Informationen

zur Zertifizierung nach Baustoffklasse DIN 4102 – B1

Stoffe	• sevilla Farb.-Nr. 153. ..
Zertifikat-Nummer	**PZ-Hoch-221182**
Gültigkeit bis	**30.11.2027**

Bestätigung

Die Firma erfal bestätigt, dass diesen Qualitäten das Zertifikat **PZ-Hoch-221182** zugrunde liegt.

Jörg Erler
Geschäftsführer

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Um eine lange Lebensdauer unter Wahrung der ursprünglichen Produkteigenschaften zu gewährleisten, sollten Sie die mitgelieferten Pflege- und Reinigungsmöglichkeiten unbedingt beachten.
Bei Fragen zur Pflege unserer Stoffe melden Sie sich bitte bei:

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hoch.fladungen@t-online.de www.reaction-to-fire.de

Hoch
Fladungen

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-221182

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	**VERTISOL INT'L S.R.L.** **C-17 km 18.92** **E-08400 GRANOLLERS (Barcelona)**
description of samples	fabric consisting of 100% Polyester FR, with white coating with fire retardant on one side and in 3 differnet colours on the other side
name of the material	**„IMAGINE BO FR"**
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	30.11.2027
result	**The examined product meets in any colour the requirements of class B1 for "schwerentflammbare" (hardly flammable) building materials according to DIN 4102, part 1 (May 1998) , suspended freely or with distance of >40 mm to same or other plain materials.**

This test report includes 5 pages and 7 enclosures.

Remark: If the above mentioned building material is not used as product according to MBO § 2, Abs. 9, Ziffer1, 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.

member of egolf
notified body no.: 1508

By the DAkkS according to DIN EN ISO/IEC 17025 accredited test laboratory.
The accreditation is valid for the testing methods specified in the certificate.

DAkkS Deutsche Akkreditierungsstelle D-PL-11005-01-00

1. Description of test material in condition as delivered

PN 36120: **"IMAGINE BO FR"** colour: blue / white

-fabric consisting of 100% polyester FR, with white coating with fire retardant on one side-

side A: blue / side B: white, coated

characteristic values determined by the test laboratory:

area weight: about 390 g/m² thickness: about 0,46 mm

PN 36121: **"IMAGINE BO FR"** colour: white / white

-fabric consisting of 100% polyester FR, with white coating with fire retardant on one side-

side A: white / side B: white, coated

characteristic values determined by the test laboratory:

area weight: about 349 g/m² thickness: about 0,39 mm

PN 36122: **"IMAGINE BO FR"** colour: black / white

-fabric consisting of 100% polyester FR, with white coating with fire retardant on one side-

side A: black / side B: white, coated

characteristic values determined by the test laboratory:

area weight: about 348 g/m² thickness: about 0,42 mm

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.

3. Arrangement of samples

mounting: freely suspended

#5987	flaming side A in warp direction	white
#5988	flaming side B in warp direction	white
#5989	flaming side B in weft direction	white
#5991	flaming side B in weft direction	blue
#5992	flaming side B in weft direction	black

