Test Report No. 7191058019-MEC13/B2-YWA
dated 17 Jun 2013

PSB Singapore

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SUBJECT:

Fire propagation test on "Everest Heavy Duty Board" submitted by Everest Industries Ltd on 18 Apr 2013.

TESTED FOR:

Everest Industries Ltd
A-32, Genesis
Mohan Co-Operative Industrial Estate
Mathura Road
New Delhi – 110044
India

DATE OF TEST:

26 Apr 2013

PURPOSE OF TEST:

To determine the Index of Performance of the material when it is exposed to the conditions of the test specified in British Standard 476 : Part 6 : 1989 + A1 : 2009 "Method of test for fire propagation for products".

The test was conducted at TÜV SÜD PSB's fire test laboratory located at No. 10 Tuas Avenue 10, Singapore 639134.

This test report supersedes test report dated on 03 May 2013

TÜV SÜD PSB

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LA-2007-0382-B
LA-2007-0383-G
LA-2007-0384-G
LA-2007-0385-E
LA-2007-0386-C
LA-2010-0464-D

The results reported herein have been performed in accordance with the laboratory's terms of accreditation under the Singapore Accreditation Council - Singapore Laboratory Accreditation Scheme. Tests/Calibrations marked "Not SAC-SINGLAS Accredited" in this Report are not included in the SAC-SINGLAS Accreditation Schedule for our laboratory.

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3 Science Park Drive, #04-01/05
The Franklin, Singapore 118223

DESCRIPTION OF SPECIMENS:

Six pieces of specimen, said to be "Everest Heavy Duty Board" (15mm thick x 1350kg/m^3 – 1450kg/m^3) comprising of Fibre Cement, each of nominal test size of 225mm x 225mm were submitted. The bulk density of the sample was found to be approximately 1596kg/m^3.

TEST PROCEDURE:

Three specimens, backed with calcium silicate board, were tested with the Front face exposed to the specified heating conditions, in an apparatus conforming to paragraph 5 and illustrated in Figures 1 to 3 of the Standard.

The calibration and test procedures were as defined in paragraphs 8 and 9, respectively, of the specification. The apparatus was calibrated prior to test and the actual calibration curve obtained is shown in Figure 1 of this report.

The mean temperature rise above ambient obtained from three specimens is also shown in Figure 1 (i.e. with the actual calibration curve). The mean temperature readings for the material and the calibration curve were obtained at the following intervals from the start of the test: at 1/2 minute intervals up to 3 minutes, at 1 minute intervals from 4 to 10 minutes, and at 2 minutes intervals from 12 to 20 minutes.

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From these readings, the index of performance for the material was determined as follows:

$$s_1 = \sum_{t=0.5}^{t=3} \frac{\Theta_s - \Theta_c}{10t}; \quad s_2 = \sum_{t=4}^{t=10} \frac{\Theta_s - \Theta_c}{10t}$$

and $$s_3 = \sum_{t=12}^{t=20} \frac{\Theta_s - \Theta_c}{10t};$$

$$S = s_1 + s_2 + s_3$$

where S = Index of performance for each of the specimens tested and s_1, s_2 and s_3 are sub-indices

t = Time in minutes from the origin at which readings are taken.

Θ_s = Temperature rise in deg. C for the specimen at time, t

Θ_c = Temperature rise in deg. C for the calibration sheet at time, t

In computations only the positive value of $\frac{\Theta_s - \Theta_c}{10t}$ was used.

This test report supersedes test report dated on 03 May 2013

RESULTS OF TEST:

The following test results were obtained for each specimen tested:

Specimen	Sub-Indices			Index of Performance
	s_1	s_2	s_3	S
A	0.0	0.0	0.0	0.0
B	0.0	0.0	0.1	0.1
C	0.0	0.0	0.0	0.0

CONCLUSION:

The test results obtained, as an average of the 3 samples tested are as follows:

Index of overall performance, I = 0.0
(Fire propagation index)
Sub-index, i_1 = 0.0

Sub-index, i_2 = 0.0

Sub-index, i_3 = 0.0

REMARKS:

1. The test results relate only to the behaviour of the test specimens of the product under the particular conditions of test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

