



# NATIONAL CERTIFIED TESTING LABORATORIES

3310 HILL AVENUE • EVERETT, WASHINGTON 98201 • TELEPHONE (425) 259-6799  
FAX (425) 259-4936  
www.nctlinc.com

## TEST REPORT SUMMARY

**AAMA/WDMA/CSA 101/I.S.2/A440-11**  
**AAMA/WDMA/CSA 101/I.S.2/A440-08**  
**AAMA/WDMA/CSA 101/I.S.2/A440-05**  
**AAMA 1701.2-95**  
**CSA A440S1-09**

Rendered to:

**JELD-WEN**  
**Windows & Doors**

**PRODUCT TYPE: O/X-O-O/X – Composite Unit/Vinyl Triple Tilt Single Hung Window (8423, 7361)**  
**Using Reinforcing Integral Mullions (9411)**

**SERIES/MODEL: Builders Vinyl (V-2500)**

Title	Summary of Results
Primary Product Designator AAMA/WDMA/CSA 101/I.S.2/A440-11 AAMA/WDMA/CSA 101/I.S.2/A440-08 AAMA/WDMA/CSA 101/I.S.2/A440-05	Class R-PG50: Size tested 2769 x 1880 mm (~109 x 74 in) - Type H <sup>2,3,4</sup> Class R-PG50: Size tested 2769 x 1880 mm (109 x 74 in) - Type H <sup>2,3,4</sup> H-R50 2769 x 1880 (109 x 74) <sup>2,3,4</sup>
Positive Design Pressure <sup>1</sup>	ASTM E330-02(10): 2400 Pa (50.13 psf)
Negative Design Pressure <sup>1</sup>	ASTM E330-02(10): -2400 Pa (-50.13 psf)
Operating Force (in motion)	ASTM E2068-00(08): 54 N (12 lbf)
Air Leakage Resistance	ASTM E283-04(12): 0.8 L/(s•m <sup>2</sup> ) (0.2 cfm/ft <sup>2</sup> )
Canadian Air Infiltration/Exfiltration <sup>1</sup>	ASTM E283-04(12): A2 Level
Water Penetration Resistance Test Pressure	ASTM E547-00(09): 360 Pa (7.52 psf)
Uniform Load Structural Test Pressure <sup>1</sup>	ASTM E330-02(10): ±3600 Pa (75.19 psf)
Forced Entry Resistance	ASTM F588-07: Grade 10 – Pass <sup>2</sup>
AAMA 1701.2-95	Wind Zone I – Pass 24 CFR 3280.305 Wind Zone III ±2777 Pa (58 psf) – Pass

1 – Optional Secondary Designators

2 – Refer to NCTL Report No. SJW2009-184 dated 01/27/2010 for Builders Vinyl (V-2500) Tilt Single Hung Window gateway test results.

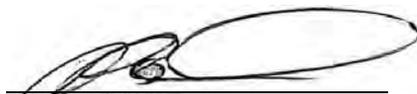
3 – Tested specimen Operable Sash Size x 2 = 864 mm x 935 mm (34" x 36.813")  
Tested specimen Center Fixed Daylight Opening = 846 mm x 1810 mm (33.313" x 71.25")

4 – Tested Installation Methods: Standard Nailing Flange Installation and Alternate Through Frame Installation.

**Test Completion Date:** 01/29/2013

Reference must be made to Report No. SJW2013-011 dated 02/21/2013 for complete test specimen description and data.

**For National Certified Testing Laboratories Northwest**

  
Serge Paquet  
Technician

  
Kevin P. Tyra, P.E.



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## **TEST REPORT**

**AAMA/WDMA/CSA 101/I.S.2/A440-11**  
**AAMA/WDMA/CSA 101/I.S.2/A440-08**  
**AAMA/WDMA/CSA 101/I.S.2/A440-05**  
**AAMA 1701.2-95**  
**CSA A440S1-09**

**SJW2013-011**

REPORT TO:  
JELD-WEN WINDOWS & DOORS  
3737 LAKEPORT BLVD.  
KLAMATH FALLS, OR. 97601

ORIGINAL REPORT NUMBER: SJW2013-011  
ORIGINAL REPORT DATE: 02/21/2013

PRODUCT TYPE:  
**O/X-O-O/X – COMPOSITE UNIT/VINYL TRIPLE TILT SINGLE HUNG WINDOW**  
**(8423, 7361) USING REINFORCING INTEGRAL MULLIONS (9411)**

SERIES/MODEL:  
**BUILDERS VINYL (V-2500)**

<b>Report Number</b>	SJW2013-011
<b>Report Date</b>	02/21/2013
<b>Report To</b>	JELD-WEN Windows and Doors 3737 Lakeport Blvd. Klamath Falls, OR. 97601
<b>Start Test Date</b>	01/16/2013
<b>End Test Date</b>	01/29/2013
<b>Specification</b>	AAMA/WDMA/CSA 101/I.S.2/A440-11 NAFS 2011 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights  AAMA/WDMA/CSA 101/I.S.2/A440-08 NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights  AAMA/WDMA/CSA 101/I.S.2/A440-05 Standard/Specification for Windows, Doors, and Unit Skylights  AAMA 1701.2-95 Voluntary Standard for Utilization in Manufactured Housing for Primary Windows and Sliding Glass Doors  CSA A440S1-09 Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440 NAFS - North American Fenestration Standard/Specification for windows, doors, and skylights
<b>Performance Results</b>	<u>AAMA/WDMA/CSA 101/I.S.2/A440-11</u> Class R-PG50: Size tested 2769 x 1880 mm (~109 x 74 in) - Type H <sup>1,2</sup>  <u>AAMA/WDMA/CSA 101/I.S.2/A440-08</u> Class R-PG50: Size tested 2769 x 1880 mm (109 x 74 in) - Type H <sup>1,2</sup>  <u>AAMA/WDMA/CSA 101/I.S.2/A440-05</u> H-R50 2769 x 1880 (109 x 74) <sup>1,2</sup>  <u>AAMA 1701.2-95</u> Wind Zone I – Pass 24 CFR 3280.305 Wind Zone III ±2777 Pa (58 psf) – Pass  1. Refer to NCTL Report No. SJW2009-184 dated 01/27/2010 for Builders Vinyl (V-2500) Tilt Single Hung Window gateway test results. 2. Tested Installation Methods: Standard Nailing Flange Installation and Alternate Through Frame Installation.

### ***Description of Specimens Tested***

Note: All dimensions are in the order (Width x Height x Thickness) unless otherwise noted.

Two (2) specimens were submitted for testing; Specimen #1 using a standard nailing flange installation method and Specimen #2 using an alternate through frame installation method. Both specimens utilized the same frame and panel, hardware, and glazing components and were manufactured, and assembled using identical methods except where noted below.

<b>Model/Type:</b>	Builders Vinyl (V-2500) – Composite Unit/Vinyl Triple Tilt Single Hung Window (8423, 7361) Using Reinforcing Integral Mullions (9411)
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<b>Configuration</b>	O/X-O-O/X
<b>Frame Size</b>	2769 mm x 1880 mm (109" x 74")
<b>Sash/Vent/Panel Size</b>	<u>Two (2) Operable Sashes</u> Left: 864 mm x 935 mm (34" x 36.813") Right: 864 mm x 935 mm (34" x 36.813")
<b>Fixed Daylight Opening</b>	<u>Three (3) Fixed Daylight Openings</u> Left: 846 mm x 881 mm (33.313" x 34.688") Center: 846 mm x 1810 mm (33.313" x 71.25") Right: 846 mm x 881 mm (33.313" x 34.688")
<b>Frame Type</b>	Extruded Polyvinyl Chloride (PVC)
<b>Joint Construction</b>	<u>Frame &amp; Sash</u> All frame and sash corners were mitered and welded. An extruded vinyl sill insert was square-cut and snap-fit into the frame sill interior channel within each sash opening and the fixed lite between the integral mullions. An extruded vinyl channel cover was square-cut and snap-fit into the interior channel full length along each integral mullion on the fixed lite side, and full length along the frame sill.  <u>Fixed Meeting Rail</u> The fixed meeting rails joined at the frame jambs were milled at each end and fastened using two (2) 4.2 mm x 64 mm (#8 x 2") bugle head screws per end through the jamb and into screw ports of the fixed meeting rail. The fixed meeting rails joined at the integral mullions were milled at each end and fastened to a 76 mm x 12.7 x 3.2 mm (3" x 0.5" x 0.125") metal bracket. The metal bracket was attached to the end of the fixed meeting rail using two (2) 3.8 mm x 19 mm (#7 x 0.75") flat head screws into screw ports in the fixed meeting rail. The bracket was attached to the vertical integral mullion using two (2) 4.2 mm x 19 mm (#8 x 0.75") flat head screws per bracket.  <u>Vertical Integral Mullion</u> The vertical integral mullion was milled at each end and screw-connected through the frame into screw ports of the mullion using four (4) 4.2 mm x 64 mm (#8 x 2.5") bugle head screws.
	<b>NOTE:</b> Silicone sealant was used to seal the following locations: <ol style="list-style-type: none"> <li>1. Sill insert/frame sill joint full length.</li> <li>2. Sill insert/frame jamb end joint.</li> <li>3. Sill insert/integral mullion end joint.</li> <li>4. Fixed meeting rail/frame jamb joint and fixed meeting rail/integral mullion joint.</li> <li>5. Frame sill/integral mullion joint on the interior side.</li> <li>6. Frame sill/integral mullion joint on the exterior side along the screen channel/glazing channel.</li> <li>7. Integral mullion installation screw heads on the frame perimeter at the frame head and sill.</li> </ol>
<b>Glazing Components</b>	<u>Left &amp; Right Sash, and Left &amp; Right Fixed Lites</u> Overall 19.0 mm (0.750") nominal Glass Thickness Two (2) panes of 3.0 mm (0.125") annealed Spacer Type/Size 13.0 mm (0.500") nominal U-shaped tin-plated steel spacer (Type CU-D)

	<u>Center Fixed Lite</u>
Overall	19.2 mm (0.750") nominal
Glass Thickness	Two (2) panes of 4.7 mm (0.188") annealed
Spacer Type/Size	9.8 mm (0.375") nominal U-shaped tin-plated steel spacer (Type CU-D)
<b>Glazing System</b>	All glass was set on blocks at each end and bedded against silicone glazing sealant. The sash and fixed lites were exterior glazed and retained with a vinyl snap bead on the exterior side.
	<b>NOTE:</b> Setting blocks were also installed between the glass and frame, sash and fixed meeting rail adjacent to the lock and keeper.
<b>Weatherstrip</b>	
Type	Wool pile with integral center fin
Size	6.9 mm (0.270") high
Location	1. Sash stile and bottom rail perimeter face installed in a T-slot on the interior side, contacting the frame jambs/integral mullion and frame sill insert, respectively 2. Sash stile and meeting rail exterior face installed in a T-slot, contacting the frame jambs/integral mullion and fixed meeting rail, respectively
Type	Bulb seal, offset, foam-filled with integral bottom fin
Size	8.2 mm (0.320") diameter with 3.2 mm (0.125") fin
Location	Sash bottom rail exterior face installed in a T-slot, contacting the bottom of the sill channel
<b>Sash Stop</b>	
Type	Extruded vinyl
Size	38 mm (1.5") long
Location	A sash stop was snap-fit into each frame jamb and integral mullion balance channel at the head to limit travel of the sash.
<b>Operating Hardware</b>	
Latches	
Type	Cam lock, metal with top mount keeper, metal
Location	Two (2) locks were installed on the top face of each operable sash meeting rail. Each lock was centered at 206 mm (8.125") from each end and fastened using two (2) 3.5 mm x 19 mm (#6 x 0.75") flat head screws. Each lock engaged a metal keeper fastened to the top face of the fixed meeting rail at a corresponding location using two (2) 3.5 mm x 38 mm (#6 x 1.5") drill-point flat head screws.
	<b>NOTE:</b> The lock and keeper mounting screws continued through the internal reinforcement of sash meeting rail and fixed meeting rail, respectively.
Type	Plastic flush mount/spring-loaded tilt latches
Location	Each sash meeting rail top face at each end, snap-fit into milled slots on the top face of the sash meeting rail and perimeter face of each sash stile
Balance System	
Type	Block and tackle balances
Location	Each frame/integral mullion balance channel, attached to the tilt pins installed at the bottom corner of each sash

Type	Tilt pins - Metal
Location	Each sash bottom rail at each end, installed through milled slots in the perimeter face of each sash stile and contained within a channel in the bottom rail. Each tilt pin was secured using two (2) 3.5 mm x 19 mm (#6 x 0.75") flat head screws.
Pull Handle	
Type	Integral full length vinyl
Location	Each sash bottom rail interior face
<b>Reinforcement</b>	
Type	Steel, galvanized, roll-formed
Size	1.3 mm (18 GA/0.052") thick
Location	Fixed meeting rail cavity
Type	Steel, galvanized, roll-formed
Size	1.3 mm (18 GA/0.052") thick
Location	Sash meeting rail cavity
Type	Steel, galvanized, roll-formed
Size	1.3 mm (18 GA/0.052") thick
Location	Sash stile cavity
Type	Steel, galvanized, roll-formed
Size	1.3 mm (18 GA/0.052") thick
Location	Sash bottom rail cavity
Type	Aluminum 6063-T6, extruded
Size	69.2 mm x 33.5 mm (2.73" x 1.32") hollow irregular shape
Location	Integral mullion cavity
<b>Weep Description</b>	
	<u>Sash</u>
Size	9.5 mm x 3.2 mm (0.375" x 0.125") slot
Location	<ol style="list-style-type: none"> <li>1. Top of the sash bottom rail below the I.G. unit at approximately 108 mm (4.25") from each end, draining into the sash bottom rail cavity</li> <li>2. Bottom of the sash bottom rail at approximately 108 mm (4.25") from each end, draining the bottom rail cavity into the frame sill interior channel</li> </ol>
	<u>Frame</u>
Size	11.1 mm (0.438") diameter hole
Location	<ol style="list-style-type: none"> <li>1. Sill interior sash channel bottom face at approximately 64 mm (2.5") from each end, draining into the sill cavity</li> <li>2. Sill interior sash channel bottom face at approximately 95 mm (3.75") from the centerline on the operable sash side of each integral, draining into the sill cavity</li> </ol>
Size	9.5 mm x 3.2 mm (0.375" x 0.125") slot
Location	Sill exterior face and two (2) internal walls at 51 mm (2") from the centerline on each side of each integral, draining the sill cavities to the exterior
Size	12.7 mm x 3.2 mm (0.5" x 0.125") slot
Location	Sill exterior face and one (1) internal wall at 35 mm (1.375") from each end, draining the sill cavities to the exterior

**NOTE:** One (1) sill internal wall was notched at each end to allow drainage of all cavities.

**Insect Screen**

The screen frame was constructed of square cut roll formed aluminum members assembled together using plastic corner keys. A fiberglass mesh cloth and two (2) plastic tabs were secured to the screen frame using a hollow vinyl spline. A screen was inserted on the exterior side of each sash opening and held in place using two (2) leaf springs.

**Installation Method**Specimen #1 – Nailing Flange

The test specimen was installed into a 51 mm x 203 mm (2" x 8") nominal wood test buck with a 6.4 mm (0.25") gap around the frame perimeter. A total of nine (9) wood shims were equally spaced installed between the frame and the test buck along the frame head and sill, and five (5) wood shims equally spaced along each jamb. The test specimen nailing flanges were bedded in silicone sealant and fastened to the test buck along the frame jambs using one (1) 4.2 mm x 32 mm (#8 x 1.25") pan head screw at approximately 102 mm (4"), 419 mm (16.5"), 546 mm (21.5"), 851 mm (33.5"), 1054 mm (41.5"), 1359 mm (53.5"), 1473 mm (58"), and 1778 mm (70") from the bottom, plus one (1) 4.2 mm x 32 mm (#8 x 1.25") pan head screw through a 9.5 mm (0.375") diameter access hole at approximately 19 mm (0.75") from the interior face at the mid-span; and along the frame head and sill using one (1) 4.2 mm x 32 mm (#8 x 1.25") washer head screw at approximately 102 mm (4"), 406 mm (16"), 457 mm (18"), 521 mm (20.5"), 813 mm (32"), 1041 mm (41"), 1245 mm (49"), 1435 mm (56.5"), 1549 mm (61"), 1753 mm (69"), 1956 mm (77"), 2248 mm (88.5"), 2311 mm (91"), and 2667 mm (105") from the left end. Silicone sealant was used along the full perimeter of the nailing flange on the exterior side to seal the screws and flange to the test buck. A total of fourteen (14) screws were installed along the frame head, fourteen (14) screws along the frame sill, and nine (9) screws along each frame jamb.

Specimen #2 – Through Frame

The test specimen was installed into a 51 mm x 203 mm (2" x 8") nominal wood test buck with a 6.4 mm (0.25") gap around the frame perimeter. Wood shims were installed between the frame and the test buck at all fastener locations. The test specimen fastened to the test buck using one (1) 4.2 mm x 32 mm (#8 x 1.25") pan head screw through a 9.5 mm (0.375") diameter access hole at approximately 19 mm (0.75") from the interior face and 102 mm (4") from each end, the mid-span of each sash opening, mid-span of the center fixed lite, and 102 mm (4") and 203 mm (8") on each side of center of each integral mullion along the frame head and sill; and at approximately 102 mm (4"), 406 mm (16"), 584 mm (23"), 813 mm (32"), 889 mm (35"), 991 mm (39"), 1295 mm (51"), 1473 mm (58"), and 1778 mm (70") from the bottom. Silicone sealant was used to seal the screw heads installed through the frame sill. Backer-rod and silicone sealant was used to seal the frame to the test buck on the exterior full perimeter. A total of thirteen (13) fasteners were installed along the frame head, thirteen (13) screws along the frame sill, and nine (9) screws along each frame jamb.

**Test Results - AAMA/WDMA/CSA 101/I.S.2/A440-11 & 08 & 05**

Paragraph      Test  
 9.3.1<sub>11</sub>            Operating Force & Force to Latch - Method B (Force Gauge)  
 5.3.1<sub>08/05</sub>        ASTM E2068-00(08)

Specimen #1  
 Initiate Motion (R - Report Only) = 68 N      (15 lbf)  
 Maintain Motion - Opening            = 52 N      (12 lbf)  
 Maintain Motion - Closing            = 54 N      (12 lbf)  
 Allowed (R Rating<sub>11/08</sub>)              = 155 N    (34.85 lbf)  
 Allowed (R Rating<sub>05</sub>)                = 135 N    (30 lbf)  
 Latches                                    = 17 N      (4 lbf)  
 Allowed                                    = 100 N    (22.5 lbf)

**NOTE:** The results above represent the maximum force among all sash tested.

Paragraph      Test  
 9.3.2<sub>11</sub>            Air Leakage Resistance  
 5.3.2<sub>08/05</sub>        ASTM E283-04(12)

The tested specimen meets or exceeds the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440-11, AAMA/WDMA/CSA 101/I.S.2/A440-08, and AAMA/WDMA/CSA 101/I.S.2/A440-05 for air leakage at positive 75 Pa (1.57 psf).

