

# Fenestration Testing Laboratory, Inc.

10235 8<sup>th</sup> Street, Rancho Cucamonga, CA 91730

Report #: T19-089

## REPORT SUMMARY

### REPORT #

T19-089

### TESTED FOR

Value Windows and Doors  
1830 Flower Ave.  
Duarte, CA 91010

### SERIES & PRODUCT TYPE

4000 - PVC OUTSWING SIDE-HINGED DOOR

### CONFIGURATION

X

### FRAME SIZE

1117.60 mm x 2178.05 mm (44.00" x 85.75")

### SPECIFICATION

NAFS - North American Fenestration Standard/specification for windows, doors, and skylights  
AAMA/WDMA/CSA 101/I.S.2/A440-17

### DESIGN PRESSURE LEVEL ACHIEVED

DP = 60.0 PSF

*Note that in order to provide a Performance Grade (PG) the NAFS standard requires that an AAMA 920-16 Cycle performance test be performed. However, the product met the requirements for air infiltration, water penetration and structural load and other auxiliary tests specified in the NAFS standard for side-hinged doors for a DP60 level.*

### TEST COMPLETION DATE

September 9, 2019

### REPORT DATE

September 12, 2019

# Fenestration Testing Laboratory, Inc.

10235 8<sup>th</sup> Street, Rancho Cucamonga, CA 91730

Report #: T19-089

**1.0 Tested For:** Value Windows and Doors  
1830 Flower Ave.  
Duarte, CA 91010

**2.0 Purpose:**  
The purpose of this report is to present the testing methods employed and the test results obtained during the performance testing of one (1) PVC OUTSWING SIDE-HINGED DOOR described in paragraph 4.0 of this report.

**3.0 Test References:**

**3.1** NAFS - North American Fenestration Standard/specification for windows, doors, and skylights  
AAMA/WDMA/CSA 101/I.S.2/A440-17

**3.2** AAMA 1304-18 Voluntary Specification for Determining Forced Entry Resistance of Side-Hinged Door Systems

**4.0 Compliance Statement:** The test results in paragraph 6.0 indicate that the test sample described in paragraph 5.0 of this report met the performance requirements of the above specifications for the design pressure shown in 4.1 below.

**4.1** Design Pressure 60.0 PSF

**5.0 Sample Submitted:**

**5.1 Product Type:** PVC Outswing Side-Hinged Door

**5.2 Series:** 4000 (Eurotek)

**5.3 Configuration:** X

<b>5.4 Product Dimensions:</b>	<b>Millimeters</b>	<b>Inches</b>
Total Frame:	1117.60 x 2178.05	44.00 x 85.75
Active Panel:	1012.95 x 2171.70	39.88 x 85.50

**5.5 Glass and Glazing:**

<i>IGU Thickness</i>	<i>Spacer Width</i>	<i>Interior Lite</i>	<i>Exterior Lite</i>	<i>Glazing method</i>
0.79" overall wide	0.57"	DS Tempered	DS Tempered	Inside glazed onto a coextruded glazing gasket on the panel. The IGU was set on plastic setting blocks at opposite diagonal corners – the bottom rail to hinge stile corner and the top rail to lock stile corner. PVC snap-in glazing stop was applied full perimeter on the inside. Note that the glazing stop contained a coextruded two finger vinyl. The glazing stop on the bottom rail was set in sealant.

**5.6 Weepage:**

<i>Drainage Method</i>	<i>Size</i>	<i>Quantity</i>	<i>Location</i>
Vertical rectangular weep	1" x 0.25"	One (1) at each end	Panel bottom rail – under the IGU. Water drained into the hollow and out the same sized weep holes on the bottom of the bottom rail.
No weeps on sill			

**5.7 Pressure balancing:**

<i>Hole Size</i>	<i>Quantity</i>	<i>Location</i>
3/16" diameter	Four (4)	Two in the frame head and two in the panel top rail

# Fenestration Testing Laboratory, Inc.

10235 8<sup>th</sup> Street, Rancho Cucamonga, CA 91730

Report #: T19-089

## 5.8 Weather-stripping:

<i>Type</i>	<i>Quantity</i>	<i>Location</i>
Hollow bulb/leaf vinyl	One (1) strip	Full perimeter on the panel facing in.
Hollow bulb vinyl	One (1) strip	On the frame head and jambs facing out.

