

Test laboratory for the fire behavior of building materials, Dipl.-Ing. (FH) Andreas Hoch
Testing, supervising and certifying body, authorized by the building supervision authority

TEST REPORT

PZ-Hoch-231234

for the proof of Fire behaviour according to DIN 4102, part 1

Translation of the German test report – no guarantee for translation of technical terms

company	Antalis GmbH Europaallee 19 D-50226 Frechen
description of samples	white and clear self-adhesive film consisting of PVC with water based adhesive on the backside
name of the material	„COALA EASY SPOT WHITE“ & „COALA EASY SPOT TRANSPARENT“
sampling	by the company itself
content of request	Proof of flammability to classify building materials to class B1 „schwerentflammbar“ according to DIN 4102, part 1
validity of test report	31.10.2028
result	The examined products meets glued on • massive mineral substrates with a density of $\geq 1.500 \text{ kg/m}^3$ and thickness of $\geq 0,6\text{mm}$ • massive mineral substrates with a density of $\geq 650 \text{ kg/m}^3$ and thickness of $\geq 11\text{mm}$ • non-combustible building boards • glass in minimal thickness of 3,9mm the requirements of class B1 for “schwerentflammbare” (hardly flammable) building materials according to DIN 4102, part 1 (May 1998).

This test report includes 5 pages and 8 enclosures.

Remark: If the above mentioned building material is not used as product according to MBO § 2, Abs. 9, Ziffer 1, there is no need for a general building supervisory test report.

This test report is not valid if the examined building material is used as product in the meaning of state building prescriptions (MBO § 17, Abs. 3).

This test report does not replace an eventually necessary proof of applicability concerning building supervisory or building laws in the meaning of state building prescriptions. This has to be verified by:

- „allgemeine bauaufsichtliche Zulassung“ (general building inspectorate approval) or by
- „allgemeines bauaufsichtliches Prüfzeugnis“ (general building inspectorate certificate) or by
- „Zustimmung im Einzelfall“ (exceptional approval)

This test report can underlie building supervisory procedures

- for regular building products for the prescribed proofs of conformity
- for non-regular building products for the needed proofs of applicability.

This test report must not be published and copied without preceding agreement of the test laboratory and if agreed, only during validity and unchanged concerning appearance and contents.

1. Description of test material in condition as delivered

PN 37740: „COALA EASY SPOT WHITE“

-white self-adhesive film consisting of PVC with acrylic adhesive and additional protection foil on the backside-

characteristic values determined by the test laboratory:

whole thickness about	0,27	mm
whole area weight about	282	g/m ²
thickness of self-adhesive film about	0,12	mm
area weight of self-adhesive film about	139	g/m ²

PN 37741: „COALA EASY SPOT TRANSPARENT“

-transparent self-adhesive film consisting of PVC with acrylic adhesive and additional protection foil on the backside-

characteristic values determined by the test laboratory:

whole thickness about	0,27	Mm
whole area weight about	290	g/m ²
thickness of self-adhesive film about	0,13	mm
area weight of self-adhesive film about	140	g/m ²

The testing laboratory is not provided with further details concerning composition of the tested building materials. Samples are deposited.

2. Preparation of samples

The samples were kept in climate chamber 23/50 until they reached constant weight.

- The self-adhesive film was glued on gypsum plaster boards according to DIN EN 520: thickness 12,5±0,5mm, density 700±100 kg/m³, class A2-s1,d0 nach EN 13501-1, according DIN 4102-16: 2015-09, Punkt 4.4, c.
- The self-adhesive film was glued on glass (thickness 3,9mm).