Maximum Allowable                    = 1.5 L/(s•m<sup>2</sup>) (0.3 cfm/ft<sup>2</sup>)  
Specimen #1 – Air leakage at positive 75 Pa (1.57 psf):  
 Specimen Air Leakage                = 4.28 L/s (9.07 cfm)  
 Air Leakage Rate                      = 0.8 L/(s•m<sup>2</sup>) (0.2 cfm/ft<sup>2</sup>)

Paragraph      Test  
 9.3.3<sub>11</sub>            Water Penetration Resistance  
 5.3.3<sub>08/05</sub>        ASTM E547-00(09)

Specimen #1  
 No Leakage after 4 cycles of 5 minutes at 360 Pa (7.52 psf)

**NOTE:** The above test was performed with and without the insect screen in place.

9.3.4.2<sub>11</sub>            Uniform Load Deflection at Design Pressure  
 5.3.4.2<sub>08/05</sub>        ASTM E 330-02(10)

Specimen #1  
 No damage after positive            2400 Pa (50.13 psf) held for 10 seconds  
 No damage after negative            2400 Pa (50.13 psf) held for 10 seconds  
Reinforcing Integral Mullion  
 Measured Deflection Positive       = 19.13 mm (0.75 inches)  
 Measured Deflection Negative      = 18.16 mm (0.72 inches)  
Fixed Meeting Rail  
 Measured Deflection Positive       = 5.13 mm (0.20 inches)  
 Measured Deflection Negative      = 4.55 mm (0.18 inches)

Specimen #2

No damage after positive 2400 Pa (50.13 psf) held for 10 seconds  
 No damage after negative 2400 Pa (50.13 psf) held for 10 seconds

Reinforcing Integral Mullion

Measured Deflection Positive = 19.76 mm (0.78 inches)  
 Measured Deflection Negative = 19.74 mm (0.78 inches)

Fixed Meeting Rail

Measured Deflection Positive = 3.81 mm (0.15 inches)  
 Measured Deflection Negative = 4.45 mm (0.18 inches)

Paragraph

9.3.4.3<sub>11</sub>

5.3.4.3<sub>08/05</sub>

Test

Uniform Load Structural Test

ASTM E 330-02(10)

Specimen #1

No damage after positive 3600 Pa (75.19 psf) held for 10 seconds  
 No damage after negative 3600 Pa (75.19 psf) held for 10 seconds

Reinforcing Integral Mullion

Measured Permanent Set<sub>Positive</sub> = 0.51 mm (0.02 inches)  
 Measured Permanent Set<sub>Negative</sub> = 0.36 mm (0.01 inches)  
 Maximum Allowed (R - 0.4%) = 7.21 mm (0.28 inches)

Fixed Meeting Rail

Measured Permanent Set<sub>Positive</sub> = 0.33 mm (0.01 inches)  
 Measured Permanent Set<sub>Negative</sub> < 0.25 mm (0.01 inches)  
 Maximum Allowed (R - 0.4%) = 3.25 mm (0.13 inches)

Specimen #2

No damage after positive 3600 Pa (75.19 psf) held for 10 seconds  
 No damage after negative 3600 Pa (75.19 psf) held for 10 seconds

Reinforcing Integral Mullion

Measured Permanent Set<sub>Positive</sub> = 0.61 mm (0.02 inches)  
 Measured Permanent Set<sub>Negative</sub> = 1.35 mm (0.05 inches)  
 Maximum Allowed (R - 0.4%) = 7.21 mm (0.28 inches)

Fixed Meeting Rail

Measured Permanent Set<sub>Positive</sub> = 0.28 mm (0.01 inches)  
 Measured Permanent Set<sub>Negative</sub> < 0.25 mm (0.01 inches)  
 Maximum Allowed (R - 0.4%) = 3.40 mm (0.13 inches)

- NOTE:** 1. Specimen #1: Deflection and Permanent Set measurements were taken on the reinforcing integral mullion over an 1803 mm (71") span and on a fixed meeting rail over an 813 mm (32") span.  
 2. Specimen #2: Deflection and Permanent Set measurements were taken on the reinforcing integral mullion over an 1803 mm (71") span and on a fixed meeting rail over an 851 mm (33.5") span.

**Gateway Test Results**

Refer to NCTL Report No. SJW2009-184 dated 01/27/2010 for Builders Vinyl (V-2500) Tilt Single Hung Window Forced Entry Resistance, Thermoplastic Corner Weld Test, and Sash Deglazing test results. For convenience, the results are shown below.

Paragraph      Test  
 9.3.5.11          Forced Entry Resistance  
 5.3.5.08/05      ASTM F588-07

Type A Window Assembly/Grade 20: Pass

<u>Test</u>	<u>Results</u>	<u>Allowed</u>
Disassembly	No Entry	No Entry
Test A1	No Entry	No Entry
Test A2	No Entry	No Entry
Test A3	No Entry	No Entry
Test A4	No Entry	No Entry
Test A5	No Entry	No Entry
Test A7	No Entry	No Entry
Hardware Manipulation Test	No Entry	No Entry
Sash Manipulation Test	No Entry	No Entry

**NOTE:** 1. T1 = 5 minutes, L1 = 200 lbf, L2 = 100 lbf, L3 = 35 lbf  
 2. Loads were held for 60 seconds.

Paragraph      Test  
 9.3.6.2.11        Thermoplastic Corner Weld Test (PVC products only) – Pass  
 5.3.6.2.08/05

Paragraph      Test  
 9.3.6.3.11        Deglazing Test  
 5.3.6.3.08/05      ASTM E987-88(09)

<u>Sash Rails – 320 N (71.94 lbf)</u>	<u>Results</u>	<u>Allowed</u>
Meeting Rail	10%	< 90% (100%)
Bottom Rail	13%	< 90% (100%)
<u>Sash Stiles – 230 N (51.71 lbf)</u>	<u>Results</u>	<u>Allowed</u>
Left Stile	12%	< 90% (100%)
Right Stile	14%	< 90% (100%)

**NOTE:** The glass bite was approximately 12.7 mm (0.5").

**Test Results - AAMA 1701.2-95**

<u>Paragraph</u> 1.4.2.1	<u>Test</u> Structural Performance ASTM E330-02(10)	
	<u>Specimen #1</u>	
	No Damage after Positive	1190 Pa (25.0 psf) held for 10 seconds
	No Damage after Negative	595 Pa (12.5 psf) held for 10 seconds

<u>Paragraph</u> 1.4.2.2	<u>Test</u> Air Leakage ASTM E283-04(12)	
	Maximum Allowable Rate	= 2.5 L/(s•m <sup>2</sup> ) (0.50 cfm/ft <sup>2</sup> )
	<u>Specimen #1 – Air leakage at positive 75 Pa (1.57 psf):</u>	
	Specimen Air Leakage	= 4.28 L/s (9.07 cfm)
	Air Leakage Rate	= 0.8 L/(s•m <sup>2</sup> ) (0.2 cfm/ft <sup>2</sup> )

<u>Paragraph</u> 1.4.2.3	<u>Test</u> Water Resistance ASTM E547-00(09)	
	<u>Specimen #1</u>	
	No Leakage after 4 cycles of 5 minutes at 360 Pa (7.52 psf)	
	<b>NOTE:</b> The above tests were performed with and without the insect screen in place.	

<u>Paragraph</u> 2.2.6	<u>Test</u> Increased Structural Performance ASTM E330-02(10) 24 CFR 3280.305	
	<u>Specimen #1</u>	
	No Damage after Positive	2777 Pa (58 psf) held for 10 seconds
	No Damage after Negative	2777 Pa (58 psf) held for 10 seconds

**Test Results - CSA A440S1-09**

<u>Paragraph</u> 5.1	<u>Test</u> Insect Screen Serviceability Test ASTM E1748-95(01)			
	<u>Specimen #1 – Load</u> 60 N (13.49 lbf)	<u>Time</u> 60 seconds	<u>Results</u> Pass	

<u>Paragraph</u> 5.2	<u>Test</u> Operating Force and Force to Latch - Method B (Force Gauge) ASTM E2068-00(08)			
	<u>Specimen #1</u>			
	Initiate Motion	= 68 N	(15 lbf)	
	Allowed (Normal Use <sub>11/08</sub> )	= 200 N	(44.96 lbf)	
	Allowed (R Rating <sub>05</sub> )	= 200 N	(45 lbf)	
	Maintain Motion - Opening	= 52 N	(12 lbf)	
	Maintain Motion - Closing	= 54 N	(12 lbf)	
	Allowed (Normal Use <sub>11/08</sub> )	= 100 N	(22.48 lbf)	
	Allowed (R Rating <sub>05</sub> )	= 100 N	(22 lbf)	
	Latches	= 17 N	(4 lbf)	
	Allowed	= 100 N	(22.5 lbf)	

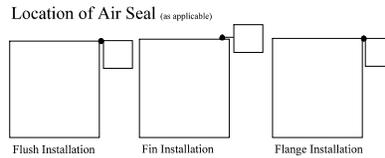
**NOTE:** The results above represent the maximum force among all sash tested.

<u>Paragraph</u> 5.3	<u>Test</u> Canadian Air Infiltration/Exfiltration ASTM E283-04(12)			
	<b>A2 Level Maximum Allowable = 1.5 L/(s•m<sup>2</sup>) (0.3 cfm/ft<sup>2</sup>)</b>			
	A3 Level Maximum Allowable = 0.5 L/(s•m <sup>2</sup> ) (0.1 cfm/ft <sup>2</sup> )			
	<u>Specimen #1 – Air leakage at positive 75 Pa (1.57 psf):</u>			
	Specimen Air Leakage	= 4.28 L/s	(9.07 cfm)	
	Air Leakage Rate	= 0.8 L/(s•m <sup>2</sup> )	(0.2 cfm/ft <sup>2</sup> )	
	<u>Specimen #1 – Air leakage at negative 75 Pa (1.57 psf):</u>			
	Specimen Air Leakage	= 4.60 L/s	(9.75 cfm)	
	Air Leakage Rate	= 0.9 L/(s•m <sup>2</sup> )	(0.2 cfm/ft <sup>2</sup> )	

<u>Paragraph</u> 5.4	<u>Test</u> Water Penetration Resistance ASTM E547-00(09)			
	<u>Specimen #1</u>			
	No Leakage after 4 cycles of 5 minutes at 360 Pa (7.52 psf)			

**NOTE:** The above test was performed with and without the insect screen in place.

These tests were conducted at the JELD-WEN Tech Center at 3737 Lakeport Blvd., Klamath Falls, OR 97601.



This test report was prepared by National Certified Testing Laboratory (NCTL), for the exclusive use of the above named client and it does not constitute certification of this product. The results are for the particular specimen tested and do not imply the quality of similar or identical products manufactured or installed from specifications identical to the tested product. The test specimen was supplied to NCTL by the above named client. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen are to be drawn from the ASTM E330 test. Forced entry resistance test equipment used was in compliance with Section 7 of the ASTM F588-07 test method. Foam tape was mounted to the perimeter of the test buck prior to clamping to the test wall. NCTL is a testing lab and assumes that all information provided by the client is accurate and does not guarantee or warranty any product tested or installed. The results in this report are actual tested values and are applicable to the specimen tested only, using the components and construction methods described herein.

Detailed drawings were available for laboratory records and compared to the test specimen at the time of this report. Component drawings were reviewed for product verification. The bill of materials contains details with any deviations noted. Ambient conditions during the referenced testing are available upon request. A copy of this report along with representative sections of the test specimen will be retained by NCTL. This report does not constitute certification or approval of the product, which may only be granted by a certification program validator or recognized approval entity. All tests were conducted in full compliance with the referenced specifications and/or test methods. This report is the joint property of National Certified Testing Laboratories Inc. and the Client to whom it is issued. Permission to reproduce this report by anyone other than National Certified Testing Laboratories Inc and the Client must be granted in writing by both of the above parties. This report may not be reproduced, except its entirety, without the written consent of NCTL.

**For National Certified Testing Laboratories Northwest**

Serge Paquet  
Technician

Kevin P. Tyra, P.E.

Attachments

- Appendix A
  - Modifications
  - Product Verification
  - Revision Summary
- Appendix B
  - Drawings

**APPENDIX A****Section 1:**

## Modifications to the Test Specimen to Achieve the Listed Results

Any modifications (if applicable) are included in the test specimen description listed in this report.

**Section 2:**

Component Drawings, with Applicable Part Numbers, Manufacturing and Modeling Details, were Reviewed (as submitted) for Product Verification  
(Reference: SJW2013-011)

See Attached Documentation;  
any deviations noted.

NOTE: The above referenced component drawings along with representative sections of the test specimen will be retained per procedure by NCTL. This testing facility assumes that all information provided by the client is accurate.

**Section 3:**

<u>Identification</u>	<u>Date</u>	<u>Page &amp; Revision</u>
Original Issue	02/21/2013	Not Applicable

