

ADDITIONAL TEST REPORT NR. 13331

As a basis for a general report for the
building and housing inspection

Valid until 2012-08-27

Sponsor

MING DIH INDUSTRY Co., Ltd.
No. 9, Chu-Kuang 1st St.
TA-FA Ind. District, Kaohsiung
TAIWAN, R.O.C.

Date of order:	2007-07-31
Date of sampling:	2007-07-29
Arrival of the samples:	2007-07-30
Date of test :	2007-08-27

Order

"Brandschacht"-test (Building material class B1) according to DIN 4102 - Part 1 (May 1998)

Material and Commercial name

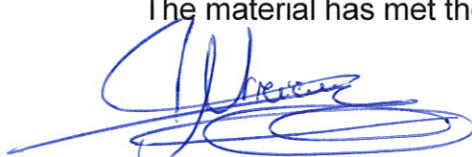
EPS insulation "Ming Dih Pearl"

Regulations concerning the test report

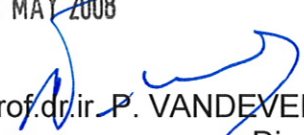
DIN 4102 - Part 1 (May 1998)

Result of the tests

The material has met the demands for normal inflammable building materials.


Ing. F. DUTRIEUE
Project Manager

Gent, 19 MAY 2008


Prof. dr. ir. P. VANDEVELDE
Director

The results of the tests apply only on the materials mentioned in this report

This report contains 11 pages including 5 annexes.

DIN 4102 teil 16 WG 1E*

This document is the original version of this test report and is written in English.

This report may be used only literally and completely for publications. - For publications of certain texts, in which this report is mentioned, our permission must be obtained in advance.

The present report constitutes an addition to Test Report Nr 12933 dated 2007-11-07. It has been drafted in accordance with the regulations of EGOLF regulation R4 "Application Note : clause 5.10 [5.10/4] - Issue 01 - 2001/03/12 - amendment of test reports : clients changing product / company names (II) - for commercial reasons". The product "Ming Dih Pearl" has not been retested. Present additional report does not contain any technical modifications to the original test report.

Both the original and the new denomination of the product and of the company entrusted with marketing the product will be documented and entered in the laboratory's archives.

1. IDENTIFICATION OF THE PRODUCT

Commercial name: " **Ming Dih Pearl** "

Description of the material: The product consists of a expanded polystyrene insulation board, grade FM.

Description of the material				
	Nominal values (*)		Measured values (**)	
Thickness (mm)	10	80	10	80
Volumic mass (kg/m ³)	15	20	16	20

(*) based on the information of the sponsor.

(**) values verified by the laboratory.

Special remarks: none

2. TEST RESULTS

2.1. "Brandschacht"-Test according to DIN 4102 Part 16

Result of the „Brandschacht“-test (part 1)					
Line Nr.	Measured values for the three samples				
	A	B	C	D	E
1 <u>Number of sample-classification</u> according to DIN 4102 Teil 15 Table 1	1	1	1	1	1
2 <u>Maximum height of flame</u> from the bottom of the sample cm	40	30	30	30	30
3 at time (1) min : s	0:30	0:30	0:30	0:30	0:30
4 <u>Melting through/</u> <u>Burning through</u> at time (1) min : s	No	No	0:01	0:03	0:02
5 <u>Observations on the backside of the</u> <u>sample</u> Flames/glowing at time (1) min : s	No	No	No	No	No
6 Colouring at time (1) min : s	-	-	-	-	-
7 <u>Flaming droplets</u> Start at (1) min : s	18	11	No	No	No
8 Dimension : Single falling droplets	yes	yes	-	-	-
9 Continuous falling droplets	-	-	-	-	-
10 <u>Falling of burning particles</u> Start at (1) min : s	No	No	No	No	No
Dimension :					
11 Single falling of burning particles	-	-	-	-	-
12 Continuous falling of burning particles	-	-	-	-	-
13 Afterburning on the floor (Max) min : s	-	-	-	-	-
14 <u>Diminishing of the burner flame due to</u> <u>falling material</u> at time (1) min : s	No	No	No	No	No
15 <u>Early termination of test</u> Stop of flaming of the sample (1) min	No	No	No	No	No
16 Time of termination (1) min : s	-	-	-	-	-

