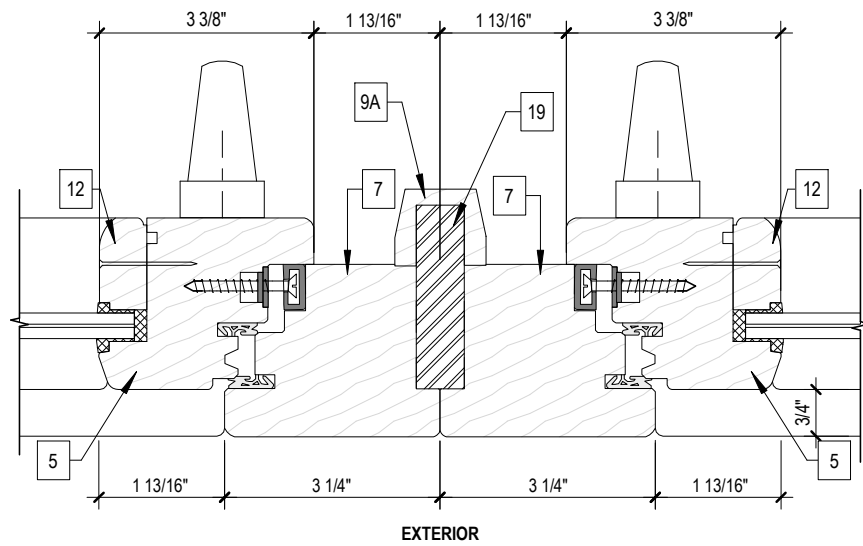
2  
109 JAMB DETAIL 3B  
NOT TO SCALE



3  
109 MEETING STILES DETAIL  
NOT TO SCALE



4  
109 JAMB TO JAMB DETAIL 1  
NOT TO SCALE



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

5  
109 JAMB TO JAMB DETAIL 2  
NOT TO SCALE

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

HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

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



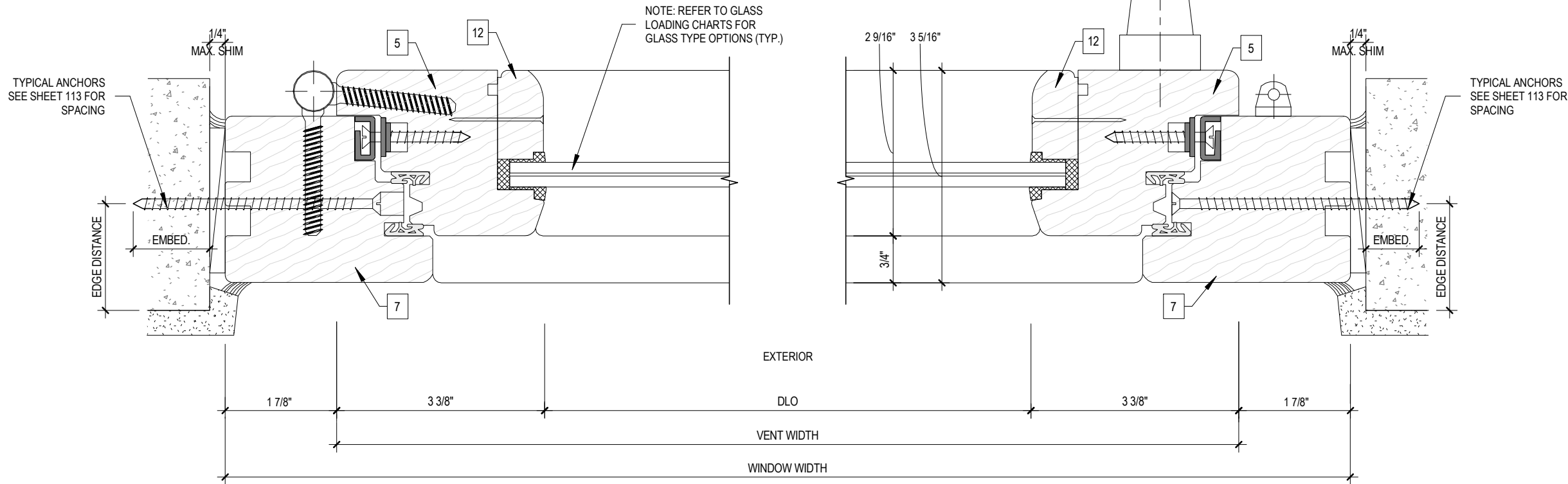
Sealed: 04-15-2024



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



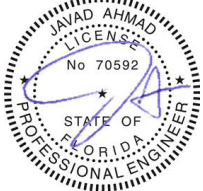
1 JAMB DETAIL 4A  
110 NOT TO SCALE

2 JAMB DETAIL 4B  
110 NOT TO SCALE

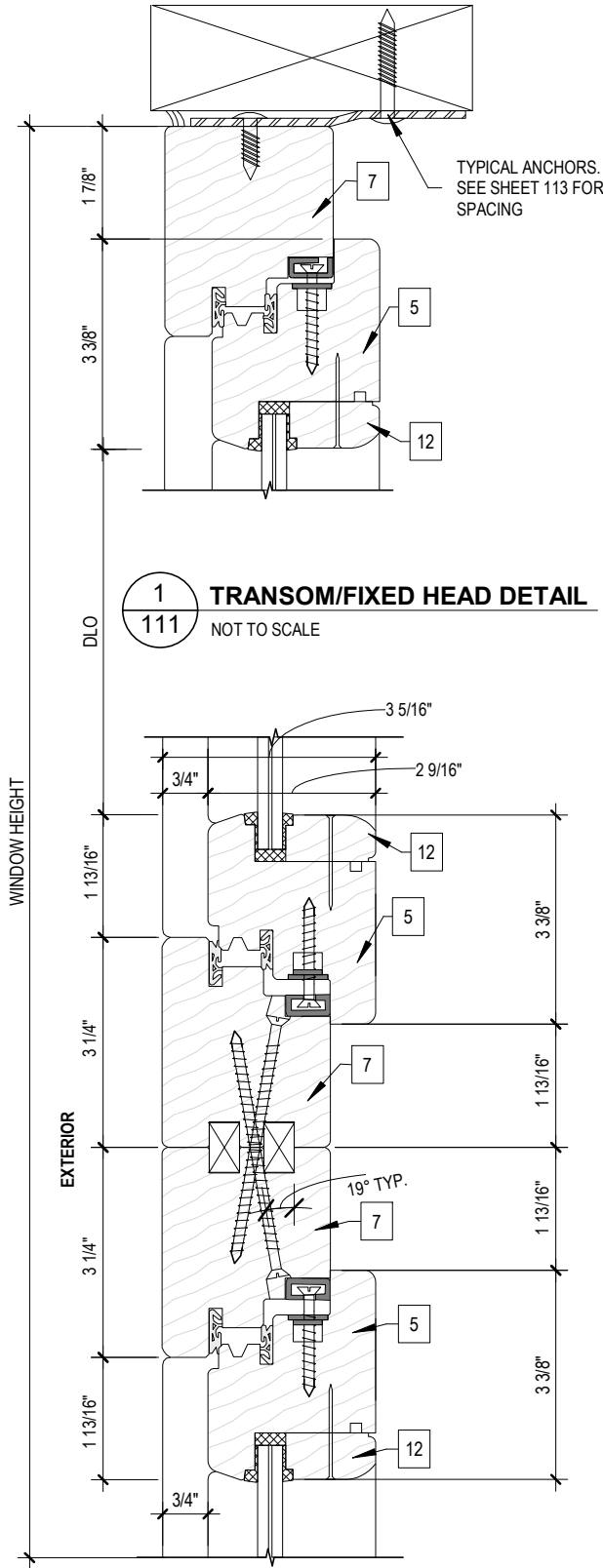
EUROPEAN SERIES INSWING  
CASEMENT WINDOWS  
(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

