



NATIONAL CERTIFIED TESTING LABORATORIES

FIVE LEIGH DRIVE • YORK, PENNSYLVANIA 17406 • TELEPHONE (717) 846-1200
FAX (717) 767-4100
www.nctlinc.com

AAMA/WDMA/CSA 101/I.S.2/A440-05
AAMA/WDMA/CSA 101/I.S.2/A440-08

STRUCTURAL PERFORMANCE TEST REPORT SUMMARY

RENDERED TO:

ALL SEASONS DOOR & WINDOW, INC.
28 EDGE ROAD
EAST BRUNSWICK, NJ 08816

MODEL/TYPE: A-200 Fixed Lite

TITLE	SUMMARY OF RESULTS
Primary Product Designator	FW-LC 85 1422 x 1422 mm (56x56) ⁽⁰⁵⁾ Class LC PG100 Size tested: 1422 x 1422 mm (56 x 56 in)– Type FW ⁽⁰⁸⁾
Air Infiltration/Exfiltration	Infiltration Rate: 0.5 L/s/m ² (0.1 cfm/ft ²) (0.01 cfm/ft ² measured)
Water Penetration Resistance	580 pa (12.0 psf)
Design Pressure	± 4080 pa (85.0 psf) ⁽⁰⁵⁾ ± 4080 pa (100.0 psf) ⁽⁰⁸⁾
Uniform Load Structural Test	± 6120pa (127.5 psf) ⁽⁰⁵⁾ ± 7200pa (150.0 psf) ⁽⁰⁸⁾
Forced Entry Resistance	Passed ASTM F588-07 Grade 10

Test Completion Date: 01/21/11

Reference must be made to NCTL Report Number NCTL-110-13605-1 dated 02/01/11 for complete test sample description and data.

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DIGITAL SIGNATURE

JAY LEADER
Technician



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STRUCTURAL PERFORMANCE TEST REPORT

NCTL-110-13605-1

REPORT TO: ALL SEASONS DOOR & WINDOW, INC.
28 EDGEBORO ROAD
EAST BRUNSWICK, NJ 08816

ORIGINAL REPORT NUMBER: NCTL-110-13605-1

ORIGINAL REPORT DATE: 02/01/11

SERIES/ TYPE: "A-200" Fixed Lite



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REPORT NCTL-110-13605-1 TO: All Seasons Door & Window, Inc.
28 Edgeboro Road
East Brunswick, NJ 08816

STARTING TEST DATE: 01/20/2011
ENDING TEST DATE: 01/21/2011

SPECIFICATION: AAMA/WDMA/CSA 101/I.S.2/A440-05, "Standard/Specification for Windows, Doors and Unit Skylights."
AAMA/WDMA/CSA 101/I.S.2/A440-08, "NAFS-North American Fenestration Standard/Specification for Windows, Doors and Skylights."

PERFORMANCE CLASS: FW-LC 85 1422 x 1422 (56x56)₍₀₅₎
Class LC-PG100 Size tested: 1422 x 1422 mm (56 x 56 in) – Type FW₍₀₈₎

DESCRIPTION OF SAMPLE TESTED

MODEL/TYPE: "A-200"

CONFIGURATION: Fixed Lite

FRAME SIZE: 1422 mm (56") wide by 1422 mm (56") high overall

FIXED LITE VIEWING AREA SIZE: 1339.85 mm (52-3/4") wide by 1339.85 mm (52-3/4") high

FRAME TYPE: Thermally broken extruded aluminum (poured urethane)

JOINT CONSTRUCTION: Double screw butt-type corner construction with closed cell foam gaskets

GLAZING COMPONENTS:

 OVERALL: 22.23 mm (0.875") nominal

 GLASS THICKNESS: (2) lites of 5.72 mm (0.225") nominal annealed

 SPACER TYPE/SIZE: 9.53 mm (0.375") desiccant-filled aluminum spacer system (A1-D)

GLAZING SYSTEM: Interior glazed with a silicone back-bedding, with a silicone heel bead and a snap-in and screwed-in place extruded aluminum glazing bead with foam-filled bulb gasket

WEATHERSEALS: No weatherseals employed.

REINFORCEMENT: No reinforcement employed.

WEEPS: No apparent weeps employed.

