Test Report No. 54S067319/1/DL
dated 4 Jan 2007

Subject: Heat-Rain test for "SHERA" flexy fibre-cement board.

Test for: Mahaphant Fiber-Cement Public Company Limited
59 Moo 12 Saraburi-Lomsak Rd., KM 16 , Chongsarika DIST.,
Pattananikhom , Lopuri 15220, THAILAND
Attn: Mr Soontorn TANSUNGNOEN

Method of Test: BS EN 12467:2000
Fiber-cement flat sheets –
Product specifications and test methods
- Clause 7.4.2 Heat-rain

Sample Description: Mock-up test specimen overall size: 1.8m width by 2.4m height by 6mm thick (Surface area: 4.32 m^2)

Fibre-cement board:
Brand: SHERA Flexy Board
Type: NT (Non-Asbestos Technology)
Date of maufacture: 24 Oct 2006
Nominal size: 1220 mm x 2440 mm x 6 mm
Category A

Remarks: Refer to photographs of mock-up specimen preparation on page 2 & 3.

Date of test: 29 Nov 2006 to 12 Dec 2006

Laboratory:
TÜV SÜD PSB Corporation Pte. Ltd.
Testing Group
No.1 Science Park Drive
Singapore 118221

Phone : +65-6885 1333
Fax : +65-6776 8670
E-mail: testing@psbcorp.com
www.psbcorp.com
Co. Reg : 199002667R

Regional Head Office:
TÜV SÜD Asia Pacific Pte. Ltd.
3 Science Park Drive
#04-01/05 The Franklin
Singapore 118223

TEST SPECIMEN MOCK-UP VIEW FROM OUTSIDE TEST CHAMBER

Fig 1: Test specimen mock-up

TEST SPECIMEN MOCK-UP VIEW FROM INSIDE CHAMBER

Fig 2: Test specimen surface under-test comes with 1 joint (inside chamber view)

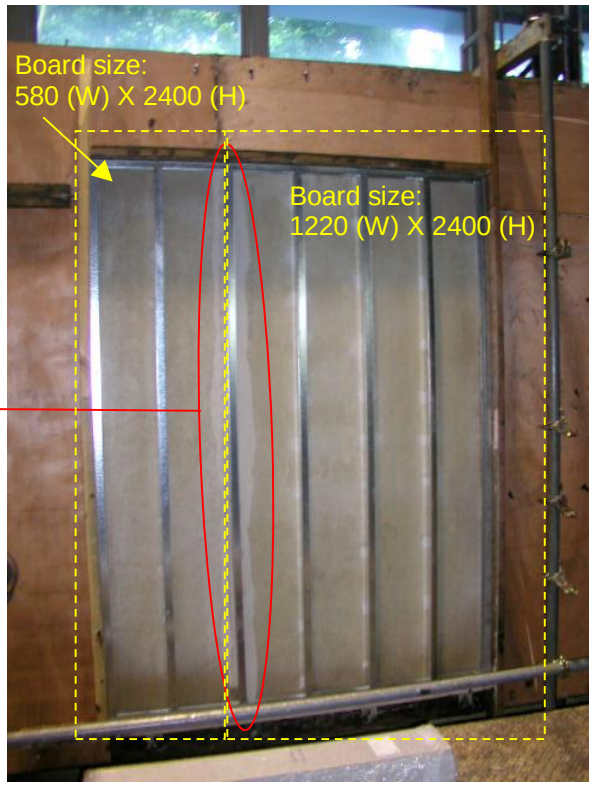


Fig 3: View of test specimen from outside test chamber

Test Equipment:

1) Test chamber with an opening of 4.7 m (width) x 2.7 m (height)

2) 12 pieces of water nozzles installed in the test chamber to provide uniform water spray on the mock-up specimen for the rain exposure test.

3) 9 pieces of 500 W floor-light installed in the test chamber to provide uniform radiant heat for the heat exposure test.

4) A water pump to control the recycling water from the chamber reservoir to the water nozzles for the rain exposure test.