**Appendix B**

**Drawings**

Builders Tilt Single Hung 01/30/09	Component	JELD-WEN BOM Item#	Item Description	Secondary Description	Vendor Name	Vendor Part Number	Formula	Rules	Entlty		
Frame	Head	09223	7361 MAIN FRAME WHT 252IN		MIKRON	7361	(FRW - BOMBIM)	FN=W	OH		
	Sill	08222	8423 MAIN FRAME WHT 252IN		MIKRON	8423	(FRW - BOMBIM)		OH		
	Jamb	09222	8423 MAIN FRAME WHT 252IN		MIKRON	8423	(FRW - BOMBIM)	SR=7085V.L085V,SR=7085	OH		
	Sill Insert	04109	6702 SILL INSERT WHT 156IN		MIKRON	6702	(FRW - BOMBIM)	P AND ENL=SW	OH		
	Fixed Interlock	00601	7309 FRAME INTRLCK WHT 216IN		MIKRON	7309	(FRW - BOMBIM)	FR<=>YES AND FN=W	IA,OH,PA,TX		
	Fixed Interlock Stiffener	00415	14.25IN FXINTRLCK STEEL STFNR	7309STIF 1-A-16966	HOMESHIELD	9010208	1		<=18" Horz RO 14-1/4"	IA,OH,PA	
		00416	20.25IN FXINTRLCK STEEL STFNR	7309STIF 1-A-16966	HOMESHIELD	9010207	1		<=24" Horz RO 20-1/4"	IA,OH,PA	
		00417	26.25IN FXINTRLCK STEEL STFNR	7309STIF 1-A-16966	HOMESHIELD	9010193	1		<=30" Horz RO 26-1/4"	IA,OH,PA	
		00419	32.25IN FXINTRLCK STEEL STFNR	7309STIF 1-A-16966	HOMESHIELD	9010194	1		<=36" Horz RO 32-1/4"	IA,OH,PA	
		00421	38.25IN FXINTRLCK STEEL STFNR	7309STIF 1-A-16966	HOMESHIELD	9010195	1		<=42" Horz RO 38-1/4"	IA,OH,PA	
		00423	44.25IN FXINTRLCK STEEL STFNR	7309STIF 1-A-16966	HOMESHIELD	9010196	1		<=48" Horz RO 44-1/4"	IA,OH,PA	
	T-Mull	21760	9411 T-Mull Bar WHT 234IN		MIKRON	9411			IA,OH,PA		
	Vent Stop	05068	1.5 VENT STOP WHT		AMESBURY	1967001	2		WY,TX,IA,OH,PA		
	Setting Block	03926	8157 SETTING BLOCK 2.5IN		MIKRON	8157	3		FT<=>P AND FRH<72	WY,TX,IA,OH,PA	
	Glazing	03302	GLAZING TAPE 1/16X1/2 WHT		VENTURE	VG316-G36	((GLSW1)	FR-D<=>YES	WY,TX,IA,PA		
	Glazing Bead	05773	8764 GLAZING BEAD WHT 156IN		MIKRON	8764	((GLSW1)	OVERALL=3/4:23/32:25/32:1	WY,TX,IA,OH,PA		
	Lock Keeper	08400	TOP MOUNT KEEPER WHT	CAMLOCK	FASTEK	12330-500	(1 * LCKS)	FR-9<=>YES AND LOCK-TYP	WY,TX,IA,OH,PA		
	Meeting Rail Screw	03703	8X2 BUGLE PHIL DRYWALL SRW	CAD PLATE PER ASTM B76	MRB0000		4	FR-D<=>YES	IA,OH,PA		
	Keeper Screw	00786	6X1-1/2 PH FH TAP/TEK SCREW WHT	FOR KEEPER	CULL012		2 * LCKS		OH		
	Optional	Glazing	05994	1402 INSTAGLAZE SEALANT CLR		DOWC002	1402	((GLSW1)	FR-D<=>YES	WY,TX,IA,OH,PA	
Glazing Bead		00496	6255 GLAZING BEAD WHT 156IN		MIKRON	6255	((GLSW1)	OVERALL=5/8" AND FN=W	TX,IA,OH,PA		
Lock Keeper		08307	SLOTTED AUTOLOCK KEEPER WHT	WENLOCK	ROTO001	5550WH/SL	(1 * LCKS)	FR-9<=>YES AND LOCK-TYPE	IA,OH,PA		
Required for DP50	Sill Insert	06187	8787 HP SILL INSERT WHT 156IN		MIKRON	8787	(FRW - BOMBIM)	FN=W	IA,OH,PA,TX,WY		
Required for Block Frame & Flush Fin	Glazing	05994	1402 INSTAGLAZE SEALANT CLR		DOWC002	1402	((GLSW1)	FR-D<=>YES	WY,TX,IA,OH,PA		
Dust Plug	05895	1/2IN DUST PLUG WHT		IOWA025	DP2644W	6	FT=FF:BF FT=3/4:1:1-1/8:3/8	TX,WY			
Vent	Vent Interlock	04910	7840_204 VENT INTRLCK WHT 228IN		MIKRON	7840-204	(FRW - BOMBIM)	FN=W	IA,OH,PA,TX,WY		
	Vent Interlock Stiffener	08320	9.75IN VENT INTRLK STEEL STFNR	7840/8440STIF 1-A-16210	WENC001	9010650	1	18" - 21.99" Horz RO 9-3/4"	TX,WY		
		08321	13.125IN VENT INTRLK STEEL STFNR	7840/8440STIF 1-A-16210	WENC001	9010649	1	22" - 29.99" Horz RO 13-1/8"	TX,WY		
		08322	19.125IN VENT INTRLK STEEL STFNR	7840/8440STIF 1-A-16210	WENC001	9010648	1	30" - 33.99" Horz RO 19.125"	TX,WY		
		08323	25.125IN VENT INTRLK STEEL STFNR	7840/8440STIF 1-A-16210	WENC001	9010647	1	34" - 39.99" Horz RO 25.125"	TX,WY		
		08324	31.125IN VENT INTRLK STEEL STFNR	7840/8440STIF 1-A-16210	WENC001	9010646	1	40" - 45.99" Horz RO 31.125"	TX,WY		
		08325	37.125IN VENT INTRLK STEEL STFNR	7840/8440STIF 1-A-16210	WENC001	9010645	1	46" - 48" Horz RO 37.125"	TX,WY		
		08326	43.125IN VENT INTRLK STEEL STFNR	7840/8440STIF 1-A-16210	WENC001	9010644	1	DP20	TX,WY		
		08327	49.125IN VENT INTRLK STEEL STFNR	7840/8440STIF 1-A-16210	WENC001	9010643	1	DP20	TX,WY		
		08328	55.12IN VENT INTRLK STEEL STFNR	7840/8440STIF 1-A-16210	WENC001	9010642	1	DP20	TX,WY		
		08329	42.5625IN VENT INTRLK STEEL STFNR	7840/8440STIF 1-A-16210	HOMESHIELD	1A16149	1	DP20	IA,TX		
		Stile	10171	7839_205 VENT STILE WHT 228IN		MIKRON	7839_205	(FRW - BOMBIM)	FN=W	OH	
		Stile Stiffener	09646	8.25IN VENTSTILE STEELSTFNR	7839STIF-1A16988	HOMESHIELD	9010773	1	25.625" - 30.24" Vert RO 8-1/4"	IA,OH,TX,WY	
		09647	10.5625IN VENTSTILE STEELSTFNR	7839STIF-1A16988	HOMESHIELD	9010772	1	30.325" - 38.24" Vert RO 10-1/4"	IA,OH,TX,WY		
09648	14.5625IN VENTSTILE STEELSTFNR	7839STIF-1A16988	HOMESHIELD	9010771	1	38.25" - 46.24" Vert RO 14-9/16"	IA,OH,TX,WY				
09649	18.5625IN VENTSTILE STEELSTFNR	7839STIF-1A16988	HOMESHIELD	9010770	1	46.25" - 54.24" Vert RO 18-9/16"	IA,OH,TX,WY				
09650	22.5625IN VENTSTILE STEELSTFNR	7839STIF-1A16988	HOMESHIELD	9010769	1	54.25" - 62.24" Vert RO 22-9/16"	IA,OH,TX,WY				
09651	26.5625IN VENTSTILE STEELSTFNR	7839STIF-1A16988	HOMESHIELD	9010777	1	62.25" - 70.24" Vert RO 26-9/16"	IA,OH,TX,WY				
09652	30.5625IN VENTSTILE STEELSTFNR	7839STIF-1A16988	HOMESHIELD	9010776	1	70.25" - 77" Vert RO 30-9/16"	IA,OH,TX,WY				
Note: For DP-50 Performance, the vent stiles must be fully reinforced per the current cut list net vent height: 4" (Rais the attached using 1/4" dia pan 0.000 screws, set on 3/16" dia 0.000 zinc zrtg)	Rail	07763	7841_204 Vent Pull Rail Wht 216IN		MIKRON	7841_204	(FRW - BC)	FN=W	OH,PA,WY,TX		
	Rail Stiffener	08342	8.25IN VENT STIFFENER	7841STIF 1-A-16149	HOMESHIELD	9010652	1		IA,OH,TX,WY		
		08293	10.5625IN VENT STIFFENER	7841STIF 1-A-16149	HOMESHIELD	9010633	1	17.105" Horz RO 10-9/16" DF	IA,OH,TX,WY		
		08294	14.5625IN VENT STIFFENER	7841STIF 1-A-16149	HOMESHIELD	9010634	1	21.105" Horz RO 14-9/16" DF	IA,OH,TX,WY		
		08295	18.5625IN VENT STIFFENER	7841STIF 1-A-16149	HOMESHIELD	9010635	1	25.105" Horz RO 18-9/16" DF	IA,OH,TX,WY		
		08296	22.5625IN VENT STIFFENER	7841STIF 1-A-16149	HOMESHIELD	9010636	1	29.105" Horz RO 22-9/16" DF	IA,OH,TX,WY		
		08297	26.5625IN VENT STIFFENER	7841STIF 1-A-16149	HOMESHIELD	9010637	1	33.105" Horz RO 26-9/16" DF	IA,OH,TX,WY		
		08298	30.5625IN VENT STIFFENER	7841STIF 1-A-16149	HOMESHIELD	9010638	1	37.105" Horz RO 30-9/16" DF	IA,OH,TX,WY		
		08299	34.5625IN VENT STIFFENER	7841STIF 1-A-16149	HOMESHIELD	9010639	1	41.105" Horz RO 34-9/16" DF	IA,OH,TX,WY		
		08518	38.5625IN VENT STIFFENER	7841STIF 1-A-16149	HOMESHIELD	9010682	1	45.105" Horz RO 38-9/16" DF	IA,OH,TX,WY		
		08343	42.5625IN VENT STIFFENER	7841STIF 1-A-16149	HOMESHIELD	9010651	1	49.105" Horz RO 42-9/16" DF	IA,OH,TX,WY		
		54.125IN VENT STIFFENER	7841STIF 1-A-16149	HOMESHIELD	9010665	1			IA,OH,TX,WY		
		66.125IN VENT STIFFENER	7841STIF 1-A-16149	HOMESHIELD	9010715	1			IA,OH,TX,WY		
		Note: For DP-50 Performance, the bottom rail must be fully reinforced per the current cut list net vent width: 4.068"	Setting Block	03926	8157 SETTING BLOCK 2.5IN		MIKRON	8157	3	FRH<48 AND LCKS=1	IA,OH,PA,TX,WY
			Glazing	03302	GLAZING TAPE 1/16X1/2 WHT		VENTURE	VG316-G36	((GLSW1)	FR-D<=>YES	WY,TX,IA,PA
Glazing Bead	05773		8764 GLAZING BEAD WHT 156IN		MIKRON	8764	((GLSW2)	OVERALL=3/4:23/32:25/32:1 0.1418 AND ENL=W	IA,OH,PA,TX,WY		
Cam Lock	05688		COMPOSITE SASH LOCK WHT	CAMLOCK	FASTEK	12330-500	(1 * LCKS)	LOCK-TYPE<=>W:M: AND FR	IA,OH,PA,TX,WY		
Tilt Latch	10124		TILT LATCH LH WHT		FASTEK		1	ALSIDE<=>YES AND FN=W	IA,OH,PA,TX,WY		
Tilt Latch	10121		TILT LATCH RH WHT		FASTEK		1	ALSIDE<=>YES AND FN=W	IA,OH,PA,TX,WY		
Pivot Bar	10750		ADEPT/BSI PIVOT BAR		BSI	21319	2		IA,OH,PA,WY,TX		
Weatherstrip	11335		1.5x10x.320 Butyl weather-strip, White		Amesbury	32682-21	1	MODEL="	OH,PA,IA,TX,WY		
Lock Screw	04820		6X3/4 PH FH TAP/TEK SCREW WHT	LOCK/KEEPER	AMER011	5TPF02/02	(2 * LCKS)	FR-9<=>YES AND FN=W	OH,TX,WY		
Pivot Bar Screw	04717		6X3/4 PH PAN ZINC SCREW				2	FR-5<=>YES	OH,TX		
Optional	WEN Lock	08310	AUTO-LOCK W/PLASTIC COVER WHT	WENLOCK	ROTO001	NH/SL02-85	1*LCKS	LOCK-TYPE<=>W:M: AND FR<=>YES AND LCKS<=>3 AND	IA,OH,PA		
Glazing	05994	1402 INSTAGLAZE SEALANT CLR		DOWC002	1402	((GLSW2)		IA,OH,PA,WY,TX			
Required for DP50	Glazhg	05994	1402 INSTAGLAZE SEALANT CLR		DOWC002	1402	((GLSW2)	IA,OH,PA,WY,TX			
Reinf Screw	04820	6X3/4 PH FH TAP/TEK SCREW WHT	REINFORCEMENT ATTACH	AMER011	5TPF02/02	2	1 EA PER STILE REINFORCEMENT	OH,TX,WY			
Cam Lock	05688	COMPOSITE SASH LOCK WHT	CAMLOCK	FASTEK	12330-500	2 EACH	LOCK-TYPE<=>W:M: AND FR	IA,OH,PA,TX,WY			

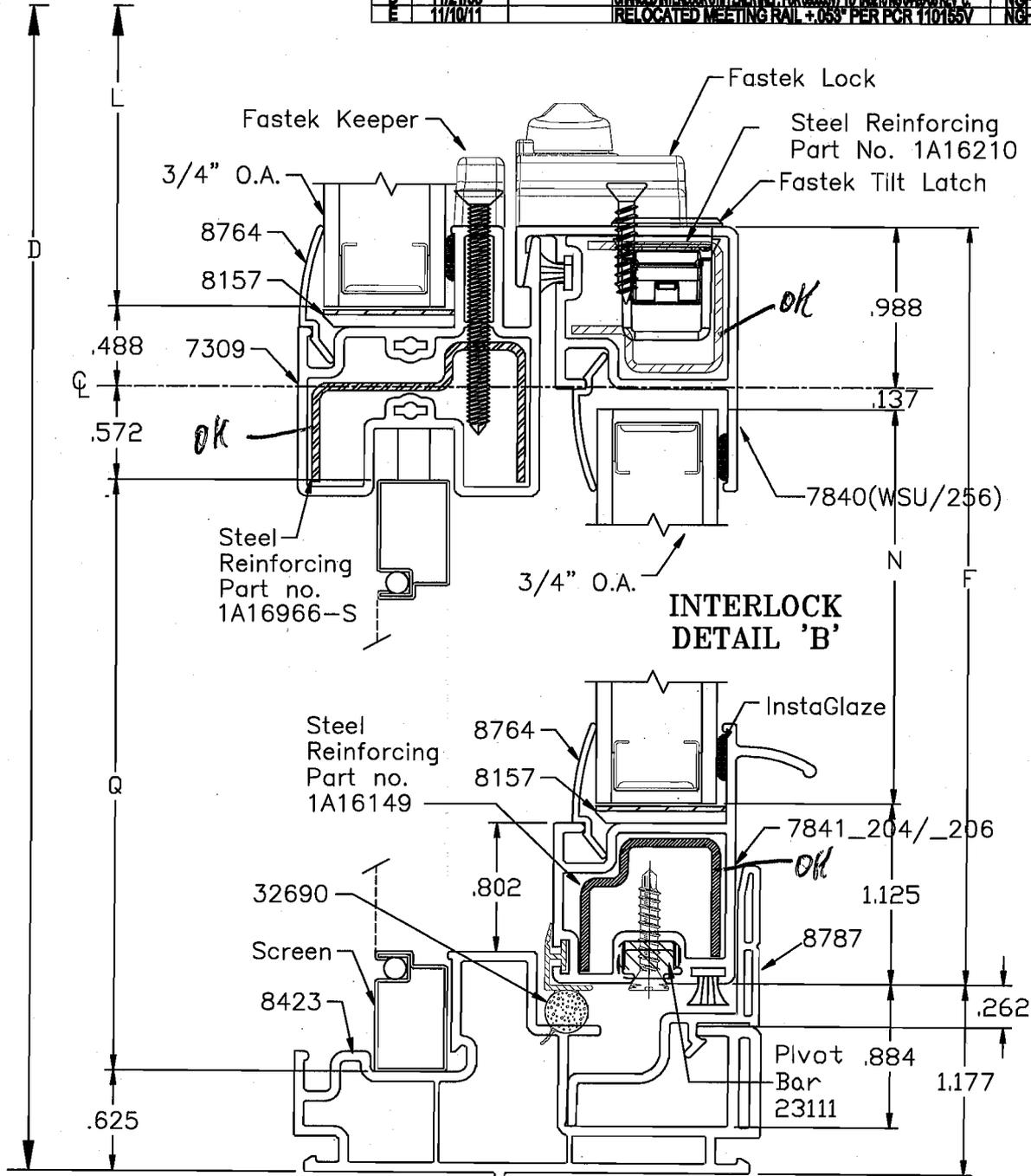
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**REPORT** *5/20/2013-011*  
**DATE** *2-6-13* Page 15 of 41  
**TECH** *ML*



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REVISION HISTORY

REV	DATE	ZONE/SHEET	DESCRIPTION	BY	APR BY
C	04/10/09		NEW TITLE BLOCK; PCR 00037 3200 WAS 3202; 7840 (WSU/256) WAS 7841_204/_206; DRAWING # WAS 0860432-E-C JN 12-11-07 rev B	GTB	GTB
D	11/21/09		CHANGED INTERLOCK STIFFENER (PCR 00038) TO 1A16149-REV C	NGH	NGH
E	11/10/11		RELOCATED MEETING RAIL ±.053" PER PCR 110155V	NGH	NGH



SILL

NCTL VERIFIED DRAWING

REPORT 5.1w 2013-011

DATE 2-6-13

TECH



TOLERANCES UNLESS SPECIFIED OTHERWISE	PROJECT ENG: N.HERTZOG	DATE: 11/11/2011	<b>JELD-WEN</b> WINDOWS & DOORS	3737 LAKEPORT BLVD. KLAMATH FALLS, OR 97601 PHONE: (541) 862-9461
FRACTION ±1/32 ANGLE ±1'	DRAWN BY: N.HERTZOG	SCALE: 1:1		
X ±.1 XX ±.02 XXX ±.006	CHECKED BY:	TITLE: BUILDERS SERIES: TILT SINGLE-HUNG VERTICAL SECTION (DP60) VENT WITH CAM-LOCK	DRAWING No.: 002343	
	APR BY:	IDENT. No.: 0860431-E-C JN 12-11-07	FRONT:	REV: E SHEET: 1 OF 1
		MATERIAL:		

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**REVISION HISTORY**

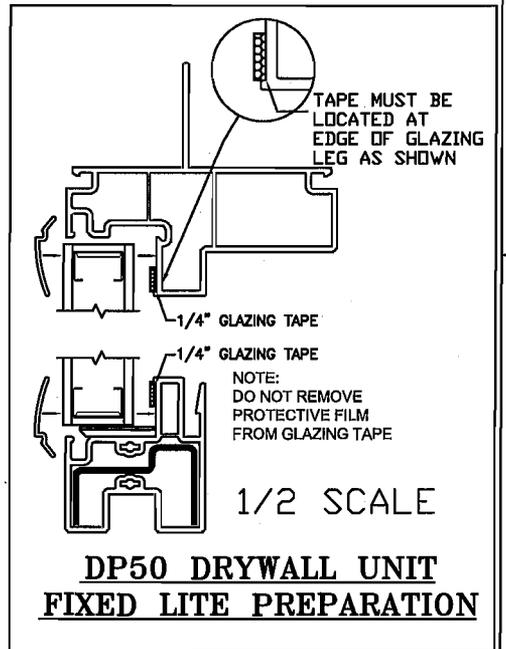
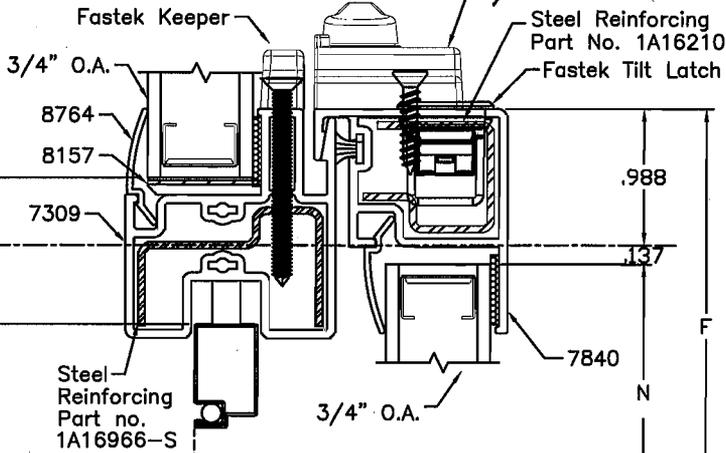
REV	DATE	ZONE/SHEET	DESCRIPTION	BY	APR BY
B	11/13/08		REPLACED ASHLAND LOCK AND KEEPER WITH FASTEK, CHANGE SCREEN, FIXED & VENT GLASS HEIGHT PER CUT LIST 10-18-07	JPN	GARYB
C	11/10/11	C-D3	ADDED REVISED 1A16210 REINFORCEMENT IN SASH TOP RAIL	JPN	
D	11/10/11		RELOCATED MEETING RAIL +.053" PER PCR 110155V	JPN	
E	12/12/12		UPDATED BORDER, ADDED SHEET 2 PER 120097V	JPN	MER
F	01/29/13		ADDED PG50 DRYWALL UNIT FIXED LITE GLAZING DETAIL	NGH	

**HEAD**

.825

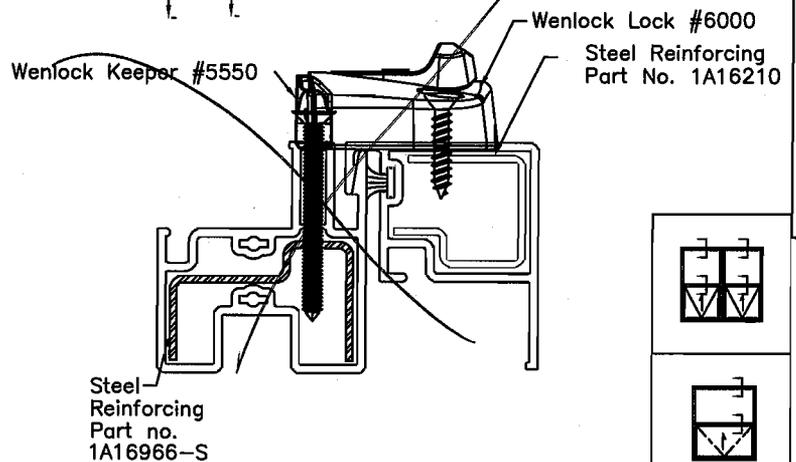
7361

*Cam Lock*



**INTERLOCK**

**OPTIONAL WEN-LOCK**



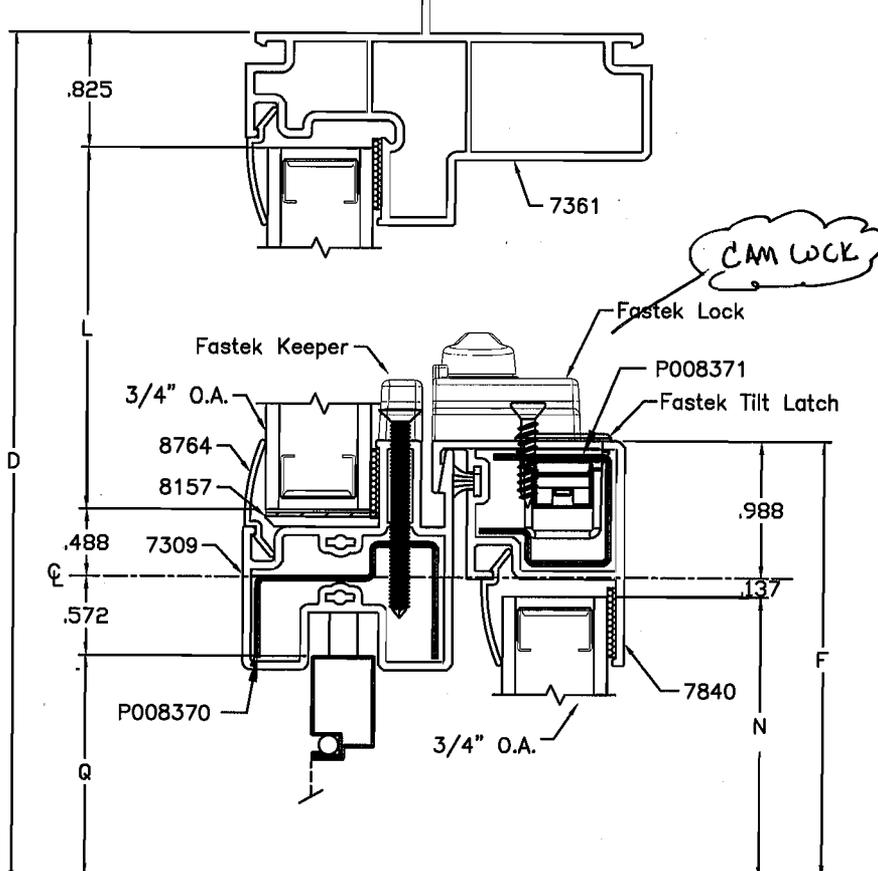
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 REPORT Solw 2013-01  
 DATE 2/6/11  
 TECH [Signature]

