

TEST REPORT

Performance Evaluation of

Composite Window

"500 RS Series"

Performed in Accordance with:

AAMA/WDMA/CSA101/I.S.2/A440-11

& CSA A440S1-09

Report No.: L18-540-5284

Report Date: September 7, 2018

Prepared for:

Falbo Aluminum Products

66 Rivalda Rd.

Toronto, ON M9M 2M3

Canada

Overall Performance Rating

Class CW-PG3360: Size tested 1530 mm x 2289 mm-Type MA

Class CW-PG70: Size tested 60.24 in x 90.12 in-Type MA

Positive Design Pressure: 3360 Pa (70.18 psf)

Negative Design Pressure: 3360 Pa (70.18 psf)

Water Penetration Resistance: 730 Pa (15.04 psf)

Canadian Air Infiltration/Exfiltration: A3

Forced Entry Resistance: Grade 10

Respectfully submitted by:

**CANADIAN BUILDING ENVELOPE
Science and Technology (CAN-BEST)**

Tests Supervised by:



James R. Scott, P.Eng.

Test Supervisor

Person in Responsible Charge:



Elie Alkhoury, M.Eng. (Building Science), P.Eng.

Director, Research and Testing Services

1. This report does not constitute certification of the test product. The reported test results refer only to the specimen tested. No representation is made that other samples of similar design will feature like performance.
2. This report was prepared for the consideration of the addressee only. It shall not be used by any other party without the written consent of CAN-BEST.
3. This report may not be reproduced or quoted in partial form without the approval of CAN-BEST.

1. INTRODUCTION

Canadian Building Envelope Science and Technology (CAN-BEST) was retained by Falbo Aluminum Products to test one Composite Window. Testing was conducted in accordance with the performance requirements outlined in AAMA/WDMA/CSA101/I.S.2/A440-11 'North American Fenestration Standard/Specification for Windows, Doors, and Skylights'. Where applicable, testing was carried out in accordance with the corresponding ASTM standard test method or the CSA A440 S1-09 'Canadian Supplement to AAMA/WDMA/CSA101/I.S.2/A440 North American Fenestration Standard/ Specification for windows, doors, and skylights'

This report covers tests carried out on one specimen of specific dimensions. Product performance is affected by variations in its dimensions, assembly details and installation method. The reader is advised to ensure product conformity with all the details of the test sample described in the following section.

No conclusions regarding glass structural performance may be drawn from the reported result:

2. SAMPLE DESCRIPTION

Designation: "500 RS Series"
Type: Composite Window, 1530 mm wide by 2289 mm high (60.24 in by 90.12 in)
Sampling: Sampling of the test specimen was carried out by the Client.
Specimen Details: Details of specimen construction as provided by the client and verified by CAN-BEST are included in Appendix A. (2 pages)
Drawings:
Elevation 1 page
Vertical and horizontal sections 4 pages
Bill of Materials 3 pages
Die Drawings 13 pages
Copy of the above drawing(s), stamped "Canadian Building Envelope Science and Technology", is enclosed with this report.

3. TEST RESULTS

Detailed test results are presented in Tables (1.1) and (1.2) for the Gateway and Optional Performance requirements respectively.

Notes:

1. This report does not constitute certification of this product, which may only be granted by an Accredited Certification Agency.
2. The reported results were secured by using the designated test methods and they (DO) indicate compliance with the performance requirements of the referenced publication.
3. The product tested is detailed in drawings, which were supplied by the manufacturer and annexed to this report. Any other descriptions were supplied verbally by the manufacturer. The general descriptions in this report are for reference only.

TABLE (1.1): Test Results, Gateway Performance Requirement **Class CW-PG30-MA**
 Test Size: 1530 mm x 2289 mm (60.24 in x 90.12 in)

Test Start Date: August 1, 2017 Test Finish Date: August 3, 2017

Test	Specifications	Test Results	Rating						
Operating Force 9.3.1	Maximum allowable forces, N (lb): <i>Initiate:</i> 60(13.50) <i>Maintain:</i> 30(6.75) <i>Lock:</i> 100 (22.50)	Measured Operation Forces, N (lb): <i>Initiate:</i> 43 (9.75) <i>Maintain:</i> 43 (9.75) <i>Lock:</i> 64 (14.50)	PASS						
Air Leakage Resistance 9.3.2 <i>ASTM E283</i>	Rate of air leakage shall be less than or equal to the following: $l/s/m^2 (cfm/ft^2)$ <i>Cdn A2 (Inf./Exf.)</i> 1.5 (0.30) <i>Cdn A3 (Inf./Exf.)</i> 0.5 (0.10) <i>Cdn Fixed (Inf./Exf.)</i> 0.2 (0.04) Test Pressure, Pa (psf): 75 (1.57)	Surface Area, m ² (ft ²) 3.502 (37.70) Measured Air Flow, l/s (cfm): <i>Infiltration:</i> 0.43 (0.91) <i>Exfiltration:</i> 0.47 (1.00) Rates of Air Flow, l/s/m ² (cfm/ft ²): <i>Infiltration:</i> 0.12 (0.02) <i>Exfiltration:</i> 0.13 (0.03)	PASS Canadian A3						
Water Resistance 9.3.3 <i>ASTM E 547</i>	No leakage past innermost plane following four pressure cycles, each five minutes "ON" and one minute "OFF". Test Pressure, Pa (psf): 220 (4.59) (Equivalent to wind speed of 42 mph)	No leakage past innermost plane was observed. <table style="width: 100%; border: none;"> <tr> <td style="text-align: left;">Test</td> <td style="text-align: right;">Result</td> </tr> <tr> <td>4 cycles</td> <td style="text-align: right;">OK</td> </tr> </table>	Test	Result	4 cycles	OK	PASS		
Test	Result								
4 cycles	OK								
Uniform Load Deflection 9.3.4.2 <i>ASTM E 330</i>	Maximum net deflection shall not be more than 1/175 of its span, or 8.2 mm (0.32 in) under the following design pressure: Test Pressure, Pa (psf): 1440 (30.08) (Equivalent to wind speed of 108 mph)	Measured net deflections, mm (in): Span = 1435 (56.50) <i>Inward:</i> 2.2(0.085) <i>Outward:</i> 2.6(0.101)	PASS						
Uniform Load Structural 9.3.4.3 <i>ASTM E 330</i>	No glass breakage or permanent damage to window components at the following test pressure, Pa(psf). Net Permanent Deflection to be less than 0.3% of span, or 4.3 mm (0.169 in). Test Pressure, Pa (psf): 2160 (45.11) (Equivalent to wind speed of 0 mph)	Measured net permanent deflection of Top Rail, mm (in): Span = 1435 (56.50) <table style="width: 100%; border: none;"> <tr> <td></td> <td style="text-align: right;">Deflection % Span</td> </tr> <tr> <td><i>Inward:</i></td> <td style="text-align: right;">0.9(0.035) 0.06</td> </tr> <tr> <td><i>Outward:</i></td> <td style="text-align: right;">0.4(0.015) 0.03</td> </tr> </table>		Deflection % Span	<i>Inward:</i>	0.9(0.035) 0.06	<i>Outward:</i>	0.4(0.015) 0.03	PASS
	Deflection % Span								
<i>Inward:</i>	0.9(0.035) 0.06								
<i>Outward:</i>	0.4(0.015) 0.03								

TABLE (1.1): Test Results, Gateway Performance Requirements, Continued **Class CW-PG30-MA**
 Test Size: 1530 mm x 2289 mm (60.24 in x 90.12 in)

Test Start Date: August 1, 2017 Test Finish Date: August 3, 2017

Test	Specifications	Test Results	Rating
<p>Forced Entry Resistance</p> <p>9.3.5</p> <p><i>ASTM F 588</i></p>	<p>No entry shall be gained during the following sequence of disassembly, load tests and hardware and sash manipulation tests:</p> <p>Disassembly T1: 5 minutes</p> <p>Loads: N (lbf)</p> <p style="padding-left: 40px;">L1: 667 (150)</p> <p style="padding-left: 40px;">L2: 333 (75)</p> <p>Manipulation T1: 5 minutes</p>	<p>No entry was gained following the specified sequence of testing.</p> <p>Test Results</p> <p><i>Disassembly T1:</i> OK</p> <p style="padding-left: 40px;"><i>L1:</i> OK</p> <p style="padding-left: 40px;"><i>L2:</i> OK</p> <p><i>Manipulation T1:</i> OK</p>	<p>Grade 10</p>
<p>Awning, Hopper, Projected Hardware Load Test</p> <p>9.3.6.5.5</p>	<p>Maximum deflection of the outer corner of the operable lite, on the opposite side from the blocking, in the direction of the applied force, shall not be more than 31.3 mm (1.23 in) under test load.</p> <p>Test Load, N (lbf): 140 (31.47)</p>	<p>Measured deflection of the outer corner of the operable lite, on the opposite side from blocking, in the direction of the applied force, was as follows</p> <p>Deflections, mm (in):</p> <p><i>Operator Engaged:</i> 3.8 (0.150)</p> <p><i>Operator Dis-engaged:</i> 16.8 (0.660)</p>	<p>PASS</p>
<p>Screen Strength</p> <p>Cdn. Suppl. 5.1</p>	<p>No disengagement or deformation, of the screen or fastening, after application of test load.</p> <p>Test Load, N (lbf): 330 (74.25)</p>	<p>No disengagement or deformation was observed after application of test load</p>	<p>PASS</p> <p>Heavy Duty</p>

TABLE (1.2): Test Results, Optional Performance Requirements **Class CW-PG70-MA**
 Test Size: 1530 mm x 2289 mm (60.24 in x 90.12 in)

