

Test report No. 2019-1834

for applying of a required “Verwendbarkeitsnachweis”
issued 22.08.2019

Applicant: Camira Transport Fabrics Ltd,
Meltham Mills,
Meltham Mills Road
Meltham
West Yorkshire
HD9 4AY

Date of order: 31.07.2019
Date of sampling: *no official sampling of the specimen by a representative of Warringtonfire Frankfurt GmbH*
Date of arrival: 02.08.2019
Date of test: 19.08.2019 + 21.08.2019

Order

Testing of the flammability (building class B1) according to DIN 4102-1 (May 1998)

Description / designation of the test object

Product name: Xtreme CS

Description of the relevant test procedure

DIN 4102 part 1 (Mai 1998)

This test report does not replace the required „Verwendbarkeitsnachweis“. It is only used for issuing the “Verwendbarkeitsnachweis”.

1. Description of the test material

1.1 Details of the customer:

Product name: Xtreme CS

Face to be tested: Marked on samples / side with stickers

Product description:

Width: 140cm

Colours: Light – Slip (Batch 423238)
Medium – Malang (Batch 415899)
Dark – Costa (Batch 427315)

Weight: 310 g/m²

Composition: 100% Trevira CS® Flame Retardant Polyester

1.2 By Warringtonfire Frankfurt GmbH determined values:

Fabric samples

Colour:	orange	blue	grey
Thickness:	0,78 mm	0,78 mm	0,79 mm
Square weight:	309 g/m ²	317 g/m ²	309 g/m ²

Testing after storing 14- days under climatic conditions (23°C / 50 % rel. humidity).

2. Test results

2.1.1 Brandschachtprüfung according to DIN 4102-1

Sample A: Material tested in production direction.

Sample B: Material tested cross to the production direction.

Colour: orange

Test results of the Brandschacht tests part 1							
line no.		Measurements test sample					
			A	B			
1	<u>no. test arrangement according to DIN 4102 part 15, table 1</u>		1	1			
2	<u>flame height max. over lower sample edge</u> time ¹⁾	cm	30	30			
		min : s	00:09	00:08			
3	<u>ascertainties on the front side</u> Flaming/glowing time ¹⁾	min : s	00:04	00:03			
4	<u>melting / burning through</u> time ¹⁾	min : s	00:06	00:06			
5	<u>ascertainties on the back side</u> Flaming/glowing time ¹⁾	min : s	no	no			
6		discolouring time ¹⁾	min : s	no	no		
7	<u>burning droplets</u> begin ¹⁾ extent	min : s	no	no			
8		occasional dropping of material					
9		constant dropping of material					
10	<u>separating from burning sample parts</u> begin ¹⁾	min : s	no	no			
11		occasional separating parts					
12		constant separating parts					
13	duration of burning on the sieve tray (max.)	min : s	no	no			
14	influence on the burner flame by dropping of / separating material time ¹⁾	min : s	no	no			
15	<u>earlier end of test</u> end of the fire scenario on the sample ¹⁾	min : s	no	no			
16	time of a possible resulted test stop ¹⁾	min : s					

¹⁾ time from start of test

Test results of the Brandschacht tests part 2					
line no.		Measurements test sample			
			A	B	
17	<u>flaming after end of test</u> duration	min : s	no	no	
18	number of sample		no	no	
19	front side of sample	cm	no	no	
20	backside of sample		no	no	
21	flame length		no	no	
22	<u>glowing after end of test</u> duration	min . s	--/--	--/--	
23	number of sample		no	no	
	place of occurrence		no	no	
24	lower sample part		no	no	
25	upper sample part		no	no	
26	front side of sample		no	no	
27	backside of sample		no	no	
28	<u>smoke density</u> < 400 % x min		0	0	
29	> 440 % x min		--/--	--/--	
30	<u>diagram in annex no.</u>		1	2	
31	<u>residual length</u> single results	cm	69 / 70 65 / 70	70 / 66 69 / 69	
32	average of the single results	cm	68	68	
33	photo of the sample on page		5	5	
34	<u>smoke temperature</u> max. of the average results	°C	121	118	
35	time ¹⁾	min : s	09:19	09:04	
36	diagram in annex no.		1	2	

¹⁾ time from start of test

Remarks:

2.1.2 Appearance of the specimen after the test:

Colour: orange



Sample A



Sample B

2.1.3 Brandschachtprüfung according to DIN 4102-1

Sample C: Material tested in production direction.

Sample D: Material tested cross to the production direction.

Colour: blue

Test results of the Brandschacht tests part 1						
line no.		Measurements test sample				
			C	D		
1	<u>no. test arrangement according to DIN 4102 part 15, table 1</u>		1	1		
2	<u>flame height max. over lower sample edge</u> time ¹⁾	cm	30	30		
		min : s	00:09	00:10		
3	<u>ascertainties on the front side</u> Flaming/glowing time ¹⁾	min : s	00:04	00:03		
4	<u>melting / burning through</u> time ¹⁾	min : s	00:07	00:08		
5	<u>ascertainties on the back side</u> Flaming/glowing time ¹⁾	min : s	no	no		
6	discolouring time ¹⁾	min : s	no	no		
7	<u>burning droplets</u> begin ¹⁾	min : s				
8	extent		no	no		
9	occasional dropping of material					
10	<u>separating from burning sample parts</u> begin ¹⁾	min : s				
11	occasional separating parts		no	no		
12	constant separating parts					
13	duration of burning on the sieve tray (max.)	min : s	no	no		
14	influence on the burner flame by dropping of / separating material time ¹⁾	min : s	no	no		
15	<u>earlier end of test</u> end of the fire scenario on the sample ¹⁾	min : s				
16	time of a possible resulted test stop ¹⁾	min : s	no	no		

