Test Report No. 7191080252-2-MEC14-OKB
dated 02 Apr 2014

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HEAT / RAIN PERFORMANCE TEST

OF

"SCG SMARTBOARD" – FIBRE CEMENT BOARD

TESTED

IN ACCORDANCE WITH AS/NZS 2908.2:2000

TESTED FOR: Siam Fibre Cement Co., Ltd
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Thailand

Attn: Mr Rapeepong Pinyopotianard

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TABLE OF CONTENT

1. INTRODUCTION

This document consists of the **"SCG SmartBoard" Fibre cement board** test report for Siam Fibre Cement Co., Ltd.

This report describes the test procedures and records the results obtained during the respective tests.

2. OBJECTIVES

The mock-up was subjected for evaluations. Siam Fibre Cement Co., Ltd had proposed to test the unit, to demonstrate the heat / rain performance integrity of the **"SCG SmartBoard" Fibre cement board** under the specified design requirements. The mock-up was proposed, subjected to accelerated weathering test, expose to alternating wetting and heating up to 25 cycles. And at the end of the test, any surface alteration of the mock-up partition wall system was recorded.

3. TEST DETAILS

Date Tested	:	24 Feb 2014 (0900 am) ~ 2 Mar 2014 (1500 pm)
Venue	:	TUV SUD PSB Pte Ltd No 1, Science Park Drive, Singapore 118221
Tested by	:	David Li Chee Leong & Ong Khay Beng (TUV SUD PSB Pte Ltd)

4. TEST SPECIFICATIONS

The performance tests was tested accordance with the following specifications:

AS/NZS 2908.2:2000 - Cellulose-cement products, Part 2: Flat sheets, Clause 6.5 – Heat Rain

5. DESCRIPTION OF MOCK-UP TEST SPECIMEN

Six pieces of **"SCG SmartBoard" Fibre cement board** were received and each having a nominal size of 2400mm(L) X 1200mm(W) X 8mm(T). Of which, three boards were selected to constructed onto TUV SUD PSB test-rig to form a system having an overall size of 1.9m (W) X 2.4m (H), producing a surface area of 4.56m².

Photo 1: "SCG SmartBoard" Fibre cement board mock-up.
(Indicated with alphabet markings for surface observation before and after test)

6. TEST EQUIPMENT AND SETUP

The following test equipment were provided by TUV SUD PSB Pte Ltd.

i) The test chamber was customized to the mock-up specimen size, having an opening of 1.9m width X 2.4m height.
ii) Water nozzles were installed in the test chamber to provide uniform water spray on the mock-up specimen to simulate rain exposure during the test
iii) A centrifugal water pump system was introduced to conrol the water flow between the test chamber reservoir and the water nozzles in-order to ensure the continuity of water spray during the simulated rain exposure test.
iv) 9 sets of 500 watts floor-light were installed in the test chamber to provide uniform radiant heat on the mock-up specimen to simulate sunlight exposure during the test.
v) A control panel was used to control the cyclic test sequence of simulated heat / rain exposure.
vi) Test chamber was fully covered and sealed, to avoid any significant external air-flow contact throughout the 25 cyclic test

Photo 2: Simulate heat exposure.

Photo 3: Closeup view of 500 watts floor-light.

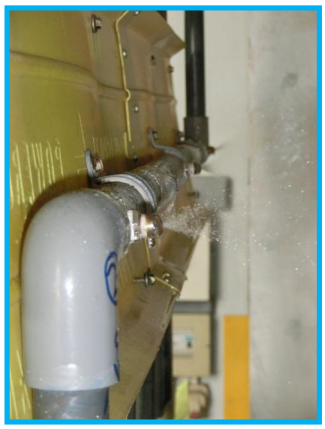

Photo 5: Simulate rain exposure.

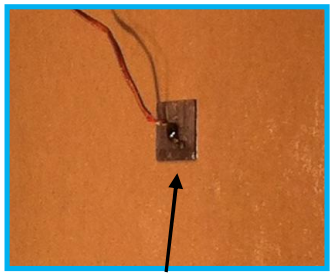

Photo 4:Thermocouple.

