

## TEST REPORT NR. 13798

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

Valid until 2014-03-03

### Sponsor

MAPAL COOPERATIVE SOCIETY Ltd.  
Kibutz Mevo Hamma 12934  
ISRAEL

Date of order: 2009-02-11  
Date of sampling: 06-02-2009  
Arrival of the samples: 2009-02-17  
Date of test : 2009-03-03

### Order

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

### Material and Commercial name

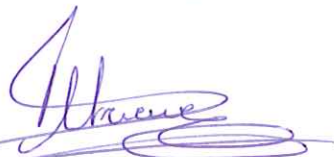
Polypropylene sheet "F-NB"

### Regulations concerning the test report

DIN 4102 - Part 1 (May 1998)

### Result of the tests

The material has met the demands for non-readily ignitable building materials.



Ing. F. DUTRIEUE  
Project Manager

Gent, 30 MAART 2009



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 3 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.

## 1. IDENTIFICATION OF THE PRODUCT

Commercial name: "F-NB"

Description of the material: The tested product consists of a homogeneous white polypropylene sheet.

Description of the material				
	Nominal values (*)		Measured values (**)	
Thickness (mm)	0,4	1	0,39	0,97
Surface mass (g/m <sup>2</sup> )	368	920	350	875
Volumic mass (kg/m <sup>3</sup> )	920		900	

(\*) 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 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	40	40	40	40
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				
	0:33	0:25	0:08	0:08	0:07
5	<u>Observations on the backside of the</u> <u>sample</u> Flames/glowing at time (1) min : s				
	0:33	0:25	0:08	0:08	0:07
6	Colouring at time (1) min : s				
	No	No	No	No	No
7	<u>Flaming droplets</u> Start at (1) min : s				
	0:25	0:26	0:16	0:14	0:12
8	Dimension : Single falling droplets				
	-	-	-	-	-
9	Continuous falling droplets				
	till 2:45	till 3:05	till 1:45	till 1:36	till 2:34
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				
	Yes	Yes	Yes	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 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	8,6	3,2	1,7	2,9	1,8
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	43 42 53 56	45 41 51 49	43 47 43 53	42 41 53 47	53 51 54 49
32 Average of the separate measurements cm	48,5	46,5	46,5	45,75	51,75
<u>Smoke gas temperature</u>					
33 Max of the average values °C	126,7	125,3	127,9	126,4	127,3
34 at time (1) min : s	6:51	10:00	9:18	9:27	9:30
35 Graph in Annex Nr.	1	2	3	4	5
36 <u>Remarks</u>	Samples A & B: 1mm Samples C & D & E: 0,4mm				

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

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

**0,4mm**

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)	5	5	5	5	5
Extinguished after (s)	No	No	No	No	No
Maximum Flame height within the first 20s (cm) reached after (s)	3 5	3 5	4 5	3 5	6 5
Smoke development	Moderate	Moderate	Moderate	Moderate	Moderate
Time of flaming droplets (s)	No	No	No	No	No

**1mm**

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)	14	15	15	14	15
Extinguished after (s)	No	No	No	No	No
Maximum Flame height within the first 20s (cm) reached after (s)	4 15	3 15	4 14	3 14	3 15
Smoke development	Moderate	Moderate	Moderate	Moderate	Moderate
Time of flaming droplets (s)	No	Ja	No	No	No

### 3. Assessment

The building material, described on page 2, has complied with the requirements for non-readily ignitable 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, and for the following range:

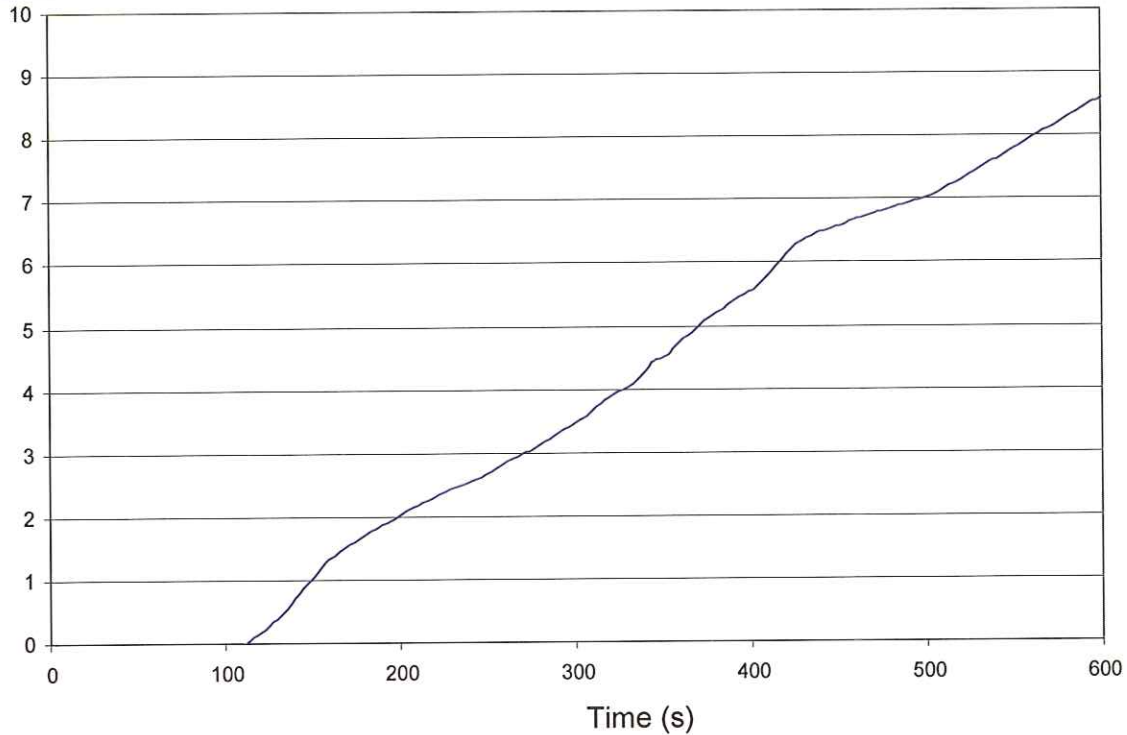
Thickness: from 0,4mm till 1mm

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.

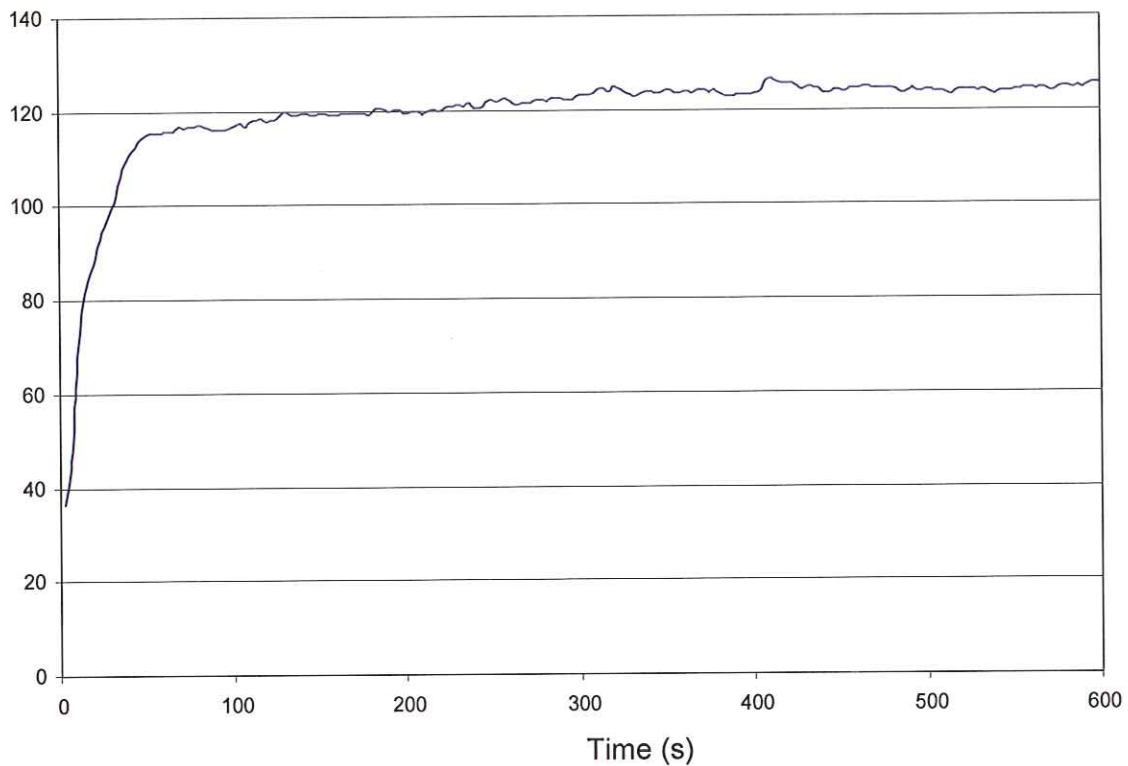
**Graph of Smoke Attenuation for Sample A**

