

Test report No. 2019-1830
for applying of a required “Verwendbarkeitsnachweis”
issued 22.08.2019

Applicant: Coratec AG
Industriestrasse 33

CH-4617 Gunzgen

Date of order: 24.06.2019
Date of sampling: *no official sampling of the specimen by a representative of Warringtonfire Frankfurt GmbH*
Date of arrival: 31.07.2019
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: Corapan® AL 150

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: Corapan® AL 150

Product description:

Tradename: Corapan® AL 150
Sample material: Sandwich panel with 2 aluminum facings and a core of polystyrene, polyurethane and aluminum hydroxide
Material type: see above
Production technique: pressed
Total thickness: 15mm bis 100mm
Area weight: 7.4 bis 20.1kg/m² (nominal)
Colour: Top coat: tape-coated (the pattern is white), core: beige
Fire protecting agent: aluminum hydroxide
Manufacturer: Nabaltec AG
Fire protecting agent type: NH 20
Contents fire protecting agent: nominal 64% (weight of core material)

Surface type: Aluminum coated
Surface weight: 2.7 kg/m² (pro surface)
Surface thickness: 1 mm (pro surface)

Material additional layers, components: Core of polystyrene, polyurethane and aluminum hydroxide
Surface weight/contents of other layers/components: Core: 2.0 bis 14.7kg/m² (nominal)
Thickness of other layers: 13 bis 98mm (nominal)
Glue: Polyurethan
Manufacturer: Kleiberit/BASF

Intended end use of product: Roofs, partition walls, door panels, facade elements, etc.

1.2 By Warringtonfire Frankfurt GmbH determined values:

foam with Alupanels on both sides; edges open

Colour:	white	white
Thickness:	14,87 mm	59,5 mm
Square weight:	7,249 kg/m ²	14,432 kg/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. Thickness: 14,87 mm
 Sample B: Material tested in production direction. Thickness: 80 mm
 Sample C: Material tested in production direction. Thickness: 80 mm
 Sample D: Material tested in production direction. Thickness: 80 mm

Test results of the Brandschacht tests part 1						
line no.		Measurements test sample				
			A	B	C	D
1	<u>no. test arrangement according to DIN 4102 part 15, table 1</u>		1	1	1	1
2	<u>flame height max. over lower sample edge</u> time ¹⁾	cm	70	80	80	80
		min : s	03:30	03:55	04:05	04:00
3	<u>ascertainments on the front side</u> Flaming/glowing time ¹⁾	min : s	1	1	1	1
4	<u>melting / burning through</u> time ¹⁾	min : s	no	no	no	no
5	<u>ascertainments on the back side</u> Flaming/glowing time ¹⁾	min : s	no	no	no	no
6		discolouring time ¹⁾	min : s	no	no	no
7	<u>burning droplets</u> begin ¹⁾ extent occasional dropping of material constant dropping of material	min : s	no	no	no	no
8						
9						
10	<u>separating from burning sample parts</u> begin ¹⁾ occasional separating parts constant separating parts	min : s	no	no	no	no
11						
12						
13	duration of burning on the sieve tray (max.)	min : s	no	no	no	no
14	influence on the burner flame by dropping of / separating material time ¹⁾	min : s	no	no	no	no
15	<u>earlier end of test</u> end of the fire scenario on the sample ¹⁾	min : s	no	no	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	C		
17	<u>flaming after end of test</u> duration	no	01:25	01:29	01:18	
18	number of sample	no	4	4	4	
19	front side of sample	no	yes	yes	yes	
20	backside of sample	no	no	no	no	
21	flame length	no	ca. 50mm	ca. 50mm	ca. 50mm	
22	<u>glowing after end of test</u> duration	--/--	--/--	--/--	--/--	
23	number of sample	no	no	no	no	
	place of occurrence	no	no	no	no	
24	lower sample part	no	no	no	no	
25	upper sample part	no	no	no	no	
26	front side of sample	no	no	no	no	
27	backside of sample	no	no	no	no	
28	<u>smoke density</u> < 400 % x min	222	399	371	399	
29	> 440 % x min	--/--	--/--	--/--	--/--	
30	diagram in annex no.	1	2	3	4	
31	<u>residual length</u> single results	cm	32 / 30 31 / 31	24 / 27 26 / 25	28 / 25 25 / 26	24 / 26 25 / 25
32	average of the single results	cm	31	25	26	25
33	photo of the sample on page		5	5	5	5
34	<u>smoke temperature</u> max. of the average results	°C	127	159	150	159
35	time ¹⁾	min : s	04:44	05:53	04:28	05:55
36	diagram in annex no.		1	2	3	4

