

**IAN BENNIE AND ASSOCIATES**

**TEST REPORT NO. 2016-086-S1**

**“STRUCTACLAD” 75MM MGO/EPS  
COMPOSITE CLADDING SYSTEM WITH 600  
MM BATTENS  
STATIC ULTIMATE WIND LOAD TESTS  
to AS4040.2**

**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



Accreditation  
No. 2371

### TEST REPORT NUMBER 2016-086-S1

**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 with 600 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 600 mm centres. Details of the sample and material descriptions provided by ReGen Building Solutions, are given in Appendix A.

**Test Method** Strength limit state testing was conducted in accordance with AS4040.2 Methods of testing sheet roof and wall cladding, Method 2: Resistance to wind pressures for non-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:** AS4040.2 nominates for Strength limit state testing test loads shall be applied for a period of 1 minute. In order to determine the strength limit of the system a series of pressures increasing in 500 Pa steps were applied with the load maintained at each pressure for 1 minute.

**Test Location:** IBA Test Centre  
Dandenong, Melbourne.

**Test Date(s):** 9<sup>th</sup> November 2016

**Observations:**

The sample sustained all the loads from -2.0 kPa up to and the load of -7.0 kPa for a period of 1 minute each. There was no visible sign of damage to any of the panels up to that point of the test. When the load was increased to -7.5 kPa the cladding fixing screws pulled out of the metal battens after 30 seconds had elapsed, see photograph below.



**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:**

AS 4040.2 nominates that design pressures should be multiplied by the appropriate variability factor to determine the test pressures. For Strength Limit State tests, AS/NZS 1170.0 nominates that for one sample being tested the variability factor is 1.46. Based on this factor, the “StructaClad” 75mm MGO/EPS Composite Cladding System with 600 mm Battens sample passed the Strength Limit State test requirements of Australian Standard AS4040.2 Methods of testingsheet roof and wall cladding, Method 2: Resistance to wind pressures for non-cyclone regions up to the strength limit state pressure of - 4.8 kPa.

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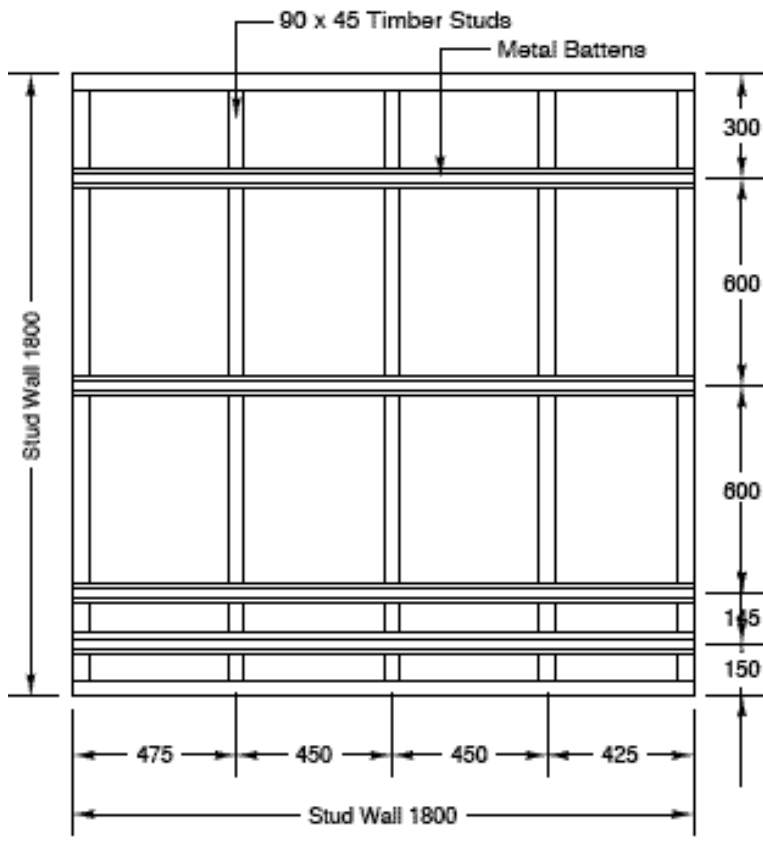
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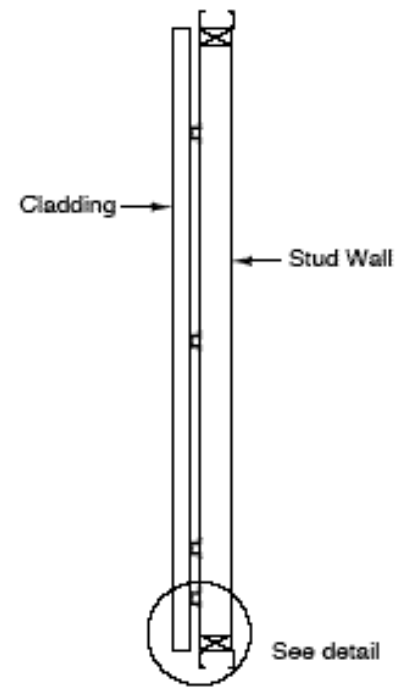


Derek Dubout 16 February 2017  
Authorised Signatory

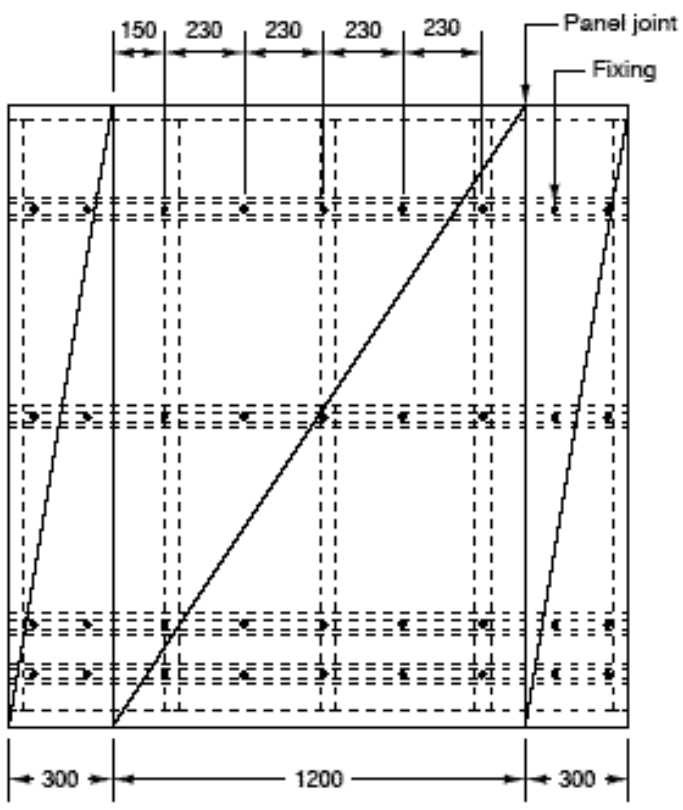




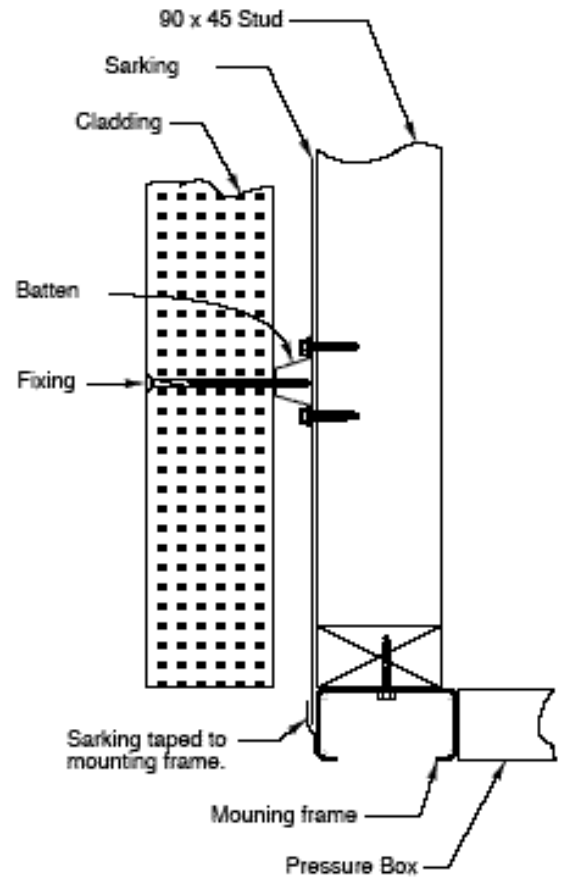
**STUD DETAIL**



**SECTION**



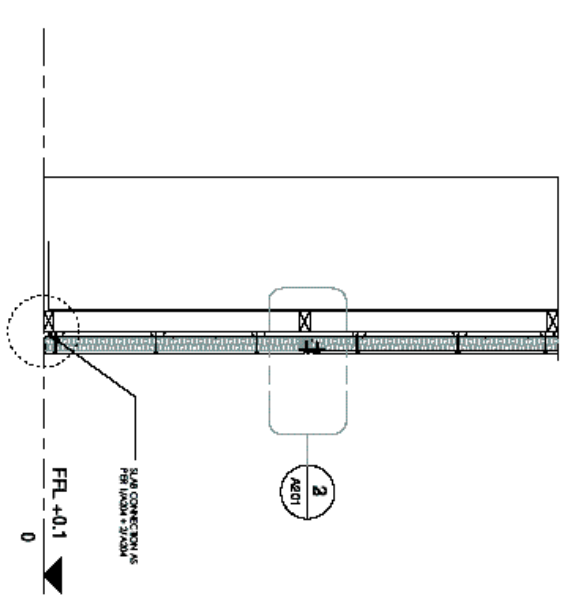
**PANEL DETAIL**



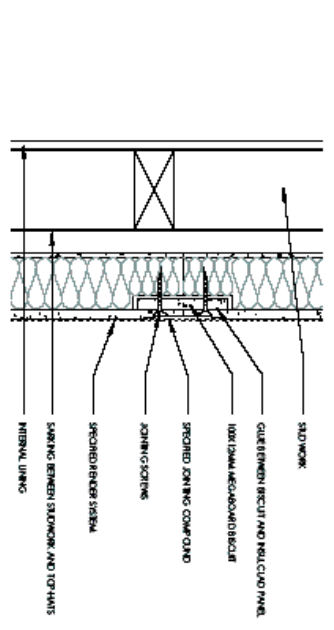
**DETAIL**

Configuration of test sample.

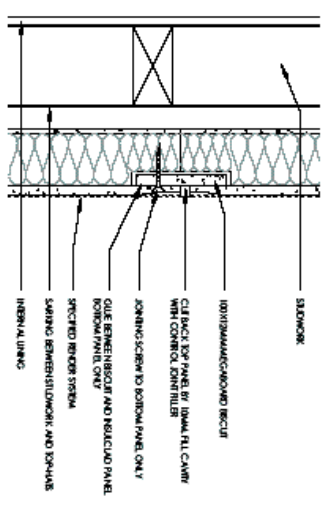




1 SECTION 1  
1:20



2 SECTION 1 - Callout 1  
1:5



3 SECTION 1 - CONTROL JOINT DETAIL  
1:5

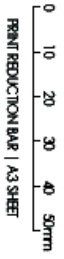


REGEN BUILDING SOLUTIONS

SECTION 1 - HORIZONTAL INSTALL

- FOR TESTING -

CURBIT:



PRINT REDUCTION BAR | A3 SHEET

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AMBODIBIT		DATE
NO.	DESCRIPTION	
A	primary issuance	19/09/16
B	topical orientation, detail, itm	04/10/16
C4	testing issuance	20/10/16

STRUCTACLAD		SCALE
STAITE ST, WINGFIELD		As indicated
DRAWN	wjpsjmt, building design	
APPROVED - [signature]		

REGEN BUILDING SOLUTIONS		DRAWING NO.
		05 - A201
REVISION		
		C4