INTERIOR & EXTERIOR SURFACE FINISH: Brown painted aluminum

SEALANT: Frame corners sealed with silicone sealant and exterior glazing perimeter sealed with silicone sealant

INSTALLATION METHOD: 50.8 mm x 254 mm (2" x 10") wood buck with 38.1 mm x 19.05 mm (1.5" x 0.75") wood blind stops at the interior and exterior perimeters. Each secured with (1) # 8 x 41.3 mm (1.625") flat head screw approximately 203.2 mm (8") on center. The window was secured to the buck with (2) # 8 x 254 mm (2") screws through the head and jambs at 101.6 mm (4") and 431.8 mm (17") from each end. Exterior perimeter was sealed with a silicone sealant

TEST RESULTS

5.3.2 AIR LEAKAGE RESISTANCE AT 75 PA (1.6 PSF)

ASTM E283-04

	<u>Measured</u>	<u>Allowed</u>
Infiltration Rate	0.5 L/s/m ² (0.1 CFM/ft ²) (0.01 CFM/ft ²) measured	1.5 L/s/m ² (0.3 CFM/ft ²)

The Tested Specimen Meets Or Exceeds the Performance Levels Specified in AAMA/WDMA/CSA 101/1.S.2/A440-05/08

5.3.3/ 4.3.2 WATER RESISTANCE TEST

ASTM E 547-00

No Leakage after 4 cycles of 5 minutes @ 500 pa (12.0 psf)

5.3.4.2/ 4.4.2.6 UNIFORM LOAD DEFLECTION AT DESIGN PRESSURE

ASTM E330-02

No Damage After Positive	4080 pa (85.0 psf) ₍₀₅₎	
No Damage After Negative	4080 pa (85.0 psf) ₍₀₅₎	
	<u>Measured</u>	
Measured Deflection Positive	0.51 mm (0.020 inches) ₍₀₅₎	
Measured Deflection Negative	0.64 mm (0.025 inches) ₍₀₅₎	
No Damage After Positive	4800 pa (100.0 psf) ₍₀₈₎	
No Damage After Negative	4800 pa (100.0 psf) ₍₀₈₎	
Measured Deflection Positive	0.58 mm (0.023 inches) ₍₀₈₎	
Measured Deflection Negative	0.76 mm (0.030 inches) ₍₀₈₎	

4.4.2.6/4.3.2 UNIFORM LOAD STRUCTURAL TEST

ASTM E330-02

No Damage After Positive	6120 pa (127.5 psf) ₍₀₅₎	
No Damage After Negative	6120 pa (127.5 psf) ₍₀₅₎	
	<u>Measured</u>	
Measured Permanent Set Positive	0.10 mm (0.004 inches) ₍₀₅₎	
Measured Permanent Set Negative	0.13 mm (0.005 inches) ₍₀₅₎	
No Damage After Positive	7200 pa (150.0 psf) ₍₀₈₎	
No Damage After Negative	7200 pa (150.0 psf) ₍₀₈₎	
Measured Permanent Set Positive	0.10 mm (0.004 inches) ₍₀₈₎	
Measured Permanent Set Negative	0.10 mm (0.004 inches) ₍₀₈₎	
Maximum Allowed 0.4% for LC rating	5.49 mm (0.216 inches) ₍₀₈₎	

5.3.5 FORCED ENTRY RESISTANCE

Passed ASTM F588-07 Grade 10

See Appendix for results.

TEST COMPLETED 01/21/11

The tested specimen meets (or exceeds) the performance level specified in AAMA/WDMA/CSA 101/I.S.2/A440-05 and AAMA/WDMA/CSA 101/I.S.2/A440-08 for air leakage resistance. The listed results were secured by using the designated test methods and indicate compliance with the performance requirements of the referenced specification paragraphs for the FW-LC85 1422 x 1422 (56x56) and Class LC-PG100: Size tested 1422 x 1422 mm (56 x 56 in)-Type FW product designations.

A copy of this report along with representative sections of the test specimen will be retained by NCTL for a period of four (4) years. The results obtained apply only to the specimen tested. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen may be drawn from this test. This report does not constitute certification of the product which may only be granted by a certification program validator. 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 E 330 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.