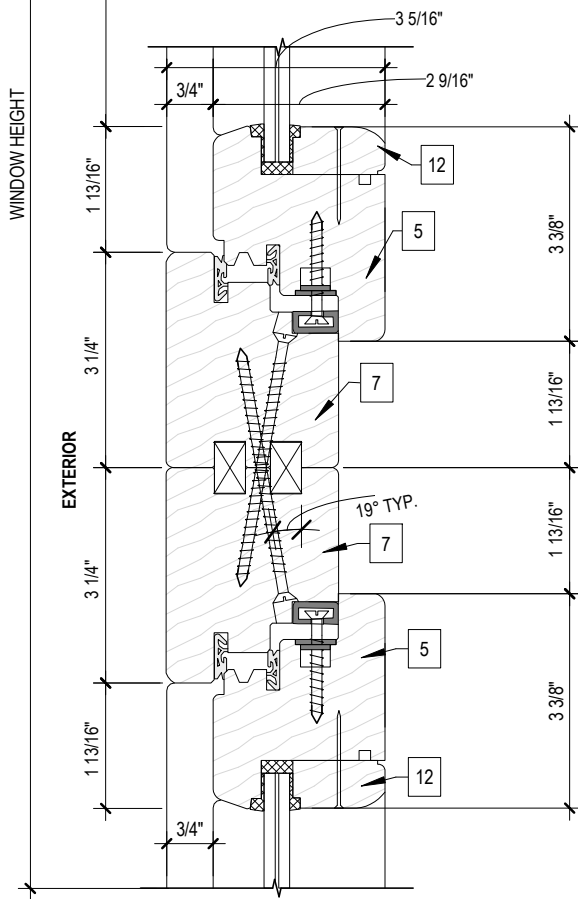
| drawing no. | JA-1425-23 | date: | drawn by:<br>BVS | check by:<br>BS | REVISION |      |    |             |
|-------------|------------|-------|------------------|-----------------|----------|------|----|-------------|
|             |            |       |                  |                 | No.      | DATE | BY | DESCRIPTION |
|             |            |       |                  |                 |          |      |    |             |
|             |            |       |                  |                 |          |      |    |             |
|             |            |       |                  |                 |          |      |    |             |



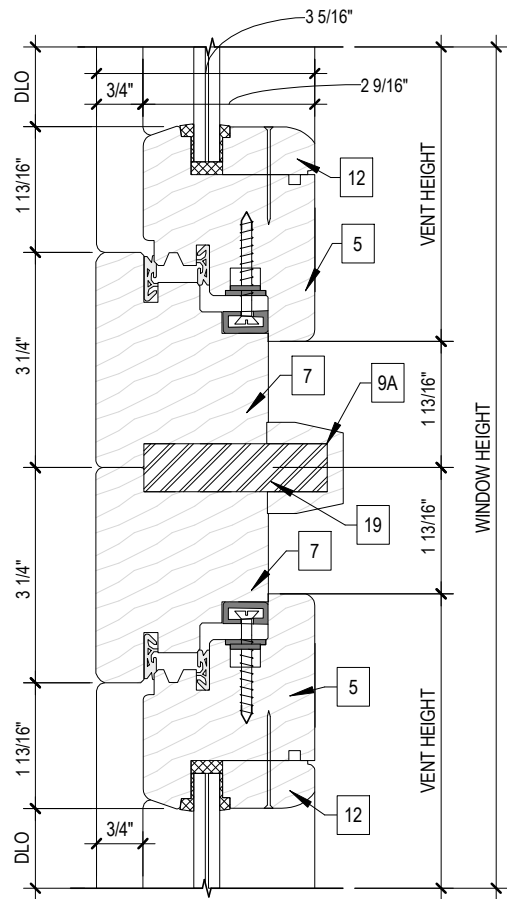
Sealed: 04-15-2024



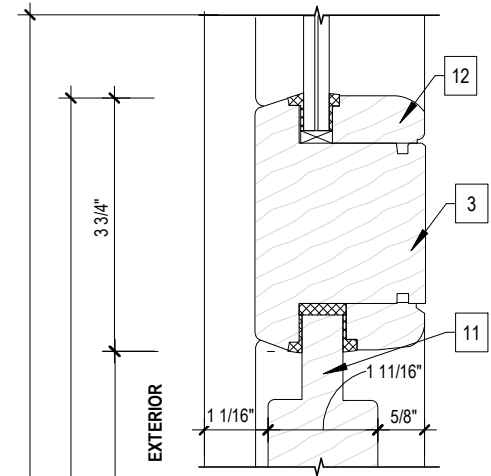
1  
111  
**TRANSOM/FIXED HEAD DETAIL**  
NOT TO SCALE