1. REMOVE NAIL FIN FOR BLOCK/POCKET.  
**NOTES:**

TOLERANCES UNLESS SPECIFIED ALL DIMENSIONS IN INCHES	PROJECT ENG: N.HERTZOG	DATE: 12/11/07	<b>JELD-WEN</b> WINDOWS & DOORS	3737 LAKEPORT BLVD. KLAMATH FALLS, OR 97601 PHONE: (541) 882-3451
	DRAFT BY: N.HERTZOG	SCALE: 1:1		
FRACTION ±1/32 ANGLE ±1°	CHECKED BY:	TITLE: TILT SINGLE-HUNG VERTICAL SECTION FIXED - SECTION DETAIL		
.X ±.1 .XX ±.02 .XXX ±.006	APR BY:	IDENT. No.: 96604.3.1	MODEL No.: A008713.dwg	DRAWING No.: A008713
	MATERIAL:	FINISH:	REV: E	SHEET: 1 OF 2

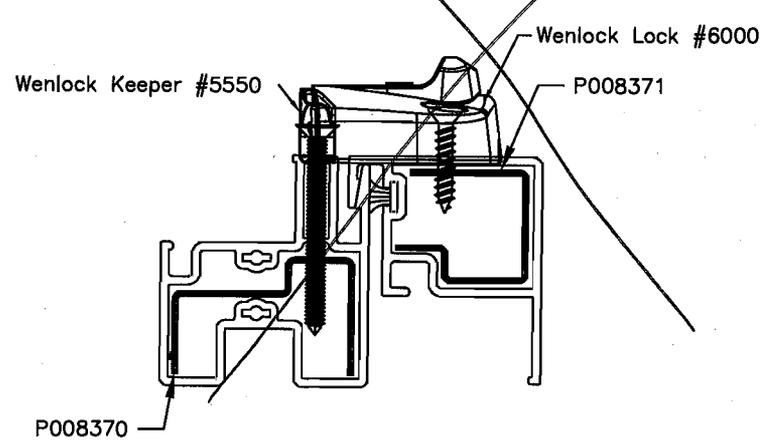
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**HEAD**



**INTERLOCK**

~~**OPTIONAL WEN-LOCK**~~



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 REPORT 2012-013-014  
 DATE 2-6-13  
 TECH M

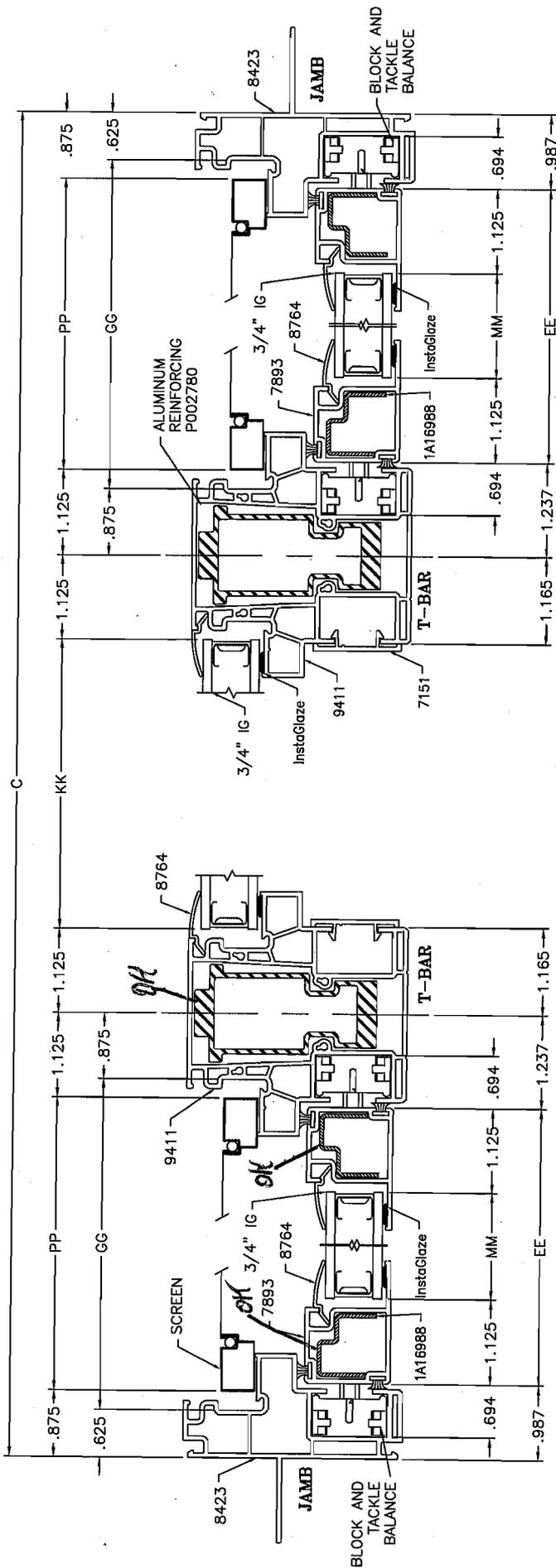
- NOTES:**
2. SHOWN WITH ALTERNATE STIFFENER. SEE DATA BOOK FOR ALLOWABLE USAGE.
  1. REMOVE NAIL FIN FOR BLOCK/POCKET

TOLERANCES UNLESS SPECIFIED ALL DIMENSIONS IN INCHES	<b>JELD-WEN</b> WINDOWS & DOORS		3737 LAKEPORT BLVD. KLAMATH FALLS, OR 97601 PHONE: (541) 882-3451
	TITLE: <b>TILT SINGLE-HUNG</b> VERTICAL SECTION, FIXED - SECTION DETAIL		
FRACTION ±1/32 ANGLE ± 1°	MODEL No.: A008713.dwg	DRAWING No.: A008713	
X ±.1 .XX ±.02 .XXX ±.006	DATE: 11/11/11	SCALE: 1:1	REV: E SHEET: 2 OF 2

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REVISION HISTORY	
REV	DESCRIPTION
1	RELEASED FOR TOOLING AND EQUIPMENT

REV	DATE	ZONE/SHEET	BY	APP BY
NULL	08/24/2011		NAS	MSR

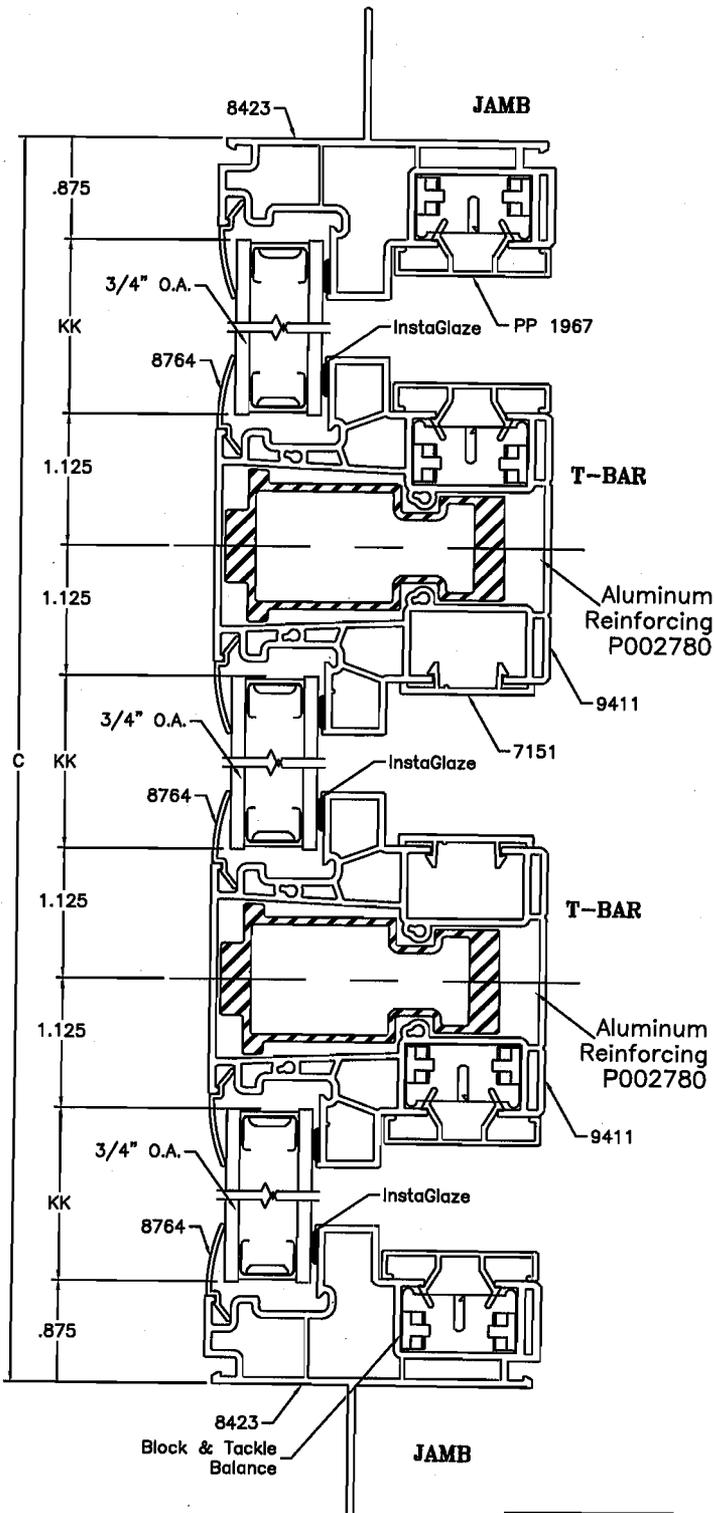
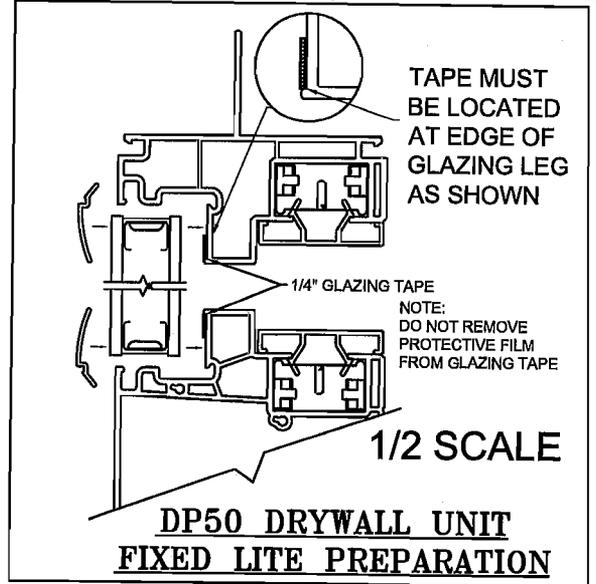


UNLESS SPECIFIED ALL DIMENSIONS IN INCHES DO NOT SCALE DRAWING - REPORT ANY ERRORS		DATE: 08/24/2011	PROJECT ENGINEER: N. STRAHM
UNIVERSAL TOLERANCES (UNLESS SPECIFIED OTHERWISE)		SCALE: 3 : 4	DRAWN BY: N. STRAHM
COMPONENT / PART TOLERANCES		TITLE: BUILDERS TRIPLE (XXX) TSH HORIZONTAL SECTION DP 50	CHECKED BY: N. STRAHM
UNDER 10 <sup>-3</sup> ± 1/32	X ± 1	SECTION DRAWING	APPROVED BY: M. RIECHMANN
OVER 10 <sup>-3</sup> ± 1/16	XX ± .02		DISSEMINATED BY:
ANGULAR ± 1°	.XXX ± .006	MODEL No.: A004291	DRAWING No.: A004291.dwg
UNITY ASSEMBLY TOLERANCES		FINISH: NULL	SHEET: 2 OF 2
HEIGHT ± 1/16	WIDTH ± 1/16	MATERIAL: VINYL	
MULLION ± 1/16	FRACTION ± 1/32		

**NCTL VERIFIED DRAWING**  
 REPORT 5/16/2013 011  
 DATE 2/6/13  
 TECH

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REV	DATE	ZONE/SHEET	DESCRIPTION	BY	APR BY
NULL	08/24/2011		RELEASED FOR TOOLING AND EQUIPMENT	NAS	MER
A	01/29/2013		ADDED PG50 DRYWALL UNIT FIXED LITE GLAZING DETAIL	NGH	



**NCTL VERIFIED DRAWING**  
 REPORT 52042013-011  
 DATE 2-6-13  
 TECH MP

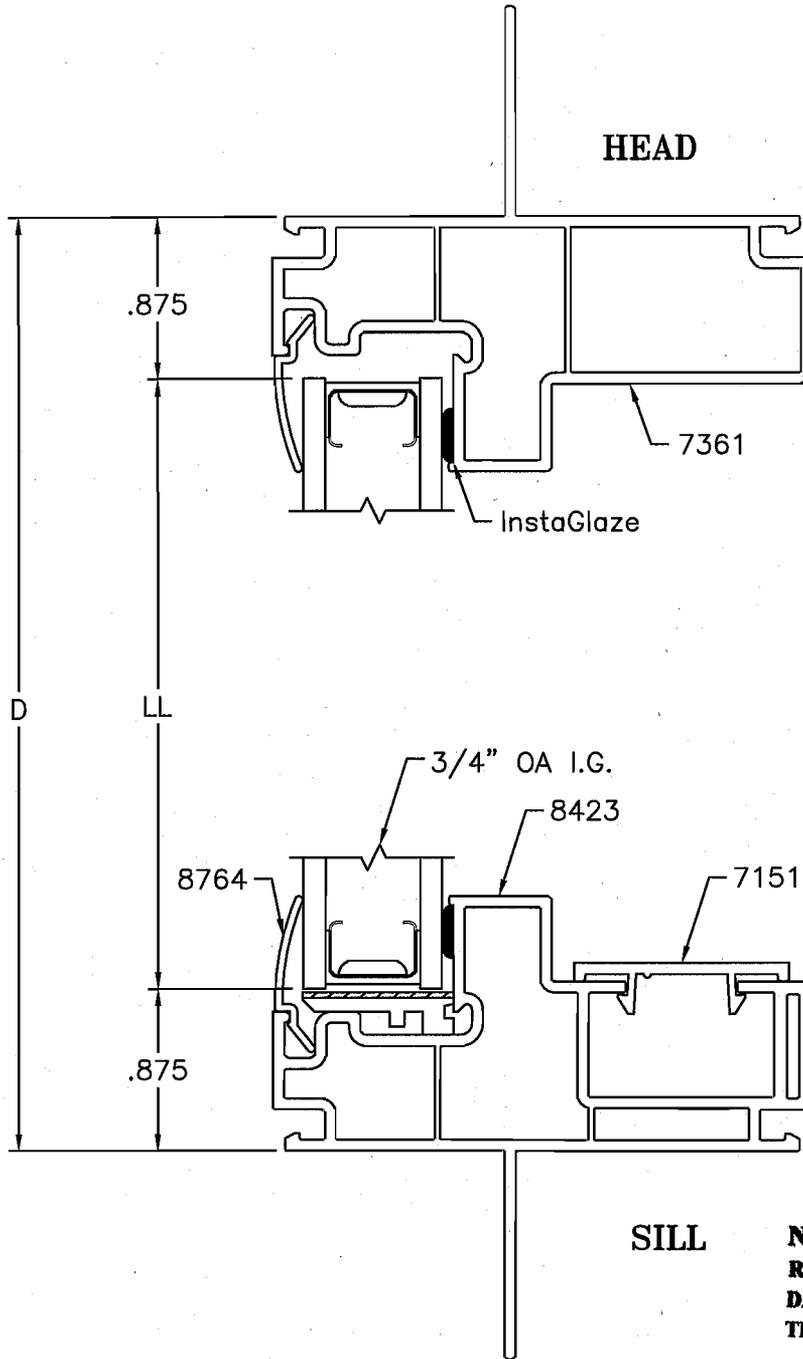
**NOTES:**

TOLERANCES UNLESS SPECIFIED ALL DIMENSIONS IN INCHES FRACTION ±1/32 ANGLE ±1° X ±.1 XX ±.02 XXX ±.006	PROJECT ENG.: N.STRAHM	DATE: 08/24/2011	<b>JELD-WEN</b> WINDOWS & DOORS	3737 LAKEPORT BLVD. KLAMATH FALLS, OR 97601 PHONE: (541) 882-3451	
	DRAFT BY: N.STRAHM	SCALE: 5:8		TITLE: <b>BUILDERS TRIPLE (XOX) TSH HORIZONTAL SECTION DP 50 - FIXED SECTION DRAWING</b>	
	CHECKED BY: N.STRAHM	APR BY: M.RIECHMANN	IDENT. No.:	MODEL No.:	DRAWING No.:
	MATERIAL: VINYL		A004292	A004292.dwg	FINISH: REV: NULL SHEET: 2 OF 2