2. To change the name from “Everest” Heavy Duty Fibre Cement Board to “Everest Heavy Duty Board”.

Ong Kian Huat
Higher Associate Engineer

Chan Lung Toa
Product Manager
(Fire Property)
Mechanical Centre

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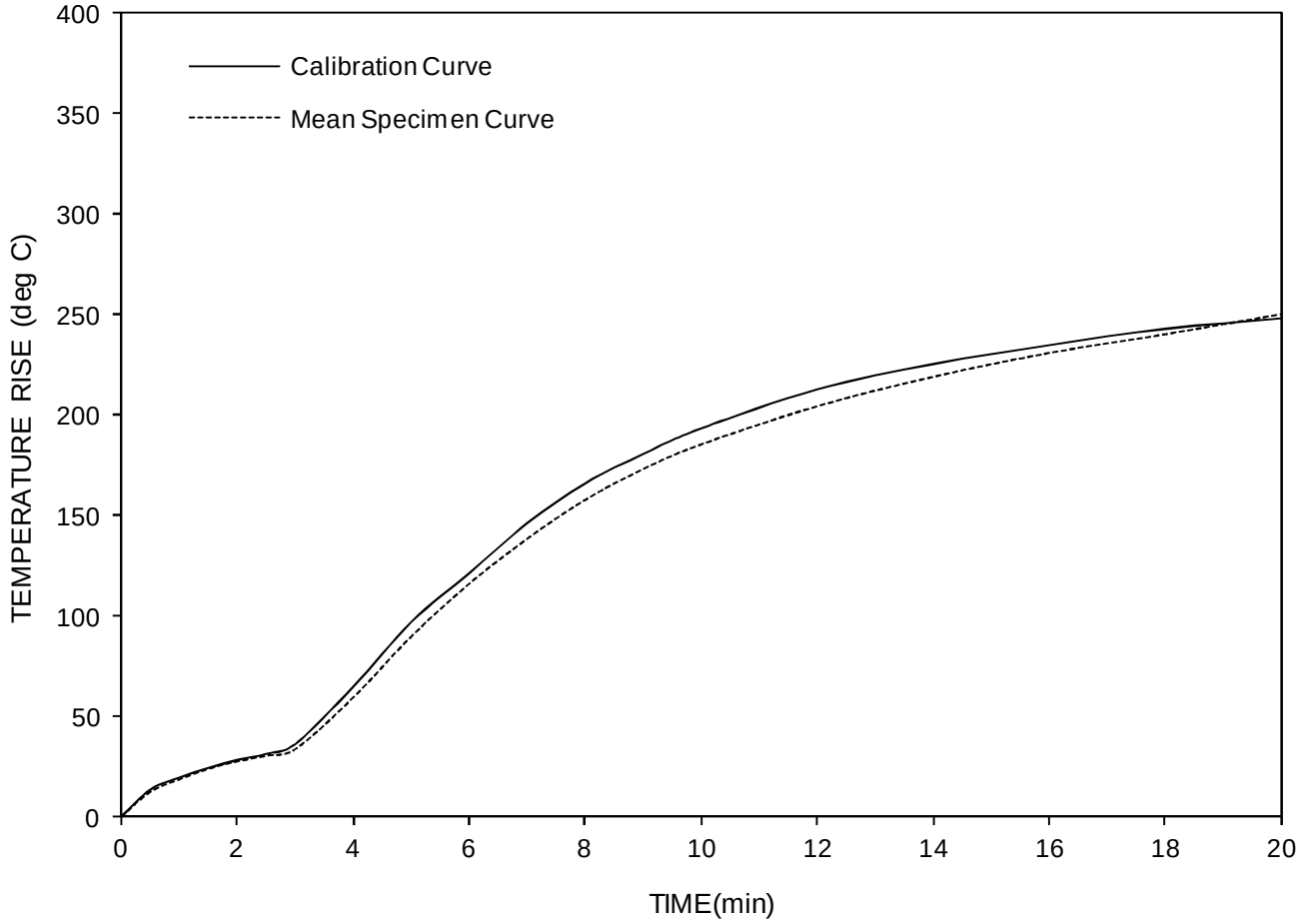

FIGURE 1 : COMPARISON OF MEAN SPECIMEN AND CALIBRATION CURVES

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July 2011

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