Test Report No. S08MEC06138/2/YWA
dated 20 Oct 2008

PSB Singapore

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SUBJECT:

Fire propagation test on "Smile Board" Cement Bonded Particle Board material submitted by Panel World Co., Ltd on 03 Oct 2008.

TESTED FOR:

Panel World Co., Ltd
83/1 Moo 11 Sethakit 1 Rd.,
Klongmadue, Krathumban,
Samutsakhorn
Thailand 74110

Attn: Mr Veekrit Palarit

DATE OF TEST:

08 Oct 2008

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 "Method of test for fire propagation for products".
The test was conducted at TÜV SÜD PSB fire test laboratory located at No. 10 Tuas Avenue 10, Singapore 639134.

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LA-2007-0384-G
LA-2007-0385-E
LA-2007-0386-C

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DESCRIPTION OF SAMPLES:

6 pieces of sample, said to be "Smile Board" Cement Bonded Particle Board (20mm thick x 1100-1300kg/m^3) material comprising of Wood and Cement, each of nominal size of 225mm x 225mm were received.

TEST PROCEDURE:

Three specimens were tested with smooth 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.

RESULTS OF TEST:

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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RESULTS OF TEST: (Cont'd)

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.

RESULTS OF TEST: (Cont'd)

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	0.3	0.4	0.7
B	0.0	0.2	0.5	0.7
C	0.0	0.2	0.5	0.7

CONCLUSION:

The test results obtained for the sample tested are as follows:

Index of overall performance, I = 0.7
(Fire propagation index)

Sub-index, i_1 = 0.0

Sub-index, i_2 = 0.2

Sub-index, i_3 = 0.4

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. The sample was tested with smooth face exposed to the heat and backed with calcium silicate board.

Ong Kian Huat
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Chan Lung Toa
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(Fire Safety & Security Products)
Mechanical

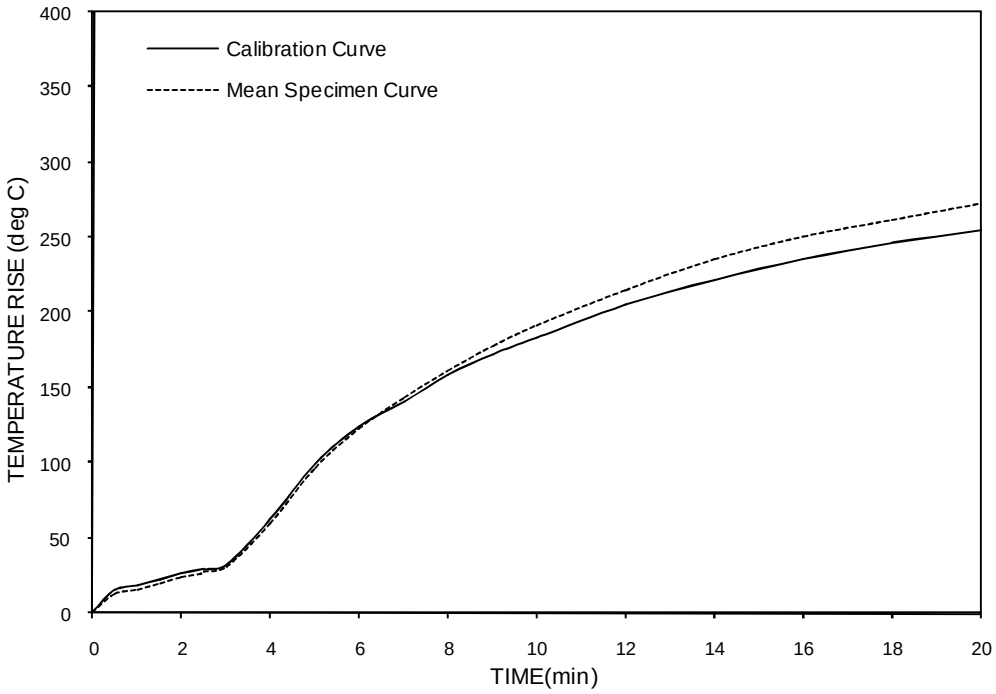

FIGURE 1 : COMPARISON OF MEAN SPECIMEN AND CALIBRATION CURVES

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January 2008