## 5.9 Sealants:

Sealant was applied at the following locations:

- Sill to jamb corners were sealed full profile. This included screw penetrations through the sill from the underside and top side and the plastic molded corner parts.
- Hinge leafs attached to the frame were sealed full profile.
- Hinge leafs attached to stile were sealed to the stile.
- The weather-strip on the jambs was sealed to the sill at each jamb.
- The frame weather-strip was mitered and glued at the top corners.
- The weather-strip on the panel was mitered and sealed at the corners and the weather-strip was set in sealant full perimeter of the panel weather-strip race. A cap seal was also applied to the inside perimeter of the panel weather-stripping across the bottom rail and up the stiles 3" and a cap seal was applied to the outside perimeter of the panel weather-stripping across the bottom rail and 8" up the stiles.

## 5.10 Hardware:

<i>Type</i>	<i>Quantity</i>	<i>Location</i>
Drop-in adjustable hinge	Three (3)	Each hinge consisted of a female and male part. A hinge was located at 7", 37.5" and 72" from the bottom of the door frame. Each female part was fastened to the hinge jamb with a pair of ¼" x 2" PFH screws. Each male part of the hinge was fastened to the hinge stile with three (3) #10 x 1" PFH screws and a pair of ¼" x 1.58" PFH screws.
Six-point lock and handle set	One (1)	The door panel lock stile contained the handle 42" from the bottom of the panel. The latch was 42.38" from the bottom and the dead bolt 40" from the bottom. The dead bolt, latch, and four other lock points were all controlled by the door handle. The latch and dead bolt engaged a steel strike fastened to the frame with four screws. The other four lock points were metal pins that each engaged their respective strike on the lock jamb. A strike for the lock pins was located at 8", 21.5", 55.5", and 72" from the bottom of the jamb. Each pin was fastened to the jamb with three screws.

## 5.11 Construction:

<i>Location</i>	<i>Joinery Type</i>
The sill consisted of an aluminum part and two PVC parts that snapped together.	
Frame jambs to head and all panel corners	Mitered and fusion welded. The panel corners also contained a plastic corner key that fit into the steel reinforcement.
Jamb to aluminum sill corners were mechanically joined with screws and three piece plastic injection molded assembly per corner. The molded parts connected to each other at each sill to jamb corner and all were sealed to the sill and jamb. At each corner, one plastic part was fastened to the top of the sill with a #8 x 0.75" PFH screw. A second part was fastened to the end of the sill with a pair of #8 x 1.25" PFH screws and fastened to the jamb with a pair of #8 x 1.25" PFH screws. A third plastic part fit onto the panel side of its respective jamb and was fastened to it with a single screw. A #10 x 3.5" screw was applied at each end through the bottom of the aluminum threshold and into a wood block that fit inside the rolled steel reinforcement in each jamb.	

# Fenestration Testing Laboratory, Inc.

10235 8<sup>th</sup> Street, Rancho Cucamonga, CA 91730

Report #: T19-089

## 5.11 Construction: (Continued)

The panel contained rolled steel reinforcement that was secured in the PVC hollow with screws applied through the glazing pocket. There were eight (8) screws per jamb and six (6) screws per bottom and top rail.

The frame contained rolled steel reinforcement in the head and jambs that was secured with screws; eight (8) per jamb and four (4) at the head applied from the outer perimeter side.