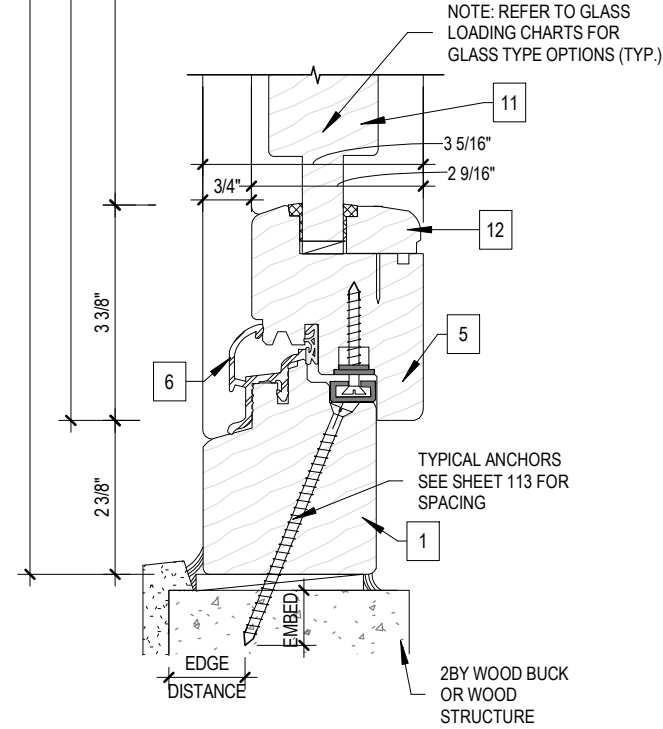
2  
111  
**TRANSOM/FIXED SILL DETAIL 1**  
NOT TO SCALE



3  
111  
**TRANSOM/FIXED SILL DETAIL 2**  
NOT TO SCALE



4  
111  
**HORIZONTAL MUNTIN DETAIL**  
NOT TO SCALE



5  
111  
**SILL DETAIL 4**  
NOT TO SCALE



JAVAD AHMAD PE, inc

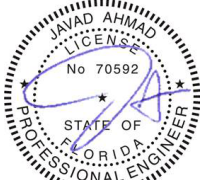
7875 NW 12th St., Suite 102  
Doral, FL 33126  
Ph: (305) 424-8001  
support@ja-pe.com

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

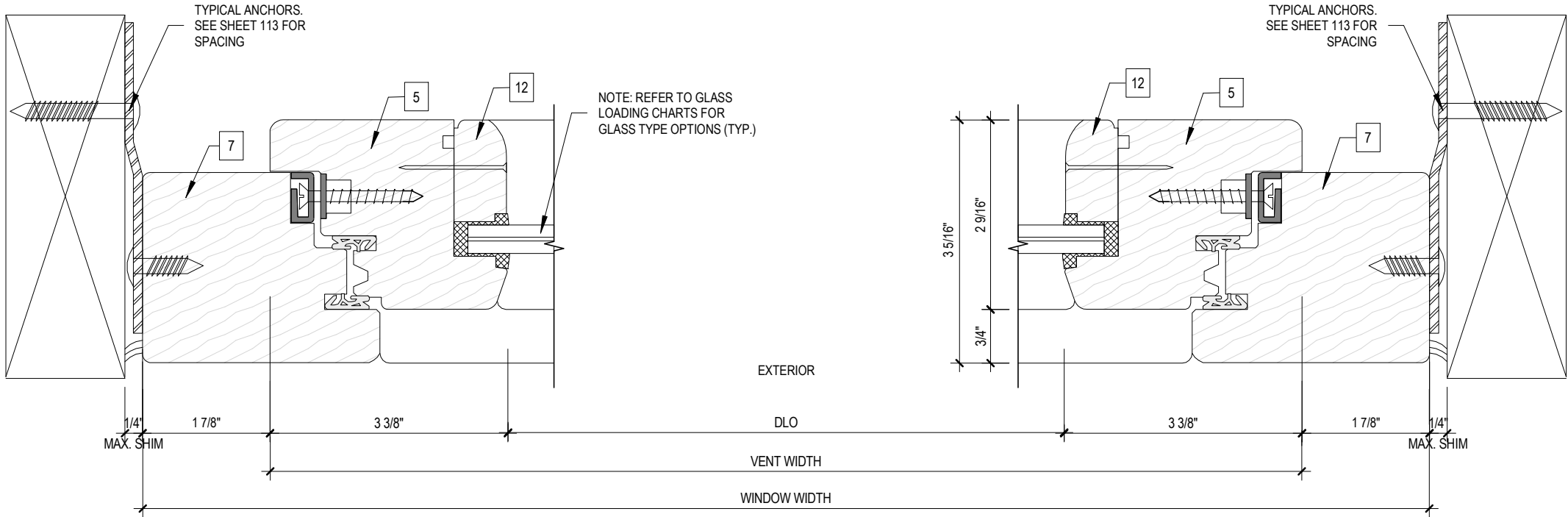
EUROPEAN SERIES INSWING  
CASEMENT WINDOWS  
(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

