

**Test Report No. 7191048354-MEC12/1-OKH**  
dated 31 Dec 2012

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**SUBJECT:**

Large scale surface spread of flame test on "HYSIL" Calcium Silicate Block submitted by HIL LIMITED (Formerly HYDERABAD INDUSTRIES LIMITED) on 29 Nov 2012.

**TESTED FOR:**

HIL LIMITED (Formerly HYDERABAD INDUSTRIES LIMITED)  
Plot No. 31  
Main Delhi - Jaipur Highway  
Dharuhera, Pin Code – 122106  
Distt. Rewari (Haryana)  
India

Attn: Mr. B. Sampath Kumar

**DATE OF TEST:**

05 Dec 2012

**PURPOSE OF TEST:**

To determine the tendency of the surface of a material or a combination of materials to support the spread of flame across its surface and to classify the surface according to the test given in British Standard 476 : Part 7 : 1997.

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



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



LA-2007-0380-A  
LA-2007-0381-F  
LA-2007-0382-B  
LA-2007-0383-G  
LA-2007-0384-G  
LA-2007-0385-E  
LA-2007-0386-C  
LA-2010-0464-D

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**DESCRIPTION OF SPECIMENS:**

Nine pieces of specimen, said to be "HYSIL" (50mm thick x 250kg/m<sup>3</sup>) Calcium Silicate Block, each of nominal test size of 885mm x 270mm were submitted. The overall bulk density of the specimen was found to be approximately 307kg/m<sup>3</sup> (Room Condition).

**TEST PROCEDURE:**

Prior to test, the specimens were prepared and conditioned in accordance with paragraphs 5.3 to 5.6 of the standard and secured to a specimen holder as described in paragraph 6.3.

Six specimens, backed with calcium silicate board, were tested with either face exposed to the specified thermal radiation from the apparatus described in paragraph 6.1 of the standard. The intensity of the radiated heat incident on the specimen varies with distance from the hotter end, so that when the specified calibration panel is mounted in the place to be occupied by the specimen, the irradiance of the radiometer is as given in Table 1. The test was terminated when the flame front reached the 825mm reference line, or after 10 minutes has elapsed, whichever is the shorter.

**Table 1 : Irradiance Along Horizontal Reference Line on the Calibration Board**

Distance along reference line from inside edge of specimen holder mm	Irradiance kW/m <sup>2</sup>		
	specified	min.	max.
75	32.5	32.0	33.0
225	21.0	20.5	21.5
375	14.5	14.0	15.0
525	10.0	9.5	10.5
675	7.0	6.5	7.5
825	5.0	4.5	5.5



**RESULTS OF TEST:**

Specimen No.	1	2	3	4	5	6
Spread of flame at first 1½ minutes (mm)	0	0	0	0	0	0
Distance (mm)	Time of spread of flame to indicated distance (minutes • seconds)					
Start of flaming	nil	nil	nil	nil	nil	nil
75	-	-	-	-	-	-
165	-	-	-	-	-	-
190	-	-	-	-	-	-
215	-	-	-	-	-	-
240	-	-	-	-	-	-
265	-	-	-	-	-	-
290	-	-	-	-	-	-
375	-	-	-	-	-	-
455	-	-	-	-	-	-
500	-	-	-	-	-	-
525	-	-	-	-	-	-
600	-	-	-	-	-	-
675	-	-	-	-	-	-
710	-	-	-	-	-	-
750	-	-	-	-	-	-
785	-	-	-	-	-	-
825	-	-	-	-	-	-
865	-	-	-	-	-	-
Time of maximum spread of flame (minutes • seconds)	-	-	-	-	-	-
Distance of maximum spread of flame (mm)	0	0	0	0	0	0
Comments	None					

*[Handwritten signature]*

**Classification of Surface Spread of Flame**

Classification	Spread of flame at 1.5 min.		Final spread of flame	
	Limit (mm)	Limit for one specimen in sample (mm)	Limit (mm)	Limit for one specimen in sample (mm)
Class 1	165	165 + 25	165	165 + 25
Class 2	215	215 + 25	455	455 + 45
Class 3	265	265 + 25	710	710 + 75
Class 4	Exceeding the limits for class 3			

**CONCLUSION:**

In accordance with the class definitions specified in the Standard, the test results show that the sample tested has a Class One Surface Spread of Flame.

