

IAN BENNIE AND ASSOCIATES

TEST REPORT NO. 2016-086-S4

**“STRUCTACLAD” 75MM MGO/ EPS
COMPOSITE CLADDING SYSTEM – 300 MM
BATTENS
CYCLIC ULTIMATE WIND LOAD TESTS
to AS4040.3**

for

ReGen Building Solutions

February 2017



Accreditation No. 2371
Accredited for compliance with ISO/IEC 17025.



IAN BENNIE & ASSOCIATES PTY. LTD.

Building Performance Testing

ACN : 007 133 253



TEST REPORT NUMBER 2016-086-S4

Test Client AR Building Solutions P/L trading as ReGen Building Solutions
19 Staite Street, Wingfield South Australia 5013

Sample Identification A sample of “StructaClad” 75mm MGO/ EPS Composite Cladding System – 300 mm Battens was supplied for testing on a timber stud frame. The sample consisted of 90 x 45 timber stud frame measuring 1800 mm by 1800 mm with 450 mm stud centres. 3 cladding panels with maximum fixing centres of 230 mm were installed on horizontal metal battens at 300 mm centres. Details of the sample and material descriptions provided by ReGen Building Solutions, are given in Appendix A.

Nominated Ultimate Strength Limit State Pressure (P_u): -5.9 kPa

Test Method Strength limit state testing was conducted in accordance with AS4040.3 Methods of testing sheet roof and wall cladding, Method 3: Resistance to wind pressures for cyclone regions.

For the purpose of testing, the sample was installed with sarking on the face of the stud wall per the typical details of the SructaClad System. Wind loading was created on the sample by applying positive pressure to the indoor side of the sample, thus simulating negative wind loads.

The panels were not rendered for this testing so that the performance of the fixing and the surface of the panels could be observed during and after the tests.

Procedure: AS4040.3. nominates the method being a sequence of fatigue tests based on the Ultimate Strength Limit State Pressure (P_u) and nominates that design pressures should be multiplied by the appropriate variability factor to

determine the test pressures. For the case of testing one sample the variability factor is 1.3 so the sequence of tests was as follows:

8000 cycles 0 to 0.40 P_u (2.36 kPa)

2000 cycles 0 to 0.50 P_u (2.95 kPa)

200 cycles 0 to 0.65 P_u (3.84 kPa)

1 cycle for 1 minute 1.3 P_u (7.67 kPa)

Test Location: IBA Test Centre
Dandenong, Melbourne.

Test Date(s): 10th November 2016

Observations:

No sign of failure was observed during any of the cyclic pressure stages and the final static load was sustained for 1 minute.

Requirement:

AS1562.1 Design and installation of sheet roof and wall cladding specify that the cladding system remain substantially in position, notwithstanding any permanent distortion, fracture or damage that might occur in the sheeting or fastenings.

Conclusion:

The “StructaClad” 75mm MGO/ EPS Composite Cladding System – 300 mm Battens sample passed the Strength Limit State test requirements of Australian Standard AS4040.3 Methods of testing sheet roof and wall cladding, Method 3: Resistance to wind pressures for cyclone regions up to the strength limit state pressure of – **5.9 kPa**.

