

# Test report

AquaWrite Whiteboard paint, White



Name of client: WriteWall Paint ApS  
File no.: PFA11242A  
Date: 2018-09-13  
Pages: 6                      Encl.: 8  
Ref: JAG / MPA



**DBI**

## Client information

Client: WriteWall Paint ApS  
Address: Theilgaards Alle 9A  
DK-4600 Køge  
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**

White 2-component paint system for white boards (in-situ painted).

### **Trade name**

AquaWrite whiteboards paint, White.

## **2. Manufacturer**

The client is the manufacturer.

## **3. Nature of test**

By request of the client dated 2018-08-29, the product has been subjected to the test procedure of EN 13823:2010 + A1:2014 and EN ISO 11925-2: 2010/AC:2011

## **4. Sample**

On 2018-09-05 DBI - Danish Institute of Fire and Security Technology received the following sample:

2 kits, 550 mL base and 185 mL hardener per kit, of 5 m<sup>2</sup> of AquaWrite Whiteboard paint, White.

Further information was given by the client and is filed at DBI under the above file number.

Three test specimens were prepared from the sample to EN 13823 and the sample was also used for EN ISO 11925-2

## **5. Preparation and mounting of specimens for Single Burning Item test**

2018-09-05 the AquaWrite Whiteboard paint White and primer was mixed and painted evenly on 12.5 mm gypsum plasterboard substrates from DBI's stock with paint roller. The wet and dry conditioned weights of the paint were measured by DBI with a calibrated weight with 0.1 grams precision. The measured weights and calculated weights per unit area are shown in enclosure 1.

A standard mounting of specimens were carried out in accordance with EN 13823 as follows:

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

Substrate: 12.5 mm gypsum plasterboard, cf. EN 13238. With calcium silicate backing board directly behind the substrate

Joints: No joints

Average amount of product (wet): 108 g/m<sup>2</sup>

Average amount of product (dry): 64 g/m<sup>2</sup>

The specimens were prepared by the client under supervision of DBI personnel. All measurements were performed by DBI.

## 6. Conditioning

On 2018-09-05 the specimens were stored in a conditioning room with an atmosphere of relative humidity of  $50 \pm 5\%$  and a temperature of  $23 \pm 2\text{ }^\circ\text{C}$ . The test specimens were kept in this room until the tests were performed.

## 7. 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

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

## 8. Test results

### 8.1 EN 13823:2010 + A1:2014

Date of test: 2018-05-12

3 tests were performed.

Test 1 was prepared with long wing specimen no. 2 and short wing specimen no. 1

Test 2 was prepared with long wing specimen no. 1 and short wing specimen no. 2

Test 3 was prepared with long wing specimen no. 3 and short wing specimen no. 3

See enclosure 1.

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 2-5, show for the 3 tests performed:

#### Enclosure 2

- Average Heat Release Rate  $\text{HRR}_{\text{av}}(t)$
- Total Heat Release THR (t)

#### Enclosure 3

- Average Heat Release Rate per unit time  $[1000 \times \text{HRR}_{\text{av}}(t)/(t-300)]$
- $\text{Figra}_{0,2\text{MJ}}$ -values

#### Enclosure 4

- $\text{Figra}_{0,4\text{MJ}}$ -values
- Smoke Production Rate  $\text{SPR}_{\text{av}}(t)$
-

Enclosure 5

- Total Smoke Production TSP(t)
- Smoke Production Rate per unit time [10000 x SPR<sub>av</sub>(t)/(t-300)]

The test results are shown in the following table.

	Test No. 1	Test No. 2	Test No. 3	Mean value
FIGRA <sub>0.2 MJ</sub> [W/s]	0	38.4	47.8	<b>29</b>
FIGRA <sub>0.4 MJ</sub> [W/s]	0	0	0	<b>0</b>
THR <sub>600s</sub> [MJ]	0.44	0.77	0.60	<b>0.6</b>
SMOGRA [m <sup>2</sup> /s <sup>2</sup> ]	0	0	0	<b>0</b>
TSP <sub>600 s</sub> [m <sup>2</sup> ]	26.0	29.1	32.3	<b>29</b>
FDP <sub>f≤10s</sub> [yes/no]	No	No	No	-
FDP <sub>f&gt;10s</sub> [yes/no]	No	No	No	-
LFS < edge of specimen [yes/no]	Yes	Yes	Yes	-

FDP<sub>f≤10s</sub>: Flaming Droplets/Particles burning less than 10 seconds.

FDP<sub>f>10s</sub>: Flaming Droplets/Particles burning more than 10 seconds.

LFS: Lateral Flame Spread on the long wing of the test specimen.

No events of importance occurred during the tests.

Photographs of the test specimens show the effect of the damages, see enclosures 6-8

Enclosure 6: Test No. 1

Enclosure 7: Test No. 2

Enclosure 8: Test No. 3

**8.2 EN ISO 11925-2:2010 and EN ISO 11925-2: 2010/AC:2011**

Date of test: 2018-09-14

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

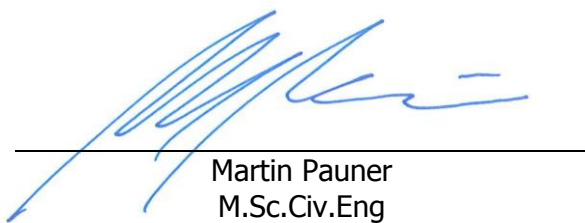
Surface flame impingement

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	No	No	-	No
3L	No	No	-	No
5L	No	No	-	No
5C	Yes	No	-	No
6C	Yes	No	-	No

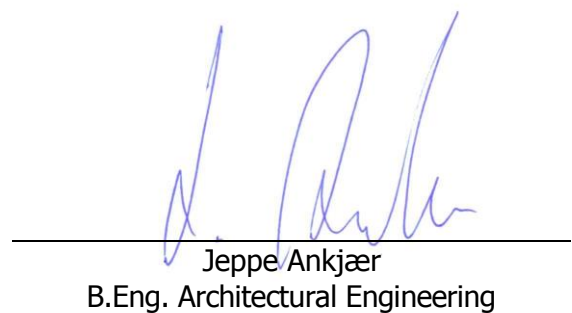
L: Lengthwise C: Crosswise

**9. 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.



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Long wing in gypsum 1500 x 1000 mm	wet paint (g/m <sup>2</sup> )	dry and conditioned paint (g/m <sup>2</sup> )
1	98	61
2	95	58
3	105	61

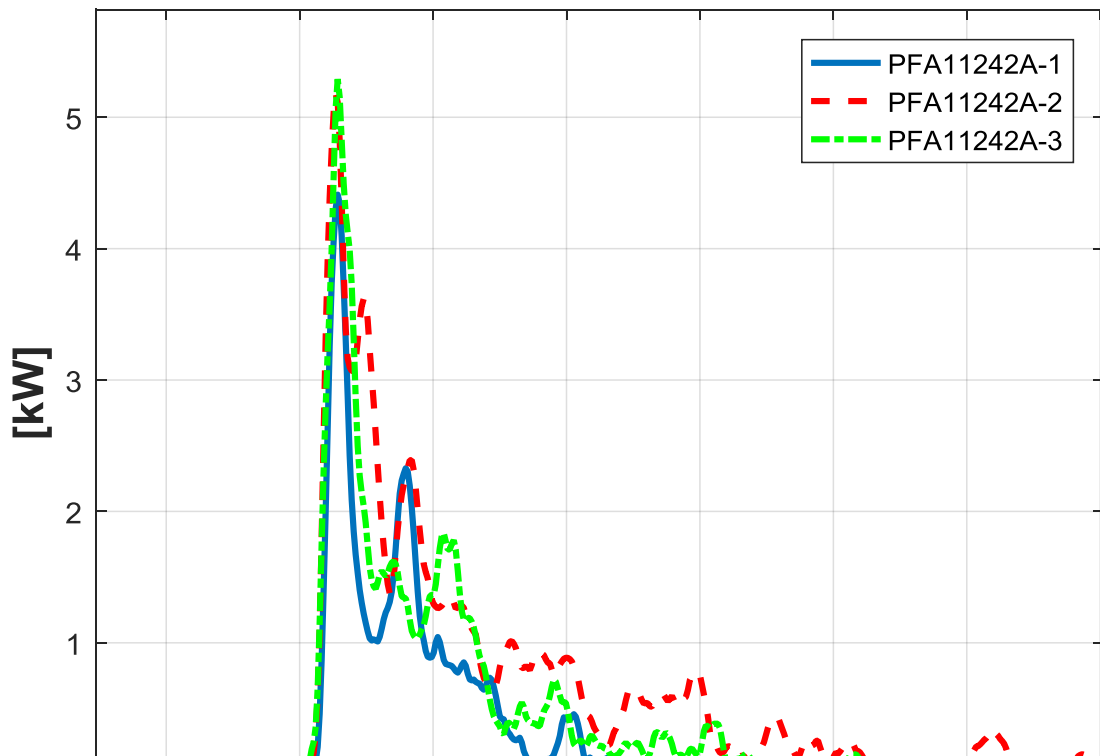
Short wing in gypsum 1500 x 495 mm	wet paint (g/m <sup>2</sup> )	dry and conditioned paint (g/m <sup>2</sup> )
1	124	72
2	118	69
3	118	69
4 (for EN ISO 11925-2)	121	71

