TEST REPORT

Lucideon Reference:	UK201522 (QT60161/1/AS)/Ref. 1/Supp1
Project Title:	Hygrothermal Testing of AC630 Jesmonite Panel to EAD 090062-00-0404 and BS EN 772-22:2018
Client:	Jesmonite Ltd Challenge Court Bishop's Castle Shropshire SY9 5DW
For the Attention of:	Mr Kamil Krasicki
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Work Location:	Lucideon UK

This report supersedes the report issued on 02.06.2020.

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1 INTRODUCTION

Jesmonite Ltd submitted a single panel, which was half sealed and half not sealed, for accelerated weathering in accordance with EAD 090062-00-0404[1] (formerly ETAG 034:2012[2]) and BS EN 772-22:2018[3]. After completing the simulated weathering test, the sample was visually examined for any signs of deterioration.

2 TEST SPECIMEN

Jesmonite panel was 650 x 700 x 15 mm (H x W x T) and was composed of cement, aggregate and acrylic polymer. The panel had a vertical line down the centre splitting it into two halves, with one half referenced as 'sealed' and the other half 'not-sealed'.

The cast date of the panel was 24 March 2020 and the panel was referenced as AC630 (Flat Panel Technology).

3 TEST PROGRAMME

Tests were conducted using the following regime:

3.1 Hygrothermal Testing

Testing was carried out in accordance with the method described for hygrothermal performance in EAD 090062-00-0404 and freeze/thaw cycling in BS EN 772-22:2018. The testing involved subjecting the panel to repeated heat/rain cycles, followed by repeated freeze/thaw cycles at controlled humidity and is designed to simulate naturally occurring conditions.

Weathering Cycles

The panel was subjected to cyclic heat/rain (EAD 090062-00-0404) conditions followed by freeze/thaw cycling (BS EN 772-22:2018) according to the following programme.

3.1.1 Conditioning to EAD 090062-00-0404

Heat/Rain

The panels were conditioned to a cycling regime as follows: 80 cycles comprising of the following phases:

- Heating to 70°C (rise for one hour) and maintaining at 70 (±5)°C and 10 to 30% relative humidity for two hours (total of three hours).
- Spraying for one hour [water temperature 15 (±5)°C with a water supply rate of 1 l/m²].
- Leave for two hours to drain.

[1] EAD 090062-00-0404 July 2018 Kits for external wall claddings mechanically fixed
[2] ETAG 034:2012 Guideline for technical approval kits for external wall cladding
[3] BS EN 772-22:2018 Methods of test for masonry units – Part 22: Determination of freeze/thaw resistance of clay masonry units

3.1.2 Freeze/Thaw BS EN 772-22:2018

After at least 48 hours of subsequent conditioning at temperatures between 10 and 25°C and a minimum relative humidity of 50%, the same test rig being exposed to a series of 100 cycles comprising of the following phases:

- Exposure to 20 (±3)°C for 20 minutes.
- Spraying for two minutes.
- Exposure to -15 (±3)°C for two hours.

Visual observation was carried out after 10, 50 and 100 freeze/thaw cycles.

4 RESULTS

4.1 Hygrothermal Testing

The requirements of the hygrothermal testing are that there should be no:

- Failure, cracking or crazing of the panel;
- Decolouration;

The panel was thoroughly visually examined for defects during the cycling period and on completion of the testing, no defects were noted on either the sealed or unsealed face.

5 CONCLUSIONS

Since no defects were noted on the sealed or unsealed face, either during the tests or on completion of the tests, the panel has passed the test regime and is deemed to have a working life of plus 25 years if installed and maintained correctly.

NOTE: The results given in this report apply only to the samples that have been tested.

END OF REPORT

PLATES

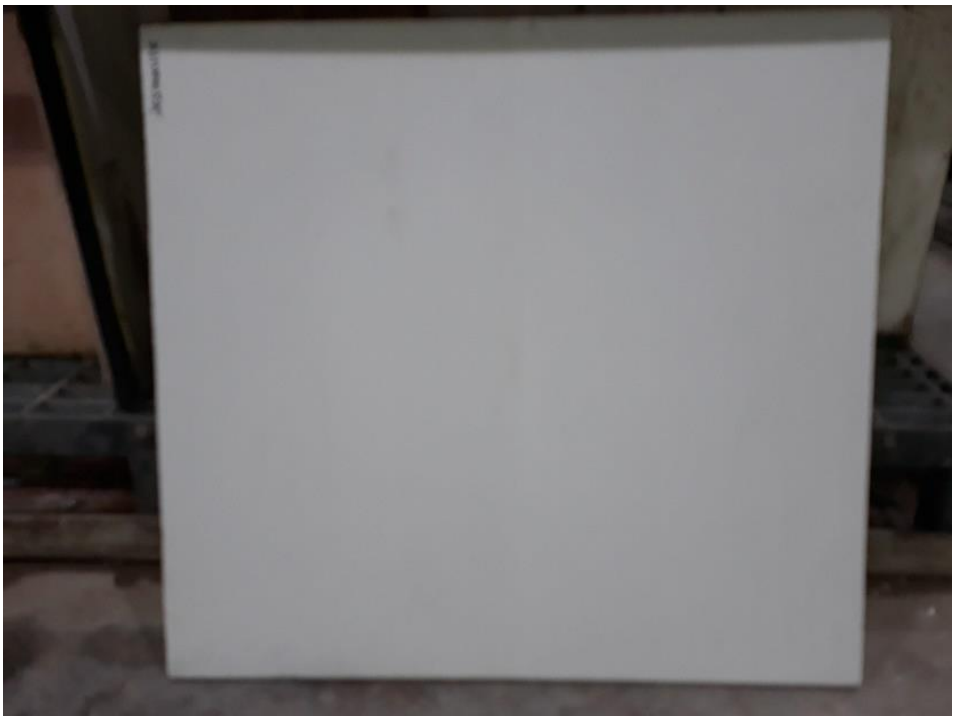

Plate 1 - Panel Pre-Hygrothermal Conditioning

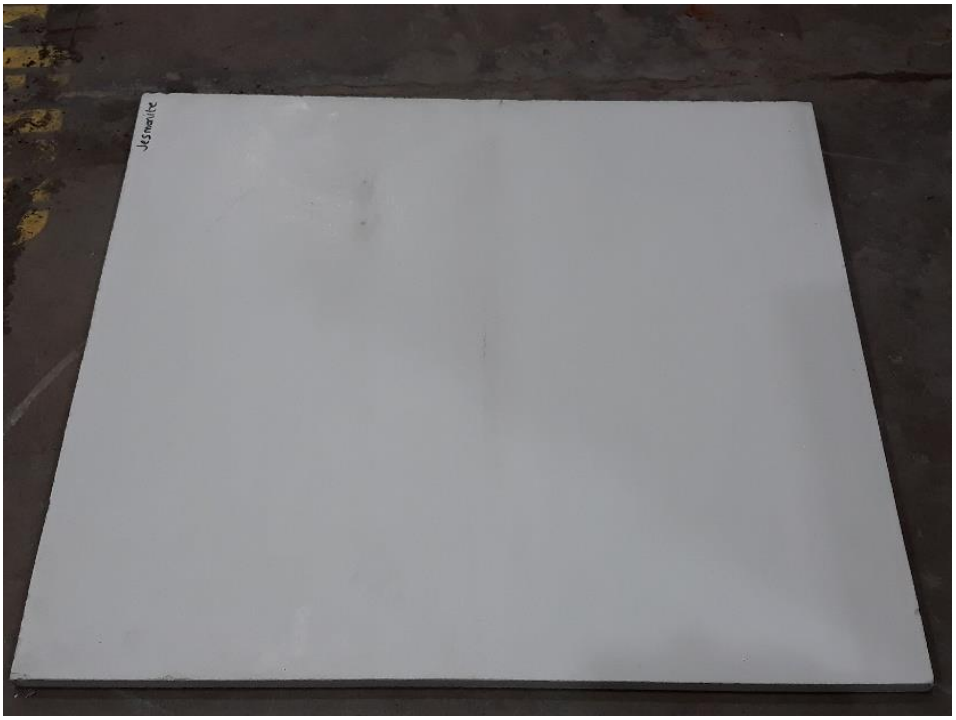

Plate 2 – Panel Post-Hygrothermal Conditioning