



A Z U M A
Design

Laboratory Report

Date

11-August-2016

Customer **A-TECH Australia Pty Ltd**

258 Milperra Road Milperra NSW

Test No :

AZT0266.16



WORLD RECOGNISED
ACCREDITATION

NATA Accredited Laboratory No : 15147

The results of the tests, calibrations and/or measurements included
in this document are traceable to Australian/national standards.
Azuma Design Pty Limited

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Accreditation Number : 15147
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AZUMA DESIGN

TESTING LABORATORY REPORT



SIGNATORIES	Reported Jayden Mudford by : <i>J. Mudford</i>
	Checked Robert Irwin by : <i>R. Irwin</i>

Date :	11-Aug-16
Test No:	AZT0266.16

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Wind and Water Penetration Testing

Testing to AS2047 and as per test method AS4420.0 to .6

Manufacturer / Customer

A-TECH

Test Sample Data

Deflection Ratio

1
250

Unit type	Sliding Window	
Unit code	0	
Size	H (mm)	1200
	W (mm)	1510
Design Pa:		

Tested For	Y / N	Rating	Units
Structural Deflection Positive	Yes	600	Pa
Structural Deflection Negative	Yes	600	Pa
Air Infiltration	Yes	75	Pa
Operating Force Initial / Constant	Yes	110/90	N
Water Penetration	Yes	150	Pa
Ultimate Strength Positive	Yes	1400	Pa
Ultimate Strength Negative	Yes	1400	Pa

Test Unit Specifications

Results

Sizes		H	W	Area sq m	Glass Type	Structural Framing Member	Span (mm)	Allowable Deflection	Deflection Result	Actual Ratio	Test Press (Pa)	Results
Frame		1200	1510	1.81		Interlock P	1190	4.76	4.14	287	600	P
Sash	Sash 1 + 2	1150	745	0.86		Interlock N	1190	4.76	4.08	292	600	P
						Mullion P						
						Mullion N						
						Transom P						
Glass	Thickness (mm)	H	W	m ²		Transom N						
	Sash 1 + 2	4	1132	707	0.80	Clear Float						
						H/L Trans P						
						H/L Trans N						
						H/L Mullion P						
						H/L Mullion N						
					Meet Stile P							
					Meet Stile N							
					Awning Stile P							
					Awning Stile N							

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Test equipments

The test equipment and methods used in the above test comply with the requirements of AS 4420.1-6.

Test Specimen

See drawings at the end of this report.

Test Methods

The test sample was fixed into the rig as outlined in AS 4420.1.

Deflection Test

The test sample was subjected to both positive and negative pressure as prescribed in AS 4420.2. After the initial settling in of the unit at 50% of the required test pressure, the differential pressure was then applied slowly until the nominated design pressure was reached in positive. This process was then repeated for the negative.

Results of Test

The test unit satisfied the requirements of AS 4420.2 in both the positive and negative deflection at the nominated design pressure.

Observations

Nil

Operating Force Test

A force gauge was attached to the operating handle of the sash to determine the force required to set the sash in motion and thereafter to maintain motion as per AS 4420.3.

Force in Newtons

		Opening Force	Closing Force
Initiating Movement	Sash 1	0	0
Sustaining Movement	Sash 1	0	0
Initiating Movement	Sash 2	20	14
Sustaining Movement	Sash 2	12	10
Initiating Movement	Sash 3	0	0
Sustaining Movement	Sash 3	0	0

Results of test

The test unit satisfied the requirement of AS 4420.3.

Observations

Nil

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Air Infiltration Test

The test was first completely sealed as per AS 4420.4 to determine the air leakage of the test rig. It was then subjected to 75 Pa of both positive and negative pressure. Differential pressures were recorded. The test sample was then unsealed and subjected to 75 Pa of both positive and negative pressure. Differential pressures were recorded and air leakage then calculated. The actual leakage of the test sample was then determined.

