Test report

Hallingdal, 70% new wool, 30% viscose, Duraflam

Name of client:	Kvadrat A/S		
File no.:	PFA10929A		
Date:	2016-09-22		
Pages:	4	**Encl.:**	0
Ref:	JAG / MPA		

Danish Institute of Fire and Security Technology

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DANAK
Test Reg.no. 12

Client information

Client: Kvadrat A/S

Address: Lundbergsvej 10
DK-8400 Ebeltoft
Denmark

The results relate only to the items tested. The test report should only be reproduced in extenso - in extracts only with a written agreement with this institute.

1. Product

KVADRAT upholstery cover material

Trade name

Hallingdal

2. Description

70% new wool, 30% viscose, Duraflam

3. Manufacturer

The client is the manufacturer.

4. Purpose of test

By request of the client dated 2016-08-30, the product has been subjected to the test procedure of EN ISO 11925-2:2010.

5. Sample

On 2016-08-31 DBI - Danish Institute of Fire and Security Technology received the following sample:

One pc. of Hallingdal with overall dimensions 4060 x 1315 x 1.9 mm, the weight per unit area, at 20 °C (undried) was determined to 656 g/m^2.

Further material specification was given by the client and has been filed at DBI under the above file number.

6. Conditioning

2016-09-12 the specimens were stored in a conditioning room with an atmosphere of relative humidity of 50 ± 5% at a temperature of 23 ± 2 °C. The specimens were kept in this room until the tests were performed.

7. Test method

The test was performed in accordance with:

EN ISO 11925-2:2010 and EN ISO 11925-2: 2010/AC:2011	Reactions to fire test – Ignitability of products subjected to direct impingement of flame Part 2: Single-flame source test.

8. Test results

Date of test: 2016-09-16
Flame application time: 30 sec.
Test running time: 60 sec.

Edge flame impingement

Specimen No.	Ignition (yes/no)	Flame spread > 150 mm	Time (sec) to reach 150 mm mark	Ignition of filter paper (yes/no)
1L	Yes	No	-	No
2L	Yes	No	-	No
3L	Yes	No	-	No
4C	Yes	No	-	No
5C	Yes	No	-	No
6C	Yes	No	-	No

L: Lengthwise C: Crosswise

Surface flame impingement

Specimen No.	Ignition (yes/no)	Flame spread > 150 mm	Time (sec) to reach 150 mm mark	Ignition of filter paper (yes/no)
1L	Yes	No	-	No
2L	Yes	No	-	No
3L	Yes	No	-	No
5L	Yes	No	-	No
5C	Yes	No	-	No
6C	Yes	No	-	No

L: Lengthwise C: Crosswise

9. Comment

These test results relate only to the behaviour of the product under the particular conditions of the test, and they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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Test report

Hallingdal, 70% new wool, 30% viscose, Duraflam

Name of client:	Kvadrat A/S		
File no.:	PFA10929B		
Date:	2016-10-04		
Pages:	5	Encl.:	5
Ref:	JAG / MPA		

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Client information

Client:	Kvadrat A/S
Address:	Lundbergsvej 10
	8400 Ebeltoft
	Denmark

The results relate only to the items tested. The test report should only be reproduced in extenso - in extracts only with a written agreement with this institute.

Indicative test

1. Product

KVADRAT upholstery cover material.

Trade name

Hallingdal.

2. Description

70% new wool, 30% viscose, Duraflam.

3. Manufacturer

The client is the manufacturer.

4. Nature of test

By request of the client, the product has been subjected to the test procedures of EN 13823:2010 + A1:2014.

5. Sample

On 2016-08-31 DBI - Danish Institute of Fire and Security Technology received the following sample:

One pc. of Hallingdal with overall dimensions 4060 x 1315 x 1.9 mm. The weight per unit area, at 20°C (undried) was determined to 656 g/m^2.

Further material specification, given by the client, has been filed at DBI under the above file number.

One test specimen was prepared from the sample to EN 13823.

6. Conditioning

On 2016-09-12 the specimen was stored in a conditioning room with an atmosphere of relative humidity of 50 ± 5 % and a temperature of 23 ± 2 °C. The test specimens was kept in this room until the tests were performed.

7. Mounting of specimen for Single Burning Item test

A standard mounting of specimen was carried out in accordance with EN 13823 as follows:

Mounting: Standard mounting option b) in clause 5.2.2 of EN 13823.

Substrate: 10 mm calcium silicate, cf. EN 13238.

Fixing means: The textile was clipped on the back of the substrate.

Joints: Mounted without joints.

The specimen was assembled by DBI.

8. Test method

The test was performed in accordance with:

EN 13823:2010 + A1:2014 Reaction to fire tests for building products - Building products excluding flooring exposed to the thermal attack by a single burning item.

9. Test results

Date of test: 2016-10-03.

One test was performed.

During the test the following measurements were made: Volume flow in the exhaust duct, production of carbon dioxide, concentration of oxygen, and production of light-obscuring smoke. Based on these measurements the rate of heat release and the rate of smoke production were calculated.

