

TEST CERTIFICATE

No. 230011099 of 14.11.2017

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: 04.07.2017
Date of sampling: Samples were sent in by the sponsor
Samples delivered on 25.04.2012, 18.08.2017, 19.09.2017 and 12.10.2017
Date of testing: 11.05.2012, 15.05.2012, 21.05.2012, 06.09.2017, 07.09.2017,
19.09.2017, 22.09.2017, 05.10.2017 and 26.10.2017

Order

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

Description / Name of tested product

With solvent-inks respectively latex-inks printable polymeric PVC self-adhesive films „POLI-PRINT 1000 White Gloss PG“, „POLI-PRINT 1001 White Gloss P“, „POLI-PRINT 1003 White Gloss PG Air Free“, „POLI-PRINT 1004 White Matt P“, „POLI-PRINT 1005 Translucent P“, „POLI-PRINT 1010 Transparent Gloss P“ and „POLI-PRINT 1015 Transparent Matt P“ combined with the laminate films „POLI-LUX 720 Gloss“ and „POLI-LUX 725 Matt“ for markings, letterings and decorations

Applied test procedure

DIN 4102 part 1 (May 1998)

Remark: This test certificate is a translation of the original test certificate 230011099 issued 14.11.2017 in German language and is only allowed to be used together with the original test certificate.

This test certificate is valid until 02.07.2022.
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 16 pages and 1 enclosure.



Designation by the sponsor: „POLI-PRINT 1000 White Gloss PG“, „POLI-PRINT 1001 White Gloss P“, „POLI-PRINT 1003 White Gloss PG Air Free“, „POLI-PRINT 1004 White Matt P“, „POLI-PRINT 1005 Translucent P“, „POLI-PRINT 1010 Transparent Gloss P“ and „POLI-PRINT 1015 Transparent Matt P“ combined with the laminate films „POLI-LUX 720 Gloss“ and „POLI-LUX 725 Matt“

Description:

With solvent-inks respectively latex-inks in different colours printable polymeric, calendered PVC-films with a permanent adhesive respectively removable stickiness

Thickness of the films: 75 µm

Colour of the films: white glossy, transparent matt respectively transparent glossy

Colour of the adhesive: transparent respectively grey

(Details given by the sponsor)

Colour of the tested printable films 1000 and 1004: white

Colour of the tested printable film 1015: colourless, transparent

Colour of the tested laminate film 725: colourless, transparent

Gloss level of the film 1000: glossy

Gloss level of the films 1004 and 1015 and of the laminate film 725: matt

Colour of the adhesive at the film 1000: grey

Colour of the adhesive at the films 1004 and 1015 and of the laminate film 725: transparent

Table 1: Specific values of the tested material

		Measured min. value	Arithmetic average value	Measured max. value
Thickness	mm			
a) film 1000		--	0.09	--
b) film 1004		--	0.10	--
c) film 1015		--	0.09	--
d) laminate film 725		--	0.08	--
Weight per unit area	g/m ²			
a) film 1000		--	128	--
b) film 1004		--	119	--
c) film 1015		--	106	--
d) laminate film 725		--	110	--

Special notes: The choice of the checked films occurred by MPA NRW. The test of the film type 1004 occurred on behalf for the other printable foils printed with solvent-inks respectively latex-inks and final laminated with the laminate film 725.

Results of the Brandschacht test (part 1)					
row-no.	Type of film:	measurements test specimen			
		1000 A1	1002 B1		
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		
	cm				
	Time ¹⁾	1:00	1:00		
	min : s				
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⁾	10:00	10:00		
	min : s				
7	<u>Burning droplets</u>				
	Start ¹⁾	--	--		
	min : s				
	<u>Extent</u>				
8	sporadic burning droplets	--	--		
9	continually falling particles	--	--		
10	<u>Falling particles which burns</u>				
	Start ¹⁾	--	1:02		
	min : s				
11	sporadic falling parts	--	X		
12	continually falling particles	--	--		
13	Duration of the burning on the screen bottom (max.)				
	min : s	--	--		
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					
		A1	B1				
<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	39	25				
29	> 400 % x min	--	--				
30	Diagram in appendix	--	--				
<u>Residual lengths</u>		41	41	44	44		
31	Single values cm	42	41	46	44		
32	Average values cm	41	45				
33	Photo of the specimen on page	--	--				
<u>Smoke temperature</u>							
34	Maximum value of the averaged values °C	114	114				
35	Time ¹⁾ min : s	9:45	9:34				
36	Diagram in appendix Nr.	--	--				
37	<u>Remarks:</u> For the test the self-adhesive foils were glued onto steel sheets with a thickness of 0.88 mm. The test results were taken of the test report no. 230008447-4 of 03.07.2012.						