(1) Time- indication from the start of the test

Result of the „Brandschacht“-test (part 2)					
Line Nr.	Measured values for the three samples				
	A	B	C	D	E
<u>Afterburning after the end of the test</u>					
17 Duration min : s	No	No	No	No	No
18 Number of samples	-	-	-	-	-
19 Front side of the sample	-	-	-	-	-
20 Back side of the sample	-	-	-	-	-
21 Length of the flames cm	-	-	-	-	-
<u>Afterglowing after the end of the test</u>					
22 Duration min : s	No	No	No	No	No
23 Number of Samples Place of occurring:	-	-	-	-	-
24 Top half of the sample	-	-	-	-	-
25 Bottom half of the sample	-	-	-	-	-
26 Front side of the sample	-	-	-	-	-
27 Back side of the sample	-	-	-	-	-
<u>Smoke attenuation</u>					
28 < 400 % x min	4,6	3,8	2,8	13,0	9,7
29 > 400 % x min	-	-	-	-	-
30 Graph in Annex Nr.	1	2	3	4	5
<u>Lengths at the end of the test</u>					
31 Separate values cm	57 56 58 56	51 51 50 53	27 27 50 50	40 38 50 55	42 47 38 50
32 Average of the separate measurements cm	56,75	51,25	38,5	45,75	44,25
<u>Smoke gas temperature</u>					
33 Max of the average values °C	129,3	131,7	129,5	128,9	130,0
34 at time (1) min : s	10:00	9:12	9:54	9:40	10:00
35 Graph in Annex Nr.	1	2	3	4	5
36 <u>Remarks</u>	A & B: 80mm, 20kg/m ³ C, D & E: 10mm, 15kg/m ³				

(1) Time- indication from the start of the test

2.2. "Kleimbrenner" – Test for B2-Classification (DIN 4102 Part 1) (Side exposure of the test material)

10mm

Test Nr.	1	2	3	4	5
Ignition (s)	1	1	1	1	1
Reaching the test-mark (s)	No	No	No	No	No
Self-extinction (s)	3	4	3	2	5
Extinguished after (s)	No	No	No	No	No
Maximum Flame height within the first 20s (cm)	2	3	2	1,5	4
reached after (s)	3	4	3	4	5
Smoke development	Low	Low	Low	Low	Low
Time of flaming droplets (s)	No	No	No	No	No

80mm

Test Nr.	1	2	3	4	5
Ignition (s)	1	1	1	1	1
Reaching the test-mark (s)	No	No	No	No	No
Self-extinction (s)	2	3	2	2	3
Extinguished after (s)	No	No	No	No	No
Maximum Flame height within the first 20s (cm)	3	2	2	3	2
reached after (s)	2	3	2	2	3
Smoke development	Low	Low	Low	Low	Low
Time of flaming droplets (s)	No	No	No	No	No

3. Assessment

The building material, described on page 2, has complied with the requirements for difficultly combustible building materials (schwerentflammbare Baustoffe) Class B1 according to the standard DIN 4102-1 (Edition May 1998) paragraph 6.1.2.2 and 6.2.2

4. Special remark

4.1 The results of this fire test are valid only for the building product as described on page 2.

The results of this fire test are valid only for the following product parameters:

- thickness: from 10 mm till 80 mm

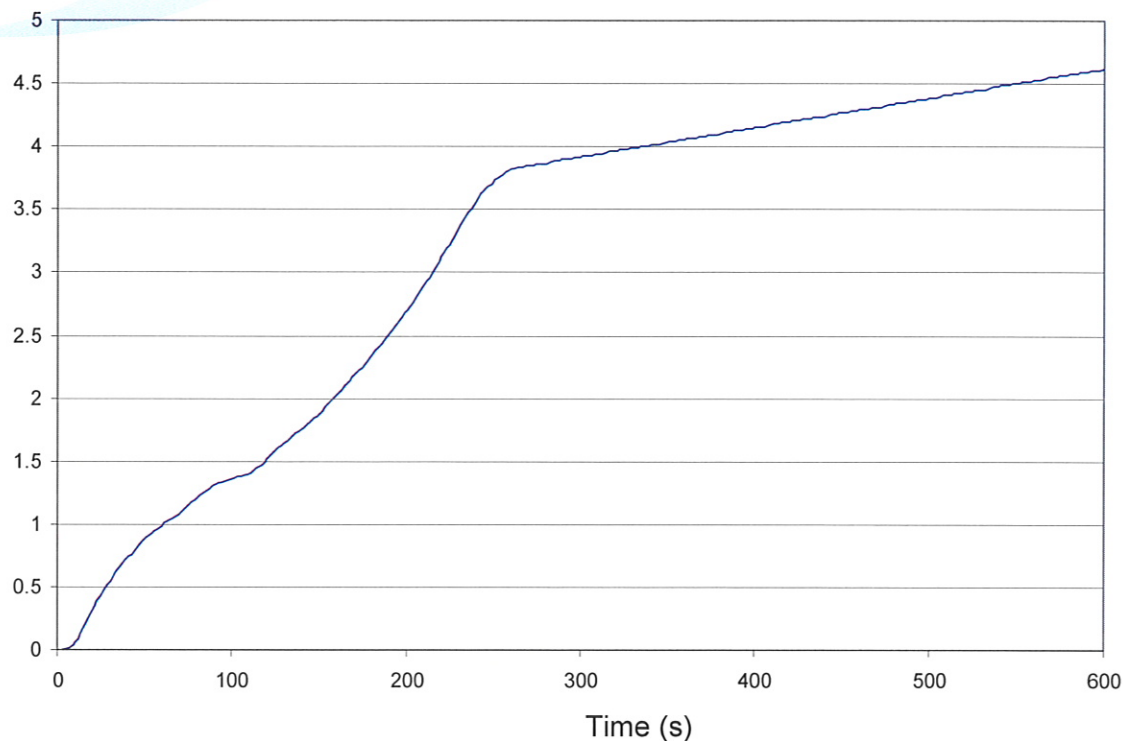
- density: from 15 kg/m³ till 20 kg/m³

In connection with other building materials its fire behaviour can be influenced unfavourably. Therefore its fire behaviour in connection with other building materials should be proven separately according to the standard DIN 4102-1.

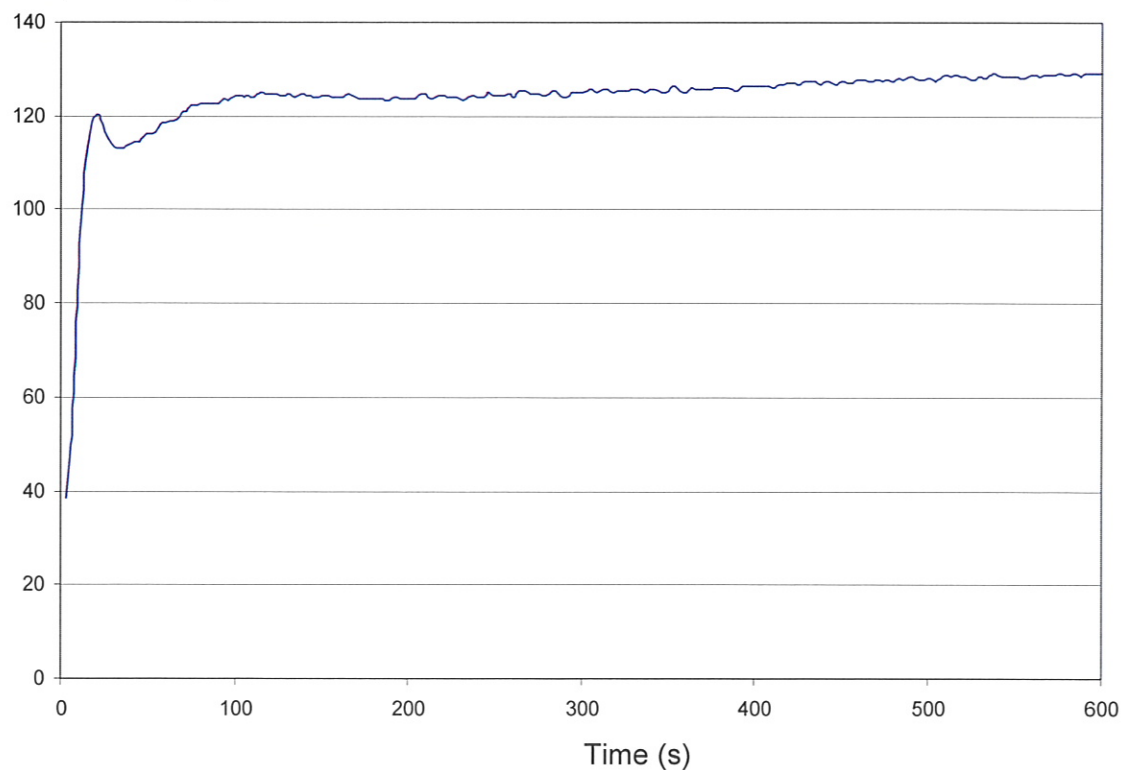
4.2 This test report does not replace the compulsory general approval of the building inspection. It serves as a basis for the prescribed use approval.