4. Date of test

CW 50 in 2022

5. Results

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

line no.	Measurement	Result with the tested specimen					Dim.
	Test number	#5987	#5988	#5989	#5991	#5992	
	flamed direction flamed side	warp A	warp B	weft B	weft B	weft B	
	colour of fabric	white			blue	black	
1	Number of specimen arrangement acc. to. DIN 4102/T15, schedule 1	1	1	1	1	1	
2	Maximum flame height above bottom edge of the specimen	50	60	60	60	70	cm
3	Time [1]	0:12	0:14	0:18	0:28	0:28	min:s
4	Burn through / melting Time [1]	0:05	0:05	0:05	0:05	0:03	min:s
	Observations on the back side of the specimen						
	Flames / Glowing	---	---	---	---	---	
5	Time [1]	./.	./.	./.	./.	./.	min:s
	Change of color	---	---	---	---	---	
6	Time [1]	./.	./.	./.	./.	./.	min:s
	Falling of burning droplets	./.	./.	./.	./.	./.	
7	Start [1]						min:s
	Extent						
8	sporatic falling of burning droplets [2]	---	---	---	---	---	
9	continuous falling of burning droplets [2]	---	---	---	---	---	min:s
	Falling of burning droplets	./.	./.	./.	./.	./.	
10	Start [1]						min:s
	Extent						
11	sporatic falling of burning droplets [2]	---	---	---	---	---	
12	continuous falling of burning droplets [2]	---	---	---	---	---	
13	Afterflame time at the bottom of the sieve (max.)	./.	./.	./.	./.	./.	min:s
	Impairment of the burner by dropping or falling material:						
14	Time [1]	./.	./.	./.	./.	./.	min:s
15	Final occurance of burning at the specimen [1]	1:00	0:50	1:20	1:02	1:18	min:s
16	Time of eventually end of test [1]	./.	./	./	./.	./.	min:s
	Afterflame after end of test						
17	Time [1]	./.	./.	./.	./.	./.	min:s
18	Number of specimen	./.	./.	./.	./.	./.	
19	Front side of specimen [2]	./.	./.	./.	./.	./.	
20	Back side of specimen [2]	./.	./.	./.	./.	./.	
21	flame length	./.	./.	./.	./.	./.	cm

line no.	Measurement	Result with the tested specimen					Dim.
	Test number	**#5987**	**#5988**	**#5989**	**#5991**	**#5992**	
	flamed direction flamed side	warp A	warp B	weft B	weft B	weft B	
	Afterglow after end of test	./.	./.	./.	./.	./.	
22	Time [1]	./.	./.	./.	./.	./.	min:s
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]	./.	./.	./.	./.	./.	
	Density of smoke						
28	≤ 400 % * min	31	32	45	50	46	% * min
29	> 400 % * min [4]	./.	./.	./.	./.	./.	% * min
30	Diagram: encl. no.	1	2	3	4	5	
	Residual lengths: individual value [3]						
31	Specimen 1	63	45	54	42	38	cm
	Specimen 2	56	44	48	49	44	cm
	Specimen 3	63	56	54	60	54	cm
	Specimen 4	61	62	43	57	59	cm
32	Average value, individual test [3]	**61**	**52**	**50**	**52**	**49**	
33	Photo of specimen in enclosure no.	1	2	3	4	5	
34	Flue gas temperature	116	121	119	124	130	°C
35	Maximum of average value Time [1]	08:29	09:24	09:48	10:00	09:58	min:s
36	Diagram: encl. no.	1	2	3	4	5	
37	Remarks: - none -						

[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

There were no additional tests proceeded because of the residual length of ≥ 45 cm.

7. Summary of results and additional establishments to Fire Behaviour

linen o.	measurement	Result with the tested specimen					dimension
	test-no.	#5987	#5988	#5989	#5991	#5992	
	flamed direction flamed side	warp A	warp B	weft B	weft B	weft B	
	colour of fabric	white			blue	black	
1	residual length	**61**	**52**	**50**	**52**	**49**	cm
2	max. smoke temperature	**116**	**121**	**119**	**124**	**130**	°C
3	density of smoke - integral	**31**	**32**	**45**	**50**	**46**	%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 6 & 7).

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, washing or cleaning with chemicals.
- 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, im 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, 19.12.2022

clerk in charge:

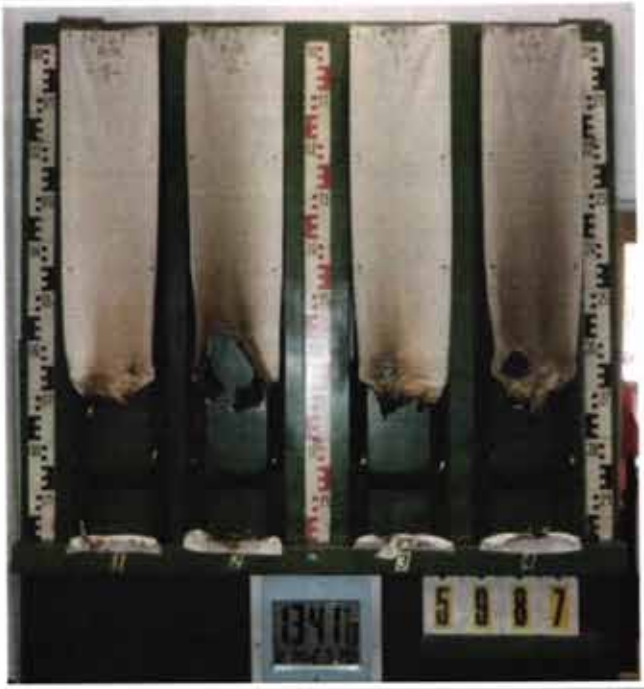
(Dipl.-Ing.(FH) Jürgen Hammer)