¹⁾ time from start of test

Test results of the Brandschacht tests part 2					
line no.			Measurements test sample		
			C	D	
17	<u>flaming after end of test</u> duration	min : s	no	no	
18	number of sample		no	no	
19	front side of sample	cm	no	no	
20	backside of sample		no	no	
21	flame length		no	no	
22	<u>glowing after end of test</u> duration	min . s	--/--	--/--	
23	number of sample		no	no	
	place of occurrence		no	no	
24	lower sample part		no	no	
25	upper sample part		no	no	
26	front side of sample		no	no	
27	backside of sample	no	no		
28	<u>smoke density</u> < 400 % x min		0	1	
29	> 440 % x min		--/--	--/--	
30	<u>diagram in annex no.</u>		3	4	
31	<u>residual length</u> single results	cm	71 / 70 70 / 68	70 / 70 70 / 69	
32	average of the single results	cm	69	69	
33	photo of the sample on page		8	8	
34	<u>smoke temperature</u> max. of the average results	°C	116	115	
35	time ¹⁾	min : s	09:43	08:45	
36	diagram in annex no.		3	4	

¹⁾ time from start of test

Remarks:

2.1.4 Appearance of the specimen after the test:

Colour: blue



Sample C



Sample D

2.1.5 Brandschachtprüfung according to DIN 4102-1

Sample E: Material tested in production direction.

Sample F: Material tested cross to the production direction.

Colour: grey

Test results of the Brandschacht tests part 1						
line no.		Measurements test sample				
			E	F		
1	<u>no. test arrangement according to DIN 4102 part 15, table 1</u>		1	1		
2	<u>flame height max. over lower sample edge</u> time ¹⁾	cm	30	30		
		min : s	00:09	00:09		
3	<u>ascertainties on the front side</u> Flaming/glowing time ¹⁾	min : s	00:04	00:05		
4	<u>melting / burning through</u> time ¹⁾	min : s	00:06	00:07		
5	<u>ascertainties on the back side</u> Flaming/glowing time ¹⁾	min : s	no	no		
6	discolouring time ¹⁾	min : s	no	no		
7	<u>burning droplets</u> begin ¹⁾	min : s				
8	extent		no	no		
9	occasional dropping of material					
10	<u>separating from burning sample parts</u> begin ¹⁾	min : s				
11	occasional separating parts		no	no		
12	constant separating parts					
13	duration of burning on the sieve tray (max.)	min : s	no	no		
14	influence on the burner flame by dropping of / separating material time ¹⁾	min : s	no	no		
15	<u>earlier end of test</u> end of the fire scenario on the sample ¹⁾	min : s				
16	time of a possible resulted test stop ¹⁾	min : s	no	no		

¹⁾ time from start of test

Test results of the Brandschacht tests part 2					
line no.		Measurements test sample			
			E	F	
17	<u>flaming after end of test</u> duration	min : s	no	no	
18	number of sample		no	no	
19	front side of sample	cm	no	no	
20	backside of sample		no	no	
21	flame length		no	no	
22	<u>glowing after end of test</u> duration	min . s	--/--	--/--	
23	number of sample		no	no	
	place of occurrence		no	no	
24	lower sample part		no	no	
25	upper sample part		no	no	
26	front side of sample		no	no	
27	backside of sample	no	no		
28	<u>smoke density</u> < 400 % x min		1	1	
29	> 440 % x min		--/--	--/--	
30	<u>diagram in annex no.</u>		5	6	
31	<u>residual length</u> single results	cm	69 / 70 70 / 69	69 / 68 68 / 69	
32	average of the single results	cm	69	68	
33	photo of the sample on page		11	11	
34	<u>smoke temperature</u> max. of the average results	°C	118	115	
35	time ¹⁾	min : s	09:30	09:09	
36	diagram in annex no.		5	6	

¹⁾ time from start of test

Remarks: no attempt was necessary since the residual length was > 45 cm in all longitudinal and transverse tests and in different colors.

2.1.6 Appearance of the specimen after the test:

Colour: grey



Sample E



Sample F

2.2.1 Normal flammability test according to DIN 4102-1

Test with edge ignition without deposit
Flame application on: lower sample edge
Edge ignition

Length direction: Colour: orange

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	1	1	1	1	1
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self-extinguishing of the flame [s]	5	8	4	4	5
Max. flame height [mm]	40	40	30	30	40
Time [s]	4	5	3	3	4
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visual impression) _{low / moderate / strong}	low smoke development				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks:

Cross direction:

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	1	1	1	1	1
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self-extinguishing of the flame [s]	4	4	5	5	5
Max. flame height [mm]	30	30	40	40	40
Time [s]	3	3	4	4	4
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visual impression) _{low / moderate / strong}	low smoke development				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks:

2.2.2 Normal flammability test according to DIN 4102-1

Test with edge ignition without deposit
Flame application on: lower sample edge
Edge ignition