Graph of Smoke Attenuation for Sample A

Smoke (%.min)

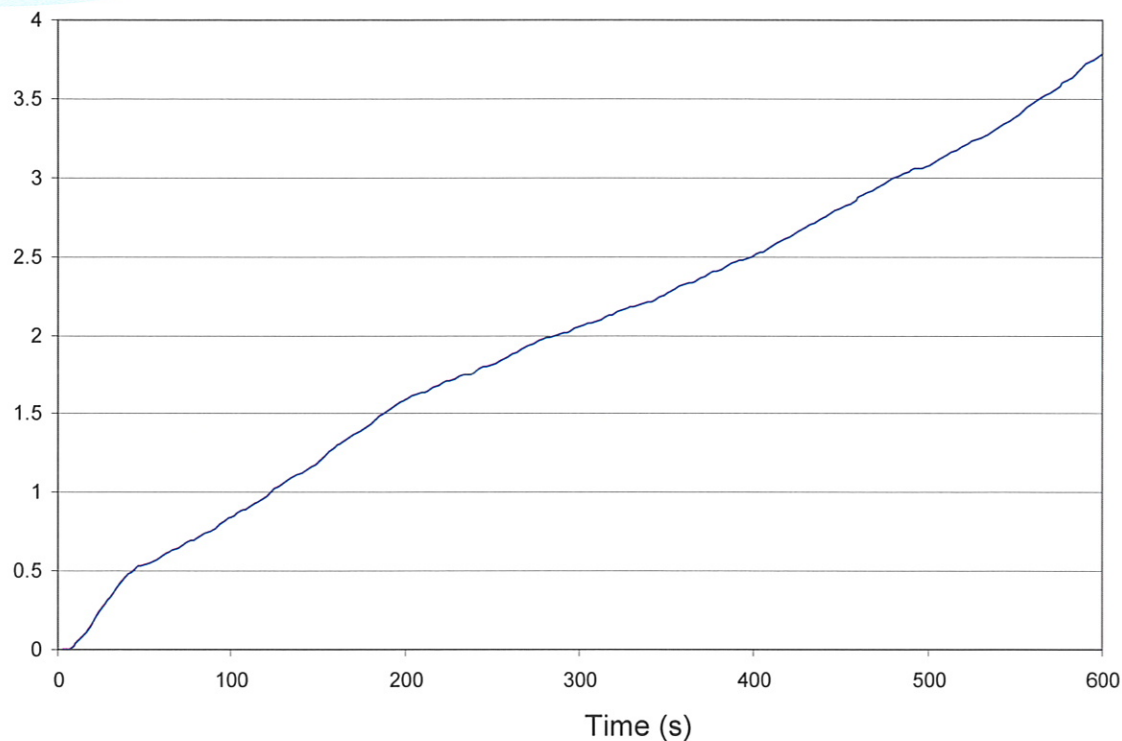
**Graph of Smoke Gas Temperature for Sample A**

Temperature (°C)