3. Arrangement of samples

#6975:	„COALA EASY SPOT WHITE“	machine direction / on glass
#6926:	„COALA EASY SPOT WHITE“	machine direction / on gypsum plaster boards
#6927:	„COALA EASY SPOT TRANSPARENT“	machine direction / on gypsum plaster boards
#6954:	„COALA EASY SPOT WHITE“	transverse direction / on gypsum plaster boards
#6994:	„COALA EASY SPOT WHITE“	machine direction / on gypsum plaster boards
#6995:	„COALA EASY SPOT WHITE“	machine direction / on gypsum plaster boards

4. Date of test CW 39 until 41 in 2023

5. Results

The test has been examined according to DIN 4102 (Mai 1998)

line no.	Measurement	Result with the tested specimen						dim.
	Test number	#6975	#6926	#6927	#6954	#6994	#6995	
	flamed direction	machine dir.			transv.	machine dir.		
	material	WHITE		TRANSP.	WHITE			
	substrate	glass	gypsum plaster boards					
1	Number of specimen arrangement acc. to. DIN 4102/T15, schedule 1	7	7	7	7	7	7	
2	Maximum flame height above bottom edge of the specimen	70	80	70	80	70	70	cm
3	Time ¹⁾	1:30	0:50	0:36	0:50	0:47	0:48	min:s
4	Burn through / melting Time ¹⁾	./.	./.	./.	./.	./.	./.	min:s
5	Observations on the back side of the specimen							
	Flames / Glowing	---	---	---	---	---	---	
6	Time ¹⁾	./.	./.	./.	./.	./.	./.	min:s
	Change of colour	---	---	---	---	---	---	
7	Time ¹⁾	./.	./.	./.	./.	./.	./.	min:s
	Falling of burning droplets	X	./.	./.	./.	./.	./.	
8	Start ¹⁾	1:35						min:s
9	Extent							
	sporadic falling of burning droplets ²⁾	X	---	---	---	---	---	
10	continuous falling of burning droplets ²⁾	---	---	---	---	---	---	min:s
11	Falling of burning droplets	./.	./.	./.	./.	./.	./.	
	Start ¹⁾							min:s
12	Extent							
	sporadic falling of burning droplets ²⁾	---	---	---	---	---	---	
13	continuous falling of burning droplets ²⁾	---	---	---	---	---	---	min:s
14	After flame time at the bottom of the sieve (max.)	0:02	./.	./.	./.	./.	./.	min:s
15	Impairment of the burner by dropping or falling material:							
	Time ¹⁾	./.	./.	./.	./.	./.	./.	min:s
16	Premature end of test							
17	Final occurrence of burning at the specimen ¹⁾	2:35	2:00	1:40	2:00	10:00	10:00	min:s
	Time of eventually end of test ¹⁾	./.	./.	./.	./.	./.	./.	min:s
18	After flame after end of test							
	Time ¹⁾	./.	./.	./.	./.	./.	./.	min:s
19	Number of specimen	./.	./.	./.	./.	./.	./.	
20	Front side of specimen ²⁾	./.	./.	./.	./.	./.	./.	
21	Back side of specimen ²⁾	./.	./.	./.	./.	./.	./.	
22	flame length	./.	./.	./.	./.	./.	./.	cm

line no.	Measurement	Result with the tested specimen						dim.
	Test number	#6975	#6926	#6927	#6954	#6994	#6995	
	flamed direction	machine dir.			transv.	machine dir.		
22	Afterglow after end of test	./.	./.	./.	./.	./.	./.	min:s
	Time ¹⁾	./.	./.	./.	./.	./.	./.	
23	Number of specimen	./.	./.	./.	./.	./.	./.	
	Place of appearance	./.	./.	./.	./.	./.	./.	
24	Lower half of the specimen ²⁾	./.	./.	./.	./.	./.	./.	
25	Upper half of the specimen ²⁾	./.	./.	./.	./.	./.	./.	
26	Front side of specimen ²⁾	./.	./.	./.	./.	./.	./.	
27	Back side of specimen ²⁾	./.	./.	./.	./.	./.	./.	
	<u>Density of smoke</u>							
28	≤ 400 % * min	15	20	10	24	25	14	% * min
29	> 400 % * min ⁴⁾	./.	./.	./.	./.	./.	./.	% * min
30	Diagram: encl. no.	1	2	3	4	5	6	
31	<u>Residual lengths:</u> individual value ³⁾							
	Specimen 1	44	40	38	40	43	40	cm
	Specimen 2	45	36	37	43	37	39	cm
	Specimen 3	42	38	37	37	37	39	cm
	Specimen 4	45	37	38	41	41	43	cm
32	<u>Average value, individual test</u> ³⁾	44	38	38	40	40	40	
33	<u>Photo of specimen in enclosure no.</u>	1	2	3	4	5	6	
34	<u>Flue gas temperature</u>	109	108	109	116	113	107	°C
35	Maximum of average value							
	Time ¹⁾	09:30	0:55	09:48	0:55	01:02	0:58	min:s
36	Diagram: encl. no.	1	2	3	4	5	6	