Smoke (%.min)



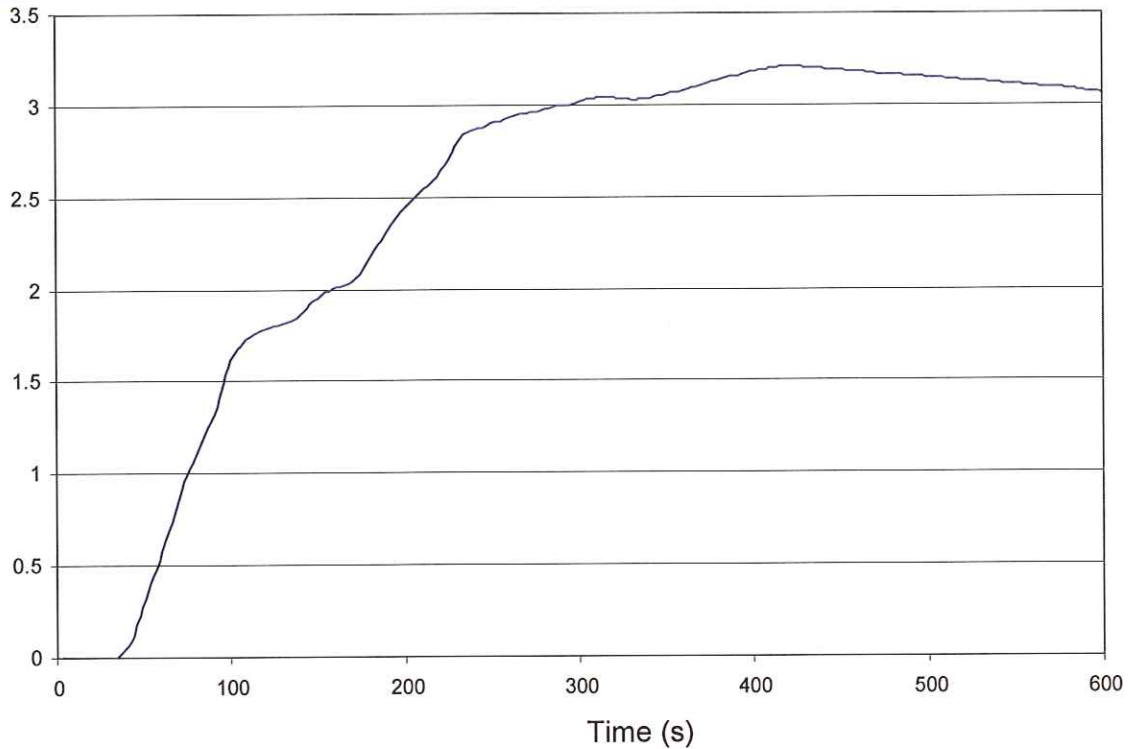
**Graph of Smoke Gas Temperature for Sample A**

Temperature (°C)



