

GAULHOFER INDUSTRIE-HOLDING GmbH

Series 425 Combination XOOX Tilt-Turn Window w/132mm Integral Mullion (L.M. Impact, HVHZ)

INSTALLATION ANCHORAGE DETAILS

GENERAL NOTES:

1.

THIS PRODUCT HAS BEEN EVALUATED TO COMPLY WITH THE CURRENT PROVISIONS OF THE FLORIDA BUILDING CODE (FBC) INCLUDING THE HIGH VELOCITY HURRICANE ZONES (HVHZ) AND IS BASED ON TESTING CONDUCTED TO TAS 202, TAS 201 & 203 TEST PROTOCOLS.
2.

ADEQUACY OF THE EXISTING STRUCTURAL CONCRETE, MASONRY AND 2X FRAMING AS A MAIN WIND FORCE RESISTING SYSTEM CAPABLE OF WITHSTANDING AND TRANSFERRING APPLIED PRODUCT LOADS TO THE FOUNDATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
3.

1 BY BUCK OVER MASONRY AND/OR CONCRETE IS OPTIONAL. WHERE 1 BY BUCK IS NOT USED DISSIMILAR MATERIALS MUST BE SEPARATED WITH APPROVED COATING OR MEMBRANE. SELECTION OF COATING OR MEMBRANE IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
4.

THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF THE INSTALLATION METHODS DEVIATE FROM THESE APPROVED DETAILS THIS WOULD REQUIRE FURTHER INVESTIGATION BY A LICENSED OR REGISTERED DESIGN PROFESSIONAL.
5.

ALL SETTING BLOCKS AND GASKET MATERIALS SHALL BE IN COMPLIANCE WITH THE CURRENT EDITION OF THE FLORIDA BUILDING CODE. SETTING BLOCKS SHALL BE NEOPRENE WITH A 70 TO 90 SHORE A DUROMETER. GASKET MATERIALS SHALL BE EDPM WITH A MINIMUM 60 SHORE A DUROMETER.
6.

IN HVHZ AND NON-HVHZ AREAS WHERE WINDBORNE DEBRIS PROTECTION REQUIREMENTS EXIST, USE OF AN IMPACT PROTECTIVE SYSTEM COMPLYING WITH THE FBC REQUIREMENTS FOR WINDBORNE DEBRIS REGIONS IS NOT REQUIRED FOR THE PRODUCT(S) HEREIN.
7.

MATERIALS:

7.1.

FRAME: WOOD WITH SPECIFIC GRAVITY = 0.50
8.

GLAZING:

8.1.

GLASS MEETS THE REQUIREMENTS OF ASTM E1300-04e01.

8.2.

SEE GLAZING DETAIL ON SHEET 5 OF 8.

8.3.

GLASS SHALL MEET SAFETY GLAZING REQUIREMENTS PER CURRENT EDITION OF THE FLORIDA BUILDING CODE.

8.3.1.

GLAZING DETAIL 2 (TEMPERED EXTERIOR MONOLITHIC LITE) SHALL BE USED WHEN PRODUCT INSTALLED IN HVHZ LOCATIONS.

8.3.2.

GLAZING DETAIL 1 (ANNEALED EXTERIOR MONOLITHIC LITE) SHALL BE USED WHEN PRODUCT INSTALLED IN NON-HVHZ LOCATIONS.

8.3.3.

OPTIONALLY, GLAZING DETAIL 2 CAN BE USED WHEN PRODUCT INSTALLED IN NON-HVHZ LOCATIONS.

8.4.

INTERLAYER: KURARAY AMERICA SENTRYGLAS PER CURRENT MIAMI DADE NOTICE OF ACCEPTANCE (N.O.A.)
9.

PANEL OPERABILITY DESIGNATIONS:

9.1.

TILT & TURN IS AN OPERABLE PANEL.

9.2.

BOLTED SASH IS AN INOPERABLE (FIXED) PANEL.
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| 6 | COMPONENTS |
| 7 | BILL OF MATERIALS AND CROSS SECTIONS |
| 8 | HARDWARE DETAILS |
- ANCHOR NOTES:
1.

SHIM AS REQUIRED AT EACH INSTALLATION ANCHOR WITH A LOAD BEARING SHIM, SHIM WHERE SPACE OF 1/16" OR GREATER OCCURS. MAXIMUM ALLOWABLE SHIM STACK TO BE 1/4".

2.

FOR ANCHORING INSTALLATION CLIP INTO MASONRY/CONCRETE USE 1/4" ADVANCED THREADFORM TAPCONS WITH SUFFICIENT LENGTH TO ACHIEVE THE FOLLOWING:

2.1.

CONCRETE: 1-1/2" MINIMUM EMBEDMENT INTO SUBSTRATE WITH 1-1/2" MINIMUM EDGE DISTANCE.

2.2.

CMU/MASONRY: 1" MINIMUM EMBEDMENT INTO SUBSTRATE WITH 2" MINIMUM EDGE DISTANCE.

3.

FOR ANCHORING INSTALLATION CLIP INTO WOOD FRAMING OR 2 BY BUCK USE #14 WOOD SCREWS (ANSI B18.6.1) WITH MINIMUM GRADE 2 STRENGTH AND WITH SUFFICIENT LENGTH TO ACHIEVE 1-1/2" MINIMUM EMBEDMENT INTO SUBSTRATE WITH 1" MINIMUM EDGE DISTANCE.

4.

INSTALLATION ANCHOR CAPACITIES FOR PRODUCTS HEREIN ARE BASED ON SUBSTRATE MATERIALS WITH THE FOLLOWING PROPERTIES:

4.1.

WOOD - MINIMUM SPECIFIC GRAVITY OF 0.42 (NON-HVHZ) AND 0.55 (HVHZ).

4.2.

CONCRETE - MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI.

4.3.

MASONRY - STRENGTH CONFORMANCE TO ASTM C-90 MEDIUM WEIGHT WITH COMPRESSIVE STRENGTH OF 1900 psi (DENSITY > 117 PCF).
- GAULHOFER INDUSTRIE-HOLDING GmbH

A-8124 UBELBACH/STIEERMARK

AUSTRIA

NATURELINE-78 FEN 425 COMPOSITE MULLED

TILT-TURN/BOLTED SASH. L.M. IMPACT HVHZ

GENERAL NOTES

DRAWN:

JRM

DWG NO.