Test Start Date: August 1, 2017 Test Finish Date: August 3, 2017

Test	Specifications	Test Results	Rating
Water Resistance 9.3.3 <i>ASTM E 547</i>	No leakage past innermost plane following four pressure cycles, each five minutes "ON" and one minute "OFF". Test Pressure, Pa (psf): 730 (15.04) <i>(Equivalent to wind speed of 77 mph)</i>	No leakage past innermost plane was observed. <i>Test</i> <i>Max Pressure, Pa (psf)</i> 4 cycles 730 (15.24)	PASS
Uniform Load Deflection 9.3.4.2 <i>ASTM E 330</i>	Maximum net deflection shall not be more than 1/175 of its span, or 8.2 mm (0.32 in) under the following design pressures, Pa (psf): Inward Pressure: 3400 (71.00) Outward Pressure: 3410 (71.18) <i>(Equivalent to wind speed of 167 mph)</i>	Measured net deflections, mm(in): Span = 1435 (56.50) Inward: 6.2 (0.243) Outward: 8.0 (0.315)	PASS
Uniform Load Structural 9.3.4.3 <i>ASTM E 330</i>	No glass breakage or permanent damage to window components, at Test Pressures, Pa (psf). Net Permanent Deflection to be less than 0.3% of span, or 4.3 mm (0.169 in). Inward Pressure: 5170 (107.93) Outward Pressure: 5260 (109.78) <i>(Equivalent to wind speed of 251 mph)</i>	Measured net permanent deflection of Top Rail, mm(in): Span = 1435 (56.50) <i>Deflection % Span</i> Inward: 1.0(0.037) 0.07 Outward: 0.4(0.017) 0.03	PASS

* Water Penetration Resistance Testing was carried out at pressure differentials equal to, and exceeding, the specified limit for U.S. applications.

Revision Log:

Rev. No	Change	Date	Apprv. By
-	Original report issued	Sep. 7, 2018	EA





Item	Type, Material, Part #	Qty*	Size (W x H x D)	Location, Fastening, Seals, Comments
Frame	Composite Fixed over Awning		1530 x 2289 x 124 (60.2" x 90.1" x 4.9")	Comprising of two units, one fixed window over awning window
	Fixed, Aluminum	1	1530 x 1485 x 124 (60.2" x 58.5" x 4.9")	Top
	Awning, Aluminum	1	1530 x 800 x 124 (60.2" x 31.5" x 4.9")	Bottom
Mullion	Horizontal Mullion	1		Sill of the fixed window and head of the awning window, mechanically fastened with #8 x 1" screws
Sash	Operable, Aluminum	1	1430 x 720 x 67 (56.3" x 28.3" x 2.6")	
Joinery				
Fixed	Butt joint			Mechanically fastened with #8 x 1" screws
Awning Frame & Sash	Mitered Corners			Crimped corner keys
Installation	Aluminum buck			Fastened with #10 by 4" screws. 3 at sill and head, 100 from the ends and center. 5 per jamb, located 80(3.15")/ 500(19.69")/ 940(37.01")/ 1400(55.12")/ 2100 (82.68") from sill. Perimeter sealed w/sealant.
Glazing	Double-pane IGU Annealed glass	2	Overall thickness: 26 (1.0")	Glass thickness: 6
Glazing Method				
Fixed	Laid in glazed			
	Glazing stop, Extruded PVC			Interior perimeter
	Heal bead, Sealant			Interior perimeter
	Butyl tape Sealant			Exterior perimeter
Sash	Laid in glazed			
	Glazing stop, Extruded PVC			Interior perimeter
	Heal bead, Sealant			Interior perimeter
	Butyl tape Sealant			Exterior perimeter
Thermal Break				
Fixed	Rolled-in, extruded PVC	1 row	16.3 (0.6") wide gap	Perimeter
Awning	Rolled-in, extruded PVC	1 row	9.0 (0.4") wide gap	Perimeter

The above descriptions were provided by the manufacturer. Items and/or material properties were verified by CAN-BEST for general conformity only.

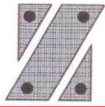
* Quantity is total unless otherwise specified



Item	Type, Material, Part #	Qty*	Size (W x H x D)	Location, Fastening, Seals, Comments
Weatherstrips				
Awning Frame	Bulb Gasket	1 row	Diameter: 7.0 (0.28")	Perimeter of frame
Awning Sash	Bulb Gasket	3 rows	Diameter: 7.0 (0.28")	Top rail and stiles
	Pile with no fin	1 row	Height: 8.0 (0.31")	Bottom rail
Drainage	Drain Hole	2	Diameter: 7.0 (0.28")	Bottom sash rail, 110 from ends.
Hardware				
Locks	Cam lock	2		One per lock jamb, 100 (3.94") from sill, each fastened with two #8 by 3/8" screws
Interlocking Keepers	Metal	2		Lock stile with Positive Pickup Tabs, 150 (5.91") from bottom rail, each fastened with two #8 by 3/8" screws
Inner locking Snubbers	Metal	1 pair		Interior Head of the awning unit, 340 (13.39") from each jamb, mechanically fastened with #8 by 3/8" screws (2 screws per snubber)
Roto Operators	Double arm, Brass Guides	1		Sill, center, each fastened with four #8 by 3/8" screws
Hinges	Double Arm, Stainless Steel	2	Length: 520 (20.5")	One per jamb, each fastened with four #8 by 3/8" screws
Screen			1365 x 674 x 10 (53.7" x 26.5" x 0.4")	Full Screen, Interior, Supported on 4 sides. Corner keys: Exterior Plastic. Frame: Extruded Aluminum. Mesh: Aluminum. Spline: T.
Screen Stiffeners	Aluminum	3	Length: 370 (14.6")	Center of top rail and 120 (4.72") from ends of bottom rail. Mechanically fastened with three #6 by 1/2" self-tapping screws per stiffener.
Swivel Clips	Plastic	12		2 per Jamb, 160 (6.30") and 530 (20.87") from the sill. 4 per Head and Sill. 100 (3.94") and 400 (15.75") from ends of head. 100 (3.94") and 550 (21.65") from ends of sill.

The above descriptions were provided by the manufacturer. Items and/or material properties were verified by CAN-BEST for general conformity only.