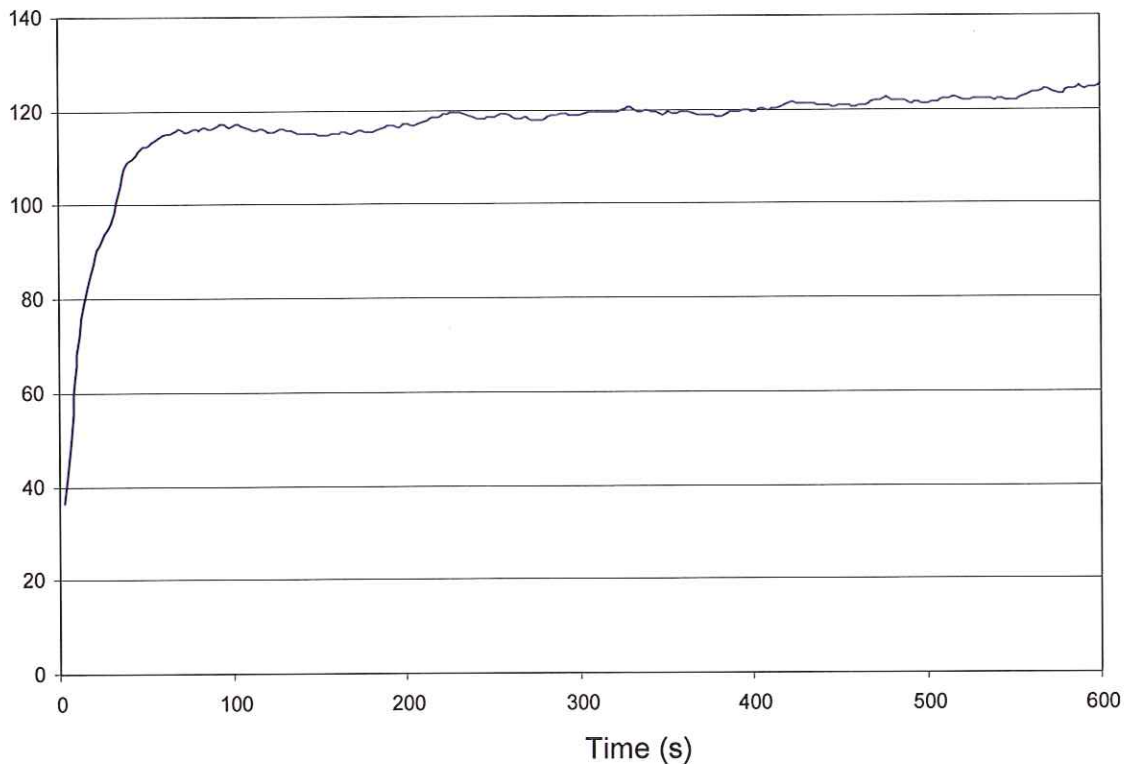
**Graph of Smoke Attenuation for Sample B**

Smoke (%.min)



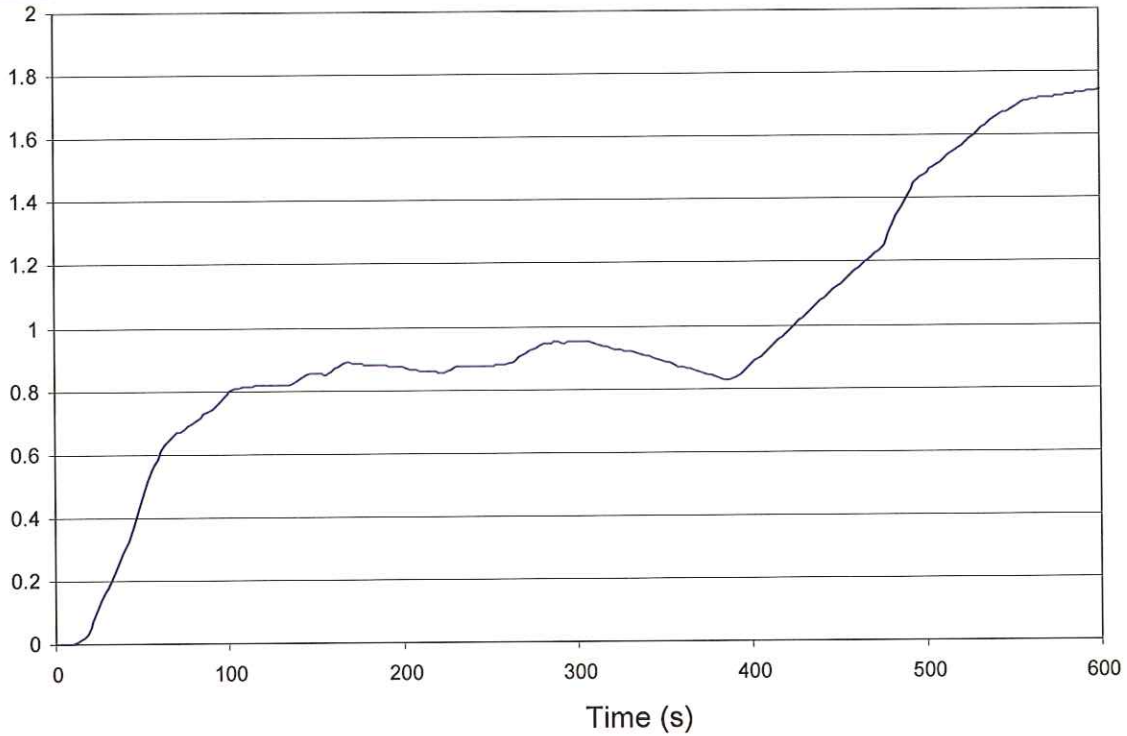
**Graph of Smoke Gas Temperature for Sample B**