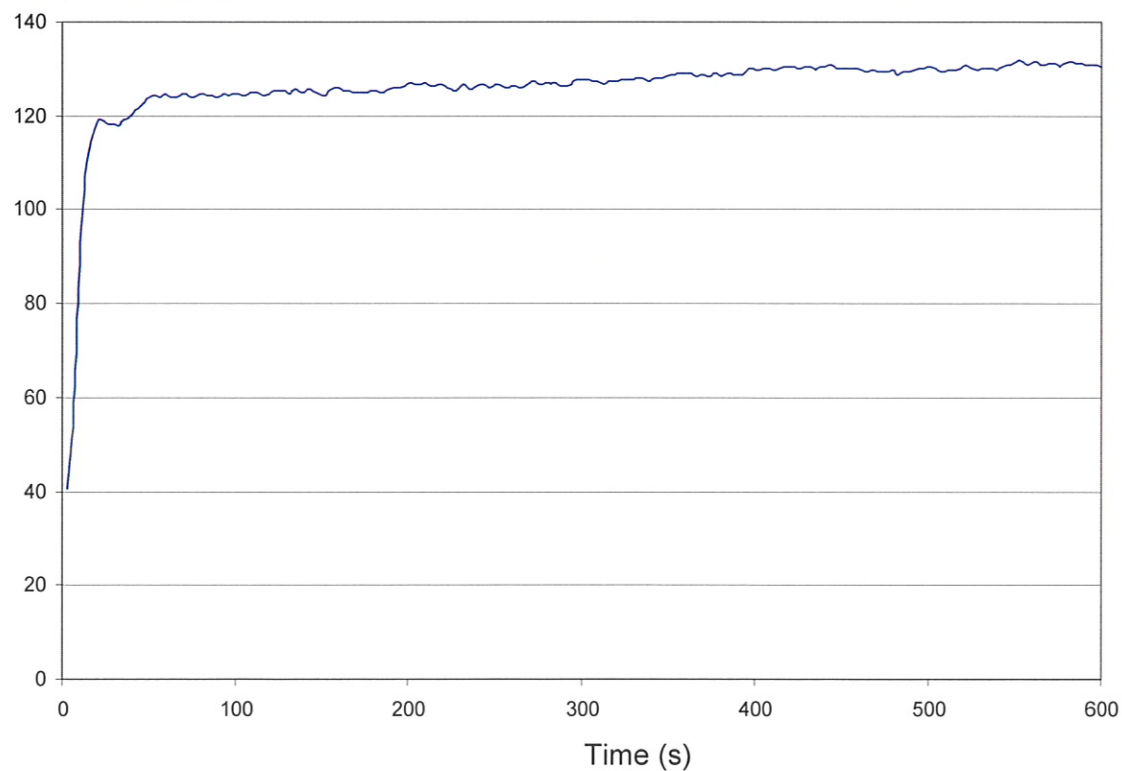
Graph of Smoke Attenuation for Sample B

Smoke (%.min)