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

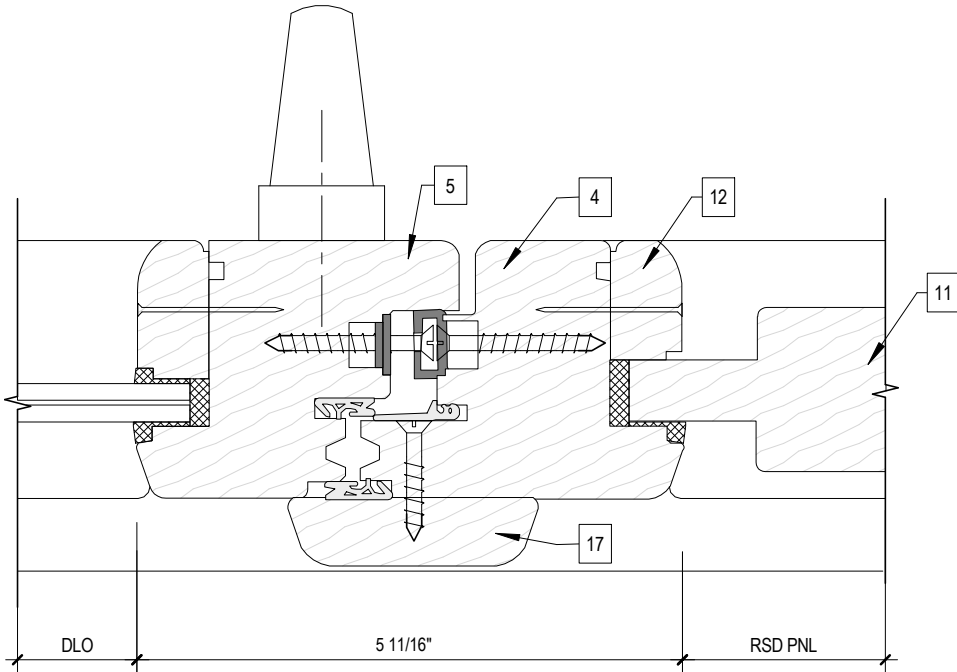


Sealed: 04-15-2024

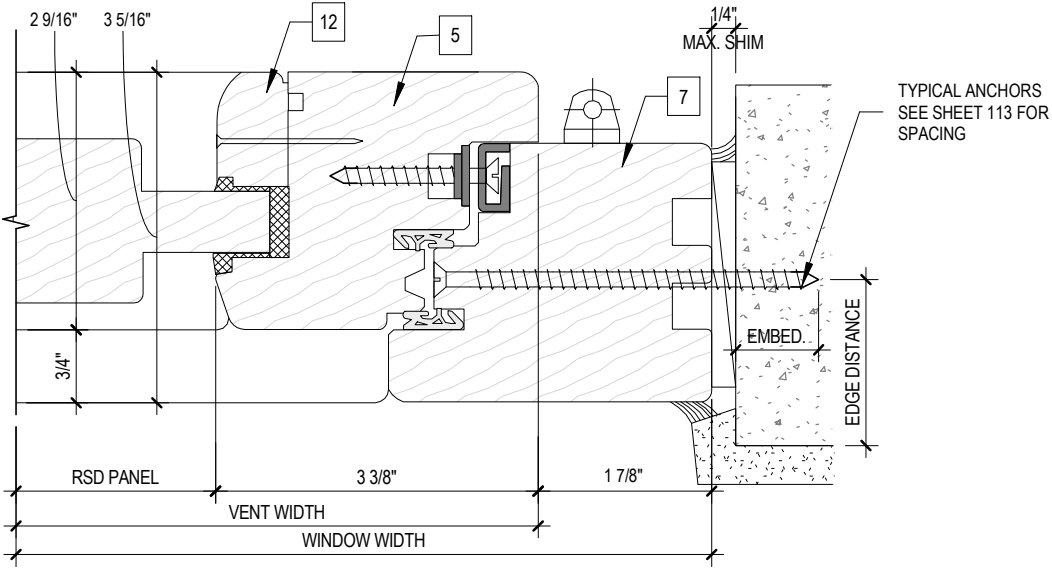


1  
112 TRANSOM/FIXED JAMB DETAIL 1  
NOT TO SCALE

2  
112 TRANSOM/FIXED JAMB DETAIL 2  
NOT TO SCALE



3  
112 MEETING STILES DETAIL  
NOT TO SCALE



4  
112 JAMB DETAIL 5  
NOT TO SCALE



JAVAD AHMAD PE, inc

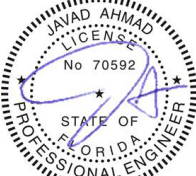
7875 NW 12th St., Suite 102  
Doral, FL 33126  
Ph: (305) 424-8001  
support@ja-pe.com

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

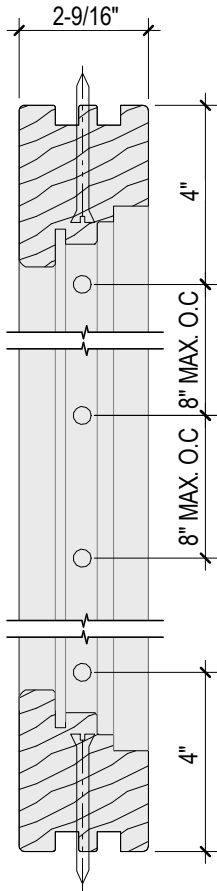
EUROPEAN SERIES INSWING  
CASEMENT WINDOWS  
(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

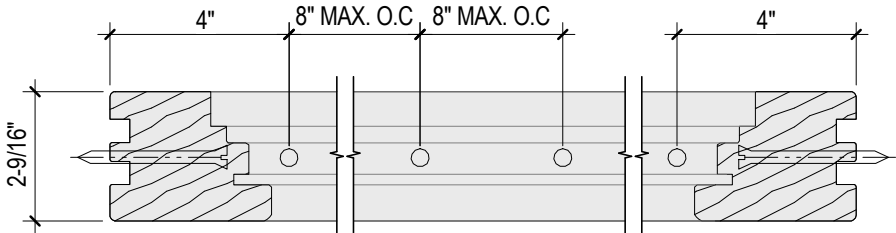
|             |       |            |           |           |          |      |    |             |
|-------------|-------|------------|-----------|-----------|----------|------|----|-------------|
| drawing no. | date: | JA-1425-23 | drawn by: | check by: | REVISION |      |    |             |
|     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



Sealed: 04-15-2024

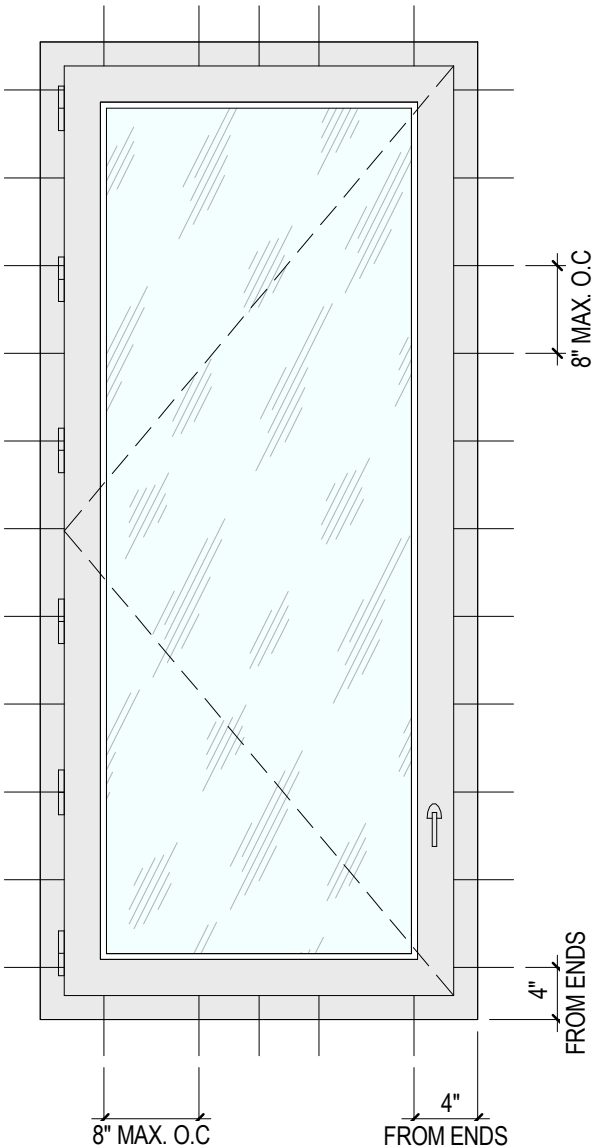


JAMB ANCHOR LAYOUT



HEAD/SILL ANCHOR LAYOUT

ANCHOR SPACING LAYOUT (THROUGH THE FRAME)



**TYPICAL ANCHOR TYPES**  
(APPLIES TO ANCHOR GOING THRU THE DOOR FRAME):

**TYPE A - 1/4" DEWALT ULTRACON (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

**NOTE:**  
FOR INSTRUCTIONS TO ANCHOR THIS PRODUCT USING CLIPS, STRAPS, OR ANGLES, PLEASE REFER TO PAGES 114 FOR DETAILS REGARDING THE ANCHOR TYPE AND SPACING.

**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 f<sub>c</sub>= 3000 PSI
- HOLLOW/GROUT FILLED MASONRY UNITS AT JAMBS f<sub>m</sub>= 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

**NOTE:**  
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 INSWING  
CASEMENT WINDOWS  
(LARGE AND SMALL MISSILE IMPACT RATED)

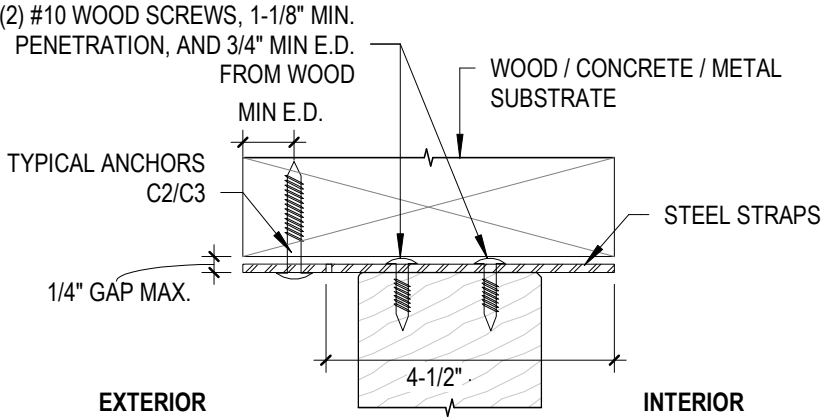
HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

|             |            |           |             |
|-------------|------------|-----------|-------------|
| drawing no. | JA-1425-23 | drawn by: | BVS         |
| date:       | 04-15-24   | check by: | BS          |
| REVISION    |            |           |             |
| No.         | DATE       | BY        | DESCRIPTION |
|             |            |           |             |
|             |            |           |             |
|             |            |           |             |



