



NATIONAL CERTIFIED TESTING LABORATORIES

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

AAMA/WDMA/CSA 101/I.S.2/A440-11
AAMA/WDMA/CSA 101/I.S.2/A440-08
CSA A440S1 - 09

TEST REPORT SUMMARY

Rendered to:
Royal Window & Door Profiles
3035 boul. le Corbusier
Laval, QC H7L 4C3

PRODUCT TYPE: Type X Casement Window

SERIES/ MODEL: "4600 Casement 4606/4429"

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	Class LC-PG90: Size tested 914 mm x 1829 mm* (~36 x 72 in*) - Type C Class LC-PG90: Size tested 914 mm x 1829 mm* (36 x 72 in*) - Type C
Positive Design Pressure	4320 Pa (+ 90.23 psf)
Negative Design Pressure	4320 Pa (-90.23 psf)
Maintain Motion _{Max}	6.7 N (1.5 lbf)
Air Infiltration	0.1 L/s/m ² (0.02 cfm/ft ²)
Canadian Air Infiltration/Exfiltration	A3
Water Penetration Resistance Test Pressure	US Applications: 580 Pa (12.11 psf) Canadian Applications: 720 Pa (15.04 psf)
Uniform Load Structural Test Pressure	+/- 6480 Pa (135.34 psf)
Forced Entry Resistance	ASTM F588-07 - Pass

NOTE: Reference test report NCTL-310-3524-1 dated 10/16/13 for 914.4 mm x 1828.8 mm (36" x 72") and NCTL-310-3608-1 dated 10/07/13 for gateway test results

Test Completed: 10/09/13

Reference must be made to Report No. NCTL-310-3524-3 dated 10/18/13 for complete test specimen description and data.

For National Certified Testing Laboratories

Serge Paquet
Technician



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AAMA/WDMA/CSA 101/I.S.2/A440-11
AAMA/WDMA/CSA 101/I.S.2/A440-08
CSA A440S1 - 09

STRUCTURAL TEST REPORT

REPORT TO:

ROYAL WINDOW & DOOR PROFILES
3035 BOUL. LE CORBUSIER
LAVAL, QC H7L 4C3

REPORT NUMBER: NCTL-310-3524-3
REPORT DATE: 10/18/13

PRODUCT:

Series "4600 Casement 4606/4429"
Type X Casement Window



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Report Number NCTL-310-3524-3

Report Date 10/18/13

Report To Royal Window & Door Profiles
3035 boul. le Corbusier
Laval, QC H7L 4C3

Test Date 10/09/13

Specification 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
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

Performance Results AAMA/WDMA/CSA 101/I.S.2/A440-11
Class LC-PG90: Size tested 914 mm x 1829 mm* (~36 x 72 in*) - Type C
AAMA/WDMA/CSA 101/I.S.2/A440-08
Class LC-PG90: Size tested 914 mm x 1829 mm* (36 x 72 in*) - Type C

Description of Specimen Tested

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

Model/ Series "4600 Casement 4606/4429"

Configuration Type X Casement Window

Overall Frame Size 914.4 mm x 1828.8 mm (36" x 72")

Vent Size 866.775 mm x 1781.175 mm (34.125" x 70.125")

Viewing Area 750.874 mm x 1665.274 mm (29.562" x 65.562")

Frame Type Extruded vinyl

Joint Construction Frame & Vent
Welded, mitered

Glazing Components

Overall Glass Thickness 22.225 mm (0.875") nominal, 21.869 mm (0.861") measured
(2) Lites of 5 mm (0.196") nominal 4.8 mm (0.189") measured annealed glass

Spacer Type/Size 12.268 mm (0.483") Coated U-shaped aluminum (CU-D)

Glazing System Interior glazed with a dual durometer back-bedding and a snap-in (2) leaf dual durometer rigid vinyl glazing bead

Weatherstrip

Type (1) Strip dual durometer bulb-vinyl
Location Sash perimeter

Type (1) Strip single leaf dual durometer
Location Frame and sash perimeter

Type (1) Strip polypile
Size 8.128 mm (0.32") high
Location Sash perimeter

Operating Hardware**Locks**

Type (6)-Point Roto Hardware System
Location 222.25 mm (8.75") From the sill on the lock jamb

Type Metal keeper
Location 107.95 mm (4.25"), 488.95 mm (19.25"), 844.55 mm (33.25"), 1225.55 mm (48.25"), 1536.7 mm (60.5") and 1593.85 mm (62.75")
From the bottom rail on the lock stile

Type Standard roto-operator
Location 266.7 mm (10.5") From the hinge jamb on the sill

Hinge Hardware

Type 3-Bar
Location Head and sill

Auxiliary

Type Plastic snubber
Location 457.2 mm (18") From each end of the hinge jamb/ stile fastened with (2) #7/10 x 15.875 mm (0.625") screws fastened with (2) #7/10 x 15.875 mm (0.625") screws

Type PVC Impact Snubber - full length
Location Interior hinge jamb/ stile fastened with (9) evenly spaced #8 x 31.75 mm (1.25") screws on the hinge jamb and #7/10 x 15.875 mm (0.625") screws on hinge stile

Reinforcement

No reinforcement employed

Weep Description

Size 9.525 mm (0.375") Wide by 3.175 mm (0.125") high
Location 19.05 mm (0.75") From each end of the bottom rail

Interior/ Exterior Surface Finish

White vinyl (PVC)

Sealant

Location Each corner of the glazing
Material Silicone

Insect Screen

Size 815.975 mm (32.125") Wide by 1708.15 mm (67.25")
Corner Construction Plastic corner key
Material Fiberglass mesh with hollow spline, (2) head retainer springs and a horizontal stiffener at midspan of the stiles

Installation Method

The window was installed in a 50.80 mm x 304.8 mm (2" x 12") spruce/pine/fir buck and was fastened with (1) strap at 152.4 mm (6"), from each corner and at midspan to the head and sill also 152.4 mm (6") from each corner and 304.8 mm (12") centers thereafter to the jamb. Each strap was fastened to the buck with a #8 x 31.75 mm (1.25") screw and to the window with a #8 x 15.875 mm (0.625") screw. The perimeter of the window was sealed with a silicone sealant.

Test Results - AAMA/WDMA/CSA 101/I.S.2/A440-2011, 2008 & CSA A440S1-09

Gateway Test Results

Refer to report NCTL-310-3524-1 dated 10/16/13 for 914.4 mm x 1828.8 mm (36" x 72") gateway test results listed below.

<u>Paragraph</u>	<u>Test</u>
5.2/ 9.3.1	Operating Force and Force to Latch - Method B (Force Gauge) ASTM E2068-00(08)
	Initiate Motion = 9.3 N (2.1 lbf)
	Allowed (S1-09) = 60 N (13.49 lbf)
	Maintain Motion - Opening = 6.7 N (1.5 lbf)
	Maintain Motion - Closing = 4.0 N (0.9 lbf)
	Allowed (11/08) = 30 N (6.74 lbf)
	Latches = 31.1 N (7 lbf)
	Allowed = 100 N (22.5 lbf)

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

<u>Paragraph</u>	<u>Test</u>
5.3.2.1/ 9.3.2	Air Leakage Resistance ASTM E283-04(12)
	The tested specimen meets or exceeds the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440-2011 and 2008 for air infiltration at 75 Pa (1.6 psf).
	Maximum Allowable = 1.5 L/s/m ² (0.3 cfm/ft ²)
	Extraneous Air Leakage = 0.21 L/s (0.44 cfm)
	Total Air Leakage = 0.21 L/s (0.44 cfm)
	Air Infiltration Rate = 0.1 L/s/m ² (0.02 cfm/ft ²)