ANERKANNTE PRÜF-, ÜBERWACHUNGS- UND ZERTIFIZIERUNGSSTELLE Hoch Fladungen

Head of the test laboratory:

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

„Brandschacht"-test #5987

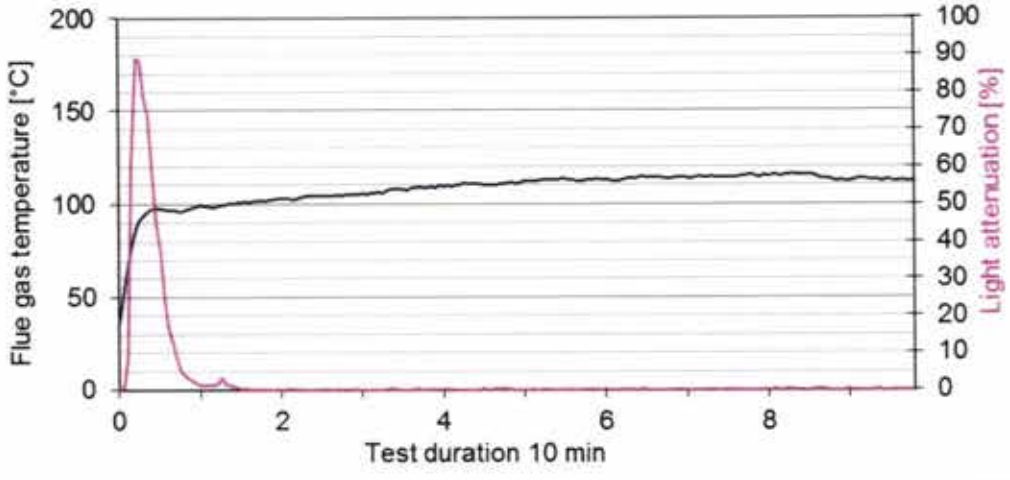


measurement

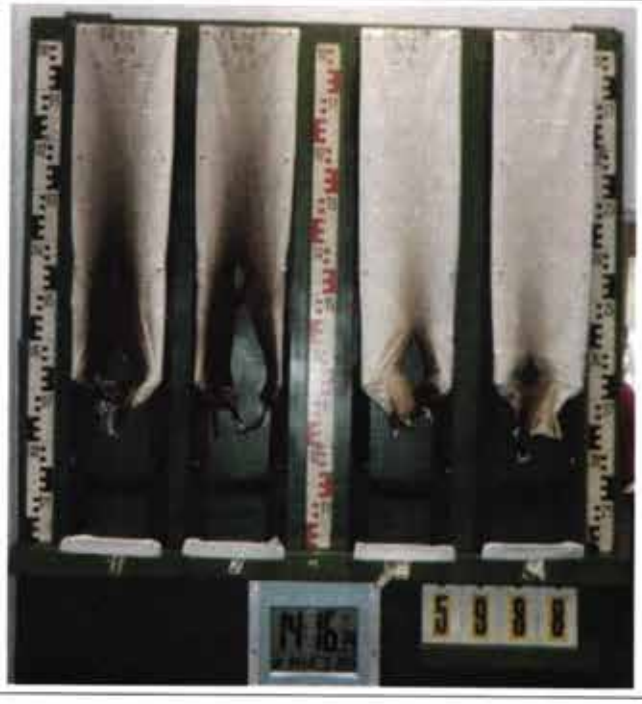
#5987, PN36121: VERTISOL, "Imagine BO FR", A + K

Max. flue temperature: 116°C, Smoke density integral: 31%min

Residual length: 61 cm

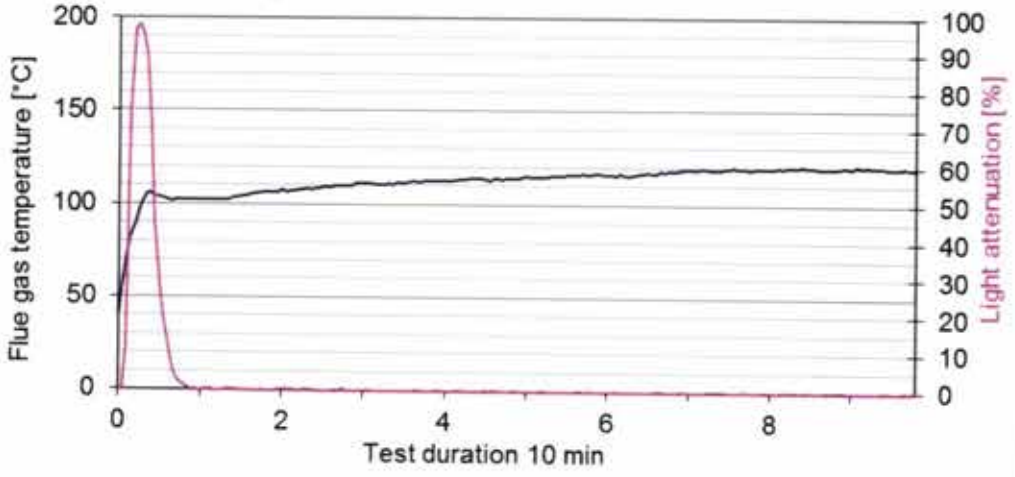


„Brandschacht"-test #5988

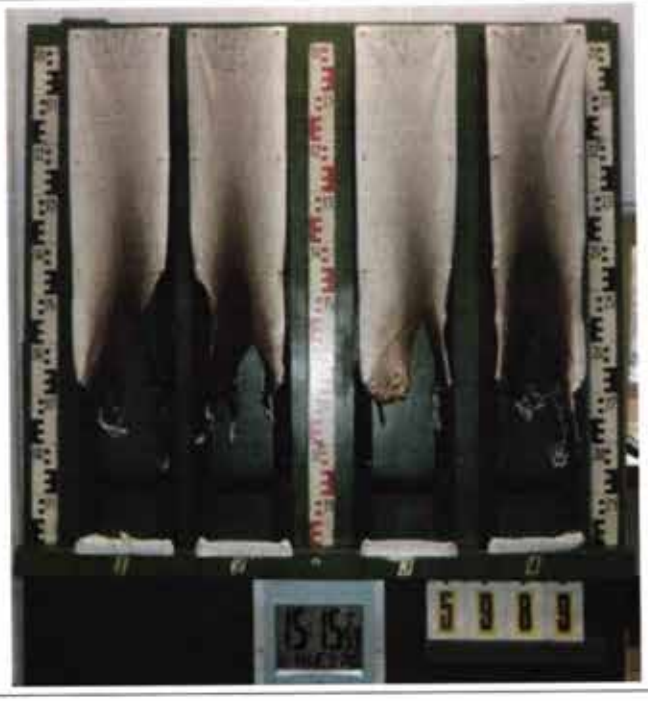


measurement

#5988, PN36121: VERTISOL, "Imagine BO FR", B + K
Max. flue temperature: 121°C, Smoke density integral: 32%min
Residual length: 52 cm