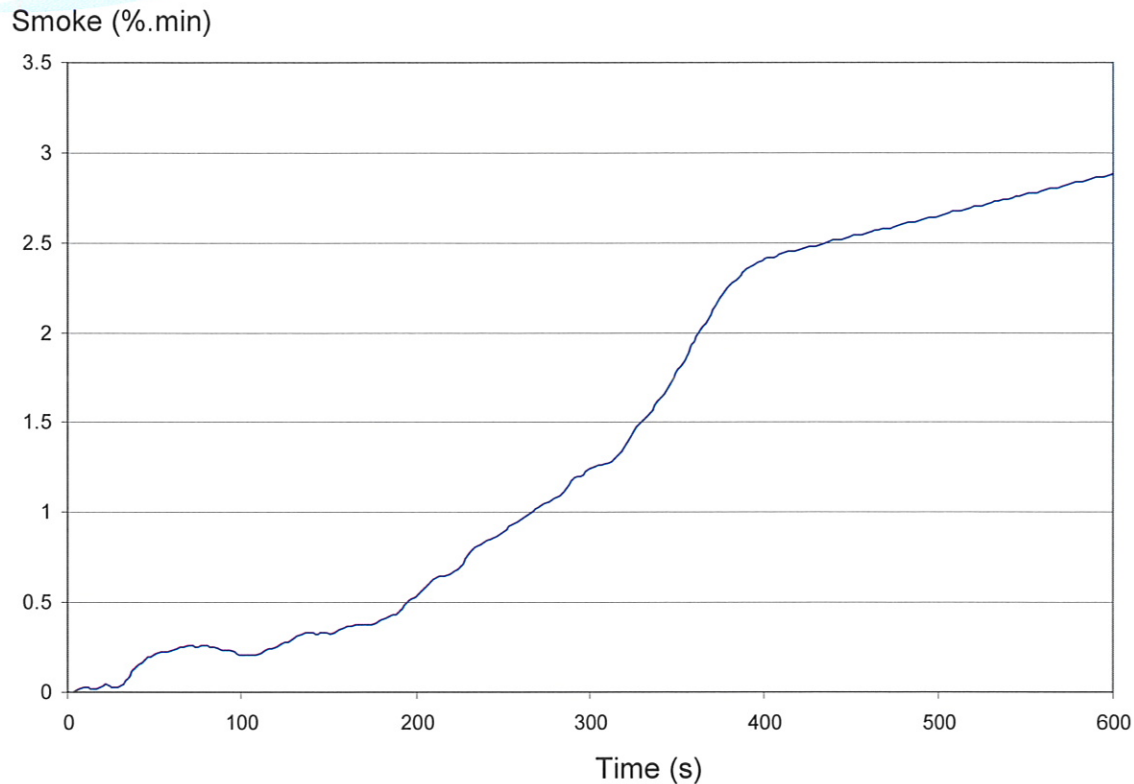


Graph of Smoke Gas Temperature for Sample B

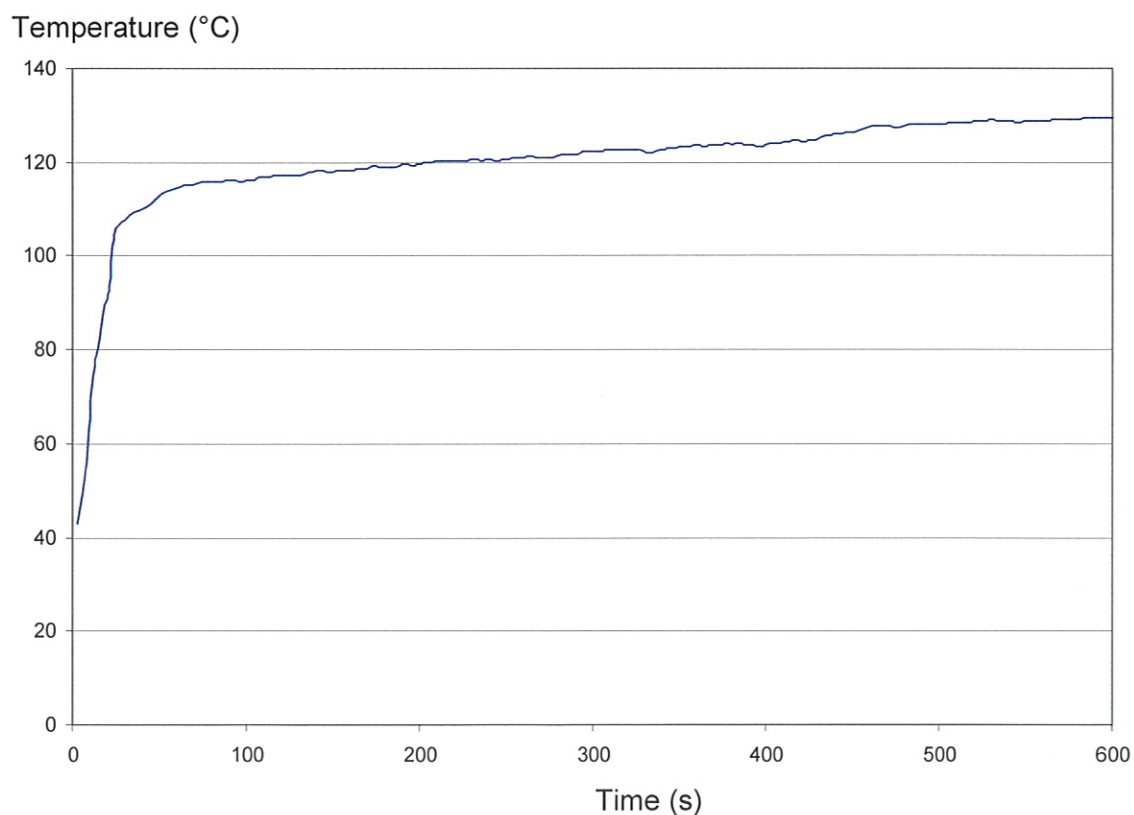
Temperature (°C)