Long wing in gypsum 1500 x 1000 mm	wet paint (g)	dry paint (g)	dry and conditioned paint (g)
1	0,147	0,1182	0,091
2	0,1418	0,1113	0,0871
3	0,1573	0,1147	0,0921

Short wing in gypsum 1500 x 495 mm	wet paint (g)	dry paint (g)	dry and conditioned paint (g)
1	0,0919	0,0698	0,0536
2	0,0873	0,0677	0,0513
3	0,0879	0,0668	0,0509

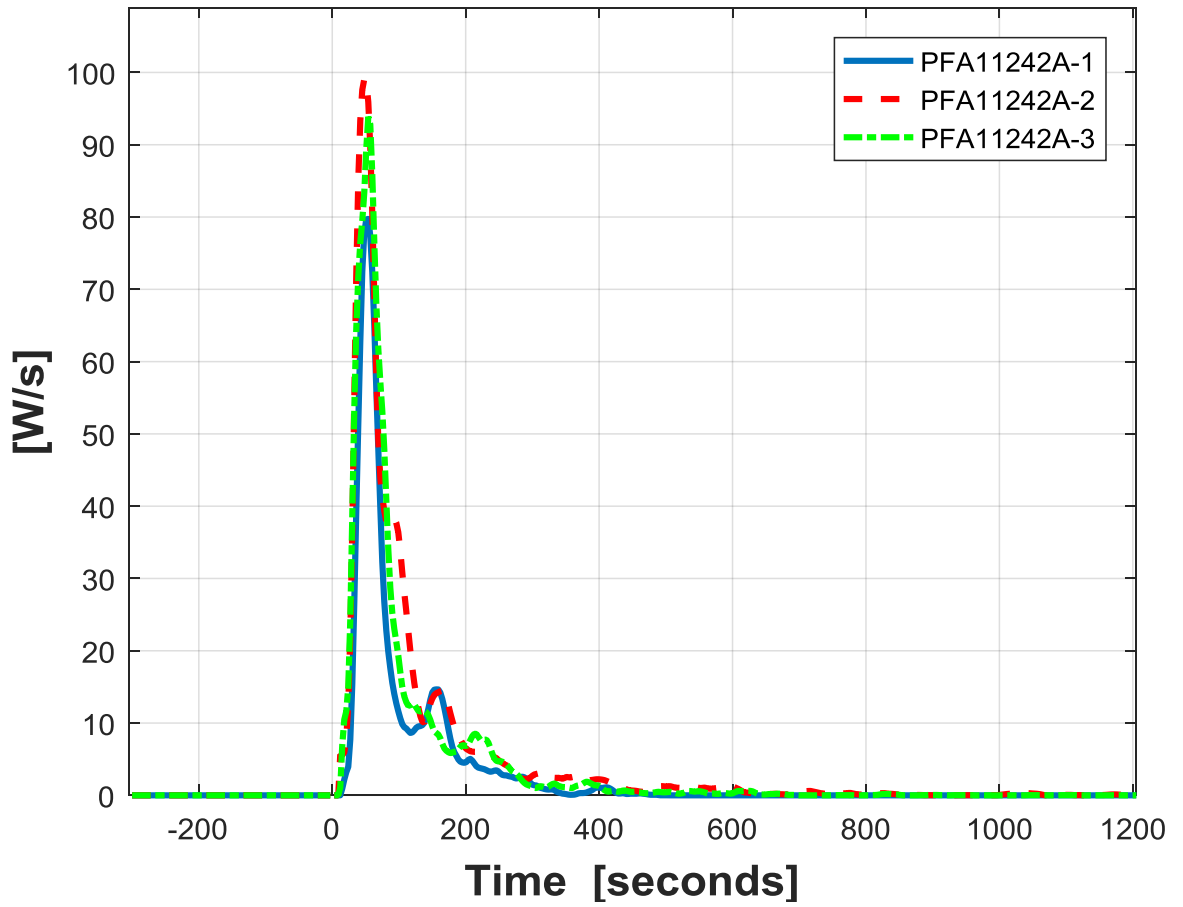
Small flame 1500 x 495 mm	wet paint (g)	dry paint (g)	dry and conditioned paint (g)
1	0,09	0,0693	0,0528

## Average Heat Release Rate HRRav(t)

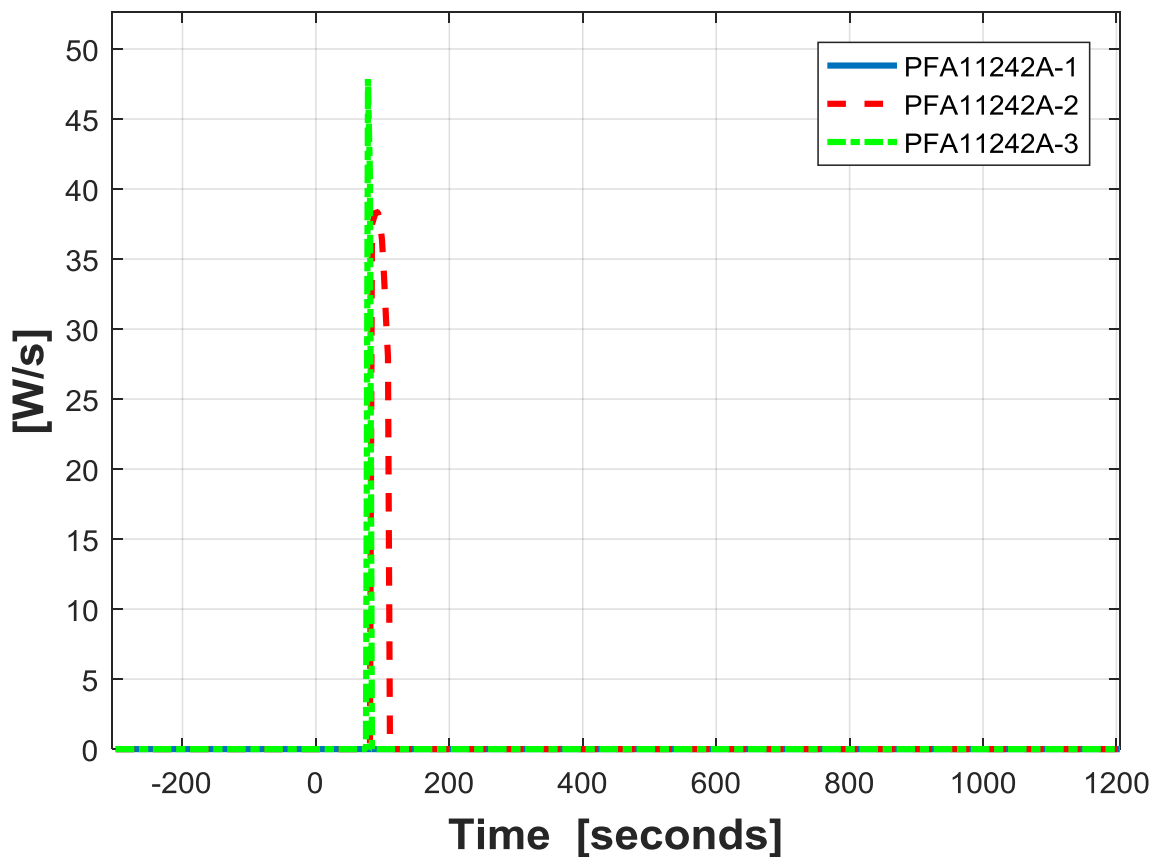




**Average Heat Release Rate pr. unit time  $[1000 \cdot HRR_{av}(t)/(t-300)]$**

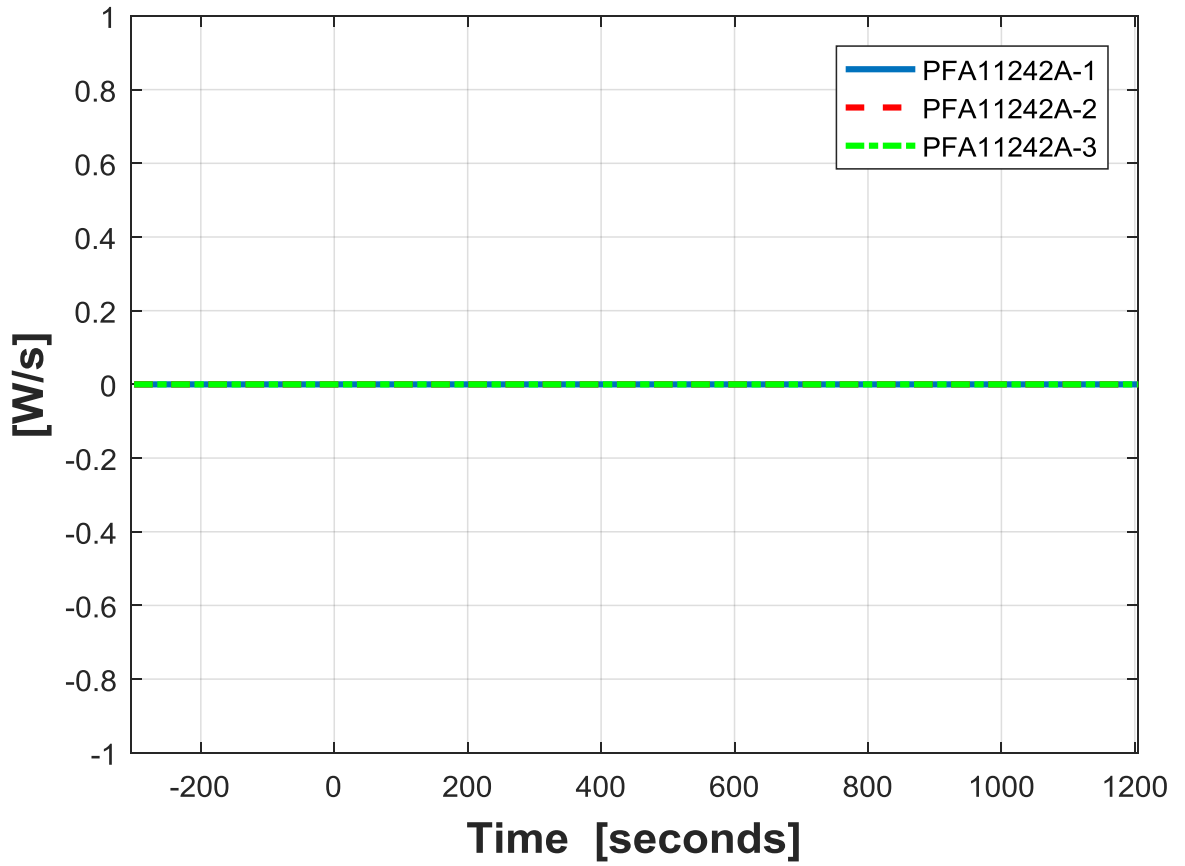


**FIGRA<sub>0.2MJ</sub>-values**

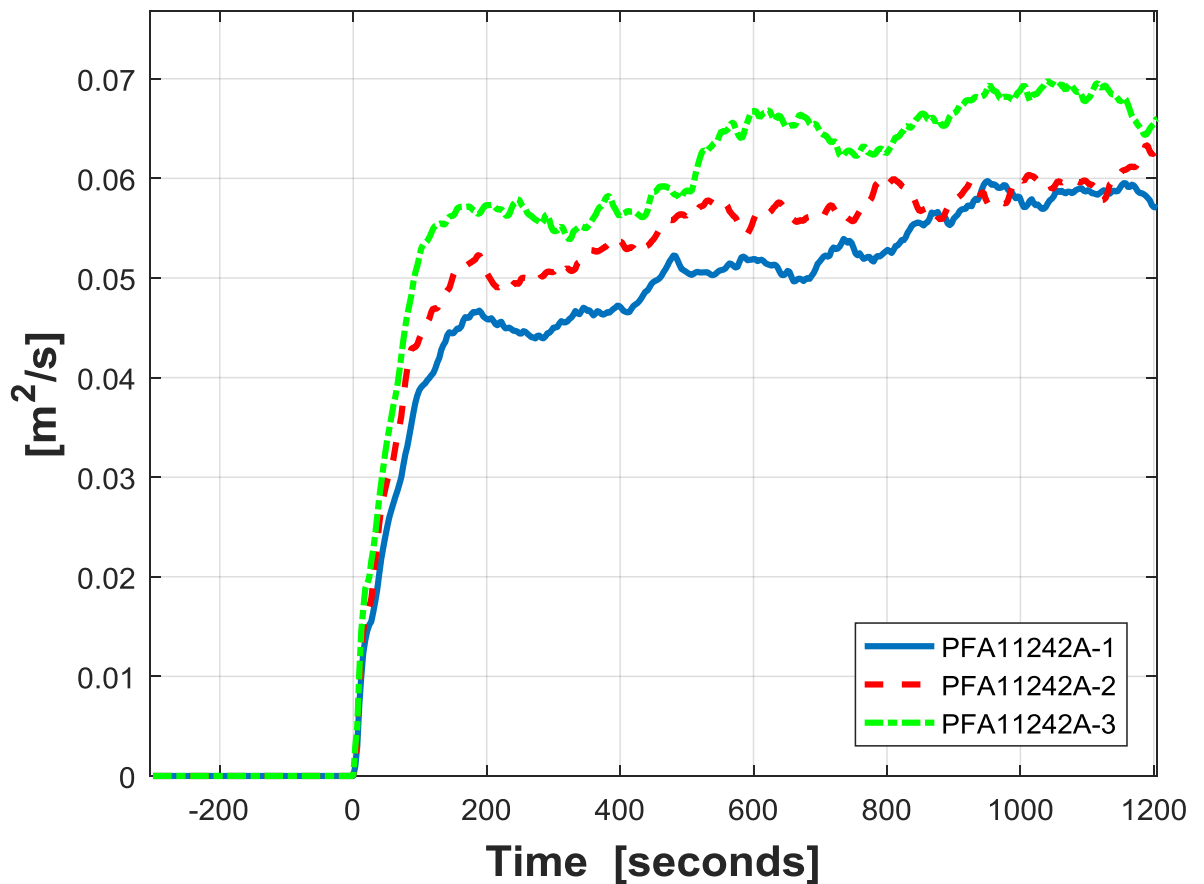