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 may not be reproduced, except in full, without the written consent of NCTL.

NATIONAL CERTIFIED TESTING LABORATORIES



DIGITAL SIGNATURE

JAY LEADER
Technician



DIGITAL SIGNATURE

ROBERT H. ZEIDERS
Vice-President Engineering & Quality

JL/hs

Attachments

- Appendix A – Forced Entry Resistance Results
- Appendix B - Drawing & Revision Summary
- Appendix B – Drawings

APPENDIX A
Forced Entry Resistance Test Results

Test Method: ASTM F 588-07, "Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact". Grade 10

TEST RESULTS

<u>Paragraph No.</u>	<u>Loads</u>	<u>Duration</u>	<u>Measured</u>	<u>Allowed</u>
A2.1 Disassembly Test	N/A	5 Minutes	No Entry	No Entry
A2.3 Sash Manipulation	N/A	5 Minutes	No Entry	No Entry

APPENDIX B

Section 1:

Component Drawings, with Applicable Part Numbers, Manufacturing and Modeling Details, were reviewed (as submitted) for Product Verification (Reference: NCTL-110-13605-1)

See Attached Documentation;
any deviations noted.

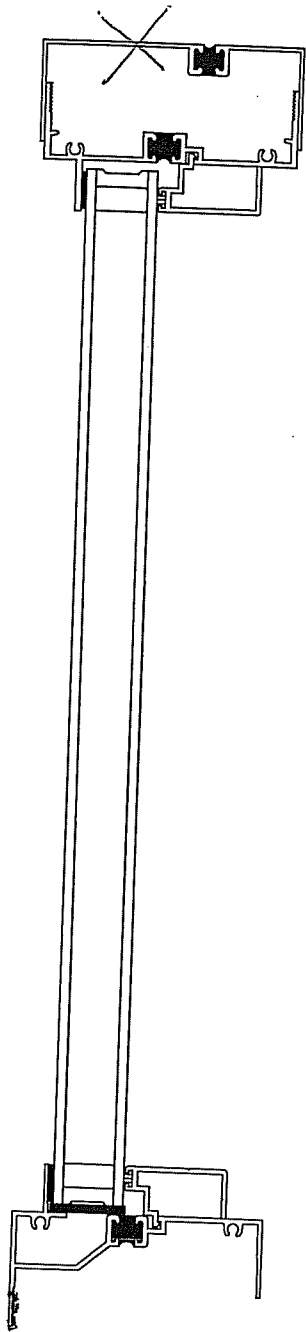
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Section 2:

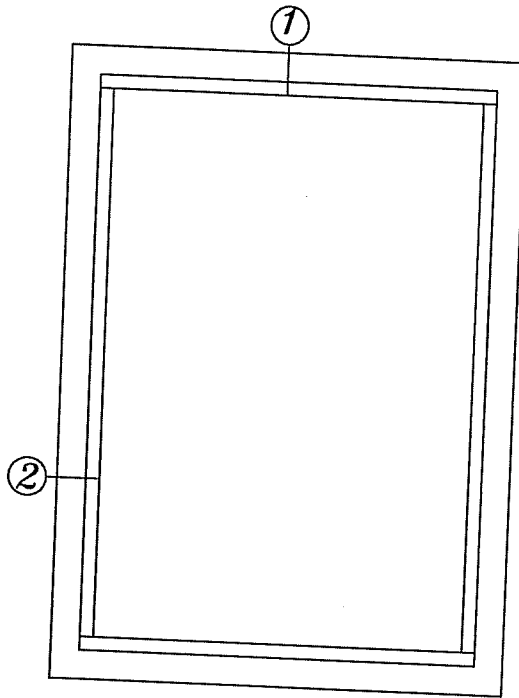
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Original Issue	02/01/11	Not Applicable

APPENDIX B

DRAWINGS

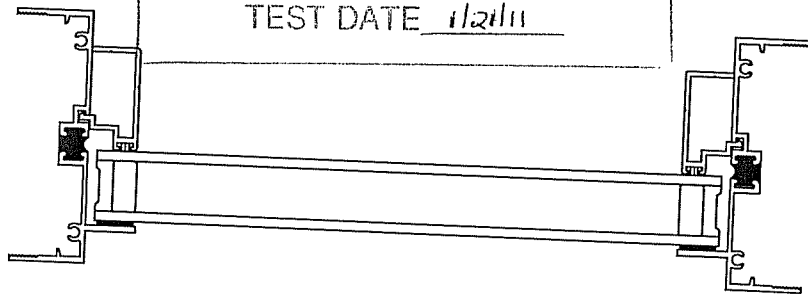


①



②

TEST SPECIMEN COMPLIES
 WITH THESE DETAILS.
 ANY DEVIATION IS NOTED
 REPORT NO. NCTL-110- 13605-1
 TEST DATE 11/21/11



ALL SEASONS
 DOOR & WINDOW, MFG.

28 Edgeboro RD, East Brunswick, NJ 08816
 Phone: (732)238-7100 Fax : (732)238-7225

DATE

10/07/04

????

all seasons

DWG.NO.

MG0132

SEC.NO.

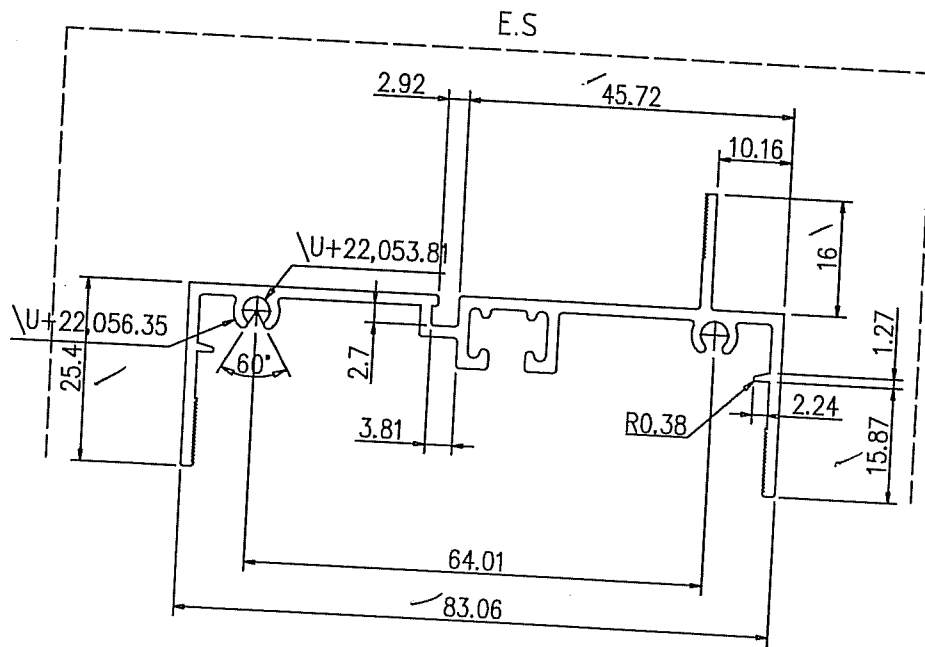
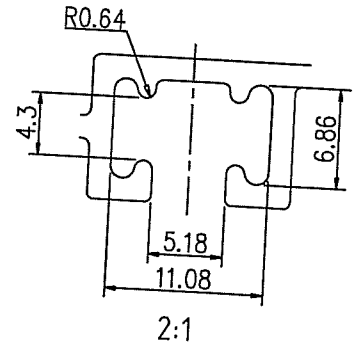
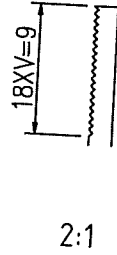
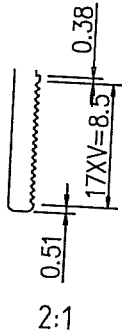
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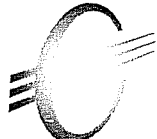
TEST SPECIMEN COMPLIES
WITH THESE DETAILS.
ANY DEVIATION IS NOTED

REPORT NO. NCTL-110-13605-1

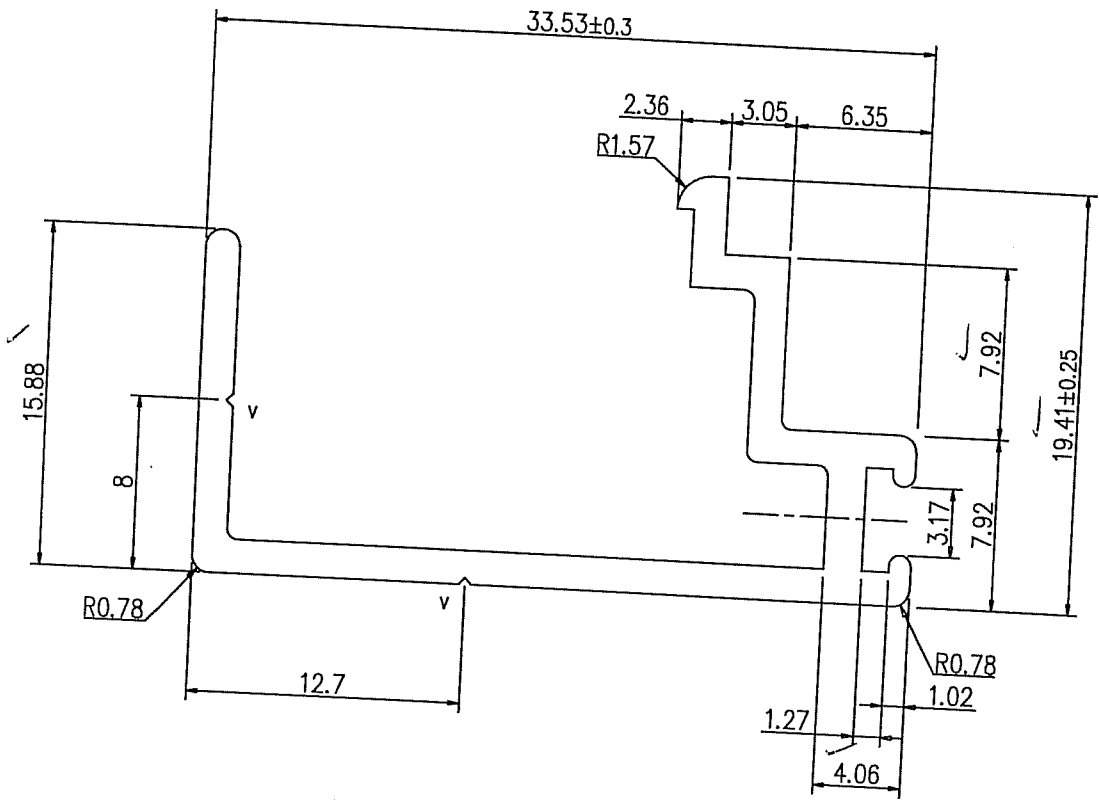
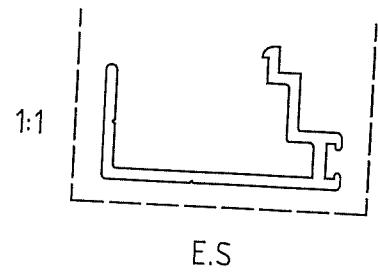
TEST DATE 1/21/11

paint wt= 0.91kg/m²
???? 0.78 cm²

V=0.25X90°

??cm ² EST.AREA	3.18	????mm UNSP.TK	1.57 ^{+0.05} -0.12	???? STD.	GB/T5237-2000	??	JIAGN	??	2003-12-10
??kg/m EST.WEIGHT	0.86	????mm UNSP.R.	R0.5	???? ALLOY	6063-T5	??		??	
? ? mm PERIMETER	406	 <p>????? ZHONG SHAN CITY GOLDEN SUN ALUMINIUM LTD.</p>							
?? SCALE	1:1								
???	86.2								


CUSTOMER	DWG.NO.	MG0131	SEC.NO.	MG0131
????	????	10396	??	580



TEST SPECIMEN COMPLIES
WITH THESE DETAILS.
ANY DEVIATION IS NOTED
REPORT NO. NCTL-110-13605-1
TEST DATE 11/11/11

paint wt=0.36 kg/m

V=0.3X90°

??cm ² EST.AREA	1.23	????mm UNSP.TK	1.57 ^{+0.05}	???? STD.	GB/T5237-2000	??	JIAGN	??	2003-12-10
??kg/m EST.WEIGHT	0.34	????mm UNSP.R.	R0.5	???? ALLOY	6063-T5	??		??	
? ? mm PERIMETER	156.5	 ? ? ? ? ? ? ? ? ZHONG SHAN CITY GOLDEN SUN ALUMINIUM LTD.							
?? SCALE	3:1								
???	30.3								

????

