

Test report

PVC foil cladded linear pipe insulation

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INDICATIVE TEST

1 SPONSOR

Danmat Industri A/S
Roskildevej 23
DK-3650 Ølstykke
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2 PRODUCT

PVC foil cladded linear pipe insulation.

Product description of PVC foil:

Calandered Rigid PVC film Type 707_6A/IF 75-M1.

3 NAME OF MANUFACTURER

The sponsor is the manufacturer.

4 NATURE OF TEST

The sponsor desired indicative test in accordance with EN 13823:2010. The general mounting and fixing procedure of linear pipe insulation of EN 15715 was used together with the procedure of EN 15701:2009 clause 5.3.

5 SAMPLE

2013-08-14 DBI - Danish Institute of Fire and Security Technology received the following sample:

12 specimens of 30 mm thick glass wool linear pipe insulation with a 22 mm bore with PVC foil cladding. The length of the specimens was approx. 1500 mm. The specimens' cladding had a transverse joint at 500 mm measured to one end. The joint had an overlap of the cladding of approx. 100 mm. The cladding was hold together to the pipe with a longitudinal closing seam fixed with plastic rivets. The glass wool was hold together with a metal wire.

When mounted in the test equipment of EN 13823 the pipes were fixed in the top to and the bottom of the equipment.

The cladding of the pipes was positioned flash with the U-profiles of the equipment.

The distance between the cladding of the adjacent pipes was 25 mm.

All pipes were placed with the transverse joint placed approx. 500 mm above the floor of the test equipment.

The longitudinal seam of the cladding was placed in the direction of the backing board.

The distance between the cladding of the pipes and the backing board was approx. 25 mm.

6 CONDITIONING

No conditioning was performed.

7 TEST METHOD

The test was performed in accordance with:

EN 13823:2010	Reaction to fire tests for building products – Building products excluding flooring exposed to the thermal attack by a single burning item.
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8 TEST RESULTS

Date of test: 2013-08-14

1 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 test performed:

Enclosure 1

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

Enclosure 2

- Average Heat Release Rate per unit time $[1000 \times HRR_{av}(t)/(t-300)]$
- $Figa_{0,2MJ}$ -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 $[10000 \times SPR_{av}(t)/(t-300)]$

The test results are shown in table 1.

	Test No. 1
FIGRA_{0.2 MJ} [W/s]	393
FIGRA_{0.4 MJ} [W/s]	276
THR_{600s} [MJ]	4.8
SMOGRA [m²/s²]	361
TSP_{600 s} [m²]	158
FDP_{f≤10s} [yes/no]	No
FDP_{f>10s} [yes/no]	No
LFS < edge of specimen [yes/no]	Yes

Table 1.

- 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

Photographs of the test specimen before the test are shown on enclosure 5. The photographs on enclosure 6 show the effect of the damages after the test.

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.

10 REMARKS

This indicative test of the sample of PVC foil clad linear pipe insulation, designated Calandered Rigid PVC film Type 707_6A/IF 75-M1, indicates the following classification **C_L-s2,d0** in accordance with EN 13501-1:2007 +A1:2009 clause 10.

This test report is only indicative and can not be used for classification purposes, as:

- No conditioning of the products was performed
- Only one EN 13823 test was performed

EN 13501-1 classification also demands testing in accordance with EN ISO 11925-2:2010 for this type of product.



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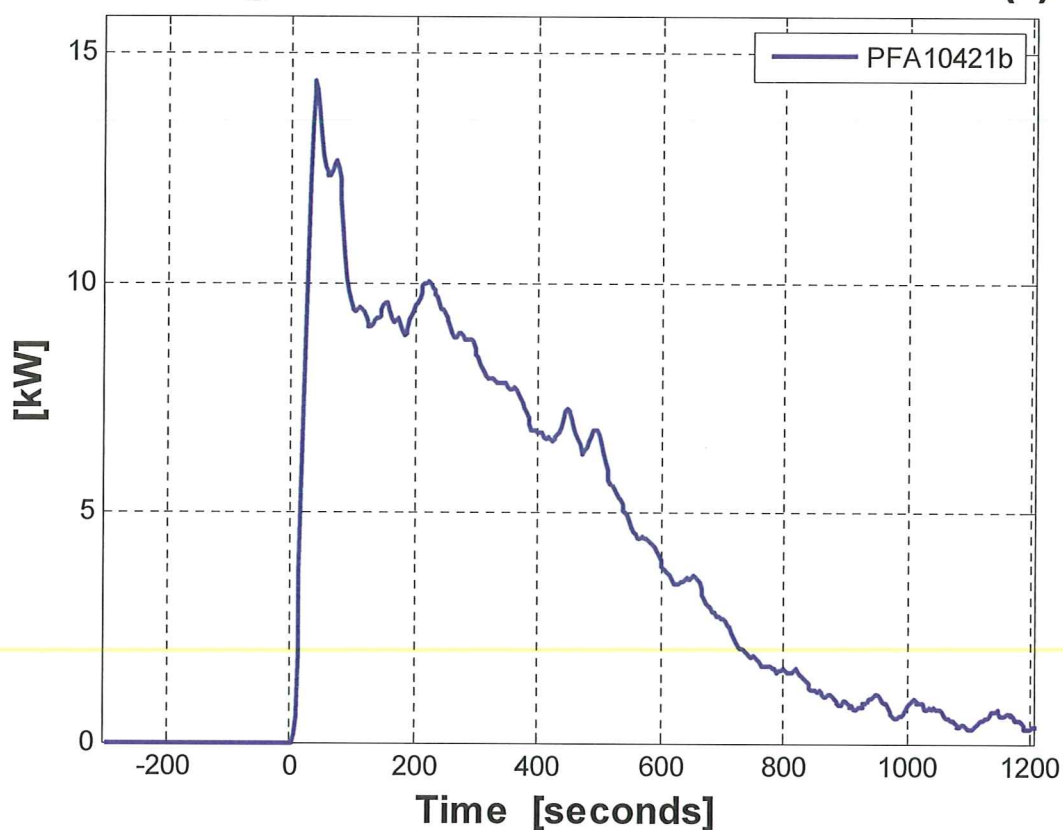
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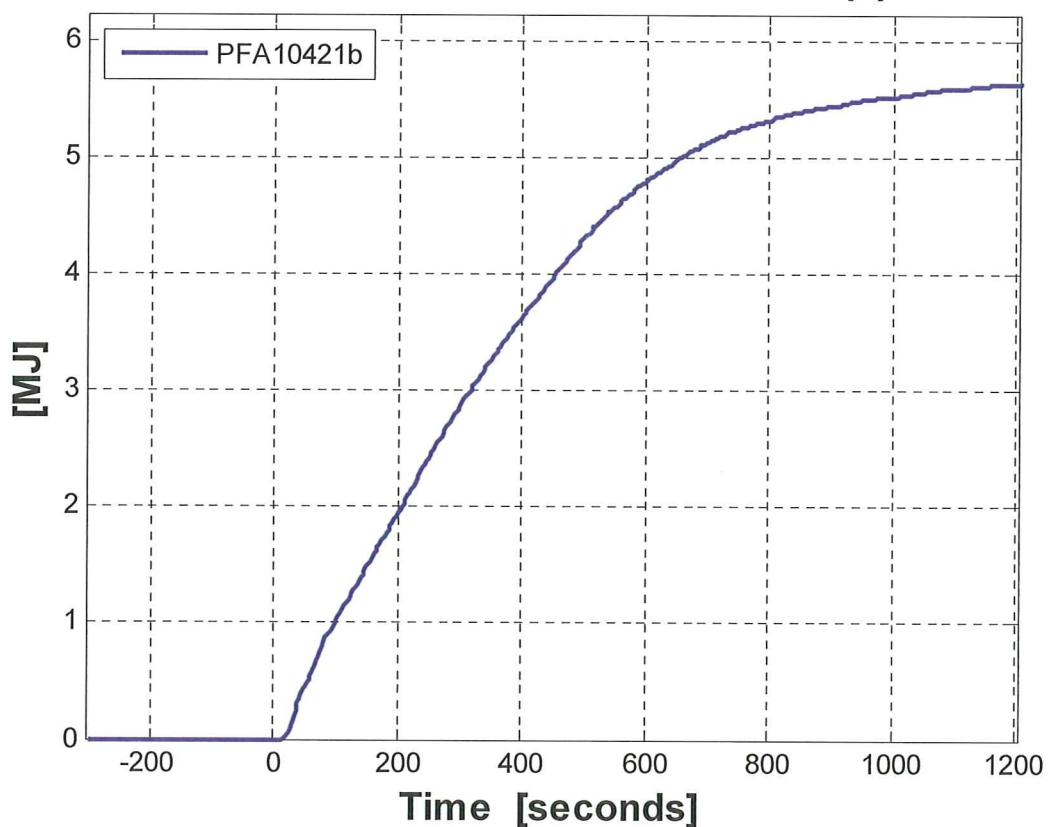
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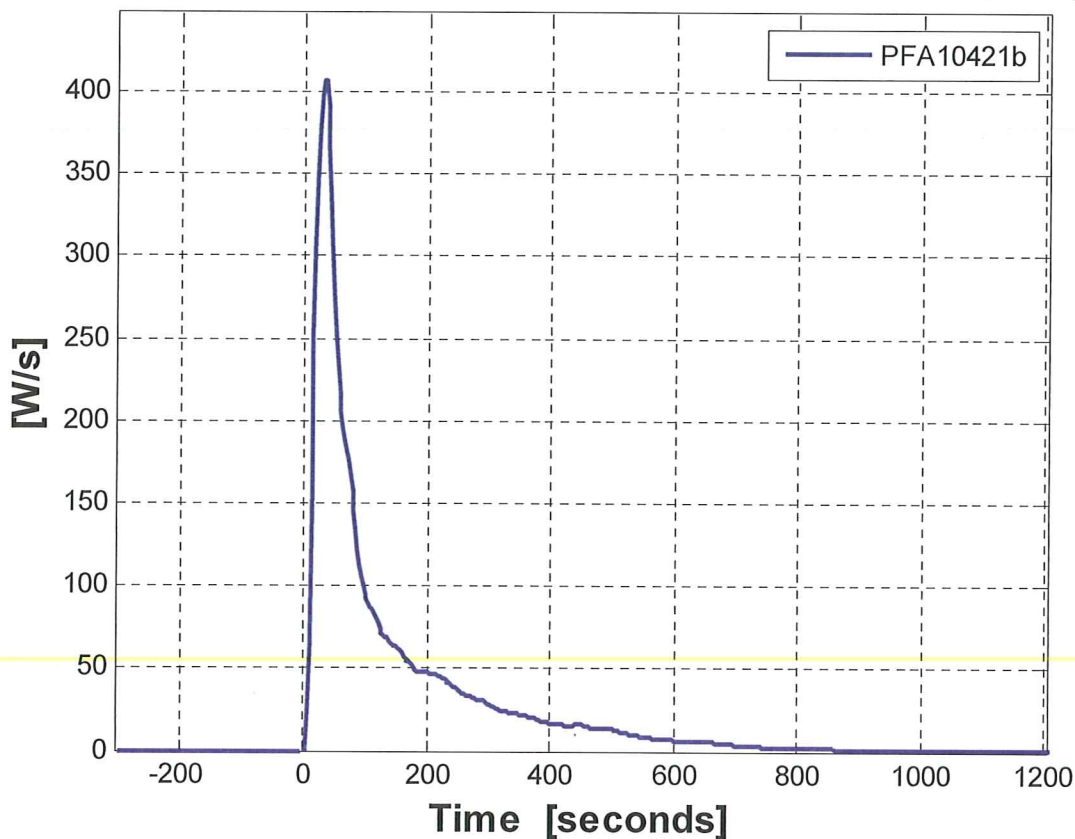
Average Heat Release Rate $HRR_{av}(t)$



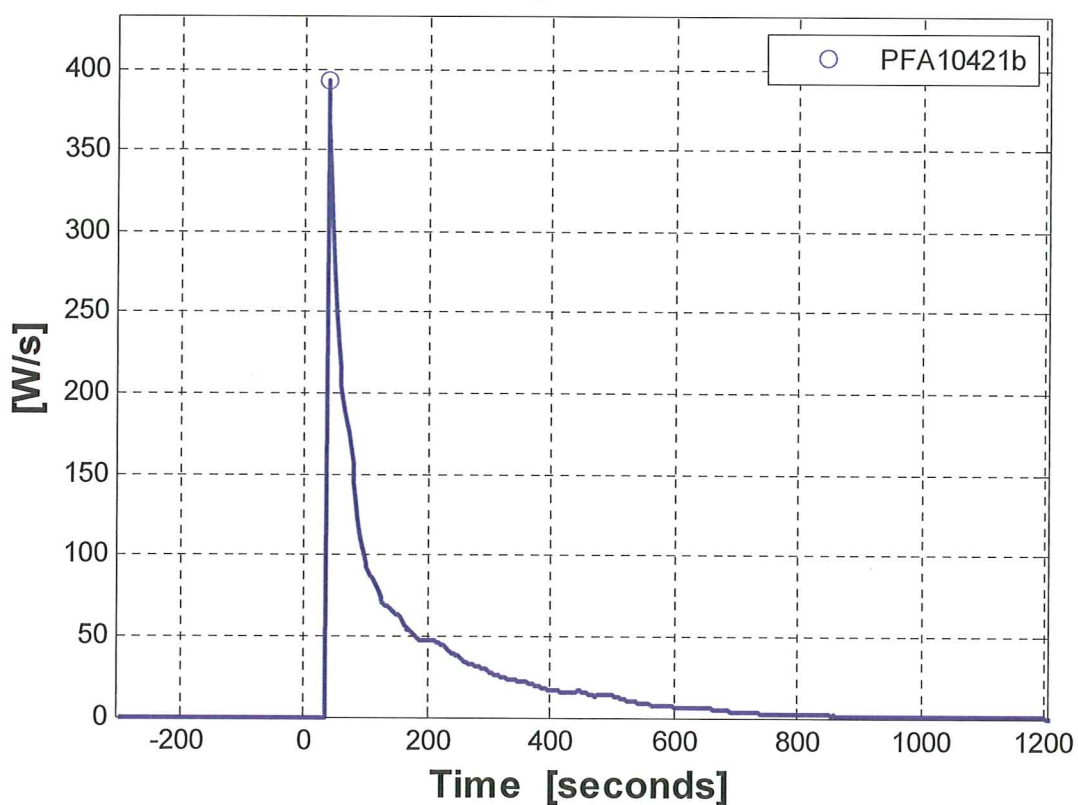
Total Heat Release $THR(t)$



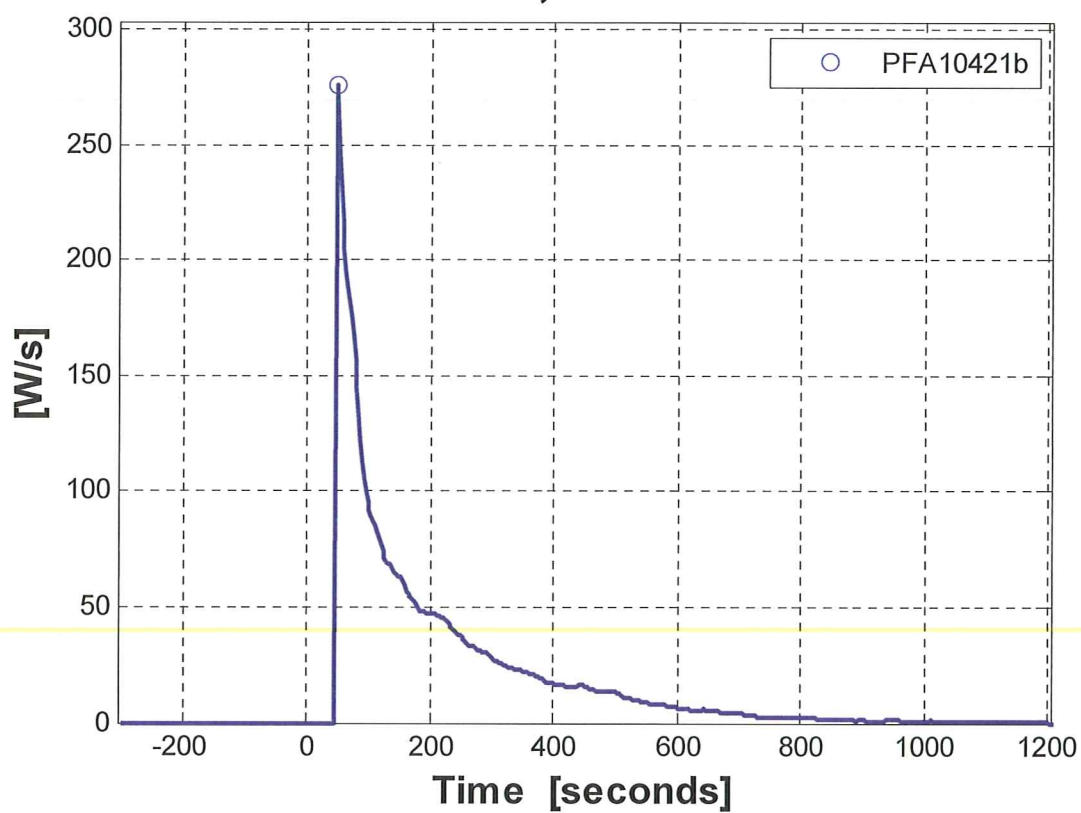
Average Heat Release Rate pr. unit time [$1000 \cdot \text{HRR}_{\text{av}}(t)/(t-300)$]



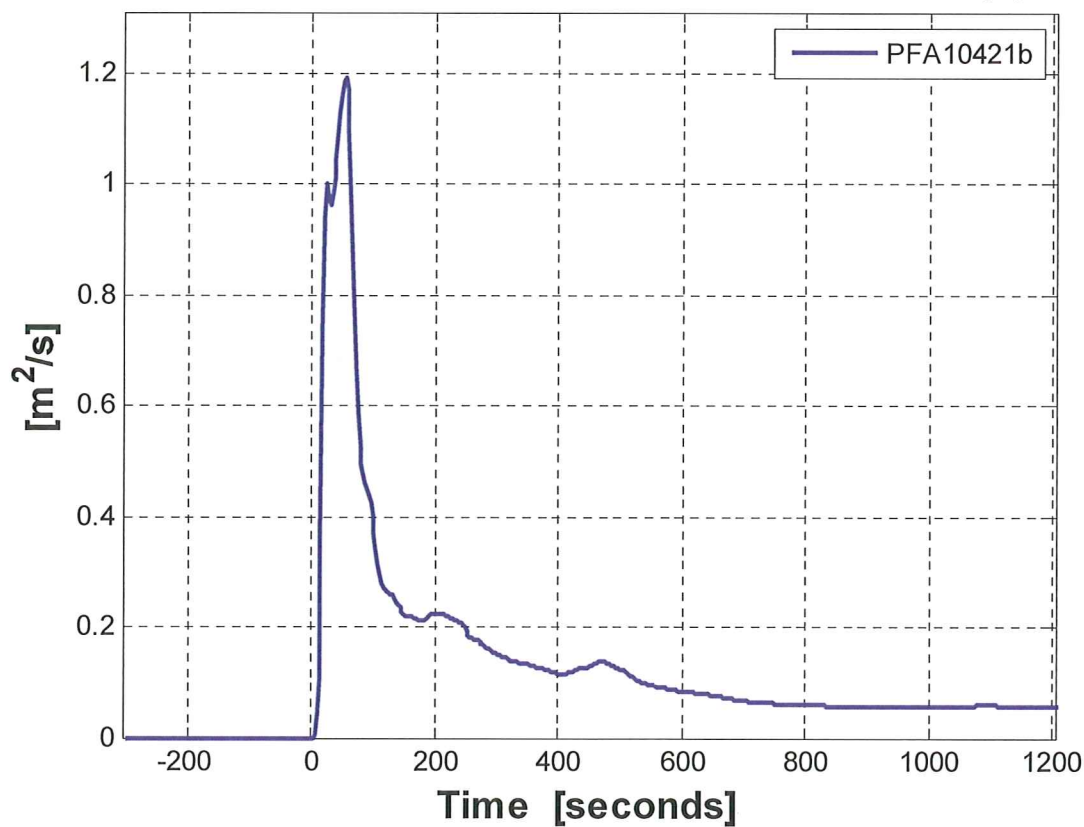
FIGRA_{0,2MJ}-values



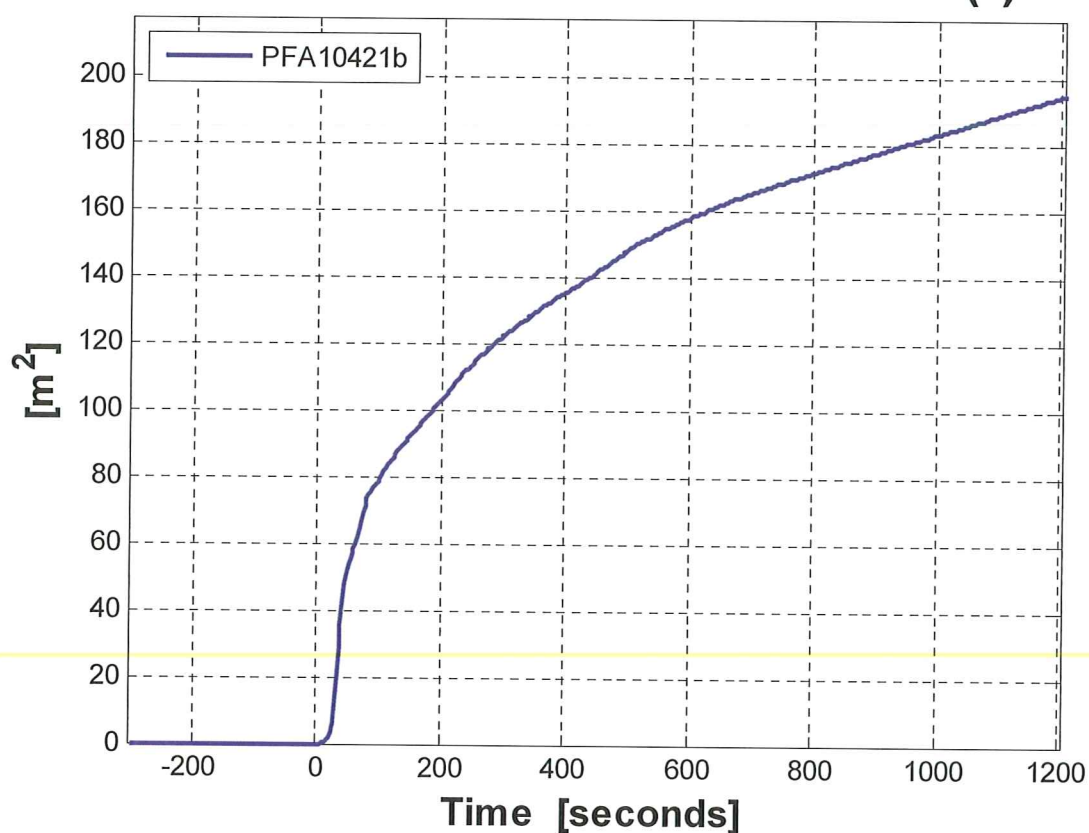
FIGRA_{0,4MJ}-values



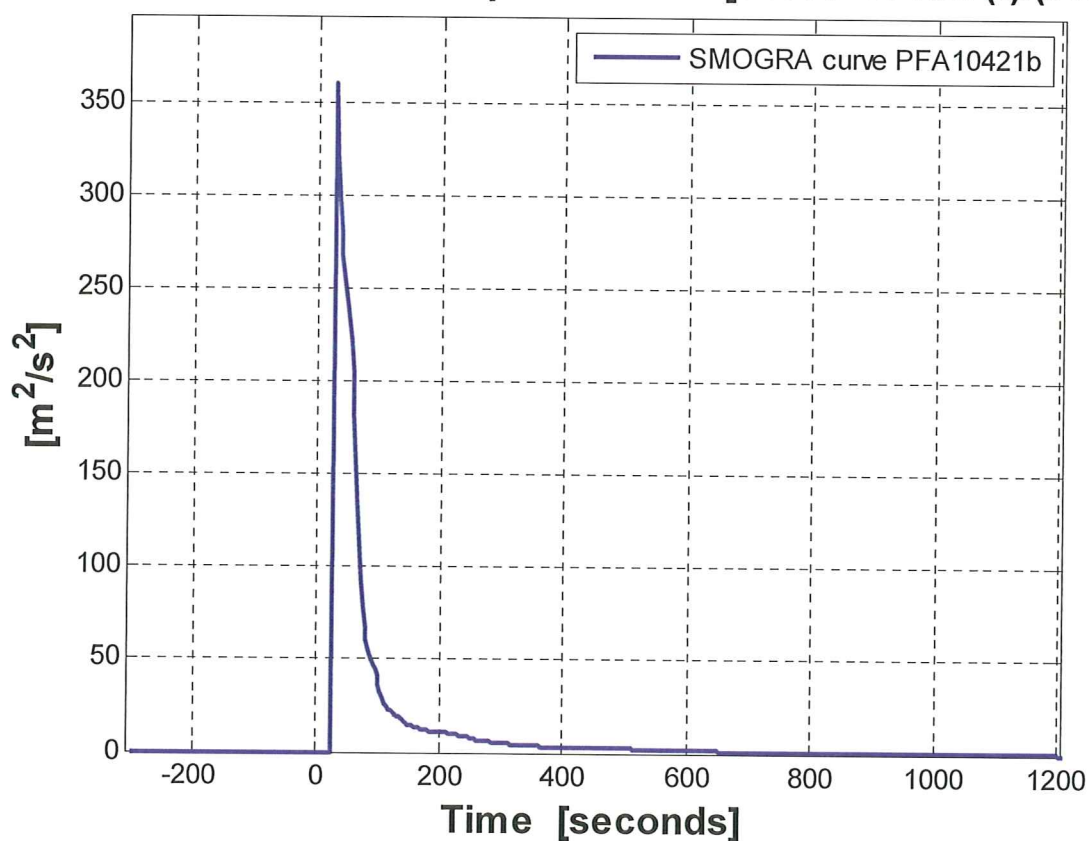
Smoke Production Rate SPRav(t)



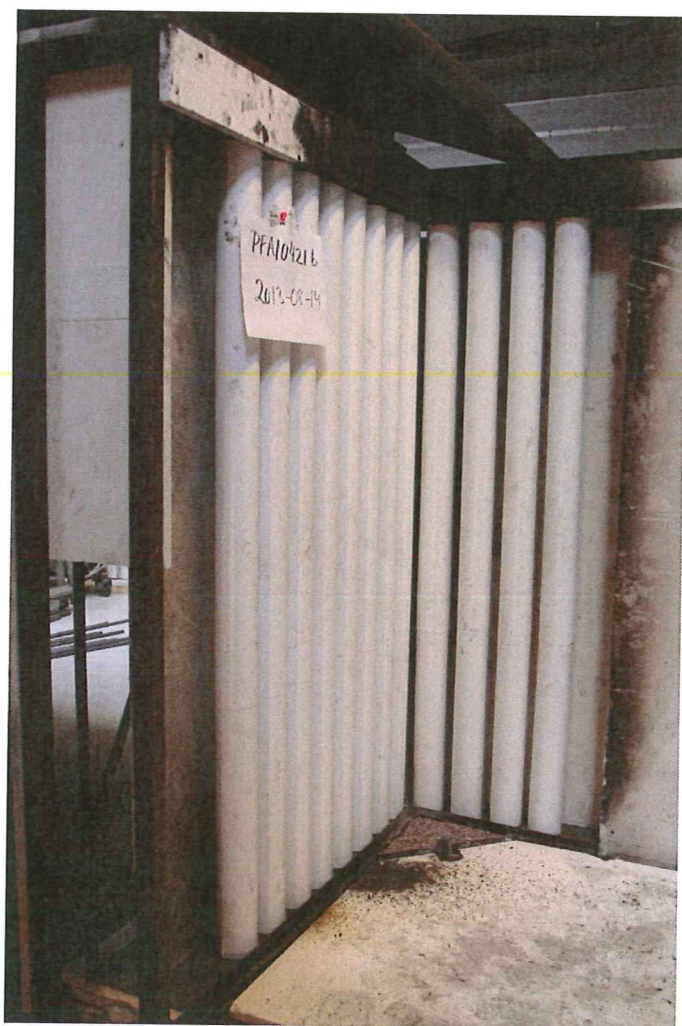
Total Smoke Production TSP(t)



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



Before the test



After the test

