GA Aluminium Corrugated Panel System

INTRODUCTION

A series of tests on Gooding Aluminium's Corrugated Panel System (natural anodised finish) were carried out to establish the structural performance of the system in negative (Wind Suction) orientation.

SAMPLE

A timber framed 3200mm x 2600mm (L x H) wall was constructed using 38mm x 63mm (W x D) C16 Timber, with stud centres set at 600mm.

The frame was then clad with 2400mm x 1200mm x 12mm (L x W x T) cement fibre construction boards.

18 no. 2500mm lengths of profile GA CP78 (natural anodised) and 2 sets of 2500mm (male/female) profile GA EP78 were used to clad the construction boards.

The aluminium profiles were then assembled by technicians from Lucideon Limited in accordance with the installation instructions provided by Gooding Aluminium Ltd.

TEST METHOD

Wind Suction Testing (Negative)

The completed cladding system sample was secured into the wind load test rig and the internal face was sealed within the test aperture.

The sample was tested in a negative (Wind Suction) orientation.

Uniformly distributed suction loads were exerted on the front face of the test specimen, taken from EAD 090062-00-0404 2018 Kits for external wall claddings mechanically fixed. Two pulses between zero and 300 Pa* were applied.

The test was performed in successive steps of 500 Pa up to 1000 Pa and 200 Pa after 1000 Pa, with a return to zero at each level until significant irreversible deformation occurred; the sample failed catastrophically; the limit of the rig was reached or to a pre-determined pressure.

RESULTS

Gooding Aluminium Ltd.'s aluminium corrugated panel sample withstood a maximum pressure of 4511 pascals with no detachment or excessive movement of the sample.

This data sheet is an abbreviated version of Lucideon Test Report no. UK232503 (QT-71395/1/JB)Ref.1.

**A Pascal is a load over an area, in this case 1 Pascal equates to 1 N per square meter. So, 4511 Pascals equates to 4511 N of force per square meter of area.*

4511 N or 4.51 kN is equivalent to a mass of approximately 451 kg (taking g (acceleration due to gravity) as 10, technically it is 9.81 m/s^2) over an area of 1 m^2.

So, an area of 3 m x 2 m = 6 m^2 would be able to withstand a load of 6 x 451 kg = 2706 kg or 2.7 metric ton. This is assuming that the load is uniformly distributed (every part of the area receives the same load).

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