Length direction: Colour: blue

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	1	1	1	1	1
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self-extinguishing of the flame [s]	7	15	12	6	6
Max. flame height [mm]	50	30	50	30	30
Time [s]	5	10	7	4	4
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visual impression) _{low / moderate / strong}	low smoke development				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks:

Cross direction:

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	1	1	1	1	1
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self-extinguishing of the flame [s]	15	6	12	5	6
Max. flame height [mm]	30	30	60	30	30
Time [s]	10	4	8	4	4
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visual impression) _{low / moderate / strong}	low smoke development				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks:

2.2.3 Normal flammability test according to DIN 4102-1

Test with edge ignition without deposit
Flame application on: lower sample edge
Edge ignition

Length direction: Colour: grey

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	1	1	1	1	1
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self-extinguishing of the flame [s]	5	5	5	5	5
Max. flame height [mm]	40	40	40	40	40
Time [s]	4	4	4	4	4
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visual impression) _{low / moderate / strong}	low smoke development				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks:

Cross direction:

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	1	1	1	1	1
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self-extinguishing of the flame [s]	3	3	5	3	3
Max. flame height [mm]	30	30	40	30	30
Time [s]	3	3	4	3	3
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visual impression) _{low / moderate / strong}	low smoke development				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks:

2.2.4 Appearance of the sample after the small burner test:



Assessment

The material described in chapter one fulfils the requirements of the building class B2 according to DIN 4102-1 (Mai 1998).

The determined test results show that the material also fulfils the requirements

of the building class B1

according to DIN 4102-1 (Mai 1998).

Special note

The fire test result is only valid for the material described in chapter one in the tested colours, surface weight and thickness.

The test was carried out in free hanging configuration.

The distance to other plane material must be more or equal then 40 mm.

According to A4, 4102-16 Section 4.2, the test result includes all colour settings.

The material wasn't tested after an outside storage.

In combination with other materials (for example coatings, deposits) the burning behaviour could be influenced unfavourable so that the classification above is not valid any longer. According to DIN 4102-1 the burning behaviour in combination with other materials has to be tested separately.

This test report does not replace the required „Verwendbarkeitsnachweis“. It is only used for issuing the “Verwendbarkeitsnachweis”.

Frankfurt, the 22th August 2019



H. Anders
Tester in Charge



P. Scheinkönig
Prüfstellenleiter Bau-PVO



This Test report is valid until 18.08.2024.

The results of the tests relate only to the behaviour of the test specimen which is designated on the top.