The graphs, enclosures 1-4, show for the 3 tests performed:

Enclosure 1
- Average Heat Release Rate $HRR_{av}(t)$
- Total Heat Release THR (t)

Enclosure 2
- Average Heat Release Rate per unit time [1000 x $HRR_{av}(t)/(t-300)$]
- $Figra_{0.2MJ}$-values

Enclosure 3
- $Figra_{0.4\ MJ}$-values
- Smoke Production Rate $SPR_{av}(t)$

Enclosure 4

- Total Smoke Production TSP(t)
- Smoke Production Rate per unit time [10000 x SPR_{av}(t)/(t-300)]

The test results are shown in table 1.

	Test No. 1
$FIGRA_{0.2\ MJ}$ [W/s]	199.3
$FIGRA_{0.4\ MJ}$ [W/s]	7.7
THR_{600s} [MJ]	1.45
SMOGRA [m^2/s^2]	29.1
$TSP_{600\ s}$ [m^2]	55.7
$FDP_{f\leq 10s}$ [yes/no]	No
$FDP_{f>10s}$ [yes/no]	No
LFS < edge of specimen [yes/no]	Yes

Table 1.

$FDP_{f\leq 10s}$: Flaming Droplets/Particles burning less than 10 seconds.
$FDP_{f>10s}$: Flaming Droplets/Particles burning more than 10 seconds.
LFS: Lateral Flame Spread on the long wing of the test specimen.

There were no recorded observations of significance during the test.
Photographs of the test specimen show the effect of the damages, see enclosure 5.

10. Statement

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 criterion for assessing the potential fire hazard of the product in use.

The product designated Hallingdal, 70% new wool, 30% viscose, Duraflam, indicates to fulfil the criteria for a class C-s2,d0 product according to EN 13501-1:2007 + A1:2009.

This report can not be used for classification purpose or for approval by the authorities.