## 5.12 Reinforcement:

Material	Part #	Location
Rollled steel	229115	Frame jambs and head and the panel full perimeter

## 5.13 Installation:

The frame was anchored to the rough opening with metal straps at head and jambs. The straps each fit into a channel in the frame but were not fastened to the frame. Each strap extended inward and was bent around the 2" x 6" rough opening. Each strap was fastened to the rough opening with a single #8 x 1.5" PFH wood screw. Additionally, the frame was supported from the exterior by overlapping plywood ¼" onto the outside face of the frame jambs and head. The plywood in turn was fastened to the surrounding rough opening with #8 x 1.5" PFH wood screws every 10". On the interior side, the frame was also supported by two 12" long wood blocks at each jamb. Each block was at ¼ point of the jamb and overlapped the inside face of the jamb 1"; each wood block was fastened to the rough opening with a pair of #8 x 3" wood screws.

**6.0 - Test procedures and results:** All testing procedures were performed in accordance with the performance requirements of the test specifications referenced in paragraph 3.0 of this report. The number preceding each test listed below refer to the corresponding sections in the NAFS.

### 6.4.5 - Force to latch for side-hinged door systems

Test Description	Results	Allowed	Comments
6.4.5.1 - Force to latch	33.36 N (7.50 lbf)	Report only	
6.4.5.2 - Force-to-engage deadbolt	0.00 N (0.00 lbf)	Report only	1
6.4.5.2 - Force to operate	75.61 N (17.00 lbf)	100 N (22.48 lbf)	2

### 9.3.2 - Air Infiltration (ASTM E283-04(2012))

Test Description	Results	Allowed	Comments
75 Pa differential pressure	0.45 L/s*m <sup>2</sup>	1.5 L/s*m <sup>2</sup>	
1.57 psf differential pressure	0.09 cfm/ft <sup>2</sup>	0.30 cfm/ft <sup>2</sup>	

The tested specimen meets the performance levels specified in AAMA/WDMA/CSA 101/1.S.2/A440 for air leakage resistance.

### 9.3.3 - Water Penetration (ASTM E547-00(2016))

Test Description	Results	Allowed	Comments
DP60 - 440 Pa (9.19 psf)	No water penetration	No water penetration	3

### 9.3.4.2 - Uniform Load Deflection at Design Pressure (ASTM E330-14)

Test Description	Results	Allowed (L/175)	Comments
DP60 - 2880 Pa (60.15 psf) Pos	0.00 mm (0.00")	5.59 mm (0.22")	4
DP60 - 2880 Pa (60.15 psf) Neg	0.00 mm (0.00")	5.59 mm (0.22")	4

### 9.3.4.3 - Uniform Load Structural Overload (OL) at 1.5 x Design Pressure (ASTM E330-14)

Test Description	Results	Allowed (0.3%)	Comments
OL for DP60 - 4320 Pa (90.23 psf) Pos	0.00 mm (0.00")	2.79 mm (0.11")	4
OL for DP60 - 4320 Pa (90.23 psf) Neg	0.00 mm (0.00")	2.79 mm (0.11")	4

# Fenestration Testing Laboratory, Inc.

10235 8<sup>th</sup> Street, Rancho Cucamonga, CA 91730

Report #: T19-089

### 9.3.5 - Forced Entry Resistance of Side-Hinged Door Systems (AAMA 1304-18)

Test Description	Results	Allowed	Comments
AAMA 1304-18	No Entry	No Entry	

### 9.3.6.2 - Thermoplastic Weld Test

Test Description	Results	Allowed	Comments
Frame and Sash Corners	Passed	Break shall not extend along the entire weld line	

Comment #1 - This test is to measure any additional force needed to be applied to the panel to get the deadbolt to engage after the latch has engaged.

Comment #2 - This test is to measure the force to operate the deadbolt, however, the dead bolt was operated by the same handle that operated all locking points. Therefore, the number value shown here is the force to operate the door handle to engage and disengage the locks.

Comment #3 - No insect screen provided with this product.

Comment #4 - Deflection was measured at the top corner of the panel on the lock stile and at the first lock point and at the top of the hinge stile.