¹⁾ time from start of test

Remarks: Meets in the thickness from 15mm to 80mm

2.1.2 Appearance of the specimen after the test:

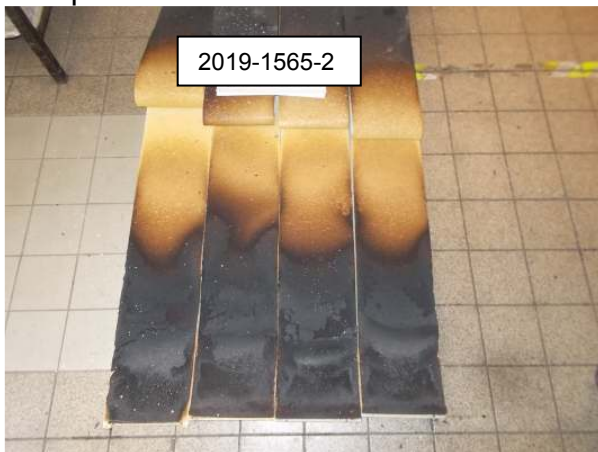
Sample A



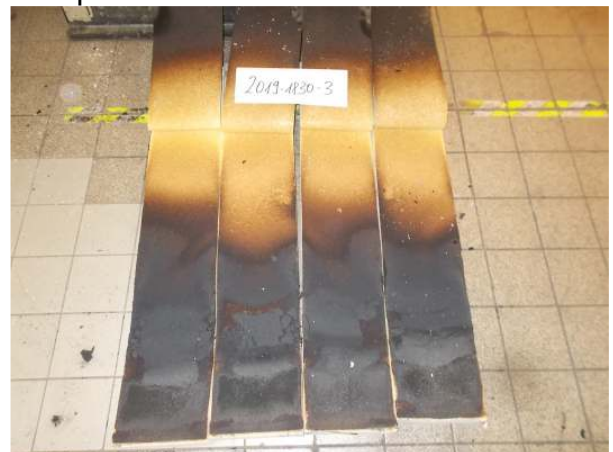
Sample B



Sample C



Sample D



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

Thickness: 14,87 mm

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	-	-	-	-	-
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self-extinguishing of the flame [s]	-	-	-	-	-
Max. flame height [mm]	10	10	10	10	10
Time [s]	1	1	1	1	1
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: none

Forehead edge flaming

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	15	15	15	15
Max. flame height [mm]	30	30	30	30	30
Time [s]	10	10	10	10	10
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: Draw of film
about 1mm thick aluminum plate outside

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

Thickness: 59,5 mm

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	-	-	-	-	-
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self-extinguishing of the flame [s]	-	-	-	-	-
Max. flame height [mm]	10	10	10	10	10
Time [s]	1	1	1	1	1
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: none

Forehead edge flaming

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	15	15	15	15
Max. flame height [mm]	40	40	40	40	40
Time [s]	10	10	10	10	10
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visual impression) _{low / moderate / strong}	moderate smoke development				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks: Draw of film
about 1mm thick aluminum plate outside

2.2.3 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 colour, thickness from 15 up to 100 mm and square weight.

The test was carried out in free hanging configuration.

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

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 20th July 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.

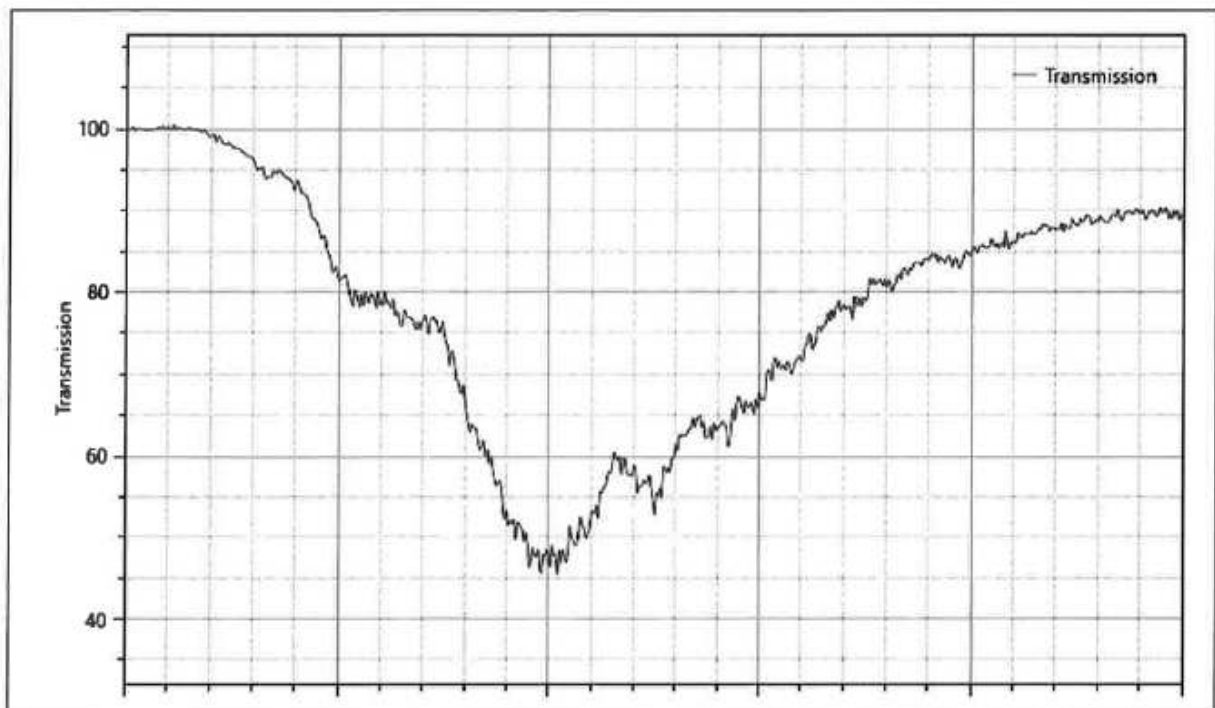
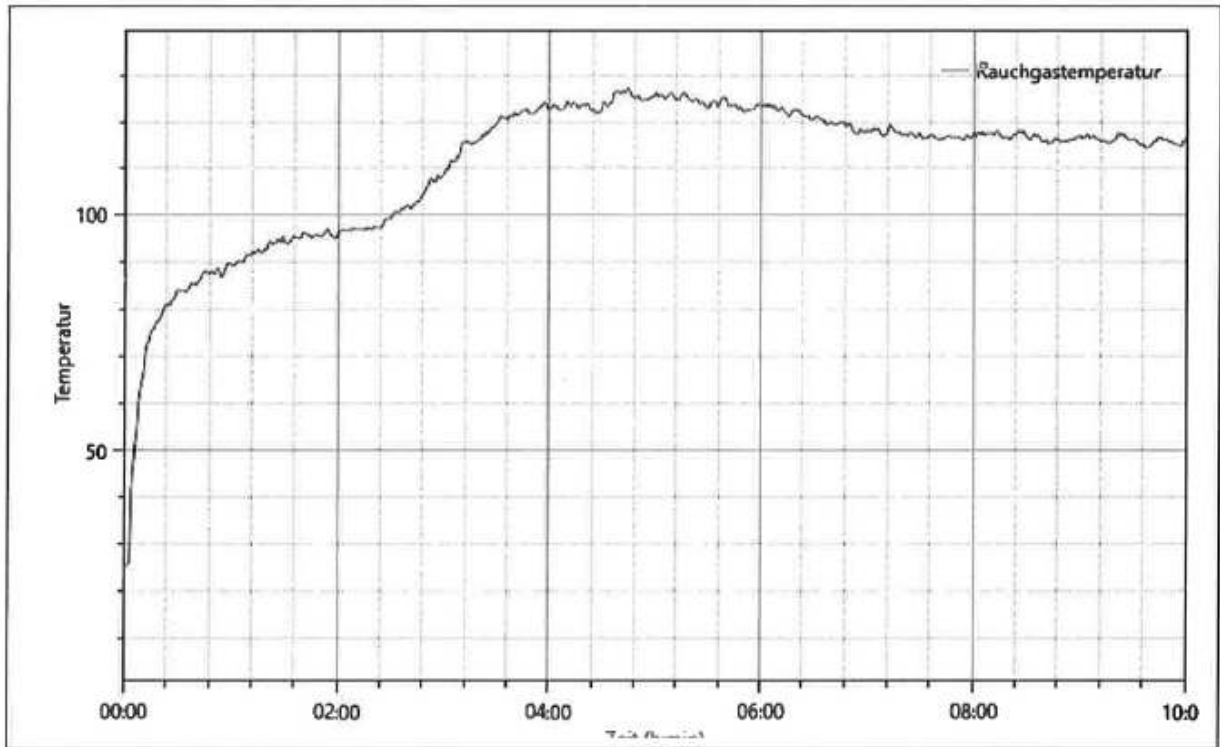
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This test report is a translation of the German version 2019-1505 (issued 23.05.2019). In case of doubt only the German version is valid

This test report contains 10 pages and 4 annexes.

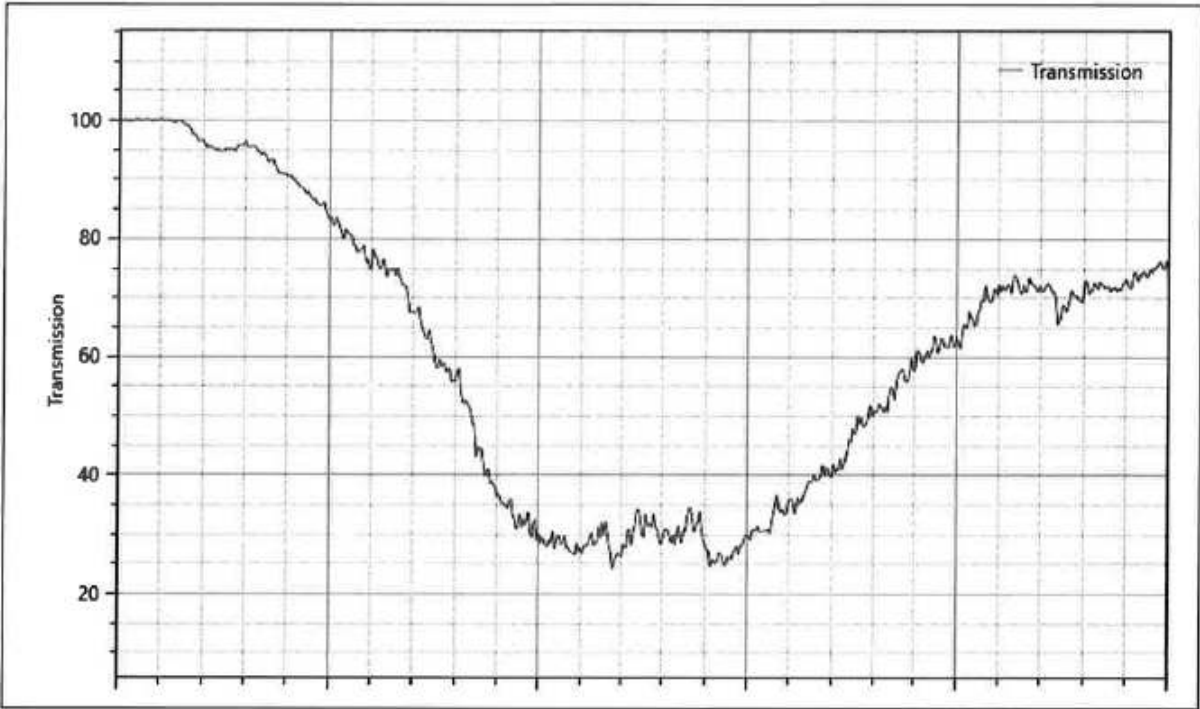
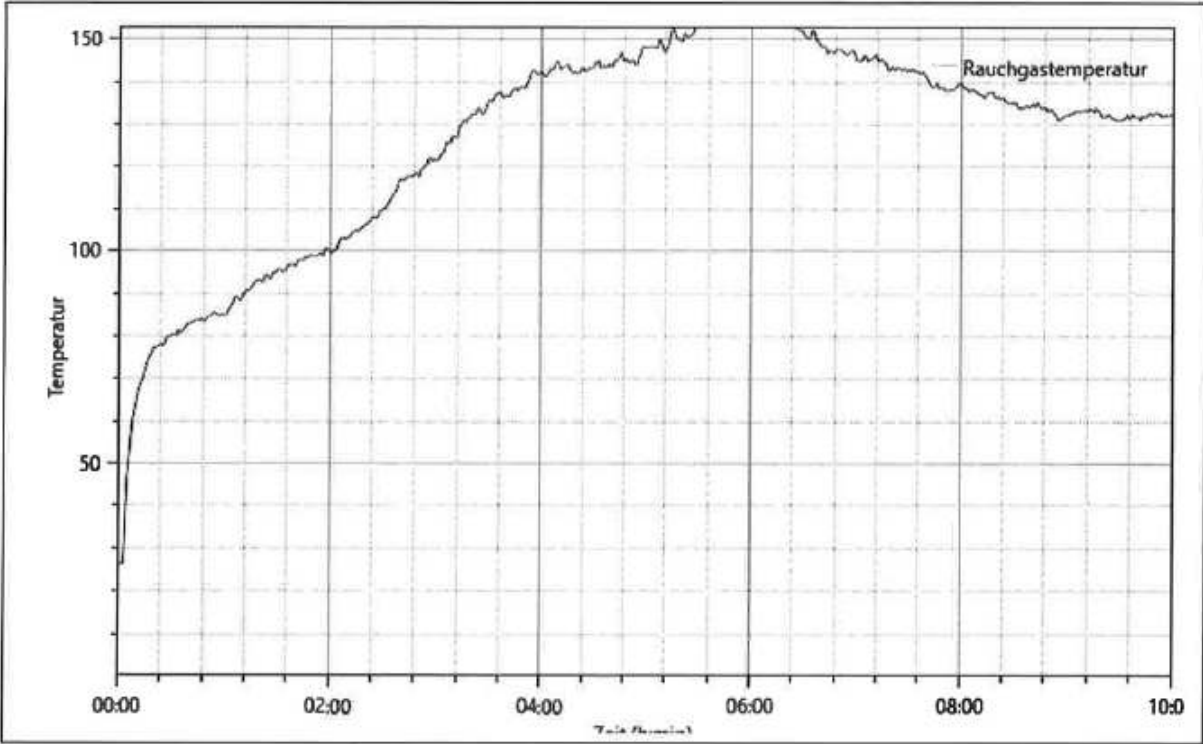
Annex 1 to the Test report No. 2019-1830 issued 22.08.2019

Sample A:



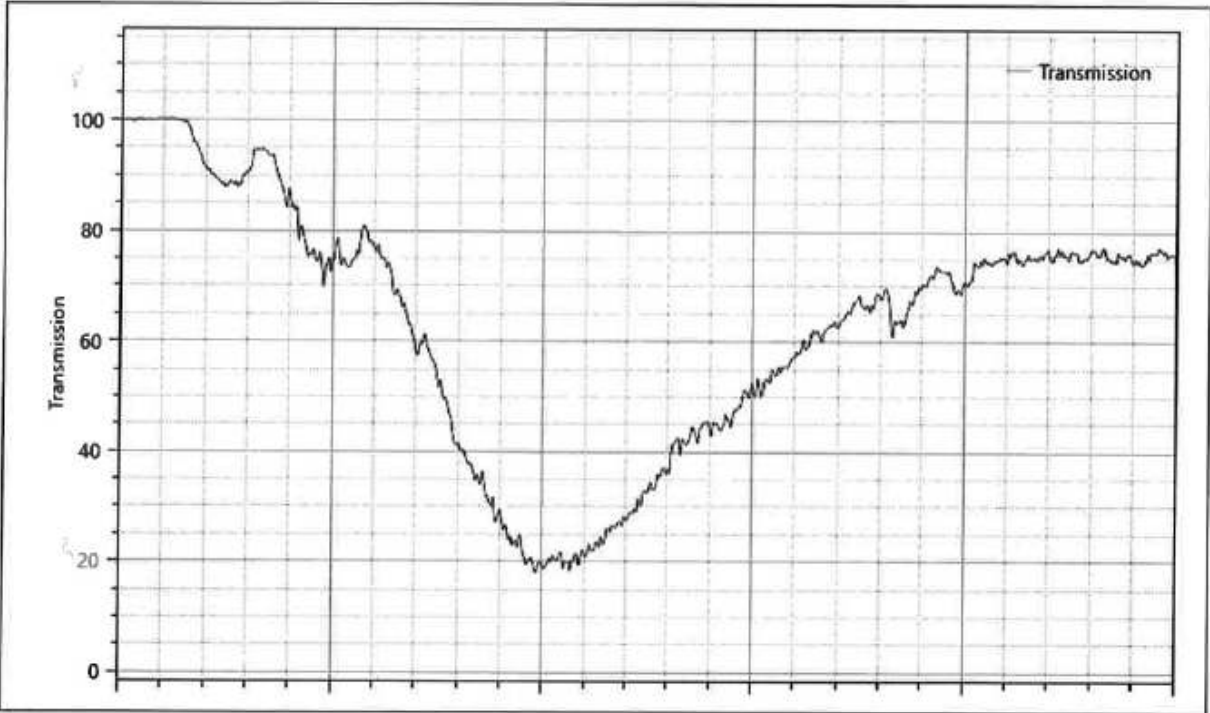
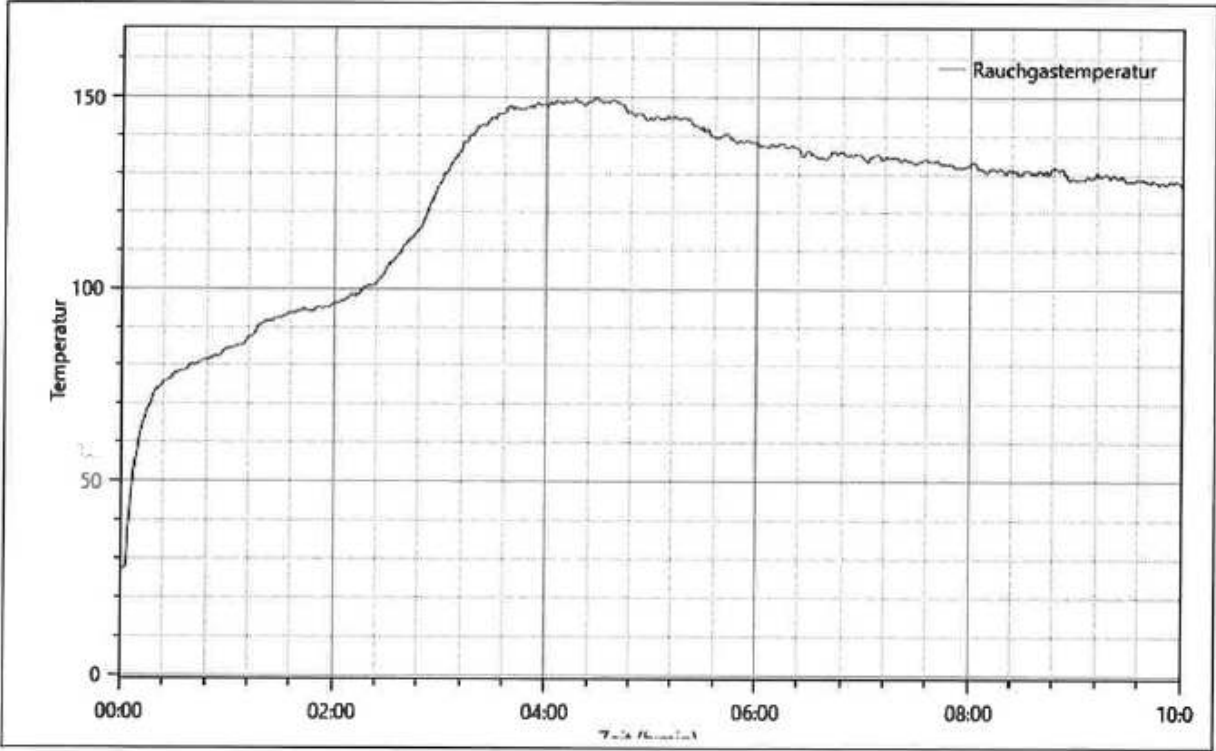
Annex 2 to the Test report No. 2019-1830 issued 22.08.2019

Sample B:



Annex 3 to the Test report No. 2019-1830 issued 22.08.2019

Sample C:



Annex 4 to the Test report No. 2019-1830 issued 22.08.2019

Sample D:

