

IAN BENNIE AND ASSOCIATES

TEST REPORT NO. 2011-057-S2

**RENDEX – 75 MM CLADDING WITH 280 MM
FIXING CENTRES
NON-CYLONIC WIND LOAD TEST to AS4040.2
and
CYCLONIC WIND LOAD TESTS to AS4040.3
and BCA 2010**

for

Prestige Wall Systems Pty Ltd

August 2011



Registered Laboratory No. 2371



TEST REPORT NUMBER 2011-057-S2

Test Client **Prestige Wall Systems Pty Ltd**
24 Humphries Terrace, Kilkenny, South Australia

Sample Identification A sample of **Rendex – 75 mm Cladding with 280 mm Fixing Centres** was supplied for testing on a timber stud frame with metal top hats. The sample consisted of 90 x 45 timber stud frame measuring 1800 mm by 1800 mm with 2 cladding panels fixed with maximum fixing centres of 280 mm. Details of the sample and material descriptions provided by Prestige Wall Systems Pty Ltd, are given in Appendix A

Nominated Ultimate Strength Limit State Pressure (P_u): -2.3 kPa

Test Method Strength limit state testing was conducted in accordance with AS4040 Methods of testing sheet roof and wall cladding, Method 3: Resistance to wind pressures for cyclone regions (modified to incorporate BCA 2010 sequence). Testing was then conducted to Method 2: Resistance to wind pressures for non-cyclone regions.

Procedure: AS4040.3 nominates a sequence of fatigue cycling based on the Ultimate Strength Limit State Pressure (P_u). The 2010 issue of the Building Code of Australia nominates a different sequence based on the Strength Limit State Pressure (P_u) multiplied by a sample variability factor (k_f) dependant on the number of samples tested, in this case 1.46 as only one sample was tested. By adopting the following sequence, the sample is subjected to more cycles and at higher pressures than is required by either of the two test requirements.

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 Sequence:

4500 cycles 0 to 0.45 P_t
1000 cycles 0 to 0.60 P_t
100 cycles 0 to 0.8 P_t
1 cycle (10 sec) 0 to 1.0 P_t
100 cycles 0 to 0.8 P_t
1000 cycles 0 to 0.60 P_t
4500 cycles 0 to 0.45 P_t
1 cycle (1 min) 0 to 1.3 P_u

Increasing pressure steps were then applied until failure.

Test Pressure (P_t): -3.21 kPa

Test Location: IBA Test Centre
Dandenong, Melbourne.

Test Date(s): 15 July 2011.

Observations:

The sample sustained all the loads including the static load of -5.0 kPa for a period of 1 minute at the end of the sequence. There was no visible sign of damage to any of the panels at the conclusion of the test.

Requirement:

AS1562.1 Design and installation of sheet roof and wall cladding and the BCA 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 Rendex – 75 mm Cladding with 280 mm Fixing Centres sample passed the test requirements of Australian Standard AS4040 Methods of testing sheet roof and wall cladding, Method 3: Resistance to wind pressures for cyclone regions and the BCA for Cyclone Regions at the nominated strength limit state pressure of **-2.3 kPa**.

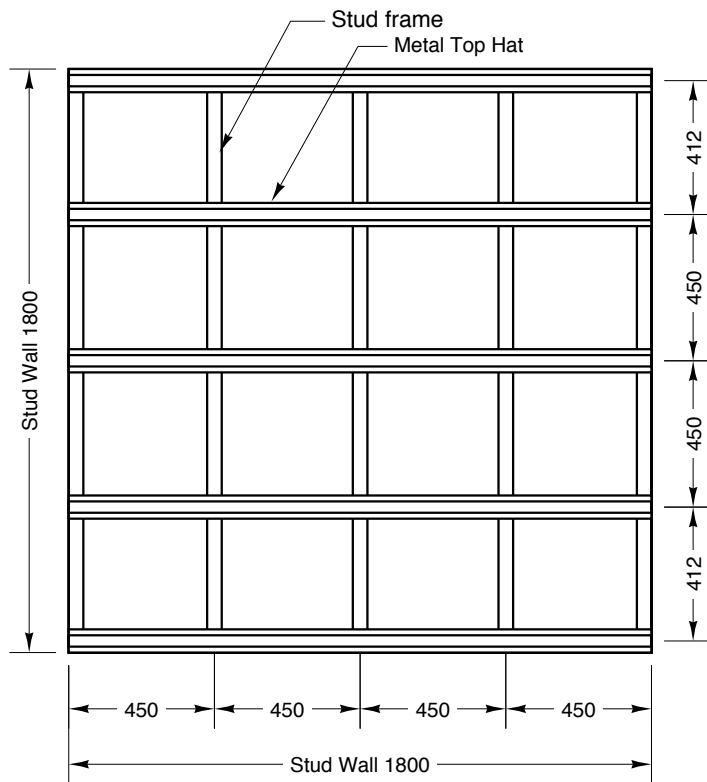
The Rendex – 75 mm Cladding with 280 mm Fixing Centres sample then passed the test requirements of Method 2: Resistance to wind pressures for non-cyclone regions to a strength limit state pressure of **-3.8 kPa**

DISTRIBUTION:

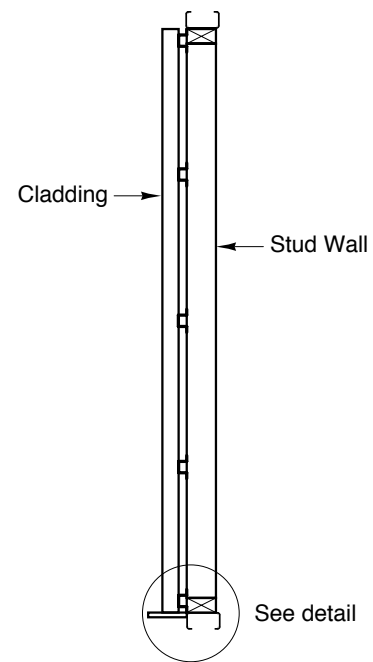
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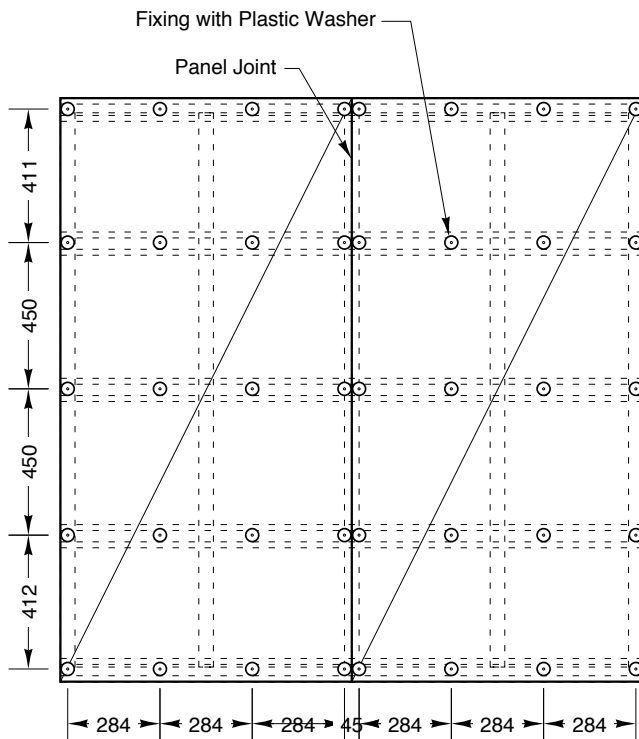
Derek Dubout 13 August 2011
Authorised NATA Signatory



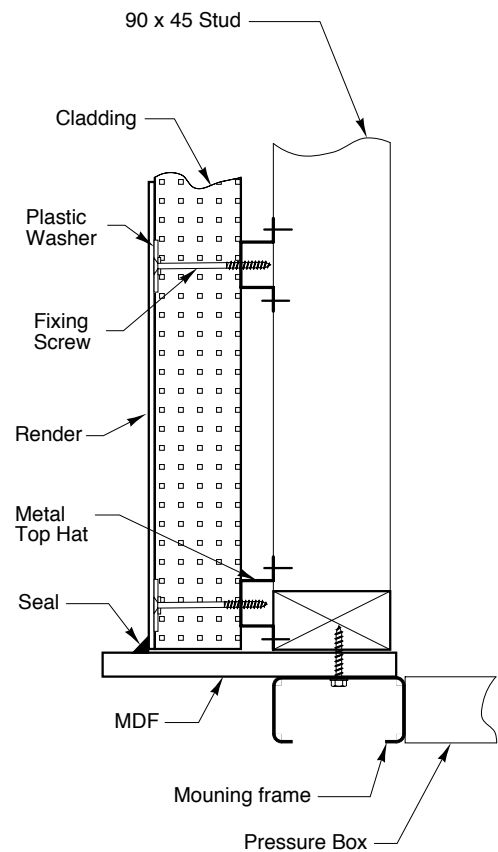
FRAME DETAIL



SECTION



PANEL DETAIL



DETAIL

Configuration of test sample.

Rendex Panels

C1

Frame - studs @ 450mm centres
Vapour barrier paper
Rondo Batten 30306100 @ 450mm centres

RND75*24.2

Rendex panel 75mm double sided
Polystyrene M-Grade
Fibreglass mesh 160gsm
Rendex base coat (polymer modified render)

Fixings

MA-40mmFXD

MA-100/C3

100mm Class 3 galvanised screws @ 250mm centres

Render

Acryloc patch

Wallcoat pro render

Wallcoat pro render

Acryloc Prime Seal

Acryloc Marblecoat

Acryloc Armourflex

Overall thickness of render, texture and paint 5mm

joints embedded with mesh

first coat

second coat

roll on sealant before texturing

Trowel on and float finish

Protective paint coating