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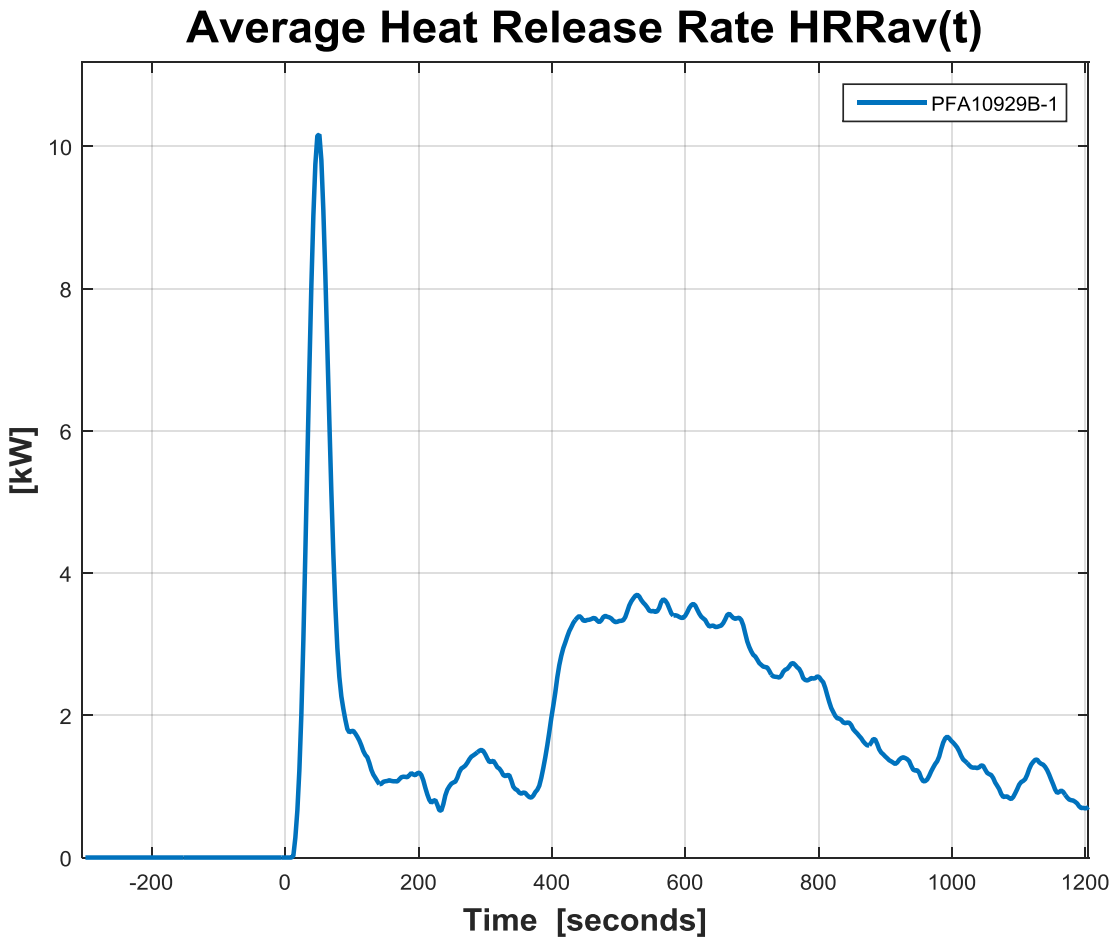
