

Test Report No. 719184599-MEC10/2-YWA
dated 04 Nov 2010



PSB Singapore

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SUBJECT:

Fire propagation test on "SHERA ply, Engineered Wood Panel" Model: 151008101
Engineered Wood Panel material submitted by Mahaphant Fibre-Cement Public
Company Limited on 24 Aug 2010.

TESTED FOR:

Mahaphant Fibre-Cement Public Company Limited
59 Moo 12 Saraburi-Lomsak Road
Km. 16 Chongsarika Dist
Pattananikom, Lopburi 15220
Thailand

Attn: Ms Thanaporn Poonsukcharoen

DATE OF TEST:

19 Oct 2010

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's fire test laboratory located at No. 10 Tuas
Avenue 10, Singapore 639134.



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LA-2007-0380-A
LA-2007-0380-A-1
LA-2007-0381-F
LA-2007-0382-B
LA-2007-0383-G
LA-2007-0384-G
LA-2007-0385-E
LA-2007-0386-C

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.



DESCRIPTION OF SPECIMENS:

Six pieces of specimen, said to be “SHERA ply, Engineered Wood Panel” (Dry Density : 1150kg/m), Model: 151008101 Engineered Wood Panel material, each of nominal test size of 225mm x 225mm were submitted. The bulk density and thickness of the specimen were found to be approximately 1400kg/m³ and 7mm respectively.

TEST PROCEDURE:

Three specimens, backed with calcium silicate board, were tested with the smoother 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.

Two handwritten signatures in black ink, one on the left and one on the right, positioned below the large TUV SUD watermark.

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:

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	0.4	0.6	1.0
B	0.0	0.8	0.4	1.1
C	0.0	0.4	0.3	0.7

CONCLUSION:

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

Index of overall performance, I
(Fire propagation index) = 1.0

Sub-index, i₁ = 0.0

Sub-index, i₂ = 0.5

Sub-index, i₃ = 0.4

REMARKS:

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.


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

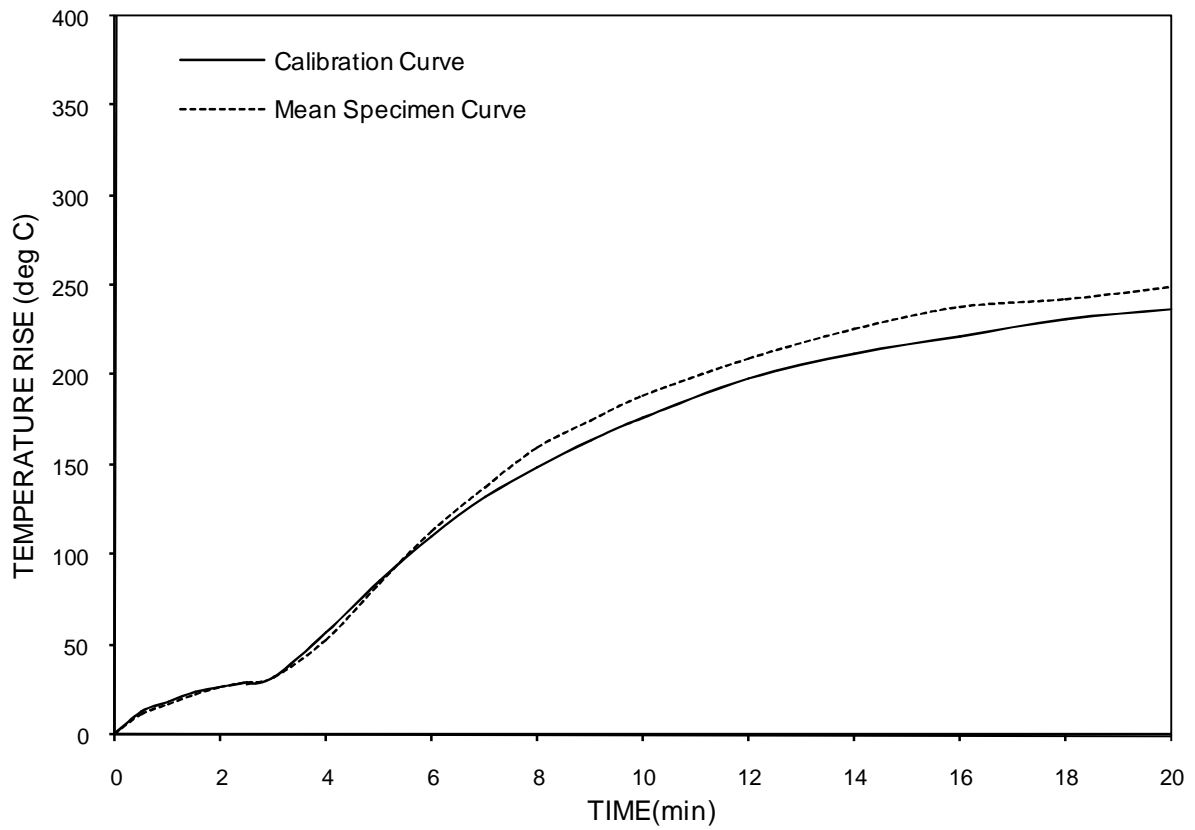


FIGURE 1 : COMPARISON OF MEAN SPECIMEN AND CALIBRATION CURVES

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March 2010