

Test report

Mix of recycled solid pine and fir boards pressure treated with Burnblock by Danish Anti-Fire fastened to wood backing strips with nails and surface burnt



Name of client: ØkoTømrer.dk ApS
File no.: PFA11445A
Date: 2019-11-18
Pages: 5 Encl.: 8
Ref: JAG / MPA

Client information

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DK-8260 Viby J
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 TESTS

1. Product

Mix of recycled solid pine and fir boards pressure treated with Burnblock by Danish Anti-Fire fastened to wood backing strips with nails and surface burnt.

2. Manufacturer

The client is the manufacturer.

3. Nature of test

With reference to DBI Certification A/S's sampling report no. CPA00462-001/2019-10-15/Burntwood AntiFire the client ordered testing in accordance with EN 13823:2010 +A1:2014.

4. Sample

DBI - Danish Institute of Fire and Security Technology received the following sample:

9 pcs. of Mix of recycled solid pine and fir boards pressure treated with Burnblock by Danish Anti-Fire fastened to wood backing strips with nails and surface burnt.

The above sample consisted of varying profile dimensions of pine and fir assembled disregarding tongue and groove connections.

The client has provided a drawing of the product shown in enclosure 1.

Three not identical test specimens were prepared from the sample to EN 13823 by reassembling the sample to fit the test equipment.

5. Mounting of specimen for Single Burning Item test

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

Thickness of board: Varying

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

Substrate: 12.5 mm gypsum plasterboard, cf. EN 13238.

Fixing means: The product was fixed to vertically oriented wooden battens

Air gap: Ventilated

Joints: Standard horizontal joint 500 mm from the floor.

Orientation of product: Vertical, the 1200 x 600 mm sample specimens were cut to 1000 x 500 mm and 500 x 500 mm specimens and stacked on top each other to make the SBI specimen.

Non flat product

Yes.

Thick profiles were cut in the top and at the bottom in order to make sure the thin profiles were flush with the U-profile of the test equipment

The specimens were assembled from the by the client

6. Conditioning

On 2019-10-18 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 methods

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

8. Test results

8.1 EN 13823:2010 + A1:2014

Date of test: 2019-11-11

3 tests were 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 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 $[10000 \times \text{SPR}_{\text{av}}(t)/(t-300)]$

The test results are shown in the following table.

	Test No. 1	Test No. 2	Test No. 3	Average
FIGRA _{0.2 MJ} [W/s]	38	27	37	34
FIGRA _{0.4 MJ} [W/s]	38	25	37	33
THR _{600s} [MJ]	3.8	2.9	4.6	3.8
SMOGRA [m ² /s ²]	3	2	3	2
TSP _{600 s} [m ²]	44	37	43	41
FDP _{f≤10s} [yes/no]	No	No	No	-
FDP _{f>10s} [yes/no]	No	No	No	-
LFS < edge of specimen [yes/no]	Yes	Yes	Yes	-
Indication of class	B-s1,d0	B-s1,d0	B-s1,d0	-

FDP_{f≤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.

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

9. Deviation from method

The nature of the sample received varied to an extent that three identical SBI build up could not be achieved. The three tests should be considered as three separate indicative tests.

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.