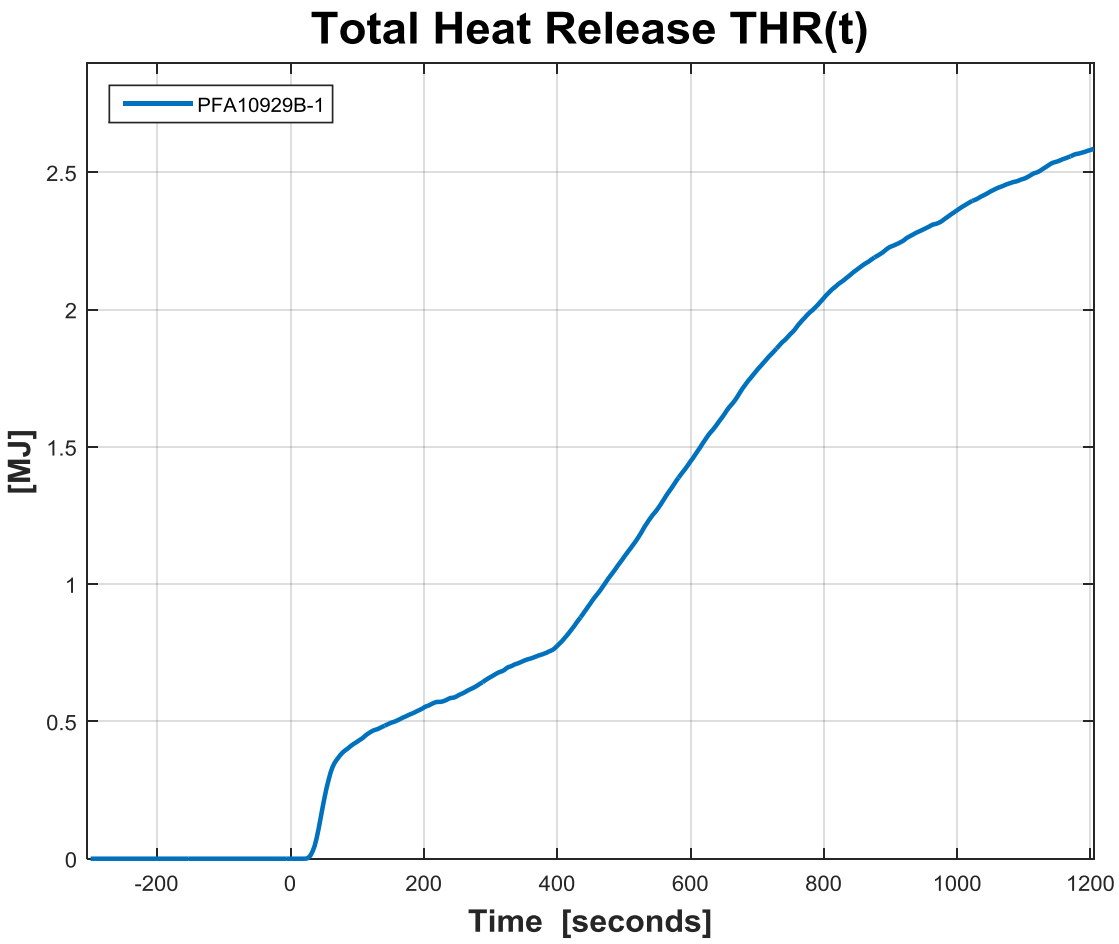
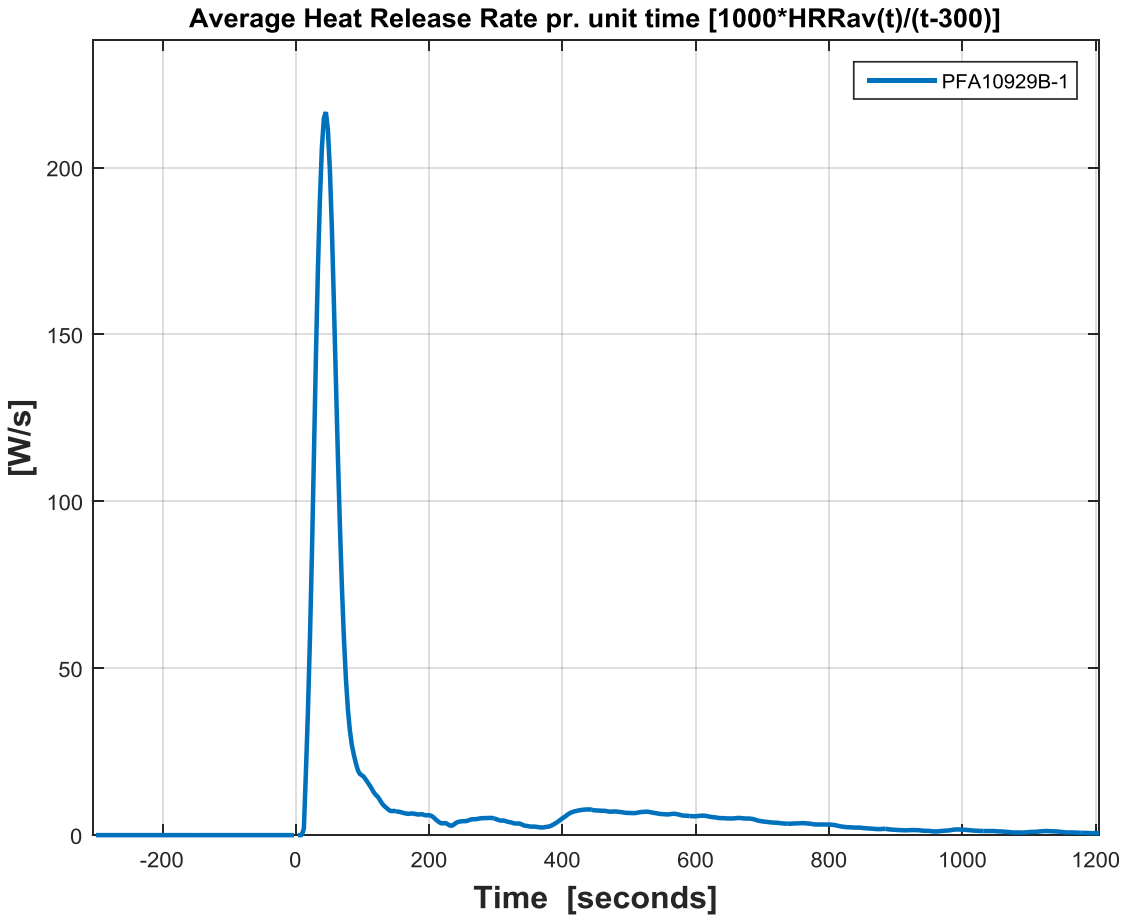
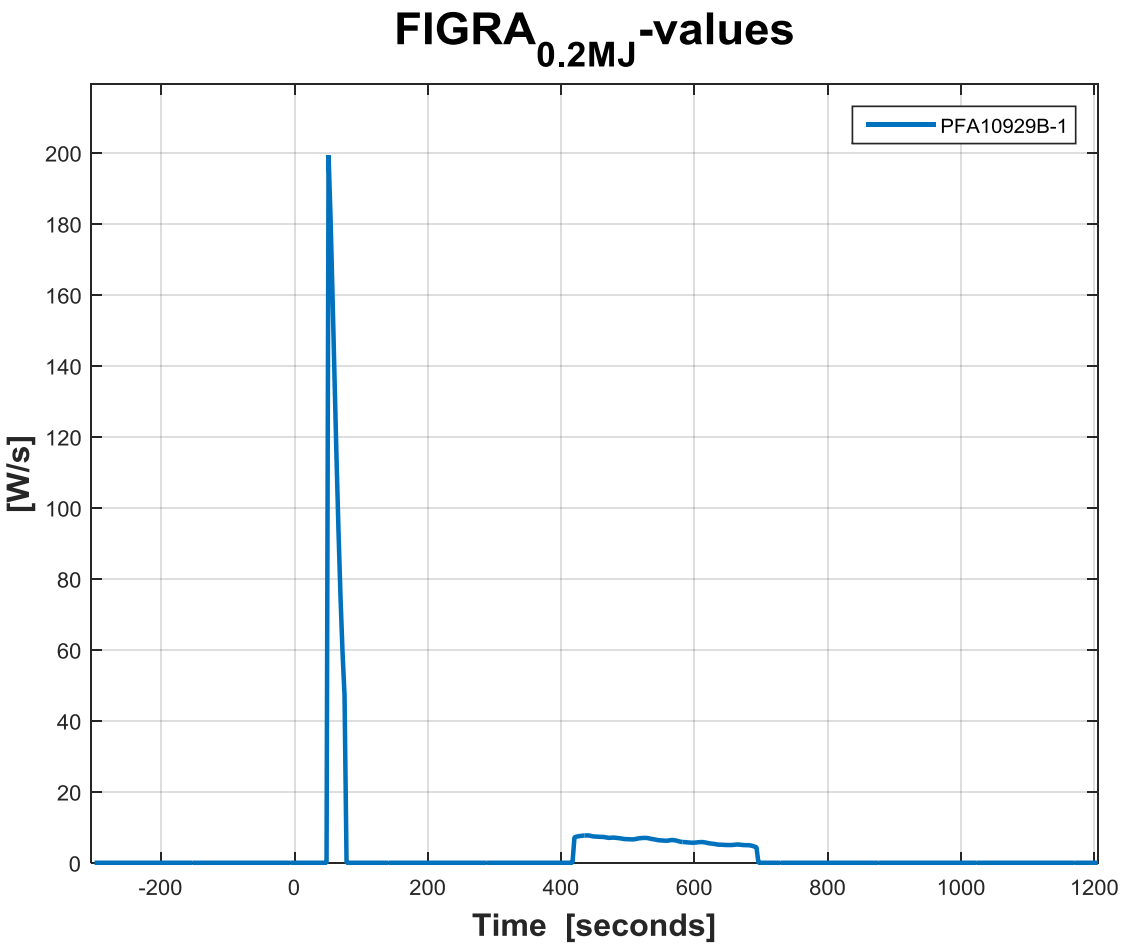