Testing was witnessed by: Bensen Xie with Value Windows and Doors and by Jim Cruz and Daniel Orosco with FTL.

For a complete description of the tested sample, refer to the attached five (5) pages consisting of bill of materials, cross section drawings, and part drawings. This report is complete only when all the above referenced bill of materials and drawings are attached.

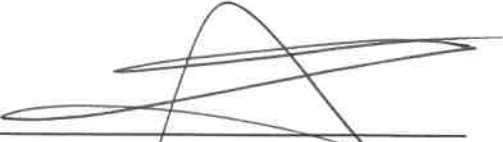
The bill of materials, cross section drawings, and part drawings of frame and sash members are on file and have been compared to the sample submitted. Test sample sections, bill of materials, drawings and a copy of this report will be retained at the test laboratory for four years.

This test report may not be modified in any way without the written consent of Fenestration Testing Laboratory, Inc. (FTL).

The preceding test results relate only to the tested specimen and were obtained by using the applicable test methods listed in section 3.0 and 6.0 above. This report does not constitute certification of this product or an endorsement by this laboratory. It is the property of the client named in section 1.0 above. Certification can only be granted by an approved administrator and/or validator.

**Test Completion Date:** September 9, 2019

**Report Completion Date:** September 12, 2019



Pete Cruz - Test Engineer



Jim Cruz - Laboratory Testing Manager

CUSTOMER NAME:

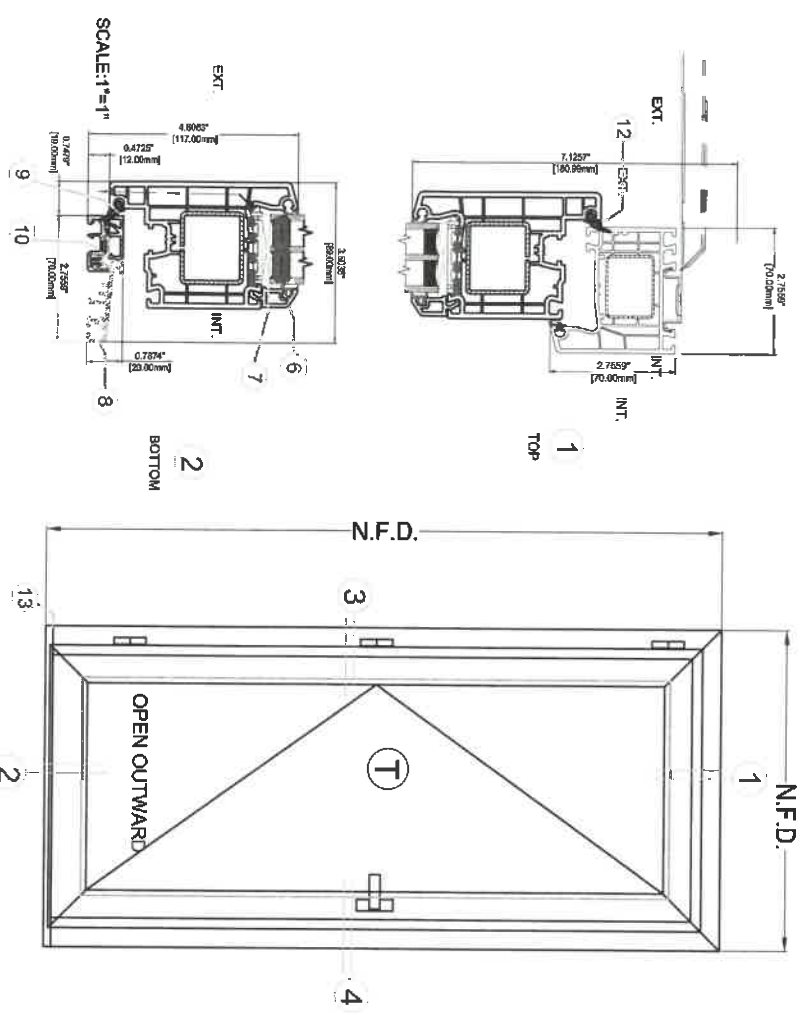
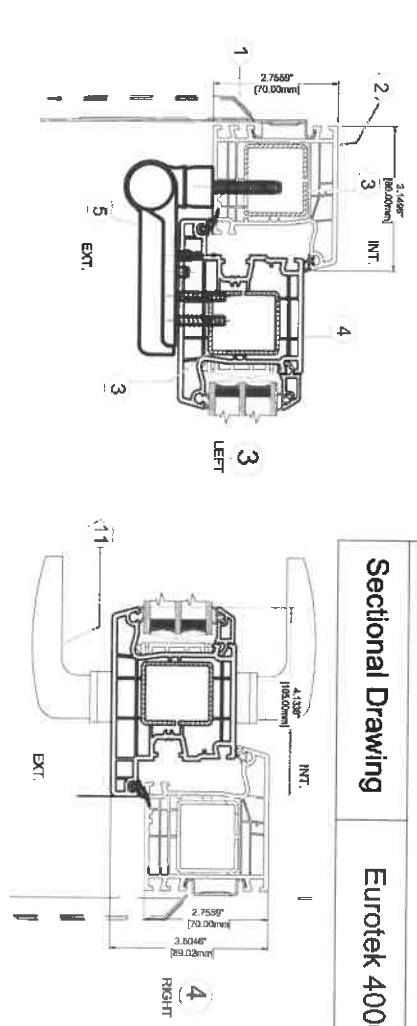
Value Windows & Doors