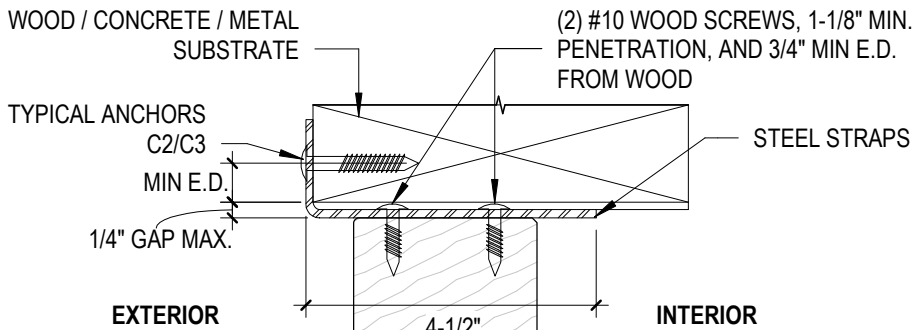
Sealed: 04-15-2024

ALTERNATE ANCHORING

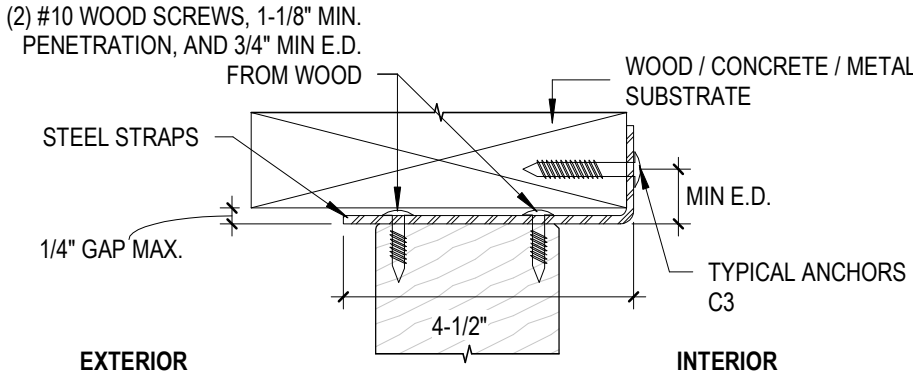


1  
114  
EXTERIOR FLAT STRAP  
N.T.S

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

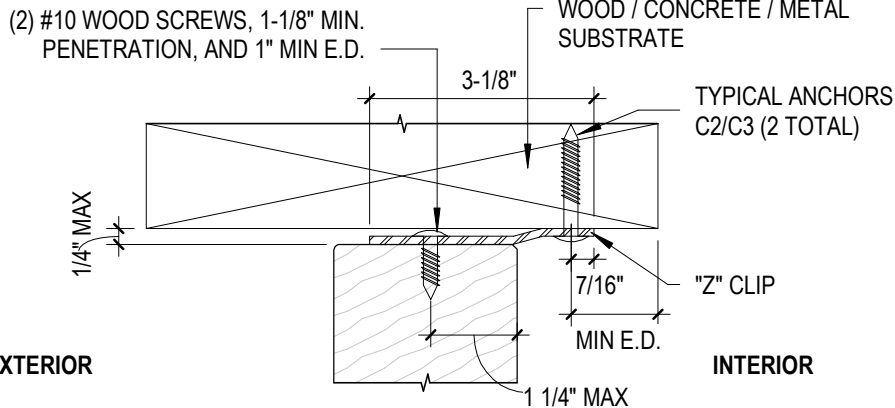


2  
114  
EXTERIOR BENT STRAP  
N.T.S

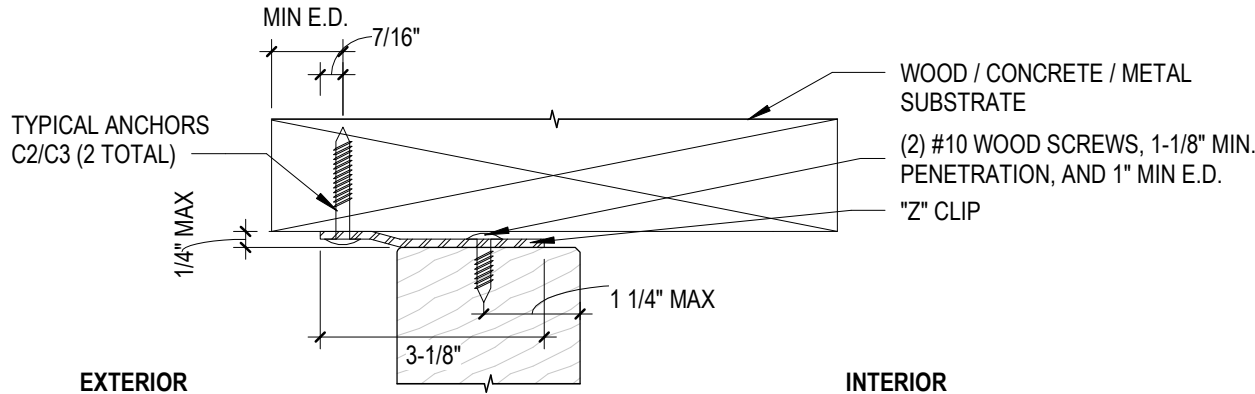


3  
114  
INTERIOR BENT STRAP  
N.T.S

FL# 19164.1



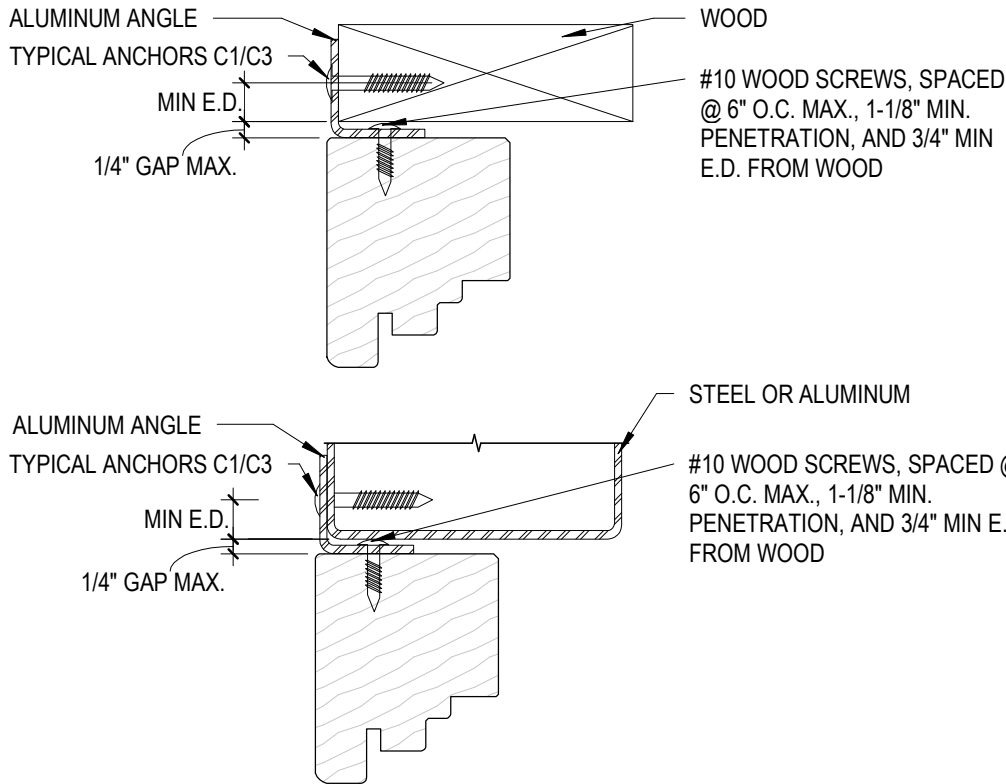
4  
114  
INTERIOR Z-CLIP STRAP  
N.T.S



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 INSWING

CASEMENT WINDOWS

(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.

2107 W. BLUE HERON BOULEVARD

WEST PALM BEACH, FL 33404

TELEPHONE: (561) 296-9600

FAX: (561) 296-9601

|             |       |            |             |     |  |
|-------------|-------|------------|-------------|-----|--|
| drawing no. | date: | JA-1425-23 | drawn by:   | BVS |  |
|             |       | 04-15-24   | check by:   | BS  |  |
| REVISION    |       |            |             |     |  |
| No.         | DATE  | BY         | DESCRIPTION |     |  |
|             |       |            |             |     |  |
|             |       |            |             |     |  |
|             |       |            |             |     |  |
|             |       |            |             |     |  |



Sealed: 04-15-2024

1 BOTTOM JAMB/SILL  
(WITH OR WITHOUT NOTCHES)

2 TRANSOM JAMB/SILL

3 SASH LOCK RAIL

4 INACTIVE MEETING RAIL

5 INSWING SASH

6 DIRECT GLAZED SASH

7 CASEMENT HEAD/JAMB  
(WITH OR WITHOUT NOTCHES)

8 CASEMENT HEAD/JAMB  
(WITH OR WITHOUT NOTCHES)

| 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     | -     | INSWING SASH          | WOOD     | MAHOGANY OR EQUAL      |
| 6     | -     | DIRECT GLAZED SASH    | WOOD     | MAHOGANY OR EQUAL      |
| 7     | -     | CASEMENT HEAD/JAMB    | WOOD     | MAHOGANY OR EQUAL      |
| 8     | -     | INSWING SASH          | WOOD     | MAHOGANY OR EQUAL      |



JAVAD AHMAD PE, inc

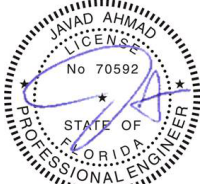
7875 NW 12th St., Suite 102  
Doral, FL 33126  
Ph: (305) 424-8001  
support@ja-pe.com