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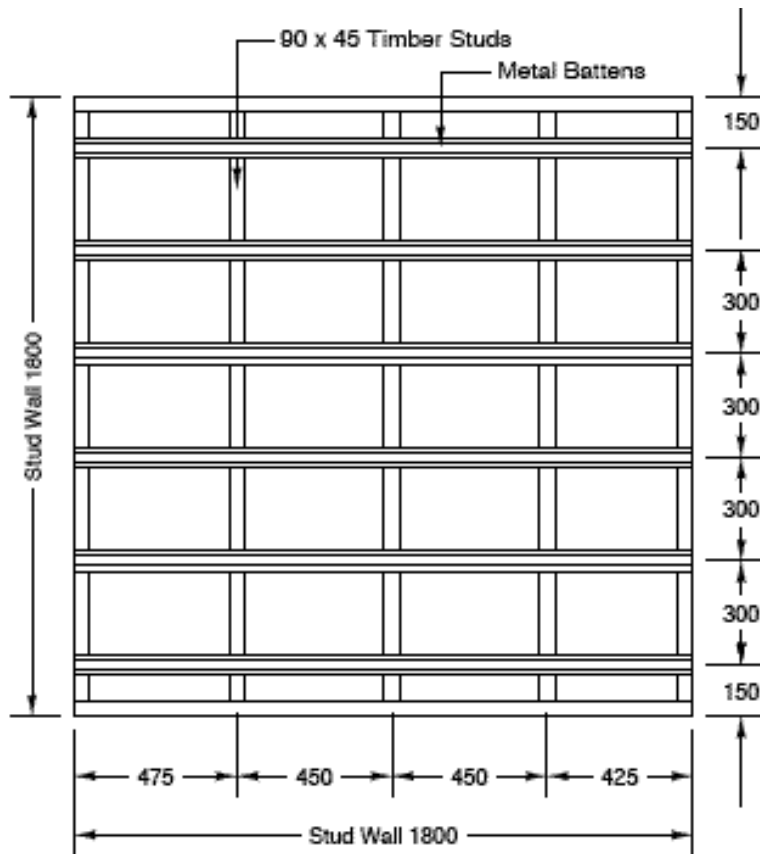
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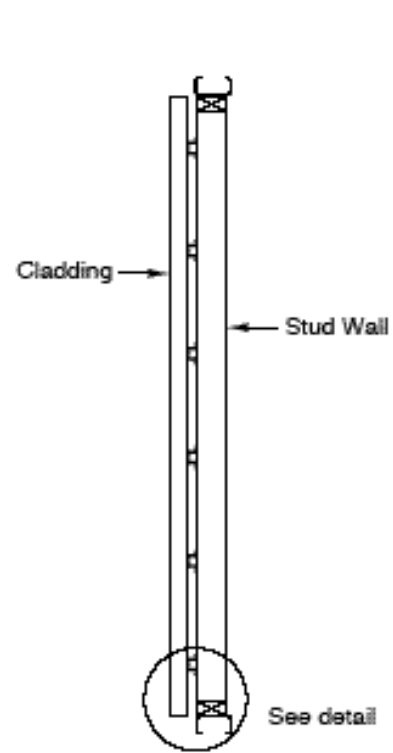


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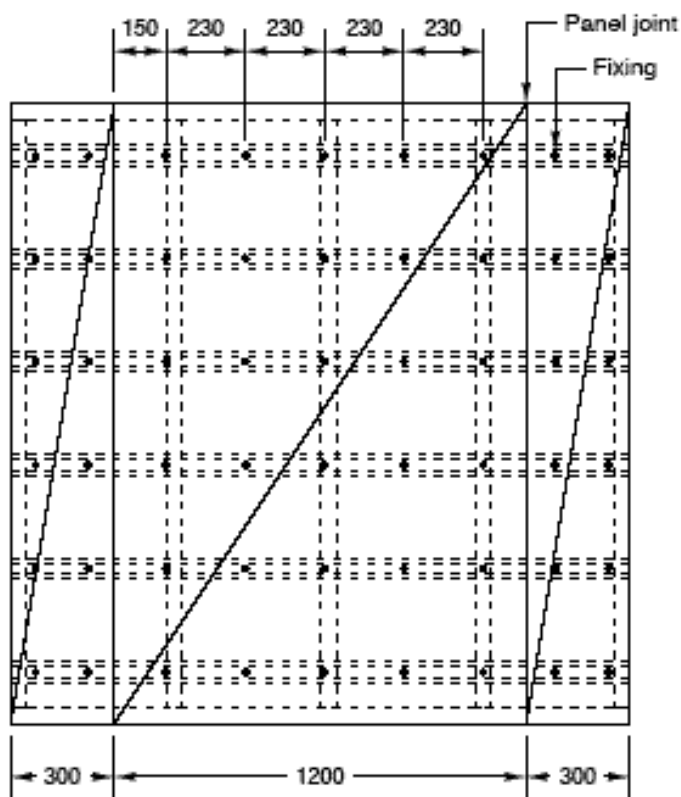
Derek Dubout 16 February 2017
Authorised Signatory



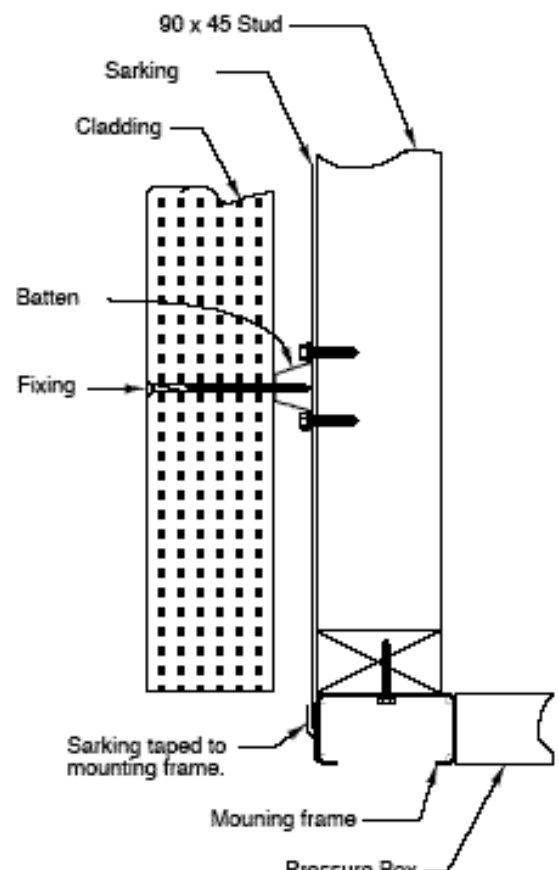
STUD DETAIL



SECTION

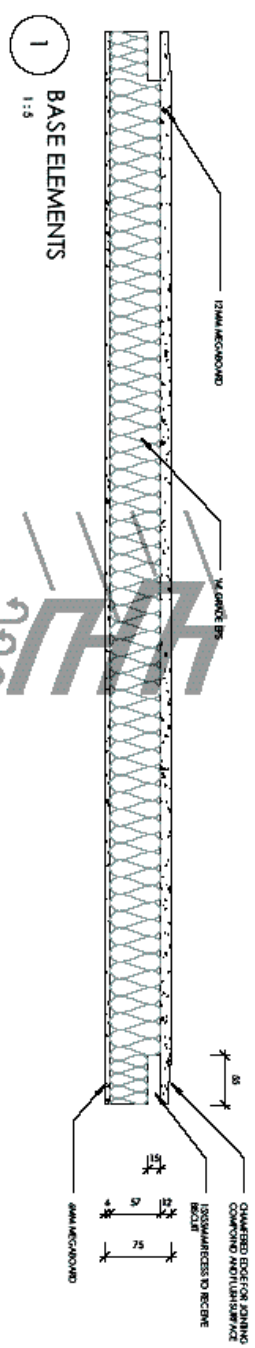
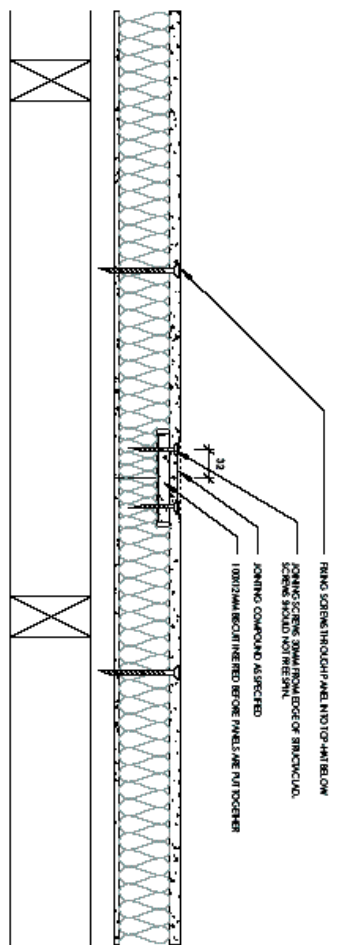


PANEL DETAIL



DETAIL

Configuration of test sample.



1 BASE ELEMENTS
1:5

TOP ALIAS	TYPE	ORIENTATION
NON-CYCLOCLAD	AS SPECIFIED	HORIZONTAL
CYCLOCLAD	AS SPECIFIED	HORIZONTAL

NAME	PARAMETER	UNIT	VALUE
MATERIAL	2000	mm	300 FROM TOP OF WINDOW FRAME
	3000	mm	300 FROM TOP OF WINDOW FRAME
	3000	mm	300 FROM TOP OF WINDOW FRAME
	3000	mm	300 FROM TOP OF WINDOW FRAME

SCREWS	TYPE	DRILL	COATING
FRAMING SCREW	AS SPECIFIED	10MM	AS SPECIFIED
JOINING SCREW	AS SPECIFIED	3MM	AS SPECIFIED

ALL SCREWS SHALL BE CORROSION RESISTANT. SCREWS SHALL BE MADE OF STAINLESS STEEL OR ALUMINUM. SCREWS SHALL BE MADE OF STAINLESS STEEL OR ALUMINUM. SCREWS SHALL BE MADE OF STAINLESS STEEL OR ALUMINUM. SCREWS SHALL BE MADE OF STAINLESS STEEL OR ALUMINUM.