5) A control panel to control the cyclic test sequence.

Remarks: Refer to photographs of test set-up on page 4 & 5.

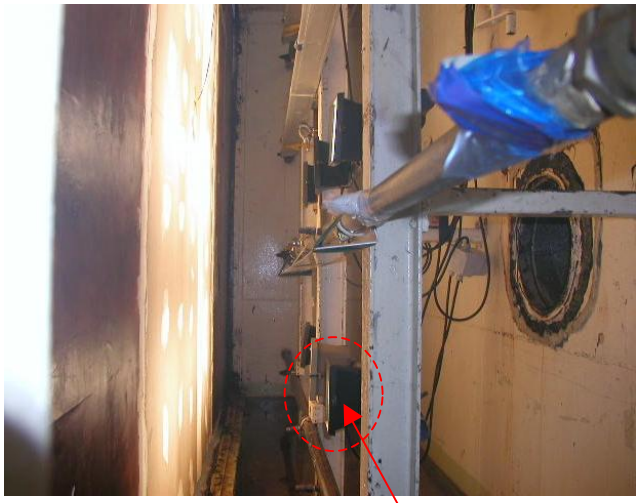


Fig 4: Mock-up test specimen undergoing heat test

9 sets of 500W floor-light are installed in the test chamber to create a uniform temperature on the test specimen surface at 140 ± 9°F (60 ± 5°C)