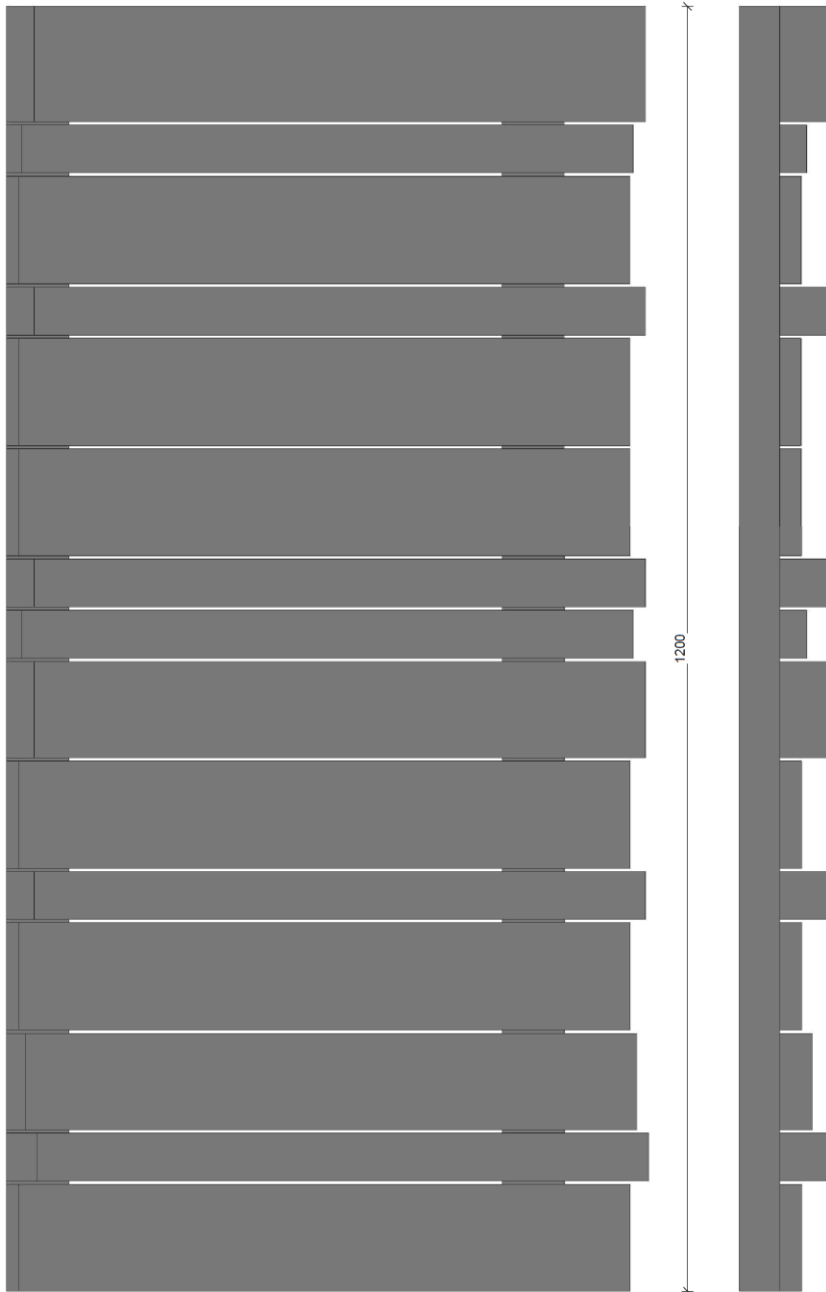
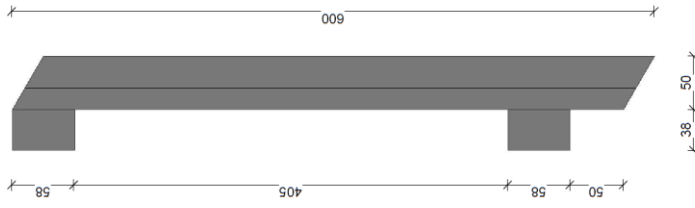
11. Copy