NL-0078

REV

-

SCALE

NTS

DATE

11/30/2016

SHEET

1 OF 8
- ROBERT J. AMORUSO

FL. P.E. NO. 49752

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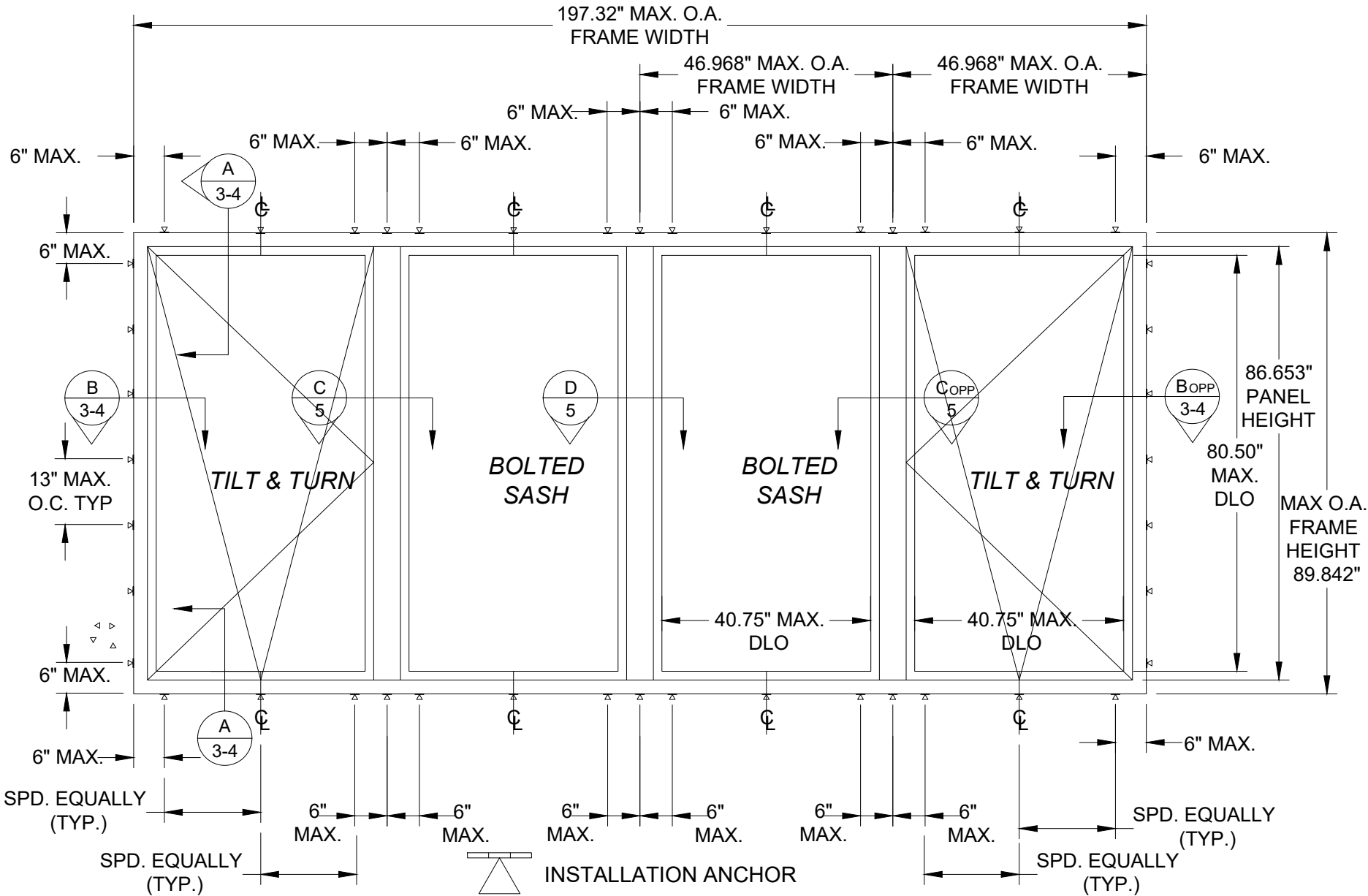
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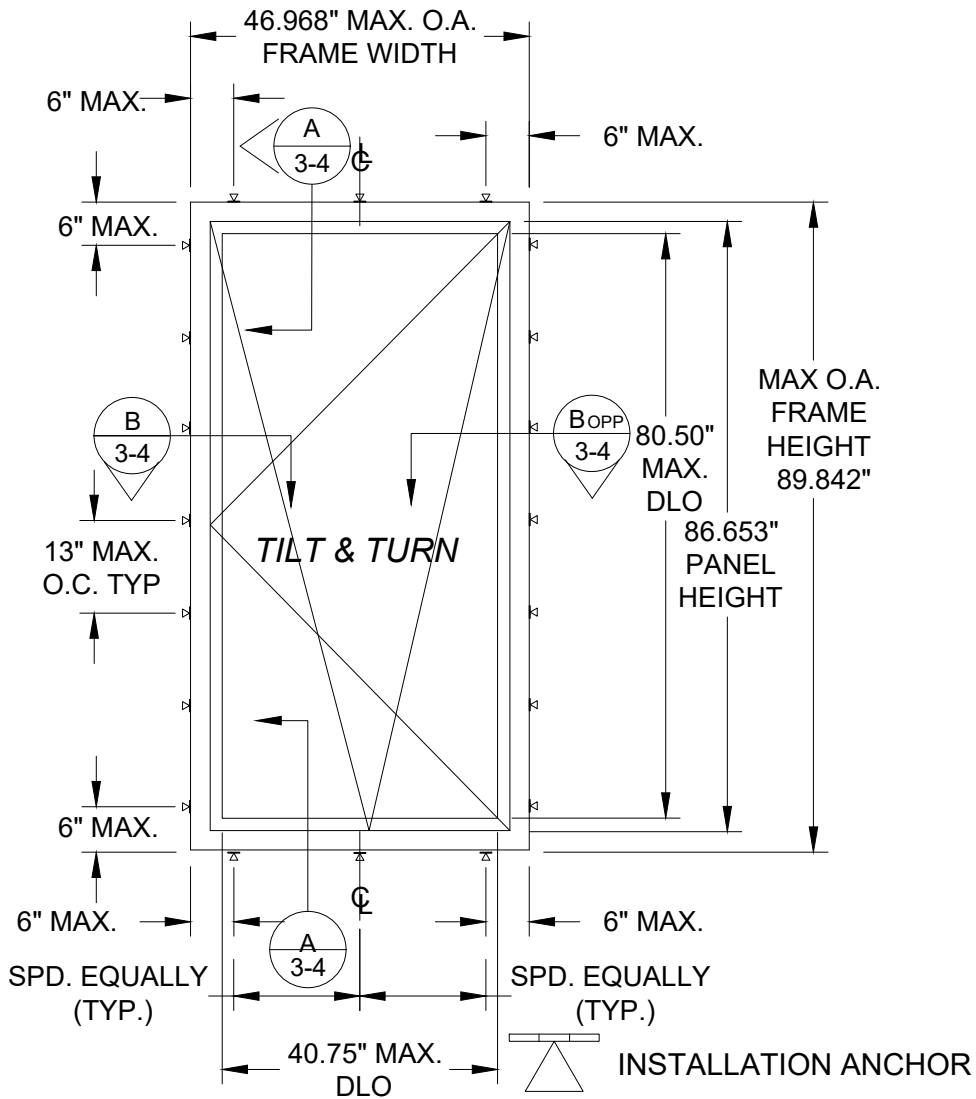


COMPOSIT ASSEMBLY
132MM INTEGRAL MULLION
ANCHOR LAYOUT
INTERIOR VIEW

- NOTES
- 1. MAXIMUM PANEL D.L.O.: 40.75" X 80.5"
 - 2. MAXIMUM PANEL SIZE: 46.968" X 86.653"

DESIGN PRESSURE RATING	HVHZ IMPACT RATING
+ 55.0 PSF / -55.0 PSF	LARGE AND SMALL MISSILE IMPACT

APPROVED ELEVATIONS XOOX, XO, OX, X

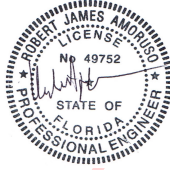


TILT TURN WINDOW
SINGLE ASSEMBLY
ANCHOR LAYOUT
INTERIOR VIEW

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NATURELINE-78 FEN 425 COMPOSITE MULLED TILT-TURN/BOLTED SASH. L.M. IMPACT HVHZ ELEVATION AND ANCHOR LAYOUTS		
DRAWN: JRM	DWG NO. NL-0078	REV -
SCALE NTS	DATE 11/30/2016	SHEET 2 OF 8

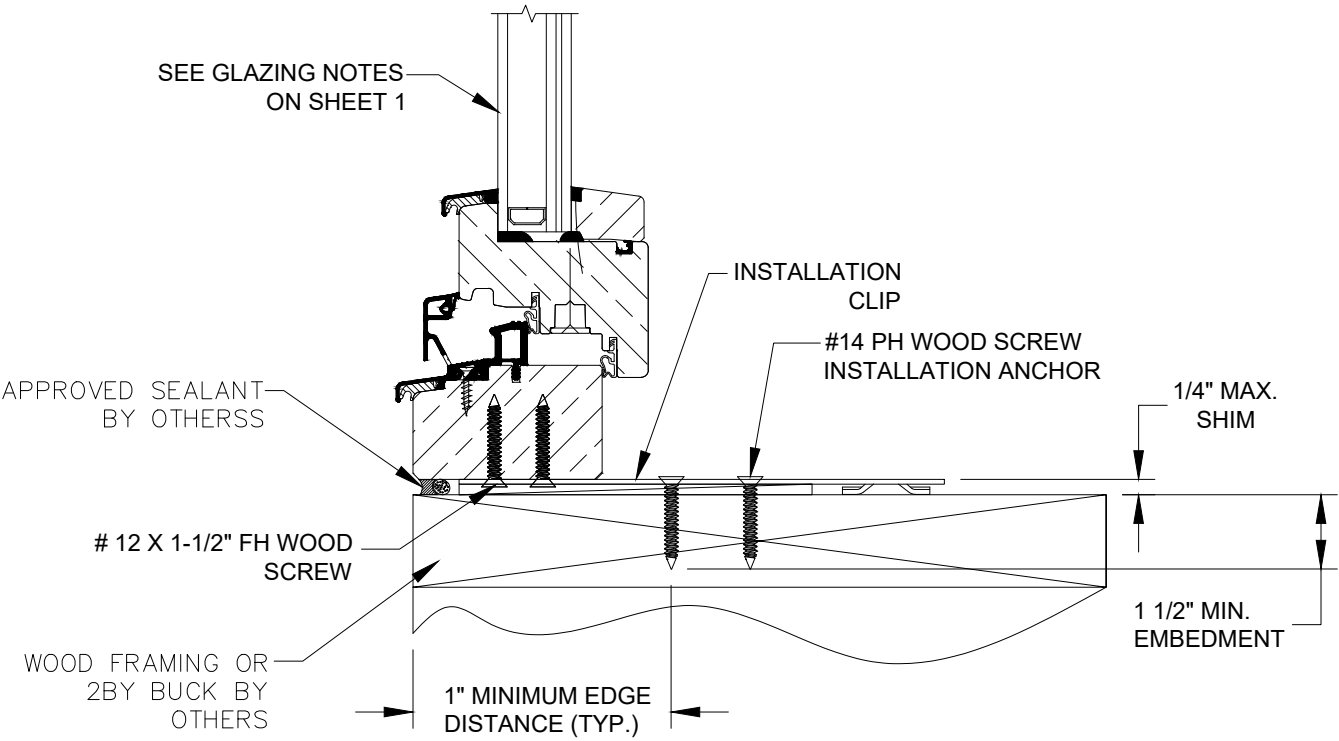
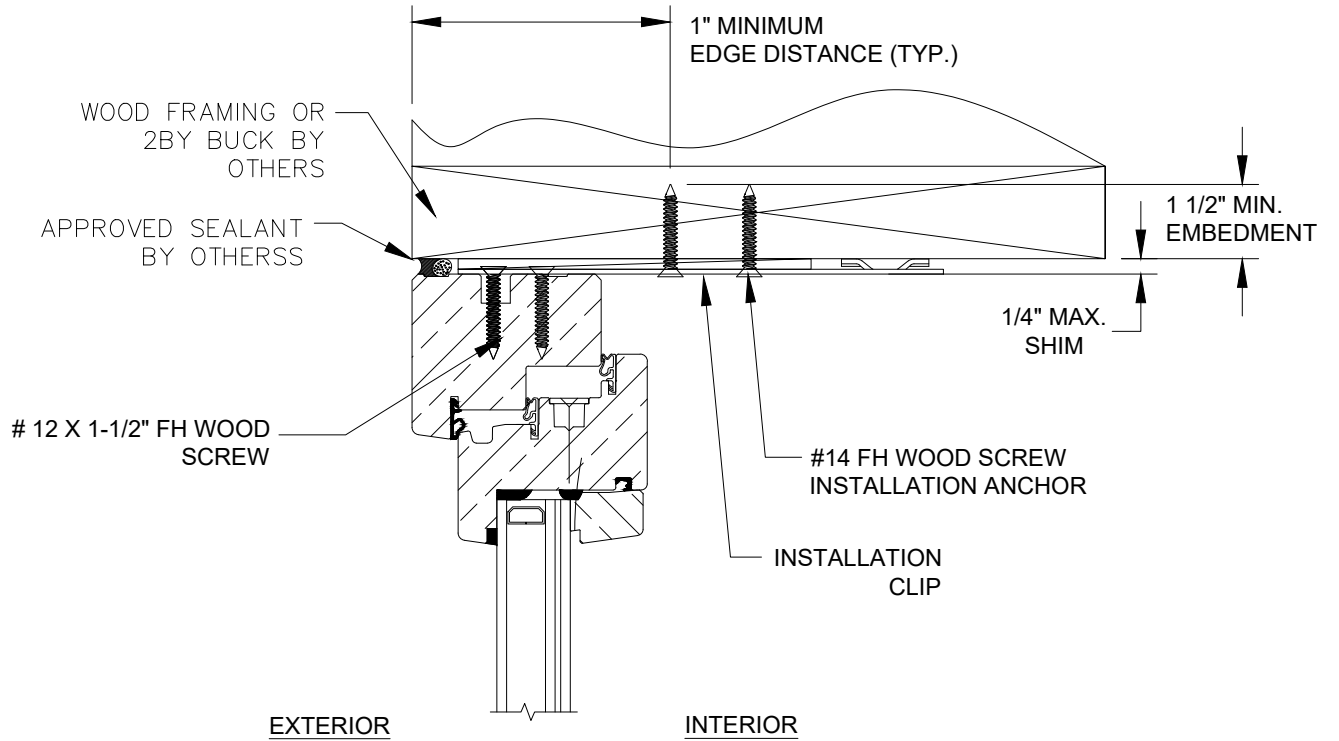
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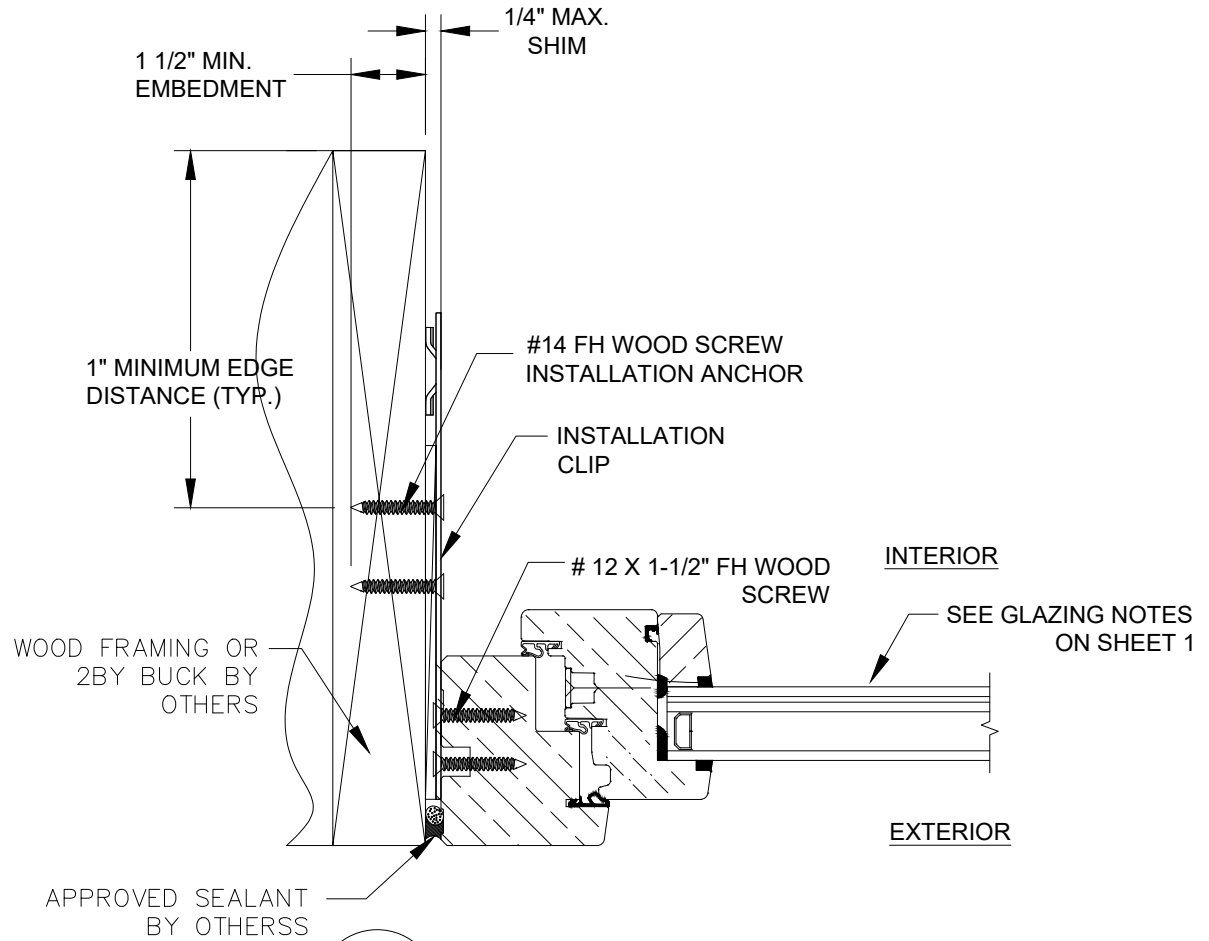