Fig 5: The chamber door is kept closed at all time

Test Equipment: Cont'd

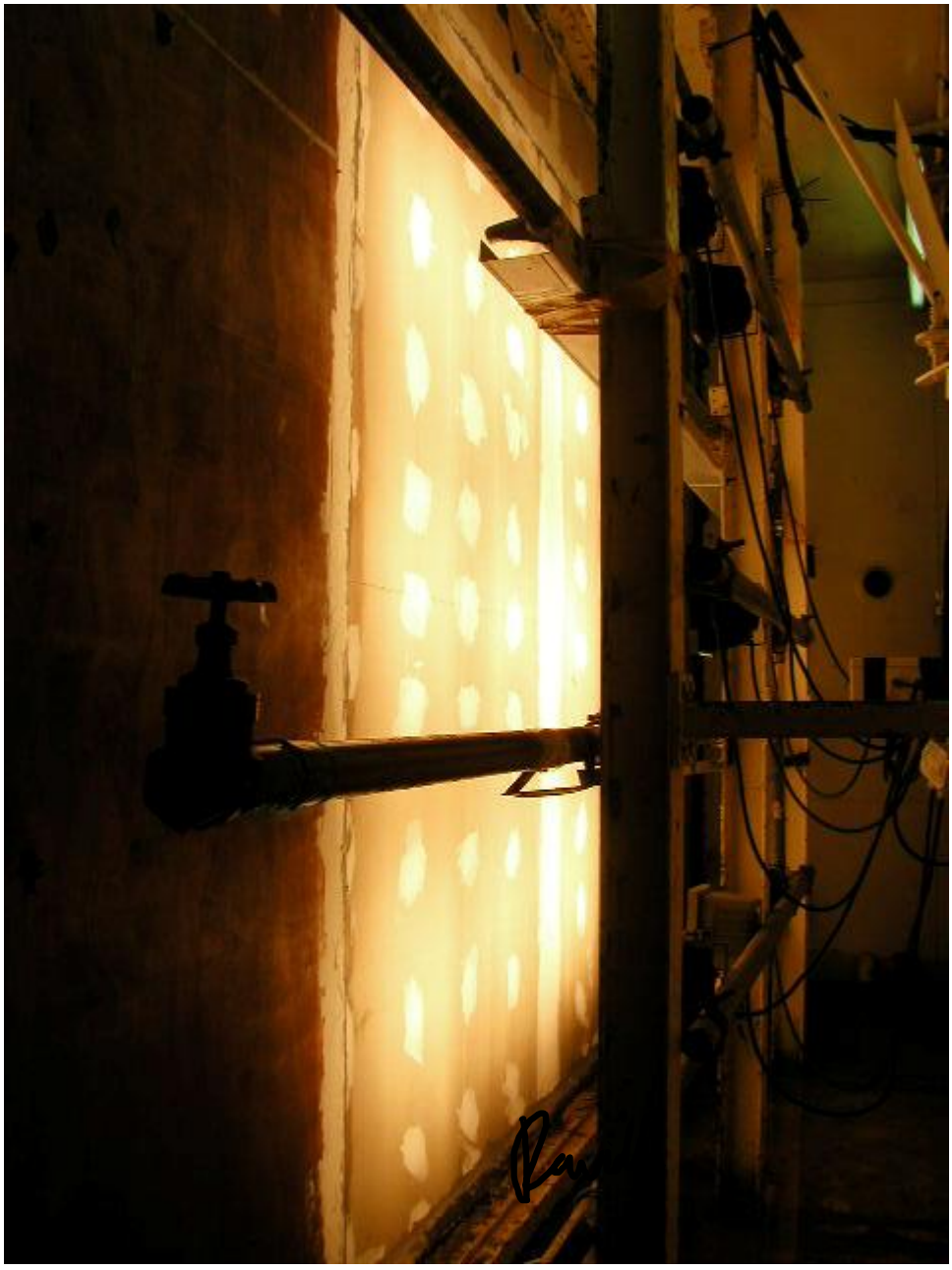


Fig 6: 9 sets of 500W floor-light are installed in the test chamber to create a uniform temperature on the test specimen surface at 140 ± 9°F (60 ± 5°C)

Test Procedure:

1) The mock-up specimen shall be installed vertically onto the test chamber.

2) The balance opening of the chamber shall be covered and sealed to avoid any significant external air contact.

3) The mock-up specimen shall be visually inspected for good condition.

4) The chamber reservoir shall be filled and maintained at safe water level.

5) The chamber shall come with a transparent glass for observation of mock-up specimen and for monitoring the test equipment functionability throughout the test.

6) The heat-rain test shall then be conducted by switching "ON" the fully automated control panel with the following test sequence:

A. Minimum water spray-rate of 1 litre/min/m^2 for a period of 2h 50 min,
B. Pause for a period of 10 min,
C. Radiant heat to give a measurement plate temperature across the complete test frame surface of 140 ±9°F (60 ±5°C) for a period of 2 h 50 min, and
D. Pause a period of 10 min.
E. Repeat steps A ~ D for 50 cycles (Category A).

Test Observation:

Date of test: 29 Nov 2006 ~ 12 Dec 2006

Observation of mock-up specimen after 50 cycles (300 hours) of heat/rain exposure test are as follow:

1) The external surface of specimen (outside chamber) is observed to be damped.

2) The specimen surface under-test remain in good condition.

3) There is no damage, delaminating, distortion or swelling on the "SHERA" flexy fibre-cement board

Remarks: Refer to photographs of observation on page 7 & 8.