DWG.NO.

MG0134

SEC.NO.

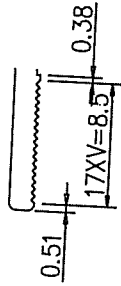
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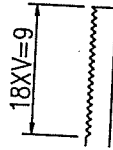
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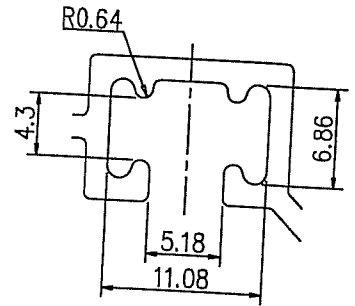
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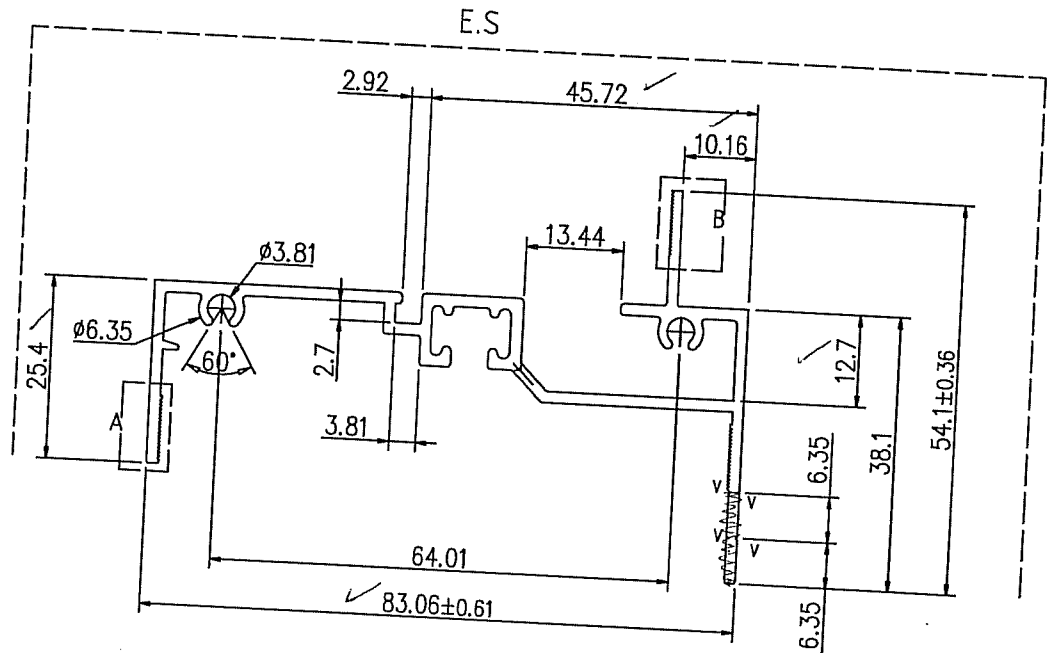
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B 2:1



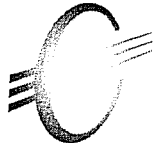
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TEST SPECIMEN COMPLIES
 WITH THESE DETAILS.
 ANY DEVIATION IS NOTED
 REPORT NO. NCTL-110-13605*1
 TEST DATE 1/21/11

paint wt= 0.91 kg/m
 ??? 0.78 cm²

V=0.25X90°

??cm ² EST.AREA	3.62	????mm UNSP.TK	1.57 ^{+0.05} _{-0.12}	???? STD.	GB/T5237-2000	??	JIAGN	??	2003-12-10
??kg/m EST.WEIGHT	0.98	????mm UNSP.R.	R0.5	???? ALLOY	6063-T5	??		??	
? ? mm PERIMETER	461.6	 ? ? ? ? ? ? ? ? ZHONG SHAN CITY GOLDEN SUN ALUMINIUM LTD.							
?? SCALE	1:1								
???	88.7								