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A
3 **VERTICAL SECTION**
2 BY WOOD SUBSTRATE
CLIP INSTALLATION



B
3 **HORIZONTAL SECTION**
2 BY WOOD SUBSTRATE
CLIP INSTALLATION

- NOTES:
1. INTERIOR AND EXTERIOR FINISHES BY OTHERS NOT SHOWN FOR CLARITY.
 2. PERIMETER AND JOINT SEALANT BY OTHERS TO BE DESIGNED IN ACCORDANCE WITH ASTM E2112.

GAULHOFER INDUSTRIE-HOLDING GmbH A-8124 UBELBACH/STIERMARK AUSTRIA		
NATURELINE-78 FEN 425 COMPOSITE MULLED TILT-TURN/BOLTED SASH. L.M. IMPACT HVHZ ANCHOR STRAP INSTALLATION-WOOD FRAME		
DRAWN: JRM	DWG NO. NL-0078	REV -
SCALE NTS	DATE 11/30/2016	SHEET 3 OF 8

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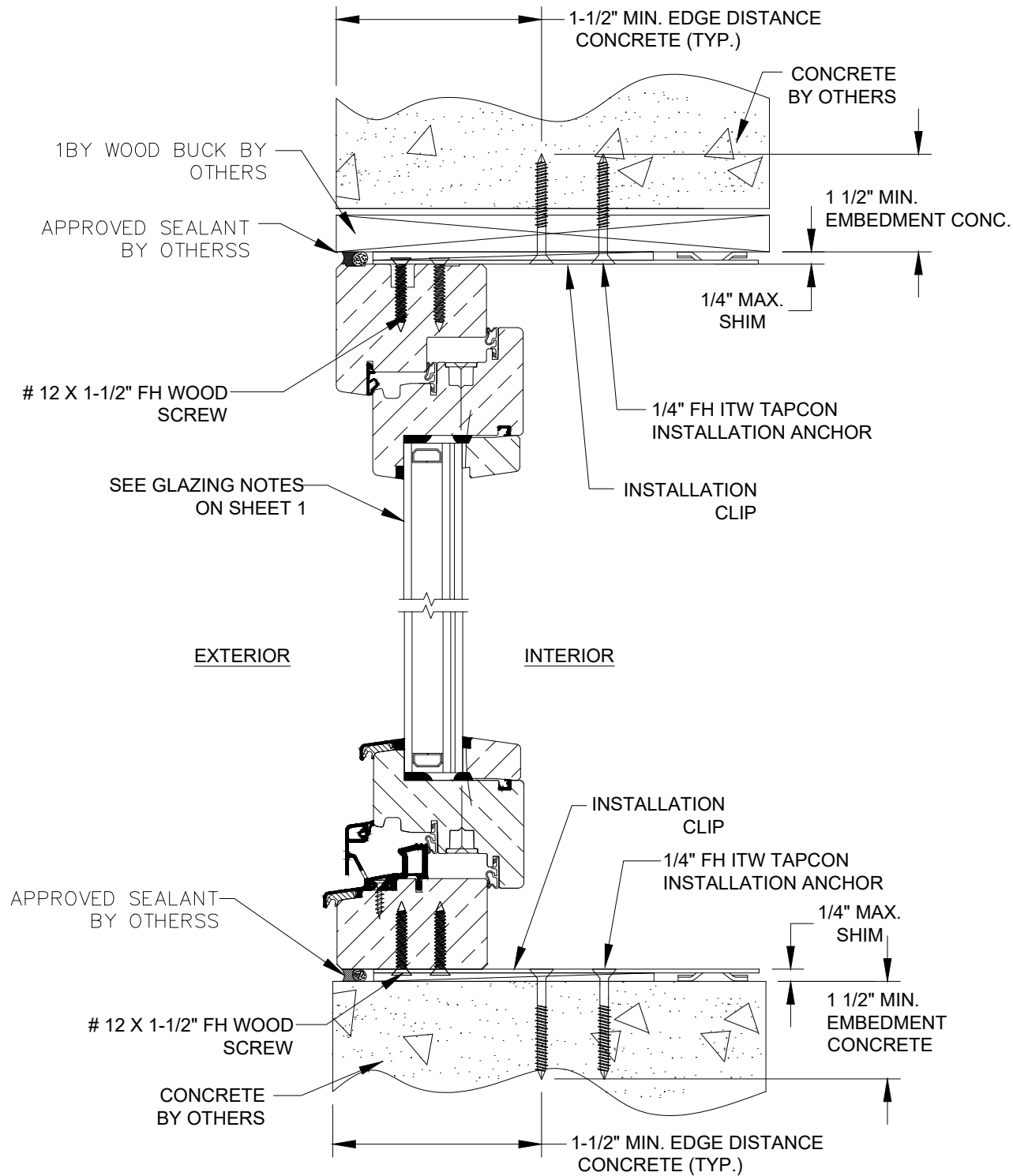
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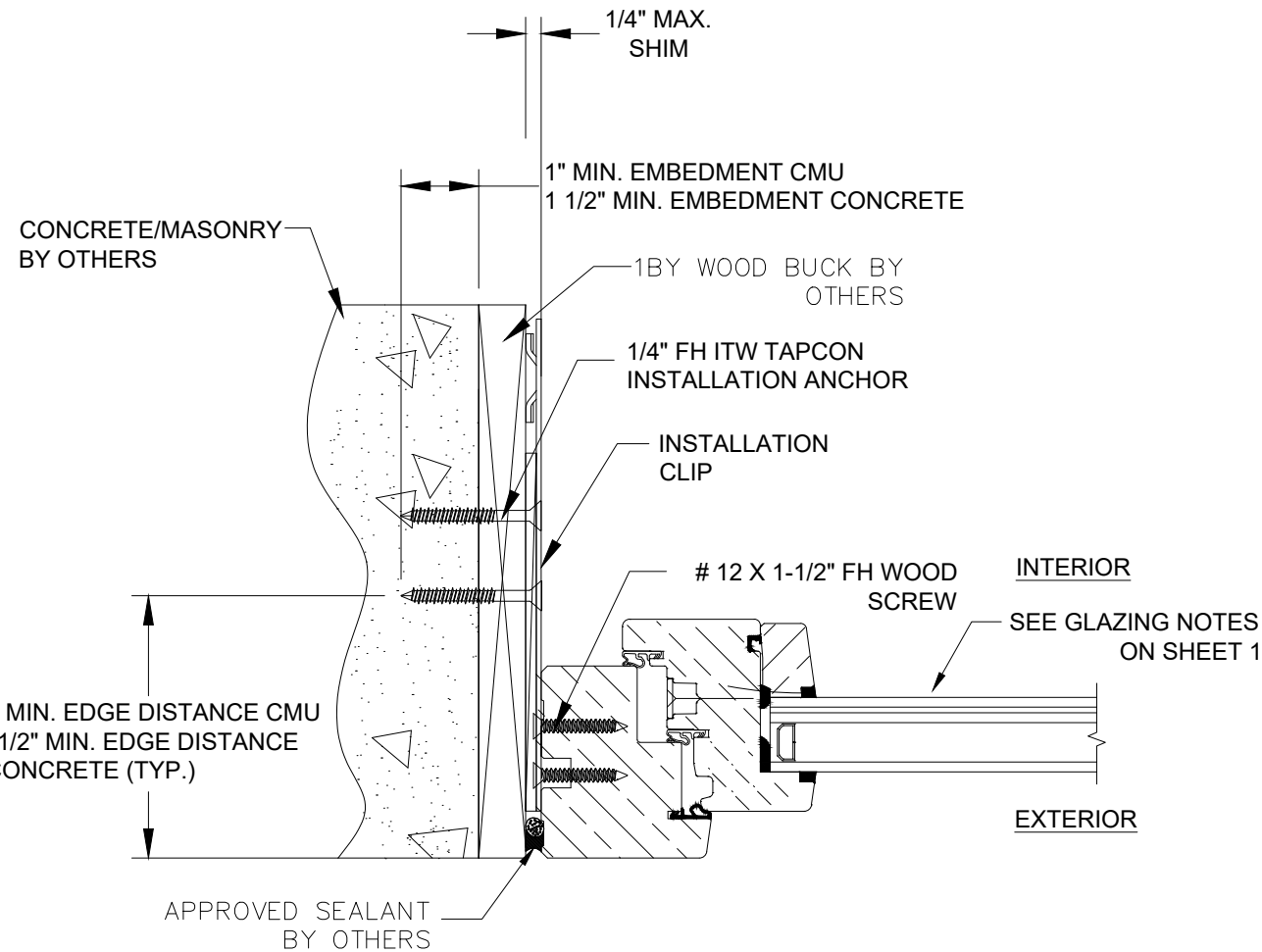
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A
4 **VERTICAL SECTION**
CONCRETE SUBSTRATE
CLIP INSTALLATION



B
4 **HORIZONTAL SECTION**
CONC. / MASONRY SUBSTRATE
CLIP INSTALLATION

- NOTES:
1. INTERIOR AND EXTERIOR FINISHES BY OTHERS NOT SHOWN FOR CLARITY.
 2. PERIMETER AND JOINT SEALANT BY OTHERS TO BE DESIGNED IN ACCORDANCE WITH ASTM E2112.

GAULHOFER INDUSTRIE-HOLDING GmbH A-8124 UBELBACH/STIERMARK AUSTRIA		
NATURELINE-78 FEN 425 COMPOSITE MULLED TILT-TURN/BOLTED SASH. L.M. IMPACT HVHZ ANCHOR STRAP INSTALLATION -CONCRETE/MASONRY		
DRAWN: JRM	DWG NO. NL-0078	REV -
SCALE NTS	DATE 11/30/2016	SHEET 4 OF 8

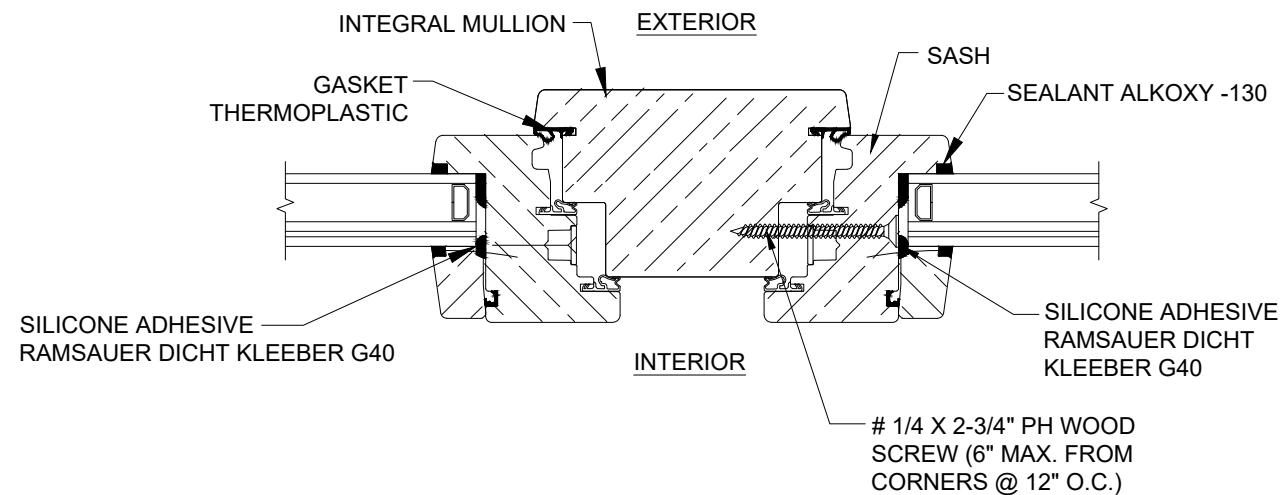