David Li
Associate Engineer

Ong Khay Beng
Engineer
Building & Industrial Products
Testing Group

Test Observation: **Cont'd**

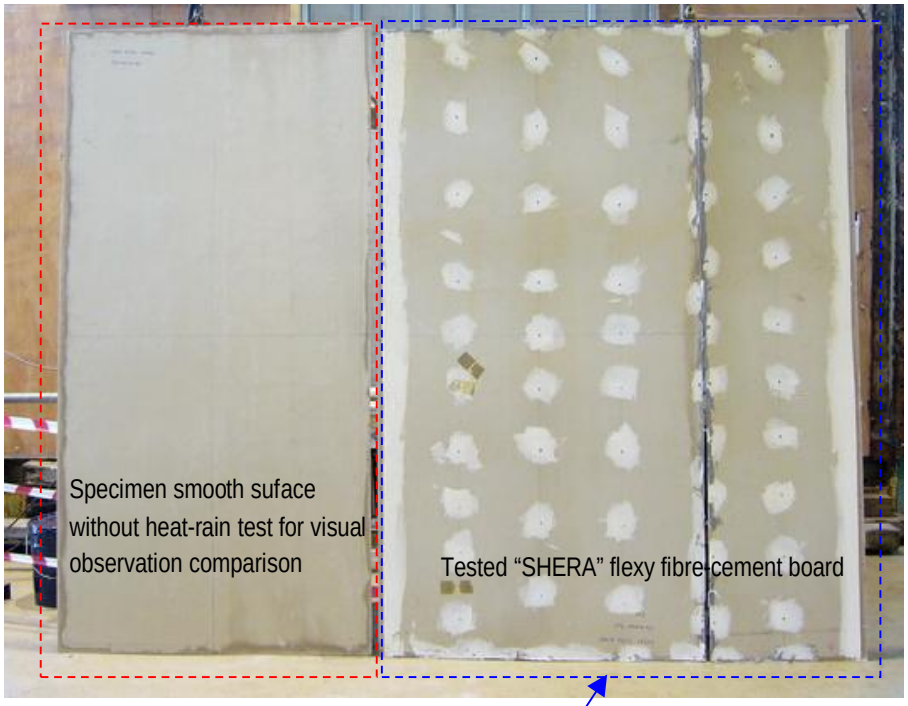
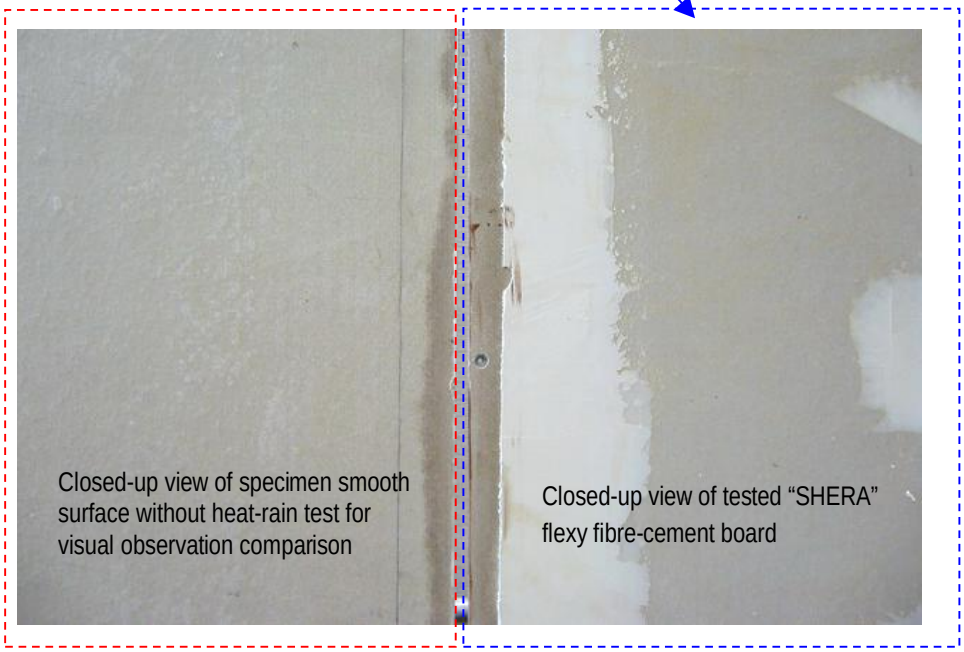


Fig 7: Visual observation of specimen smooth surface installed facing inside test chamber after exposed to 50 cycles of simulated heat-rain.