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CLIENT: **REGEN BUILDING SOLUTIONS**

PROJECT: **STRUCCLAAD STAITE ST, WINGFIELD**

SCALE: **1:5**

DATE: **19/09/16**

NO. DESCRIPTION AMENDMENT

A	primary issuance		04/10/16
B	typical orientation detail, tm		
C4	testing issuance		20/10/16

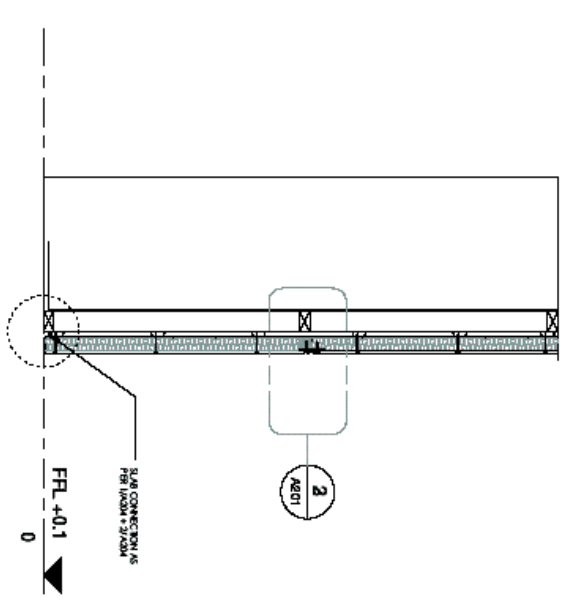
DRAWN: **workpoint, building design**

APPROVED: **[signature]**

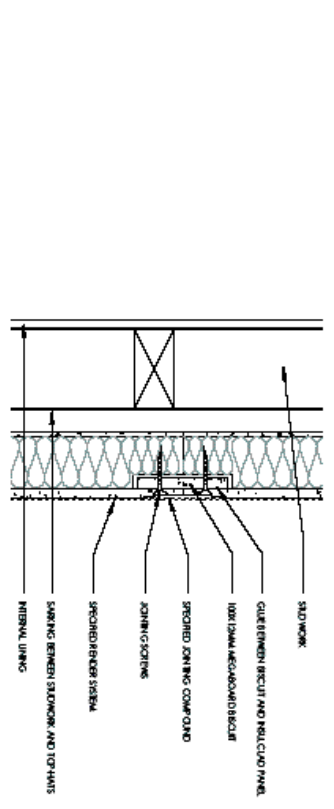
REVISION NO. **05-A001**

REVISION **C4**

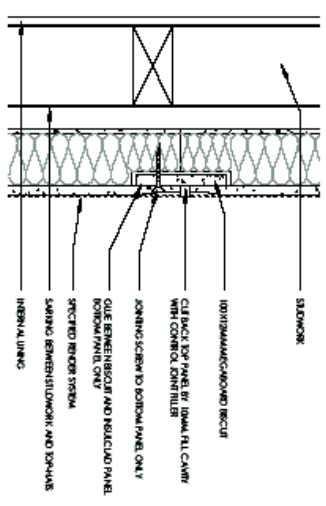
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1 SECTION 1
1:20



2 SECTION 1 - Callout 1
1:5



3 SECTION 1 - CONTROL JOINT DETAIL
1:5



REGEN BUILDING SOLUTIONS

SECTION 1 - HORIZONTAL INSTALL

- FOR TESTING -

<p>CURBIT:</p> <p>0 10 20 30 40 50mm</p> <p>PRINT REDUCTION BAR A3 SHEET</p>		<p>AMBAQIBIT</p>		<p>REGEN BUILDING SOLUTIONS</p>	
No.	DESCRIPTION	DATE	SCALE	As indicated	DRAWING NO.
A	primary insurance	19/09/16	DRAWN	wajoyah, building design	05 - A201
B	topical orientation, detail, trim	04/10/16	APPROVED - [signature]		REVISION
C4	leading insurance	20/10/16			C4

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