

**Test Report No. 7191128873-MEC15/2-JV**  
dated 14 Jan 2016



PSB Singapore

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**SUBJECT:**

Non-combustibility test on 'UCO SolidPanel' precast lightweight wall panel submitted by UAC Bhd on 22 Dec 2015.

**TESTED FOR:**

UAC Bhd  
Level 10 MENARA UAC  
12 Jalan PJU 7/5, Mutiara Damansara  
47800 Petaling Jaya  
Selangor Darul Ehsan, Malaysia  
P.O. Box 9133, Pejabat Pos Kelana Jaya  
46805 Petaling Jaya  
Selangor Darul Ehsan, Malaysia

**DATE OF TEST:**

29 to 31 Dec 2015

**PURPOSE OF TEST:**

To determine the non-combustibility performance of products, under specified conditions, according to the test specified in BS EN ISO 1182 : 2010 "Reaction to fire tests for products – Non-combustibility test".

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



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

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.

Laboratory:  
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1 Science Park Drive, #02-01  
Singapore 118221  
TUV®



**DESCRIPTION OF SPECIMENS:**

Ten pieces of specimen, said to be 'UCO SolidPanel' precast lightweight wall panel, each of nominal size of 45mm (diameter) x 50mm (thickness) were received. The nominal bulk density of the specimen was found to be 927 kg/m<sup>3</sup>.

**Details of the product as provided by the sponsor of test are as follows:**

Product manufacturer :	
Company Address	UAC Bhd Level 10 MENARA UAC 12 Jalan PJU 7/5, Mutiara Damansara 47800 Petaling Jaya Selangor Darul Ehsan, Malaysia
Brand & Model reference	UCO SolidPanel
Generic product name	Precast Lightweight Wall Panel (External & Internal)
Material composition	Silica, Ordinary Portland Cement OPC, Cellulose Fiber, Expanded Polystyrene
Nominal mass per unit area (kg/m <sup>2</sup> )	63.75kg/m <sup>2</sup> (75mm thickness), 85.0kg/m <sup>2</sup> (100mm thickness) – Equilibrium Condition
Nominal thickness (mm)	75mm & 100mm



**TEST PROCEDURES:**

Test specimens were conditioned as specified in EN 13238. Afterwards, they were dried in a ventilated oven maintained at  $(60 \pm 5)^\circ\text{C}$  for between 20 hours and 24 hours, and cooled to ambient temperature in a desiccator prior to test.

The furnace was calibrated in accordance to clause 7.3.1 and 7.3.2 of the standard with the following results:

Description	Result	Requirement
Average deviation of temperature on three vertical axes from average furnace wall temperature	0.4%	Less than 0.5%
Average deviation of temperature on three levels from average furnace wall temperature	0.4%	Less than 1.5%
Average wall temperature at level (+30mm)	781.2°C	Average wall temperature at level (+30mm) shall be less than average wall temperature at level (-30mm)
Average wall temperature at level (-30mm)	786.4°C	

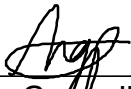
Specimens were exposed to the specified heating conditions  $(750 \pm 5^\circ\text{C})$  in a furnace conforming to clause 4.2 and illustrated in Figure B.1 and B.2 of the Standard. The furnace was heated and its temperature stabilised for at least 10 minutes at  $750 \pm 5^\circ\text{C}$ . One specimen was then inserted in the furnace, the whole operation was performed in less than 5 seconds. The temperatures of the furnace, the specimen centre and the specimen surface were measured by three separate Type K sheathed thermocouples continuously on the chart of a recorder until final temperature equilibrium of the furnace and specimen centre and specimen surface were established. The flaming time of the specimen was determined by a stop watch. The procedure was repeated for four other specimens, one at each time.

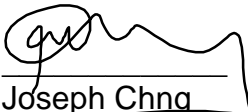
**RESULTS:**

Non-combustibility test	Specimen				
	1	2	3	4	5
Duration of sustained flaming, $t_f$ (sec.)	0	0	0	0	0
<b>Mean duration of sustained flaming, <math>t_f</math> (sec.)</b>	<b>0</b>				
Maximum furnace temperature, $T_{max}$ (°C)	741.6	731.3	725.2	739.7	731.2
Final furnace temperature, $T_f$ (°C)	729.1	701.7	704.9	710.9	714.0
Furnace temperature rise, $\Delta T = T_{max} - T_f$ (°C)	12.5	29.6	20.3	28.8	17.2
<b>Average furnace temperature rise, <math>\Delta T</math> (°C)</b>	<b>21.7</b>				
Maximum specimen surface temperature (°C)	722.3	687.8	691.1	680.6	691.1
Final specimen surface temperature (°C)	671.2	671.9	671.2	674.8	675.8
Specimen surface temperature rise, $\Delta T_c$ (°C)	51.1	15.9	19.9	5.8	15.3
Average specimen surface temperature rise, $\Delta T_c$ (°C)	21.6				
Maximum specimen centre temperature (°C)	736.2	654.3	658.3	635.0	656.3
Final specimen centre temperature (°C)	649.9	635.1	633.5	629.9	633.7
Specimen centre temperature rise, $\Delta T_s$ (°C)	86.3	19.2	24.8	5.1	22.6
Average specimen centre temperature rise, $\Delta T_s$ (°C)	31.6				
Mass loss, $\Delta m$ (%)	10.4	10.5	8.5	8.9	6.8
<b>Average mass loss, <math>\Delta m</math> (%)</b>	<b>9.0</b>				
Observations	Nil				

**REMARKS:**

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

  
Leong Gene-Jhou  
Senior Associate Engineer

  
Joseph Chng  
Assistant Vice President  
(Fire Property)  
Mechanical



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July 2011