Temperature (°C)



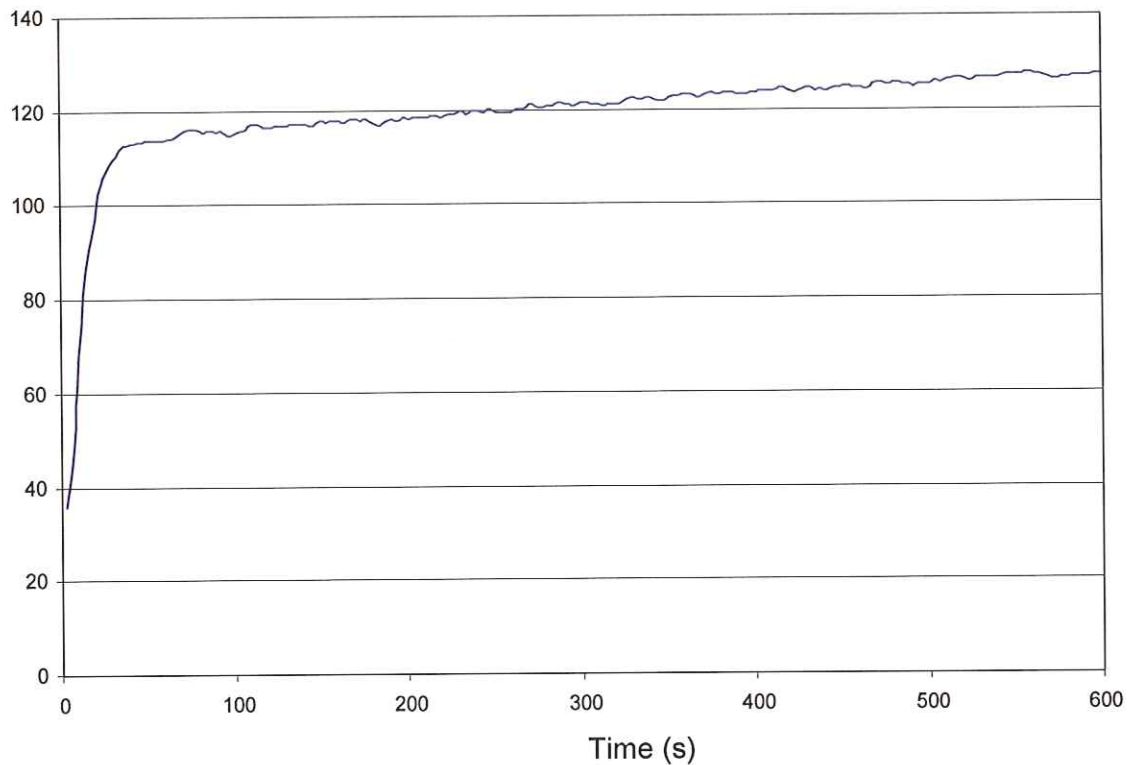
**Graph of Smoke Attenuation for Sample C**

Smoke (%.min)