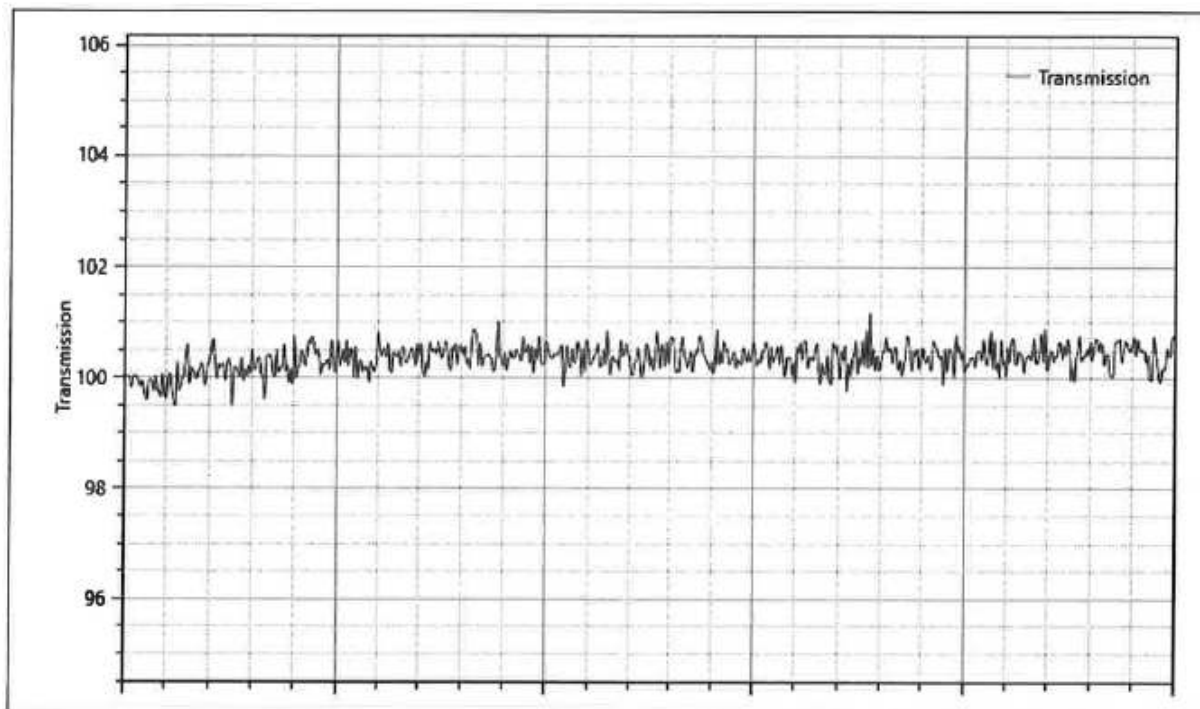
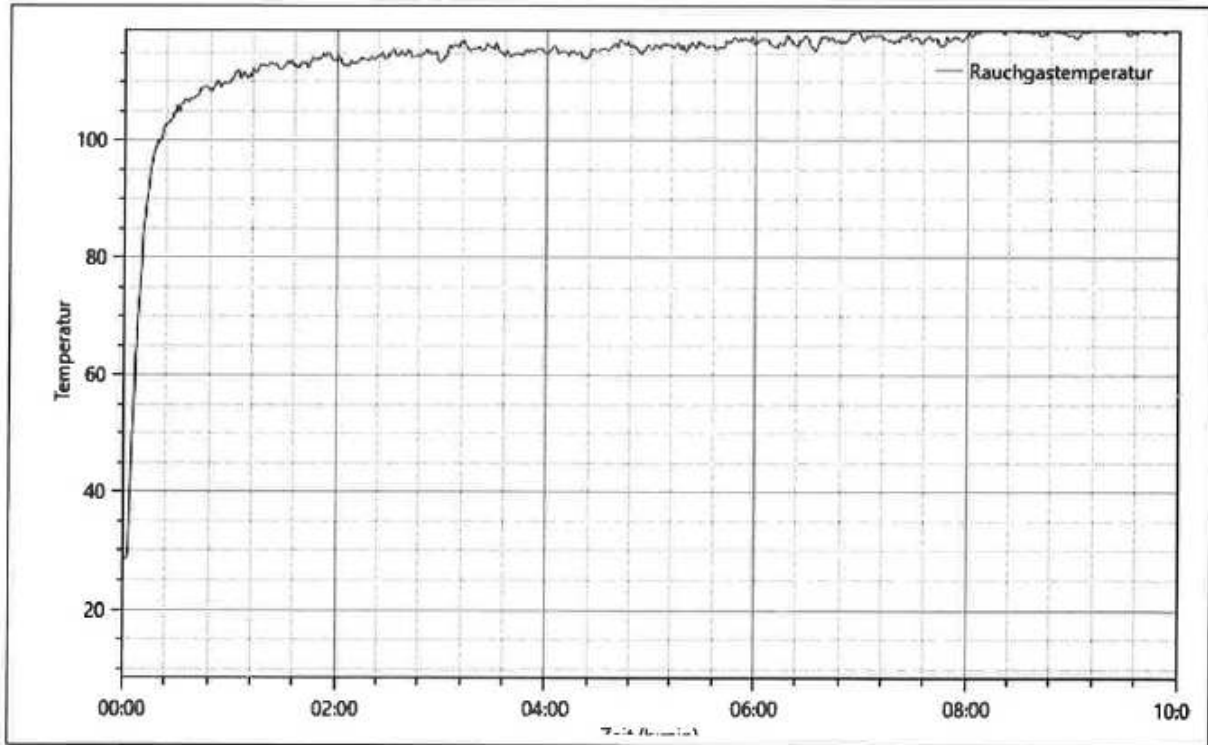
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This test report is a translation of the German version 2019-1834 (issued 22.08.2019). In case of doubt only the German version is valid

This test report contains 16 pages and 6 annexes.