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

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

HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

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



Sealed: 04-15-2024

PARTS LIST

FL# 19164.1

9 DRIP CAP/STEEL COVER

9A DRIP CAP/STEEL COVER

10 COPPER CLAD PANEL

11 WOOD PANEL

12 GLAZING BEAD

13 I.G GLAZING BEAD

14 ALUMINUM DRAIN CHANNEL

15 FIXED SASH BLOCKING

16 MULL SPINE

17 ASTRAGAL CAP

18 GLAZING BEAD

19 STEEL REINFORCEMENT

| ITEM # | REQD. | DESCRIPTION            | MATERIAL | MANF./SUPPLIER/REMARKS |
|--------|-------|------------------------|----------|------------------------|
| 9/9A   | -     | DRIP CAP/STEEL COVER   | WOOD     | MAHOGANY OR EQUAL      |
| 10     | -     | COPPER CLAD PANEL      | WOOD     | MAHOGANY OR EQUAL      |
| 11     | -     | WOOD PANEL             | WOOD     | MAHOGANY OR EQUAL      |
| 12     | -     | GLAZING BEAD           | WOOD     | MAHOGANY OR EQUAL      |
| 13     | -     | I.G GLAZING BEAD       | WOOD     | MAHOGANY OR EQUAL      |
| 14     | -     | ALUMINUM DRAIN CHANNEL | ALUMINUM | -                      |
| 15     | -     | FIXED SASH BLOCKING    | -        | -                      |
| 16     | -     | MULL SPINE             | -        | -                      |
| 17     | -     | ASTRAGAL CAP           | WOOD     | MAHOGANY OR EQUAL      |
| 18     | -     | GLAZING BEAD           | WOOD     | MAHOGANY OR EQUAL      |
| 19     | -     | REINFORCEMENT          | STEEL    | A36 MIN.               |



JAVAD AHMAD PE, inc

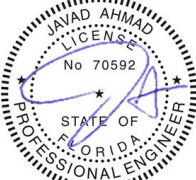
7875 NW 12th St., Suite 102  
Doral, FL 33126  
Ph: (305) 424-8001  
support@ja-pe.com

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

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

HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

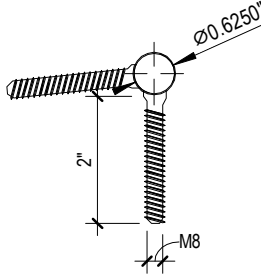
|             |            |           |             |
|-------------|------------|-----------|-------------|
| drawing no. | JA-1425-23 | drawn by: | BVS         |
| date:       |            | check by: | BS          |
| REVISION    |            |           |             |
| No.         | DATE     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



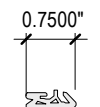
Sealed: 04-15-2024

PARTS LIST

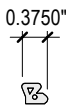
FL# 19164.1



1 ADJUSTABLE S.S HINGE



2 THERMOPLASTIC GASKET



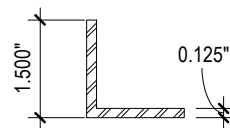
3 THERMOPLASTIC GASKET



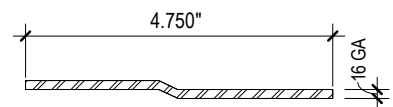
4 THERMOPLASTIC GASKET



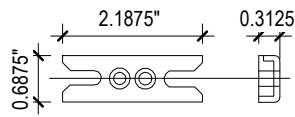
12 NORTON NORSEAL V992 TAPE



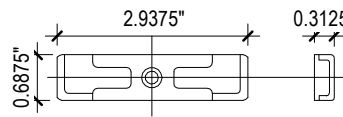
5 ALUMINUM ANGLE



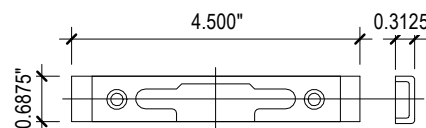
6 GALVANIZED OR S.S STRAP



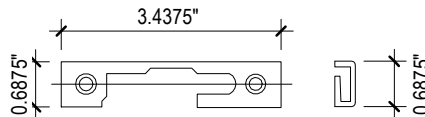
7 TILT/TURN KEEPER



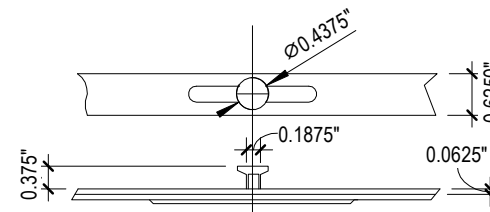
8 TILT/TURN KEEPER



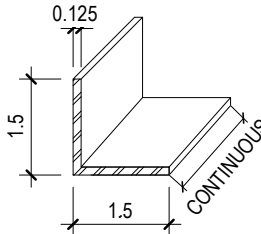
9 UNIVERSAL KEEPER



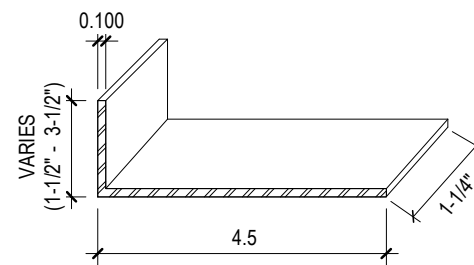
10 DIRECTIONAL KEEPER



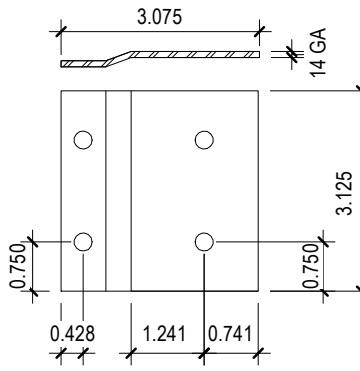
11 ADJUSTABLE S.S CAM



13 1-1/2" X 1-1/2" X 1/8" ALUMINUM ANGLE (CONT.)