Barometric pressure (Pbar): 997 Air temperature (°C) 18

Max Pressure (Pa)	SEALED		UNSEALED	
	Positive (Pa)	Negative (Pa)	Positive (Pa)	Negative (Pa)
75	8	4	123	93

Test Pressure	Pressure Direction	Building / Window Type	Allowable leakage flow L/s m ²	Test results			
				Is ⁻¹ m ⁻² Positive	Is ⁻¹ m ⁻² Negative	Pos +	Neg -
75 Pa	+/-	Air conditioned	1.0	4.21	3.90	N/A	N/A
75 Pa	+	Non air conditioned	5.0	4.21	3.90	Passed	

Results of test

The test unit satisfied the requirement for a non air-conditioned classification. The test unit was tested to AS 4420.4. The net flow readings are as per previous page.

Observations

Nil

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TESTING LABORATORY REPORT

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WATER PENETRATION

Water was applied to the exterior of the test sample with no less than 0.05 ls-1m-2 for a period of five minutes at zero pressure. After five minutes, a nominated pressure was applied for fifteen minutes as per AS 4420.5.

Maximum pressure (Pa) applied for 15 minutes (Nominated pressure)

150

Results of test

The test unit satisfied the requirement of AS 4420.5 in positive pressure at the nominated design pressure.

Observations

Nil

ULTIMATE STRENGTH TEST

The test sample shall be subjected to a smoothly increasing differential pressure. The pressure shall be conducted in both a positive and negative direction as per AS 4420.6. The test pressure shall be

Max. pressure reached for 10 seconds	
Positive	Negative
1400	1400

Results of test :

	Y or N
Dislodgement of any glass?	No
Dislodgement of a frame or any part of a frame?	No
Removal of alignment with or without its framing sash from a frame?	No
Loss of support of a frame such as when it is unstable in its opening in the building structure?	No
Failure of any sash, locking device, fasteners or supporting stay which would allow an opening light to come open?	No

The test unit satisfied the requirement of AS 4420.6.

Observations

Nil

1510

B

A

6x25mm
DRAINAGE
SLOTS

40 40 80

360

B

260

90

ø8mm
DRAINAGE
HOLES

60

80

560

80 40 40 C

6x25mm
DRAINAGE
SLOTS

A

1200

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ø8mm
DRAINAGE
HOLES

- PRELIMINARY
- FOR APPROVAL
- FOR CONSTRUCTION
- AS BUILT

TITLE

RESIDENTIAL SLIDING
WINDOWS TEST SPECIMEN

DRAFTSMAN

BARTOSZ MAZUR

TESTING LABORATORY

AZUMA DESIGN

PROJECT NAME

AS2047 COMPLIANCE
TEST

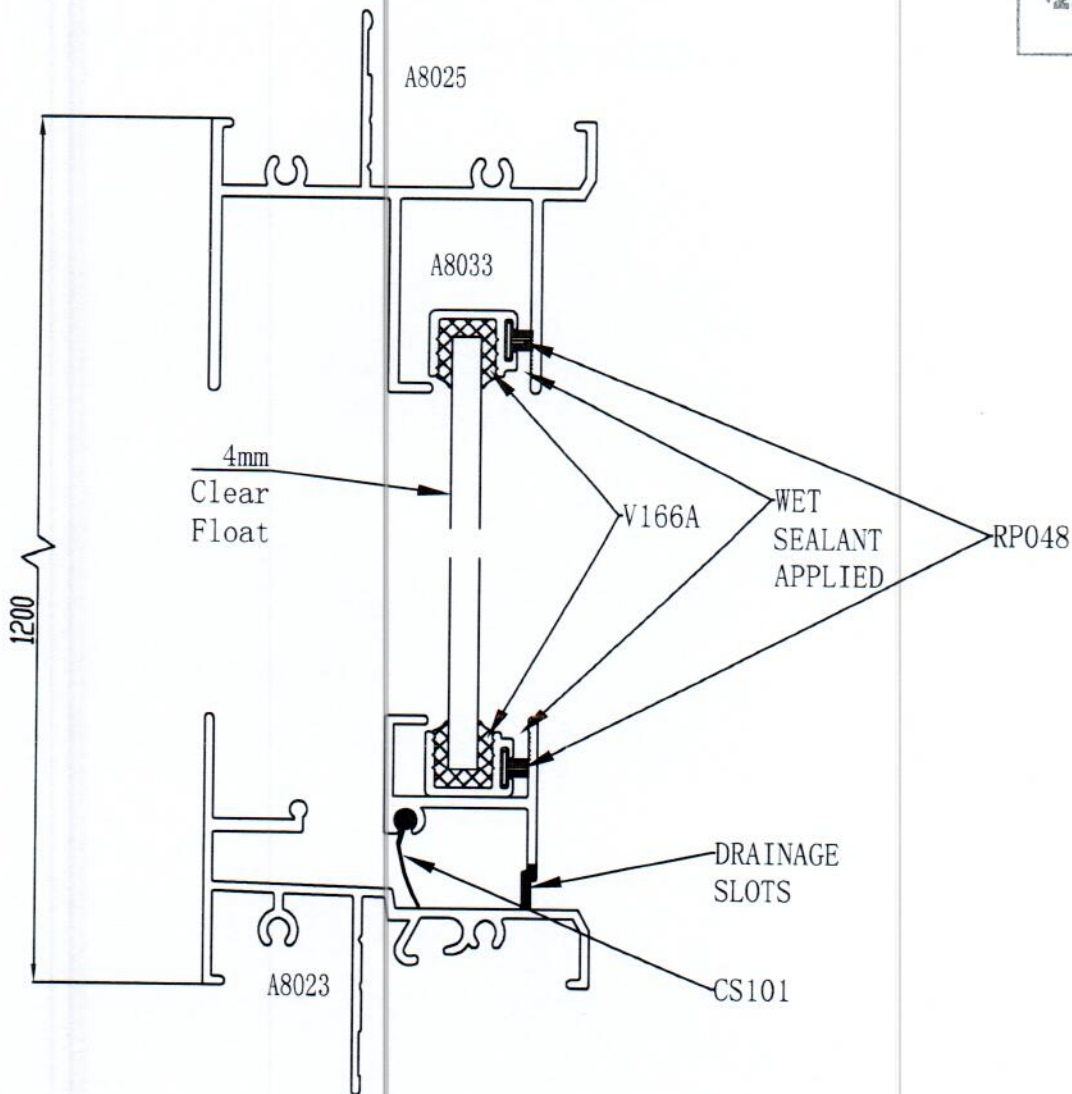
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C.I	11/08/2016

FORMAT	SCALE
A4	1:10

DRAWING NO.	REV.
RSW-T1	02



C-C DETAIL



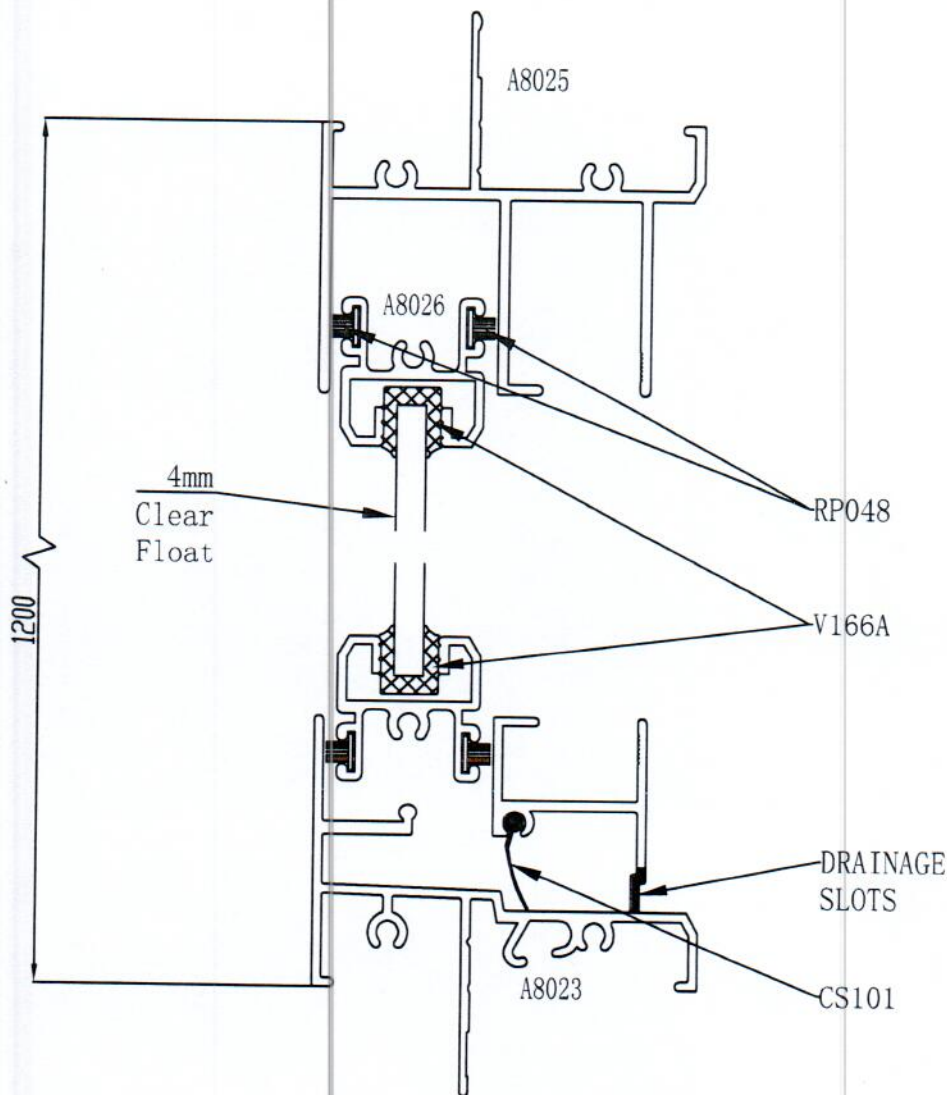
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TITLE RESIDENTIAL SLIDING WINDOWS TEST SPECIMEN VERTICAL SECTION (C-C)	
DRAFTSMAN BARTOSZ MAZUR	
TESTING LABORATORY AZUMA DESIGN	
PROJECT NAME AS2047 COMPLIANCE TEST	
CHECK C.I	DATE 11/08/2016
FORMAT A4	SCALE 1:1
DRAWING NO. RSW-T3	REV. 02

B-B DETAIL



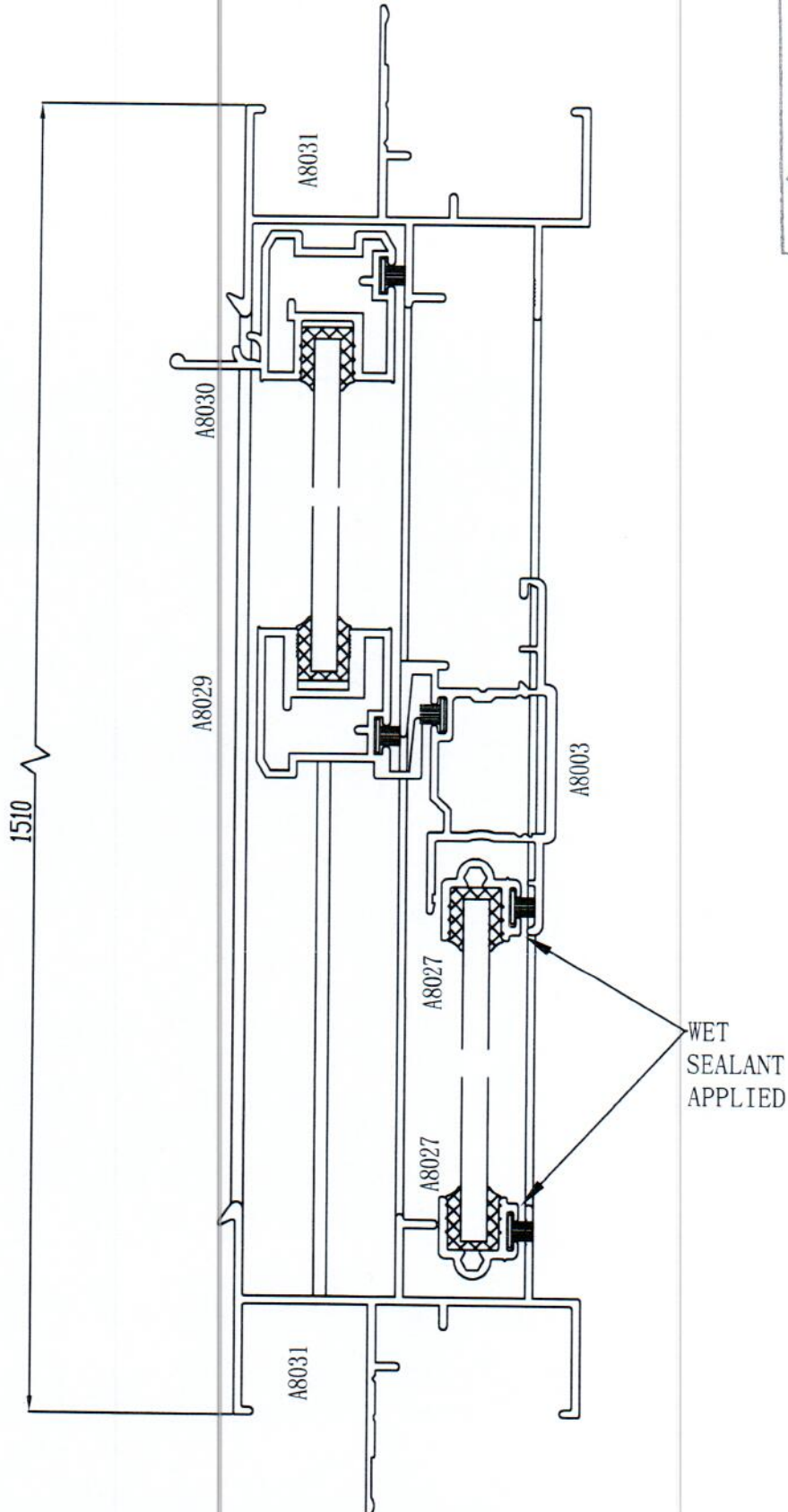
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TITLE RESIDENTIAL SLIDING WINDOWS TEST SPECIMEN VERTICAL SECTION (B-B)	
DRAFTSMAN BARTOSZ MAZUR	
TESTING LABORATORY AZUMA DESIGN	
PROJECT NAME AS2047 COMPLIANCE TEST	
CHECK C.I	DATE 11/08/2016
FORMAT A4	SCALE 1:1
DRAWING NO. RSW-T2	REV. 02

A-A DETAIL



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TITLE RESIDENTIAL SLIDING WINDOWS TEST SPECIMEN HORIZONTAL SECTION (A-A)	
DRAFTSMAN BARTOSZ MAZUR	
TESTING LABORATORY AZUMA DESIGN	
PROJECT NAME AS2047 COMPLIANCE TEST	
CHECK	DATE
C.J	11/08/2016
FORMAT	SCALE
A4	1:1
DRAWING NO.	REV.
RSW-T4	01