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REVISION HISTORY

REV	DATE	ZONE/SHEET	DESCRIPTION	BY	APR BY
NULL	08/24/2011		RELEASED FOR TOOLING AND EQUIPMENT	NAS	MER

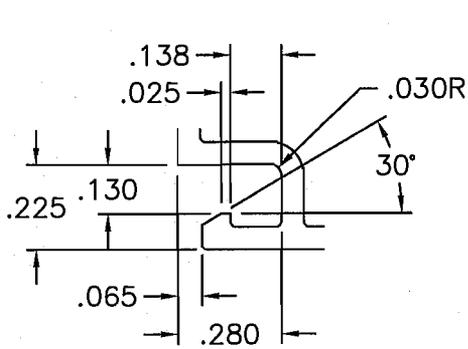


**NCTL VERIFIED DRAWING**

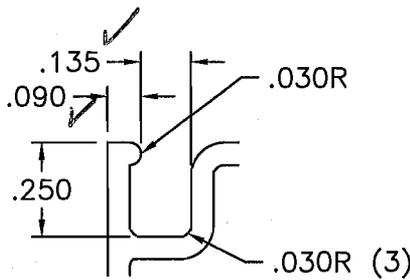
REPORT 5d. 6. 2013-d1  
 DATE 2-6-13  
 TECH M

**NOTES:**

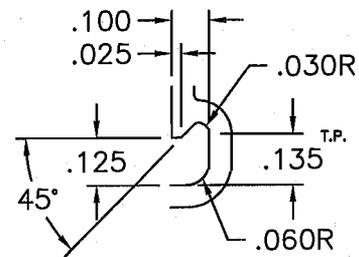
TOLERANCES UNLESS SPECIFIED ALL DIMENSIONS IN INCHES	PROJECT ENG.: N.STRAHM	DATE: 08/24/2011	<b>JELD-WEN</b> WINDOWS & DOORS	3737 LAKEPORT BLVD. KLAMATH FALLS, OR 97601 PHONE: (541) 882-3451
	DRFT BY: N.STRAHM	SCALE: 1:1		
FRACTION ±1/32 ANGLE ±1°	CHECKED BY: N.STRAHM	TITLE: BUILDERS TSH (XOX) CENTER FIXED - VERTICAL SECTION - DP 50 SECTION DRAWING		
	APR BY: M.RIECHMANN	IDENT. No.:	MODEL No.:	DRAWING No.:
.X ±.1 XX ±.02 XXX ±.006	MATERIAL: VINYL	A004293	A004293	FINISH: NULL
				REV: NULL SHEET: 2 of 2



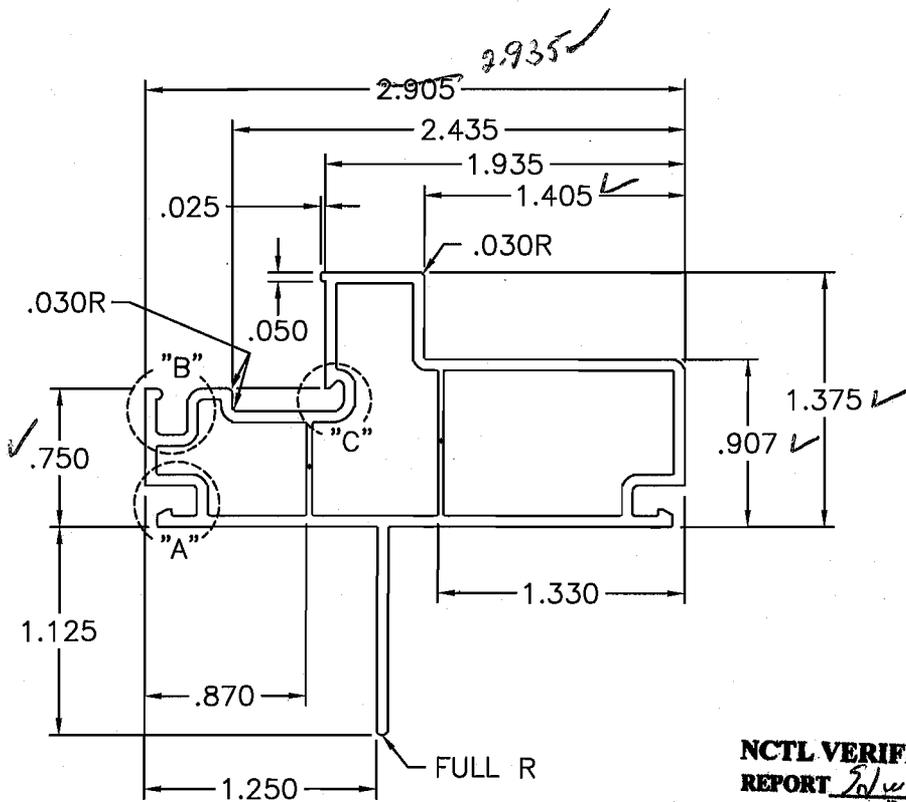
DETAIL "A"  
SCALE: 2=1



DETAIL "B"  
SCALE: 2=1



DETAIL "C"  
SCALE: 2=1



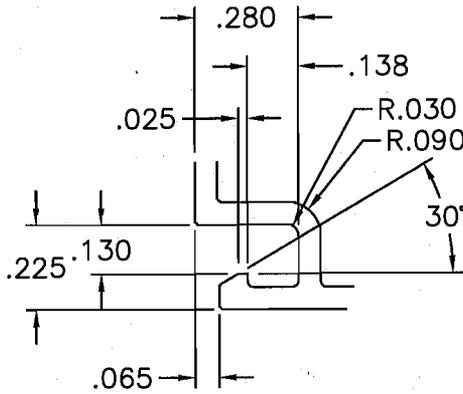
**NCTL VERIFIED DRAWING**  
**REPORT** July 2013.011  
**DATE** 2-6-13  
**TECH** [Signature]

- NOTE: 1) \* = .030 WALL  
 2) T.P.: TANGENT POINT  
 3) PART WITHOUT NAIL FIN : 7997

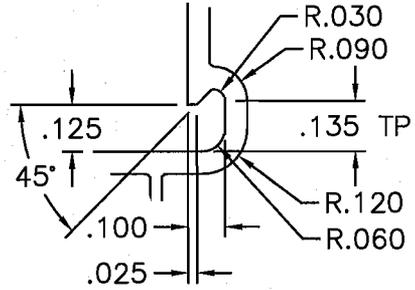
FRAME HEAD

B	Added Nub to Glazing Tower, Wt/Ft was .420, 10/15/01 W.D.	This document contains confidential and proprietary information. Do not copy or disclose without consent of Mikron Ind. Inc. ©2001 Mikron Ind. Inc. All rights reserved.	NOTE: .015 TYPICAL CORNER RADIUS UNLESS OTHERWISE SPECIFIED	
A	Added Note to Ref. Part W/O Nail Fin, 7/23/99 W.D.		DATE: 3/20/96	TYP. WALL: .060
			SCALE: 1=1	DESIGNED BY:
			AREA: .668	DRAFTED BY: VB
			WT./FT.: .421	FILE NAME: 7361
			DWG. NAME:	7361

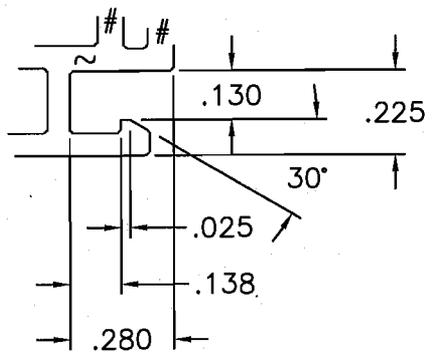
DIE DRAWING



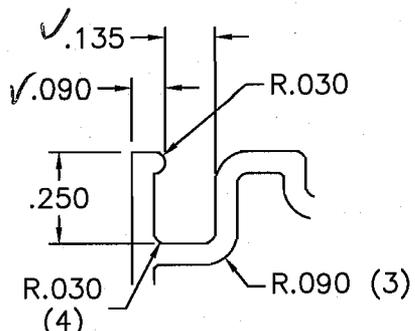
DETAIL "A"  
SCALE: 2=1



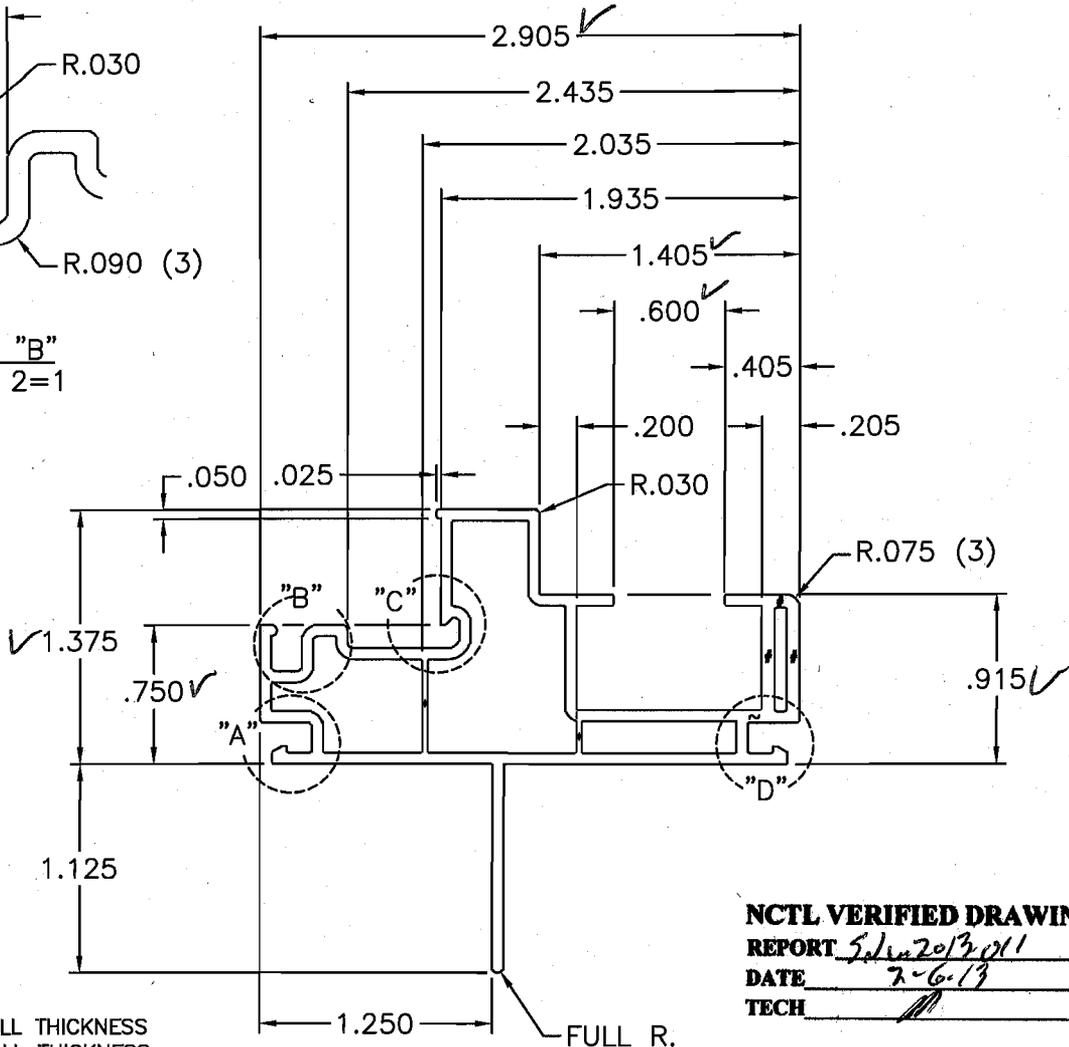
DETAIL "C"  
SCALE: 2=1



DETAIL "D"  
SCALE: 2=1



DETAIL "B"  
SCALE: 2=1

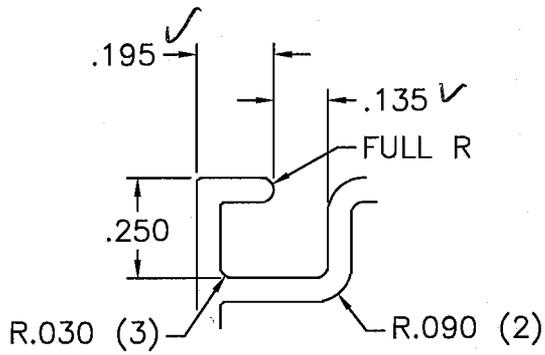


**NCTL VERIFIED DRAWING**  
 REPORT Solva 2013 011  
 DATE 7-6-13  
 TECH [Signature]

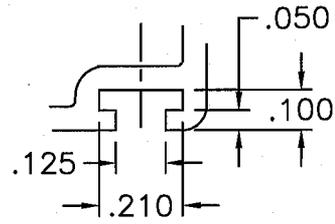
- NOTE: 1) # = .070 WALL THICKNESS  
 2) ~ = .068 WALL THICKNESS  
 3) \* = .030 WALL THICKNESS  
 4) TP = TANGENT POINT  
 5) PART WITH INTERNAL WEBS = 7662  
 6) PART WITHOUT NAILFIN = 9409

FRAME

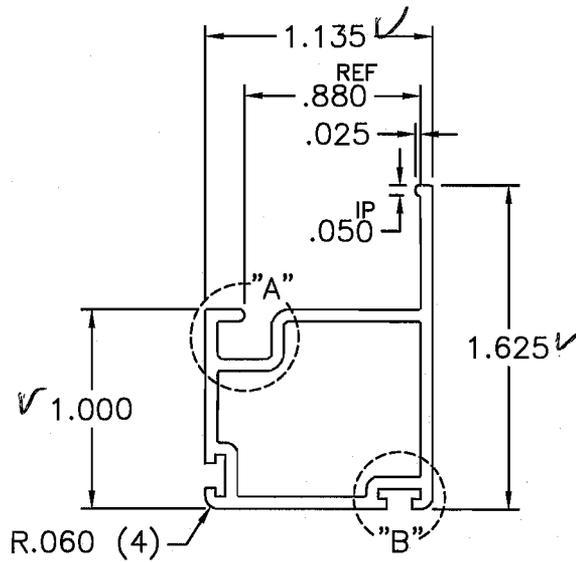
A REMOVED NIBS INSIDE PRINT POCKET, .070 WALLS WERE .060, WT/FT NWS .460, ADDED NOTE #6, 12/15/06 RAC		This document contains confidential and proprietary information. Do not copy or disclose without consent of Mikron Ind. Inc. ©2004 Mikron Ind. Inc. All rights reserved.		NOTE: .015 TYPICAL CORNER RADIUS UNLESS OTHERWISE SPECIFIED	
		DATE: 3/5/01	TYP. WALL: .060	SCALE: 1=1	DESIGNED BY: D.C.
<b>MIKRON</b>		AREA: .751	DRAFTED BY: W.D.	FILE NAME: 8423 DWG. NAME: 8423	
		WT./FT.: .473	FILE NAME: 8423		
		DIE DRAWING			



DETAIL "A"  
SCALE: 2=1



DETAIL "B"  
SCALE: 2=1



**NCTL VERIFIED DRAWING**  
 REPORT 9/25/98 2019-01  
 DATE 2-6-13  
 TECH                     

NOTE: 1) IP = INTERSECTION POINT

VENT STILE

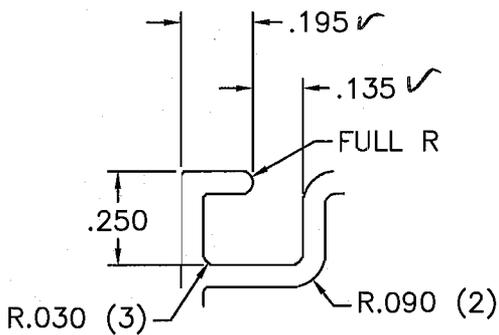
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NOTE: .015 TYPICAL CORNER RADIUS UNLESS OTHERWISE SPECIFIED

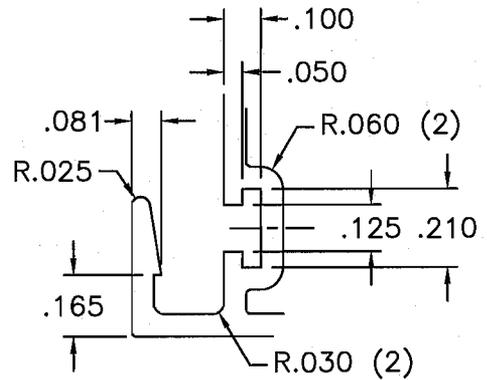
DATE: 9/25/98	TYP. WALL: .060
SCALE: 1=1	DESIGNED BY: D.C.
AREA: .318	DRAFTED BY: W.D.
WT./FT.: .200	FILE NAME: 7839
DWG. NAME:	7839



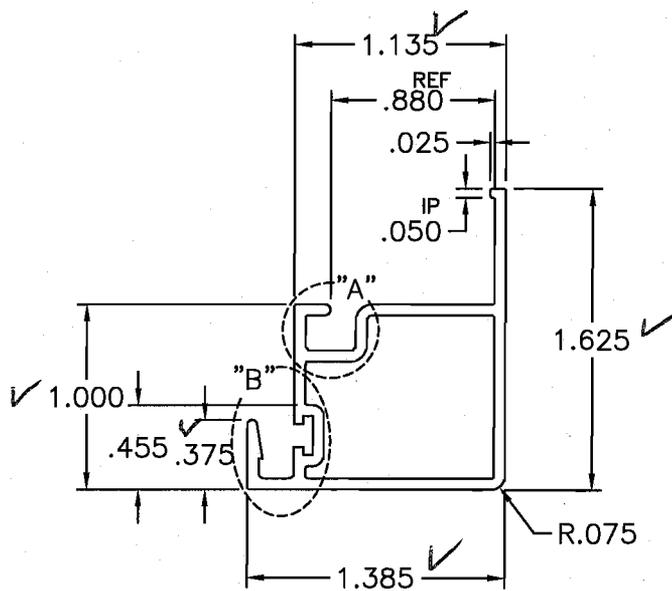
DIE DRAWING



DETAIL "A"  
SCALE: 2=1



DETAIL "B"  
SCALE: 2=1



**NCTL VERIFIED DRAWING**  
 REPORT Sdw 2013-011  
 DATE 2/6/19  
 TECH W

NOTE: 1) IP = INTERSECTION POINT

VENT INTERLOCK

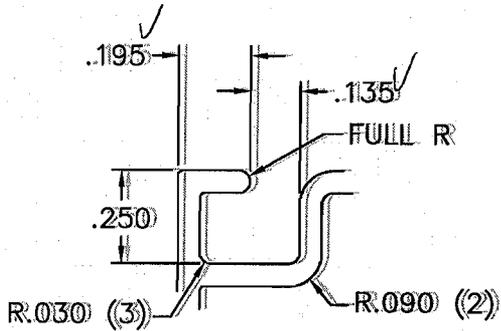
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NOTE: .015 TYPICAL CORNER RADIUS UNLESS OTHERWISE SPECIFIED

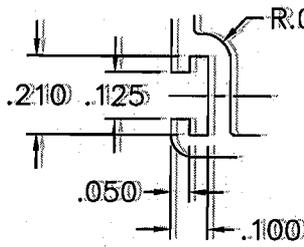
DATE: 9/25/98	TYP. WALL: .080
SCALE: 1=1	DESIGNED BY: D.C.
AREA: .349	DRAFTED BY: W.D.
WT./FT.: .220	FILE NAME: 7840
DWG. NAME:	7840