„Brandschacht"-test #5989

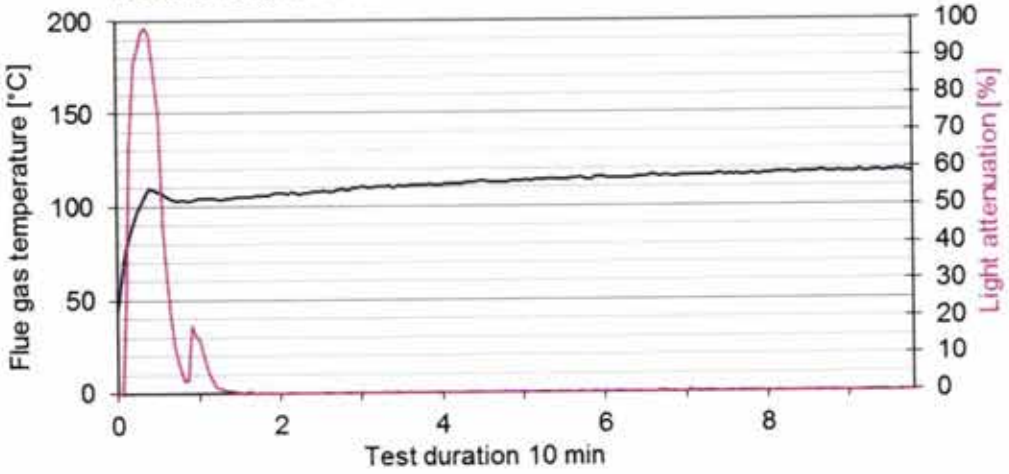


measurement

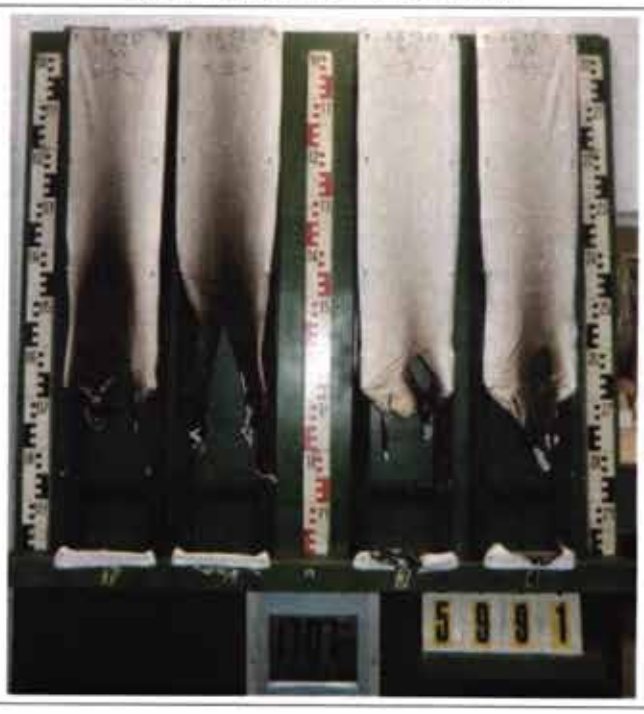
#5989, PN36121: VERTISOL, "Imagine BO FR", B + S