¹⁾ indication of times: from the begin of testing procedure

²⁾ checked off if applicable

³⁾ indication of carrier/foam layer separated in case of fire-proofing agents

⁴⁾ very strong development of smoke

6. Explanations concerning the testing procedure

-none-

7. Summary of results and additional establishments to Fire Behaviour

linen o.	measurement	Result with the tested specimen						dim.
	test-no.	#6975	#6926	#6927	#6954	#6994	#6995	
	flamed direction	machine dir.			transv.	machine dir.		
	material	WHITE		TRANSP.	WHITE			
	substrate	glass	gypsum plaster boards					
1	residual length	44	38	38	40	40	40	cm
2	max. smoke temperature	109	108	109	116	113	107	°C
3	density of smoke - integral	15	20	10	24	25	14	%min
4	remarks: -none-							

According to DIN 4102, part 1, "schwerentflammbare" (hardly flammable) building materials must meet the requirements of class B2.

Pursuant to additional tests in the ignitability apparatus this can be determined (appendix 7 & 8).

8. Special remarks

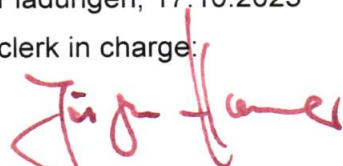
- This report is only valid for the material as described under paragraph 1. In combination with other materials or with additional coatings or grounds etc. the burning behaviour may differ.
- This test report is not valid for the exposure to outdoor climate conditions.
- This test report is not valid, as soon as the fabric is used as a building product in the sense of the "Landesbauordnungen" (state building requirements, MBO § 17, par. 3).
- This test report is no substitute for a General Building Inspectorate Certificate.
- This test report is granted without prejudice to the rights of third parties, in particular private proprietary rights.
- For legal interests only the German original version is relevant.
- In General Building Inspectorates procedures this test report can be based for
 - regular building materials for the required proof of accordance
 - for not regular building materials for the required proof of applicability

9. Validity

This test report is valid until the mentioned date on page 1. The test report becomes invalid in case the standards on which the tests are based are changed.

Fladungen, 17.10.2023

clerk in charge:



(Dipl.-Ing.(FH) Jürgen Hammer)

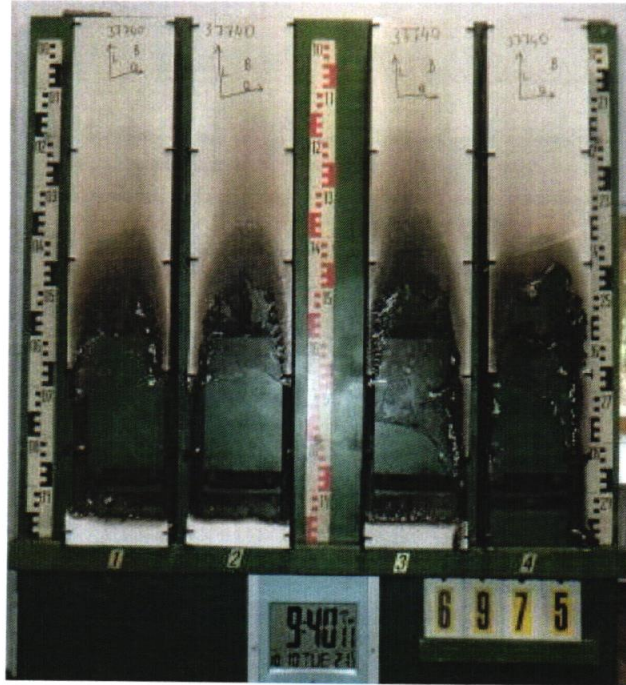


Head of the test laboratory:



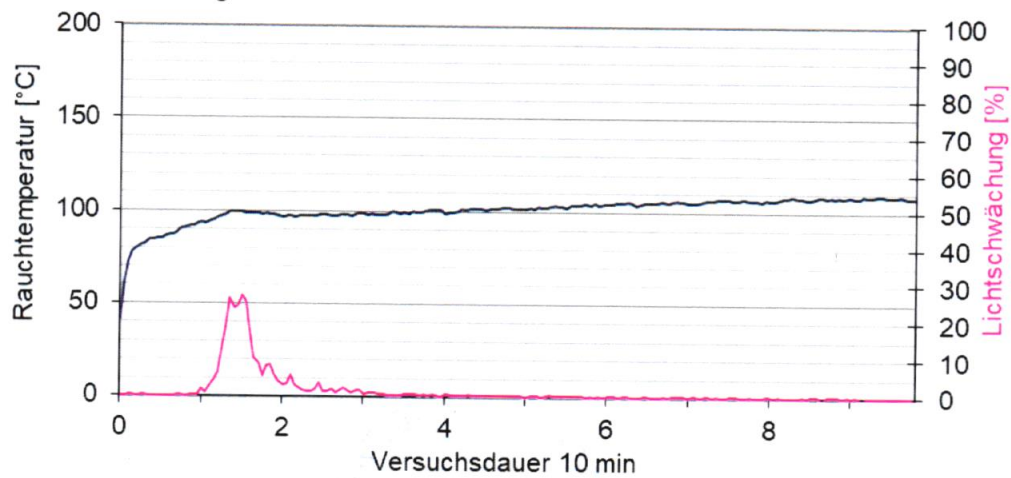
(Dipl.-Ing.(FH) Andreas Hoch)

„Brandschacht“-test #6975

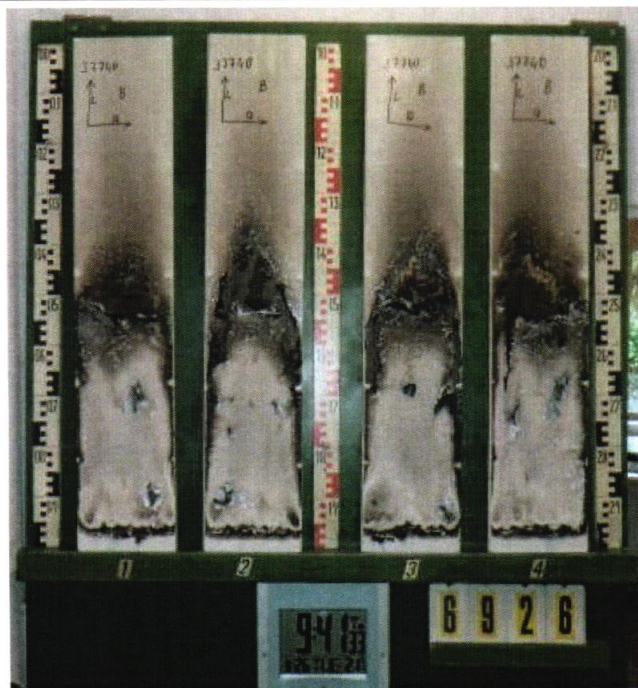


measurement

#6975, PN37740: ANTALIS, "Coala Easy Spot...", längs auf Glas
max. Rauchtemperatur: 109°C, Rauch-Integral: 15%min
Restlänge: 44 cm

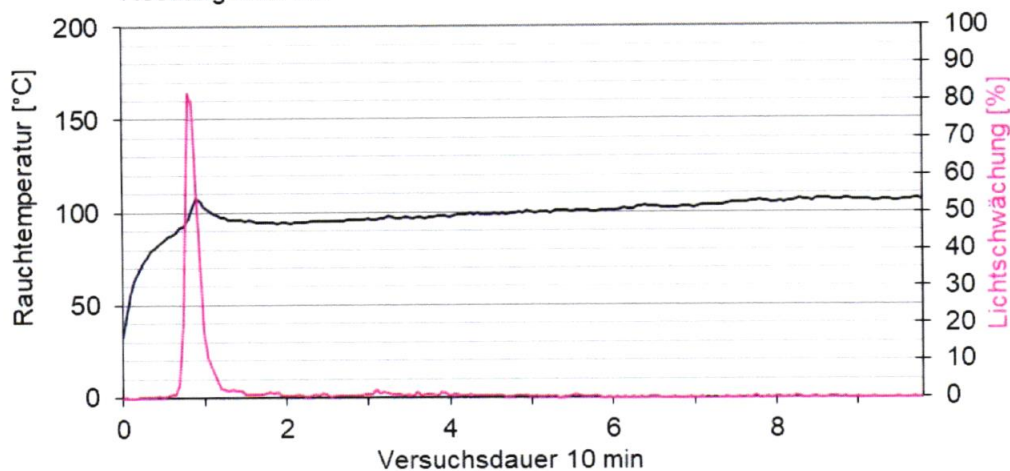


„Brandschacht“-test #6926



measurement

#6926, PN37740: ANTALIS, "Coala Easy Spot...", längs auf GKB
max. Rauchtemperatur: 108°C, Rauch-Integral: 20%min
Restlänge: 38 cm

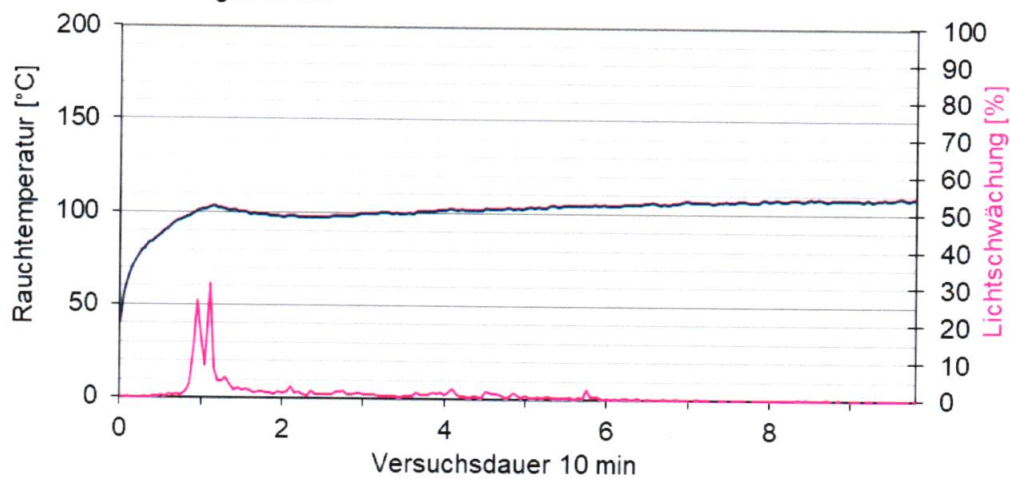


„Brandschacht“-test #6927

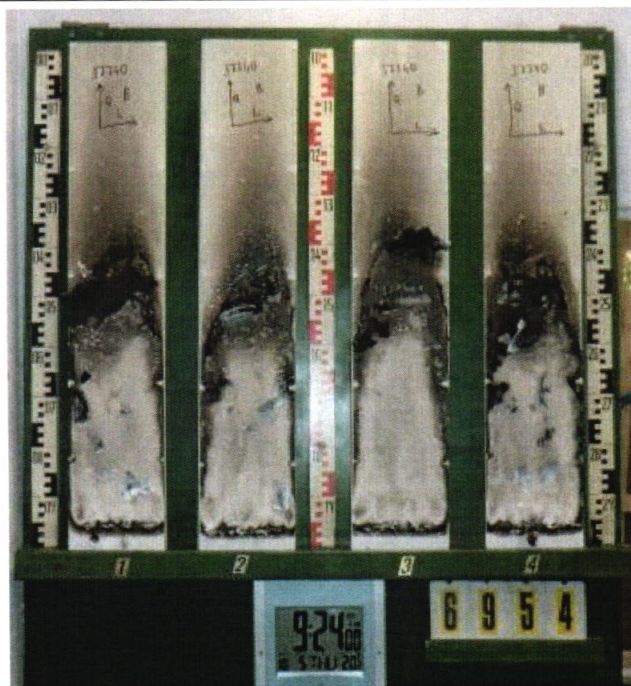


measurement

#6927, PN37741: ANTALIS, "Coala Easy Spot...", längs auf GKB
max. Rauchtemperatur: 109°C, Rauch-Integral: 10%min
Restlänge: 38 cm

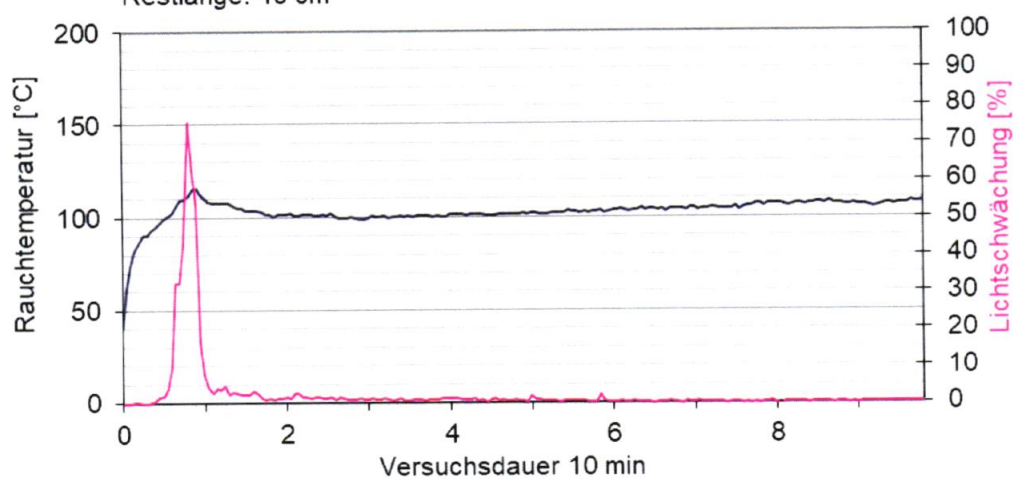


„Brandschacht“-test #6954

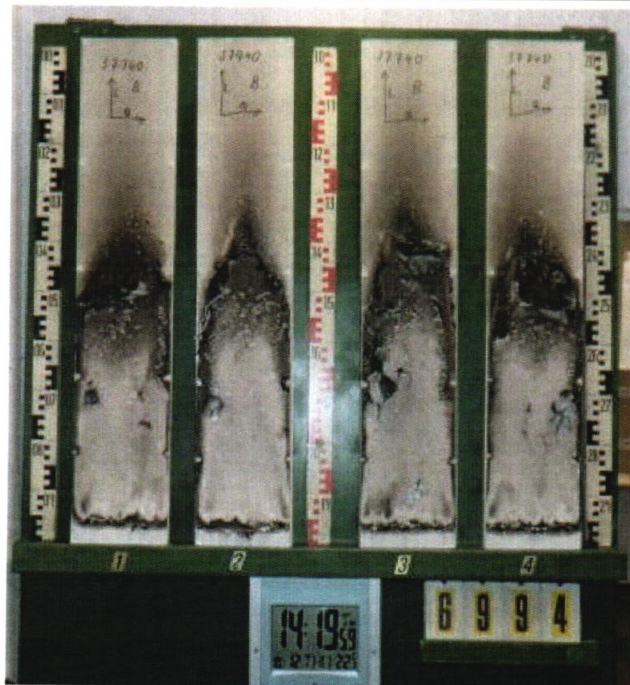


measurement

#6954, PN37740: ANTALIS, "Coala Easy Spot...", quer auf GKB
max. Rauchtemperatur: 116°C, Rauch-Integral: 24%min
Restlänge: 40 cm

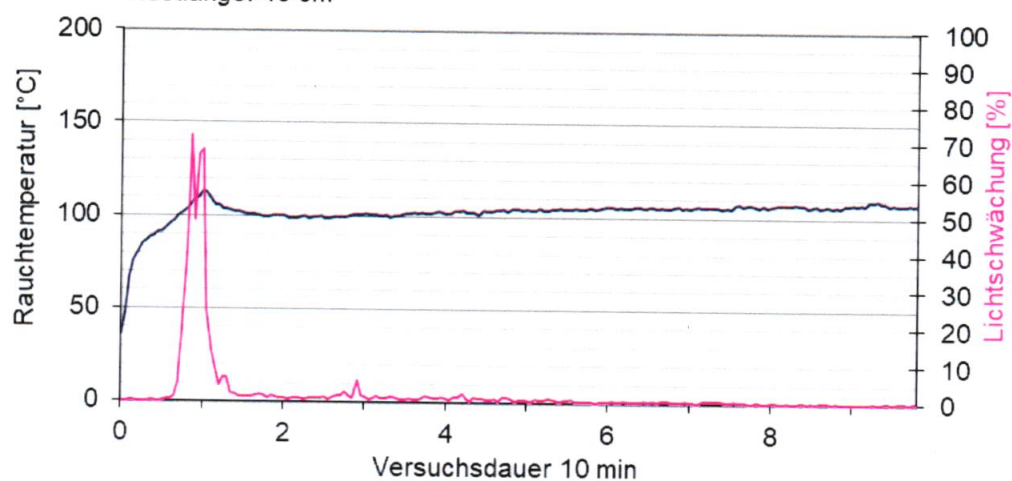


„Brandschacht“-test #6994

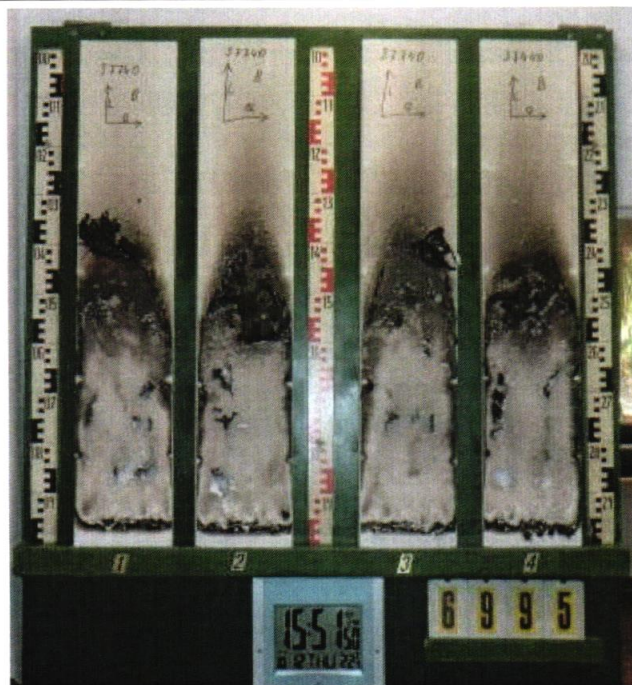


measurement

#6994, PN37740: ANTALIS, "Coala Easy Spot...", längs auf GKB
max. Rauchtemperatur: 113°C, Rauch-Integral: 25%min
Restlänge: 40 cm

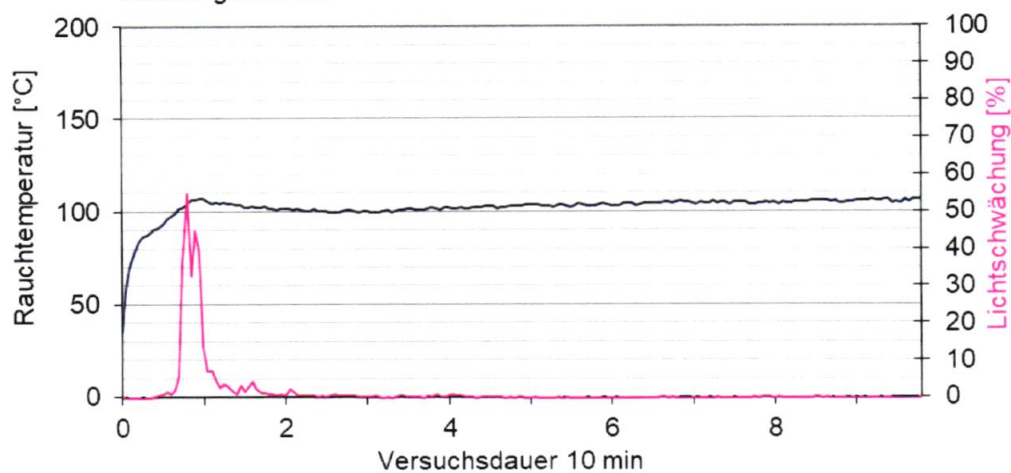


„Brandschacht“-test #6995



measurement

#6995, PN37740: ANTALIS, "Coala Easy Spot...", längs auf GKB
max. Rauchtemperatur: 107°C, Rauch-Integral: 14%min
Restlänge: 40 cm



Test for normal flammability classifying B2 according to DIN 4102

1. Description of test material in condition as delivered look at page 2

2. Preparation of samples

Out of the material there have been cut samples for the ignitability apparatus.

The samples were kept in a climate 23/50 until they reached constant weight.

3. Arrangement of samples -glued on glass and on gypsum plaster boards-

Flaming the edge and the surface

4. Date of test CW 39 in 2023

5. Results

PN 37740: -glued on gypsum plaster boards-	surface-test						edge-test						Dim
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	
ignition ¹⁾	2	3	2	3	2	2	2	3	--	--	--	--	s
reaching the mark of measurement ¹⁾²⁾	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	--	--	--	--	s
max. flame height	3	3	3	3	2	3	3	3	--	--	--	--	cm
Time	5	4	7	8	8	9	4	6	--	--	--	--	
self-cessation of the flames end of afterflame ¹⁾	15	15	15	15	15	15	15	15	--	--	--	--	s
end of glowing ¹⁾	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	--	--	--	--	s
flames were extinguished after ¹⁾	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	--	--	--	--	
smoke development (visual)	little						little						./.
dropping of burning material during 20 s ¹⁾	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	--	--	--	--	s
Appearance after test: burned out till max. height 5 cm x width 2 cm													

PN 37740: -glued on glass-	edge-test						surface-test						Dim
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	
ignition ¹⁾	-/-	-/-	--	--	--	--	-/-	-/-	--	--	--	--	s
reaching the mark of measurement ¹⁾²⁾	-/-	-/-	--	--	--	--	-/-	-/-	--	--	--	--	s
max. flame height	2	2	--	--	--	--	2	2	--	--	--	--	cm
time	-/-	-/-	--	--	--	--	-/-	-/-	--	--	--	--	
self-cessation of the flames end of afterflame ¹⁾	-/-	-/-	--	--	--	--	-/-	-/-	--	--	--	--	s
end of glowing ¹⁾	-/-	-/-	--	--	--	--	-/-	-/-	--	--	--	--	s
flames were extinguished after ¹⁾	-/-	-/-	--	--	--	--	-/-	-/-	--	--	--	--	s
smoke development (visual)	very little						very little						
dropping of burning material during 20 s ¹⁾	-/-	-/-	--	--	--	--	-/-	-/-	--	--	--	--	s
Appearance after test: burned out till max. height 2cm x width 1,5cm													

¹⁾ time mentioned from the beginning of the test ²⁾ during 20 Sec -/- no appearance -- no information

PN 37741: -glued on glass and gypsum plaster boards-	edge-test						surface-test						Dim
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	
ignition ¹⁾	2	3	--	--	--	--	3	2	--	--	--	--	s
reaching the mark of measurement ¹⁾²⁾	-/-	-/-	--	--	--	--	-/-	-/-	--	--	--	--	s
max. flame height	3	2	--	--	--	--	2	2	--	--	--	--	cm
time	4	5	--	--	--	--	6	8	--	--	--	--	
self-cessation of the flames end of afterflame ¹⁾	15	15	--	--	--	--	15	15	--	--	--	--	s
end of glowing ¹⁾	-/-	-/-	--	--	--	--	-/-	-/-	--	--	--	--	s
flames were extinguished after ¹⁾	-/-	-/-	--	--	--	--	-/-	-/-	--	--	--	--	s
smoke development (visual)	little						very little						
dropping of burning material during 20 s ¹⁾	-/-	-/-	--	--	--	--	-/-	-/-	--	--	--	--	s
Appearance after test: burned out till max. height 5cm x width 2cm													

¹⁾ time mentioned from the beginning of the test ²⁾ during 20 Sec -/- no appearance -- no information

6. Remarks and explanations to the testing procedure

-none-

7. Opinion concerning the dropping of burning material

The test for normal flammability shows no burning dripping material.