Sectional Drawing

Eurotek 4000 Outswinging door

Series #:

70



**BOM**


The window size :

INDEX	PART NUMBER	DESCRIPTION	QTY	VENDOR	MATERIAL
1	6203410	Wall Anchor	8	ALUPLAST	PVC
2	1489303	Main Frame 80mm x 70mm	3	ALUPLAST	PVC
3	229115	Steel Reinforcement	7	ALUPLAST	Galvanized Steel
4	1489331	Outswing Sash - 105mm x 70mm	4	ALUPLAST	PVC
5	K470G0000	Dr. Hahn Flap Hinge	3	Dr. Hahn	Aluminium
6	120736	Glazing Bead	4	ALUPLAST	PVC
7	620920	Gilching Blocks	4	GKG	UPVC
8	249800	Threshold 4000 Series	1	ALUPLAST	Anodized Aluminium
9	249850	Threshold 4000 Series	1	ALUPLAST	PVC
10	249850	Threshold 4000 Series	1	ALUPLAST	PVC
11	11882483	Verona Handle	1	Hoppe	Aluminium
12	409932	Special Gasket for high performance	4	ALUPLAST	Rubber
13	048072	Threshold connector for frame	2	ALUPLAST	Plastic

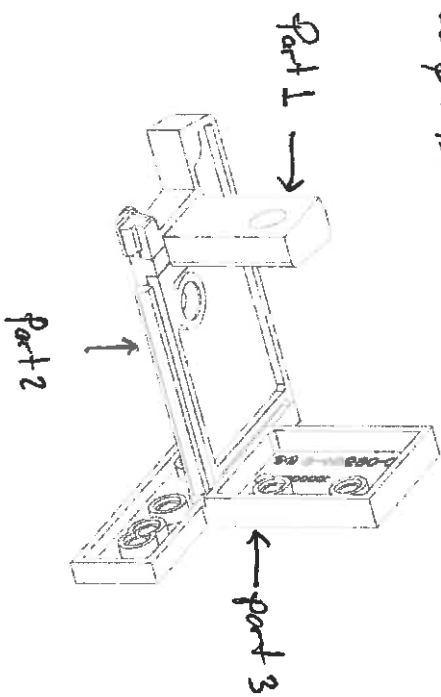
FENESTRATION TESTING LAB  
 REPORT NO: 779-089  
 DATE: 11-5-19


Standard	Sectional Area	Unspec	Designed	Checked	File No.:
Material	PVC	Theor. Weight	TK.Tolerance	Drawn	
				Bensen Xie	
				Yang Jing Wei	
				Mapping	09/12/2019



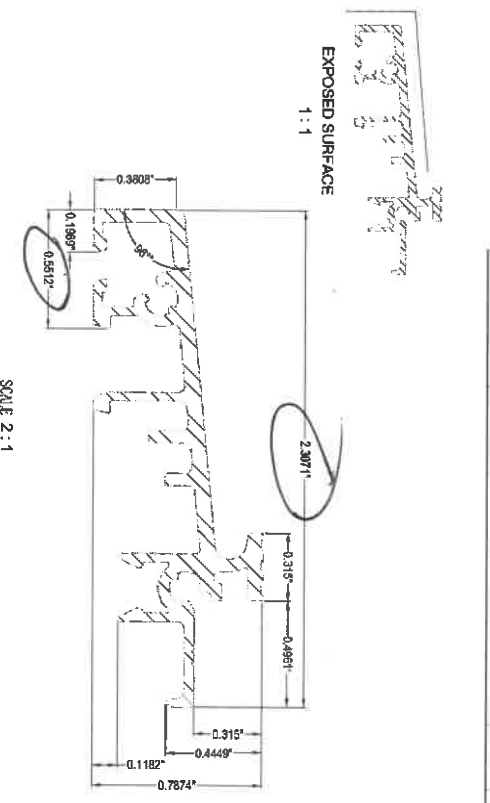
CUSTOMER NAME: Value Windows & Doors		Series #	
Sectional Drawing			
Standard	Section Area	Unspace	Designed
Material	Thick Height	Tk.Tolerance	Drawn
		Checked	Approval
		File No:	648072
			

Three parts



CUSTOMER NAME: Value Windows & Doors		Series #	
Sectional Drawing			
Standard	Section Area	Unspace	Designed
Material	Thick Height	Tk.Tolerance	Drawn
		Checked	Approval
		File No:	219080
			

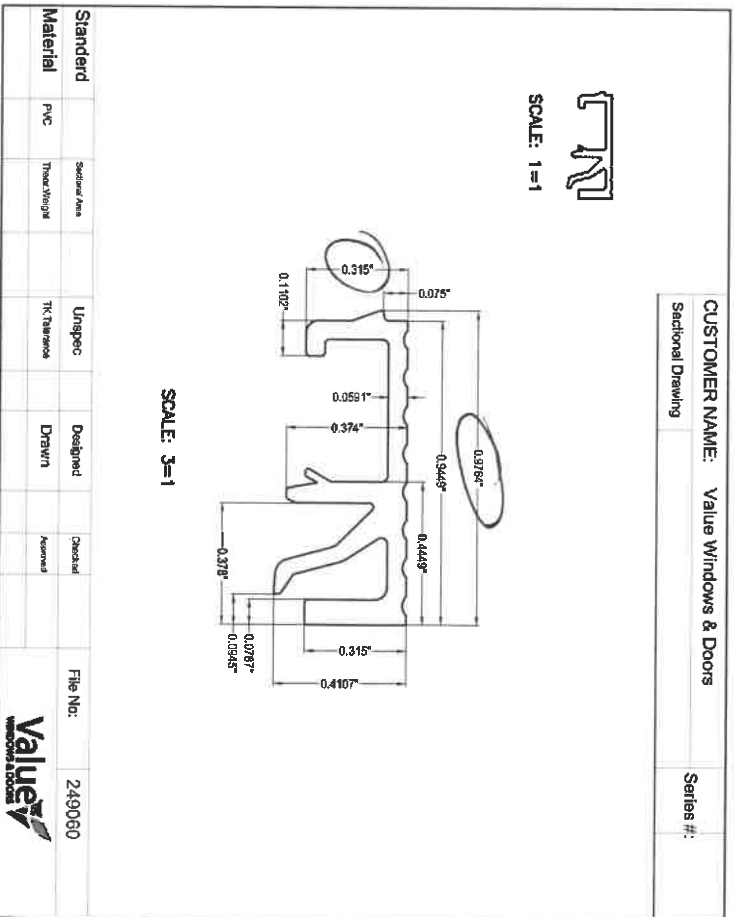
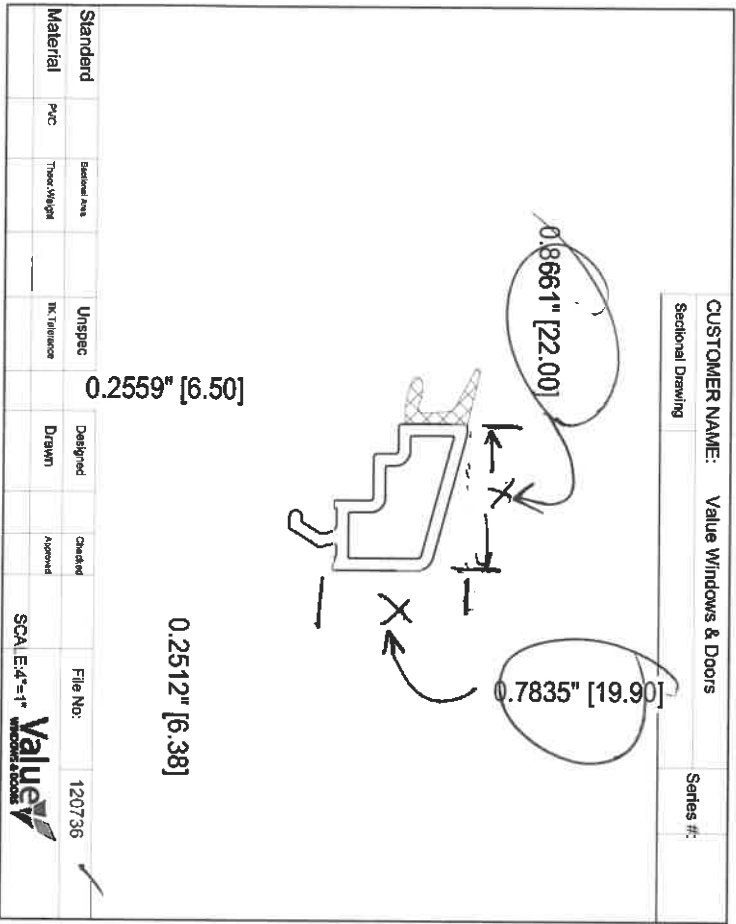
EXPOSED SURFACE  
1 : 1