**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  
Higher Associate Engineer

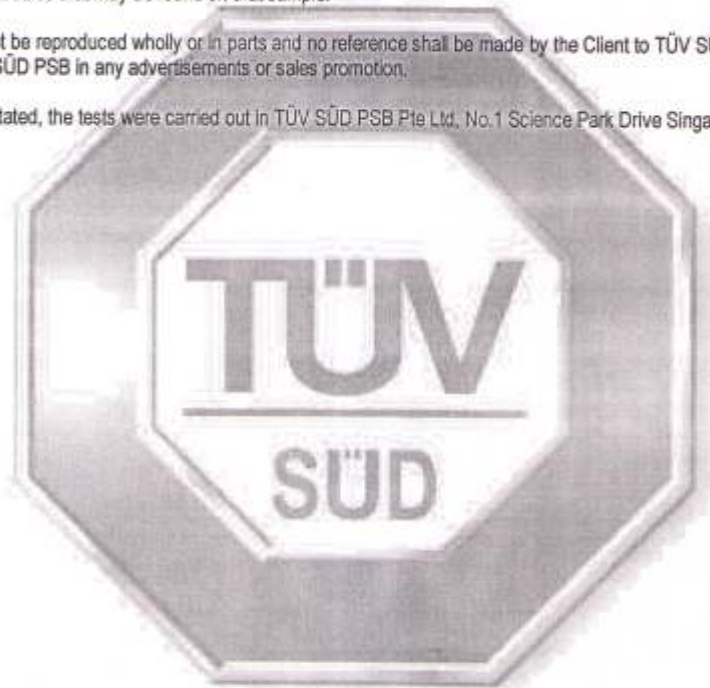


Chan Lung Toa  
Product Manager  
(Fire Property)  
Mechanical Centre

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July 2011



**Test Report No. 7191048354-MEC12/2-MHA**  
dated 31 Dec 2012

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**SUBJECT:**

Non-combustibility test on "HYSIL" Calcium Silicate Block submitted by HIL LIMITED (Formerly HYDERABAD INDUSTRIES LIMITED) on 29 Nov 2012.

**TESTED FOR:**

HIL LIMITED (Formerly HYDERABAD INDUSTRIES LIMITED)  
Plot No. 31  
Main Delhi - Jaipur Highway  
Dharuhera, Pin Code – 122106  
Distt. Rewari (Haryana)  
India

Attn: Mr. B. Sampath Kumar

**DATE OF TEST:**

26 Dec 2012

**PURPOSE OF TEST:**

To determine whether the material is non-combustible when it is exposed to the conditions of the test specified in British Standard 476: Part 4: 1970 "Fire Test on Building Materials and Structures - Non-combustibility Test for Materials".

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



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



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LA-2007-0385-E  
LA-2007-0386-C  
LA-2010-0484-D

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Regional Head Office:  
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**DESCRIPTION OF SPECIMENS:**

Six blocks of specimen, said to be "HYSIL" (250kg/m<sup>3</sup>) Calcium Silicate Block, each of nominal test size of 40mm x 40mm x 50mm thickness were submitted. The overall bulk density of the specimen was found to be approximately 307kg/m<sup>3</sup> (Room Condition).

**TEST PROCEDURE:**


Specimens were exposed to the specified heating conditions (750 ± 10°C) in a furnace conforming to Clause 6 and illustrated in Figure 1, 2 and 3 of the Standard. The furnace was heated and its temperature stabilized at 750 ± 10°C for more than 10 minutes. One specimen was then inserted in the furnace, the whole operation was performed in less than 5 seconds. The temperature of the specimens and the furnace were measured by two separate Chromel/Alumel thermocouples continuously for 20 minutes on the chart of a recorder. The flaming time of the specimen was determined by a stop watch. The procedure was repeated twice for two other specimens, one at each time.

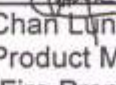
**RESULTS:**

Description	Specimen 1	Specimen 2	Specimen 3	Requirements
Time of continuous flaming (sec.)	0	0	0	<10
Temperature rise of furnace (°C)	23	16	26	<50
Temperature rise of sample (°C)	0	0	0	<50
Classification	Non-combustible	Non-combustible	Non-combustible	-

**CONCLUSION:**

A non-combustibility test for materials in accordance with British Standard 476 Part 4 : 1970 has been performed on the material as described in this report and the classification of the sample is non-combustible.

  
Ong Kian Huat  
Higher Associate Engineer

  
Chan Lung Toa  
Product Manager  
(Fire Property)  
Mechanical Centre



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July 2011