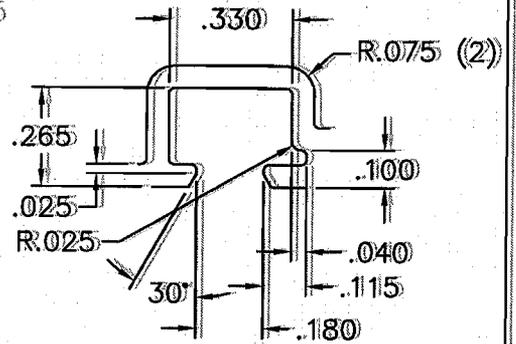
DIE DRAWING



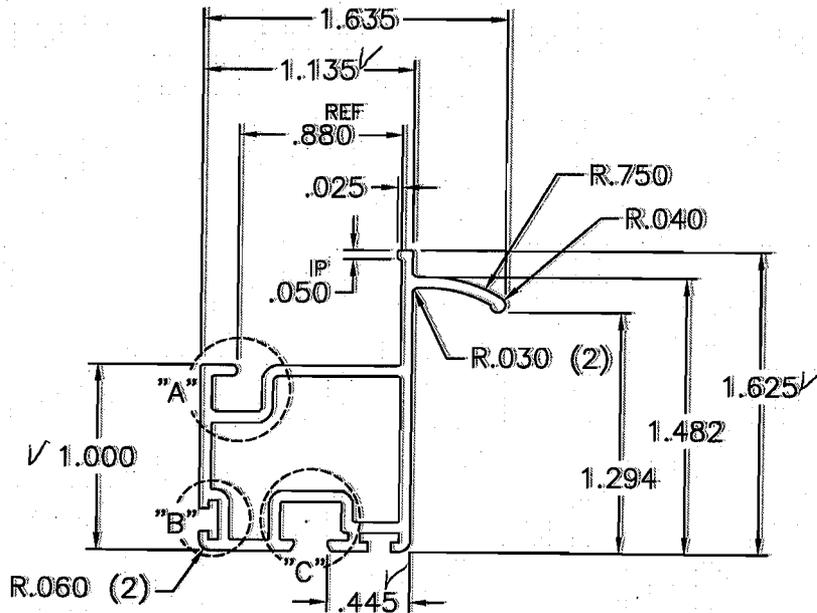
DETAIL "A"  
SCALE: 2=1



DETAIL "B"  
SCALE: 2=1



DETAIL "C"  
SCALE: 2=1



**NCTL VERIFIED DRAWING**  
 REPORT Sdw 2013-011  
 DATE 2/6/17  
 TECH W

NOTE: 1) IP = INTERSECTION POINT

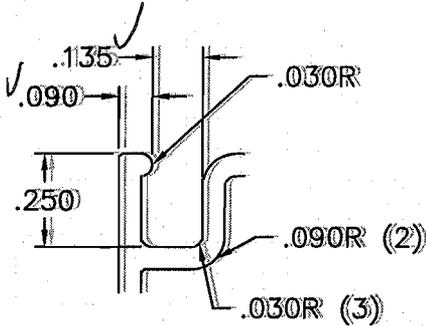
PULL RAIL

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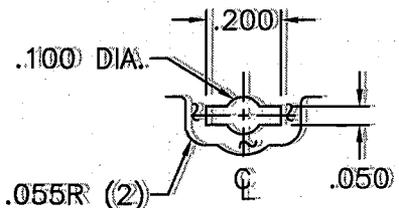
NOTE: .015 TYPICAL CORNER RADIUS UNLESS OTHERWISE SPECIFIED	
DATE: 9/28/98	TYP. WALL: .060
SCALE: 1=1	DESIGNED BY: D.C.
AREA: .385	DRAFTED BY: W.D.
WT./FT.: .243	FILE NAME: 7841
DWG. NAME:	Page 2 of 7841



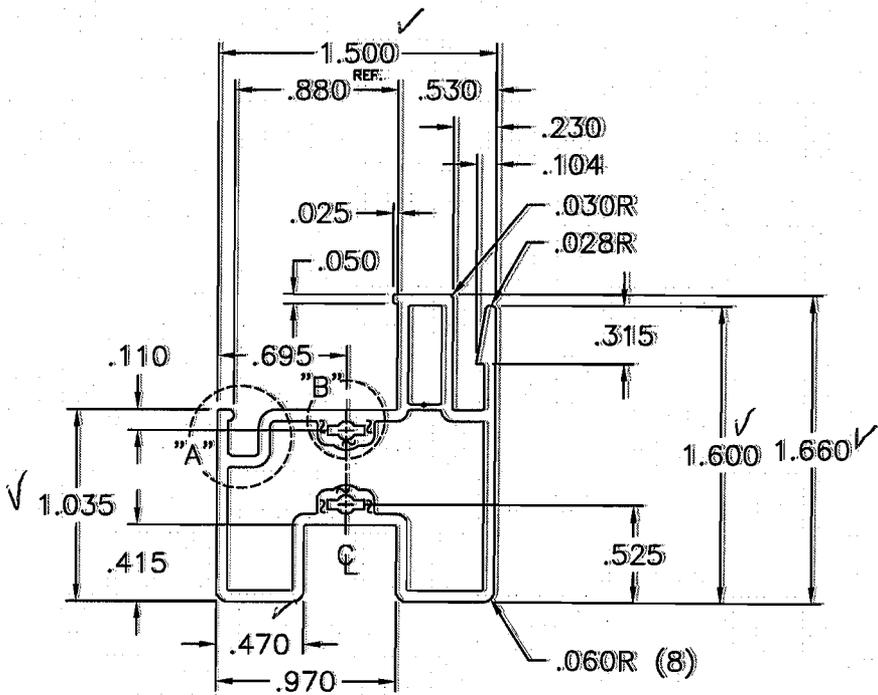
DIE DRAWING



DETAIL "A"  
SCALE: 2=1



DETAIL "B"  
SCALE: 2=1

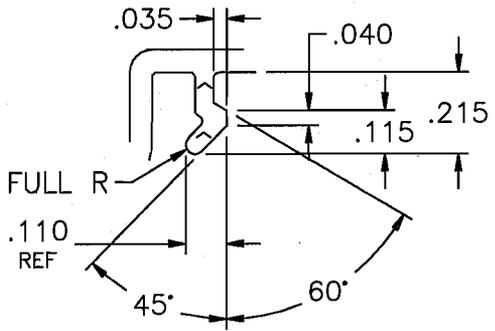


**NCTL VERIFIED DRAWING**  
 REPORT 5/16/2019-01  
 DATE 2-6-19  
 TECH [Signature]

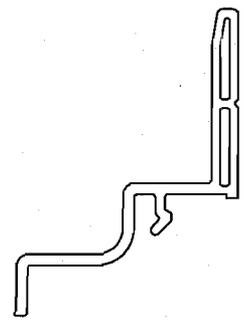
NOTE: \* = .030 WALL  
 ~ = .055 WALL

FIXED INTERLOCK

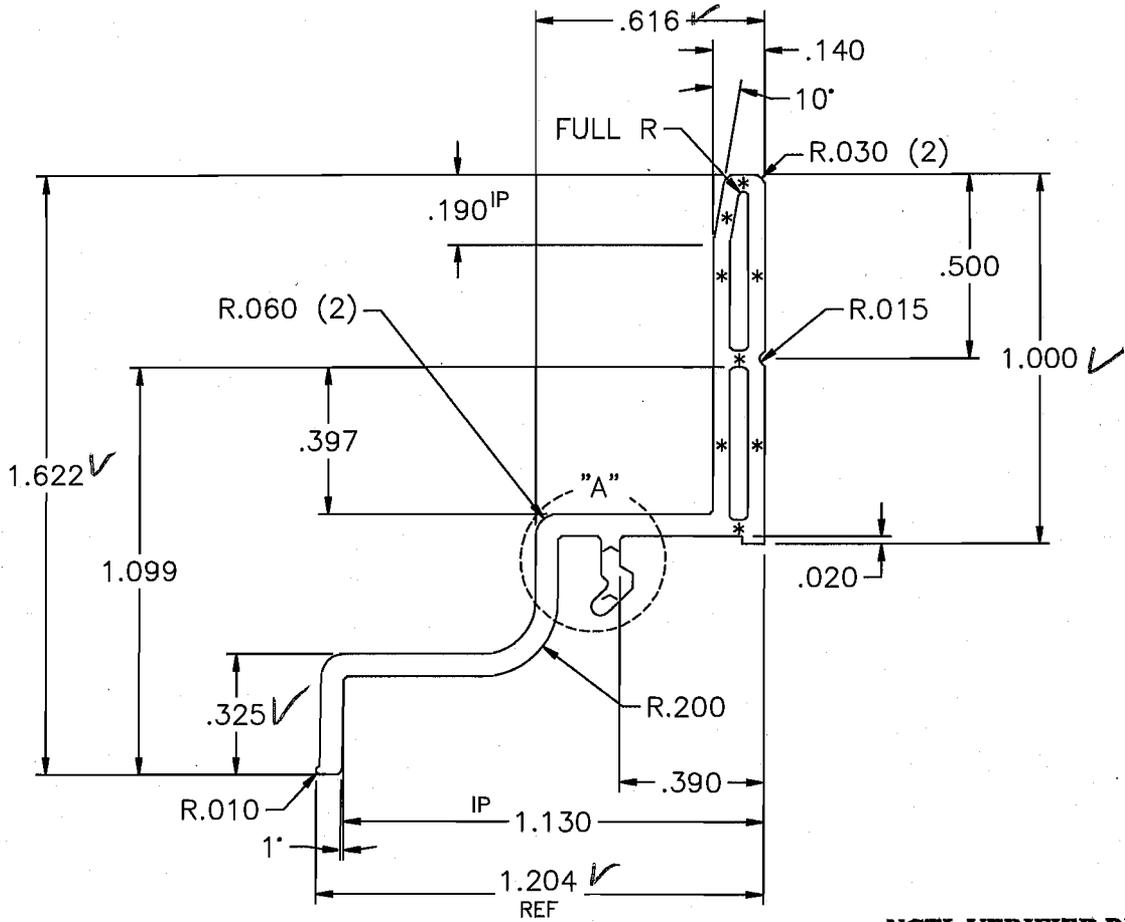
A. Added Nub to Glazing Tower, Wt/Ft was .330, 8/20/01 W.D.	This document contains confidential and proprietary information. Do not copy or disclose without consent of Mikron Ind. Inc. ©2001 Mikron Ind. Inc. All rights reserved.	NOTE: .015 TYPICAL CORNER RADIUS UNLESS OTHERWISE SPECIFIED	
		DATE: 8/20/01	TYP. WALL: .060
	DIE DRAWING	SCALE: 1=1	DESIGNED BY: J.F.
		AREA: .525	DRAFTED BY: W.D.
		WT./FT.: .331	FILE NAME: 7309
		DWG. NAME:	7309



DETAIL "A"  
SCALE: 2=1



ACTUAL SIZE  
SCALE: 1=1



**NCTL VERIFIED DRAWING**  
 REPORT Solw 2013-011  
 DATE 2-6-11  
 TECH 11

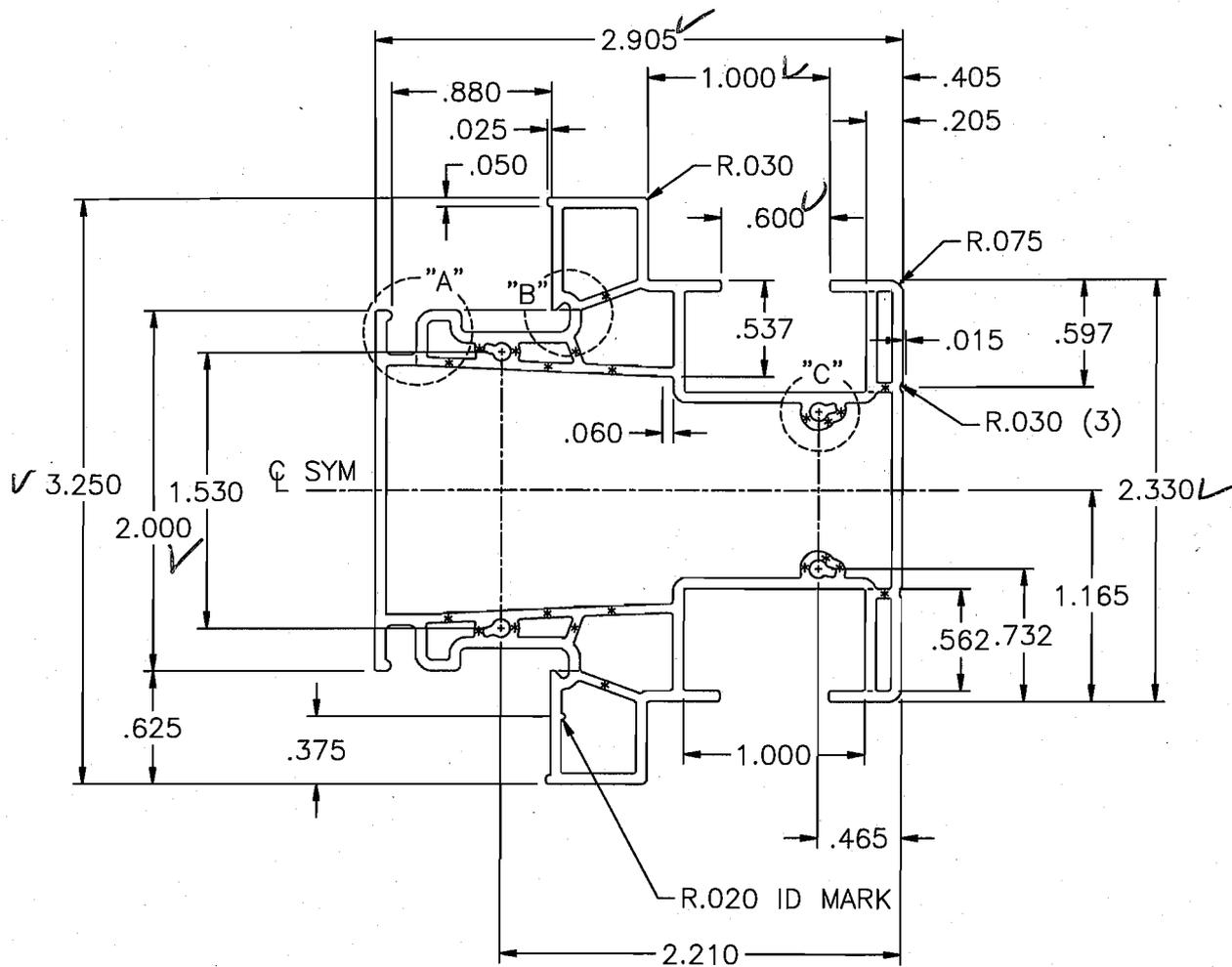
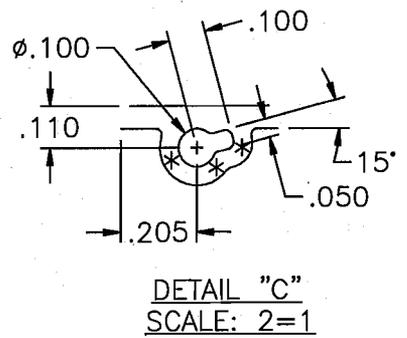
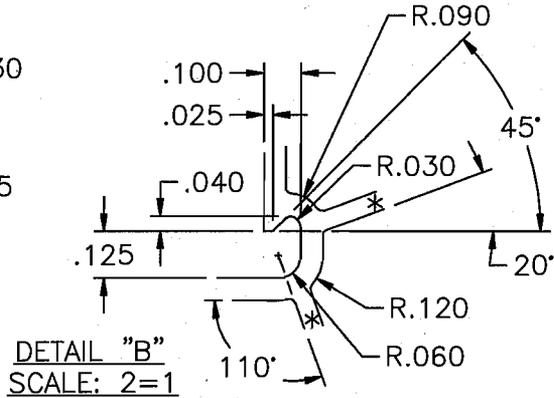
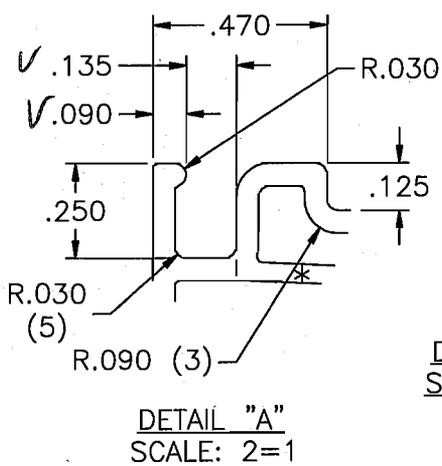
NOTE: 1) \* = .045 WALL THICKNESS  
 2) ^ = .050 WALL THICKNESS

SILL INSERT

A	Dims .040/.115/60° were .025/.100/45°, Added Nub, 5/19/03 W.D.	This document contains confidential and proprietary information. Do not copy or disclose without consent of Mikron Ind. Inc. ©2002 Mikron Ind. Inc. All rights reserved.	NOTE: .015 TYPICAL CORNER RADIUS UNLESS OTHERWISE SPECIFIED	
			DATE: 8/26/02	TYP. WALL: .060
			SCALE: 2=1	DESIGNED BY: J.F.
			AREA: .203	DRAFTED BY: W.D.
			WT./FT.: .128	FILE NAME: 8787
			DWG. NAME:	8787



REVISION  
DIE DRAWING

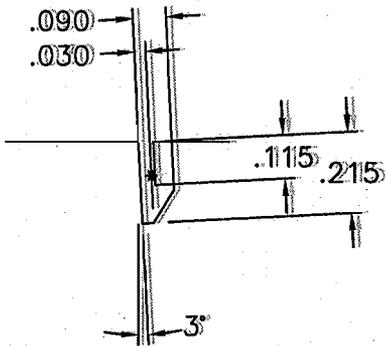


**NCTL VERIFIED DRAWING**  
 REPORT *5/11/2013/011*  
 DATE *2/6/13*  
 TECH *W*

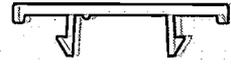
NOTE: 1) \* = .050 WALL THICKNESS

TSH T-BAR

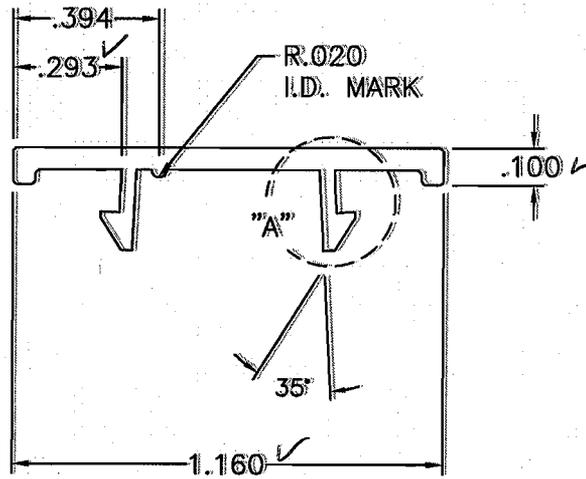
<b>MIKRON</b>	DIE DRAWING	This document contains confidential and proprietary information. Do not copy or disclose without consent of Mikron Ind. Inc. ©2004 Mikron Ind. Inc. All rights reserved.		NOTE: .015 TYPICAL CORNER RADIUS UNLESS OTHERWISE SPECIFIED	
		DATE: 11/30/04	TYP. WALL: .060	SCALE: 1=1	DESIGNED BY: J.F.
		AREA: 1.250	DRAFTED BY: W.D.	WT./FT.: .788	FILE NAME: 9411
		DWG. NAME:	9411		



DETAIL "A"



ACTUAL SIZE  
SCALE: 1=1



**NCTL VERIFIED DRAWING**

REPORT 50.62013-011

DATE 2-6-13

TECH [Signature]

NOTE: \* = .040 WALL

POCKET COVER

MIKRON iND. iNC.