Max. flue temperature: 119°C, Smoke density integral: 45%min

Residual length: 50 cm

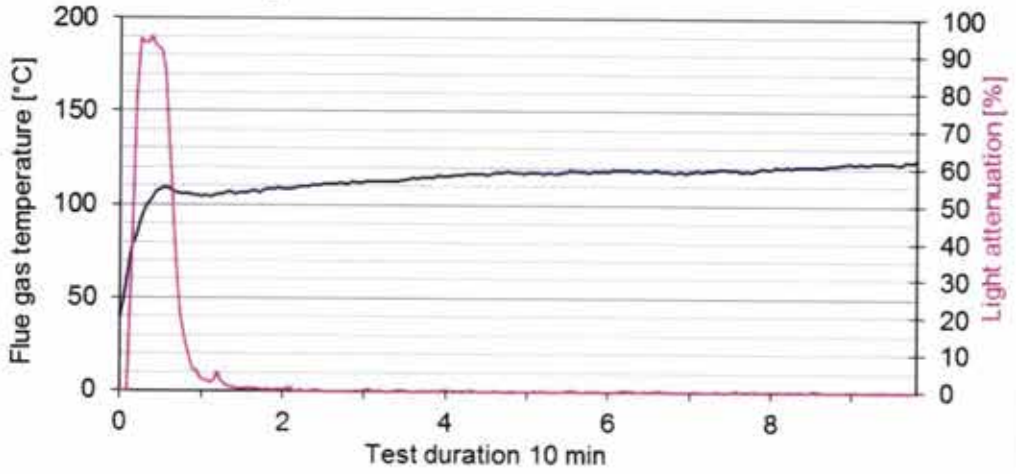


„Brandschacht"-test #5991

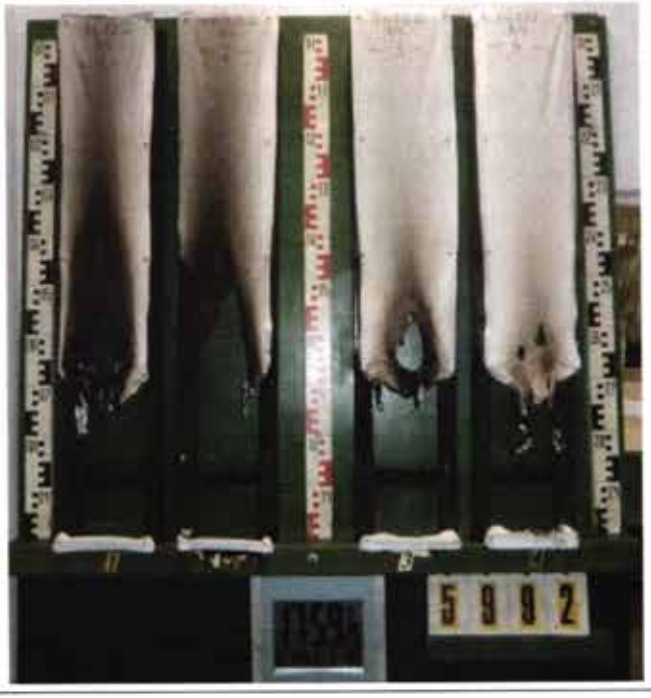


measurement

#5991, PN36120: VERTISOL, "Image BO FR", B + S
Max. flue temperature: 124°C, Smoke density integral: 50%min
Residual length: 52 cm



„Brandschacht"-test #5992

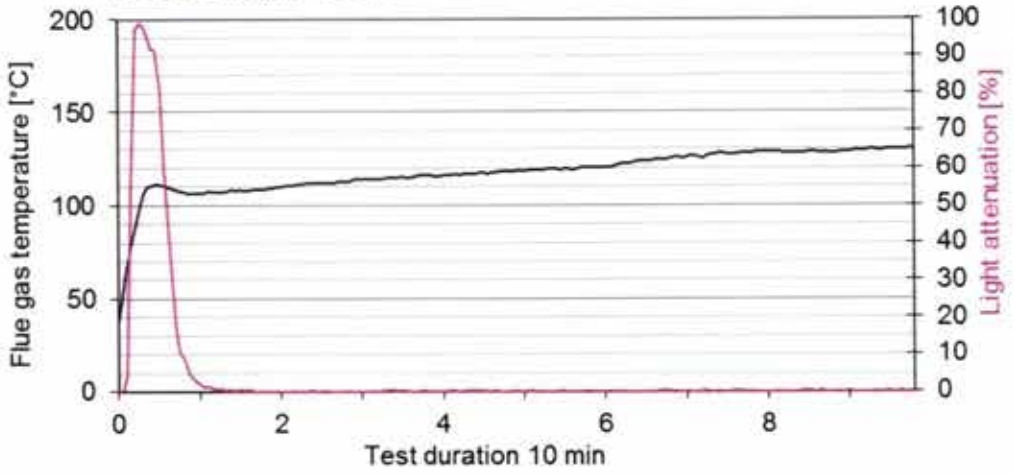


measurement

#5992, PN36122: VERTISOL, "Image BO FR", B + S

Max. flue temperature: 130°C, Smoke density integral: 46%min

Residual length: 49 cm



Prüfinstitut Hoch
Lerchenweg 1
D-97650 Fladungen

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 -freely suspended-
   Flaming in warp and weft direction / side A and side B
4. Date of test CW 50 in 2022
5. Results

"IMAGINE BO FR": PN36121 flaming side A in weft direction	**edge-test**						**surface-test**						Dim
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	
ignition[1]	1	1	1	1	1	--	3	--	--	--	--	--	s
reaching the mark of measurement[1][2]	-/-	-/-	-/-	-/-	-/-	--	-/-	--	--	--	--	--	s
max. flame height	**11**	**11**	**11**	**11**	**11**	**--**	**10**	--	--	--	--	--	cm
time	10	10	10	10	10	--	10	--	--	--	--	--	
self cessation of the flames end of afterflame[1]	15	15	15	15	15	--	15	--	--	--	--	--	s
end of glowing[1]	20	41	22	20	22	--	20	--	--	--	--	--	s
flames were extinguished after[1]	-/-	-/-	-/-	-/-	-/-	--	-/-	--	--	--	--	--	
smoke development (visual)	very heavy						heavy						./.
dropping of burning material during 20 s[1]	-/-	-/-	-/-	-/-	-/-	--	-/-	--	--	--	--	--	s
Appearance after test: burned out till max. height 10 cm x width 4 cm													

"IMAGINE BO FR": PN36121 additional tests	**edge-test**						**surface-test**						Dim
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	
arrangement of samples side / direction	A/K	B/K	B/S	--	--	--	A/K	B/K	B/S	--	--	--	
ignition[1]	1	1	1	--	--	--	3	3	3	--	--	--	s
reaching the mark of measurement[1][2]	-/-	-/-	-/-	--	--	--	-/-	-/-	-/-	--	--	--	s
max. flame height	**11**	**11**	**11**	**--**	**--**	**--**	**9**	**9**	**9**	--	--	--	cm
time	10	10	10	--	--	--	10	10	10	--	--	--	
self cessation of the flames end of afterflame[1]	15	15	15	--	--	--	15	15	15	--	--	--	s
end of glowing[1]	18	19	20	--	--	--	16	16	16	--	--	--	s
flames were extinguished after[1]	-/-	-/-	-/-	--	--	--	-/-	-/-	-/-	--	--	--	s
smoke development (visual)	very heavy						heavy						
dropping of burning material during 20 s[1]	-/-	-/-	-/-	--	--	--	-/-	-/-	-/-	--	--	--	s
Appearance after test: burned out till max. height 10cm x width 4cm													

[1] time mentioned from the beginning of the test [2] during 20 Sec -/- no appearance -- no information
K: warp / S: weft

"IMAGINE BO FR": PN36120 additional tests	**edge-test**						**surface-test**						Dim
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	
arrangement of samples side / direction	A/K	B/K	A/S	B/S	--	--	A/K	B/K	A/S	B/S	--	--	
ignition[1)]	1	1	1	1	--	--	3	3	3	3	--	--	s
reaching the mark of measurement[1)2)]	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
max. flame height	**10**	**11**	**11**	**11**	**--**	**--**	**9**	**9**	**9**	**9**	--	--	cm
time	10	10	10	10	--	--	15	15	15	15	--	--	
self cessation of the flames end of afterflame[1)]	15	15	15	15	--	--	15	15	15	15	--	--	s
end of glowing[1)]	17	19	20	20	--	--	17	17	19	19	--	--	s
flames were extinguished after[1)]	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
smoke development (visual)	very heavy						heavy						
dropping of burning material during 20 s[1)]	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
Appearance after test: burned out till max. height 14cm x width 4cm													

"IMAGINE BO FR": PN36122 additional tests	**edge-test**						**surface-test**						Dim
samples no.	1	2	3	4	5	6	1	2	3	4	5	6	
arrangement of samples side / direction	A/K	B/K	A/S	B/S	--	--	A/K	B/K	A/S	B/S	--	--	
ignition[1)]	1	1	1	1	--	--	3	3	3	3	--	--	s
reaching the mark of measurement[1)2)]	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
max. flame height	**11**	**10**	**10**	**10**	**--**	**--**	**9**	**9**	**9**	**11**	--	--	cm
time	10	11	10	10	--	--	10	10	10	12	--	--	
self cessation of the flames end of afterflame[1)]	15	15	12	12	--	--	15	15	15	15	--	--	s
end of glowing[1)]	16	22	17	22	--	--	17	17	19	22	--	--	s
flames were extinguished after[1)]	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
smoke development (visual)	very heavy						heavy						
dropping of burning material during 20 s[1)]	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
Appearance after test: burned out till max. height 12cm x width 5cm													

[1)] time mentioned from the beginning of the test [2)] during 20 Sec -/- no appearance -- no information
K: warp / S: weft

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.