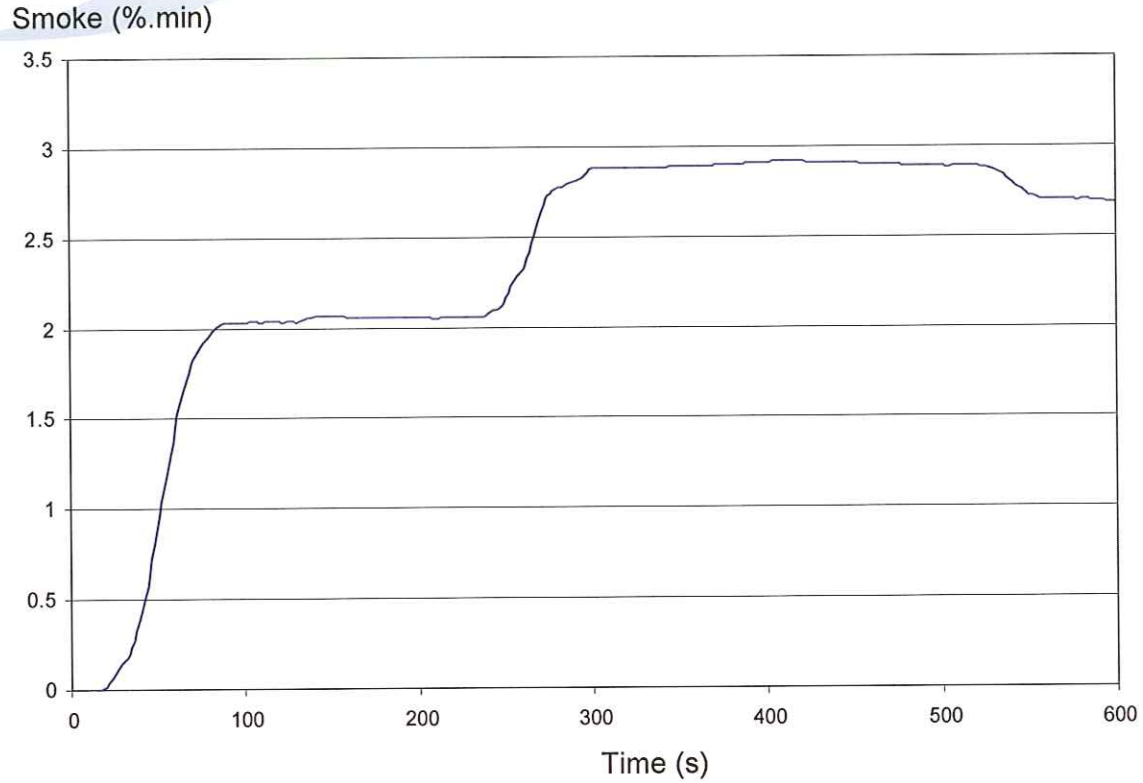


**Graph of Smoke Gas Temperature for Sample C**

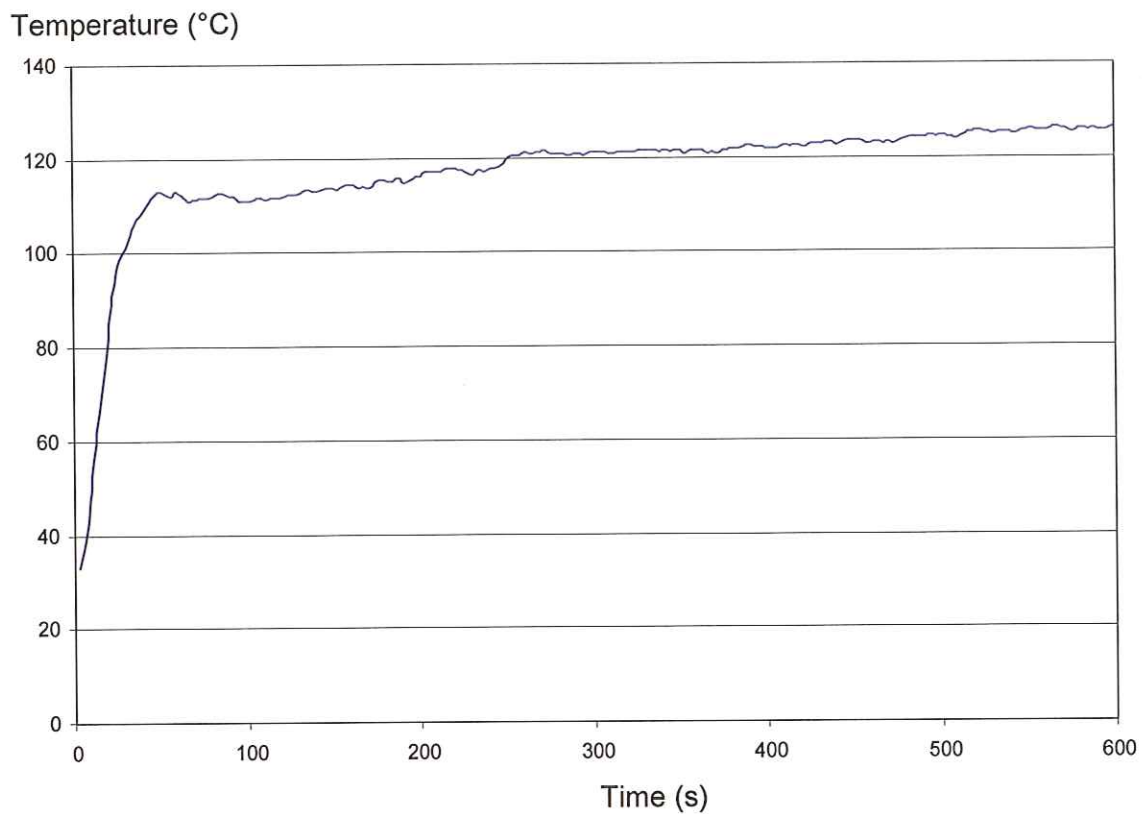
Temperature (°C)