Test Observation: **Cont'd**

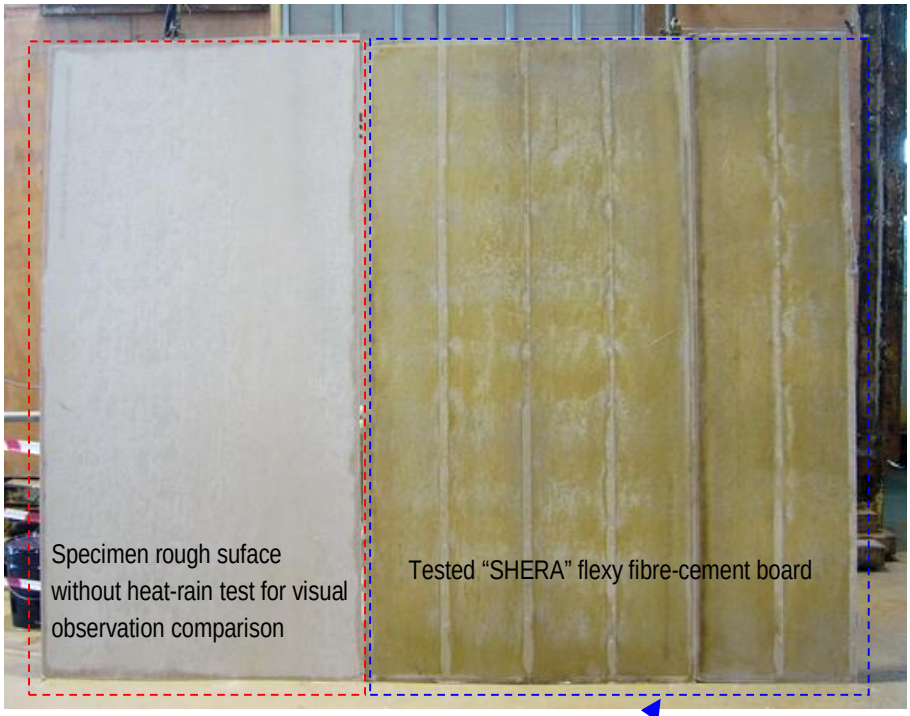
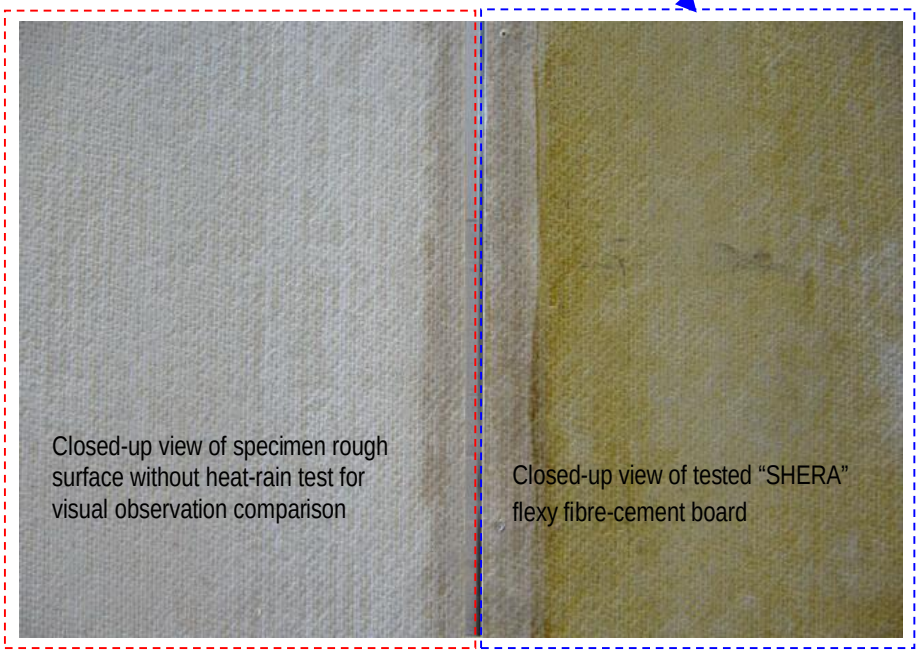


Fig 7: Visual observation of specimen rough surface installed facing outside test chamber after after heat-rain test.



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October 2006