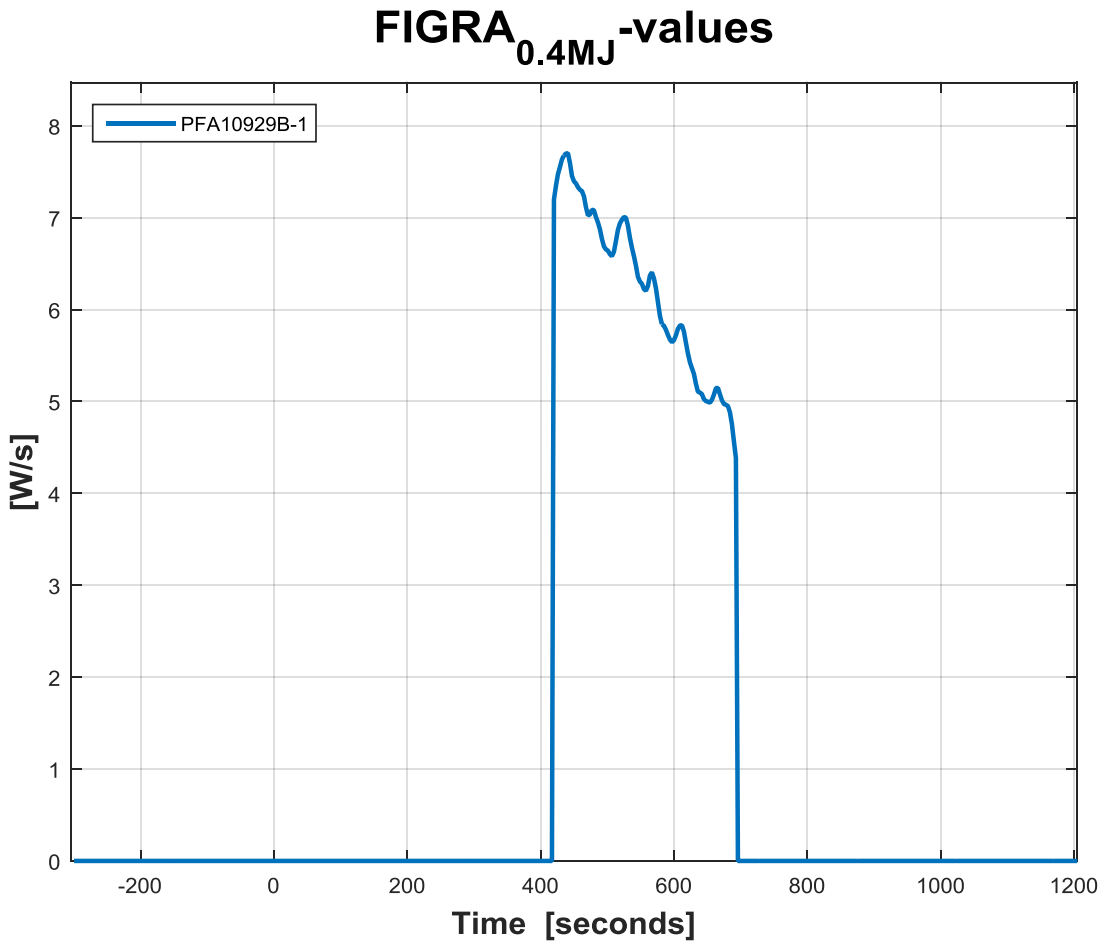
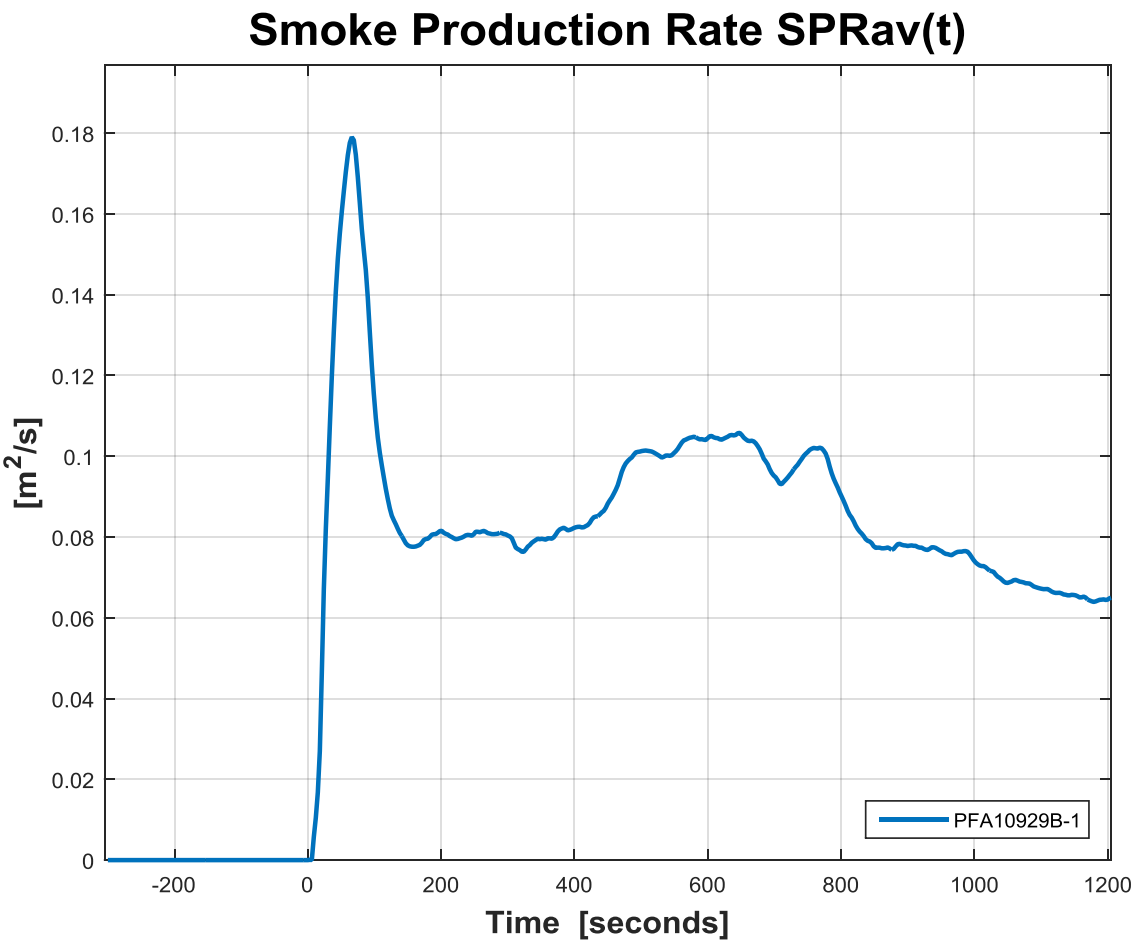