7. TEST PROCEDURE

The heat / rain test was conducted as follow;

i) Apply water spray across the entire mock-up specimen at a rate of 1gal/min for a period of 2h 50min, water temperature not to exceed 86°F (30°C).
ii) Pause for a period of 10 min.
iii) Apply radiant heat of 140 ±9°F (60 ±5°C) across the under-test face of entire mock-up specimen for a period of 2h 50min.
iv) Pause for a period of 10 min.
v) Repeat steps (i) ~ (iv) for 25 cycles..

8. TEST RESULTS

Date of test: 24 Feb 2014 (0900 am) ~ 2 Mar 2014 (1500 pm)

Visual observation of mock-up specimen after the 25 cyces of heat / rain exposure test (150 hrs) were as follow;

a. There wasn't any of sign surface alteration (cracks, delamination, warping or bowling) on the tested face.of "SCG SmartBoard" Fibre cement board mock-up under-test face.
b. Dampness of backface was observed.

Refer to photographs on page 7~9 for the "SCG SmartBoard" Fibre cement board mock-up surface condition, before and after test.

9. CONCLUSION

There wasn't any severe damage, failure or harmful deformation of the "SCG SmartBoard" Fibre cement board mock-up installed as wall system was observed after the 25 cycles of heat / rain test (150 hrs).The test was conducted successfully in accordance with AS/NZS 2908.2:2000.