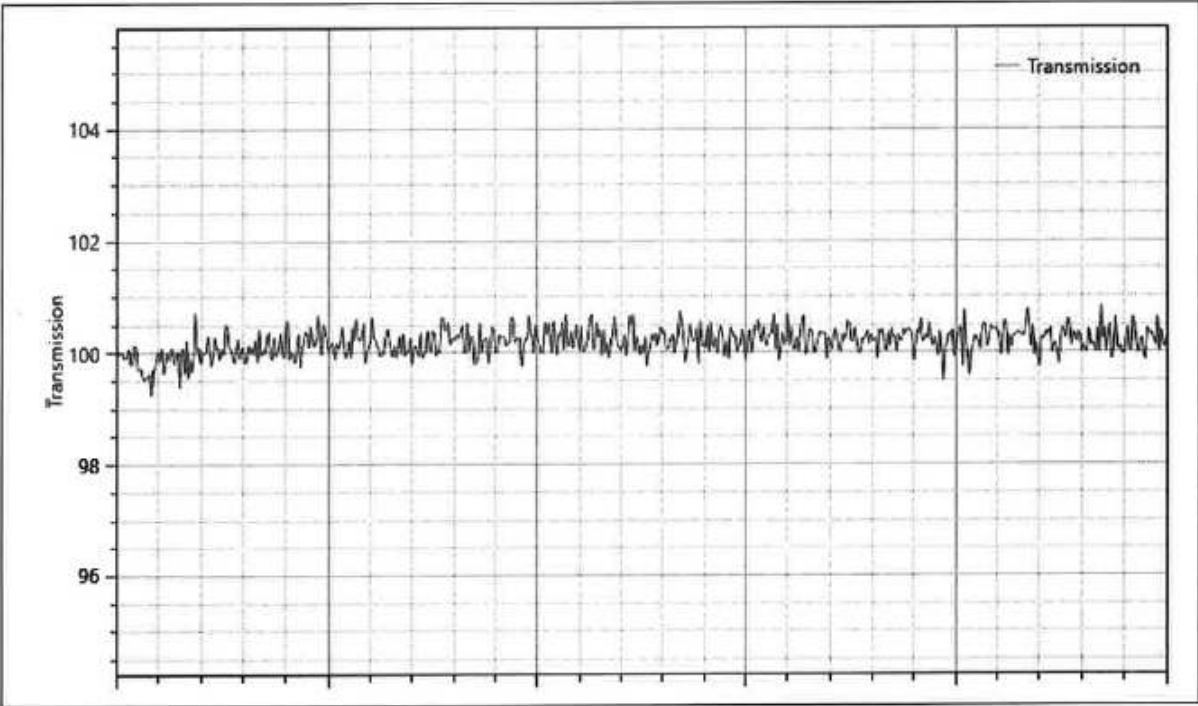
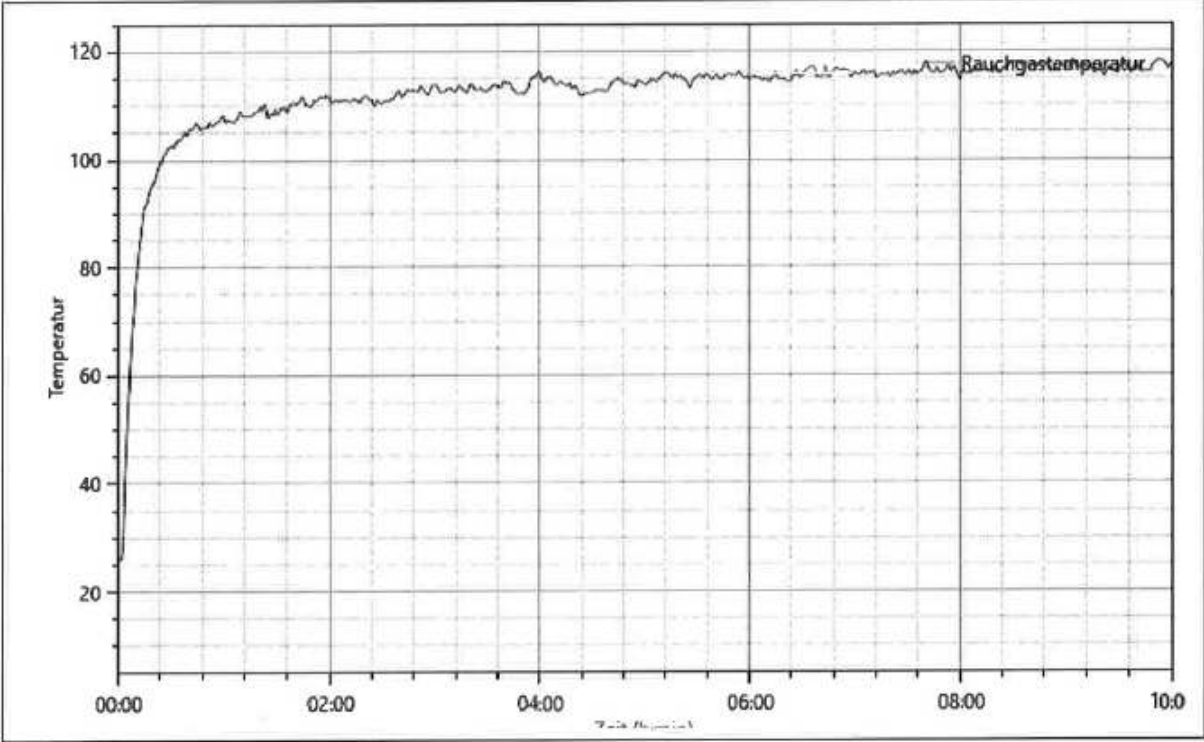
Annex 1 to the Test report No. 2019-1834 issued 22.08.2019

Sample A:



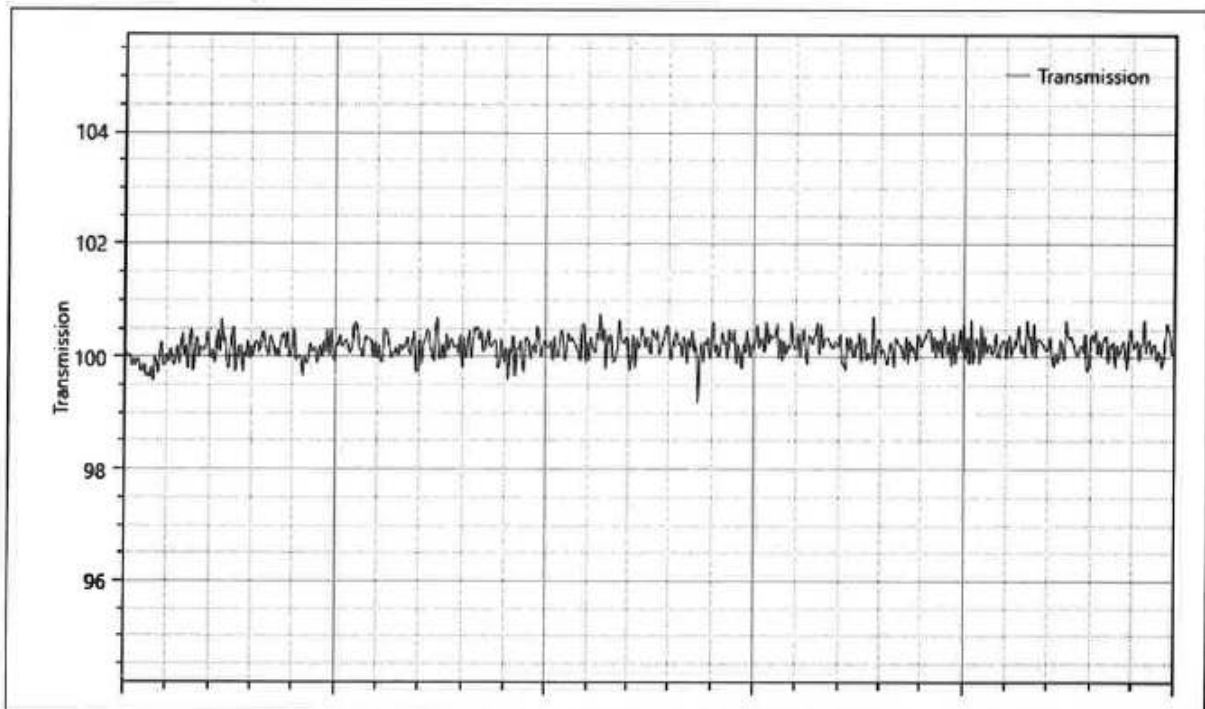
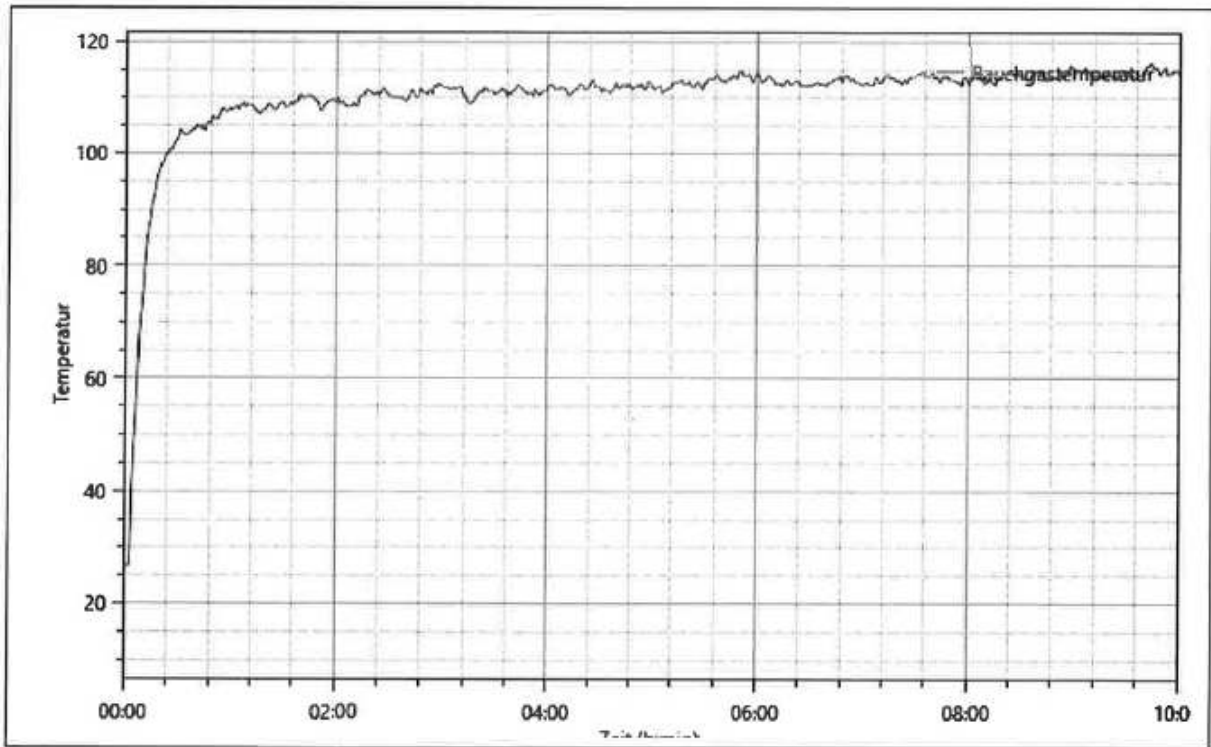
Annex 2 to the Test report No. 2019-1834 issued 22.08.2019

Sample B:



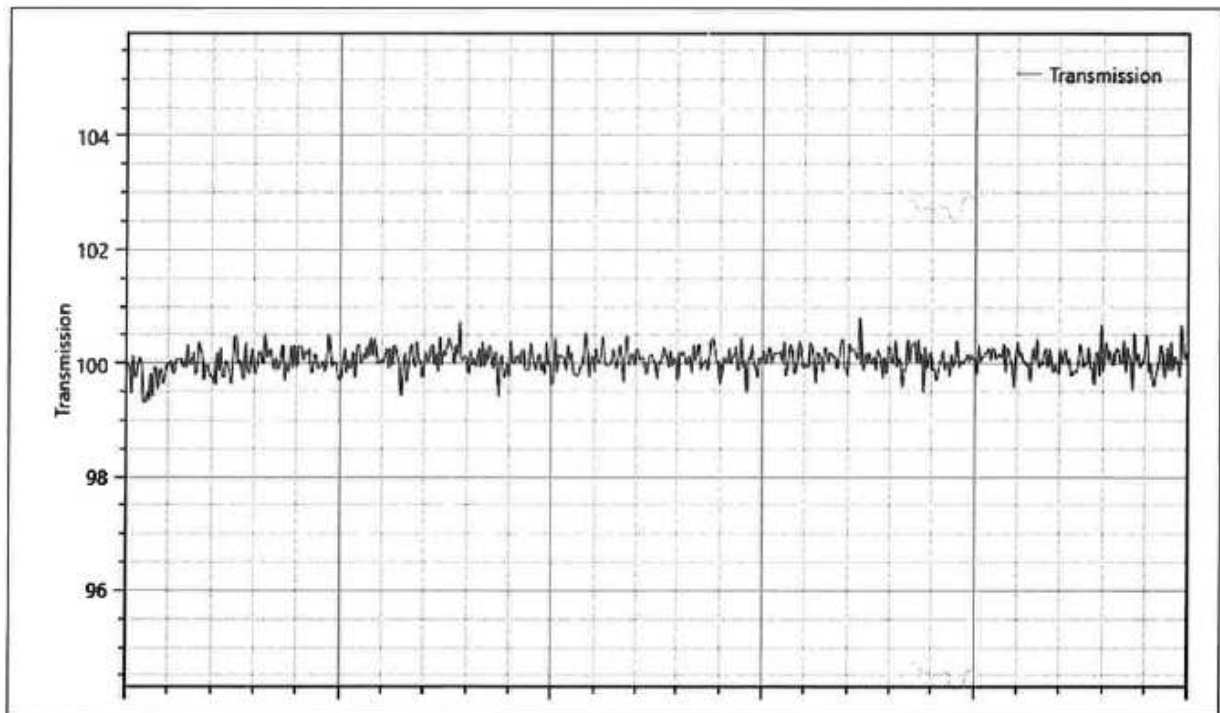
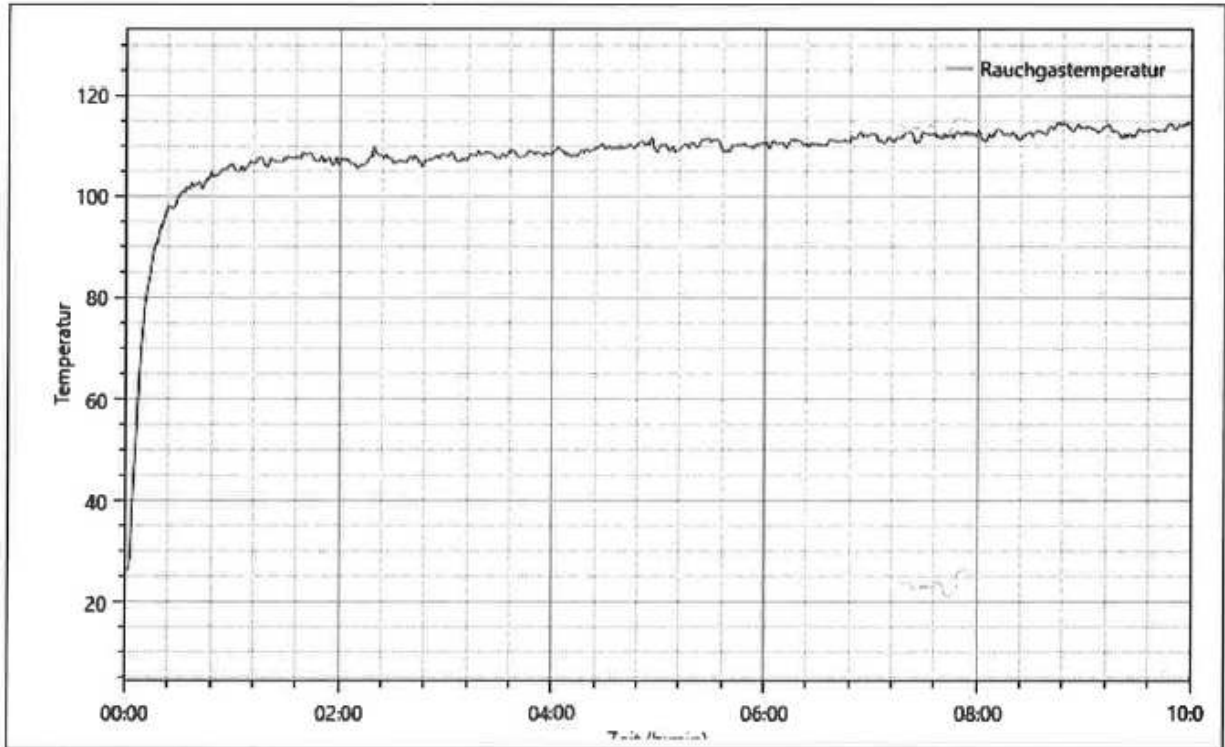
Annex 3 to the Test report No. 2019-1834 issued 22.08.2019

Sample C:



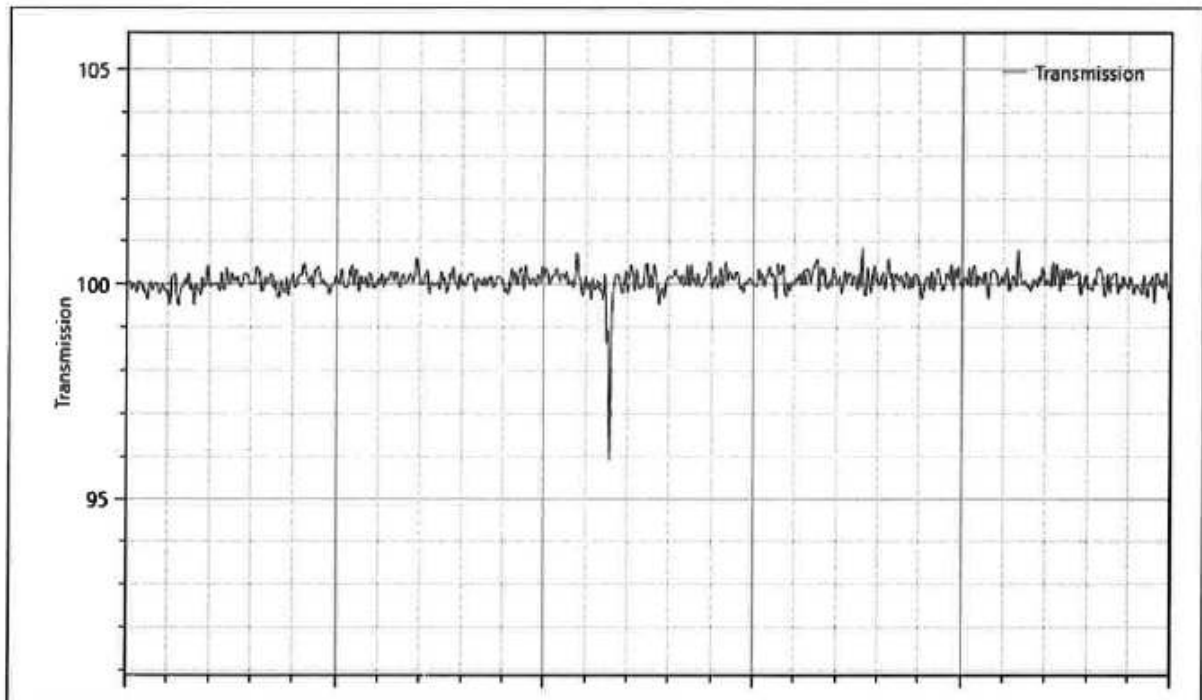
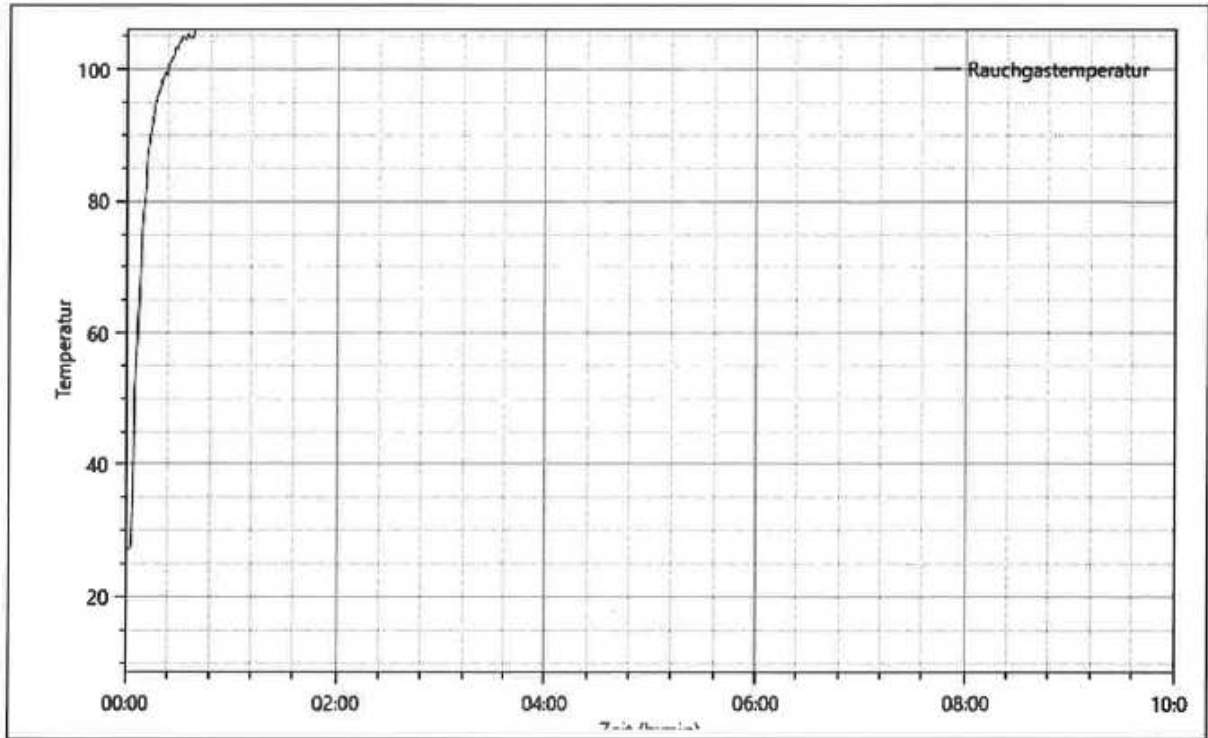
Annex 4 to the Test report No. 2019-1834 issued 22.08.2019

Sample D:



Annex 5 to the Test report No. 2019-1834 issued 22.08.2019

Sample E:



Annex 6 to the Test report No. 2019-1834 issued 22.08.2019

Sample F:

