


 <p>KICT 한국건설기술연구원 64th, Madoro-182th-gil, Mado-myun, Hwasung-shi, Kyunggi-do 445-861, Korea Tel:82-31-369-0640 Fax:82-31-369-0670</p>	Certificate No : KICT-R-K-2015-00145-1~2 Page(1) / (5) Pages	
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Test Certificate



- Client**
 - Name : ALCOPANEL CO., LTD
 - Address : 269, Daechong-ro, Samseong-myeon, Eumseong-gun, Chungcheongbuk-do, Korea
 - Date of Receipt : Feb. 03th, 2015
- Use of Report** : Performance Test for Ministry of Land, Transport and Maritime Affairs, Notification No. 2012-624
- Test Sample** : HONEYCOMB PANEL
- Date of Test** : Feb. 11th, 2015
- Test method** : Performance criteria for finish material. Ministry of Land, Transport and Maritime Affairs, Notification No. 2012-624
- Testing Environment**
 - Temperature : (23 ± 2) °C, Relative Humidity : (50 ± 5) % R.H.
 - Location : fire toxic gases laboratory
- Test Results**
 - Suitability for noncombustible material

Division	Specimen	1	2	3	Judgement	Criteria
Non-combustibility test	The difference between maximum furnace temperature and final equilibrium temperature (°C)	1.5	2.1	2.2	Suitable	20°C below
	Mass reduction rate (%)	4.3	5.6	2.0	Suitable	30% below
Hazardous Gas test	Average deed stopping time (min, s)	14, 07	14, 26		Suitable	more than 9 min

- Consist of material : AL(0.8mm) +Core 3/8"(48.7mm) + AL(0.5mm)
- Refer to attachment for detail test result

Tested by : 
 Lee, Jong Cheon
 Researcher

Technical Manager : 
 Cho, Nam Wook
 Technical Manager

Feb. 12th, 2015

The President of Korea Institute of Civil Engineering
 and Building Technology



- ※ The above test certificate is the accredited test results by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.
- ※ This certificate may not be used besides purpose, and an unapproved copy is prohibited
- ※ Above is the test result of specimen supplied by client, and the test results are not represent a quality of whole products.

7.1 Non-combustibility test

1) Specimen composition

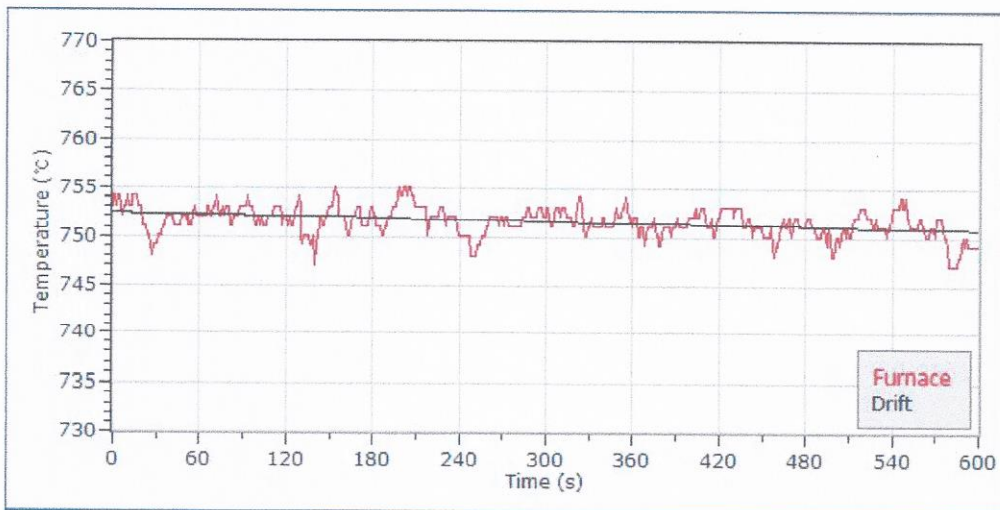
- Consist of material : AL(0.8mm) +Core 3/8"(48.7mm) + AL(0.5mm)
- Density of specimen : 123.0 kg/m³

2) Test results

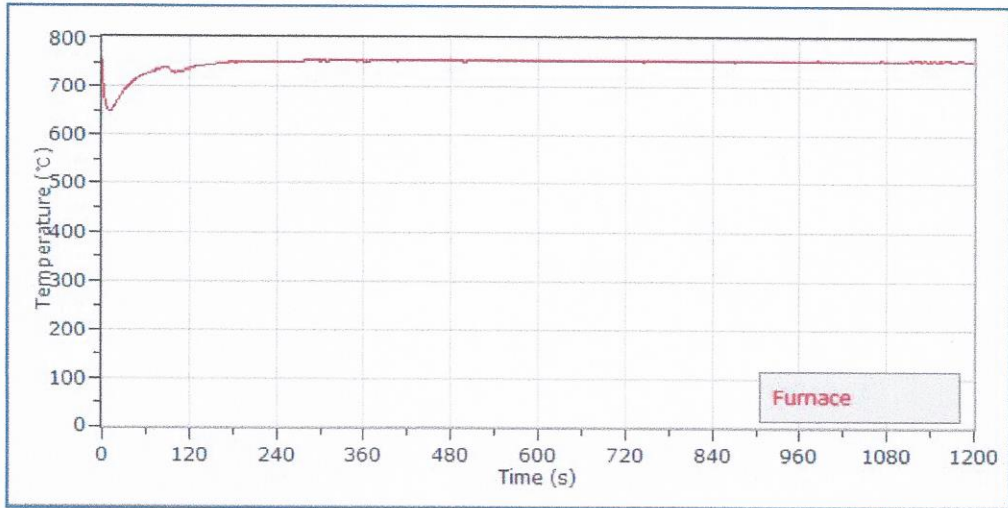
Division		KS F ISO 1182		
Specimen		1	2	3
Thickness (mm)		50.3	50.5	50.5
Initial mass (g)		9.4	9.0	10.0
Final mass (g)		9.0	8.5	9.8
Mass loss (g)		0.4	0.5	0.2
Mass reduction rate (%)		4.3	5.6	2.0
Furnace temperature (°C)	Maximum furnace temperature	756.7	760.1	758.5
	Final equilibrium temperature	755.2	758.0	756.3
	The difference between maximum furnace temperature and final equilibrium temperature	1.5	2.1	2.2

3) Furnace stabilization

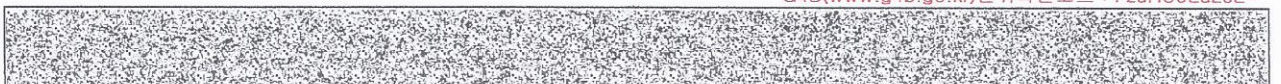
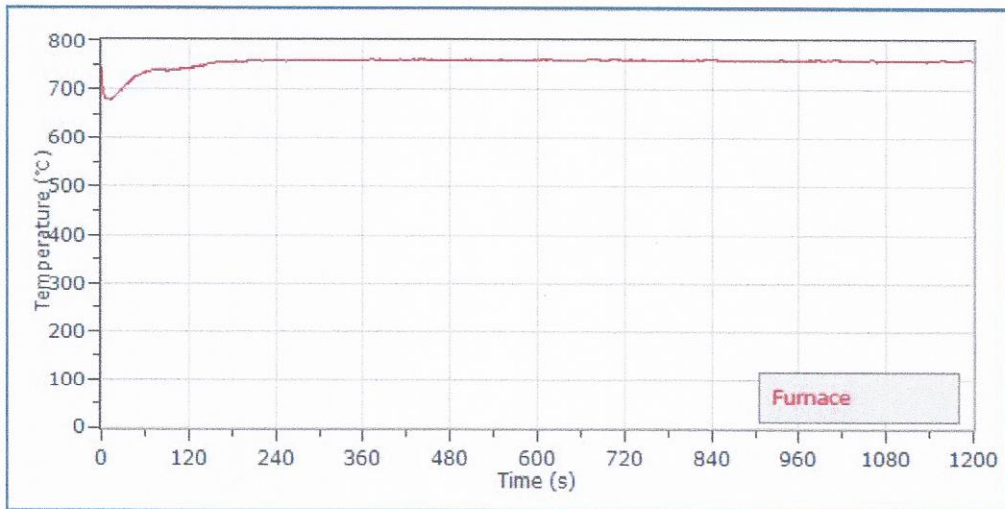
- The mean temperature : 751.5 °C
- Maximum deviation in the mean temperature : 4.5 °C
- Drift of furnace temperature : 1.6 °C