DBI Certification A/S

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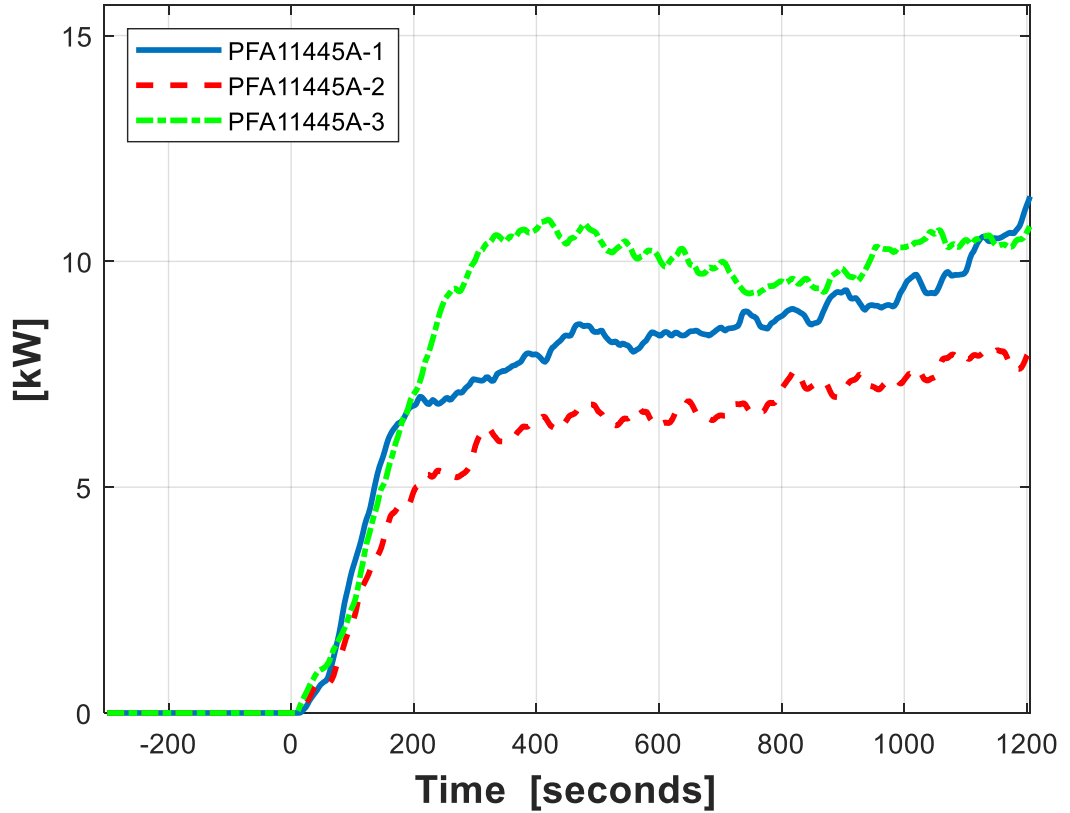
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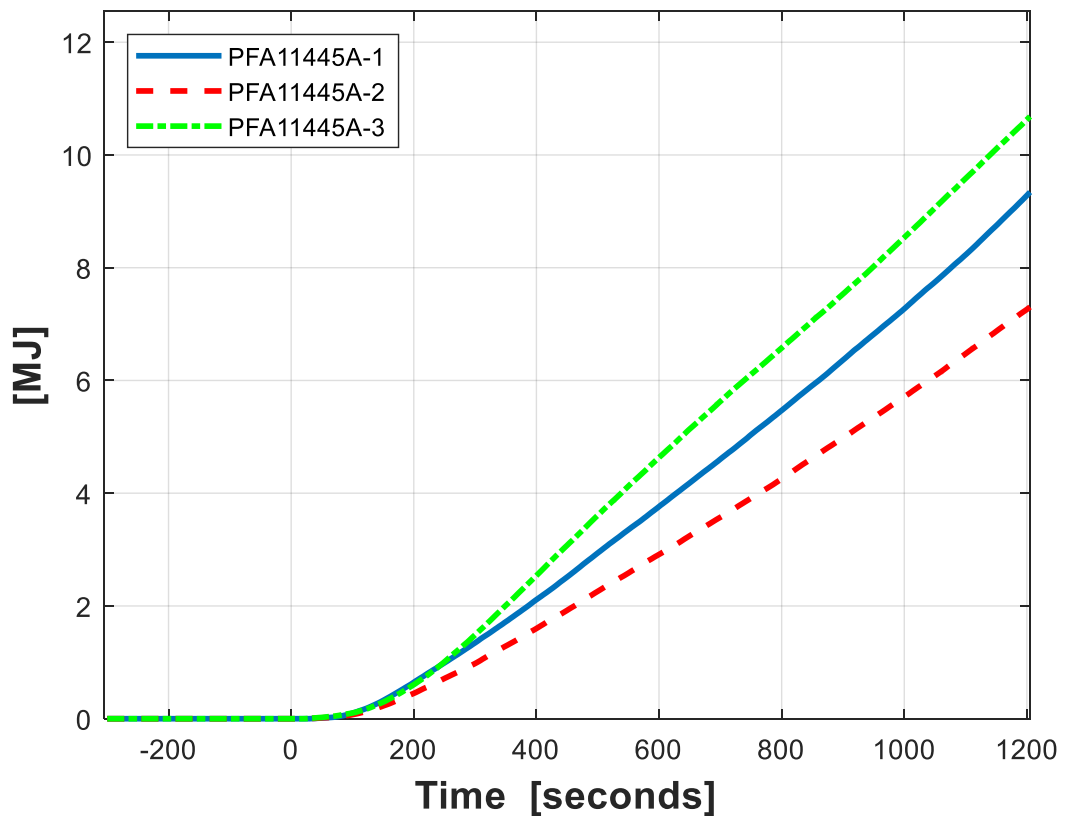




Average Heat Release Rate HRRav(t)

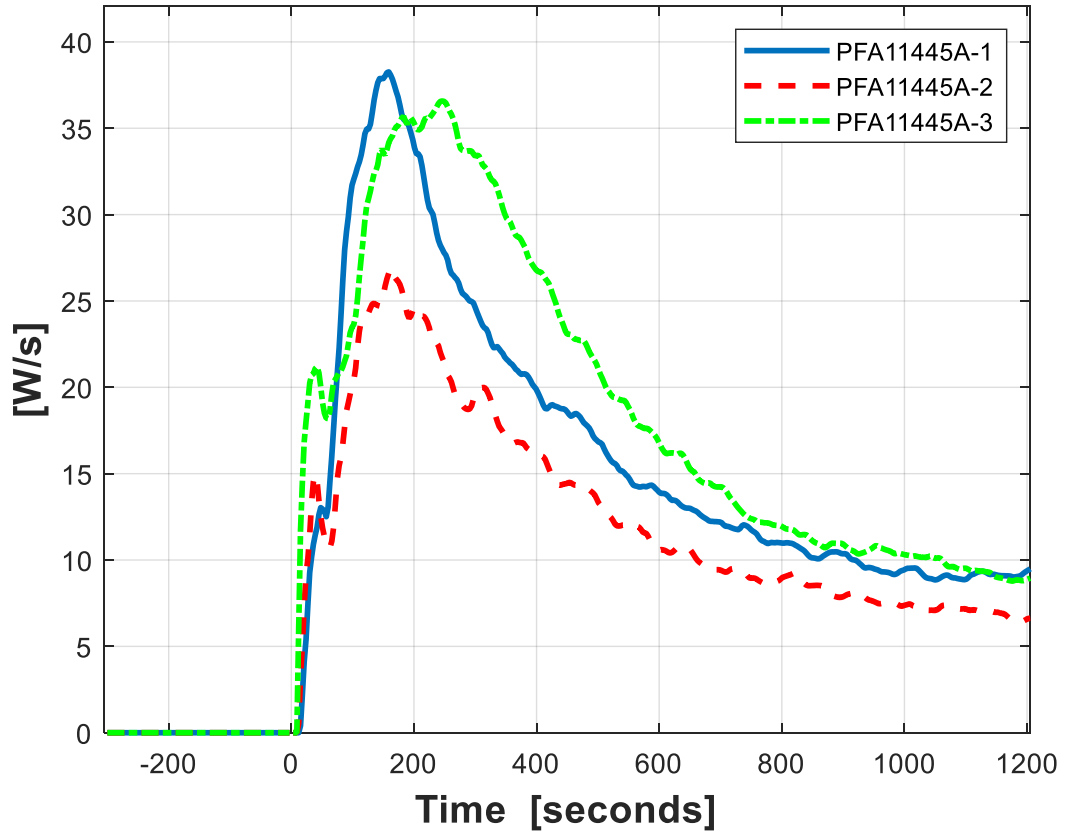


Total Heat Release THR(t)

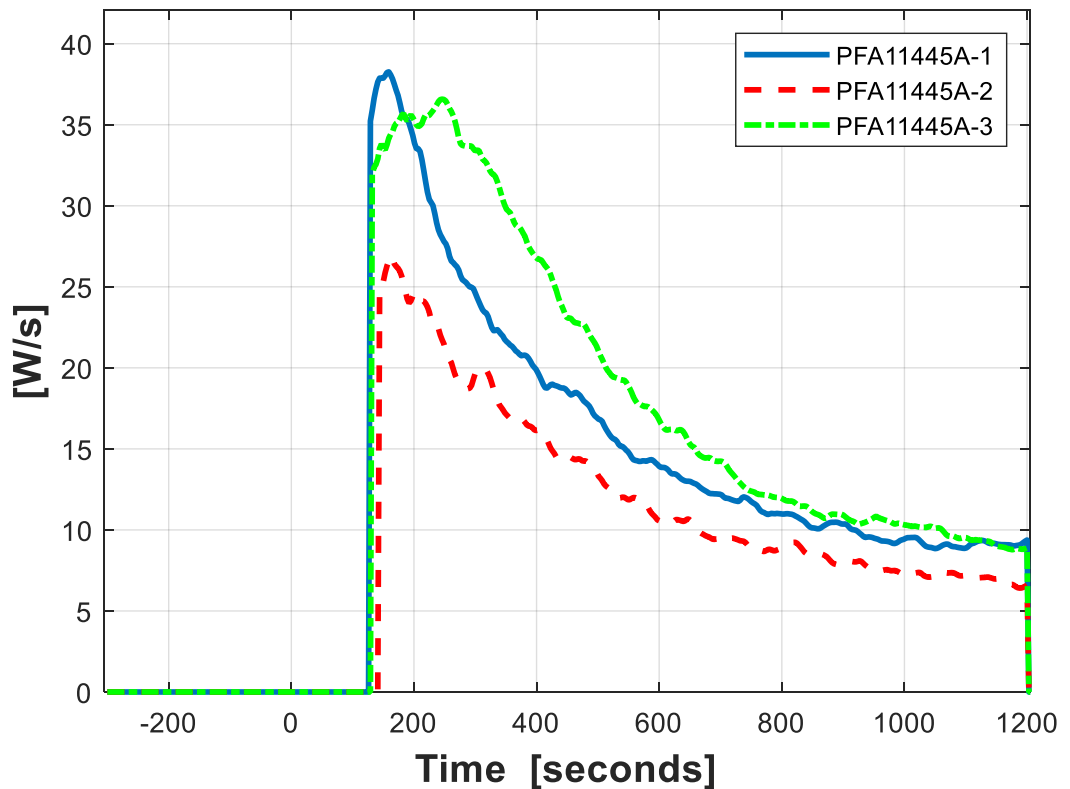




Average Heat Release Rate pr. unit time [$1000 \cdot \text{HRR}_{\text{av}}(t)/(t-300)$]

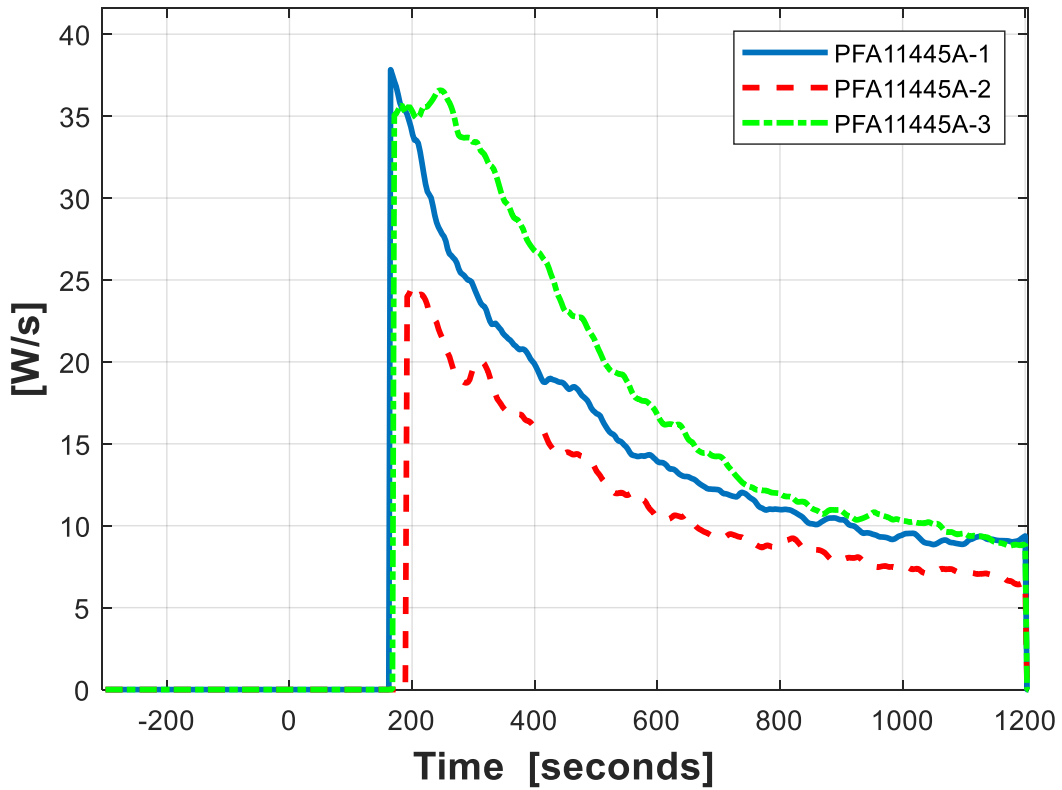


FIGRA_{0.2MJ}-values

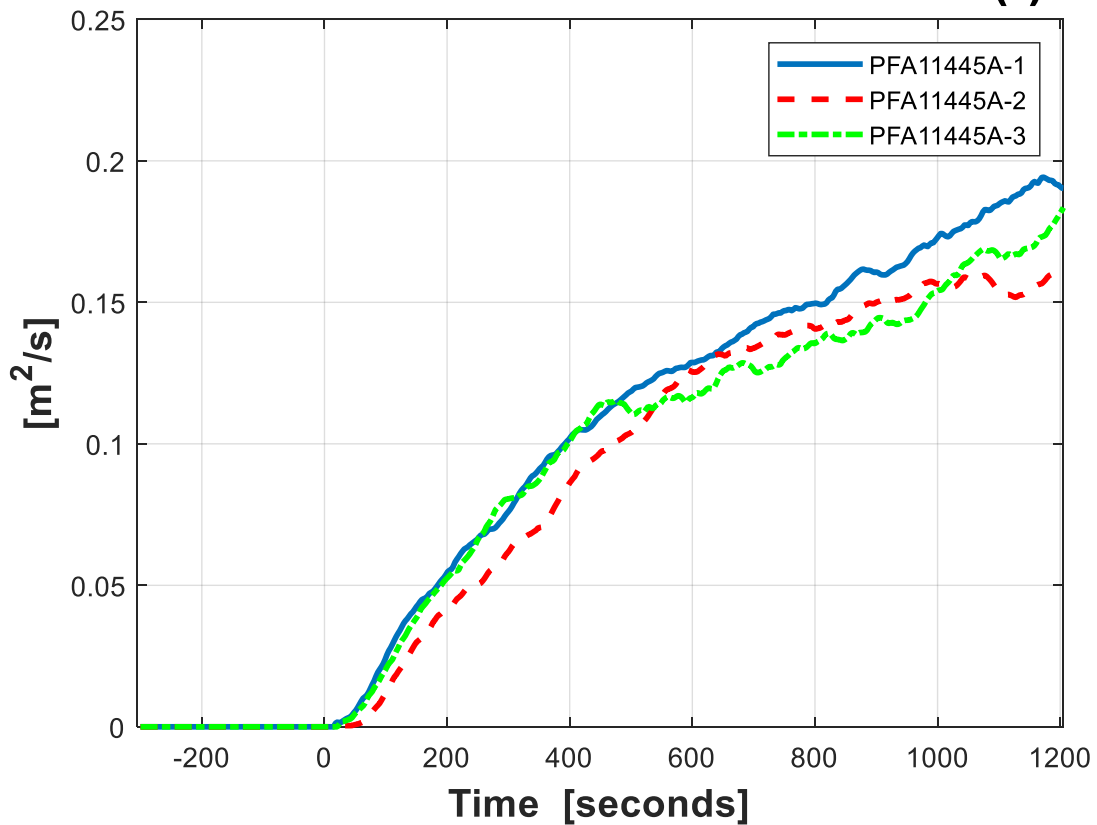




FIGRA_{0.4MJ}-values

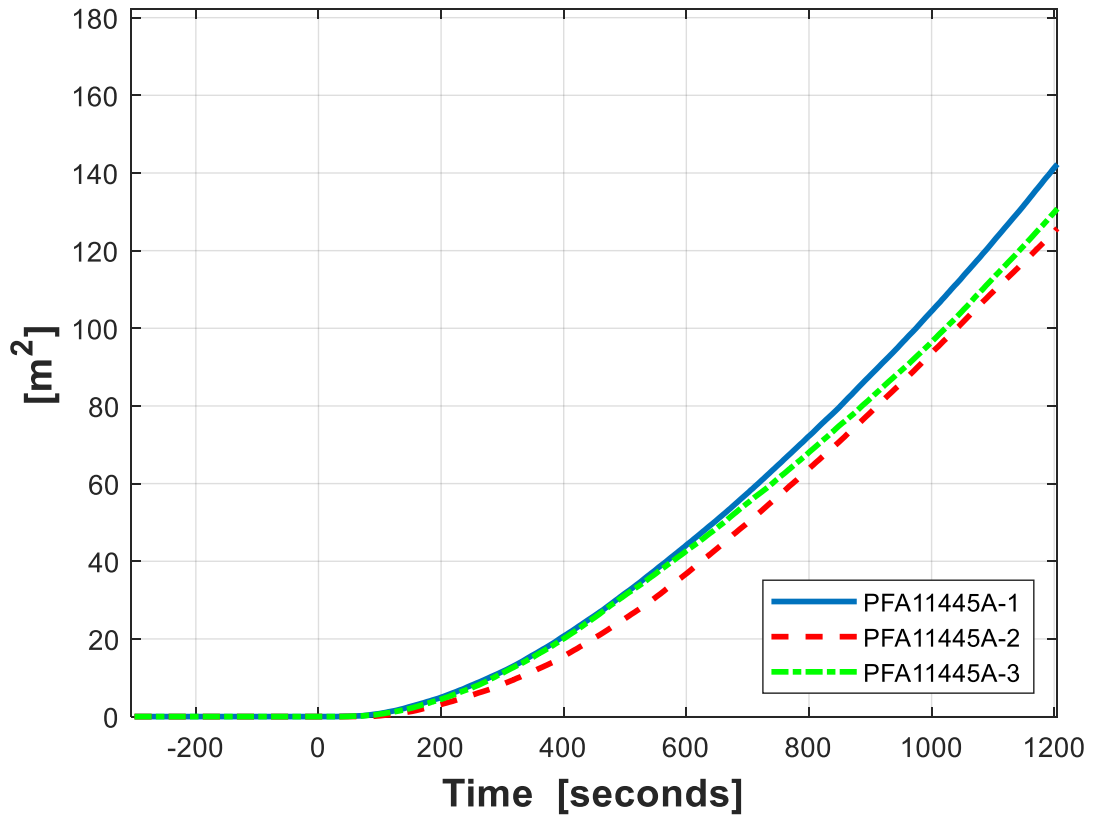


Smoke Production Rate SPR_{av}(t)

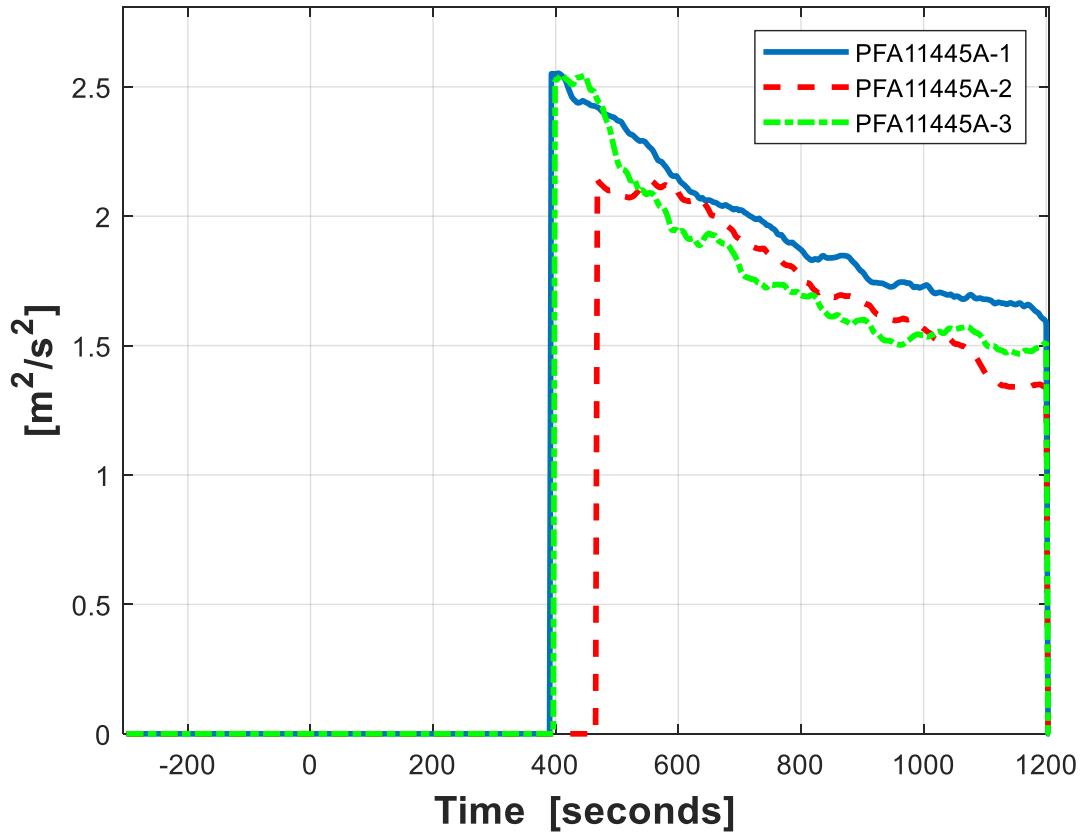




Total Smoke Production TSP(t)



Smoke Production Rate pr. unit time [10000*SPRav(t)/(t-300)]



TEST NO. 1



TEST NO. 2



TEST NO. 3