Results of the Brandschacht test (part 1)					
row-no.	Film type 1015:	measurements test specimen			
		A2	B2	C2	
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	
	cm Time ¹⁾ min : s	1:00	1:00	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	10:00	10:00	
7	<u>Burning droplets</u> Start ¹⁾ min : s	--	--	--	
	<u>Extent</u>				
8	sporadic burning droplets	--	--	--	
9	continually falling particles	--	--	--	
10	<u>Falling particles which burns</u> Start ¹⁾ min : s	--	--	--	
	sporadic falling parts	--	--	--	
12	continually falling particles	--	--	--	
13	Duration of the burning on the screen bottom (max.) min : s	--	--	--	
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	--	--	--	
	Time of early cancellation of the test ¹⁾ min : s	--	--	--	
16		--	--	--	

¹⁾ Time counting from the start of the test

row-no.		Results of the Brandschichttest (part 2)					
		measurements test specimen					
		A2	B2	C2			
<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	26	37	36			
29	> 400 % x min	--	--	--			
30	Diagram in appendix	1	--	--			
<u>Residual lengths</u>		38	39	36	39	37	41
31	Single values cm	40	39	38	37	40	40
32	Average values cm	39	38	40			
33	Photo of the specimen on page	7	--	--			
<u>Smoke temperature</u>							
34	Maximum value of the averaged values °C	117	115	116			
35	Time ¹⁾ min : s	9:26	9:58	9:36			
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. The test results were taken of the test report no. 230008447-4 of 03.07.2012.						

Results of the Brandschacht test (part 1)					
row-no.	Film type 1004:	measurements test specimen			
		A3	B3	C3	
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>	80	80	100	
	cm				
	<u>Time</u> ¹⁾	1:00	1:30	1:00	
	min : s				
4	<u>Melt through / burn through</u>	-- ²⁾	-- ²⁾	-- ²⁾	
5	<u>Time</u> ¹⁾				
	min : s				
6	<u>Observations on the backside of the specimens</u>				
	<u>Flames/smouldering</u>	-- ²⁾	-- ²⁾	-- ²⁾	
7	<u>Time</u> ¹⁾				
	min : s				
8	<u>Discolouration</u>	10:00	10:00	10:00	
	<u>Time</u> ¹⁾				
9	min : s				
	<u>Burning droplets</u>	-- ²⁾	-- ²⁾	-- ²⁾	
10	<u>Start</u> ¹⁾				
	min : s				
11	<u>Extent</u>	-- ²⁾	-- ²⁾	-- ²⁾	
	sporadic burning droplets	-- ²⁾	-- ²⁾	-- ²⁾	
12	continually falling particles	-- ²⁾	-- ²⁾	-- ²⁾	
	<u>Falling particles which burns</u>				
13	<u>Start</u> ¹⁾	1:14	1:05	0:37	
	min : s				
14	sporadic falling parts	X	X	X	
	continually falling particles	-- ²⁾	-- ²⁾	-- ²⁾	
15	<u>Duration of the burning on the screen bottom (max.)</u>	0:06	0:01	0:04	
	min : s				
16	<u>Interference of the burner flame by dripping /falling particles</u>	-- ²⁾	-- ²⁾	-- ²⁾	
	<u>Time</u> ¹⁾				
17	min : s				
	<u>Early termination of the test</u>				
18	<u>End of burning at the specimen</u> ¹⁾	-- ²⁾	-- ²⁾	-- ²⁾	
	min : s				
19	<u>Time of early cancellation of the test</u> ¹⁾	-- ²⁾	-- ²⁾	-- ²⁾	
	min : s				

¹⁾ Time counting from the start of the test

row-no.		Results of the Brandschachttest (part 2)					
		measurements test specimen					
		A3		B3		C3	
<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	73		76		79	
29	> 400 % x min	-- ²⁾		-- ²⁾		-- ²⁾	
30	Diagram in appendix	--		--		--	
<u>Residual lengths</u>							
31	Single values cm	31	30	32	32	32	33
		33	32	34	32	35	34
32	Average values cm	32		33		34	
33	Photo of the specimen on page	--		--		--	
<u>Smoke temperature</u>							
34	Maximum value of the averaged values °C	124		121		125	
35	Time ¹⁾ min : s	1:30		1:27		1:17	
36	Diagram in appendix Nr.	--		--		--	
37	<u>Remarks:</u>						
<p>Test specimen A: The film was printed with red solvent-ink and was covered finally with the laminate film 725. The film compound was flamed in production direction.</p> <p>Test specimen B: The film was printed with red latex-ink and was covered finally with the laminate film 725. The film compound was flamed across the production direction.</p> <p>Test specimen C: The film was printed with black latex-ink and was covered finally with the laminate film 725. The film compound was flamed in production direction.</p> <p>2) did not occur</p>							