PART NO.: 7151

DATE: 6/8/95

SCALE: 2=1

TYP. WALL: .060

AREA: .097

DRAFTED BY: RBJ

WT./FT.: .061

DWG. NO.: 7151

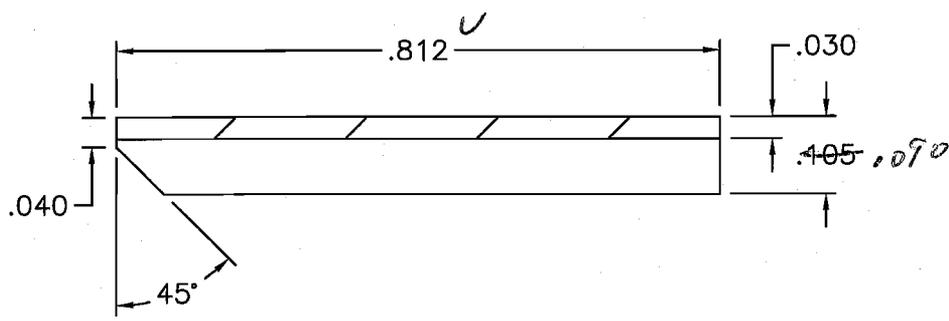
DIE DRAWING

NOTE: .015 TYPICAL CORNER RADIUS  
UNLESS OTHERWISE SPECIFIED

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ACTUAL SIZE  
SCALE: 1=1



**NCTL VERIFIED DRAWING**  
REPORT Sdw 2019-011  
DATE 2-6-13  
TECH ///

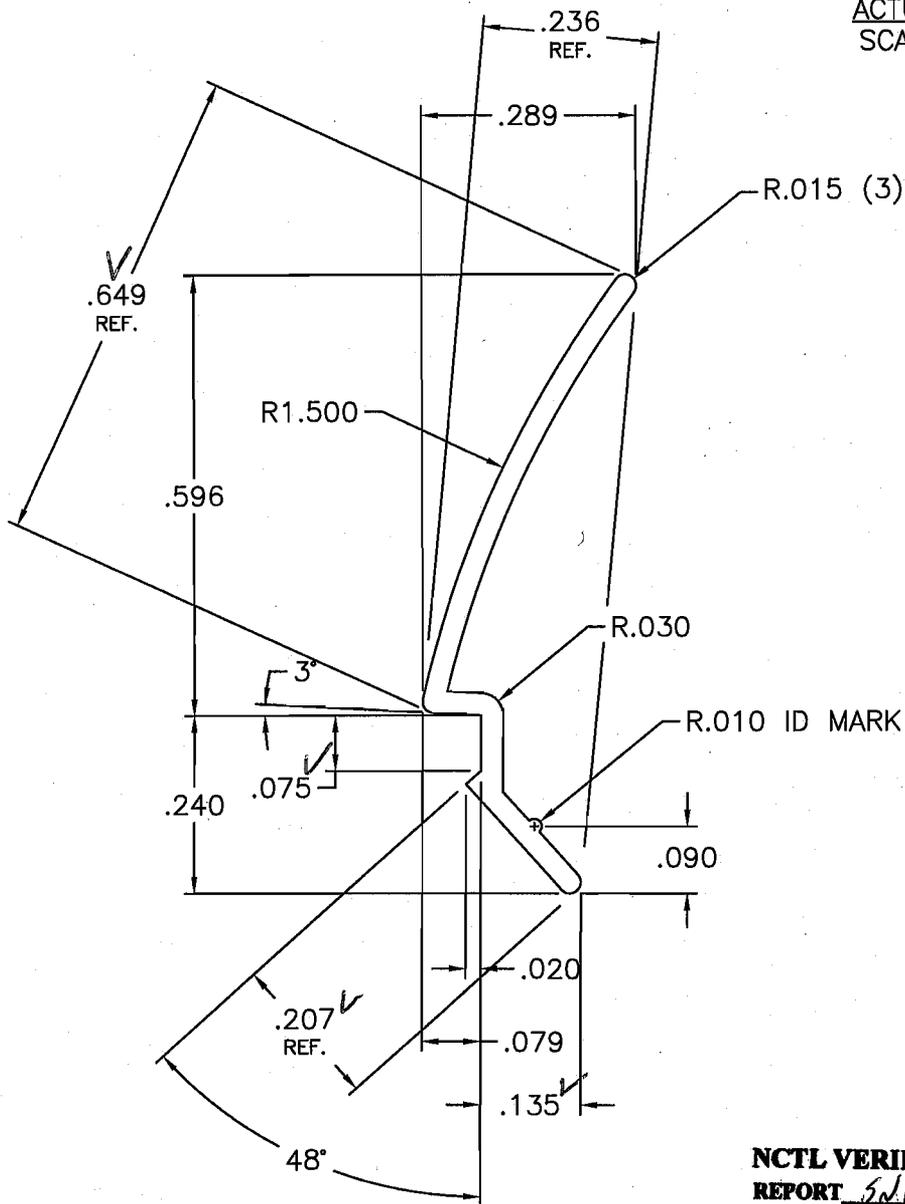
NOTE: 1) FLEX AREA = .024, WT/FT = .015  
2) RIGID AREA = .059, WT/FT = .037

3/4" SETTING BLOCK W/FLEXIBLE CO-EX

	DIE DRAWING	This document contains confidential and proprietary information. Do not copy or disclose without consent of Mikron Ind. Inc. ©2000 Mikron Ind. Inc. All rights reserved.		NOTE: .015 TYPICAL CORNER RADIUS UNLESS OTHERWISE SPECIFIED	
		DATE: 5/25/00	TYP. WALL:		
		SCALE: 4=1	DESIGNED BY: J.F.		
		AREA: .083	DRAFTED BY: J.F.		
		WT./FT.: .052	FILE NAME: 8157		
		DWG. NAME:		8157	



ACTUAL SIZE  
SCALE: 1=1



**NCTL VERIFIED DRAWING**  
**REPORT** 5/12/2013/01  
**DATE** 2-6-13  
**TECH** ML

GLAZING BEAD

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A	Removed Note #1 referencing parent/child relationship to 7732, 3/24/03 W.D.	DATE: 11/12/02	TYP. WALL: .030	SCALE: 4=1	DESIGNED BY: ML
		AREA: .031	DRAFTED BY: ML	WT./FT.: .020	FILE NAME: 8764
		DIE DRAWING		DWG. NAME:	8764

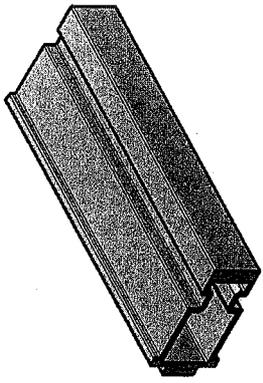
Released

Released

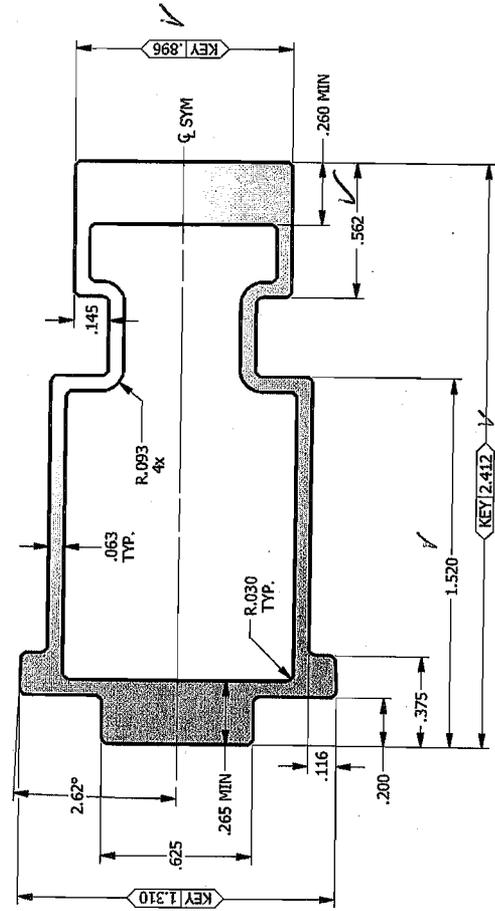
4

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REV	DATE	ZONE/SHEET	DESCRIPTION	BY	APP BY
A	05/20/2012	RELEASED		NMS	NER



ISOMETRIC  
SCALE 1:2



MILLION

**NCTL VERIFIED DRAWING**  
**REPORT** 90/wg017-011  
**DATE** 2-6-13  
**TECH** 11

3. NO EXPOSED SURFACES  
 2. ALUMINUM ASSOCIATION STANDARDS APPLY, UNLESS SPECIFIED.  
 1. AREA = 0.747 in<sup>2</sup>
- NOTES:**

DO NOT SCALE DRAWING - REPORT ANY ERRORS UNLESS SPECIFIED ALL DIMENSIONS IN INCHES (UNLESS SPECIFIED OTHERWISE)	PROJECT ENGINEER: J. NELSON	DATE: 5/4/2010	3737 Lakeport Blvd. Klamath Falls, OR 97601 Phone: (541) 852-3451
ALUMINUM TOLERANCES (UNLESS SPECIFIED OTHERWISE)	DRAWN BY: J. NELSON	SCALE: 2:1	<b>JELD-WEN</b> WINDOWS & DOORS
OPEN WALL THICKNESS ± .006	CHECKED BY: N. STRAHM	TITLE: 9411 T-MULL STIFFENER	
CAVITY WALL THICKNESS ± .010	APPROVED BY: M. RIECHMANN	MODEL No.: P002780.ppt	
CROSS-SECTION PROFILE ± .008/INCH	IDENTIFYING No.:	DRAWING No.:	
ANGULAR ± 1°	MATERIAL: 6063-T6	FINISH: MILL	
LENGTH ± .015	REVISIONS:	SHEET	
TWIST OVER LENGTH: .5°/FOOT		A	
STRAIGHTNESS: .0125/FOOT		1	
FLATNESS: .004/INCH		1	

Released

Released

4

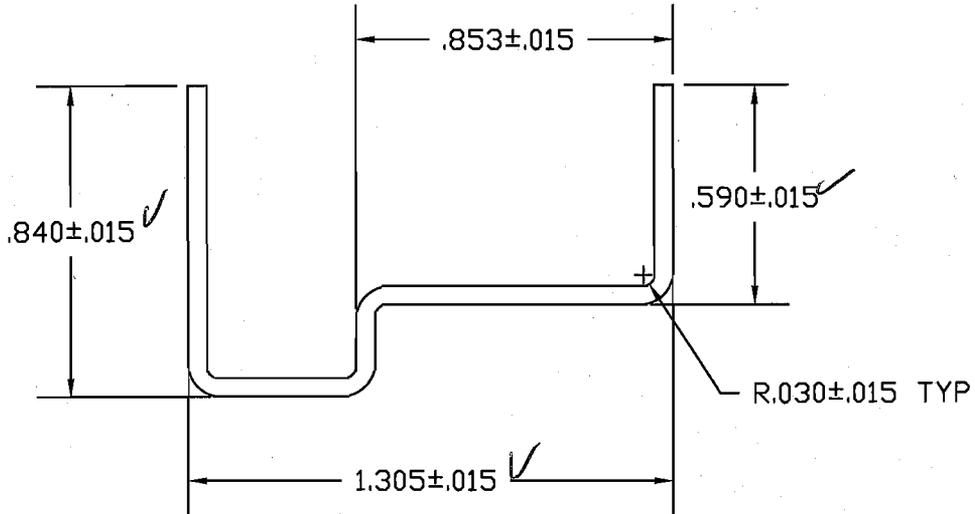
1

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PART DRAWING

- OPERATOR NOTES:
1. STRIP WIDTH = 2.730'
  2. FORMTEK ID # 41
  3. BUILDER'S FRAME INTERLOCK



*EXTERIOR MITERING RAIL*

**ADDITIONAL TOLERANCING**

LENGTH: MINIMAL DISTORTION AT CUT-OFF AREA IS ACCEPTABLE UP TO 1/2" FROM THE ENDS, UNLESS OTHERWISE STATED. LENGTH TOL. UNLESS OTHERWISE STATED:  
 UP TO 144' - +0 / - 1/4"  
 144' & UP - +1/2 / -0

STRAIGHTNESS: SLIGHT BOW IS ACCEPTABLE. MAXIMUM ACCEPTABLE BOW IS .120" BETWEEN TWO PIECES OF THE SAME LENGTH, IN EITHER THE UP OR DOWN DIRECTION OR SIDE TO SIDE, UNLESS OTHERWISE STATED. TWIST SHOULD BE KEPT TO A MINIMUM, PART SHOULD LAY FLAT.

**NCTL VERIFIED DRAWING**

REPORT SD 422013-04

DATE 2-6-19

TECH JJ

MIN YIELD STRENGTH = 50,000 PSI

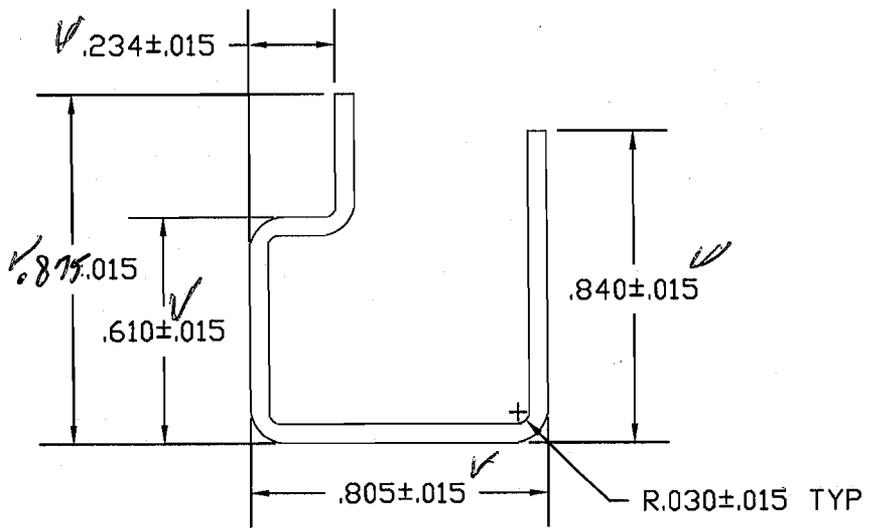
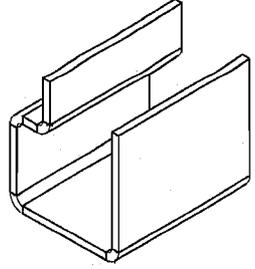
REV	DESCRIPTION	BY	DATE	TOLERANCES	DIVISION: JELD-WEN - PRODUCT DEVELOPMENT	IDENTIFIER No. 1A16966
A	.120' was 1/8', SAME was 8'	JPN	9/28/07	DECIMAL: ±.015 FRACTION: 1/32	APR BY:	PRODUCT: STIFFENER
B	STRIP WIDTH = 2.730" WAS 2.78," MIN WAS MAX	JPN	11/05/07	ANGLE: ± 1° DECIMAL LENGTH ±.020	DRAFT BY: JPN	TITLE: GALVANIZED STEEL STIFFENER
C	TOLERANCES CHANGED FROM +.000 -.030 TO +/- .015	JPN	11/26/07	CRITICAL: ±.010 KERF: .008	SCALE: 2:1 DATE: 8/17/07	MATERIAL: A2 STEEL REV: PART No.: 6966
					CAD DWG. No.: 1A16966 JN 11-26-07	

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REVISION HISTORY

REV	DATE	ZONE/SHEET	DESCRIPTION	BY	APR BY
B	11/21/07		TOLERANCES CHANGED FROM +.000/-0.030 TO +/- .015	J.NELSON	G.BRUNOLD
C	06/22/09		UPDATED TITLEBLOCK, ADDED WT/FT	J.NELSON	G.BRUNOLD
D	08/19/09	C2-3	REMOVED LEGS PER PCR-080033V, UPDATED TB, STRIP WIDTH WAS 2.75"	J.NELSON	

OPERATOR NOTES:  
 1. STRIP WIDTH = 2.47"  
 2. FORMTEK ID # 40  
 3. LOWER VENT INTERLOCK



*INTERIOR  
 MOUNTING  
 RAIL*

ADDITIONAL TOLERANCING

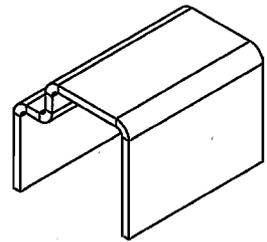
LENGTH: MINIMAL DISTORTION AT CUT-OFF AREA IS ACCEPTABLE UP TO 1/2" FROM THE ENDS, UNLESS OTHERWISE STATED. LENGTH TOL. UNLESS OTHERWISE STATED:  
 UP TO 144" - +0 / - 1/4"  
 144" & UP - +1/2 / -0

**NCTL VERIFIED DRAWING**  
**REPORT** *gdr 2013-011*  
**DATE** *2-6-13*  
**TECH** *[Signature]*

STRAIGHTNESS: SLIGHT BOW IS ACCEPTABLE. MAXIMUM ACCEPTABLE BOW IS .120" BETWEEN TWO PIECES OF THE SAME LENGTH, IN EITHER THE UP OR DOWN DIRECTION OR SIDE TO SIDE, UNLESS OTHERWISE STATED. TWIST SHOULD BE KEPT TO A MINIMUM, PART SHOULD LAY FLAT.

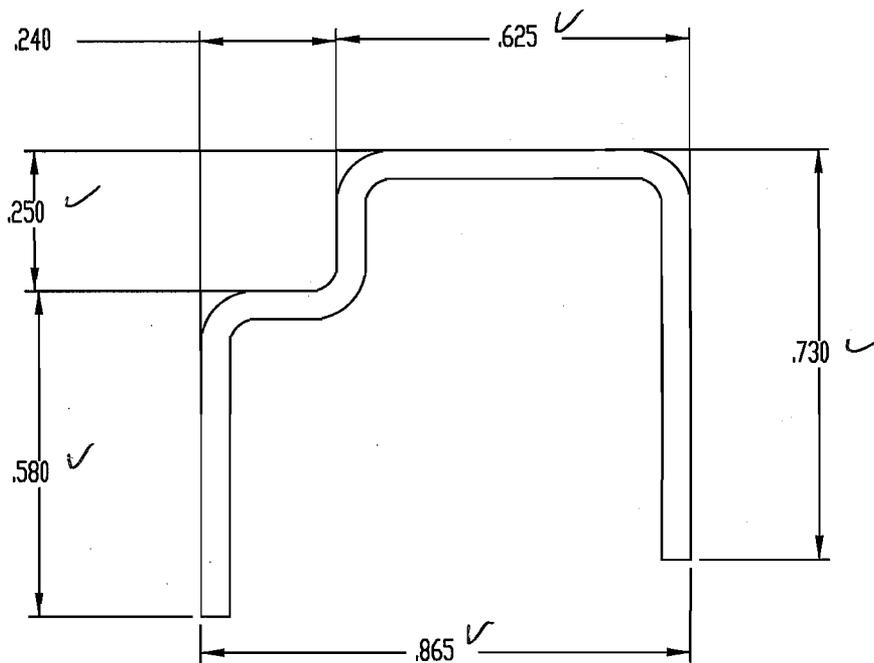
TOLERANCES UNLESS SPECIFIED OTHERWISE	PROJECT ENG.: J.NELSON	DATE: 08/17/07	<b>JELD-WEN</b> WINDOWS & DOORS	3737 LAKEPORT BLVD. KLAMATH FALLS, OR 97601 PHONE: (541) 882-3451
	CHECKED BY: J.NELSON	SCALE: 2:1		
FRACTION ±1/32 ANGLE ±1°	APR BY: G.BRUNOLD	TITLE: GALVANIZED STEEL STIFFENER 1A16210		
X ±.1 XX ±.02 XXX ±.006	IDENT. No.: 1A16210	MODEL No.:	DRAWING No.: 1A16210	
	MATERIAL: 0.052" STEEL, 50ksi MIN, 0.432 lbs/ft	FINISH:	REV: D	SHEET:

REVISIONS			
REV.	DESCRIPTION	DATE	REV. BY



FULL SCALE

ALL INSIDE RADII = 0.045"



*Bottom  
RAIL*

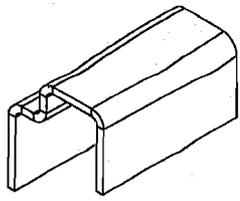
**NCTL VERIFIED DRAWING**  
**REPORT** 5d.u.2013.011  
**DATE** 7-10-13  
**TECH** 11

IXX = 0.007  
IYY = 0.013

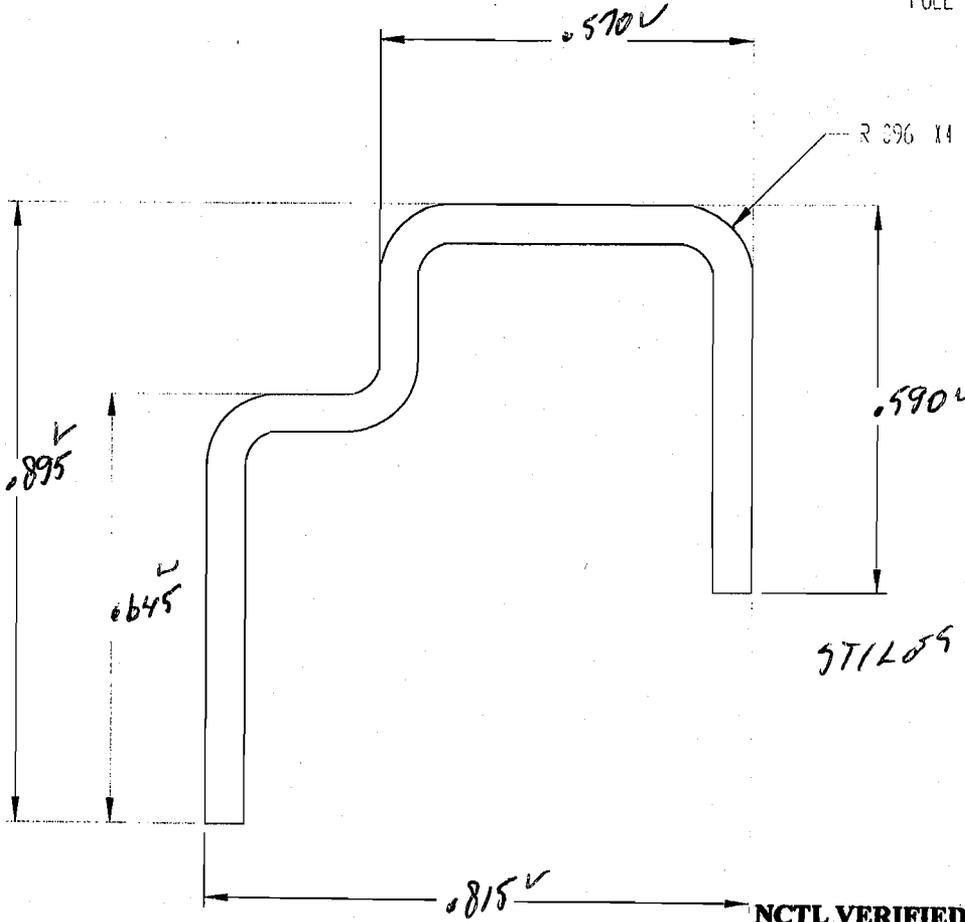
	SIZE .051 X 2.147	THIS DRAWING AND ITS CONTENTS ARE CONFIDENTIAL AND ARE NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART OR USED OR DISCLOSED TO OTHERS EXCEPT AS AUTHORIZED BY HOMESHIELD.	
	YIELD (CHANGE) #/FT		
	MATERIAL DESCRIPTION	A DO NOT SCALE THIS DRAWING	NAME
	GALV. STEEL		
APPLICATION	DRAWN BY ATB DATE 10/13/04	MAGANA FRAME STIFFENER	CUSTOMER JELD-WEN
TOLERANCES - NOT INDICATED DECIMALS .XXX = ±.015 .XX = ±.030 .X = ±.100 ANGLES ±1°	CHECKED BY DATE		DWG. NO. RFQ 4360
	APPROVED BY DATE		DWG. SCALE 10.333333 RFQ DRAWING 4360

REVISIONS			
REV.	DESCRIPTION	DATE	REV. BY
A	RELEASED FOR TOOLING / ECN #070039	1/12/07	MRP
B	RELEASED FOR PRODUCTION / ECN #070210	3/16/07	MRP
C	REVISED DIMS., RELEASED TO TOOLING / ECN #070481	6/5/07	MRP

FOR TOOLING ONLY



FULL SCALE



lxx = 0.002  
lyy = 0.007

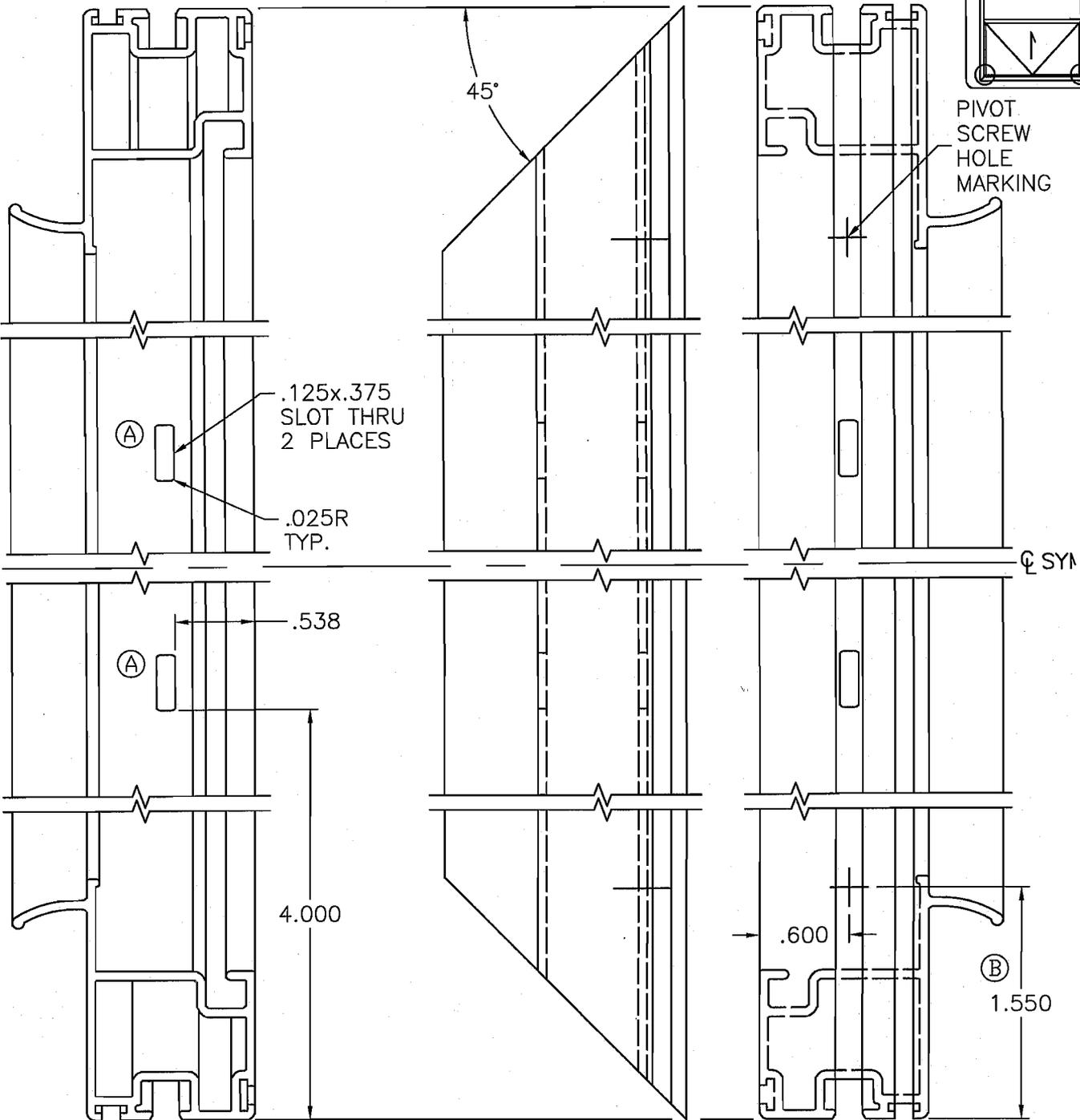
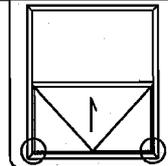
**NCTL VERIFIED DRAWING REPORT**  
 REPORT 5/14/2013/011  
 DATE 2-26-13  
 TECH M

SIZE .051 X 1.780		THIS DRAWING AND ITS CONTENTS ARE CONFIDENTIAL AND ARE NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART OR USED OR DISCLOSED TO OTHERS EXCEPT AS AUTHORIZED BY HOMESHIELD	<h1 style="margin: 0;">Homeshield</h1> <p style="margin: 0;">Fenestration Components</p> <p style="margin: 0;">a <b>Quanex</b> company</p>	
YIELD 309 #/FT				
MATERIAL DESCRIPTION		<input type="checkbox"/> DO NOT SCALE THIS DRAWING	NAME	
CRS - A40 GALV. IRR 10 STEEL			HP TD- INTERLOCK STIFFENER	
DRAWN BY MRP DATE 1/12/07		LOCATION		CUSTOMER
CHECKED BY DATE		<input checked="" type="checkbox"/> sworth <input checked="" type="checkbox"/> Jales		JELD WEN
APPROVED BY DATE		DWG SCALE 4:1		DWG NO 1A16999
TOLERANCES - NOT INDICATED DECIMALS .XXX = ± .015 .XX = ± .030 X = ± .100 ANGLES ± 1°		REG DRAWING 4731		Page 38 of 41 SHEET 1 OF 1 REV. C

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**JELD-WEN**  
WINDOWS & DOORS

**FABRICATION DRAWING**



**7841 BOTTOM RAIL NOTES:**

1. A - Weep Hole Location
2. B - Pivot Screw Hole Mark Location
3. All Dimensions are after welding, add 1/8" for weld material.

**NCTL VERIFIED DRAWING**  
**REPORT** *sdw 2019 011*  
**DATE** *2-6-19*  
**TECH** *AD*

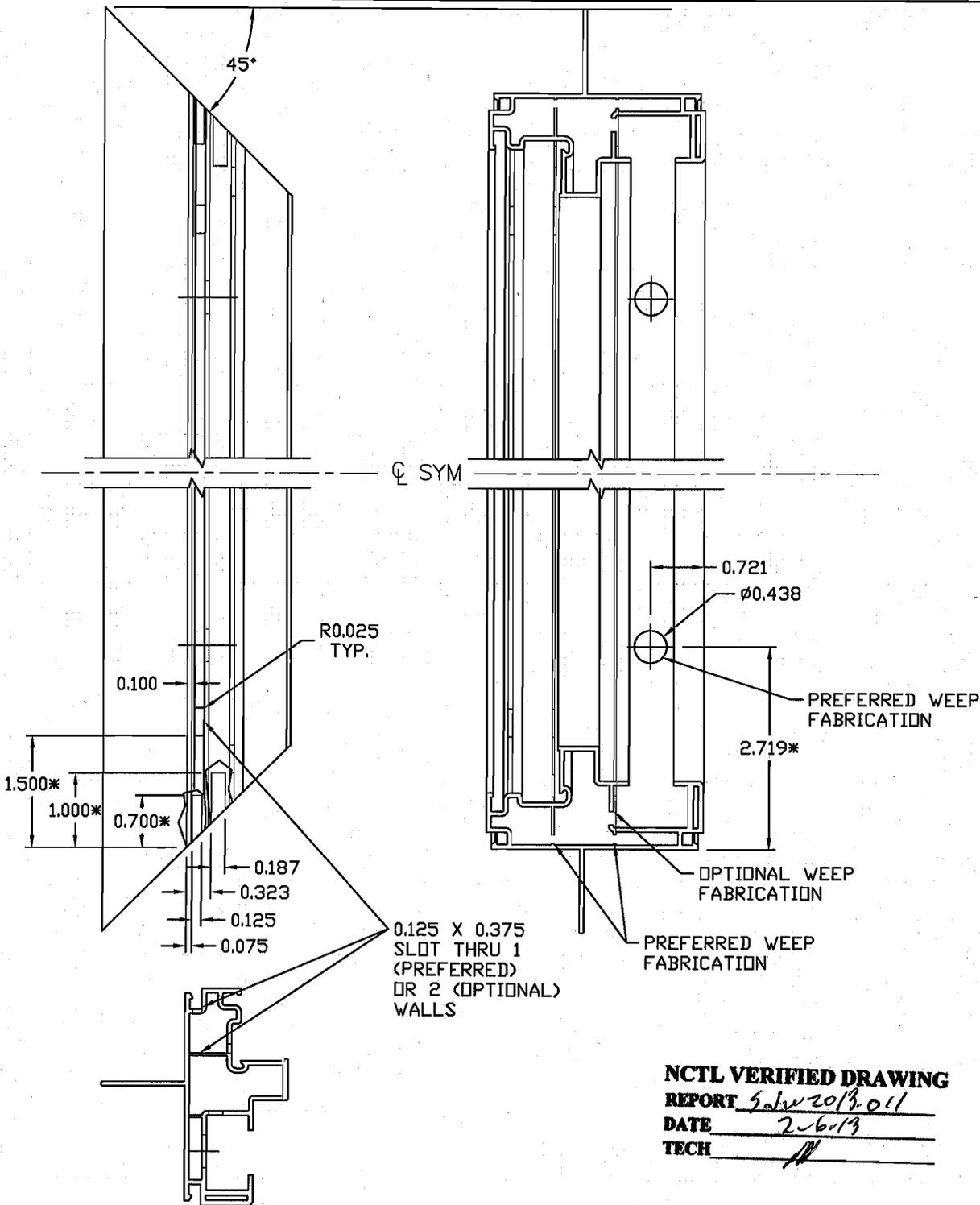
TOLERANCES	DIVISION: JELD-WEN, INC	IDENTIFIER No: 96646.4
DECIMAL: ±.015	PRODUCT: BUILDERS TILT SINGLE HUNG	
FRACTION: ±1/32	TITLE: Fabrication of Bottom Rail - East	
ANGLE: ±1°	MATERIAL: PVC	TREAT: - REV: -
DECIMAL LENGTH: ±.020	SCALE: 1:1	DATE: 3-11-08
CRITICAL: ±.010	APR BY: -	DRAFT BY: kayec
KERF: ±.008	CAD DWG. No.: 7841 F-Btm RI	PART No.: 7841

REV	DATE	DESCRIPTION	BY	APP
REVISION HISTORY				

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**REVISION HISTORY**

REV	DATE	ZONE/SHEET	DESCRIPTION	BY	APR BY
C	03/13/08		REVISED TITLE & TITLEBLOCK, ADDED NOTES	BKC	
D	11/05/09		ADDED MT. VERNON PRODUCED PRODUCT WEEP FABRICATION	NGH	
E	05/13/10		INCLUDED GRINNELL WITH MT. VERNON PRODUCT WEEP FABRICATION NOTES	NGH	
F	09/22/10		UPDATED TITLE BLOCK AND REVISED FOR OPTIONAL AND PREFERRED FABRICATIONS	JPN	MER



2. USE ONLY ONE WEEP CONFIGURATION (PREFERRED OR OPTIONAL).  
 1. DIMENSIONS MARKED WITH \* ARE AFTER WELD. ADD WELD MATERIAL.

**NOTES:**

TOLERANCES UNLESS SPECIFIED OTHERWISE	PROJECT ENG.:	DATE:	03/13/08	<b>JELD WEN</b> WINDOWS & DOORS	3737 LAKEPORT BLVD. KLAMATH FALLS, OR 97601 PHONE: (541) 882-3451
	DRPT BY:	B.COX	SCALE:		
FRACTION ±1/32	CHECKED BY:	TITLE:	FABRICATION FOR WEEP IN SILL		
ANGLE ±1°	APR BY:	FAB/SECONDARY OP			
X ±.1	IDENT. No.:	MODEL No.:	8423 F-Sill	DRAWING No.:	8423 F-Sill.dwg
XX ±.02	MATERIAL:	PVC	FINISH:	REV:	F
XXX ±.006				SHEET:	1 OF 1