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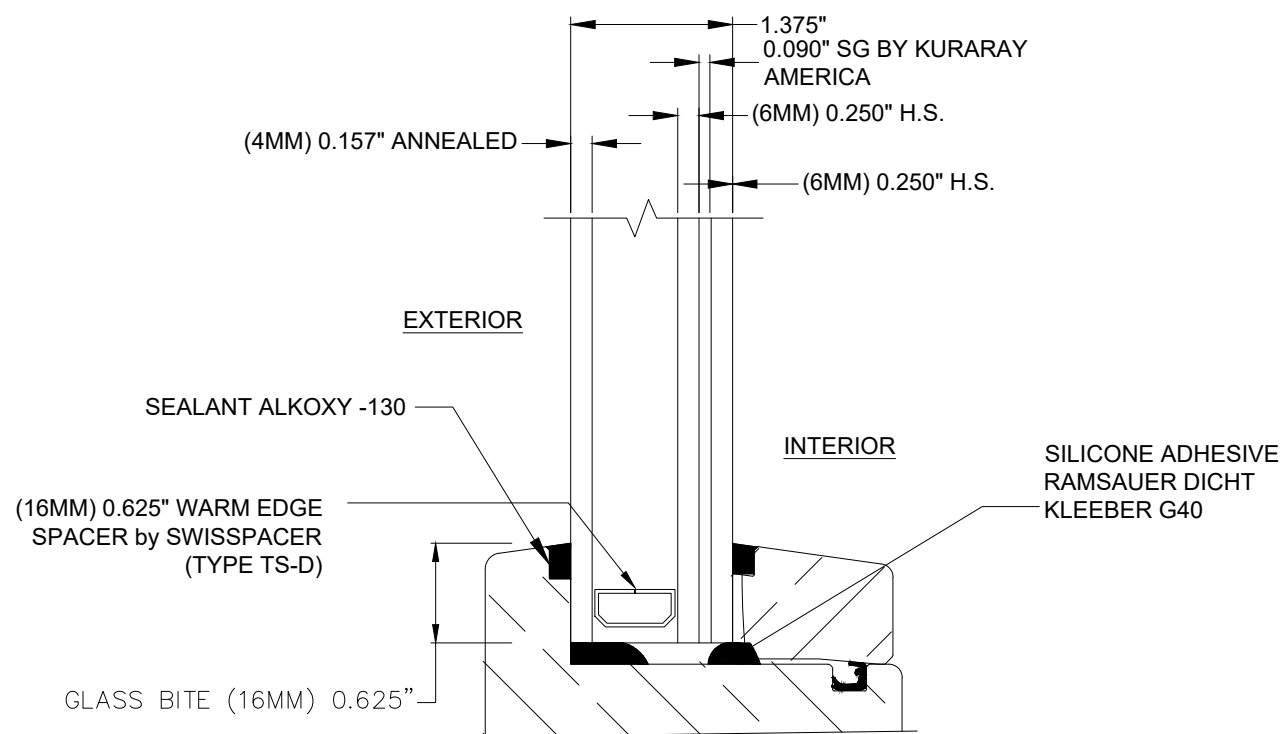
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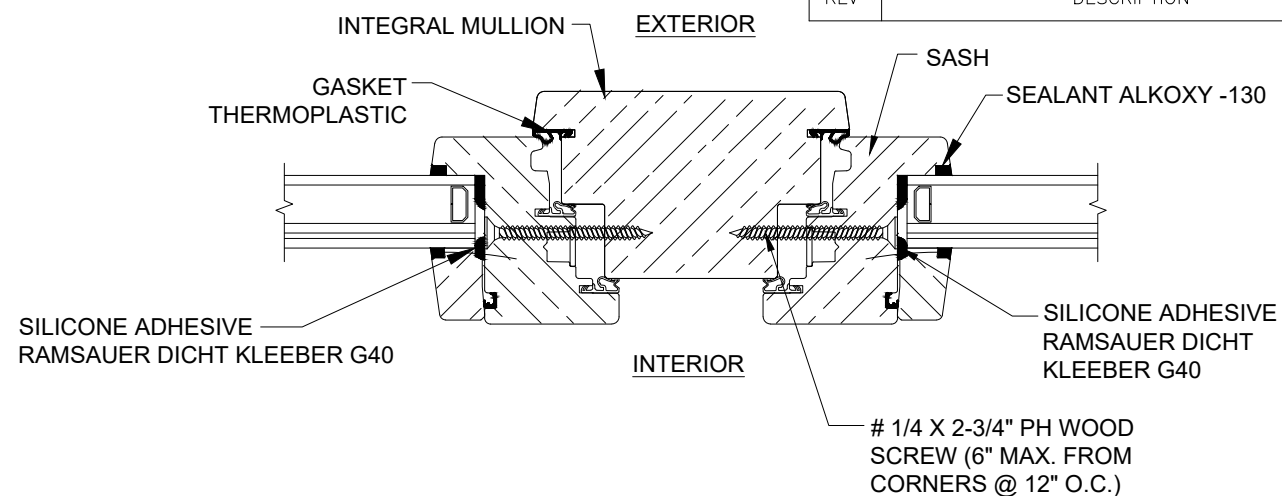


C
5

INTEGRAL MULLION SECTION TILT AND TURN WINDOW TO BOLTED SASH

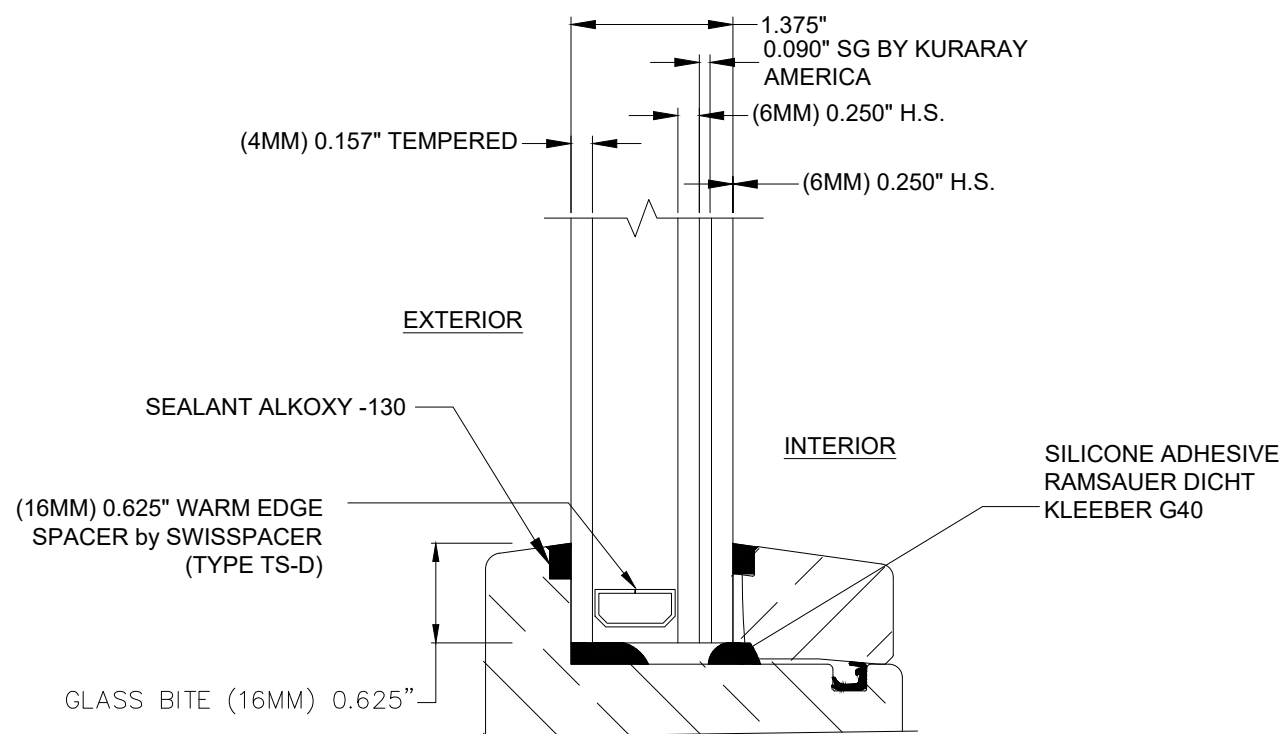


GLAZING DETAIL 1 TILT-TURN AND BOLTED SASH WINDOWS NON-HVHZ (ONLY)



D
5

INTEGRAL MULLION SECTION BOLTED SASH WINDOWS



GLAZING DETAIL 2 TILT-TURN AND BOLTED SASH WINDOWS HVHZ (REQUIRED) AND NON-HVHZ (OPTIONAL)

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AUSTRIA

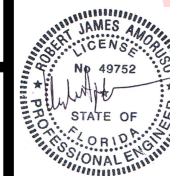
NATURELINE-78 FEN 425 COMPOSITE MULLED
TILT-TURN/BOLTED SASH. L.M. IMPACT HVHZ
MULLION DETAILS AND GLAZING

DRAWN: JRM	DWG NO. NL-0078	REV —
SCALE NTS	DATE 11/30/2016	SHEET 5 OF 8

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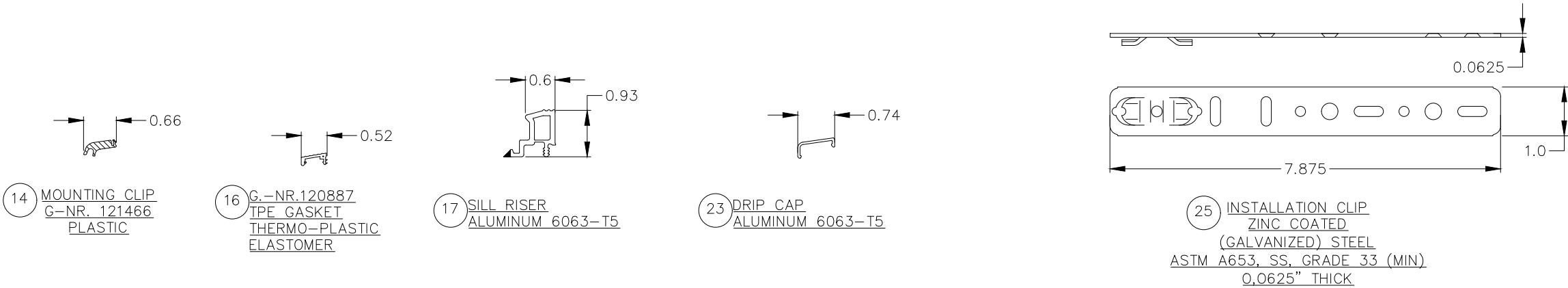
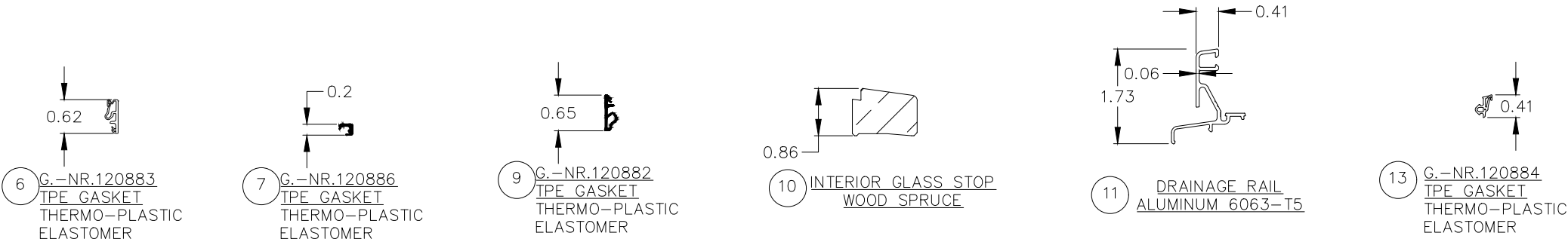
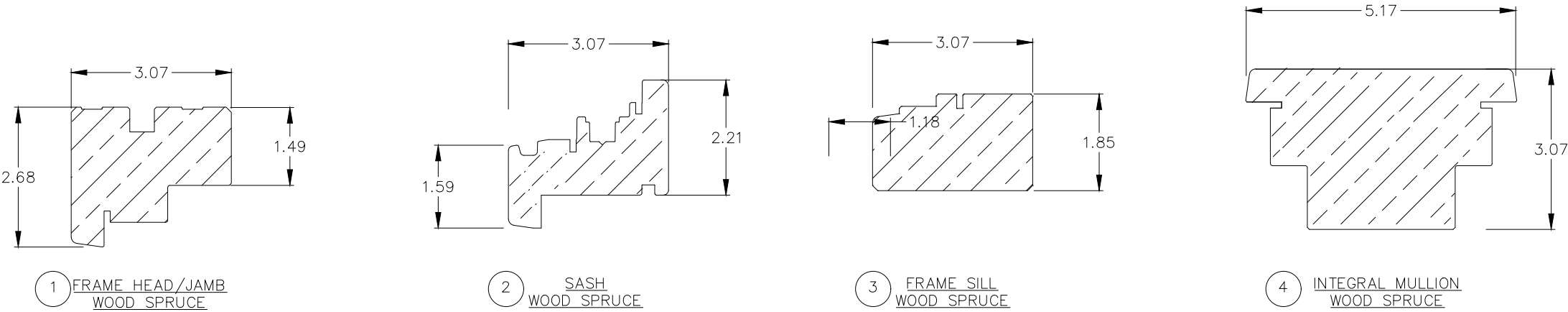
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QTY.	PART NO.	DESCRIPTION	MANUFACTURER
1	-----	FRAME HEAD / JAMB-WOOD SPRUCE	GAULHOFER
2	-----	SASH, WOOD SPRUCE	GAULHOFER
3	-----	FRAME SILL, WOOD SPRUCE	GAULHOFER
4	-----	INTEGRAL MULLION, WOOD SPRUCE	GAULHOFER
5	-----	OPERATOR, MULTI-MATIC MULTI-POWER	MACO
6	G.-NR 120883	GASKET, THERMOPLASTIC ELASTOMER	PURCHASE
7	G.-NR 120886	GASKET, THERMOPLASTIC ELASTOMER	PURCHASE
8	-----	SEALANT, ALKOXY 130	PURCHASE
9	G.-NR 120882	GASKET, THERMOPLASTIC ELASTOMER	PURCHASE
10	-----	INTERIOR GLASS STOP, WOOD SPRUCE	GAULHOFER
11	G.-NR 120992	DRAINAGE RAIL, ALUMINUM 6063-T5	GAULHOFER
12	-----	1-1/2" 18 GAUGE BRAD NAIL	PURCHASE
13	G.-NR 120884	GASKET, THERMOPLASTIC ELASTOMER	PURCHASE
14	G.-NR 121466	MOUNTING CLIP, PLASTIC	GAULHOFER
15	-----	SEALANT, KRAFT ELAST KLEEBER-635	PURCHASE
16	G.-NR 120887	GASKET, THERMOPLASTIC ELASTOMER	PURCHASE
17	G.-NR 116853	SILL RISER, ALUMINUM 6063-T5	GAULHOFER
18	PURCHASE	HINGE, MULTIMATIC MULTIPOWER	MACO
19	PURCHASE	LOCK, MULTIMATIC MULTIPOWER	MACO
20	PURCHASE	HARDWARE SCREW	MACO
21	G.-NR 121390, 121391	END CAP SILL RISER, THERMOPLASTIC ELASTOMER	PURCHASE
22	G.-NR 121395, 121397	END CAP DRAIN RAIL, THERMOPLASTIC ELASTOMER	PURCHASE
23	G.-NR 116838	DRIP CAP, THERMOPLASTIC ELASTOMER	PURCHASE
24	G.-NR 121388, 121389	END CAP FOR DRIP CAP, THERMOPLASTIC ELASTOMER	PURCHASE
25	PURCHASE	ANCHOR STRAP, 1/8" x 1" x 7-7/8" MIN. ZINC-COATED (GALVANIZED) STEEL, ASTM A653, SS, Grade 33 MIN.	PURCHASE
26	PURCHASE	1/4" ITW TAPCON (ADVANCED THREADFORM), FH, CARBON STEEL, BLUE CLIMASEAL FINISH. LENGTH AS REQUIRED TO MEET/EXCEED MINIMUM EMBEDMENT REQUIREMENTS.	PURCHASE
27	PURCHASE	#14 FH WOOD SCREW (ANSI B18.6.1), GRADE 2 (57 KSI YIELD STRENGTH). LENGTH AS REQUIRED TO MEET/EXCEED MINIMUM EMBEDMENT REQUIREMENTS.	PURCHASE
28	PURCHASE	#12 X 1-1/2" FH WOOD SCREW (ANSI B18.6.1), GRADE 2 (57 KSI YIELD STRENGTH).	PURCHASE