Results of the Brandschacht test (part 1)					
row-no.	Film type 1004:	measurements test specimen			
		A4	B4	C4	
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>	80	90	90	
	cm Time ¹⁾ min : s	2:00	1:30	1:30	
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 Time ¹⁾ min : s	-- ²⁾	-- ²⁾	-- ²⁾	
6	Discolouration				
	Time ¹⁾ min : s	10:00	10:00	10:00	
7	<u>Burning droplets</u>				
	Start ¹⁾ min : s	-- ²⁾	-- ²⁾	-- ²⁾	
8	<u>Extent</u>				
	sporadic burning droplets	-- ²⁾	-- ²⁾	-- ²⁾	
9	continually falling particles	-- ²⁾	-- ²⁾	-- ²⁾	
	<u>Falling particles which burns</u>				
10	Start ¹⁾ min : s	0:47	-- ²⁾	0:38	
	sporadic falling parts	x	-- ²⁾	x	
11	continually falling particles	-- ²⁾	-- ²⁾	-- ²⁾	
	Duration of the burning on the screen bottom (max.) min : s	0:09	-- ²⁾	0:02	
13	<u>Interference of the burner flame by dripping /falling particles</u>				
	Time ¹⁾ min : s	-- ²⁾	-- ²⁾	-- ²⁾	
14	<u>Early termination of the test</u>				
	End of burning at the specimen ¹⁾ min : s	-- ²⁾	-- ²⁾	-- ²⁾	
15	Time of early cancellation of the test ¹⁾ min : s	-- ²⁾	-- ²⁾	-- ²⁾	
		-- ²⁾	-- ²⁾	-- ²⁾	

¹⁾ Time counting from the start of the test

row-no.		Results of the Brandschachttest (part 2)							
		measurements test specimen							
		A4		B4		C4			
17	<u>Continuous burning after termination of the test</u> 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⁾			
22	<u>Smouldering after termination of the test</u> Duration min : s	-- ²⁾		-- ²⁾		-- ²⁾			
23	Number of specimens	-- ²⁾		-- ²⁾		-- ²⁾			
24	<u>Location</u> 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⁾			
28	<u>Smoke development</u> ≤ 400 % x min	59		75		79			
29	> 400 % x min	-- ²⁾		-- ²⁾		-- ²⁾			
30	Diagram in appendix	--		1		--			
31	<u>Residual lengths</u> Single values cm	29	30	32	31	29	26		
32	Average values cm	30	30	31	33	29	28		
33	Photo of the specimen on page	11		--		--			
34	<u>Smoke temperature</u> Maximum value of the averaged values °C	120		129		125			
35	Time ¹⁾ min : s	1:36		1:19		1:20			
36	Diagram in appendix Nr.	--		1		--			
37	<u>Remarks:</u> The film was printed with red latex-ink and was covered finally with the laminate film 725. The film compound was flamed in production direction. 2) did not occur								



Picture 1: Appearance of specimen A4 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 film type 1000 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
Flame passing the limit mark (s)	--	--	--	--	--
Self extinguishment (s)	--	--	--	2	2
Max. height of the flame (cm)	0	0	0	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)	not observable				
Falling of burning particles / droplets time (s)	--	--	--	--	--

Remark: The test results were taken of the test report no. 230008447-4 of 03.07.2012.

Point of flame attack: lower edge of the front side, flaming of the film type 1002 glued on 0.88 mm thick steel sheets

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	--	--	1	--	--
Flame passing the limit mark (s)	--	--	--	--	--
Self extinguishment (s)	--	--	2	--	--
Max. height of the flame (cm)	0	0	1	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)	--	--	--	--	--

Remark: The test results were taken of the test report no. 230008447-4 of 03.07.2012.

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 film type 1015 glued on 0.88 mm thick steel sheets

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	1	--	--	--	--
Flame passing the limit mark (s)	--	--	--	--	--
Self extinguishment (s)	3	--	--	--	--
Max. height of the flame (cm)	1	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)	very low				
Falling of burning particles / droplets time (s)	--	--	--	--	--

Remark: The test results were taken of the test report no. 230008447-4 of 03.07.2012.