* Quantity is total unless otherwise specified



500 RS Series, Thermally Broken Aluminum Windows

FIXED OVER AWNING

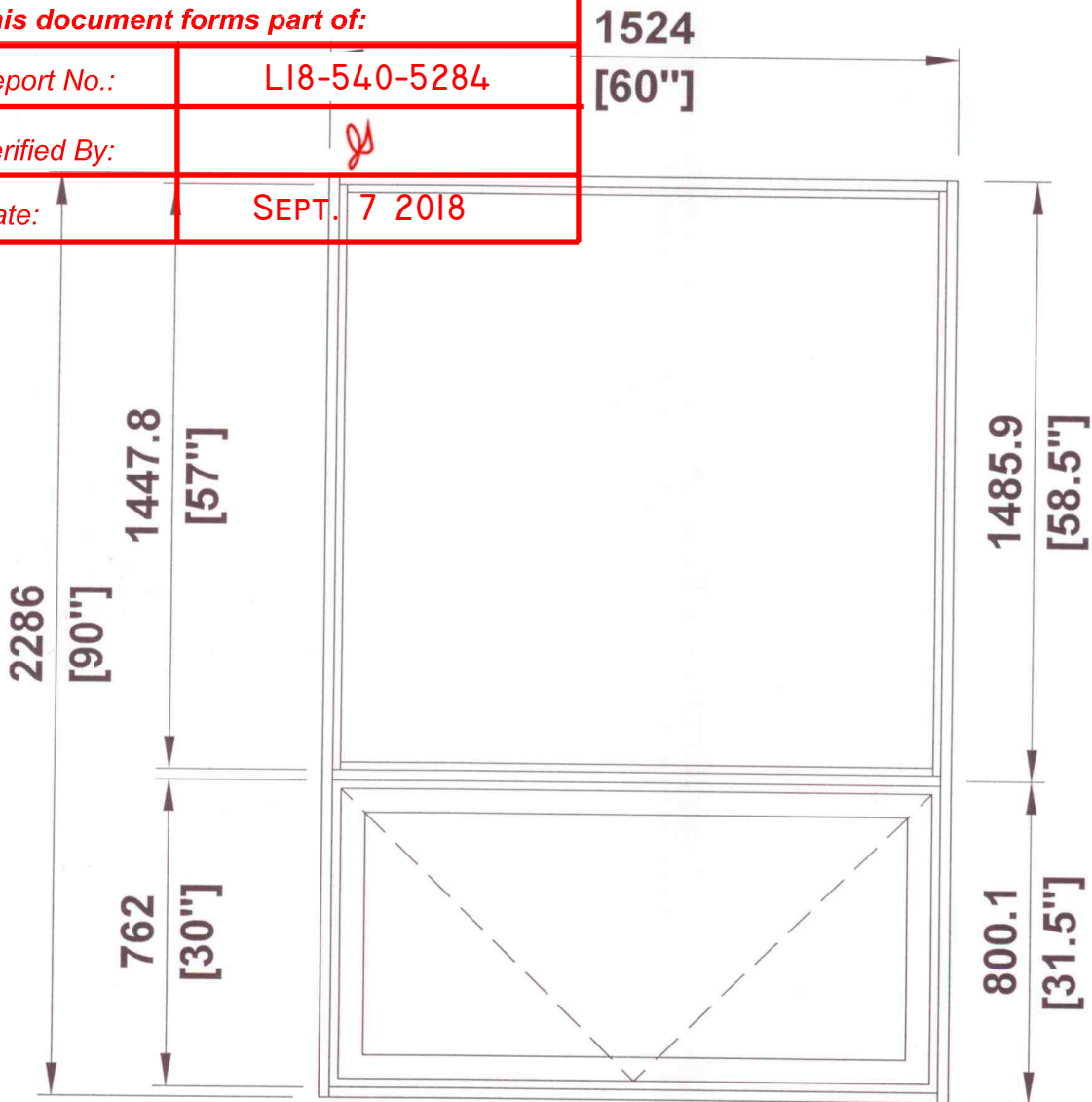


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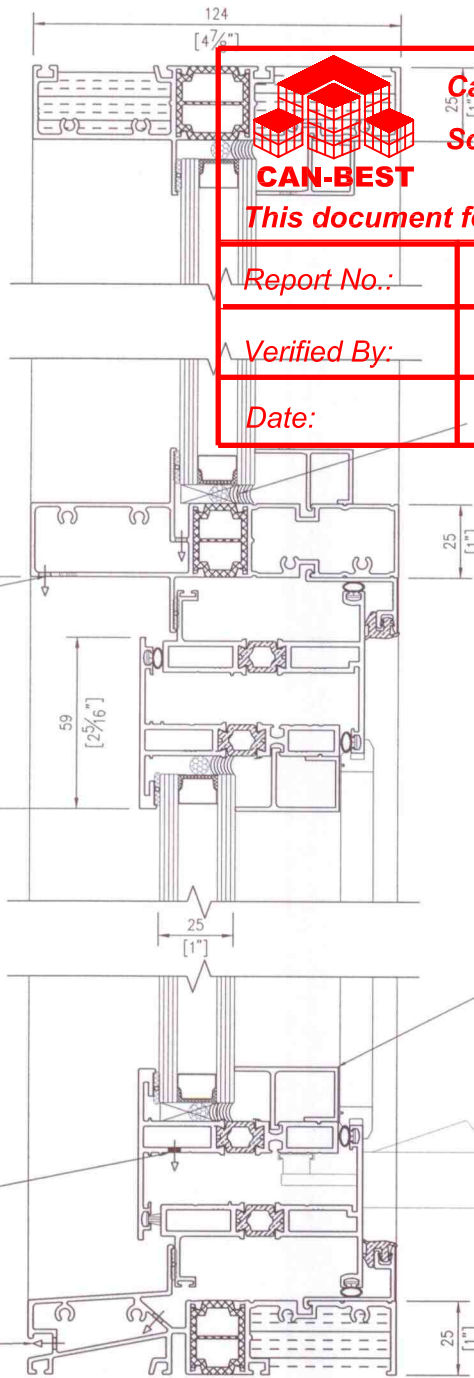
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500 RS Series, Thermally Broken Aluminum Windows

FIXED OVER AWNING VERTICAL SECTION



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OUT

IN

Drainage Hole
750 mm O.C. MAX.

Drainage Hole
750 mm O.C. MAX.

Drainage Hole
750 mm O.C. MAX.

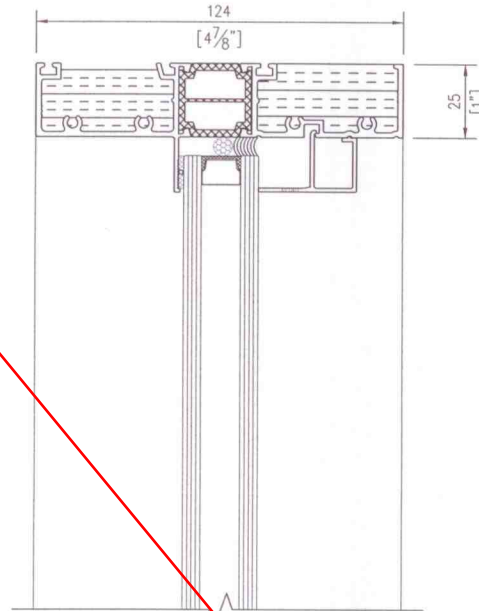
PVC Glass Stop



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500 RS Series, Thermally Broken Aluminum Windows

FIXED
VERTICAL SECTION



Not Applicable (JS)

OUT

IN



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Scale NTS

Page 3

500 RS Series, Thermally
Broken Aluminum Windows

FIXED
HORIZONTAL SECTION



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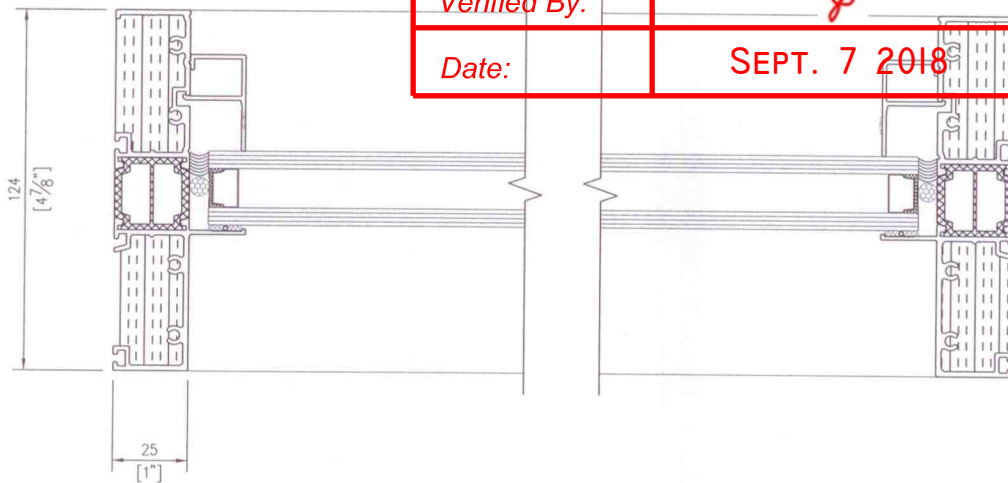
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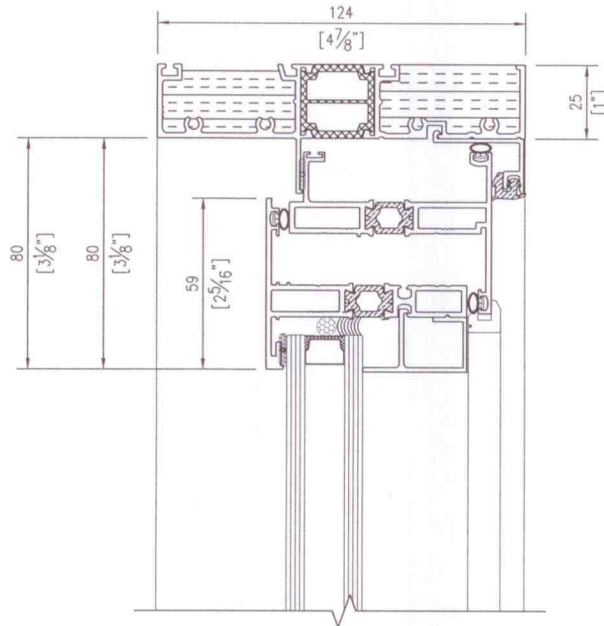
OUT



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AWNING VERTICAL SECTION



OUT

IN



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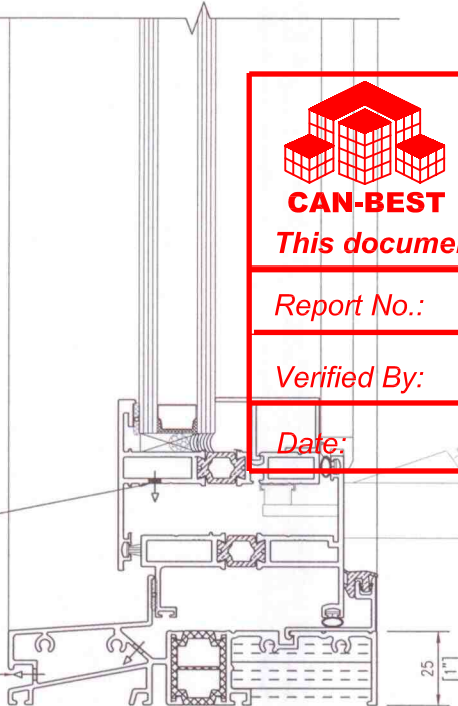
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Drainage Hole
750 mm O.C. MAX.

~~Drainage Hole
750 mm O.C. MAX.~~





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**AWNING
HORIZONTAL SECTION**

IN



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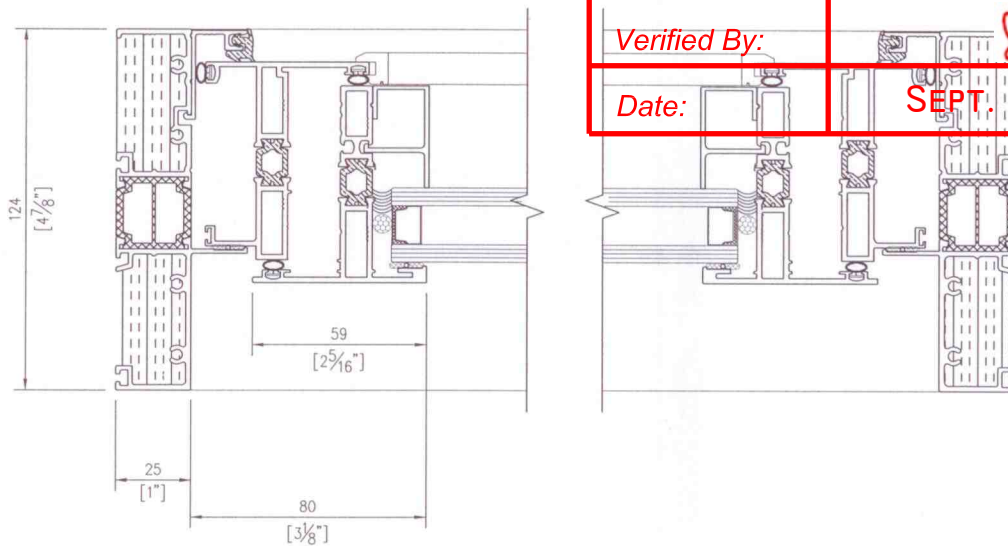
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OUT