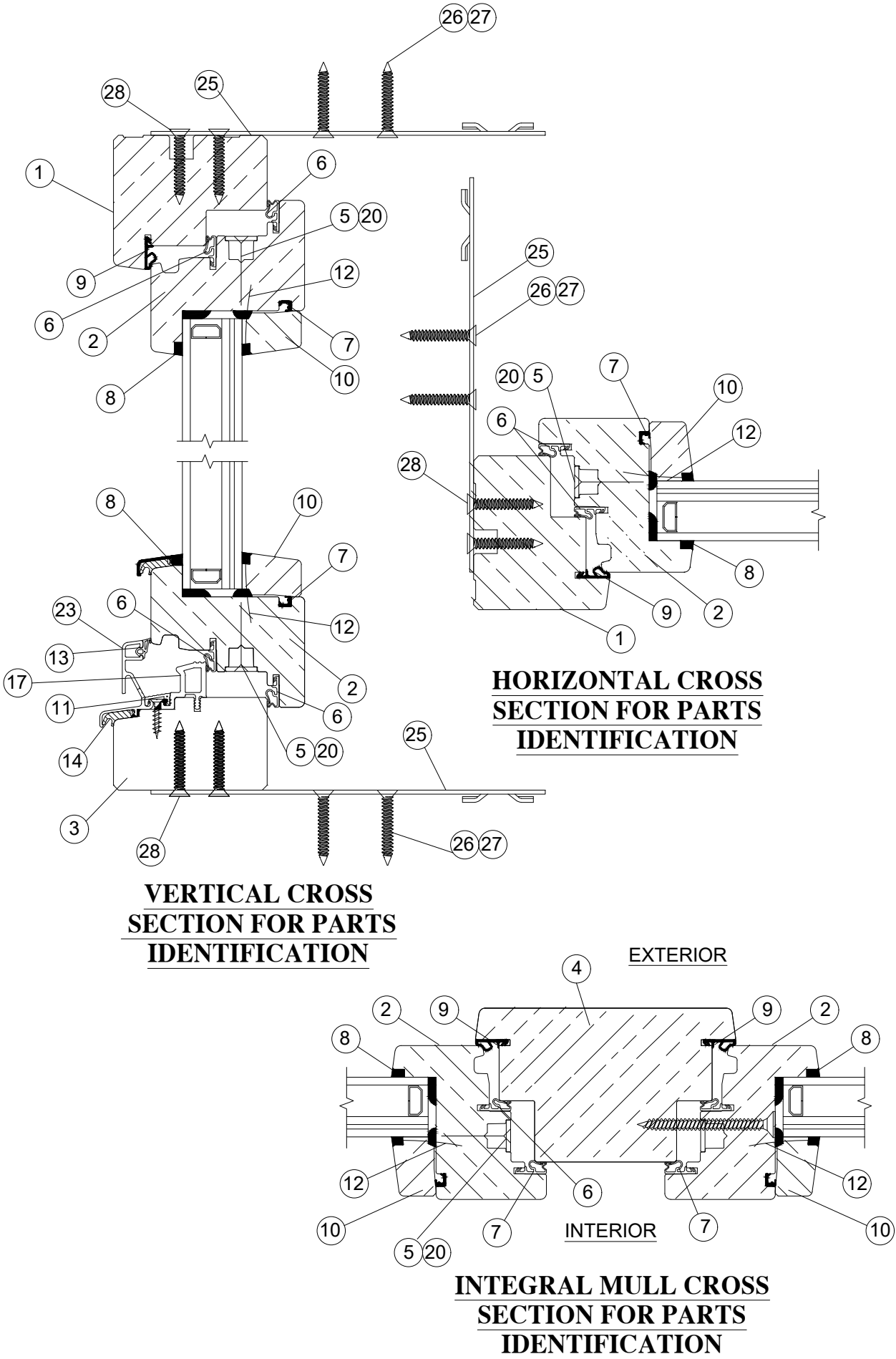
GAULHOFER INDUSTRIE-HOLDING GmbH A-8124 UBELBACH/STEIERMARK AUSTRIA		
NATURELINE-78 FEN 425 COMPOSITE MULLED TILT-TURN/BOLTED SASH. L.M. IMPACT HVHZ BILL OF MATERIALS & CROSS SECTIONS		
DRAWN: JRM	DWG NO. NL-0078	REV —
SCALE NTS	DATE 11/30/2016	SHEET 7 OF 8

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ROBERT JAMES AMORUSO
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FLORIDA
PROFESSIONAL ENGINEER

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REFER. NO.	PART NO.	DESCRIPTION
A2	222202	CORNER ELEMENT STANDARD I.S.
B1	222209	CORNER ELEMENT VERTICAL I.S.- VERTICALLY EXTENDABLE
C	222205	CORNER ELEMENT HORIZONTAL I.S.-HORIZONTALLY EXTENDABLE
D	-----	T& T DRIVE GEAR EH BS 15 FHH I.S. 660, 840, 1090, 1340, 1590, 1700, 1950, 2200,2450
E1	213041, 213042	STABILIZING SCISSOR STAY W/ NIGHT VENT-MM MOUNTED (LEFT & RIGHT)
F	-----	FACE PLATE EXTENSION MM, EXTENDABLE 140, 235
F	-----	CENTER LOCK FHH I.S. 1280, 1500
F	-----	CENTER LOCK EXTENDABLE I.S. 1280V, 1500V, 2200V
G	359769, 359770	STRIKER PLATE I.S. 12MM AIR GAP, EURO REBATE 18MM REBATE DEPTH+1MM
G1	356298, 356299	SASH LIFTER MM 12 MM AIR GAP EURO REBATE, 18MM REBATE DEPTH RIGHT & LEFT
G2	52794	STABILIZING SCISSOR STAY CASING 12MM AIR GAP, EURO REBATE 18MM
S1	207434	ANTI DRILL PLATE FOR GEARING DM 15
S2	358368	CONNECTOR PLATE MM EH
S3	205644	BOTTOM END PICE FOR DRIVE GEAR VHH -BOTTOM WITH I.S.
V	211562, 217563, 217564, 217565, 217566, 217567, 217568, 217569	SCISSOR STAY FACE PLATE WITH NIGHT VENT MULTIPOWER (LEFT, RIGHT) 600800, 1050, 1300
V1	217651, 217652, 217655, 217656	SCISSOR STAY ARM WITH HINGE W/ NIGHT VENT MULTIPOWER 10501300 RIGHT/LEFT
V2	214252, 214253	PIVOT POST FOR TIMNER MULTIPOWER 30MM REBATE/ 13MM OFFEST LEFT/RIGHT
V3	215804, 215805	CORNER SUPPORT MULTIPOWER 13MM OFFSET RIGHT/LEFT
VU2	57428	CAM FOR LOCKING MONITORING CONTACT SENSOR CAM SHORT 10-13.4
VU4	200906	ADAPTOR WITH CONTACT SENSOR KVS MM



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