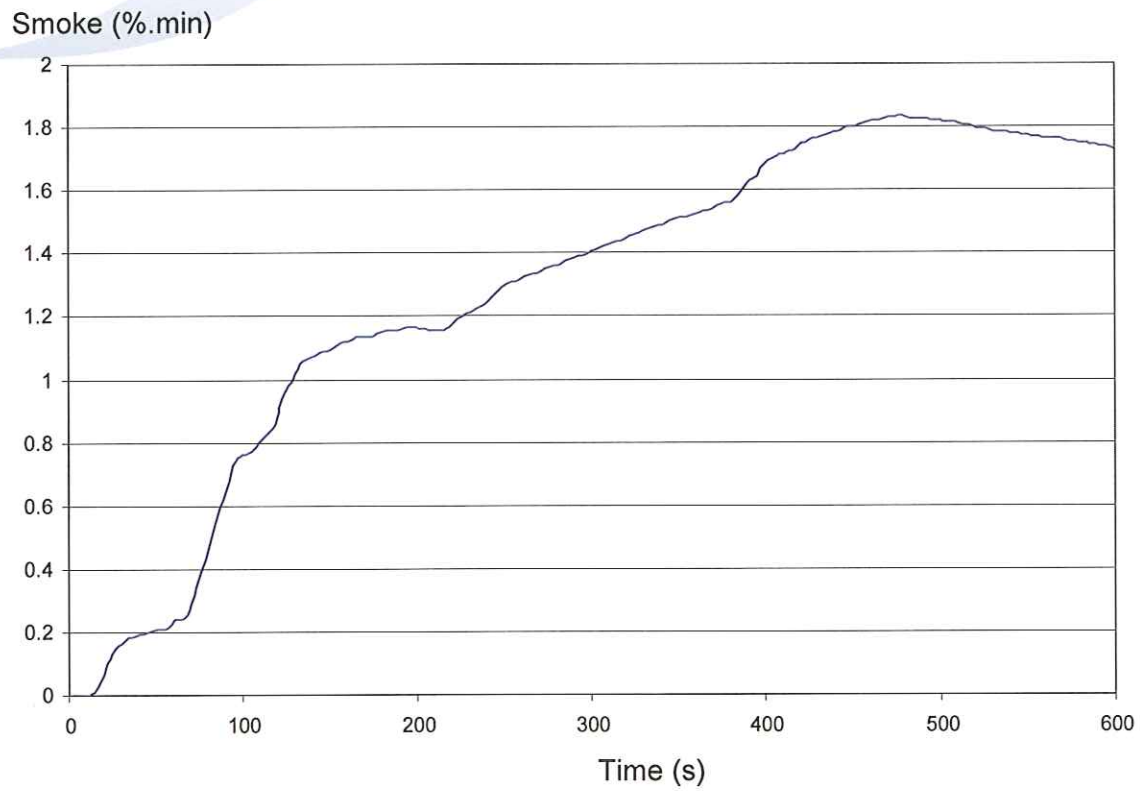
**Graph of Smoke Attenuation for Sample D**



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



**Graph of Smoke Attenuation for Sample E**



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