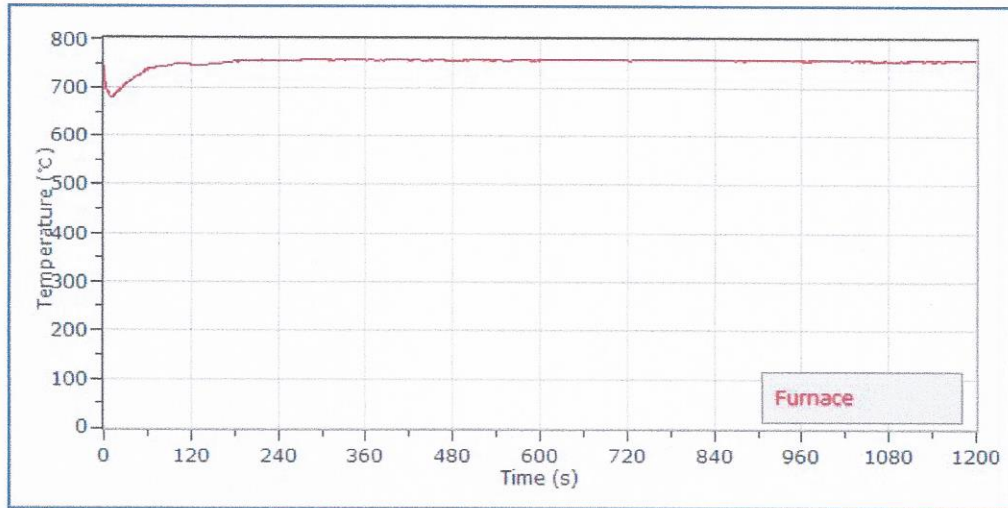
- 4) Temperature graph
- a) 1'st specimen



- b) 2'nd specimen



c) 3'st specimen



7.2 Hazardous Gas Test

1) Specimen composition

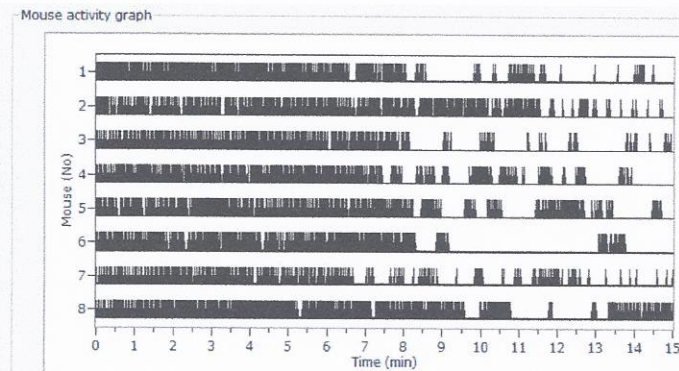
- Consist of material : AL(0.8mm) +Core 3/8"(48.7mm) + AL(0.5mm)
- Density of specimen : 119.8 kg/m³

2) Test results

Division	Unit	KS F 2271	
		1'st	2'nd
Thickness	mm	50.7	50.3
weight	g	319.3	283.8
Average value of the deed stopping time	min, s	14, 34	14, 43
Standard deviation	min, s	00, 27	00, 17
Average deed stopping time	min, s	14, 07	14, 26

3) 1'st specimen result graph

M1	14 min 30 s
M2	14 min 44 s
M3	14 min 57 s
M4	13 min 56 s
M5	14 min 42 s
M6	13 min 46 s
M7	15 min 00 s
M8	15 min 00 s
Average	14 min 34 s
Standard deviation	00 min 27 s
Average deed stopping time	14 min 07 s



4) 2'nd specimen result graph

M1	14 min 56 s
M2	14 min 58 s
M3	14 min 45 s
M4	14 min 09 s
M5	14 min 42 s
M6	14 min 21 s
M7	14 min 59 s
M8	14 min 55 s
Average	14 min 43 s
Standard deviation	00 min 17 s
Average deed stopping time	14 min 26 s