FIXED OVER AWNING



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Die No.	Description	Material
AS58174	Fixed Exterior Male Frame	Hydro Extrusion
AS58172	Fixed Interior Male Frame	Hydro Extrusion
AH70355	Exterior Mullion with Drainage	Hydro Extrusion
AH58170	Interior Mullion	Hydro Extrusion
AH70354	Exterior Base Drainage	Hydro Extrusion
V630	PVC Glass Stop -for Fixed	Hydro Extrusion
AH65002	Awning Exterior Frame	Hydro Extrusion
AH64950	Awning Interior Frame	Hydro Extrusion
AH65747	Awning Interior Closure	Hydro Extrusion
AS65136	Awning Corner Key	Hydro Extrusion
	PVC Glass Stop -for Awning	Vinyl Profiles
	Awning Screen	Rollaway
132128R-S16	Awning Roto Operator	Nap
430255	Awning Hinges	Nap
V-706	Perimeter Thermal Break	Vinyl Profiles
V-707	Mullion thermal Break	Vinyl Profiles
V-708	Awnings Thermal Break	Vinyl Profiles
V-701	Awning Interior Gasket	Vinyl Profiles
V-44	Awning Bulb	Vinyl Profiles

1761-0502-N-34 Cam Locks NAP

1070 Interlocking Keepers DZK

1.5 x .63" Snubbers



500 RS Series, Thermally Broken Aluminum Windows

FIXED

Die No.	Description	Supplier
AS58174	Fixed Exterior Male Frame	Hydro Extrusion
AS58172	Fixed Interior Male Frame	Hydro Extrusion
AH70354	Exterior Base Drainage	Hydro Extrusion
V630	PVC Glass Stop -for Fixed	Vinyl Profiles
V-706	Perimeter Thermal Break	Vinyl Profiles
V-707	Mullion thermal Break	Vinyl Profiles



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AWNING



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Die No.	Description	Verified By	Supplier
AS58174	Fixed Exterior Male Frame		Hydro Extrusion
AS58172	Fixed Interior Male Frame		Hydro Extrusion
AH70354	Exterior Base Drainage		Hydro Extrusion
V-706	Perimeter Thermal Break		Vinyl Profiles
V-707	Mullion thermal Break		Vinyl Profiles
AH65002	Awning Exterior Frame		Hydro Extrusion
AH64950	Awning Interior Frame		Hydro Extrusion
AH65747	Awning Interior Closure		Hydro Extrusion
AS65136	Awning Corner Key		Hydro Extrusion
	PVC Glass Stop -for Awning		Vinyl Profiles
	Awning Screen		Rollaway
132128R-S16	Awning Roto Operator		Nap
430255	Awning Hinges		Nap
V-701	Awning Interior Gasket		Vinyl Profiles
V-44	Awning Bulb		Vinyl Profiles

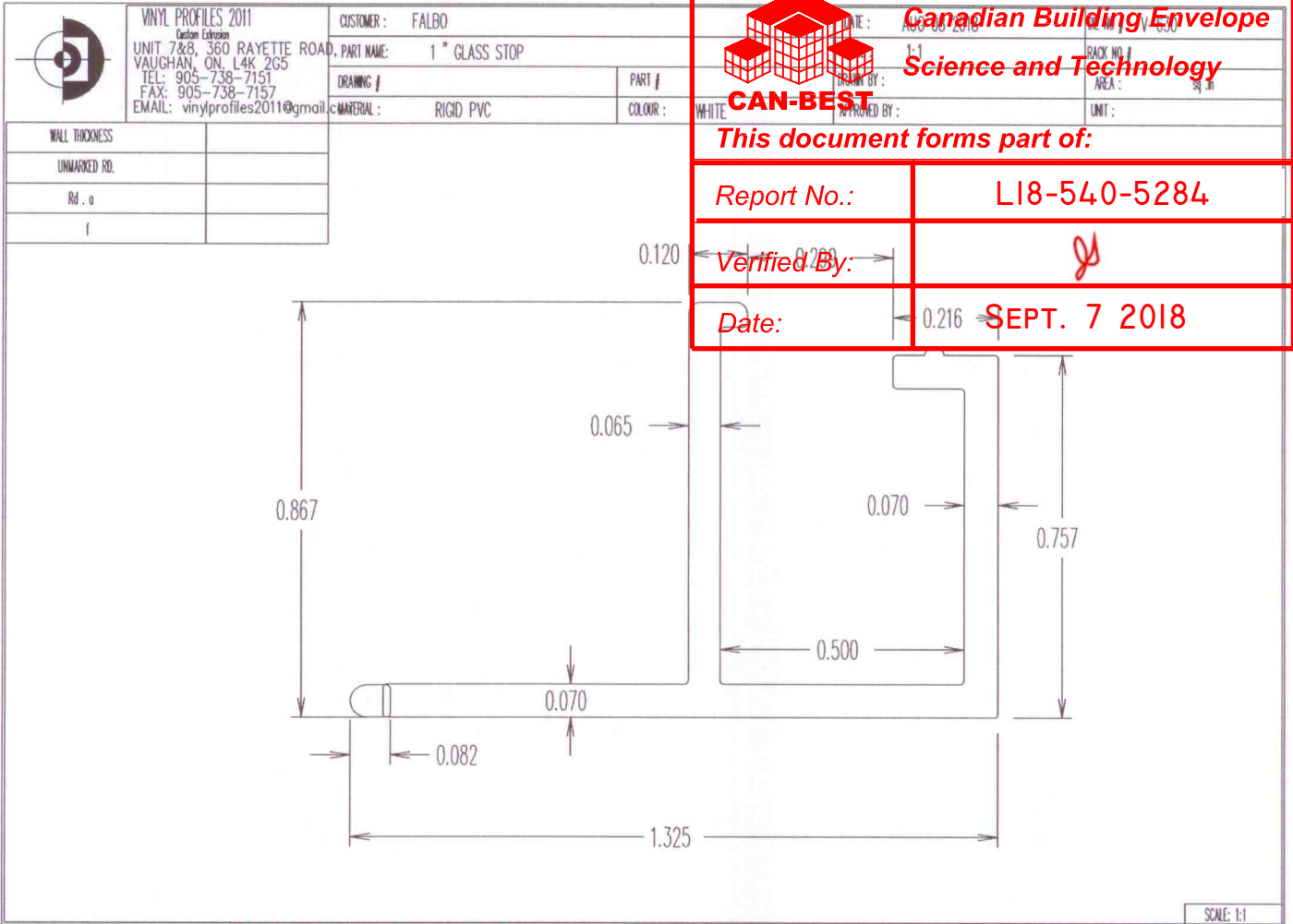
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1761-0502-N-34 Cam Locks NAP

1070 Interlocking Keepers DZK

1.5 x .63" Snubbers



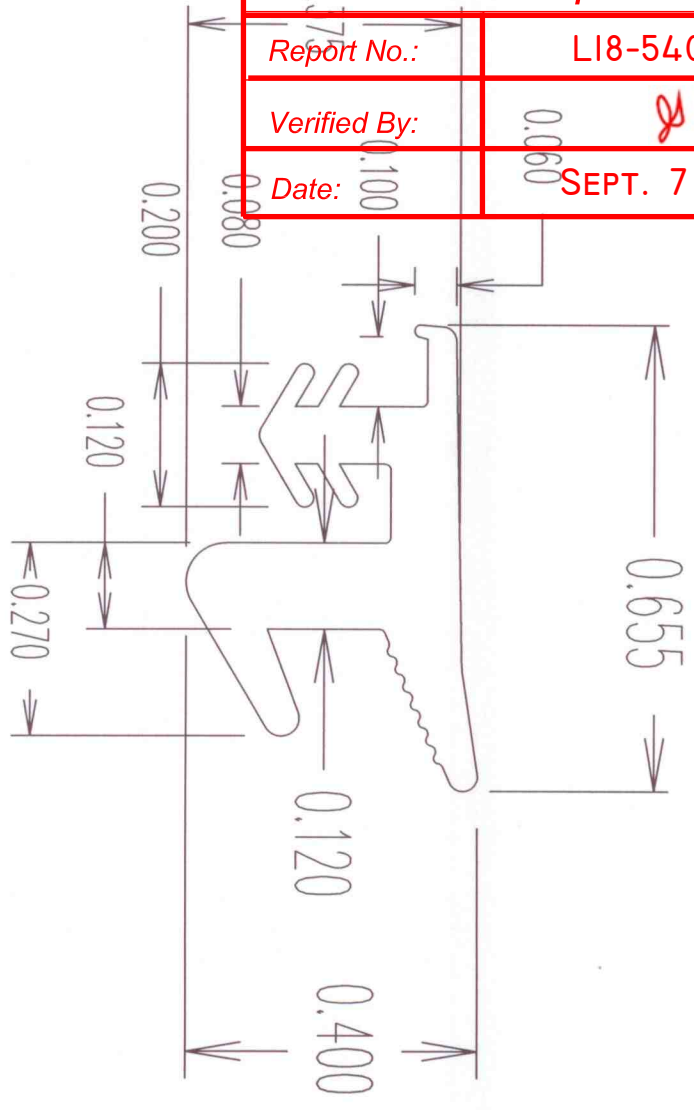
WNL PROFILES 2011
 UNIT # 7 & 8 - 360 RAYETTE RD.
 VAUGHAN ON, L4K 2G5
 PH: 9057387151 FAX: 9057387157



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Customer:	FALBO ALUMINUM	Date:	09 APRIL 2015	Die #:	V-701
Part Name:	1" GLAZING GASKET	Scale:		Rack #:	----
Drawing #:		Drawn By:	P P	Area :	0.115 sq. in
Material:	SANTOPRENE	Color:	BLACK	Approved By:	---
				Unit:	Inch

SCALE: 1:2

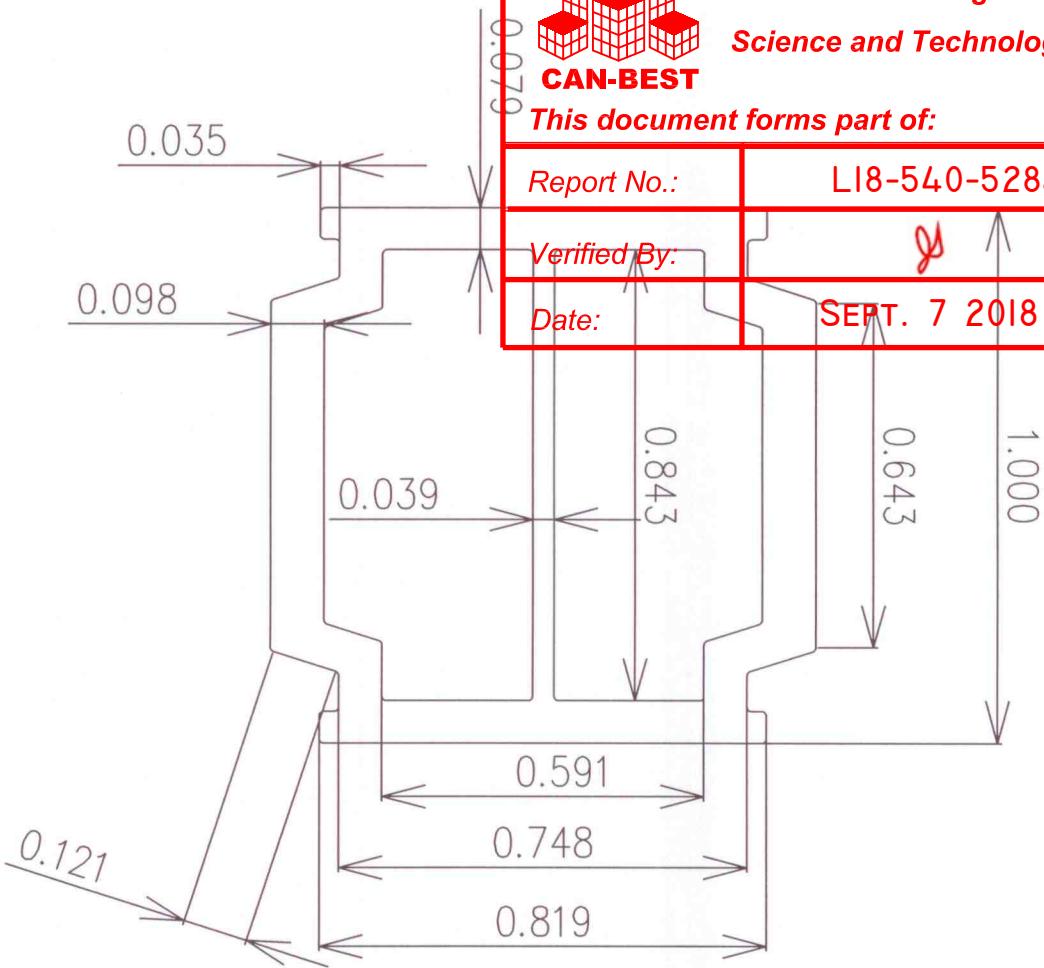


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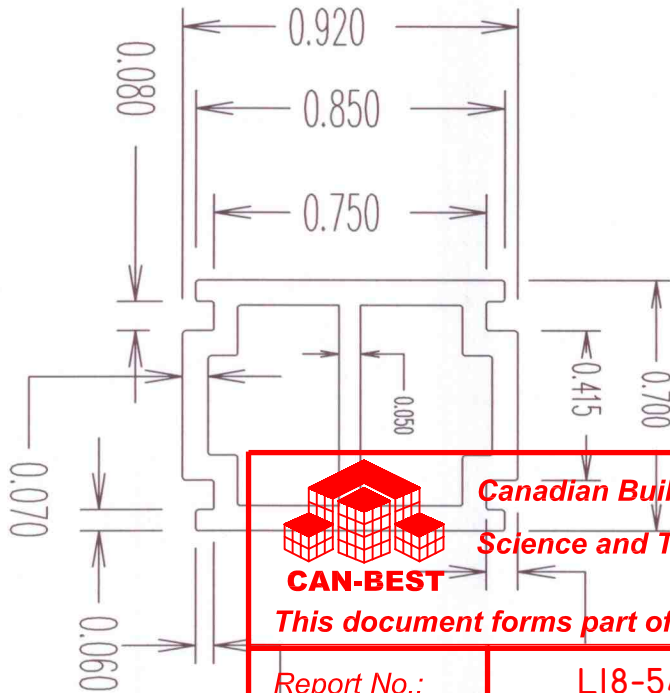
Report No.:	L18-540-5284
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Date:	SEPT. 7 2018



Customer:	FALBO ALUMINUM	Date:	24 MAY 2016	Die #:	V-706
Part Name:	1" T BREAK FOR MAIN FRAME	Scale:	---	Rock #:	---
Drawing #:		Drawn By:	P P	Area:	0.300 sq. in
Material:	RIGID PVC	Approved By:	---	Unit:	Inch
Color:	BLACK				

MNVL PROFILES 2011
 UNIT # 7 & 8 - 360 RAYETTE RD.
 VAUGHAN ON, L4K 2G5
 PH: 9057387151 FAX: 9057387157

Customer:	FALBO ALUMINUM	Date:	24 APR 2015	Die #:	V-707
Part Name:	THERMAL BREAK FOR MILLION	Scale:		Rock #:	----
Drawing #:		Part#:		Area:	0.260 sq. in
Material:	RIGID PVC	Color:	BLACK	Approved By:	--
				Unit:	Inch



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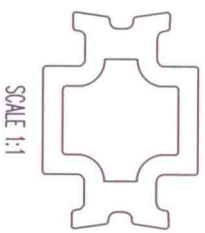
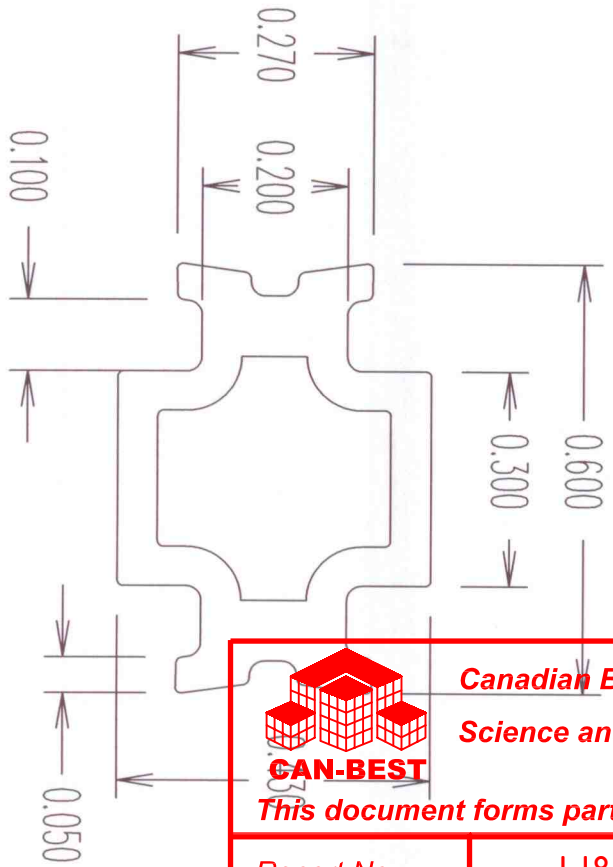
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Date:	SEPT. 7 2018

SCALE 1:1

UNIT # 7 & 8 - 360 RAYETTE RD.
 VAUGHAN ON, L4K 2G5
 PH: 9057387151 FAX: 9057387157

Customer:	FALBO	Date:	30 JULY 2015	Die #:	V-708
Part Name:	AMMING THERMAL BREAK	Scale:	---	Rock #:	---
Drawing #:		Drawn By:	P P	Area :	0.120 sq. in
Material:	RIGID PVC	Approved By:	--	Unit:	Inch



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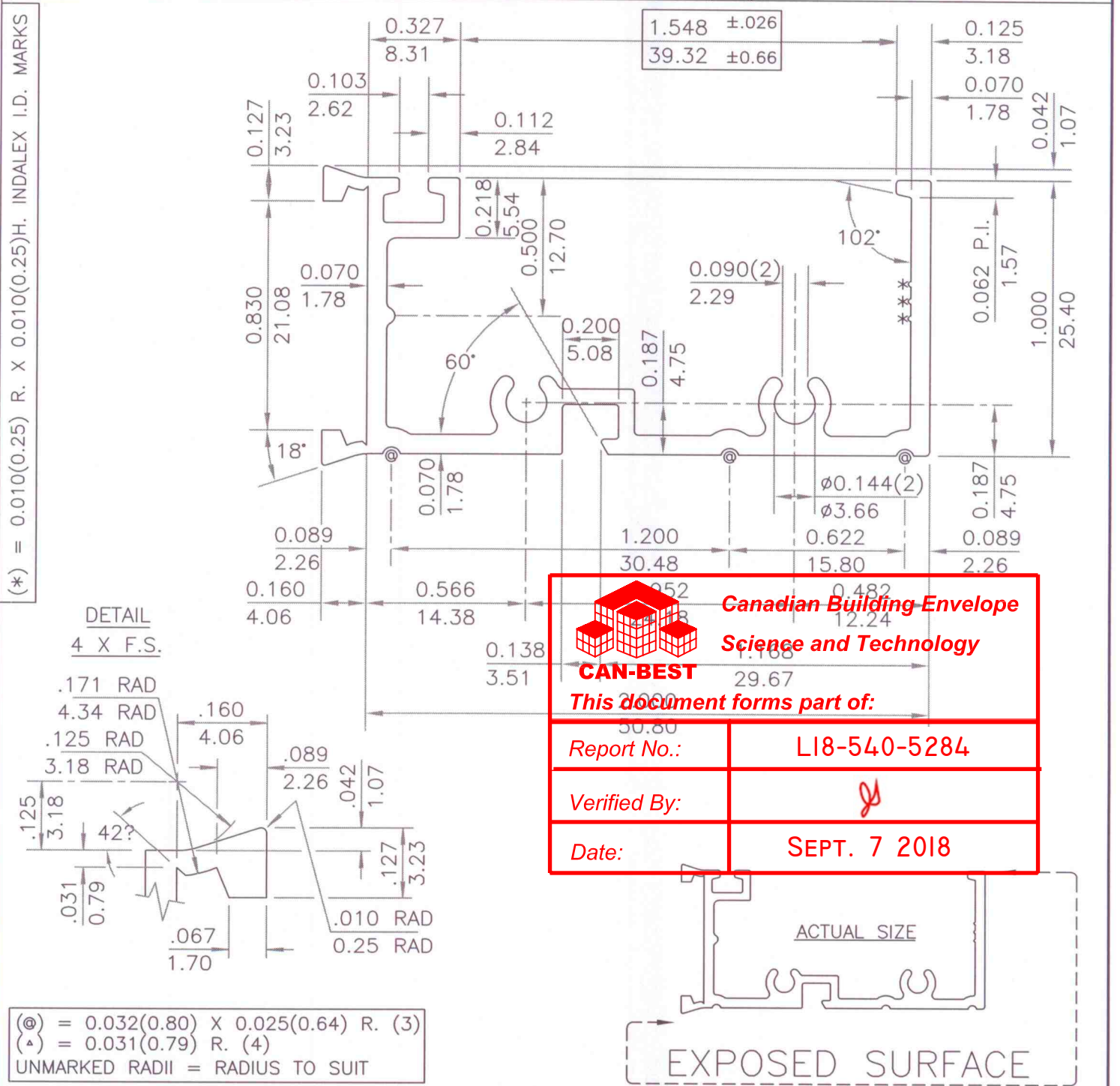
This document forms part of:

Report No.:	L18-540-5284
Verified By:	
Date:	SEPT. 7 2018

Wall thickness: 0.055"

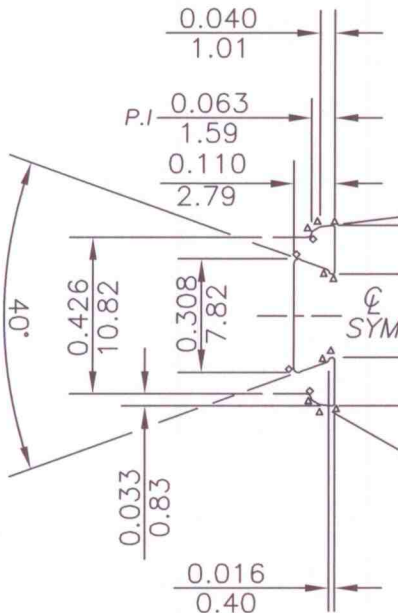
SCALE: 1:2


CUSTOMER FALBO	PART NO. —	DIE NO. AS-58172	DASH 1
DESCRIPTION: —	TARRIF# 7604.29.10.00	PROPOSAL# 14092-11	
INDALEX LIMITED 5675 Kennedy Road Mississauga, Ontario L4Z 2H9		DATE	SYM REVISION



	UNSPECIFIED WALL THICKNESS	SAMPLE APPROVAL THIS SAMPLE IS APPROVED AND INDALEX LIMITED MAY PROCEED WITH PRODUCTION
	0.056(1.42)	
EST. AREA 0.402 IN ² 259 MM ²	OUT PER. — IN — MM	SIGNED: _____ DATE: _____
EST. WT. 0.482 LBS/FT. 0.717 KG/M	FACTOR 24	
EST. PER. 11.800 IN 300 MM	C.C.D. 2.421 IN 61 MM	
DWN BY <i>J.S.</i> ALLOY 6063-T5	SCALE 2:1 DATE 07/05/03	
BREAK ALL CORNERS .016"R (0.41 mm)R UNLESS OTHERWISE NOTED.		STANDARD ALUMINUM ASSOCIATION TOLERANCES TO APPLY UNLESS OTHERWISE SPECIFIED

CUSTOMER FALBO ALUMINUM SYSTEMS	PART NO. EXT FRAME	DIE NO. AH-65002	DASH 1
DESCRIPTION: SAPA: 5675 Kennedy Road Mississauga, Ontario L4Z 2H9	TARRIF# 7604.21.00.00	PROPOSAL# 16611-1A	
	DATE	SYM	REVISION





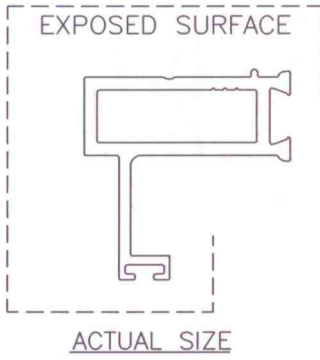
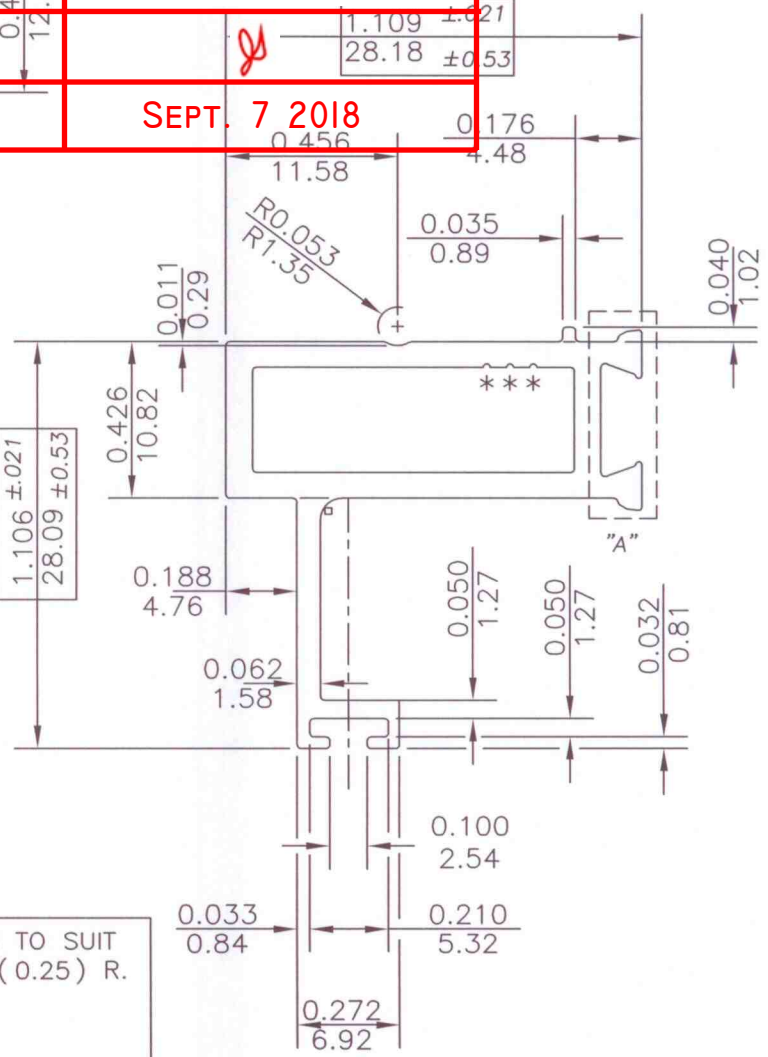
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Date:	SEPT. 7 2018

BREAK-THROUGH
OR BLOWBY



UNMARKED RADII = RADIUS TO SUIT
 BREAK CORNERS = 0.010 (0.25) R.
 (▲) = 0.008 (0.20) R.(10)
 (◊) = 0.012 (0.30) R.(4)
 (◻) = 0.056 (1.42) R.(2)

CUSTOMER'S SUPPLIED CAD FILE
 (*) = 0.010(0.25) R. X 0.010(0.25)D. SAPA ID. MARKS

sapa:		UNSPECIFIED WALL THICKNESS	
		0.070(1.78) ±0.010(0.25)	
EST. AREA	0.258 IN ² 166 MM ²	OUT PER.	5.612 IN 143 MM
EST. WT.	0.309 LBS/FT. 0.460 KG/M	FACTOR	26
EST. PER.	7.920 IN 201 MM	C.C.D.	1.529 IN 39 MM
DWN BY	HILDA	ALLOY	6063-T6
		SCALE	2:1
		DATE	10/09/10

STANDARD ALUMINUM ASSOCIATION TOLERANCES TO APPLY UNLESS OTHERWISE SPECIFIED

BREAK ALL CORNERS .016"R (0.41 mm)R UNLESS OTHERWISE NOTED.