Graph of Smoke Attenuation for Sample C

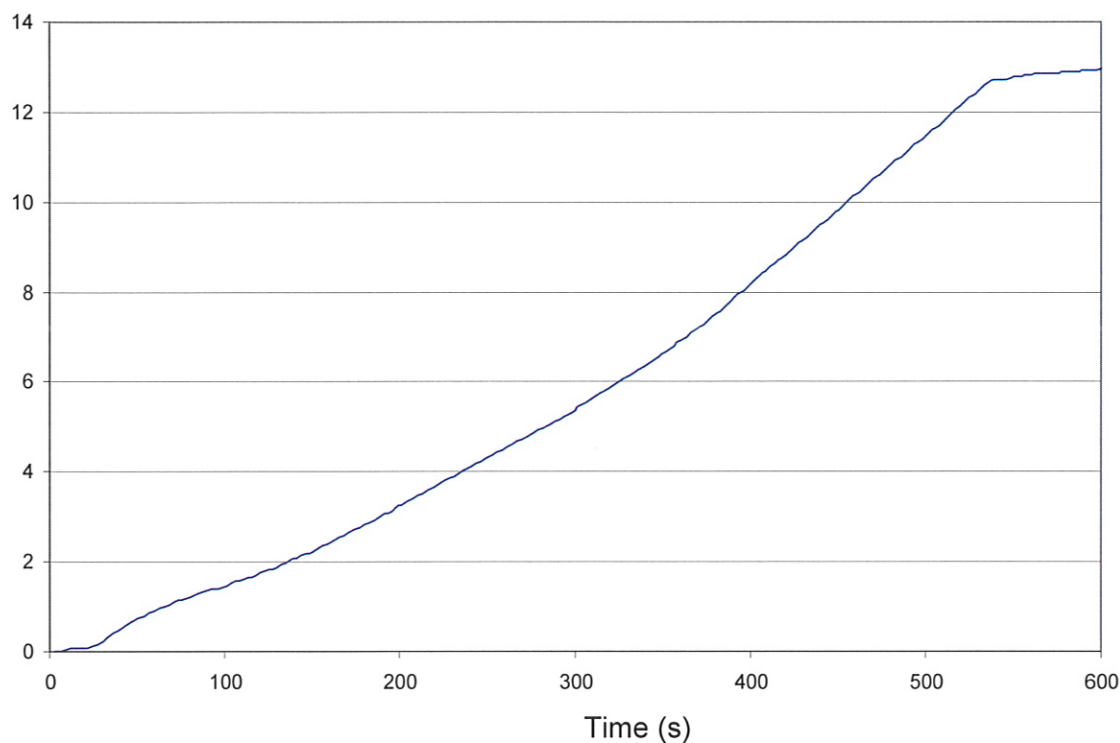


Graph of Smoke Gas Temperature for Sample C



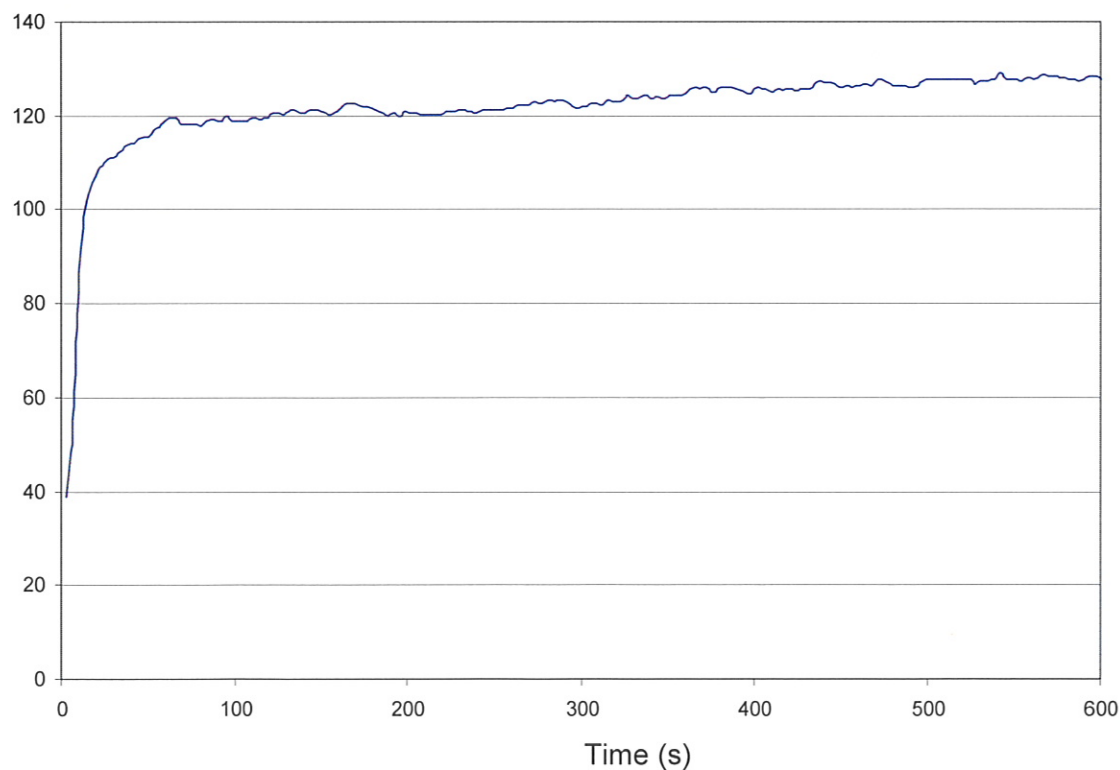
Graph of Smoke Attenuation for Sample D

Smoke (%.min)



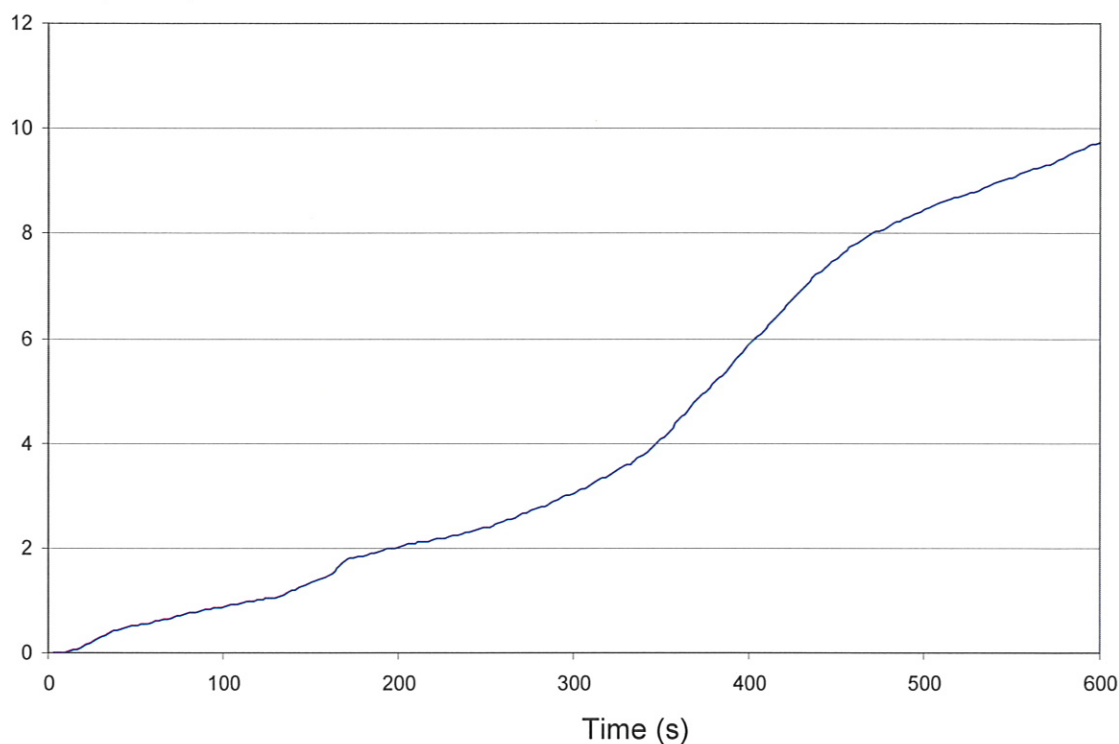
Graph of Smoke Gas Temperature for Sample D

Temperature (°C)



Graph of Smoke Attenuation for Sample E

Smoke (%.min)

**Graph of Smoke Gas Temperature for Sample E**

Temperature (°C)