SCALE 2 : 1

**FENESTRATION TESTING LAB**  
 REPORT NO: **119-089**  
 DATE: **11-5-19**

FENESTRATION TESTING LAB  
 REPORT NO: 719-089  
 DATE: 11-5-19





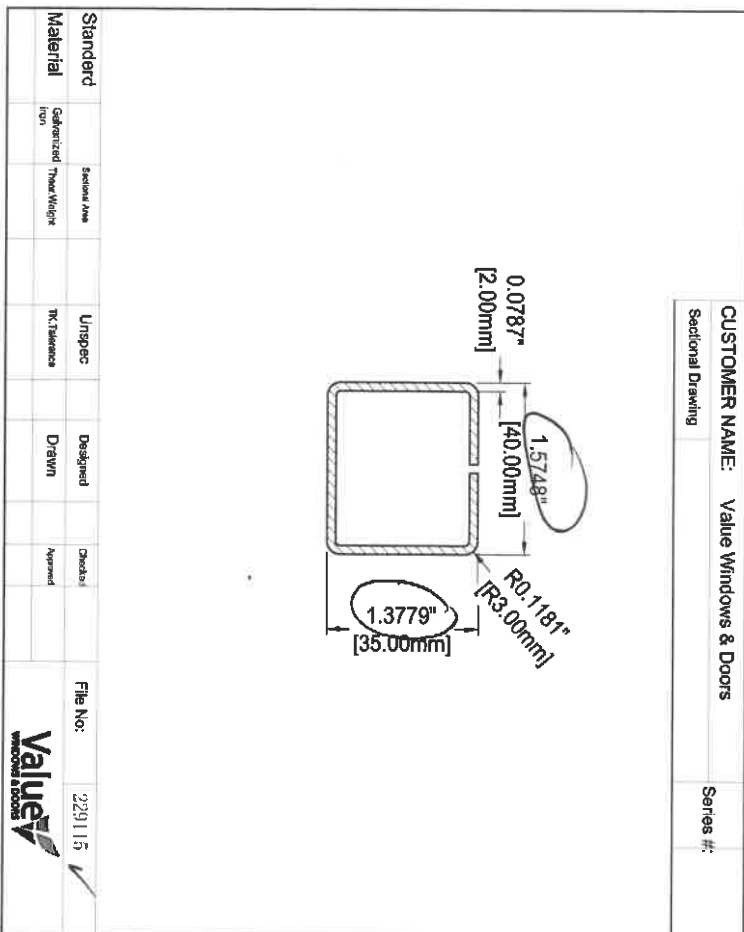
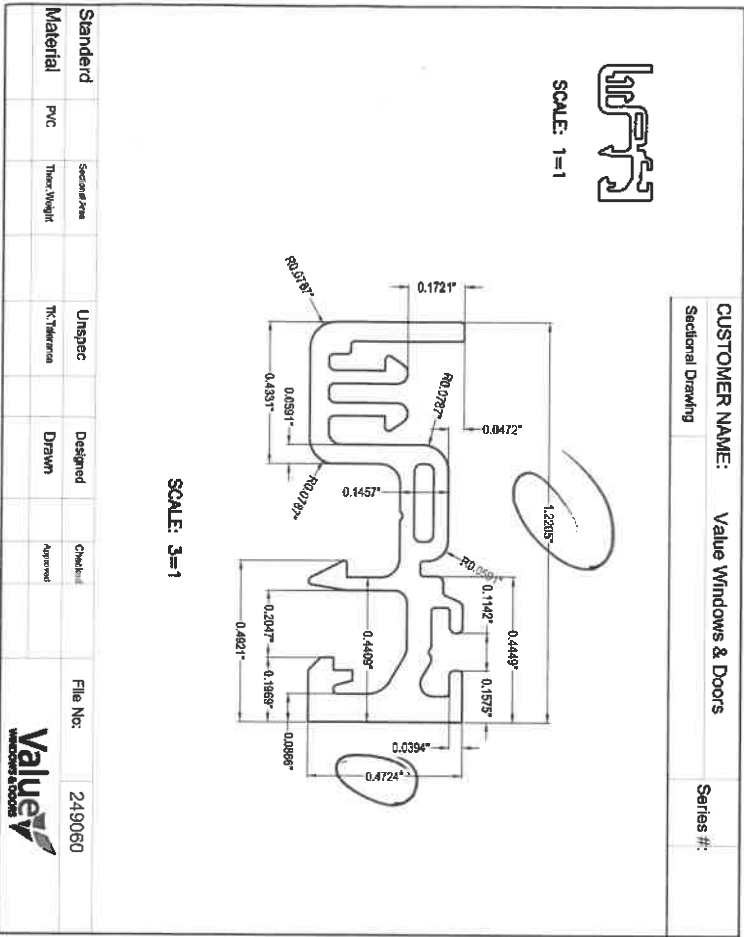
FENESTRATION TESTING LAB

REPORT NO:

T19-0829

DATE:

11-5-19



**FENESTRATION TESTING LAB**

REPORT NO: **719-089**

DATE: **11-5-19**

