

TEST CERTIFICATE

No. 230011122

as proof of the Schwerentflammbarkeit according to DIN 4102-1 (May 1998)

English version

Sponsor:

POLI-TAPE Group
Poli-Tape Klebefolien GmbH
Zeppelinstraße 17

53424 Remagen

Date of application: 19.04.2012, 18.11.2013 and 19.07.2017
Date of sampling: Samples were sent in by the sponsor
Samples delivered on 25.04.2012, 14.06.2012 and 21.11.2013
Date of testing: 11.05.2012, 14.05.2012, 27.06.2012, 28.06.2012, 23.12.2013,
27.12.2013, 02.01.2014 and 20.01.2014

Order

Testing according to DIN 4102-1 (May 1998) class B1

Description / Name of tested product

Monomeric PVC self-adhesive foils „POLI-LUX 700 Transparent Gloss P“, „POLI-LUX 705 Transparent Matt P“, „POLI-PRINT 800 White Gloss P“, „POLI-PRINT 805 White Matt P“, „POLI-PRINT 810 Transparent Gloss P“, „POLI-PRINT 815 Transparent Matt P“, „POLI-PRINT 820 White Gloss PG“, „POLI-PRINT 825 White Matt PG“, „POLI-PRINT 830 White Gloss RG“, „POLI-PRINT 835 White Matt RG“, „POLI-PRINT 900 White Gloss P“, „POLI-PRINT 905 White Matt P“, „POLI-PRINT 920 White Gloss PG“, „POLI-PRINT 925 White Matt PG“, „POLI-PRINT 930 White Gloss R“, „POLI-PRINT 935 White Matt R“, „POLI-PRINT 990 White Gloss RG“ and „POLI-PRINT 995 White Matt RG“

Applied test procedure

DIN 4102 part 1 (May 1998)

Remark: This test certificate is a translation of the original test certificate 230011122 issued 26.07.2017 in German language and is only allowed to be used together with the original test certificate.

This test certificate is valid until 31.01.2019.
The test results only relate to the above named product.
Any change in form or content to a test certificate and the reproduction of a shortened version can only be made by the approval of MPA NRW.
This test certificate consists of 23 pages and 4 enclosures.



Designation by the sponsor: „POLI-LUX 705 Transparent Matt P“
 „POLI-LUX 700 Transparent Gloss P“

Description:

Monomer, transparent foils made of calendered PVC with a permanent adhesive coating on basis of acrylate on the backside

Thickness: 80 µm
 Gloss level of the foils: a) matt, b) glossy
 Colour of the adhesive: transparent

(Details given by the sponsor)

Colour of the tested self-adhesive foils: transparent
 Gloss level of the tested self-adhesive foils: a) matt, b) glossy

Table 1: Specific values of the tested material

		Measured min. value	Arithmetic average value	Measured max. value
Thickness	mm	--	0.09	--
Weight per unit area	g/m ²	--	129	--
Density	kg/m ³	--	--	--

Special information: none

Designation by the sponsor:

„POLI-PRINT 800 White Gloss P“, „POLI-PRINT 805 White Matt P“, „POLI-PRINT 810 Transparent Gloss P“, „POLI-PRINT 815 Transparent Matt P“, „POLI-PRINT 820 White Gloss PG“, „POLI-PRINT 825 White Matt PG“, „POLI-PRINT 830 White Gloss RG“, „POLI-PRINT 835 White Matt RG“, „POLI-PRINT 900 White Gloss P“, „POLI-PRINT 905 White Matt P“, „POLI-PRINT 920 White Gloss PG“, „POLI-PRINT 925 White Matt PG“ and „POLI-PRINT 930 White Gloss R“

Description:

Calendered PVC foils equipped with a one-sided adhesive coating on basis of acrylate with permanent or removable adhesive behaviour

Thickness of the foils: 80 µm or 100 µm

Colour of the foils: white mat, white glossy, transparent mat or transparent glossy

Colour of the adhesive: transparent or grey

(Details given by the sponsor)

Colour of the tested foils: white

Degree of gloss of the tested foil type 800: glossy

Degree of gloss of the tested foil types 805, 905 and 925: mat

Colour of the adhesive on the tested foil types 800, 805 und 905: transparent

Colour of the adhesive on the tested foil type 925: grey

Table 1: Specific values of the tested material

		Measured min. value	Arithmetic average value	Measured max. value
Thickness	mm			
a) Foil type 800		--	0.09	--
b) Foil type 805		--	0.1	--
c) Foil type 905		--	0.13	--
d) Foil type 925		--	0.12	--
Weight per unit area	g/m ²			
a) Foil type 800		--	127	--
b) Foil type 805		--	126	--
c) Foil type 905		--	165	--
d) Foil type 925		--	158	--
Density	kg/m ³	--	--	--

Special information: The selection of the tested samples was done by MPA NRW.

Designation by the sponsor: „POLI-PRINT 935 White Matt R”

Description:

Calendered PVC foil with a one-sided adhesive coating on basis of acrylate with removable adhesive behaviour

Thickness of the foil: 100 µm
 Colour of the foil: white mat
 Colour of the adhesive: transparent

(Details given by the sponsor)

Colour of the tested foil: white
 Degree of gloss of the tested foil: mat
 Colour of the adhesive on the tested foil: transparent

Table 1: Specific values of the tested material

		Measured min. value	Arithmetic average value	Measured max. value
Thickness	mm	--	0.11	--
Weight per unit area	g/m ²	--	144	--
Density	kg/m ³	--	--	--

Special information: none

Designation by the sponsor: „POLI-PRINT 995 White Matt RG“
 „POLI-PRINT 990 White Gloss RG“

Description:

Monomer, white foils made of calendered PVC with an adhesive coating on basis of acrylate with removable adhesive behaviour on the backside

Thickness: 120 µm
 Gloss level of the foils: a) matt, b) glossy
 Colour of the adhesive: grey

(Details given by the sponsor)

Colour of the tested self-adhesive foils: white
 Gloss level of the tested self-adhesive foils: a) matt, b) glossy

Table 1: Specific values of the tested material

		Measured min. value	Arithmetic average value	Measured max. value
Thickness	mm	0.12	0.12	0.13
Weight per unit area	g/m ²	--	157	--
Density	kg/m ³	--	--	--

Special information: none

Results of the Brandschacht test (part 1)					
row-no.	Type of the foils: „POLI-LUX 705 Transparent Matt P“ and „POLI-LUX 700 Transparent Gloss P“	measurements test specimen			
		Gloss level of the foils:	matt A1	glossy B1	glossy C1
1	<u>No. of test specimen arrangement according to DIN 4102, part 15 , table 1</u>		--	--	--
2	<u>Max. flame height above bottom edge</u> cm		70	60	70
	Time ¹⁾ min : s		0:30	0:30	1:00
4	<u>Melt through / burn through</u> Time ¹⁾ min : s		-- ²⁾	-- ²⁾	-- ²⁾
5	<u>Observations on the backside of the specimens</u> Flames/smouldering		-- ²⁾	-- ²⁾	-- ²⁾
	Time ¹⁾ min : s				
6	Discolouration Time ¹⁾ min : s		10:00	10:00	10:00
7	<u>Burning droplets</u> Start ¹⁾ min : s		-- ²⁾	-- ²⁾	-- ²⁾
	<u>Extent</u>		-- ²⁾	-- ²⁾	-- ²⁾
8	sporadic burning droplets		-- ²⁾	-- ²⁾	-- ²⁾
9	continually falling particles		-- ²⁾	-- ²⁾	-- ²⁾
10	<u>Falling particles which burns</u> Start ¹⁾ min : s		-- ²⁾	-- ²⁾	1:59
	sporadic falling parts		-- ²⁾	-- ²⁾	x
12	continually falling particles		-- ²⁾	-- ²⁾	-- ²⁾
13	Duration of the burning on the screen bottom (max.) min : s		-- ²⁾	-- ²⁾	0:02
14	<u>Interference of the burner flame by dripping /falling particles</u> Time ¹⁾ min : s		-- ²⁾	-- ²⁾	-- ²⁾
	<u>Early termination of the test</u> End of burning at the specimen ¹⁾ min : s		-- ²⁾	-- ²⁾	-- ²⁾
16	Time of early cancellation of the test ¹⁾ min : s		-- ²⁾	-- ²⁾	-- ²⁾

¹⁾ Time counting from the start of the test

row-no.		Results of the Brandschichttest (part 2)					
		measurements test specimen					
		A1		B1		C1	
<u>Continuous burning after termination of the test</u>							
17	Duration min : s	-- ²⁾		-- ²⁾		-- ²⁾	
18	Number of specimens	-- ²⁾		-- ²⁾		-- ²⁾	
19	Front side of the specimen	-- ²⁾		-- ²⁾		-- ²⁾	
20	Back side of the specimen	-- ²⁾		-- ²⁾		-- ²⁾	
21	Flame length cm	-- ²⁾		-- ²⁾		-- ²⁾	
<u>Smouldering after termination of the test</u>							
22	Duration min : s	-- ²⁾		-- ²⁾		-- ²⁾	
23	Number of specimens	-- ²⁾		-- ²⁾		-- ²⁾	
<u>Location</u>							
24	Lower half of the specimens	-- ²⁾		-- ²⁾		-- ²⁾	
25	Upper half of the specimens	-- ²⁾		-- ²⁾		-- ²⁾	
26	Front side of the specimen	-- ²⁾		-- ²⁾		-- ²⁾	
27	Backside of the specimen	-- ²⁾		-- ²⁾		-- ²⁾	
<u>Smoke development</u>							
28	≤ 400 % x min	60		40		-- ³⁾	
29	> 400 % x min	-- ²⁾		-- ²⁾		-- ³⁾	
30	Diagram in appendix	1		--		--	
<u>Residual lengths</u>							
31	Single values cm	41	42	42	43	38	43
		42	41	41	42	44	39
32	Average values cm	42		42		41	
33	Photo of the specimen on page	14		--		--	
<u>Smoke temperature</u>							
34	Maximum value of the averaged values °C	115		115		113	
35	Time ¹⁾ min : s	9:52		9:50		10:00	
36	Diagram in appendix Nr.	1		--		--	
37	<u>Remarks:</u>						
	For the test the self-adhesive foils were glued onto steel sheets with a thickness of 0.88 mm.						
	2) did not occur						
	3) Due to a technical problem at the data logging no declaration is possible.						

Results of the Brandschacht test (part 1)					
row-no.	Type of the foil:	measurements test specimen			
		800 A2	805 B2	905 C2	925 D2
1	<u>No. of test specimen arrangement according to DIN 4102, part 15 , table 1</u>	--	--	--	--
2	<u>Max. flame height above bottom edge</u>	70	70	70	70
	cm Time ¹⁾ min : s	1:00	1:00	1:00	0:30
4	<u>Melt through / burn through</u> Time ¹⁾ min : s	--	--	--	--
5	<u>Observations on the backside of the specimens</u> Flames/smouldering Time ¹⁾ min : s	--	--	--	--
6	Discolouration Time ¹⁾ min : s	10:00	10:00	10:00	10:00
7	<u>Burning droplets</u> Start ¹⁾ min : s	--	--	--	--
8	<u>Extent</u> sporadic burning droplets	--	--	--	--
9	continually falling particles	--	--	--	--
10	<u>Falling particles which burns</u> Start ¹⁾ min : s	--	1:27	1:29	--
11	sporadic falling parts	--	X	X	--
12	continually falling particles	--	--	--	--
13	Duration of the burning on the screen bottom (max.) min : s	--	0:03	--	--
14	<u>Interference of the burner flame by dripping /falling particles</u> Time ¹⁾ min : s	--	--	--	--
15	<u>Early termination of the test</u> End of burning at the specimen ¹⁾ min : s	--	--	--	--
16	Time of early cancellation of the test ¹⁾ min : s	--	--	--	--

¹⁾ Time counting from the start of the test

row-no.		Results of the Brandschachttest (part 2)							
		measurements test specimen							
		A2	B2	C2	D2				
<u>Continuous burning after termination of the test</u>									
17	Duration min : s	--	--	--	--		--		
18	Number of specimens	--	--	--	--		--		
19	Front side of the specimen	--	--	--	--		--		
20	Back side of the specimen	--	--	--	--		--		
21	Flame length cm	--	--	--	--		--		
<u>Smouldering after termination of the test</u>									
22	Duration min : s	--	--	--	--		--		
23	Number of specimens	--	--	--	--		--		
<u>Location</u>									
24	Lower half of the specimens	--	--	--	--		--		
25	Upper half of the specimens	--	--	--	--		--		
26	Front side of the specimen	--	--	--	--		--		
27	Backside of the specimen	--	--	--	--		--		
<u>Smoke development</u>									
28	≤ 400 % x min	51	31	70	46				
29	> 400 % x min	--	--	--	--		--		
30	Diagram in appendix	--	--	--	2				
<u>Residual lengths</u>									
31	Single values cm	48	48	47	48	45	46	47	46
		48	47	49	48	47	46	47	48
32	Average values cm	48 ²⁾		48 ²⁾		46 ²⁾		47 ²⁾	
33	Photo of the specimen on page	--	--	15		--			
<u>Smoke temperature</u>									
34	Maximum value of the averaged values °C	119	116	117	122				
35	Time ¹⁾ min : s	9:59	9:39	9:38	9:51				
36	Diagram in appendix Nr.	--	--	--	2				
37	<u>Remarks:</u> For the test the self-adhesive foils were glued onto steel sheets with a thickness of 0.88 mm. 2) Due to the residual length of > 45 cm further tests on these types of foils were not necessary.								

row- no. Type of the foil: „POLI-PRINT 935 White Matt R”		Results of the Brandschacht test (part 1)			
		measurements test specimen			
		A3			
1	<u>No. of test specimen arrangement according to DIN 4102, part 15 , table 1</u>	--			
2	<u>Max. flame height above bottom edge</u> cm	70			
	Time ¹⁾ min : s	1:00			
4	<u>Melt through / burn through</u> Time ¹⁾ min : s	--			
5	<u>Observations on the backside of the specimens</u> Flames/smouldering Time ¹⁾ min : s	--			
6	Discolouration Time ¹⁾ min : s	10:00			
7	<u>Burning droplets</u> Start ¹⁾ min : s	--			
8	<u>Extent</u> sporadic burning droplets	--			
9	continually falling particles	--			
10	<u>Falling particles which burns</u> Start ¹⁾ min : s	1:06			
11	sporadic falling parts	x			
12	continually falling particles	--			
13	Duration of the burning on the screen bottom (max.) min : s	0:02			
14	<u>Interference of the burner flame by dripping /falling particles</u> Time ¹⁾ min : s	--			
15	<u>Early termination of the test</u> End of burning at the specimen ¹⁾ min : s	--			
16	Time of early cancellation of the test ¹⁾ min : s	--			

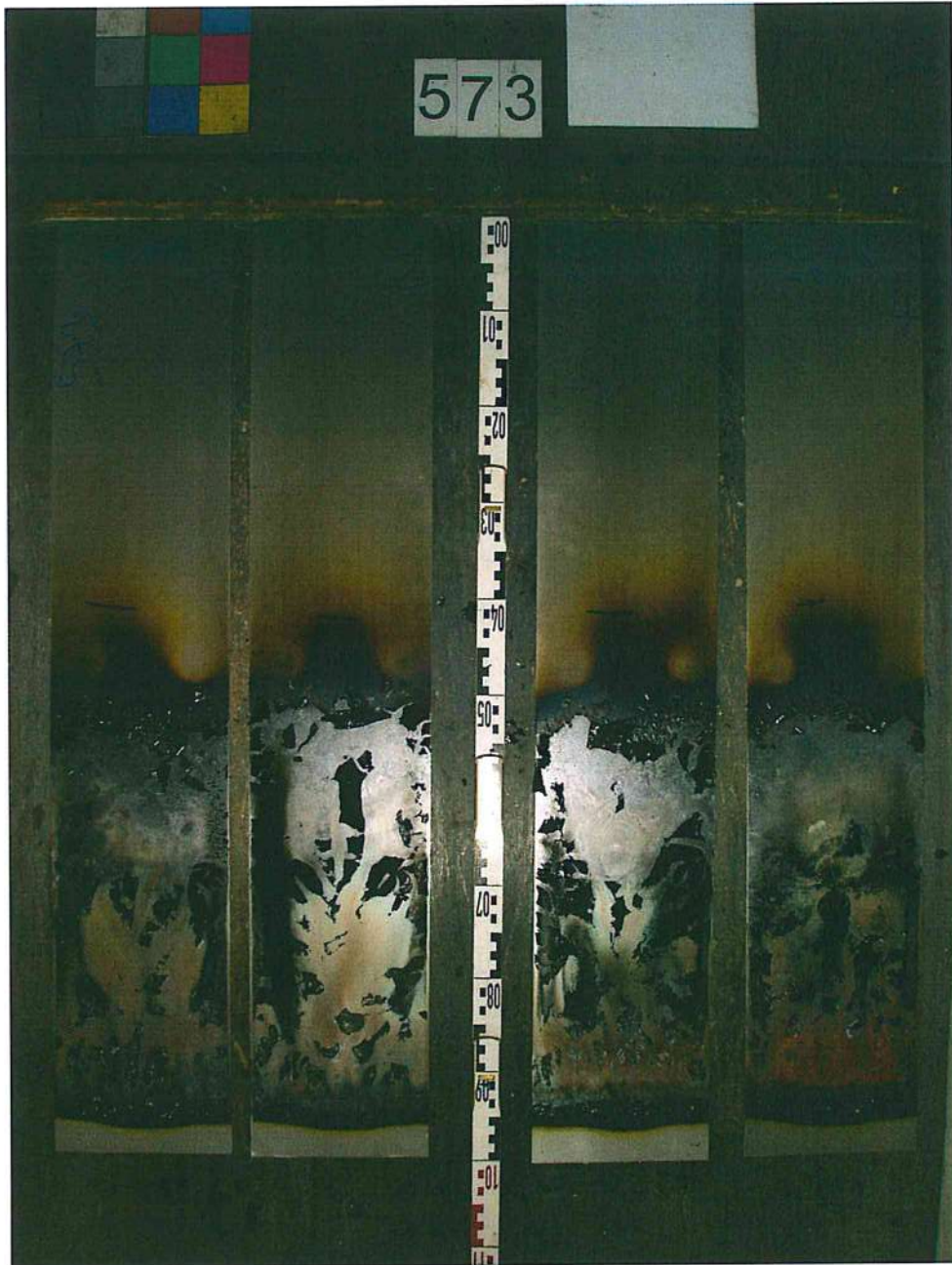
¹⁾ Time counting from the start of the test

row-no.		Results of the Brandschachttest (part 2)					
		measurements test specimen					
		A3					
<u>Continuous burning after termination of the test</u>							
17	Duration min : s	--					
18	Number of specimens	--					
19	Front side of the specimen	--					
20	Back side of the specimen	--					
21	Flame length cm	--					
<u>Smouldering after termination of the test</u>							
22	Duration min : s	--					
23	Number of specimens	--					
<u>Location</u>							
24	Lower half of the specimens	--					
25	Upper half of the specimens	--					
26	Front side of the specimen	--					
27	Backside of the specimen	--					
<u>Smoke development</u>							
28	≤ 400 % x min	63					
29	> 400 % x min	--					
30	Diagram in appendix	3					
<u>Residual lengths</u>							
31	Single values cm	46	44				
		48	48				
32	Average values cm	47 ²⁾					
33	Photo of the specimen on page	16					
<u>Smoke temperature</u>							
34	Maximum value of the averaged values °C	119					
35	Time ¹⁾ min : s	9:59					
36	Diagram in appendix Nr.	3					
37	<u>Remarks:</u> For the test the self-adhesive foils were glued onto steel sheets with a thickness of 0.88 mm. 2) Due to the residual length of > 45 cm further tests on this type of foil were not necessary.						

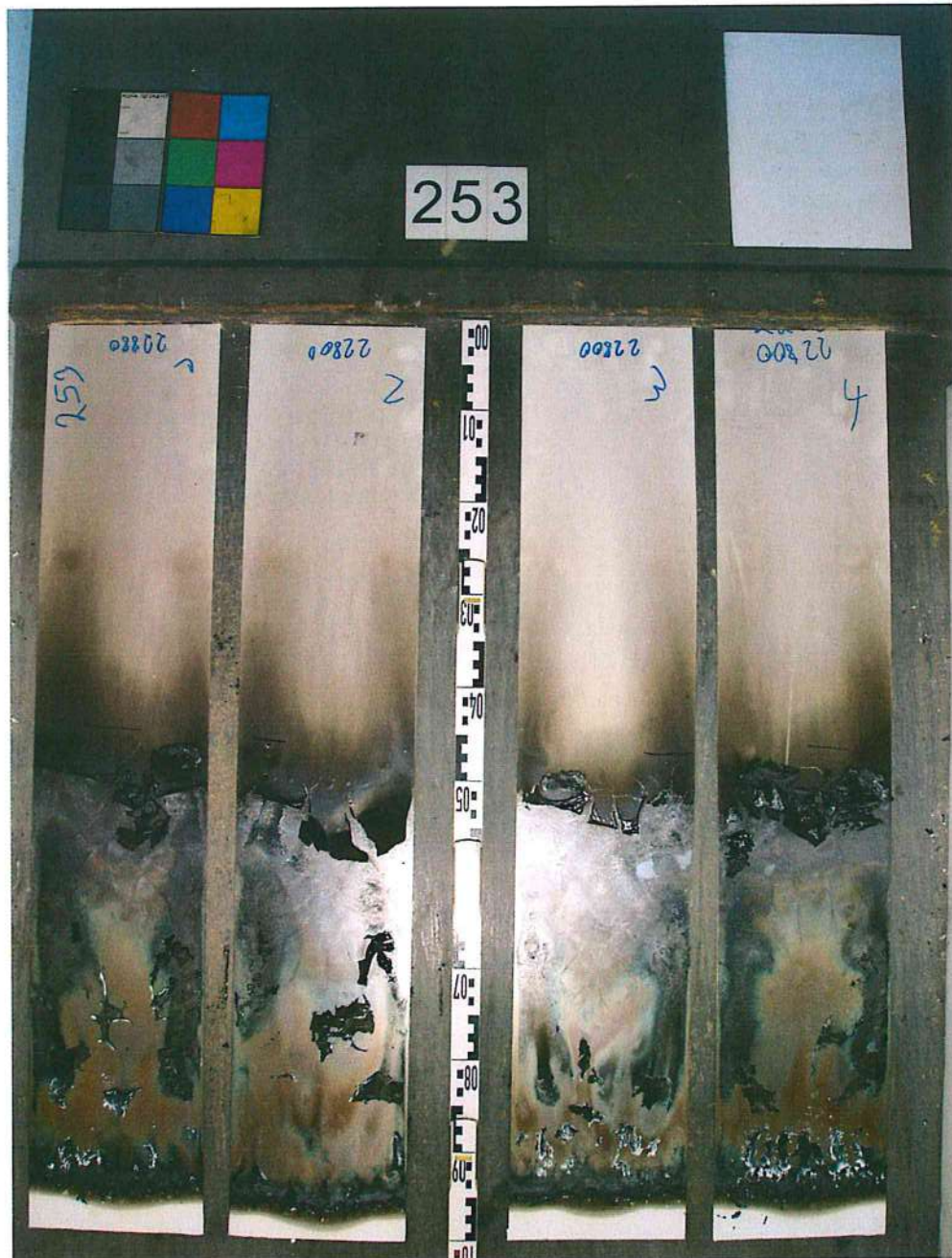
Results of the Brandschacht test (part 1)						
row-no.	Type of the foils: „POLI-PRINT 995 White Matt RG“ and „POLI-PRINT 990 White Gloss RG“	measurements test specimen				
		Gloss level of the foils:	matt A4	glossy B4		
1	<u>No. of test specimen arrangement according to DIN 4102, part 15, table 1</u>		--	--		
2	<u>Max. flame height above bottom edge</u>	cm	70	70		
	Time ¹⁾	min : s	1:00	1:00		
4	<u>Melt through / burn through</u>					
	Time ¹⁾	min : s	-- ²⁾	-- ²⁾		
5	<u>Observations on the backside of the specimens</u>					
	Flames/smouldering					
	Time ¹⁾	min : s	-- ²⁾	-- ²⁾		
6	Discolouration					
	Time ¹⁾	min : s	10:00	10:00		
7	<u>Burning droplets</u>					
	Start ¹⁾	min : s	-- ²⁾	-- ²⁾		
8	<u>Extent</u>					
	sporadic burning droplets		-- ²⁾	-- ²⁾		
9	continually falling particles		-- ²⁾	-- ²⁾		
10	<u>Falling particles which burns</u>					
	Start ¹⁾	min : s	-- ²⁾	-- ²⁾		
11	sporadic falling parts		-- ²⁾	-- ²⁾		
12	continually falling particles		-- ²⁾	-- ²⁾		
13	Duration of the burning on the screen bottom (max.)	min : s	-- ²⁾	-- ²⁾		
14	<u>Interference of the burner flame by dripping /falling particles</u>					
	Time ¹⁾	min : s	-- ²⁾	-- ²⁾		
15	<u>Early termination of the test</u>					
	End of burning at the specimen ¹⁾	min : s	-- ²⁾	-- ²⁾		
16	Time of early cancellation of the test ¹⁾	min : s	-- ²⁾	-- ²⁾		

¹⁾ Time counting from the start of the test

row-no.		Results of the Brandschachttest (part 2)			
		measurements test specimen			
		A4		B4	
<u>Continuous burning after termination of the test</u>					
17	Duration min : s	-- ²⁾		-- ²⁾	
18	Number of specimens	-- ²⁾		-- ²⁾	
19	Front side of the specimen	-- ²⁾		-- ²⁾	
20	Back side of the specimen	-- ²⁾		-- ²⁾	
21	Flame length cm	-- ²⁾		-- ²⁾	
<u>Smouldering after termination of the test</u>					
22	Duration min : s	-- ²⁾		-- ²⁾	
23	Number of specimens	-- ²⁾		-- ²⁾	
<u>Location</u>					
24	Lower half of the specimens	-- ²⁾		-- ²⁾	
25	Upper half of the specimens	-- ²⁾		-- ²⁾	
26	Front side of the specimen	-- ²⁾		-- ²⁾	
27	Backside of the specimen	-- ²⁾		-- ²⁾	
<u>Smoke development</u>					
28	≤ 400 % x min	45		57	
29	> 400 % x min	-- ²⁾		-- ²⁾	
30	Diagram in appendix	4		--	
<u>Residual lengths</u>					
31	Single values cm	46	47	46	47
		48	48	46	42
32	Average values cm	47 ³⁾		45 ³⁾	
33	Photo of the specimen on page	--		17	
<u>Smoke temperature</u>					
34	Maximum value of the averaged values °C	118		116	
35	Time ¹⁾ min : s	9:28		1:13	
36	Diagram in appendix Nr.	4		--	
37	<u>Remarks:</u> For the test the self-adhesive foils were glued onto steel sheets with a thickness of 0.88 mm. 2) did not occur 3) Due to the average residual length of > 45 cm further tests on these types of foils were not necessary according to DIN 4102-16 section 5.2 b).				



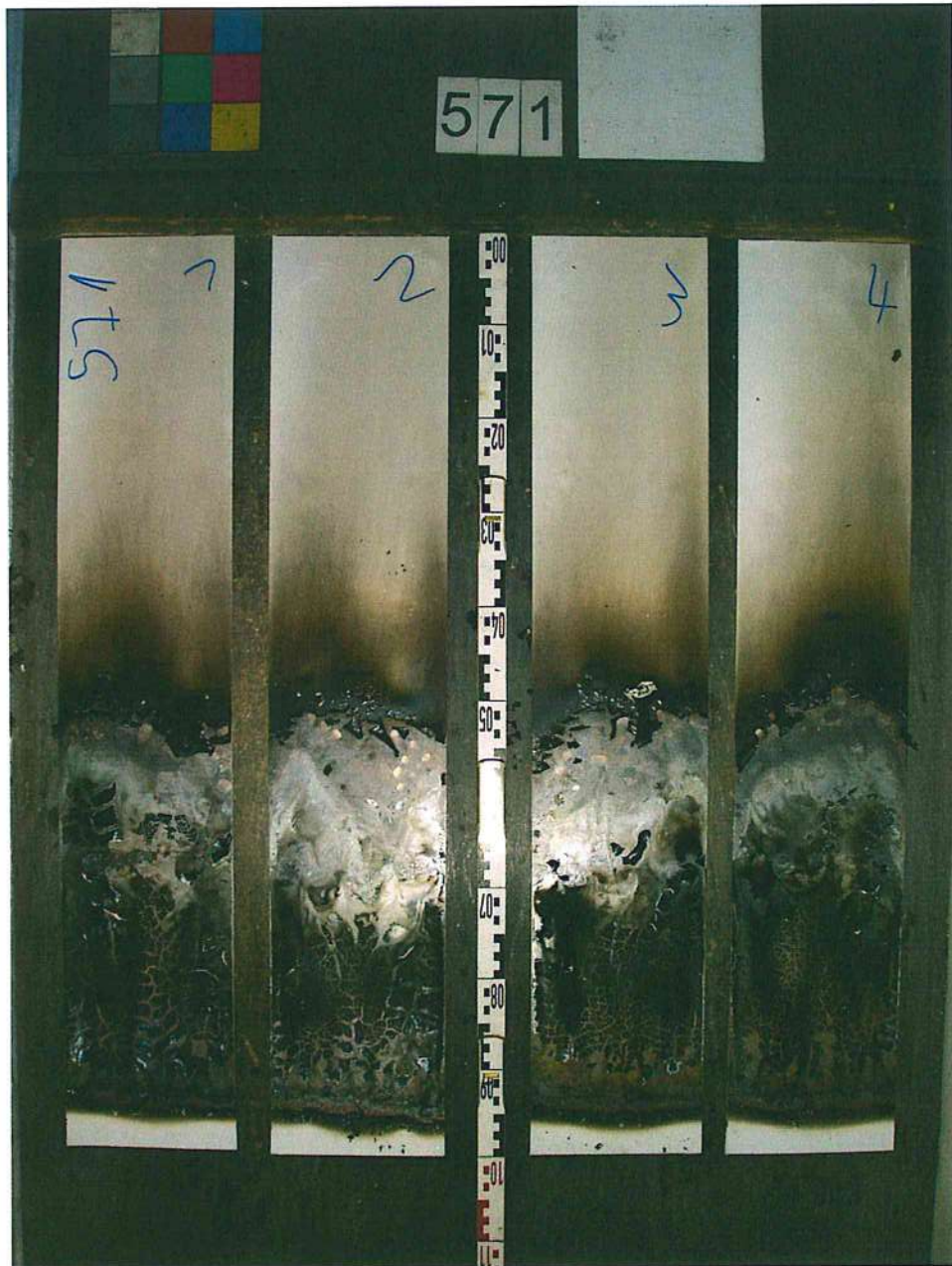
Picture 1: Appearance of specimen A1 after the test



Picture 1: Appearance of specimen C2 after the test



Picture 1: Appearance of specimen A3 after the test



Picture 1: Appearance of specimen B4 after the test

Results of the B2-testing according to DIN 4102-01

(Tests with flaming the edge)

Protection of edges: --
 Point of flame attack: lower edge of the front side, flaming of the foil type "POLI-LUX 705 Transparent Matt P" glued on 0.88 mm thick steel sheets

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	1	-- ¹⁾	-- ¹⁾	1
Flame passing the limit mark (s)	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Self extinguishment (s)	3	2	--	--	2
Max. height of the flame (cm)	1	1	0	0	1
Continuous burning after 20 s	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Continuous smouldering after 20 s	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Extinguishment of flames / glowing after passing the limit mark	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Smoke development (visual observation)	very low				
Falling of burning particles / droplets time (s)	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾

Remarks: 1) Did not occur

Point of flame attack: lower edge of the front side, flaming of the foil type "POLI-LUX 700 Transparent Gloss P" glued on 0.88 mm thick steel sheets

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	1	1	1	1
Flame passing the limit mark (s)	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Self extinguishment (s)	15	15	15	15	15
Max. height of the flame (cm)	1	1	1	1	1
Continuous burning after 20 s	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Continuous smouldering after 20 s	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Extinguishment of flames / glowing after passing the limit mark	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Smoke development (visual observation)	very low				
Falling of burning particles / droplets time (s)	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾

Remarks: 1) Did not occur

Results of the B2-testing according to DIN 4102-01

(Tests with flaming the edge)

Protection of edges: --
 Point of flame attack: lower edge of the front side, flaming of the foil type "POLI-PRINT 800 White Gloss P" glued on 0.88 mm thick steel sheets

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	--	1	1	1	1
Flame passing the limit mark (s)	--	--	--	--	--
Self extinguishment (s)	--	2	2	1	2
Max. height of the flame (cm)	0	1	1	1	1
Continuous burning after 20 s	--	--	--	--	--
Continuous smouldering after 20 s	--	--	--	--	--
Extinguishment of flames / glowing after passing the limit mark	--	--	--	--	--
Smoke development (visual observation)	very low				
Falling of burning particles / droplets time (s)	--	--	--	--	--

Point of flame attack: lower edge of the front side, flaming of the foil type "POLI-PRINT 805 White Matt P" glued on 0.88 mm thick steel sheets

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	1	1	1	1
Flame passing the limit mark (s)	--	--	--	--	--
Self extinguishment (s)	4	2	2	2	2
Max. height of the flame (cm)	1	1	1	1	1
Continuous burning after 20 s	--	--	--	--	--
Continuous smouldering after 20 s	--	--	--	--	--
Extinguishment of flames / glowing after passing the limit mark	--	--	--	--	--
Smoke development (visual observation)	very low				
Falling of burning particles / droplets time (s)	--	--	--	--	--

Results of the B2-testing according to DIN 4102-01

(Tests with flaming the edge)

Protection of edges: --
 Point of flame attack: lower edge of the front side, flaming of the foil type "POLI-PRINT 905 White Matt P" glued on 0.88 mm thick steel sheets

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	1	1	1	1
Flame passing the limit mark (s)	--	--	--	--	--
Self extinguishment (s)	2	2	2	2	2
Max. height of the flame (cm)	1	1	1	1	1
Continuous burning after 20 s	--	--	--	--	--
Continuous smouldering after 20 s	--	--	--	--	--
Extinguishment of flames / glowing after passing the limit mark	--	--	--	--	--
Smoke development (visual observation)	very low				
Falling of burning particles / droplets time (s)	--	--	--	--	--

Point of flame attack: lower edge of the front side, flaming of the foil type "POLI-PRINT 925 White Matt PG" glued on 0.88 mm thick steel sheets

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	--	--	--	--	--
Flame passing the limit mark (s)	--	--	--	--	--
Self extinguishment (s)	--	--	--	--	--
Max. height of the flame (cm)	0	0	0	0	0
Continuous burning after 20 s	--	--	--	--	--
Continuous smouldering after 20 s	--	--	--	--	--
Extinguishment of flames / glowing after passing the limit mark	--	--	--	--	--
Smoke development (visual observation)	not observable				
Falling of burning particles / droplets time (s)	--	--	--	--	--

Results of the B2-testing according to DIN 4102-01

(Tests with flaming the edge)

Protection of edges: --
 Point of flame attack: lower edge of the front side, flaming of the foil type "POLI-PRINT 935 White Matt R" glued on 0.88 mm thick steel sheets

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	1	1	1	1
Flame passing the limit mark (s)	--	--	--	--	--
Self extinguishment (s)	3	1	1	2	2
Max. height of the flame (cm)	1	1	1	1	1
Continuous burning after 20 s	--	--	--	--	--
Continuous smouldering after 20 s	--	--	--	--	--
Extinguishment of flames / glowing after passing the limit mark	--	--	--	--	--
Smoke development (visual observation)	very low				
Falling of burning particles / droplets time (s)	--	--	--	--	--

Results of the B2-testing according to DIN 4102-01

(Tests with flaming the edge)

Protection of edges: --
 Point of flame attack: lower edge of the front side, flaming of the foil type "POLI-PRINT 995 White Matt RG" glued on 0.88 mm thick steel sheets

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	1	1	1	1
Flame passing the limit mark (s)	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Self extinguishment (s)	15	15	15	15	15
Max. height of the flame (cm)	1	1	1	1	1
Continuous burning after 20 s	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Continuous smouldering after 20 s	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Extinguishment of flames / glowing after passing the limit mark	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Smoke development (visual observation)	very low				
Falling of burning particles / droplets time (s)	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾

Remarks: 1) Did not occur

Point of flame attack: lower edge of the front side, flaming of the foil type "POLI-PRINT 990 White Gloss RG" glued on 0.88 mm thick steel sheets

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	1	1	1	1
Flame passing the limit mark (s)	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Self extinguishment (s)	15	15	15	15	15
Max. height of the flame (cm)	1	1	1	1	1
Continuous burning after 20 s	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Continuous smouldering after 20 s	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Extinguishment of flames / glowing after passing the limit mark	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾
Smoke development (visual observation)	very low				
Falling of burning particles / droplets time (s)	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾	-- ¹⁾

Remarks: 1) Did not occur

Note: Due to the low flame heights by flaming the edge negative results by flaming the surface are not expected. By this reason tests with flaming the surface were not necessary according to DIN 4102-1 section 6.2.5.3.

Assessment

- The products described on the pages 2 till 5 fulfilled the requirements of building products according to Baustoffklasse B2. According to the results, the products as tested in the described arrangement also fulfil the requirements of building products according to Baustoffklasse B1. In consequence the products can be classified as

Baustoffklasse B1 (schwerentflammbare Baustoffe)

according to DIN 4102 part 1 (Mai 1998). This assessment is only valid, if the foils are glued on steel substrate. The surface of the self-adhesive foils may not be covered with paints, coatings or similar products. The resistance of the fire behaviour against climatic influences in the outside was not proofed. Therefore the product may be used as schwerentflammbar only inside of buildings or in otherwise weather protected areas.

- The material does not produce burning droplets / particles.

Special remark

- The validity of this test certificate ends on 31.01.2019. The period of validity can be extended on application.
- Since the above mentioned materials are used for markings, letterings and decorations they are no building products according to §2 chapter 9 no. 1 MBO. An allgemeines bauaufsichtliches Prüfzeugnis of the test institute respectively an allgemeine bauaufsichtliche Zulassung of Deutsches Institut für Bautechnik, Berlin is not necessary.
- This test certificate is not the requested approval, if the tested material is used as building product according to the German building regulations.

Marking

The above mentioned materials have to be marked as following:

- "Only schwerentflammbar (class DIN 4102-B1) glued on steel substrate"

The marking shall be done on the material, on an enclosed paper or on the packaging or, if this would be too difficult, on the delivery-note or on an enclosure to the delivery-note.

This test certificate is solely valid in combination with the original test certificate issued in German language and dated of 26.07.2017. In case of doubt, the certificate issued in German language is valid solely.

Erwitte, 26.07.2017
On behalf

Dipl.-Ing. Rademacher
Head of testing body



Dipl.-Ing. Schreiner
Engineer in charge

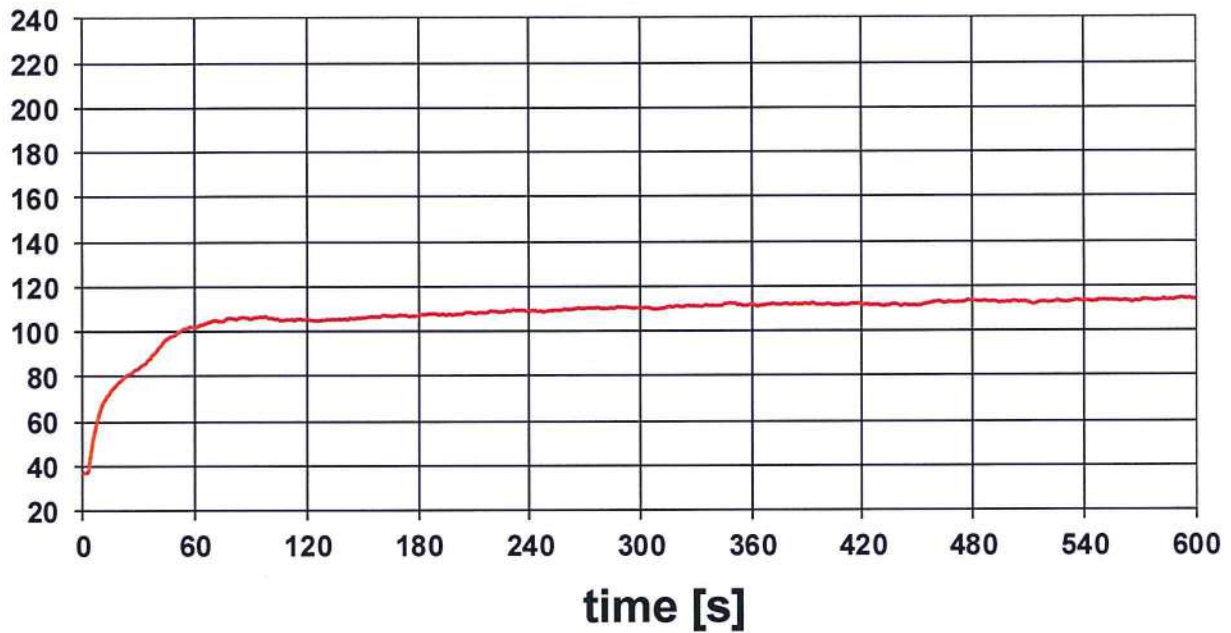
Date of issue of this English version: 26.07.2017

Max. flue gas-temperature = 115 °C
at [min : s] 09 : 52

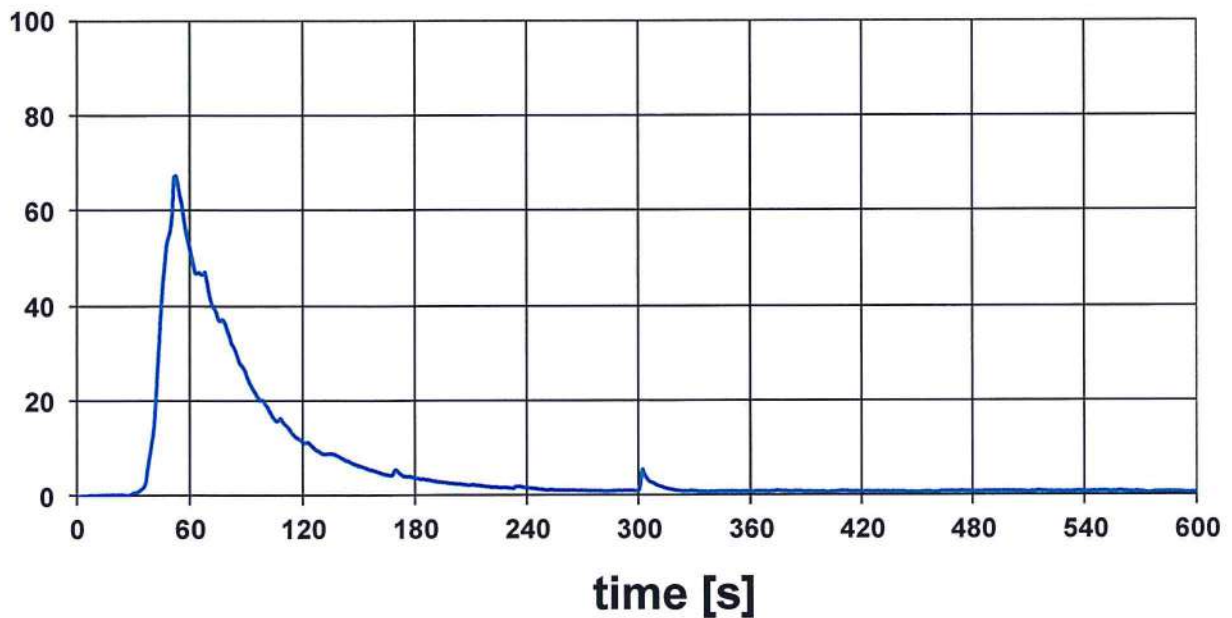
Enclosure 1 of test report
no. 230011122 of 26.07.2017

Smoke-development [% x min]: 60

T [°C] Average flue gas-temperature



RD [%] Smoke-development

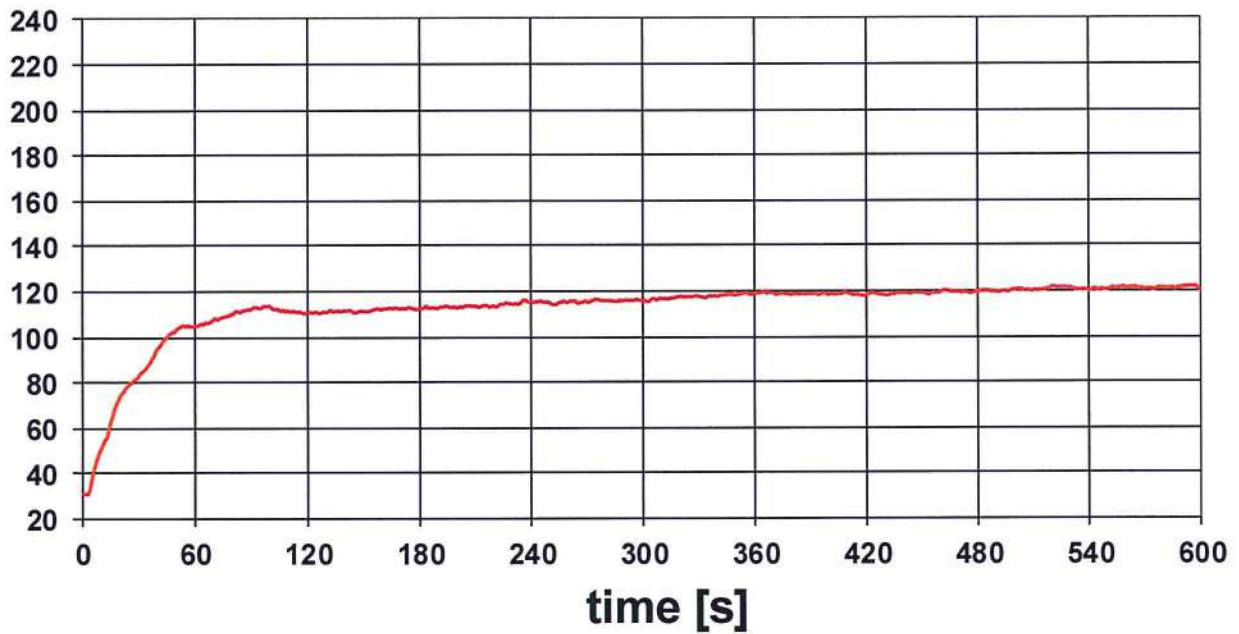


Max. flue gas-temperature = 122 °C
 at [min : s] 09 : 51

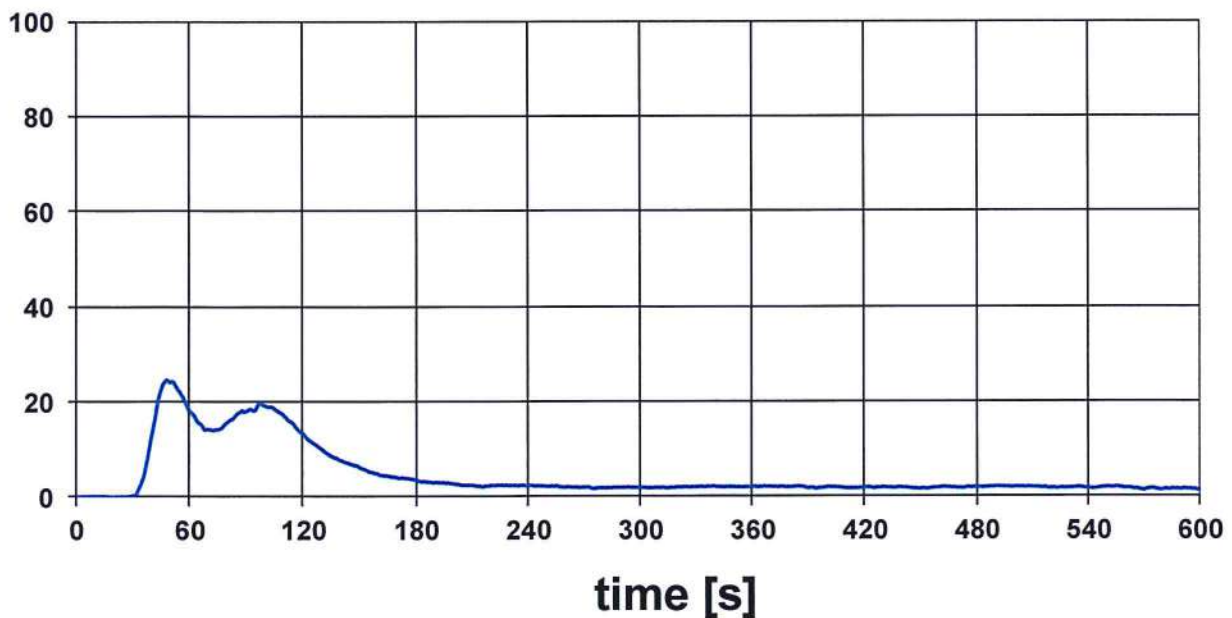
Enclosure 2 of test report
 no. 230011122 of 26.07.2017

Smoke-development [% x min]: 46

T [°C] Average flue gas-temperature



RD [%] Smoke-development

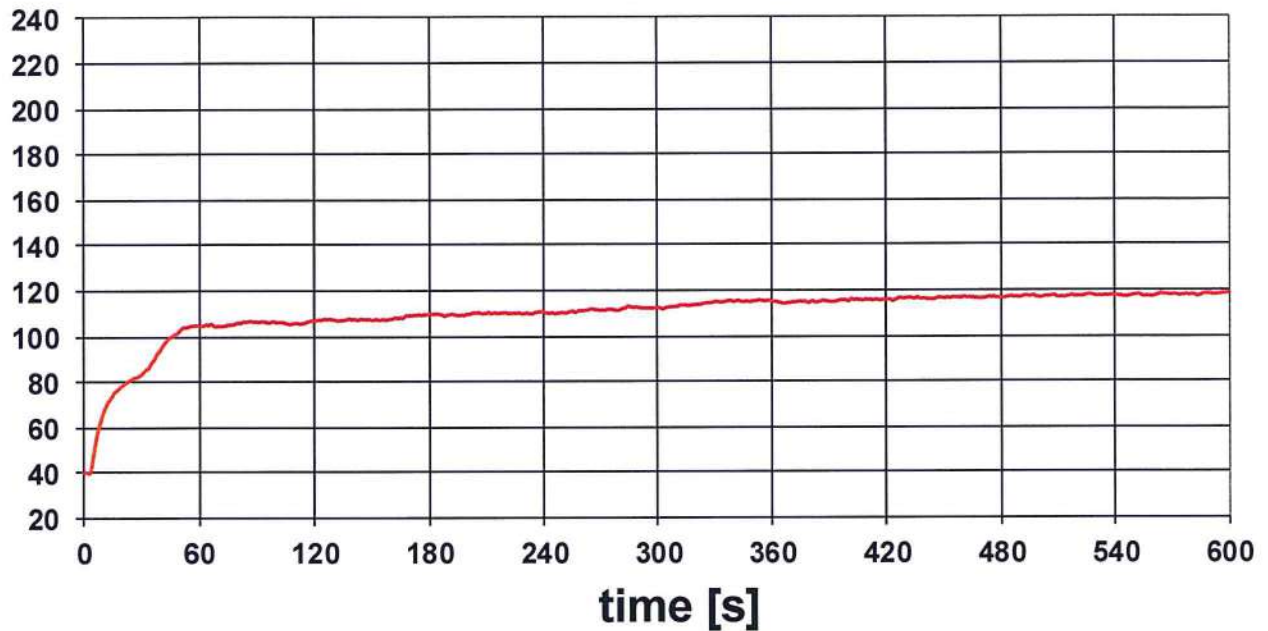


Max. flue gas-temperature = 119 °C
at [min : s] 09 : 59

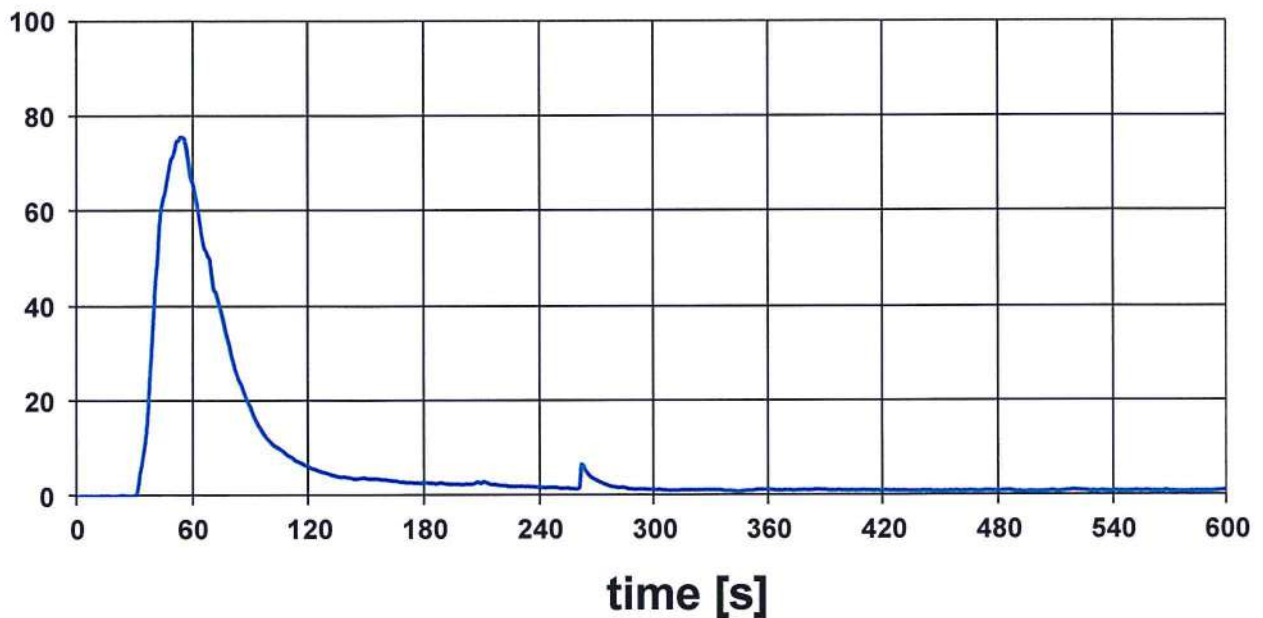
Enclosure 3 of test report
no. 230011122 of 26.07.2017

Smoke-development [% x min]: 63

T [°C] Average flue gas-temperature



RD [%] Smoke-development

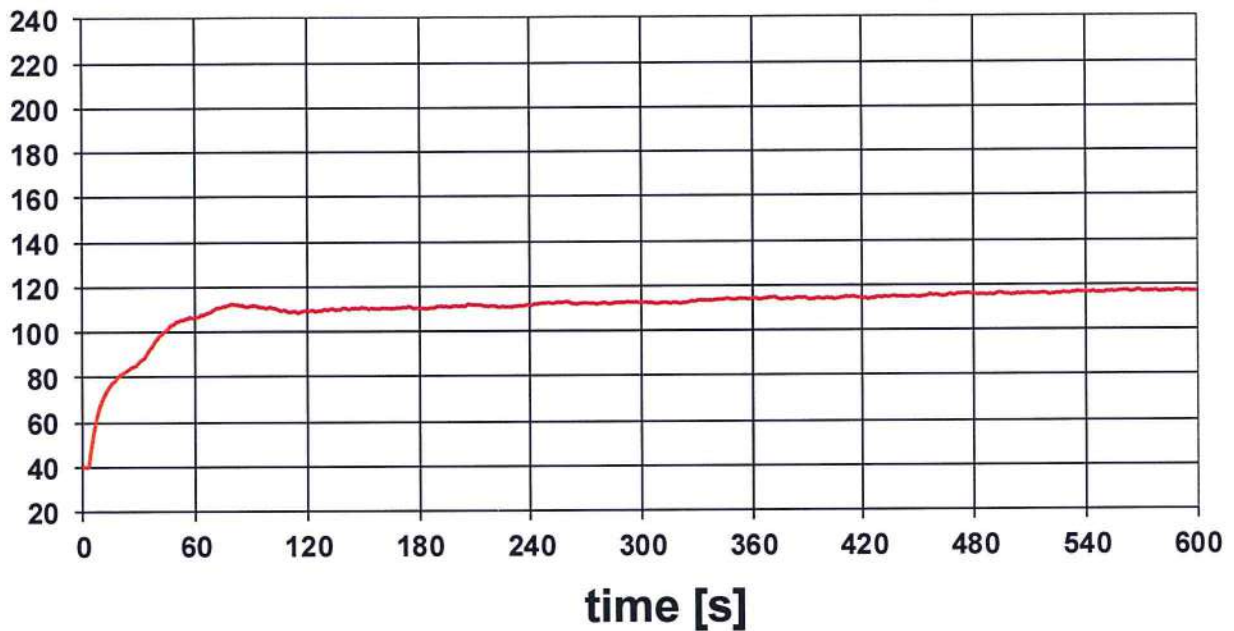


Max. flue gas-temperature = 118 °C
at [min : s] 09 : 28

Smoke-development [% x min]: 45

Enclosure 4 of test report
no. 230011122 of 26.07.2017

T [°C] Average flue gas-temperature



RD [%] Smoke-development