Point of flame attack: lower edge of the front side, flaming of the film type 1004 in production direction printed with red solvent-ink and finally covered with the laminate film 725 glued on 0.75 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)	15	15	15	15	15
Max. height of the flame (cm)	3	3	3	3	3
Continuous burning after 20 s	--	--	--	--	--
Continuous smouldering after 20 s	--	--	--	--	--
Extinguishment of flames / glowing after passing the limit mark	--	--	--	--	--
Smoke development (visual observation)	low				
Falling of burning particles / droplets time (s)	--	--	--	--	--

Point of flame attack: lower edge of the front side, flaming of the film type 1004 in production direction printed with red latex-ink and finally covered with the laminate film 725 glued on 0.75 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)	15	15	15	15	15
Max. height of the flame (cm)	3	3	3	3	3
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 film type 1004 across the production direction printed with red latex-ink and finally covered with the laminate film 725 glued on 0.75 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)	15	15	15	15	15
Max. height of the flame (cm)	3	3	3	3	3
Continuous burning after 20 s	--	--	--	--	--
Continuous smouldering after 20 s	--	--	--	--	--
Extinguishment of flames / glowing after passing the limit mark	--	--	--	--	--
Smoke development (visual observation)	low				
Falling of burning particles / droplets time (s)	--	--	--	--	--

Point of flame attack: lower edge of the front side, flaming of the film type 1004 in production direction printed with black latex-ink and finally covered with the laminate film 725 glued on 0.75 mm thick steel sheets

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	--	1	1	--	1
Flame passing the limit mark (s)	--	--	--	--	--
Self extinguishment (s)	--	3	3	--	2
Max. height of the flame (cm)	0	1	1	0	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)	--	--	--	--	--

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 films are glued on steel substrate. The surface of the self-adhesive films may be printed with solvent-inks respectively latex-inks and may be finally covered with the laminate films „POLI-LUX 720 Gloss“ respectively „POLI-LUX 725 Matt“. 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 02.07.2022. The period of validity can be extended on application.
- Since the above mentioned material is used for markings, letterings and decorations, it is no building product 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.

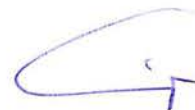
This test certificate is solely valid in combination with the original test certificate issued in German language and dated of 14.11.2017. In case of doubt, the certificate issued in German language is valid solely.

Erwitte, 14.11.2017
On behalf



Dipl.-Ing. Rademacher
Head of testing body

Date of issue of this English version: 23.01.2018



Dipl.-Ing. Schreiner
Engineer in charge

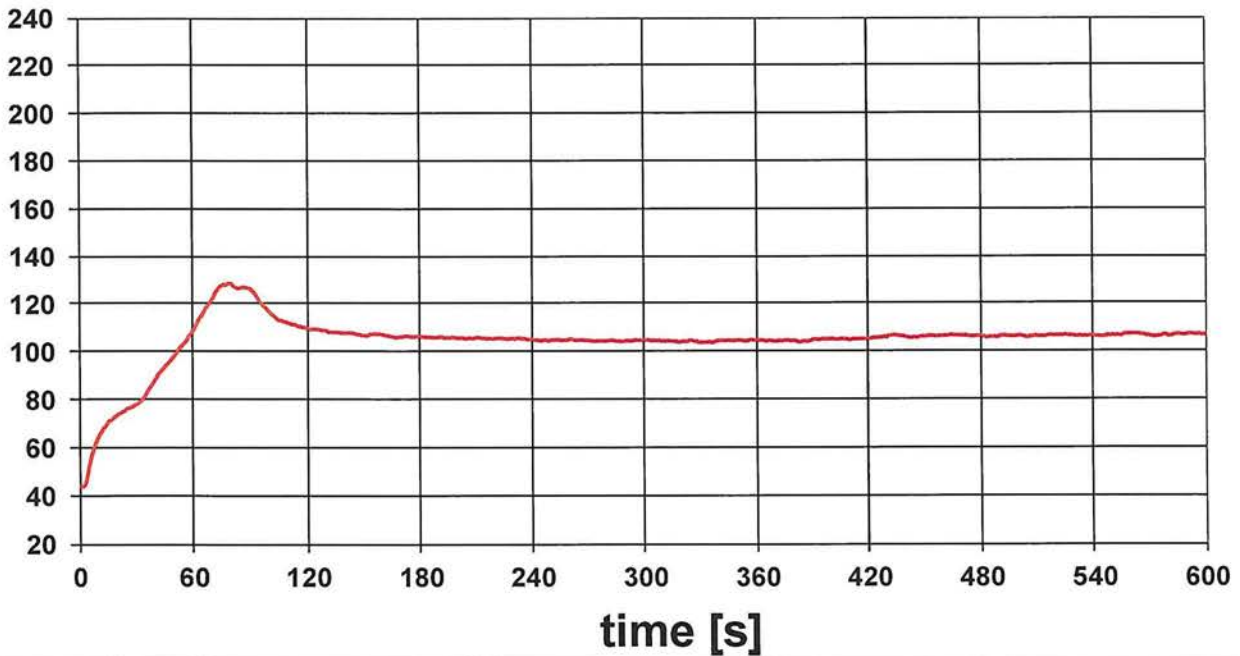
Max. flue gas-temperature = 129 °C
at [min : s] 01 : 19

Smoke-development [% x min]: 75

Enclosure 1 of test report
no. 230011099 of 14.11.2017

T [°C]

Average flue gas-temperature



RD [%]

Smoke-development