# FIGRA<sub>0.4MJ</sub>-values

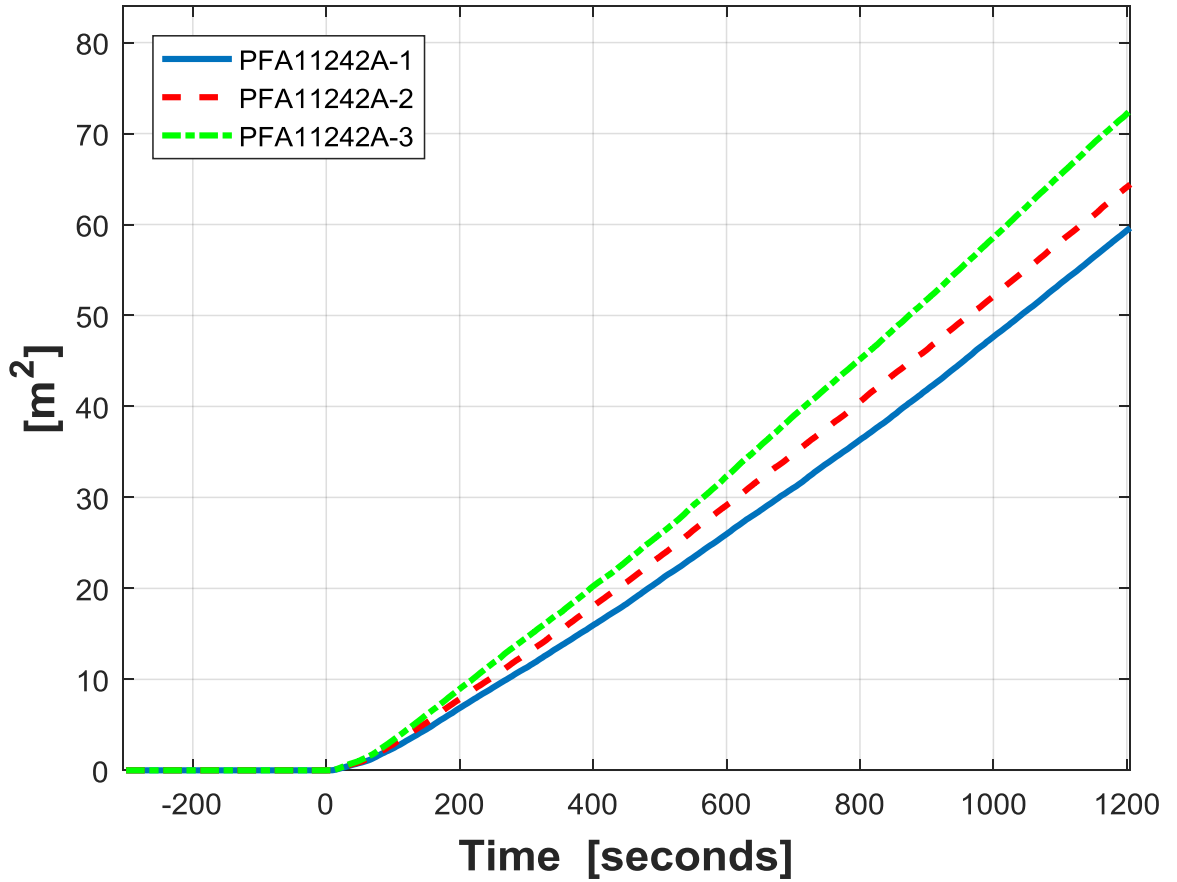


# Smoke Production Rate SPRav(t)

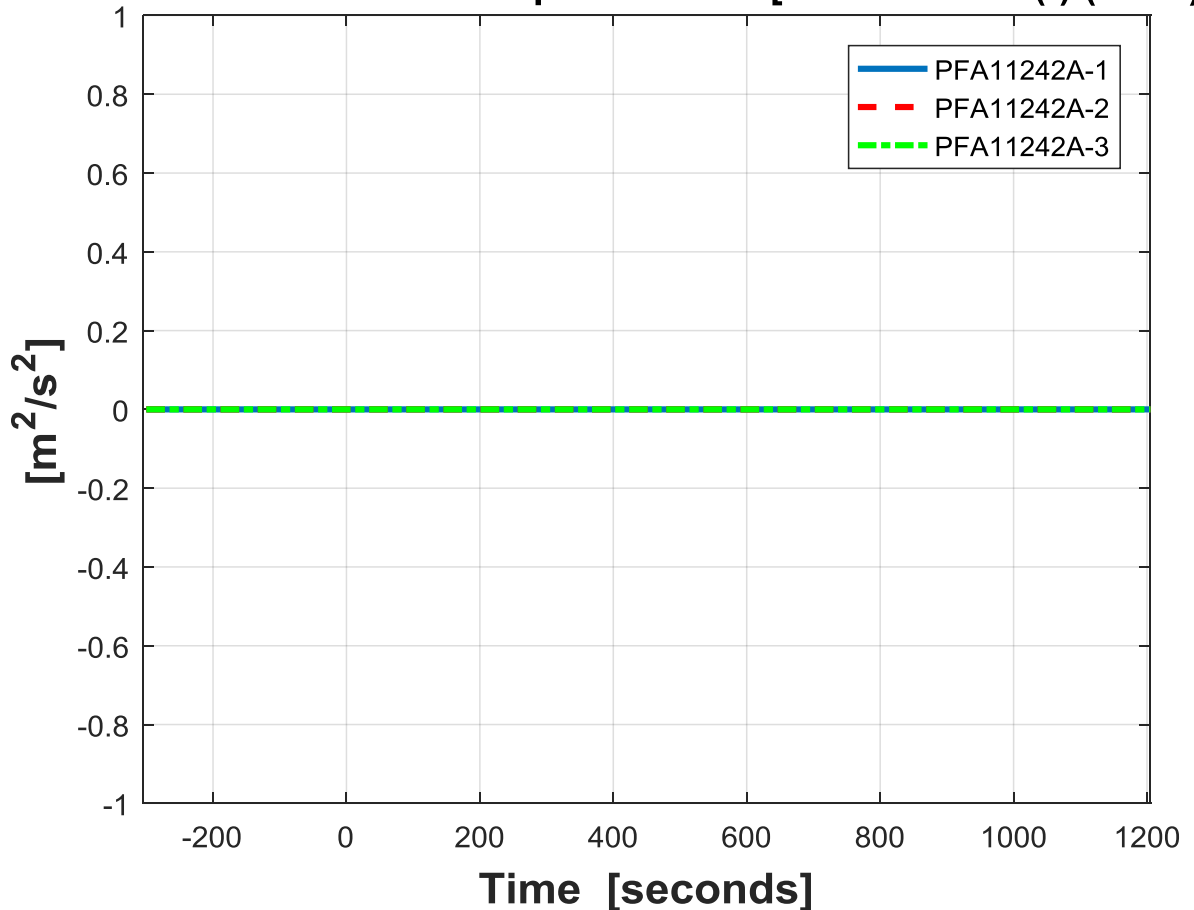




# Total Smoke Production TSP(t)



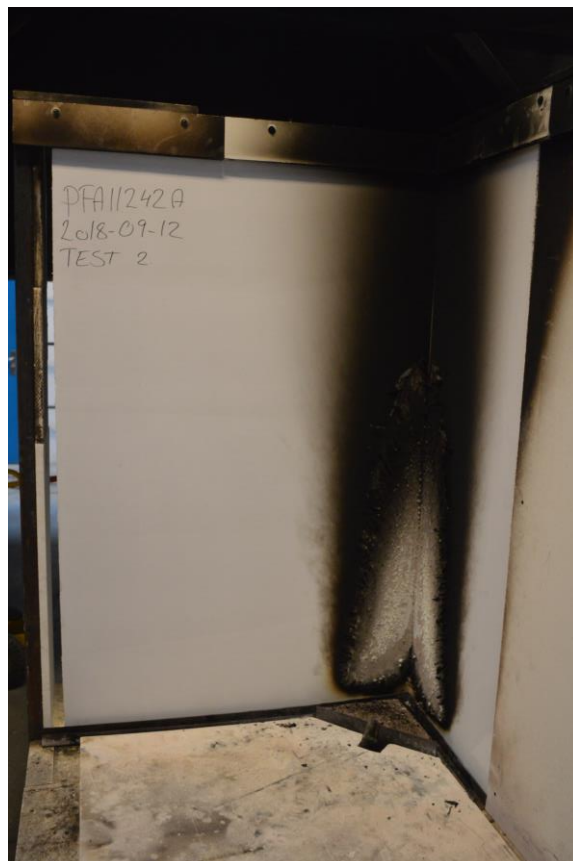
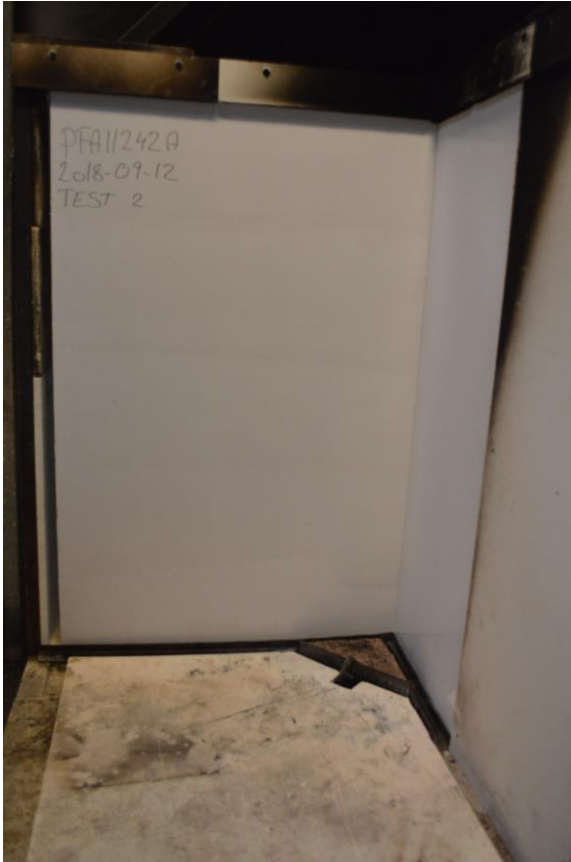
# Smoke Production Rate pr. unit time [ $10000 \cdot \text{SPRav}(t) / (t-300)$ ]



TEST NO. 1



TEST NO. 2



TEST NO. 3