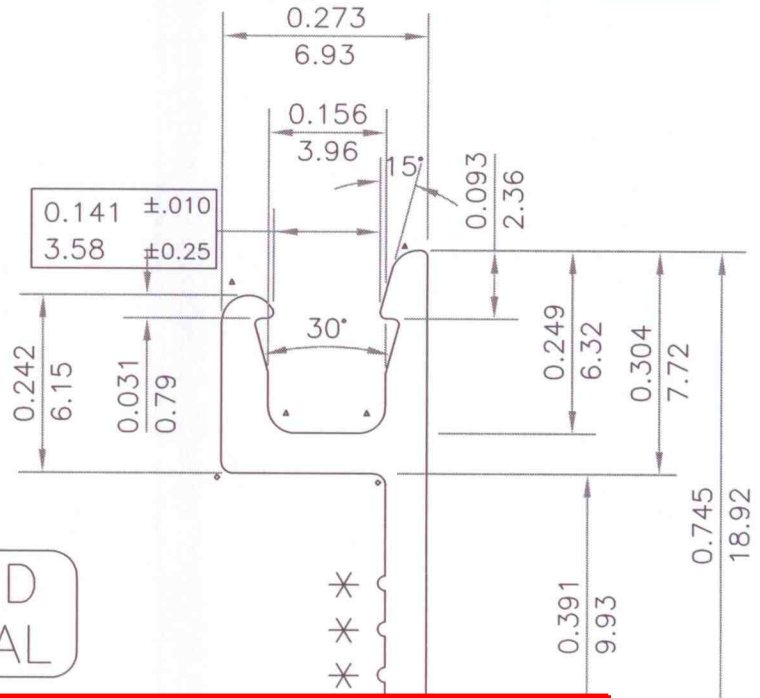
CUSTOMER FALBO ALUMINUM SYSTEMS	PART NO. —	DIE NO. AS-65747	DASH 2
DESCRIPTION: AWNING CLOSER	TARRIF# 7604.29.10.00	PROPOSAL# 16935-1A	
SAPA 5675 Kennedy Road Mississauga, Ontario L4Z 2H9		DATE 11/07/18	SYMBOL △
		REVISION .020" NIB REMOVED	BY S.B.

UNMARKED RADII = RADIUS TO SUIT
BREAK CORNERS = 0.008 (0.20) R.

(◆) = 0.050 (1.27) R.(1)
 (△) = 0.035 (0.89) R.(4)
 (□) = 0.020 (0.79) R.(4)
 (◇) = 0.016 (0.41) R.(2)

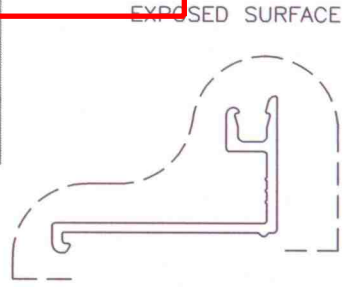
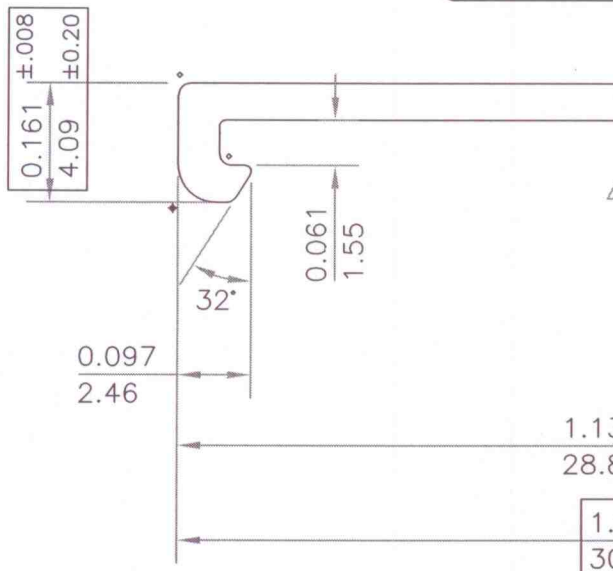
CUSTOMER'S SUPPLIED CAD FILE
= FLOW LINES WILL APPEAR

PAINTED MATERIAL



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Verified By:	<i>[Signature]</i>
Date:	SEPT. 7 2018



(*) = 0.010(0.25) R. X 0.010(0.25)H. SAPA I.D. MARKS

sapa:	UNSPECIFIED WALL THICKNESS	
	0.050(1.27) ±0.008(0.20)	
EST. AREA 0.129 IN ² 83 MM ²	OUT PER. — IN — MM	
EST. WT. 0.155 LBS/FT. 0.231 KG/M	FACTOR 32	
EST. PER. 4.948 IN 126 MM	C.C.D. 1.459 IN 37 MM	
DWN BY <i>M.H.</i> ALLOY 6063-T5	SCALE 4:1	DATE 11/02/01
BREAK ALL CORNERS .016"R (0.41 mm)R UNLESS OTHERWISE NOTED.		STANDARD ALUMINUM ASSOCIATION TOLERANCES TO APPLY UNLESS OTHERWISE SPECIFIED

CUSTOMER: **FALBO ALUMINUM SYSTEMS LTD.** PART NO. **-** Dwg. NO. **AH-70355** DASH **1**
 DESCRIPTION: **SAPA 5675 Kennedy Road Mississauga, Ontario L4Z 2H9** TARE# **7604,2100,00** PROPOSAL# **31938-3** REVISION
 DATE **1/20/18** SYM **REVISION**

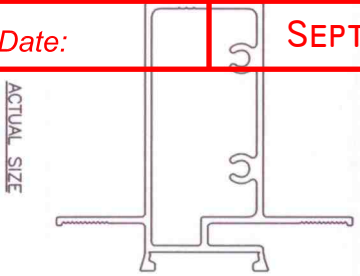
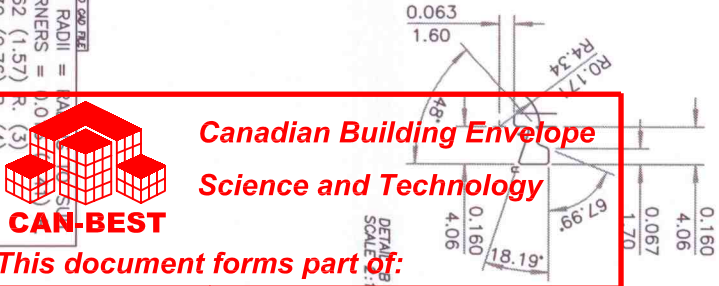
**BREAK-THROUGH
 VERY SLOWLY**

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Verified By:	
Date:	SEPT. 7 2018

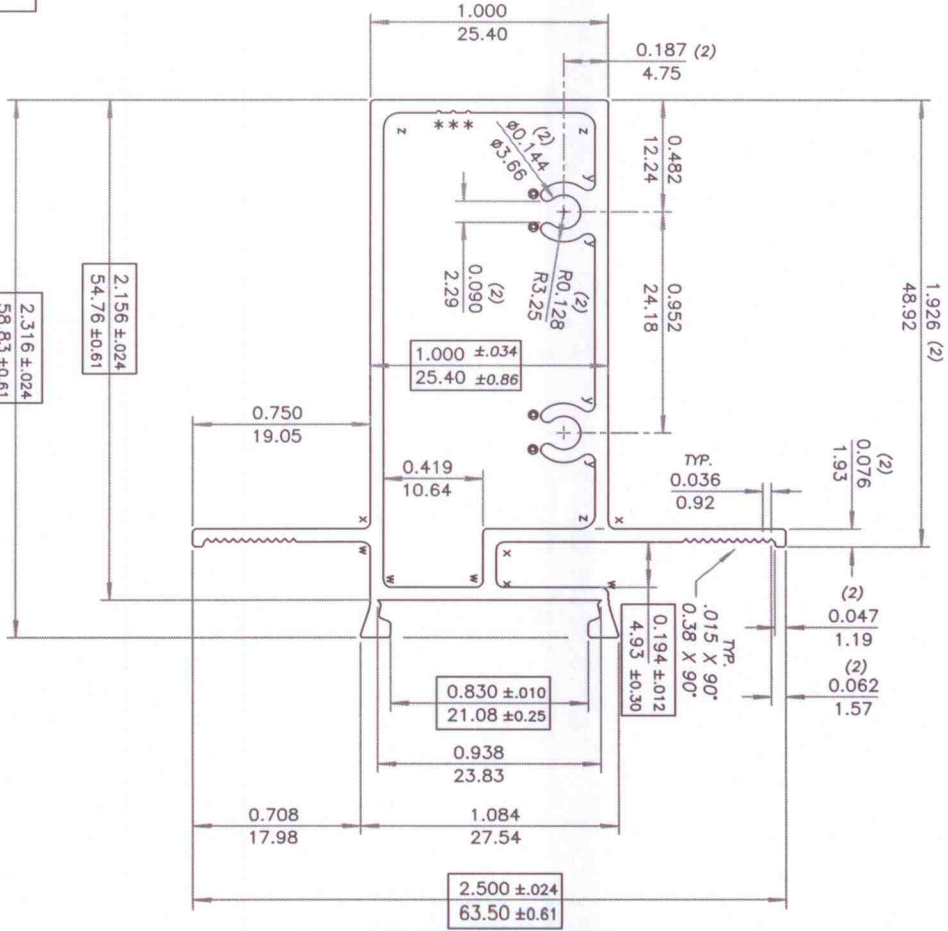


CUSTOMER'S SUPPLIED DATA FILE
 UNMARKED RADIUS = 0.0
 BREAK CORNERS = (Z) = 0.062 (1.57) R. (3)
 (Y) = 0.030 (0.76) R. (4)
 (X) = 0.031 (0.79) R. (4)
 (W) = 0.032 (0.81) R. (4)
 (V) = 0.125 (3.18) R. (2)
 (U) = 0.010 (0.25) R. (2)
 (S) = FULL R. (4)
 (*) = 0.010(0.25) R. X 0.010(0.25)D. SAPA I.D. MARKS

sapa: UNSPECIFIED WALL THICKNESS
 $\pm 0.006(0.15)$ S
 $\pm 0.056(1.42)$
 $\pm 0.010(0.25)$ H

EST. AREA 0.540 m² 348 mm² OUT PER. 11.345 IN 288 MM
 EST. WT. 0.648 LBS/FT. 0.964 KG/M FLOOR 29
 EST. PER. 18.676 IN 474 MM C.C.D. 2.782 IN 71 MM
 DWN BY *YH/da* ALLOY 6063-T6 SCALE 2:1 DATE 14-05-09

BREAK: ALL CORNERS 0.16R (0.41 mm)R UNLESS OTHERWISE NOTED.
 FINISHING ALUMINUM ASSOCIATION TOLERANCES TO APPLY UNLESS OTHERWISE SPECIFIED.



**START SLOWLY WITH
 SHORT HOT BILLET**



Vinyl Profiles Ltd.
CUSTOM EXTRUSION
166 ROMINA DR. VAUGHAN ONT. L4K 4Z7
Tel: 1-905-659-0336
1-905-659-0337
Fax: 1-905-659-0380
E-Mail: vinylprofiles@bellnet.ca

Customer: The Vinyl Company

Part Name: 1/4 BULB SEAL

Drawing #: Rv-30-1-4-Bulb seal

Material: SANTOPRENE / POLY

Part#: T/C-01903

Color: BLACK

Date: JULY 09, 2008

Scale: 10:1

Drawn By: S. O.

Approved By:

Die #: V-44

Rack #:

Area: 0.0238 in²

Unit: Inch



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AREA TOTAL: 0.0238 IN²

This document forms part of:

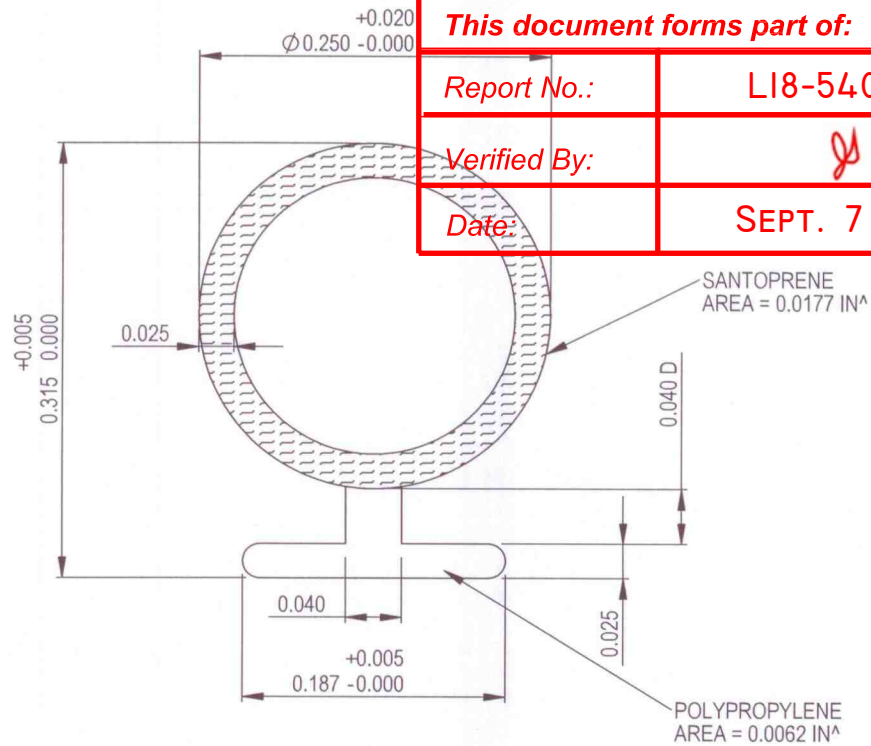
Report No.:

L18-540-5284

Verified By:

Date:

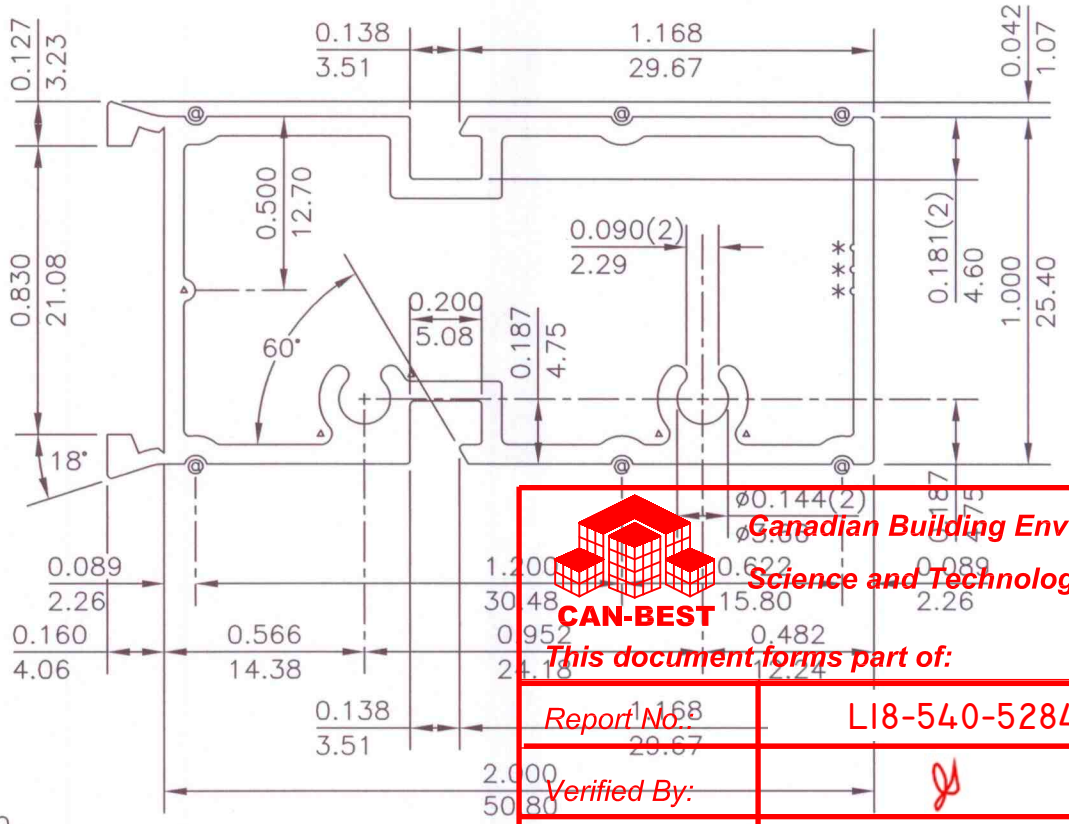
SEPT. 7 2018



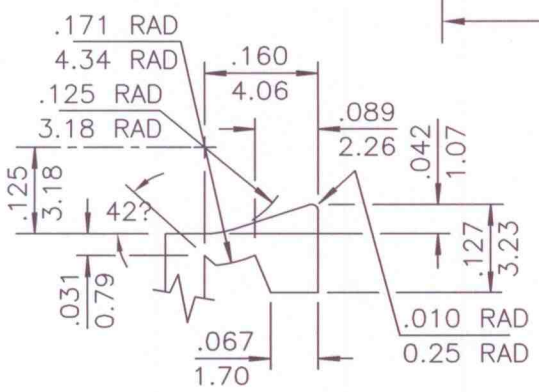
SCALE: 1:1

CUSTOMER FALBO	PART NO. -	DIE NO. AH-58170	DASH 1
DESCRIPTION: INDALEX LIMITED 5675 Kennedy Road Mississauga, Ontario L4Z 2H9	TARRIF# 7604.21.00.00	PROPOSAL# 14092-9	
	DATE	SYM	REVISION

(*) = 0.010(0.25) R. X 0.010(0.25)H. INDALEX I.D. MARKS



DETAIL
4 X F.S.



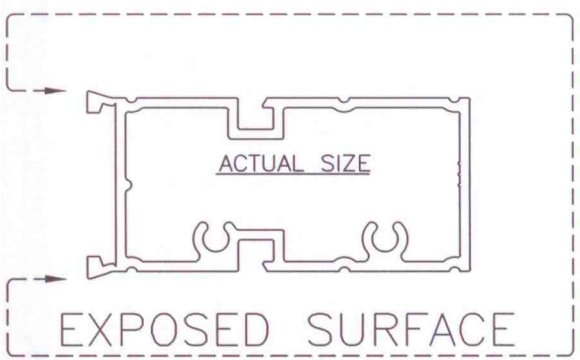
(B) = 0.032(0.80) X 0.025(0.64) R. (6)
 (A) = 0.031(0.79) R. (4)
 UNMARKED RADII = RADIUS TO SUIT

**Canadian Building Envelope
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This document forms part of:

Report No.	1168	L18-540-5284
Verified By:		
Date:	SEPT. 7 2018	



	UNSPECIFIED WALL THICKNESS	
	±.008 ±0.20	0.056(1.42)
EST. AREA 0.459 IN ² 296 MM ²	OUT PER. 7.947 IN 202 MM	
EST. WT. 0.550 LBS/FT. 0.819 KG/M	FACTOR 28	
EST. PER. 15.327 IN 389 MM	C.C.D. 2.399 IN 61 MM	
DWN BY <i>J.S.</i> ALLOY 6063-T5	SCALE 2:1	DATE 07/05/03
BREAK ALL CORNERS .016"R (0.41 mm)R UNLESS OTHERWISE NOTED.		

SAMPLE APPROVAL

THIS SAMPLE IS APPROVED
AND INDALEX LIMITED
MAY PROCEED WITH PRODUCTION

SIGNED: _____

DATE: _____

STANDARD ALUMINUM ASSOCIATION TOLERANCES TO APPLY UNLESS OTHERWISE SPECIFIED