14 4-1/2" 16 GA SS OR GALV SIMPSON CS16Z STEEL STRAPS



15 GALVANIZED STEEL "Z" CLIP (14 GA)

| ITEM | REQ... | 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                   |



JAVAD AHMAD PE, inc

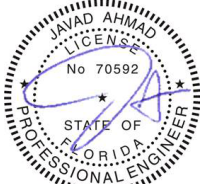
7875 NW 12th St., Suite 102  
Doral, FL 33126  
Ph: (305) 424-8001  
support@ja-pe.com

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

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

HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

|             |            |           |     |             |    |          |  |  |  |
|-------------|------------|-----------|-----|-------------|----|----------|--|--|--|
| drawing no. | JA-1425-23 | drawn by: | BVS | check by:   | BS | REVISION |  |  |  |
|             |            |           |     |             |    |          |  |  |  |
| date:       | 04-15-24   | 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 INSWING  
CASEMENT WINDOWS  
(LARGE AND SMALL MISSILE IMPACT RATED)

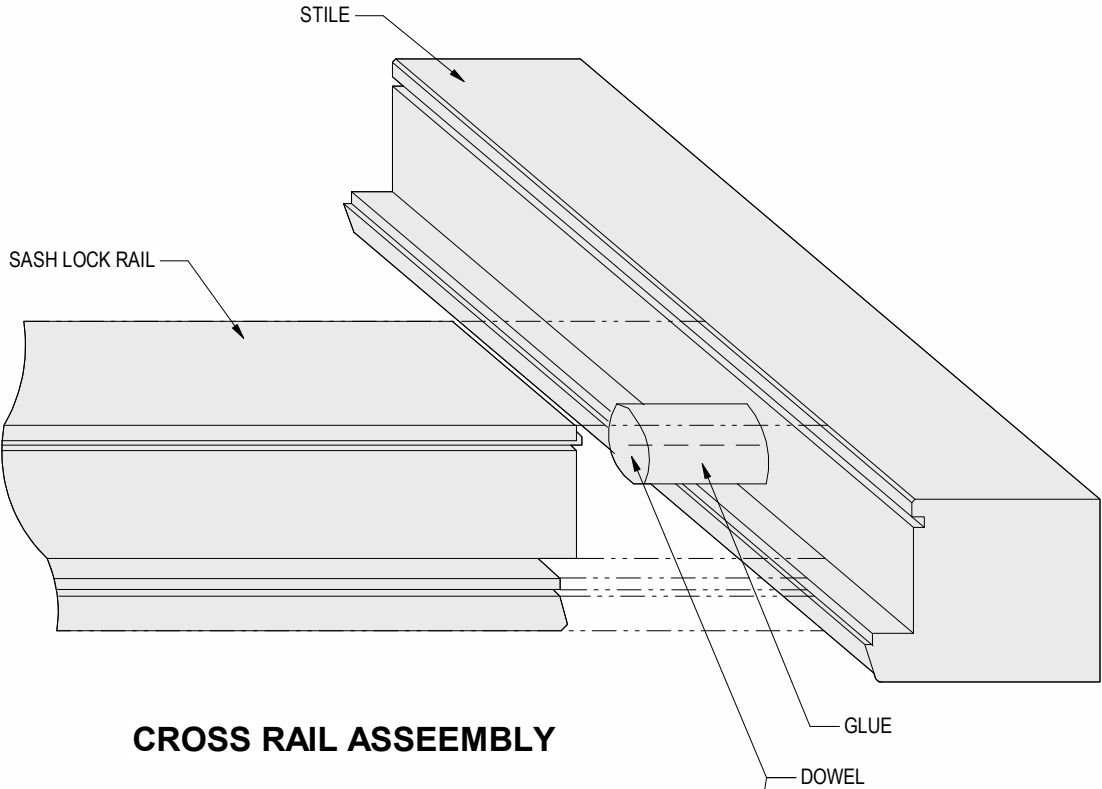
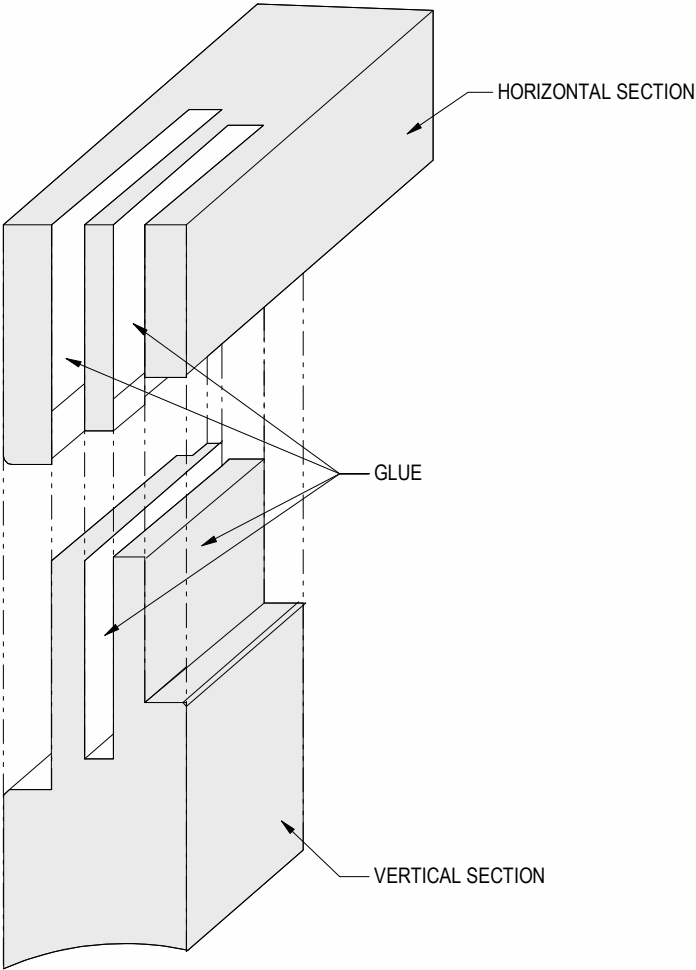
HARTMAN WINDOWS & DOORS, LLC.  
2107 W. BLUE HERON BOULEVARD  
WEST PALM BEACH, FL 33404  
TELEPHONE: (561) 296-9600  
FAX: (561) 296-9601

|             |            |           |             |
|-------------|------------|-----------|-------------|
| drawing no. | JA-1425-23 | drawn by: | BVS         |
| date:       | 04-15-24   | check by: | BS          |
| REVISION    |            |           |             |
| No.         | DATE       | BY        | DESCRIPTION |
|             |            |           |             |
|             |            |           |             |
|             |            |           |             |



Sealed: 04-15-2024

MULTI-FORK FRAME AND VENT CORNER ASSEMBLY



CROSS RAIL ASSEMBLY