Average Heat Release Rate HRRav(t)
PFA10929B-1
[kW]
0
2
4
6
8
10
-200
0
200
400
600
800
1000
1200
Time [seconds]

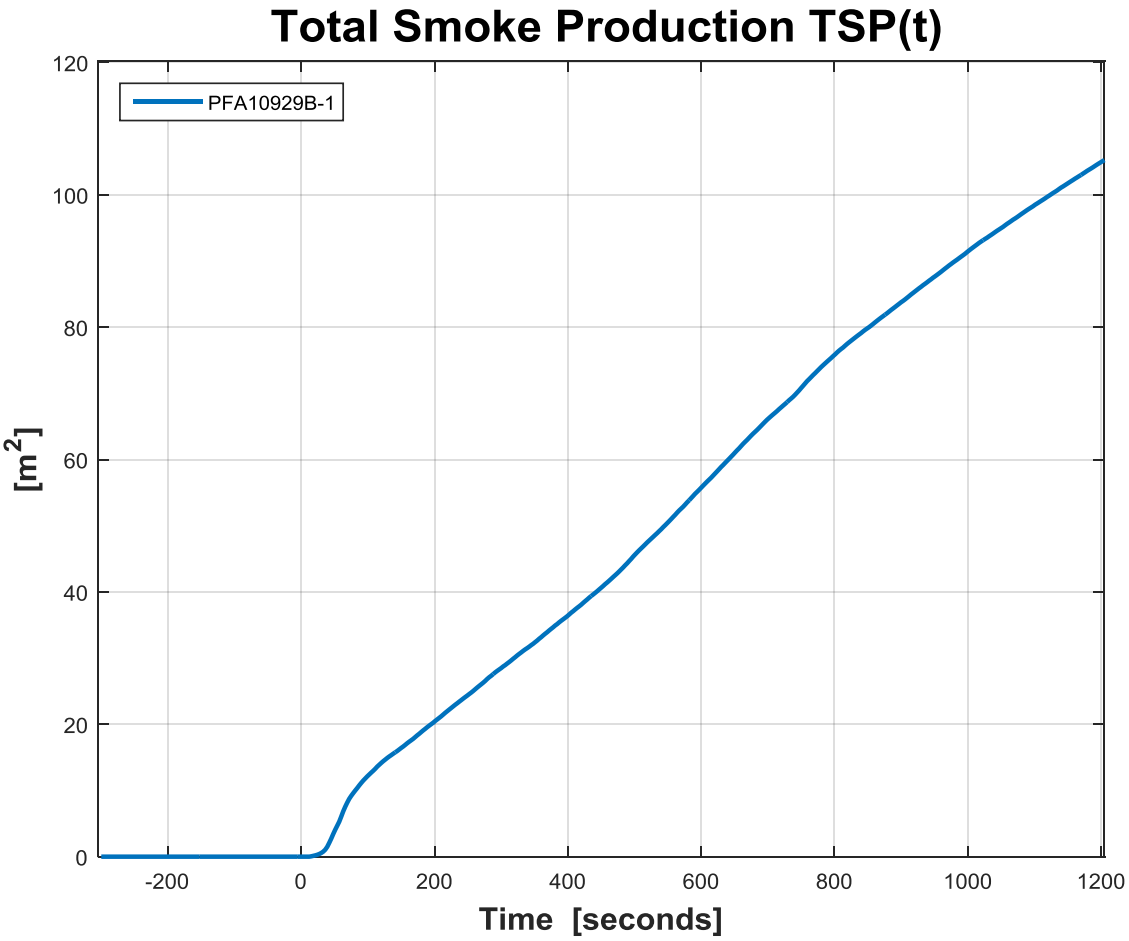

Total Heat Release THR(t)
PFA10929B-1
[MJ]
0
0.5
1
1.5
2
2.5
-200
0
200
400
600
800
1000
1200
Time [seconds]