Before test

Photo 5: Front face

Photo 6: Back face

Photo 7: Back face

After test

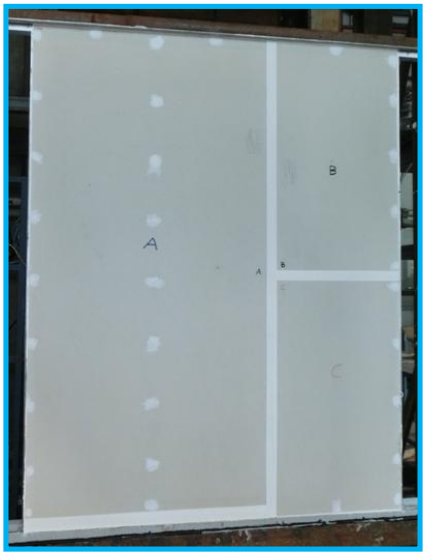

Photo 8: Front face

Photo 9: Back face

Photo 10: Back face

APPENDIX 1 - 2

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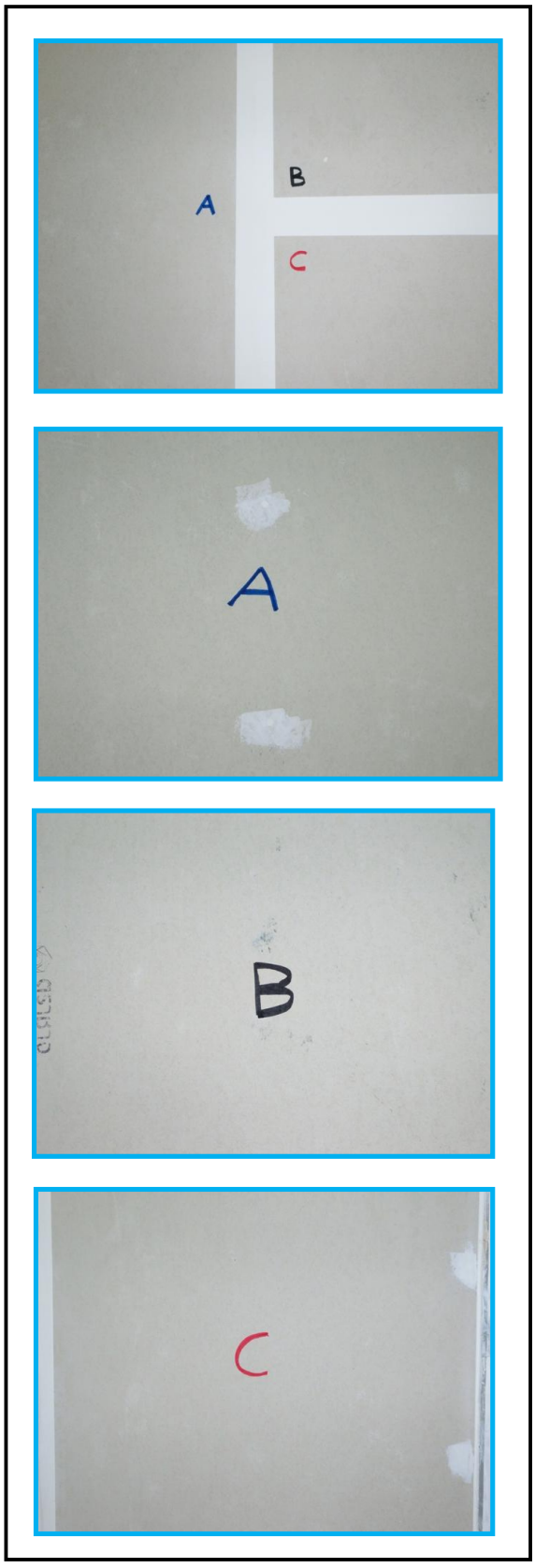
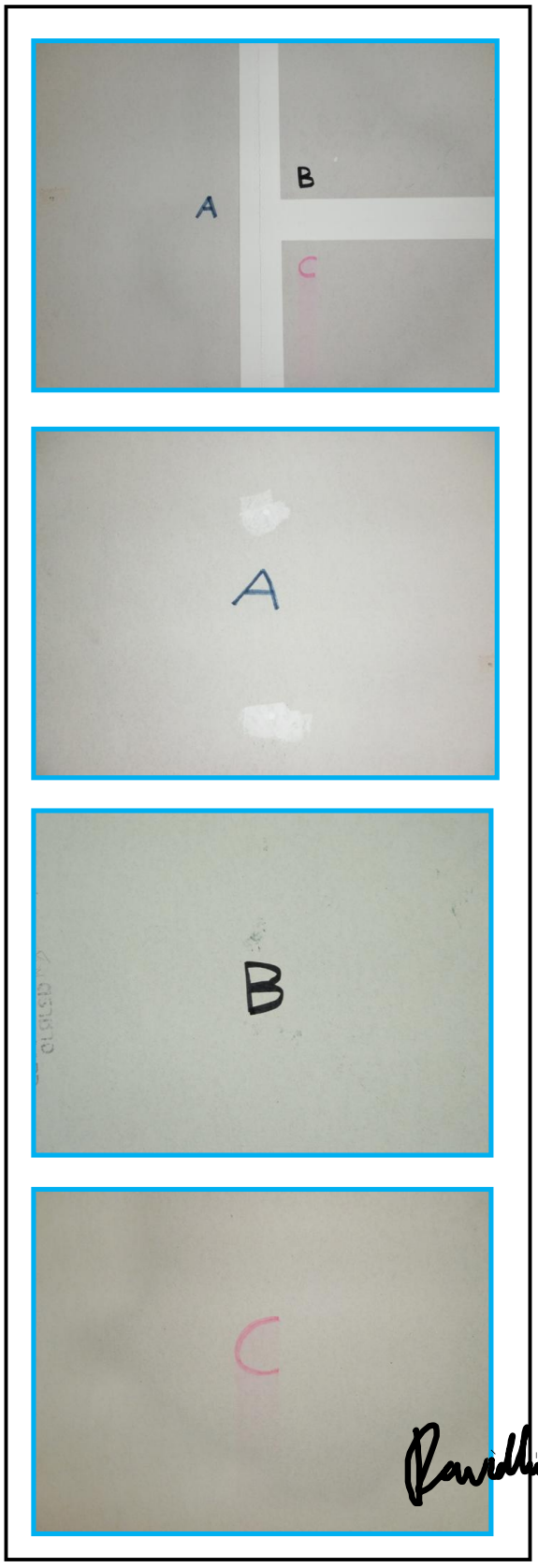
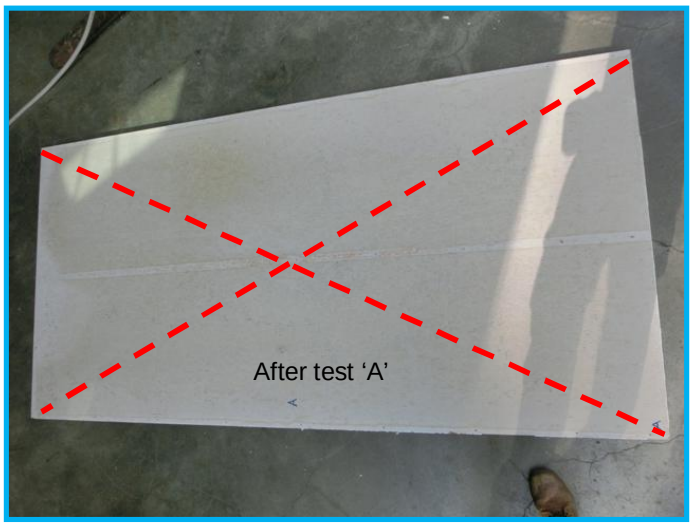
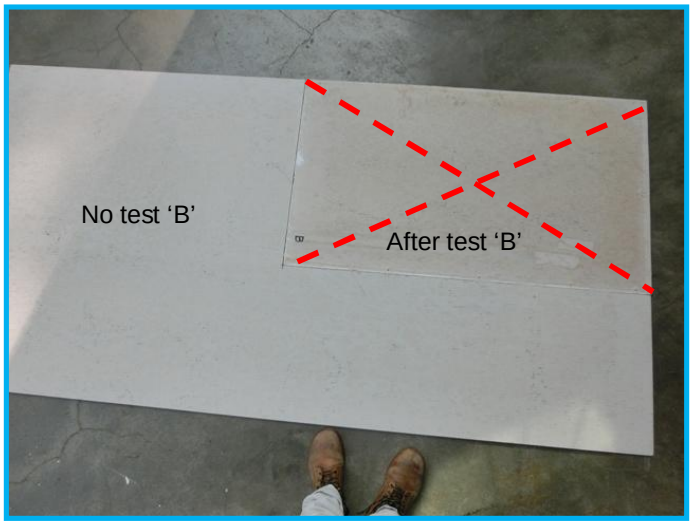


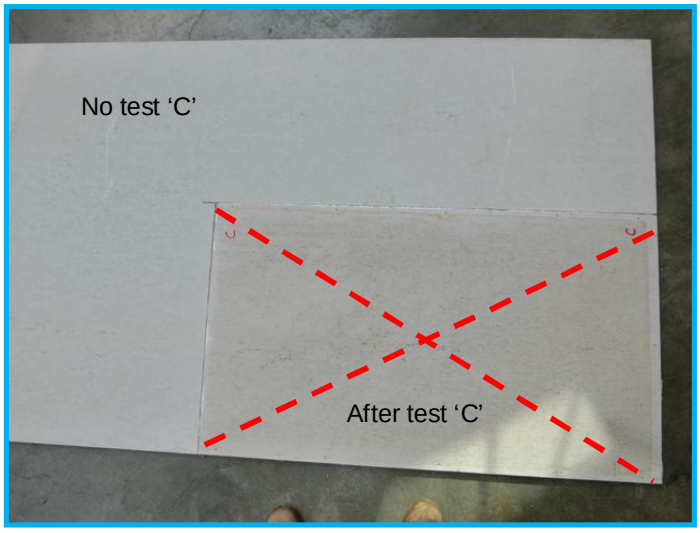
Group Photo 11: Front face before test.



Group Photo 12: Front face after test.







Group Photo 13: Back face without & after test.

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July 2011