<u>Paragraph</u>	<u>Test</u>
5.3	Canadian Air Infiltration/Exfiltration ASTM E283-04(12)
	The tested specimen meets or exceeds the performance levels specified in CSA A440S1-09 for air infiltration at 75 Pa (1.57 psf)
	A3 Level Maximum Allowable = 0.5 L/s/m ² (0.1 cfm/ft ²)
	<u>Infiltration</u>
	Extraneous Air Leakage = 0.21 L/s (0.44 cfm)
	Total Air Leakage = 0.21 L/s (0.44 cfm)
	Air Infiltration Rate = 0.1 L/s/m ² (0.02 cfm/ft ²)

Exfiltration

Extraneous Air Leakage	=	0.18 L/s (0.39 cfm)
Total Air Leakage	=	0.18 L/s (0.39 cfm)
Air Exfiltration Rate	=	0.1 L/(s•m ²) (0.02 cfm/ft ²)

Paragraph
5.3.3/ 9.3.3

Test
Water Penetration Resistance
ASTM E547-00(09)

US Applications

No Leakage after 4 cycles of 5 minutes capped at 580 Pa (12.11 psf)

Canadian Applications

No Leakage after 4 cycles of 5 minutes at 720 Pa (15.04 psf)

NOTE: Tested without insect screen

Test Results

Test results listed below were achieved by the 914.4 mm x 1828.8 mm (36" x 72") product as described above.

Paragraph
5.3.4.2/ 9.3.4.2

Test
Uniform Load Deflection at Design Pressure
ASTM E330-02(10)

Top Rail

No damage after positive	4320 Pa (90.23 psf) held for 10 seconds
No damage after negative	4320 Pa (90.23 psf) held for 10 seconds
Measured Deflection _{Positive}	= 4.37 mm (0.172 inches)
Measured Deflection _{Negative}	= 10.06 mm (0.396 inches)

Paragraph
5.3.4.3/ 9.3.4.3

Test
Uniform Load Structural Test
ASTM E330-02(10)

Top Rail

No damage after positive	6480 Pa (135.34 psf) held for 10 seconds
No damage after negative	6480 Pa (135.34 psf) held for 10 seconds
Measured Permanent Set _{Positive}	= 0.08 mm (0.003 inches)
Measured Permanent Set _{Negative}	= 0.13 mm (0.005 inches)
Maximum Allowed (0.4%)	= 3.26 mm (0.128 inches)

NOTE: Deflection and Permanent Set measurements taken on the top rail over an 812.8 mm (32") span.

Gateway Test Results

Refer to report NCTL-310-3608-1 dated 10/07/13 for the 2743 mm x 2743 mm (108" x 108") gateway test results listed below.

<u>Paragraph</u>	<u>Test</u>	
5.1	Insect Screen Serviceability Test ASTM E1748-95(01)	
	60 N (13.5 lbf)	= Pass/ No disengagement

<u>Paragraph</u>	<u>Test</u>	
5.3.5/ 9.3.5	Forced Entry Resistance ASTM F588-07	
	<u>Type B Window Assembly/ Grade 10:</u>	= Pass
	<u>Test</u>	
	Disassembly	= No Entry
	Test B1	= No Entry
	Test B2	= No Entry
	Test B3	= No Entry
	Hardware Manipulation Test	= No Entry
	Sash Manipulation Test	= No Entry
	NOTE: 1. T1 = 5 minutes, L1 = 150 lbf, L2 = 75 lbf, L3 = 25 lbf 2. Loads were held for 60 seconds.	

<u>Paragraph</u>	<u>Test</u>	
5.3.6.2/ 9.3.6.2	Thermoplastic Corner Weld Test (PVC products only)	= Pass

<u>Paragraph</u>	<u>Test</u>	
5.3.6.4.3/ 9.3.6.4.2	Sash Vertical Deflection Test Vertical load applied 200 N (44.96 lbf) held for 60 seconds	
	Vertical Deflection Limit	= 17.73 mm (0.698 inches)
	Measured Deflection	= 0.94 mm (0.037 inches)

NOTE: At the conclusion of the test the specimen properly closed and operated and there was no glass breakage.

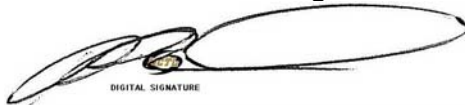
<u>Paragraph</u>	<u>Test</u>	
9.3.6.5.2/ 5.3.6.6.2	Sash and Hardware Load Test (Distributed Load Test) Load applied 300 Pa (6.27 psf) held for 10 seconds	
		= No Damage

NOTE: 1. Required load 48.30 kg (106.48 lb)
2. Sash weight 37.15 kg (81.90 lb)
3. Distributed center load added to sash 11.15 kg (24.58 lb)
4. At the conclusion of testing the sash properly and fully closed and there was no failure of screws, track, hinge or permanent deformation of the support arms.

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. Foam tape is 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. Testing was performed at Royal Window & Door Profiles in Laval, Quebec, Canada.

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.

National Certified Testing Laboratories

A digital signature consisting of a stylized, cursive scribble in black ink. Below the signature, the words "DIGITAL SIGNATURE" are printed in a small, sans-serif font.

Serge Paquet
Technician

A handwritten signature in black ink, appearing to read "J. Douglas". The signature is fluid and somewhat abstract, with a long horizontal stroke at the end.

Jeffrey Douglas
Laboratory Manager

SP/ amb
Attachments

Appendix A - Revision Summary
Appendix B - Drawings

Appendix A

Section 1:

Component Drawings, with Applicable Part Numbers, Manufacturing and Modeling Details, were Reviewed (as submitted) for Product Verification
(Reference: NCTL-310-3524-3)

See Attached Documentation;
any deviations noted.

Note: The above referenced component drawings (if applicable) 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.

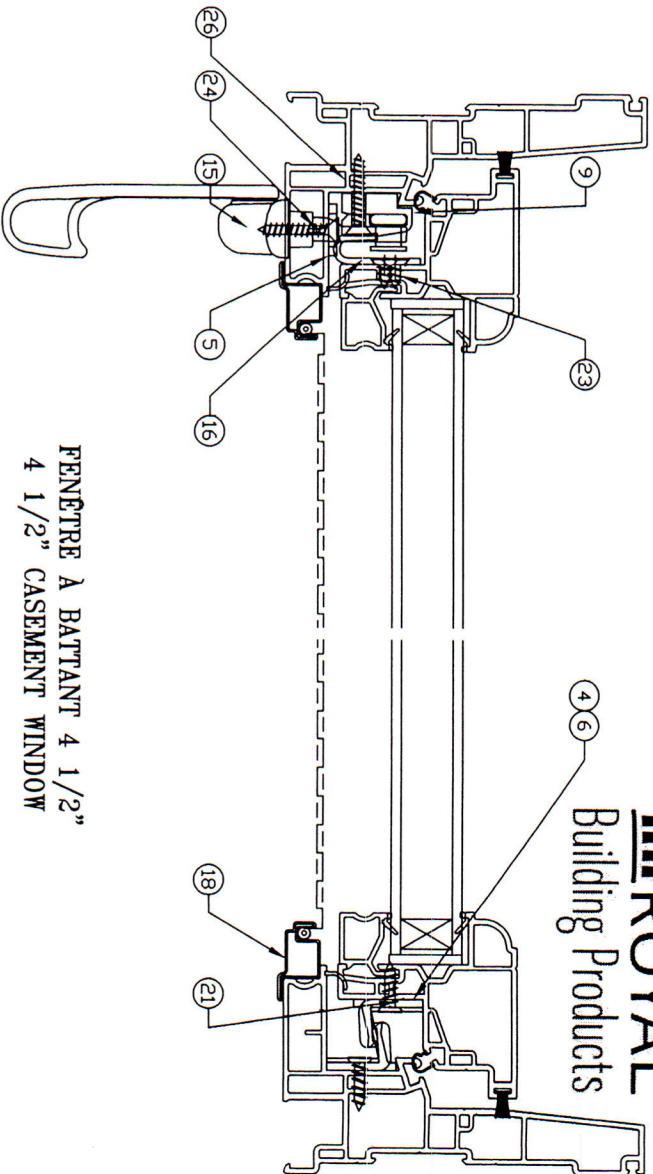
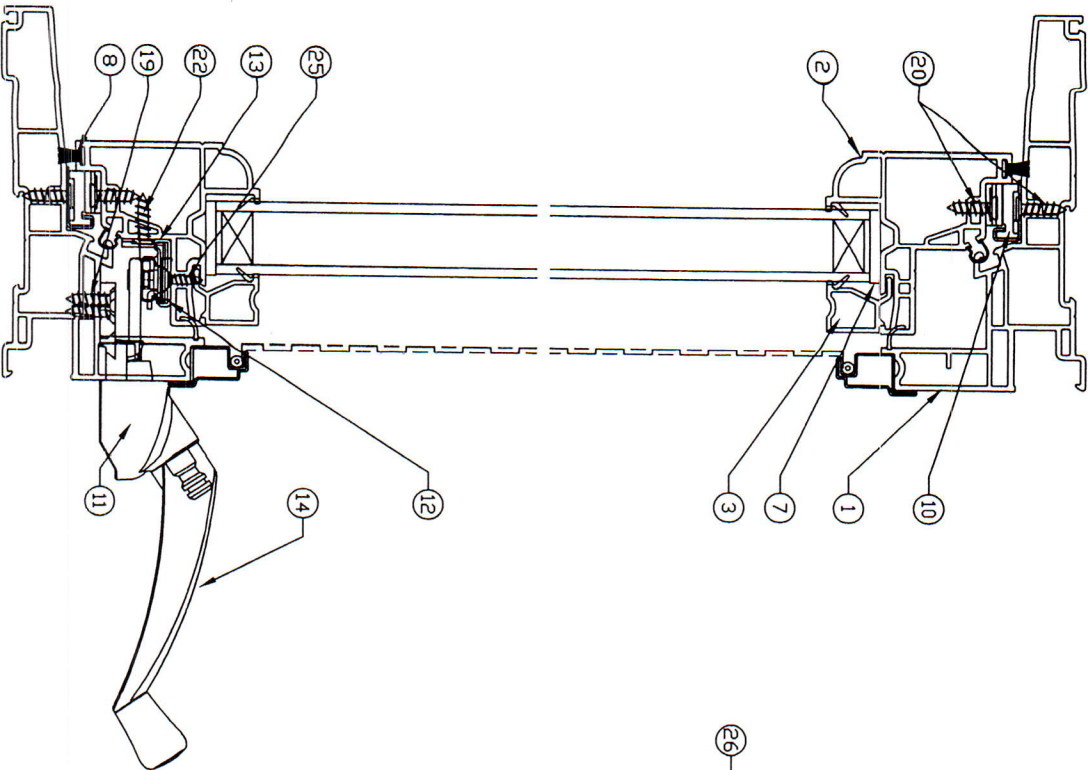
Section 2:

<u>Identification</u>	<u>Date</u>	<u>Page & Revision</u>
Original Issue	10/18/13	Not Applicable

Appendix B

Drawings

SÉRIE 4600 SERIES



FENÊTRE À BATTANT 4 1/2"
4 1/2" CASEMENT WINDOW

ROYAL
Building Products

MATERIAUX / MATERIALS

NO.	DESCRIPTION	NO. CAT.
1	CADRE	4606
2	VOLET	4429
3	SNUBBER 7/8"	4913
4	REPRESEUSEUR DE VOLET	6066B
5	FASTENER PLATE	ROTO G2HNDUPL-03
6	REPRESEUSEUR DE VOLET EN NYLON	3333
7	CALE DE BLOQUE (DIAMÈTRE 80)	23 X 50,8 X 3,2mm
8	SCOURE FROUX (80 HARDNESS)	SCHLEGEL PS-8850-187
9	LE GUIDE BARRRE MULTI-POINTS	ROTO LB05-1005-51
10	PENTURES	TRUTH
11	OPERATEUR À MANIVELLE	TRUTH
12	STUD BRACKET	SO-10
13	OPERATEUR TRACK	11526
14	MANIVELLE	TRUTH
15	LOQUET	ROTO LH08-7810-00
16	CAKE	
17	KEEPER	ROTO LB06-2300

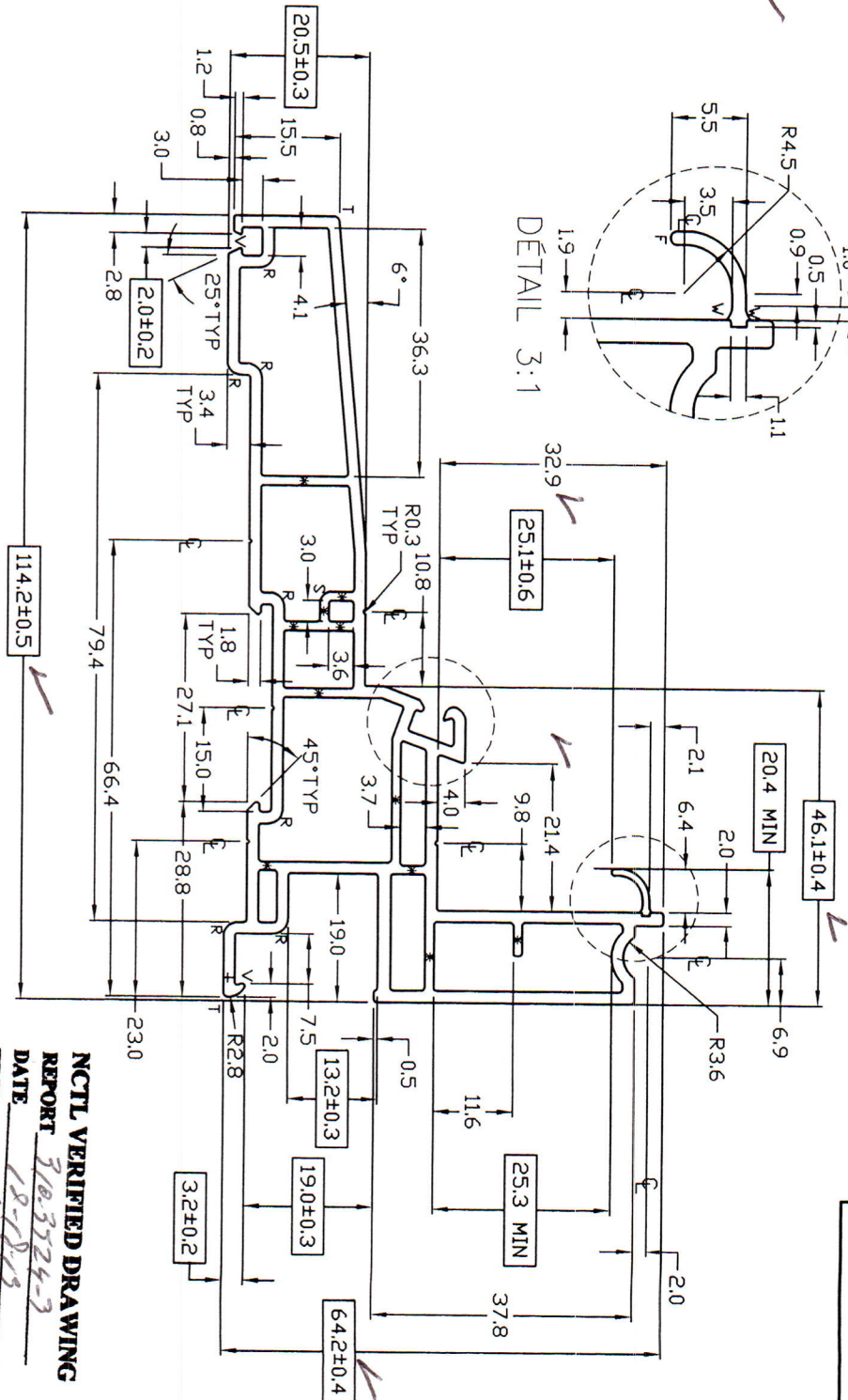
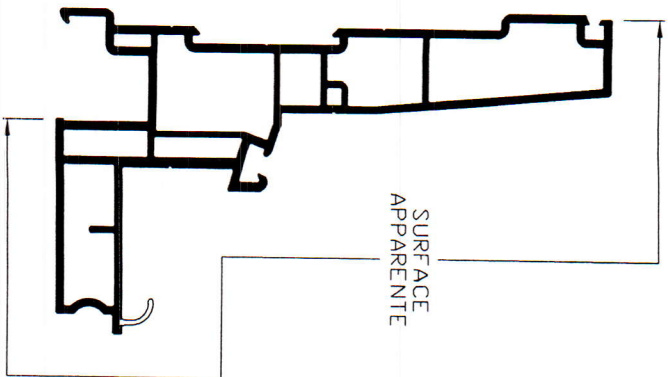
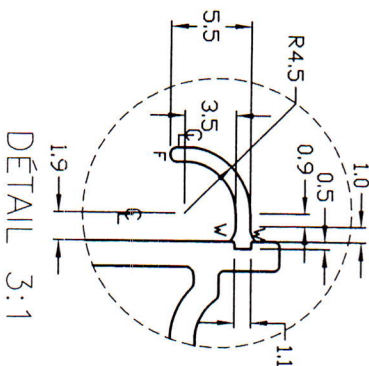
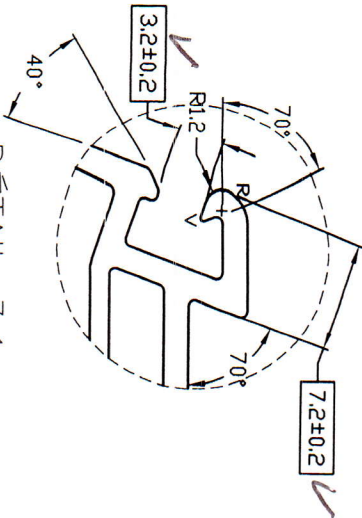
MATERIAUX / MATERIALS

NO.	DESCRIPTION	NO. CAT.
17	TIÉ BARRE MULTI-POINTS	ROTO LB08
18	CADRE DE MOUTSTOLAIRE 7/16"	
19	OPERATEUR SCREWS	TÊTE PLATE 7/10 X 5/8"
20	HINGES SCREWS	TÊTE PLATE 7/10 X 5/8"
21	SNUBBER SCREWS	TÊTE PLATE 7/10 X 5/8"
22	OPERATEUR TRACK SCREWS	TÊTE PLATE 7/10 X 5/8"
23	OPERATEUR SCREWS	TÊTE PLATE 7/10 X 5/8"
24	STUD BRACKET SCREWS	TÊTE PLATE 7/10 X 5/8"
25	OPERATEUR TRACK SCREWS	TÊTE PLATE 7/10 X 5/8"
26	OPERATEUR TRACK SCREWS	TÊTE PLATE 7/10 X 5/8"

NCTL VERIFIED DRAWING
REPORT 20-3524-3
DATE 18/18/13
TECH

SAUF INDICATION CONTRAIRE
TOUTS LES ANGLES @ 90° ± 0.5°
UNLESS OTHERWISE INDICATED
ALL ANGLES @ 90° ± 0.5°

NO: RH-4606



PAROIS: 1.7±0.15mm
WALL: 1.7±0.15mm
* PAROIS (WALL): 1.3±0.15mm
INTERNES (INTERNAL)
F: RAYON COMPLET (FULL RADIUS)
R: 2.10
S: 1.70
T: 0.80
U: 0.40
V: 0.20
W: 1.50

RAYONS NON INDICUÉS
UNINDICATED RADIUS

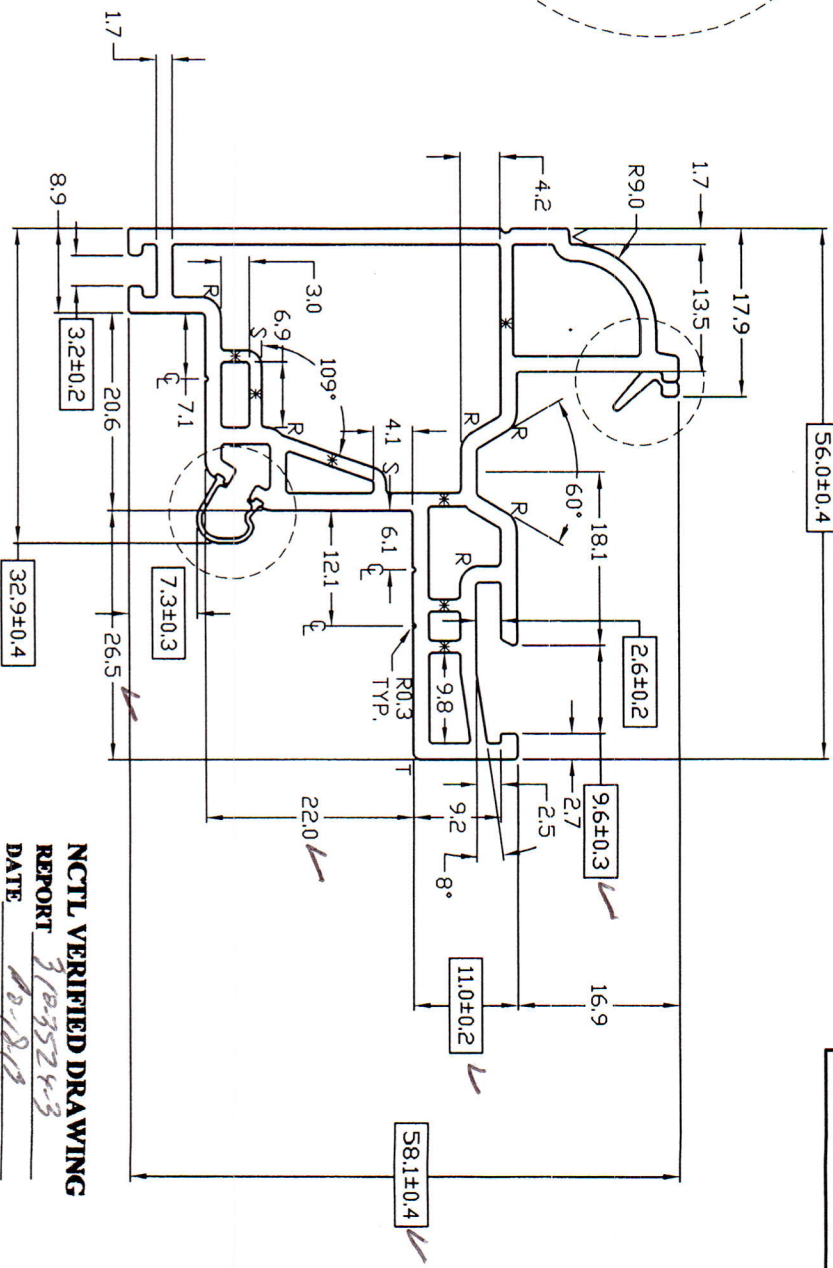
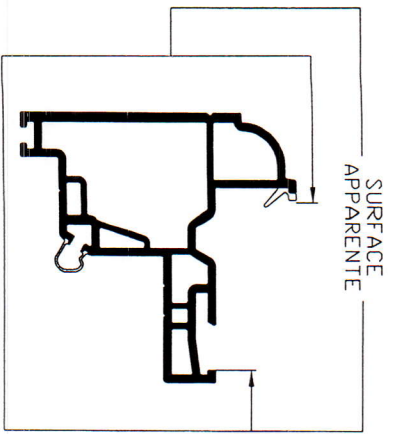
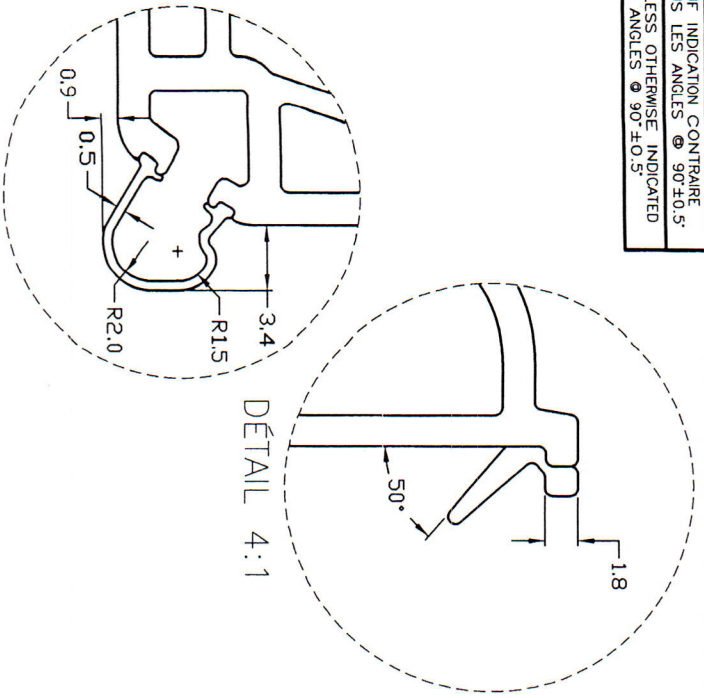
MATER.: ACAD.# RH-4606	DATE: 07-10-2003	CODE R 7G2S2H	CODE F 8U3A
ECH./SCALE: 1.5:1	PAR/BY: L.D.	TITRE: CADRE 4 1/2"	SURF.R 7H7T1D
ROYAL Building Products 3035, bouj. Le Corbusier blvd. Laval, Que. Canada H7L 4C3 (450) 687-5115		AVIS IMPORTANT LE DOCUMENT CONSTATE LA CONFORMITÉ DE LA FABRICATION DE LA PARTIE DÉSIGNÉE PAR LE NUMÉRIER DE PRODUIT ET LE NUMÉRIER DE PRODUIT À LA DATE DE LA PRESSION. IL NE GARANTIT PAS LA DURÉE DE VIE DE LA PARTIE DÉSIGNÉE PAR LE NUMÉRIER DE PRODUIT ET LE NUMÉRIER DE PRODUIT À LA DATE DE LA PRESSION. IL NE GARANTIT PAS LA DURÉE DE VIE DE LA PARTIE DÉSIGNÉE PAR LE NUMÉRIER DE PRODUIT ET LE NUMÉRIER DE PRODUIT À LA DATE DE LA PRESSION. IL NE GARANTIT PAS LA DURÉE DE VIE DE LA PARTIE DÉSIGNÉE PAR LE NUMÉRIER DE PRODUIT ET LE NUMÉRIER DE PRODUIT À LA DATE DE LA PRESSION.	
CLIENT: THERMOPLAST	IMPORTANT NOTICE THIS DOCUMENT CONFIRMS CONFORMANCE OF THE MANUFACTURING PROCESS WITH THE THERMOPLAST PRODUCT SPECIFICATIONS AT THE DATE OF PRESSURE. IT DOES NOT GUARANTEE THE LIFE OF THE PART DESIGNATED BY THE PRODUCT NUMBER AND THE PRODUCT NUMBER AT THE DATE OF PRESSURE. IT DOES NOT GUARANTEE THE LIFE OF THE PART DESIGNATED BY THE PRODUCT NUMBER AND THE PRODUCT NUMBER AT THE DATE OF PRESSURE. IT DOES NOT GUARANTEE THE LIFE OF THE PART DESIGNATED BY THE PRODUCT NUMBER AND THE PRODUCT NUMBER AT THE DATE OF PRESSURE.		

NCTL VERIFIED DRAWING
 REPORT 710-3524-3
 DATE 18-12-13
 TECH *fb*

SAUF INDICATION CONTRAIRE
TOUS LES ANGLES @ 90°±0.5°
UNLESS OTHERWISE INDICATED
ALL ANGLES @ 90°±0.5°

NO:

L4429



NOUVELLE MATRICE, 2011-04-27, L.D.

NCTL VERIFIED DRAWING
REPORT 31035243
DATE 02-18-19
TECH

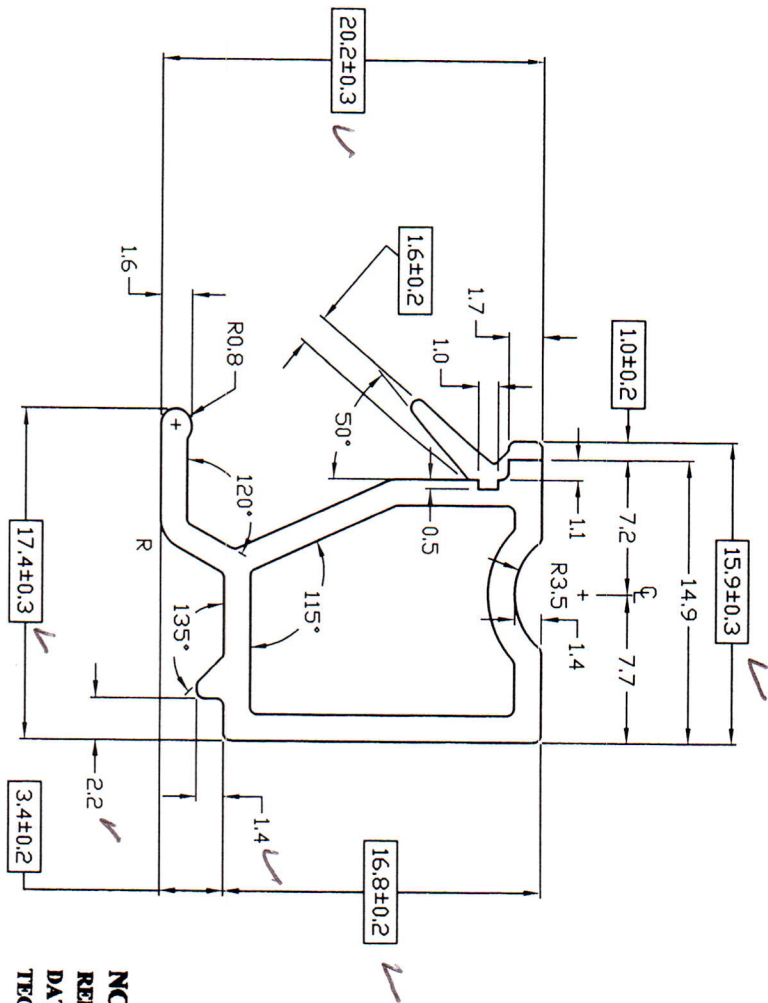
PAROIS: 1.7±0.15 mm
WALL: 1.7±0.15 mm
*PAROIS (WALL): 1.3±0.15 mm
INTERNES (INTERNAL)
F: RAYON COMPLET (FULL RADIUS)
R: 2.10
S: 1.70
T: 0.80
U: 0.40
V: 0.20
W: 2.40

RAYONS NON INDICUÉS
UNINDICATED RADIUS

MATER.: L4429	ACAD.#	DATE: 27-04-11	CODE R 4E6S7G	CODE F A4U9B
ECH./SCALE: 2:1	PAR/BY: L.D.	TITRE: TITRE:	SURF.R 4F5T5F	SURF.F A7V7F
ROYAL Building Products 3035, boul. Le Corbusier Blvd. Laval, Que. Canada H7L 4G3 (450) 687-5115		VOLET SASH SÉRIE 4450 SERIES		
CUSTOMER: THERMOPLAST	AVIS IMPORTANT DE L'ORGANISATION CONSCIENTE QUE LE PROJET EST EXCLUSIVEMENT RESERVE A L'USAGE INTERIEUR ET NE DOIT PAS ETRE REPRODUIT, COPIE, DISTRIBUE, COMMUNIQUE OU UTILISE EN TOUTE MANIERE SANS LA PERMISSE ECRITE DE THERMOPLAST INC.			
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SAUF INDICATION CONTRAIRE
TOUS LES ANGLES @ 90° ± 0.5°
UNLESS OTHERWISE INDICATED
ALL ANGLES @ 90° ± 0.5°

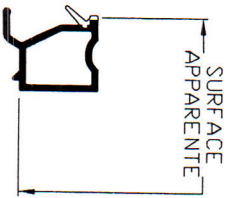
NO: RH-4913



NCTL VERIFIED DRAWING
 REPORT 21035243
 DATE 10-18-13
 TECH PD

REVISION GENERALE AVANT COUPE NOUVELLE FILIERE, 2007-10-09, L.D.

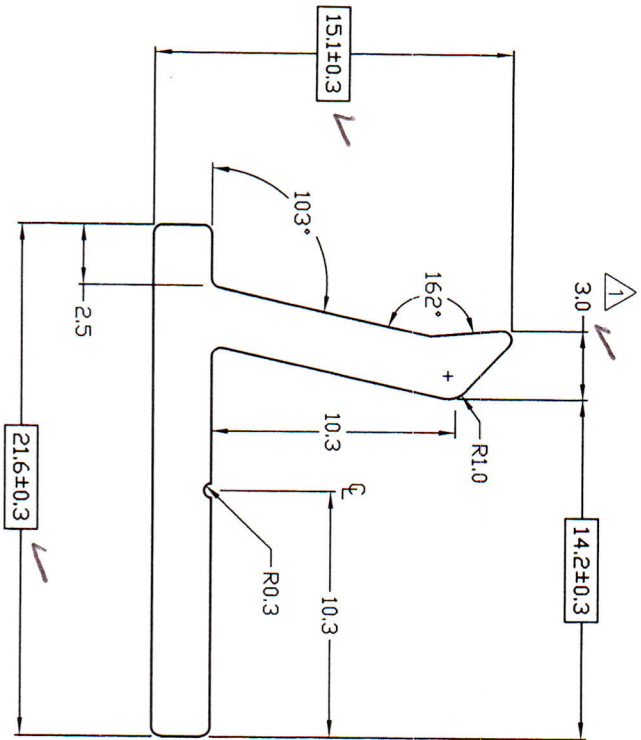
PAROIS: 1.4 ± 0.15 mm
 WALL: 1.4 ± 0.15 mm
 * PAROIS (WALL): 1.3 ± 0.15 mm
 INTERNES (INTERNAL)
 F: RAYON COMPLET (FULL RADIUS)
 R: 2.60
 S: 1.10
 T: 0.80
 U: 0.40
 V: 0.25
 W: 2.40
 - RAYONS NON INDIQUEES
 UNINDICATED RADIUS



GRANDEUR REELLE
 REAL SIZE

MATER.: 6935	ACAD.# RH-4913	DATE: 29-01-2003	CODE R H955G	CODE F 7U9J
ECH./SCALE: 4:1	PAR/BY: F.V.	TITRE: TITLE:	SURF.R 11T3J	SURF.F 9V4J
		PARCLOSE 7/8" 7/8" GLAZING BEAD SERIE 4900 SERIES		
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3035, boul. Le Combustier Blvd Laval, Que. Canada H7L 4C3 (450) 687-5115		IMPORTANT NOTICE THIS DOCUMENT CONTAINS CONFIDENTIAL INFORMATION AND IS THE PROPERTY OF THERMOPLAST INC. IT IS STRICTLY FOR YOUR BUSINESS PURPOSES WITH THERMOPLAST USE, COPY OR DISCLOSURE IN WHOLE OR IN PART WITHOUT AUTHORIZATION FROM THERMOPLAST INC.		

SAUF INDICATION CONTRAIRE
TOUS LES ANGLES @ 90°±0.5°
UNLESS OTHERWISE INDICATED
ALL ANGLES @ 90°±0.5°



L
GRANDEUR REELLE
REAL SIZE

PAROIS: 2.5±0.15 mm
WALL: 2.5±0.15 mm
*PAROIS (WALL): 1.3±0.15 mm
INTERNES (INTERNAL)
F: RAYON COMPLET (FULL RADIUS)
R: 2.60
S: 1.10
T: 0.80
U: 0.40
V: 0.20
W: 2.40
- RAYONS NON INDICUÉS
UNINDICATED RADIUS

1 3.0 ÉTAIT 3.9 F.V. 15-08-2000			
MATER.: 6935	ACAD.# RS-3333	DATE: 23-03-2000	CODE R H2S6C
ECH./SCALE: 5:1	PAR/BY: F.V.	TITRE: REDRESSEUR DE VOLET	CODE F
		SURF.R H4T2C	SURF.F
CLIENT: THERMOPLAST 3035, boul. Le Corbusier Blvd. Laval, Que. Canada H7L 4C3 (450) 687-5115		SÉRIE 4600 SERIES	
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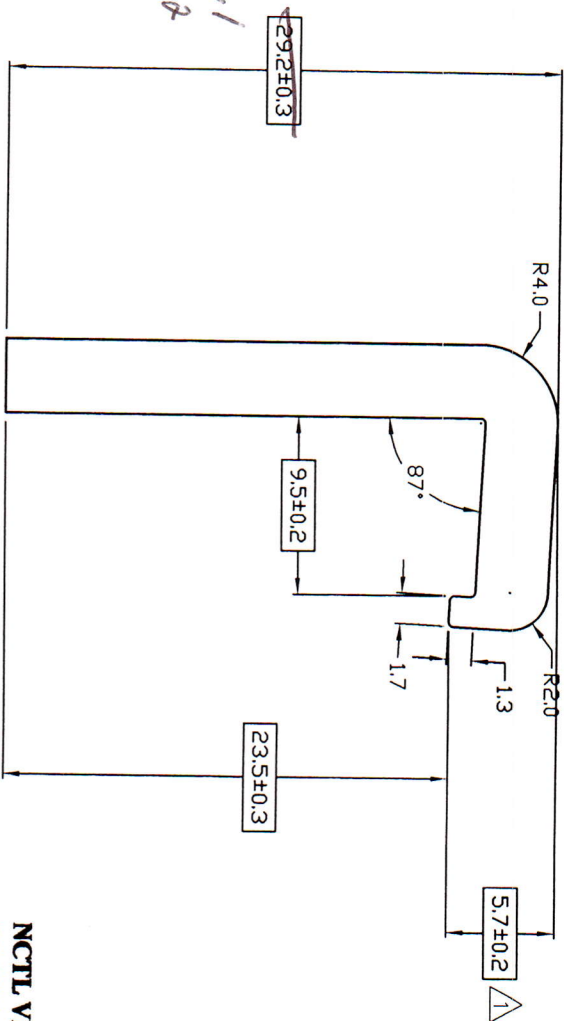
NCTL VERIFIED DRAWING
 REPORT 31035243
 DATE 10/18/13
 TECH

NO: RS-3333

SAUF INDICATION CONTRAIRE
TOUTS LES ANGLES @ 90° ± 0.5°
UNLESS OTHERWISE INDICATED
ALL ANGLES @ 90° ± 0.5°

UTILISER LA FILIÈRE RH-6066

NO: RS-6066A



5494 3601
FIDAM 2/02

GRANDEUR REELLE
REAL SIZE

PAROIS: 3.8 ± 0.15 mm
WALL: 3.8 ± 0.15 mm
*PAROIS (WALL): 1.3 ± 0.15 mm
INTERNES (INTERNAL)
F: RAYON COMPLET (FULL RADIUS)
R: 2.60
S: 1.10
T: 0.80
U: 0.25
V: 0.40
W: 2.40
- RAYONS NON INDICUÉS
- UNINDICATED RADIUS

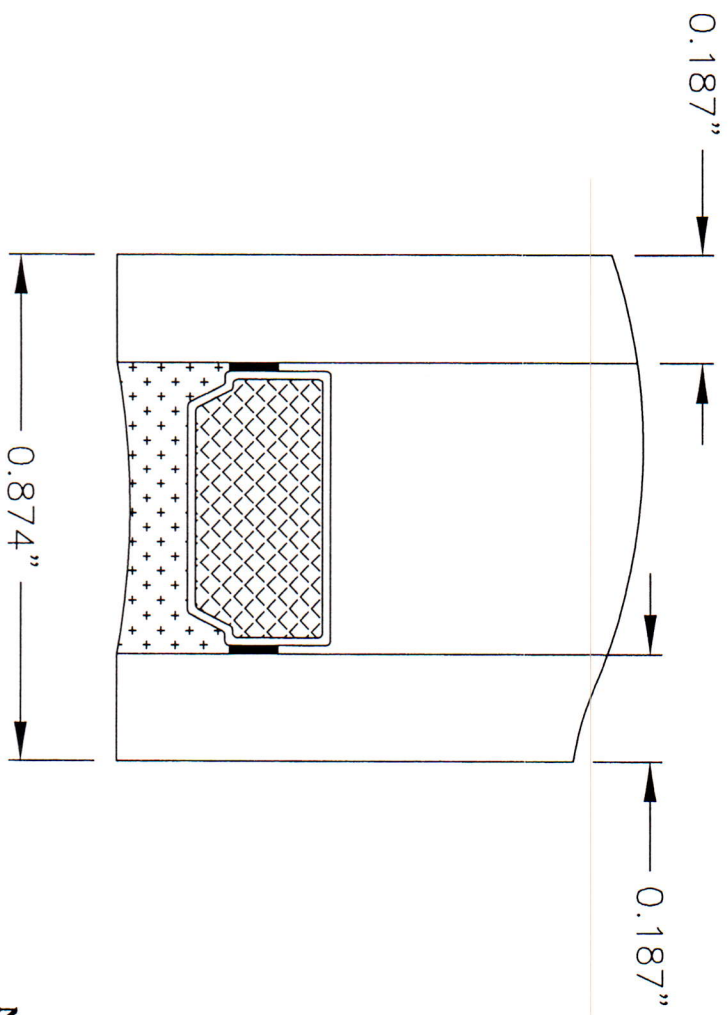
1 AJOUTER 5.7 ± 0.2, GCPE I.M., 2010-08-06, Z.U.




MATER.: ACAD.# RS-6066A	PAR/BY: L.D.	DATE: 15-03-2007	CODE R 2C257C	CODE F
ECH./SCALE: 4:1	TITRE: REDRESSEUR DE VOLET	SURF.R 2C7T2A	SURF.F	
ROYAL Building Products 3035, boul. Le Corbusier Blvd, Laval, Que. Canada H7L 4C3 (450) 687-5115		SÉRIE ROYAL GUARD SERIES SNUBBER		
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 REPORT 10-3524-3
 DATE 10-18-13
 TECH M

UNLESS OTHERWISE INDICATED
ALL ANGLES @ 90° ±0.5°

NO: ALUMINIUM

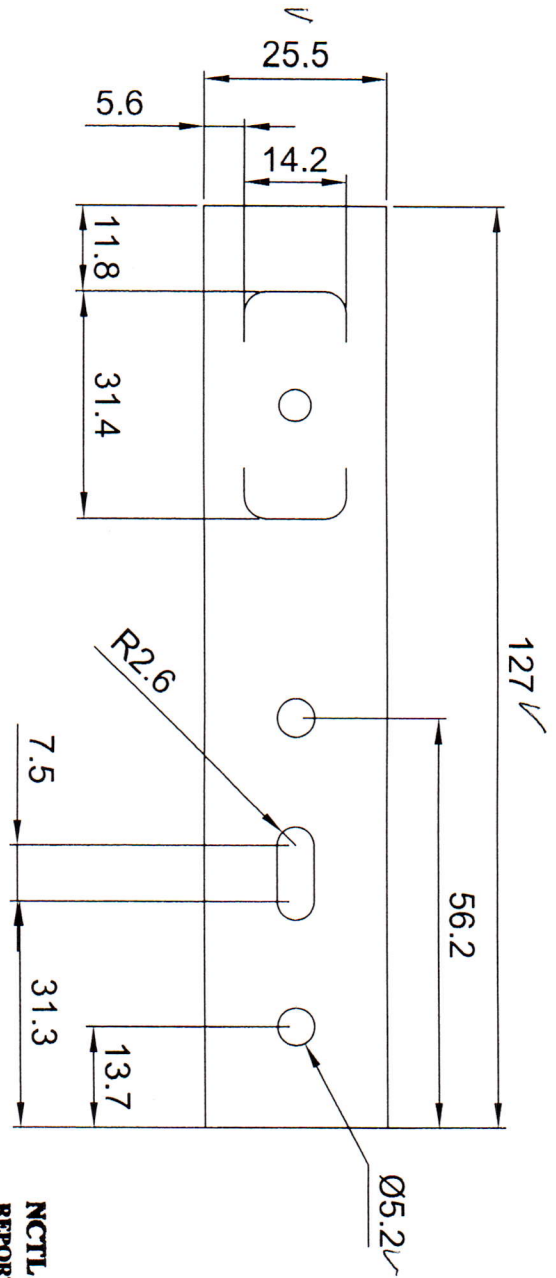
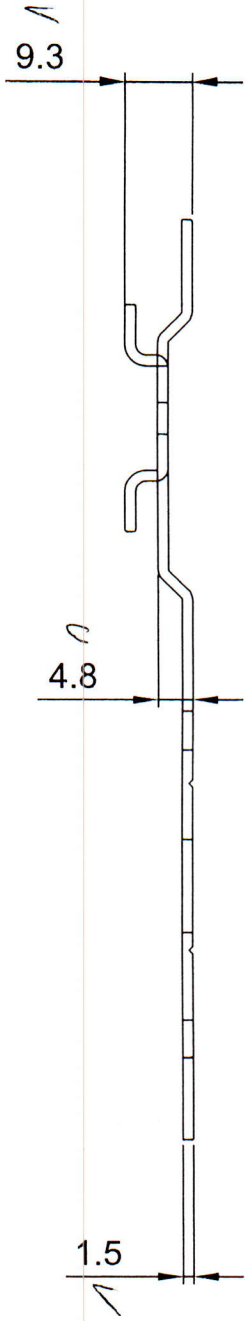


-  = PRIMARY SEALANT: POLYISOBUTYLENE
-  = DESICCANT USED INSIDE OF SPACER BAR: MOLECULAR SIEVE MOLSIW 4000
-  = SILICONE SEAL

NCTL VERIFIED DRAWING
 REPORT 4235263
 DATE 10-18-13
 TECH W

ACAD.# ALUMINIUM	TITLE:	DATE: 18-10-2010	SCALE:	3:1	BY:	L.D.
VARROYAL Building Products	INSULATING GLASS 7/8"					
3035, Le Corbusier Blvd. Laval, Que. Canada H7L 4C3 (450) 687-5115	CUSTOMER: THERMOPLAST					

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NCTL VERIFIED DRAWING
REPORT 310-5524-3
DATE 12-18-13
TECH DP

NO	REVISION	DATE	PAR
1			
2			
3			
4			
5			
6			
7			

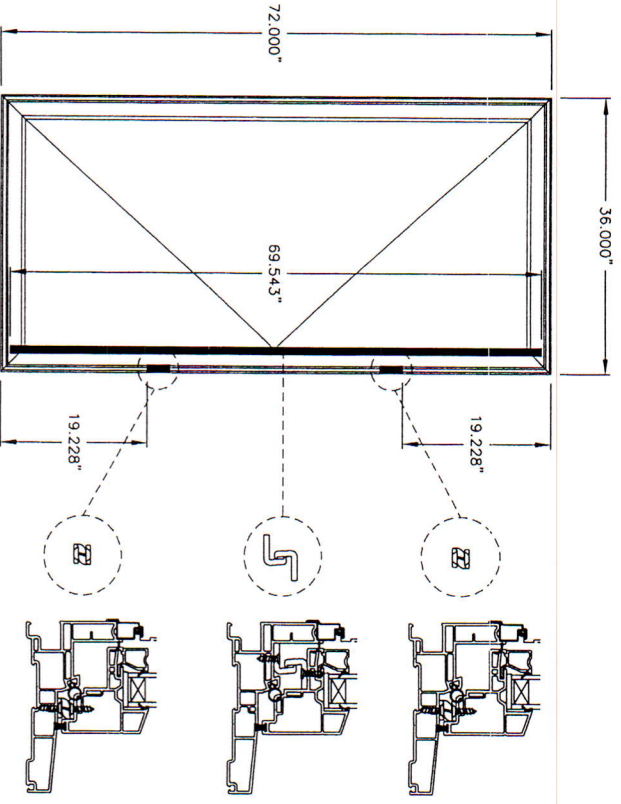
Z:\DESSIN\carrouche\Borden\c.mtl.dwg
 370, chemin Moon-Grant
 Theford Mines Oc
 GRC SR7
 tél: 418-338-4828
 fax: 418-338-0347
 web: www.isotheimc.ca

DESSINÉ PAR DANNYL	DOSSIER
RÉFÉRENCE	DATE 18/10/13
MATÉRIEL ACIER	ÉCHELLE 1:1

TITRE DU DESSIN: FEUILLE D'INSTALLATION	# DE PIÈCE: A-127	FEUILLE NO
# DE DESSIN		

SAUF INDICATION CONTRAIRE
TOUS LES ANGLES @ 90°±0.5°
UNLESS OTHERWISE INDICATED
ALL ANGLES @ 90°±0.5°

NO: SNUBBER-3

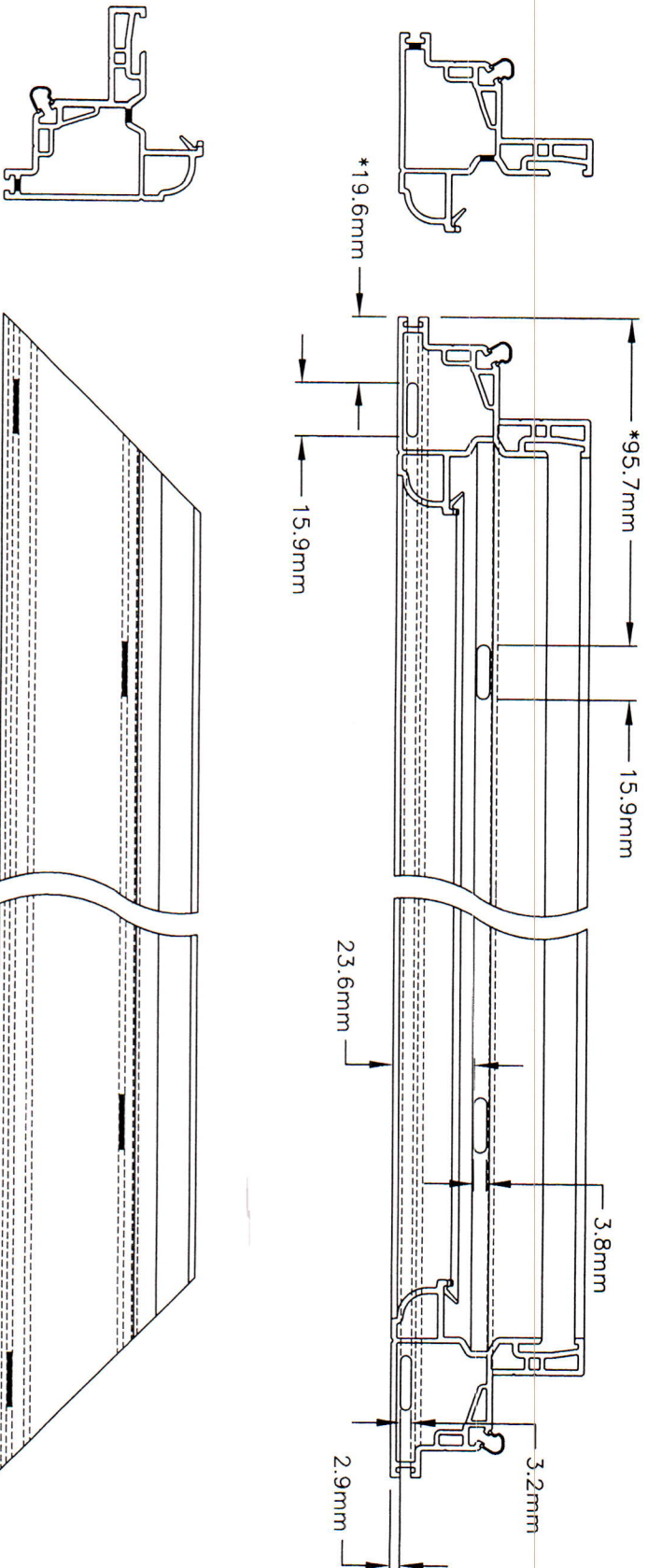


NCTL VERIFIED DRAWING
REPORT 30-35763
DATE 12/8/17
TECH [Signature]

ACAD.# POSITIONNEMENT SNUBBER-3	DATE: 28-08-2013	TITRE: TITRE:
ECH./SCALE: NTS	PAR/BY: L.D.	
ROYAL Building Products		
3035, boul. Le Corbusier, blvd. Laval, Que. Canada H7L 4C3 (450) 887-5115		
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POSITION DES REDRESSEUR DE VOLET, GUIDE ET GÂCHE SNUBBER, KEEPER AND GUIDE POSITION SÉRIE 4600 SERIES		

SAUF INDICATION CONTRAIRE
 TOUS LES ANGLES 90° ± 0.5°
 UNLESS OTHERWISE INDICATED
 ALL ANGLES 90° ± 0.5°

No: 4429



* AJOUTER LA 1/2 PERTE DUE À LA SOUDURE
 * ADD 1/2 LOSS DUE TO WELDING

NCTL VERIFIED DRAWING
 REPORT 103524-3
 DATE 10/18/15
 TECH

MATER.: 6935 ACAD.#: M-4429-1 TITRE: TITRE: DATE: 28-03-05 ECH./SCALE: 1:2 PAR/ BY: P.A.

MARROYAL
 Building Products

3035, boul. Le Corbusier Blvd.
 Laval, Que. Canada H7L 4C3
 (450) 687-5115

CLIENT: THERMOPLAST
 CUSTOMER: THERMOPLAST

MACHINAGE DU VOLET POUR EGOUTTEMENT D'EAU
 SASH MACHINING FOR WATER DRAINAGE
 SERIE 4450 SERIES

AVIS IMPORTANT
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