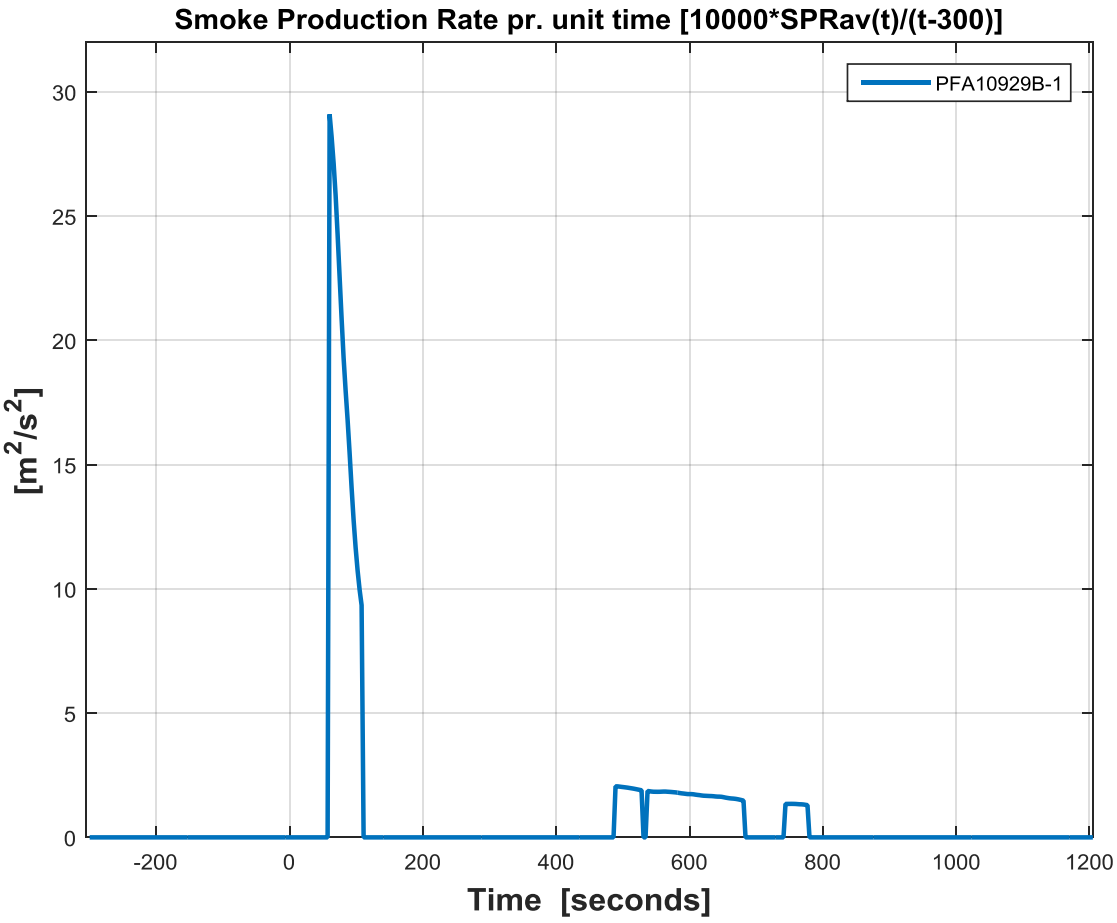

Average Heat Release Rate pr. unit time [1000*HRRav(t)/(t-300)]
PFA10929B-1
[W/s]
0
50
100
150
200
-200
0
200
400
600
800
1000
1200
Time [seconds]


FIGRA0.2MJ-values
PFA10929B-1
[W/s]
0
20
40
60
80
100
120
140
160
180
200
-200
0
200
400
600
800
1000
1200
Time [seconds]

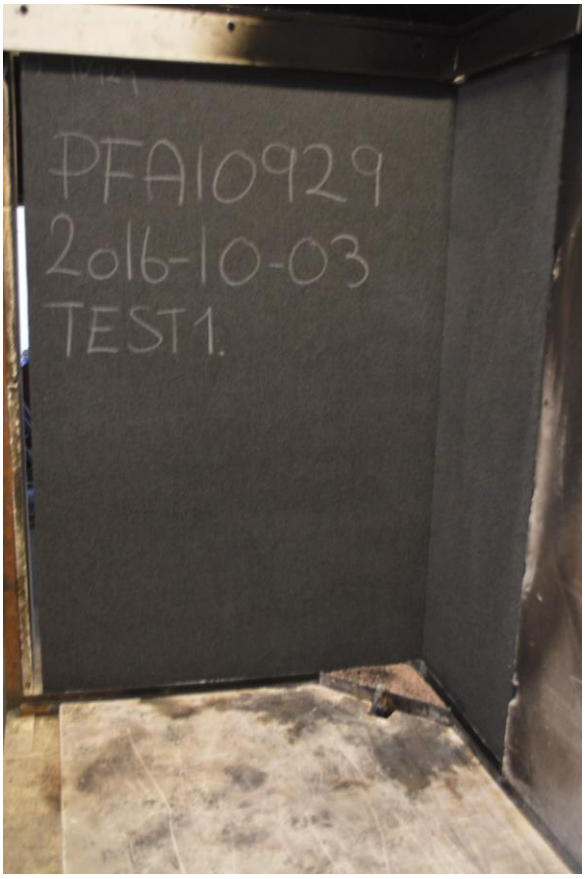

FIGRA0.4MJ-values
PFA10929B-1
[W/s]
Time [seconds]
0
1
2
3
4
5
6
7
8
-200
0
200
400
600
800
1000
1200

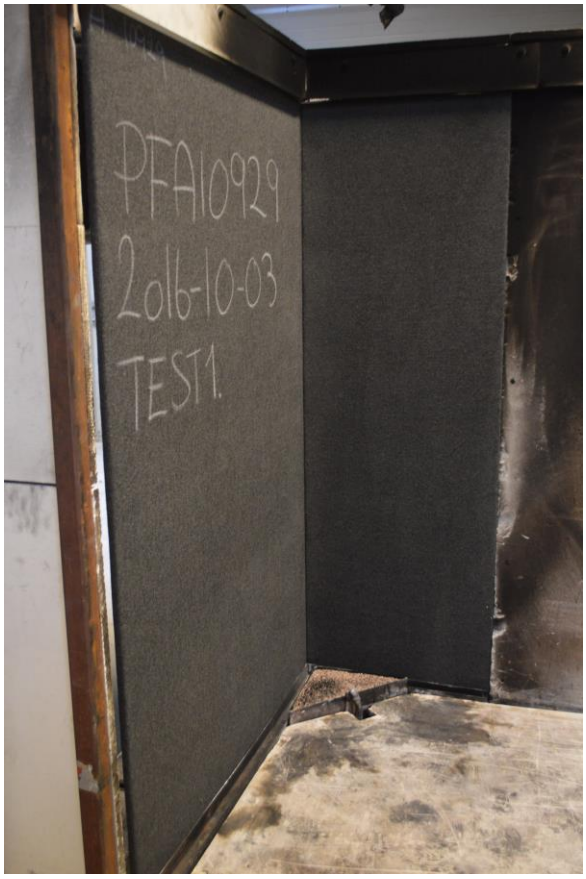

Smoke Production Rate SPRav(t)
PFA10929B-1
[m2/s]
Time [seconds]
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0.18
-200
0
200
400
600
800
1000
1200

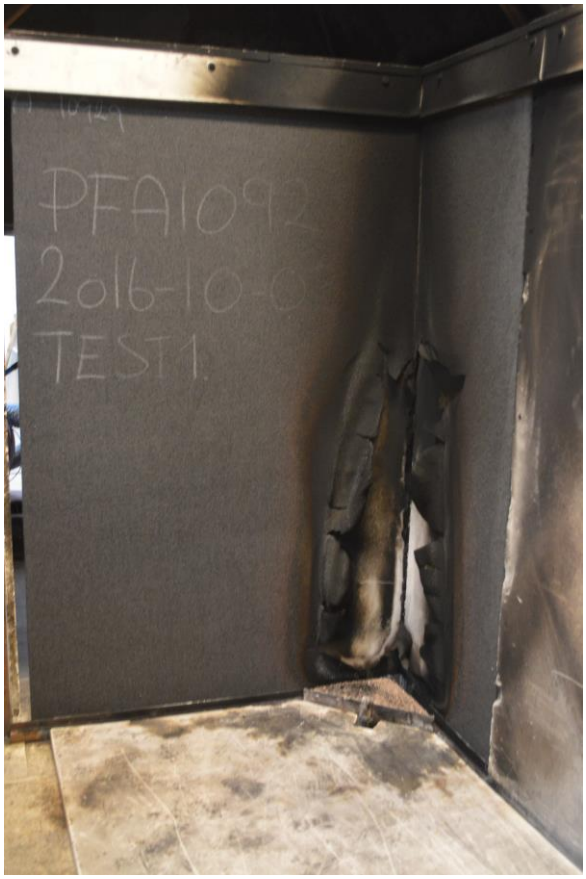

Total Smoke Production TSP(t)
PFA10929B-1
[m2]
Time [seconds]
0
20
40
60
80
100
120
-200
0
200
400
600
800
1000
1200


Smoke Production Rate pr. unit time [10000*SPRav(t)/(t-300)]
PFA10929B-1
[m2/s2]
Time [seconds]
0
5
10
15
20
25
30
-200
0
200
400
600
800
1000
1200

TEST NO. 1


PFA10929
2016-10-03
TEST1.


PFA10929
2016-10-03
TEST1.


TEST1.


TEST1.