for the proof of fire behaviour according to DIN 4102-1

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PÜZ-Stelle (LBO): BRA09
Notified Body no.: 1507

TEST REPORT

Reference	FLT 3370311	(Translation of the German test report - no guarantee for translation of technical terms)
Company	Neschen AG Hans-Neschen-Straße 1 D - 31675 Bückeburg	
Order	2012-01-04 **arrived**	2012-01-04
Description of samples	On both sides coated fabric made of polyester to be used as advertising space or for decoration purposes, named "**UVtex blockout 290**". (for details see page 2)	
Delivered	2010-02-03	
Content of request	Proof of flammability to classify building materials to class B1 "schwerentflammbar" according to DIN 4102-1	
Assessment	The examined product meets the requirements of class B1 for "schwerentflammbare" (not easily flammable) building materials according to DIN 4102-1. If used in one layer, suspended freely or with distance of >40 mm to the same or other plain materials. (for details see page 5)	
Validity of test report	2015-01-31	
Sampling	by the company itself	

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 Prufzeugnis (general building inspectorate certificate) or by
- "Zustimmung im Einzelfall (exceptional approval).

This test report can serve as a basis for building supervisory procedures for:

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

This test report is a translation of the german test report FLT 3370311 dated 11th of January 2011 replacing the german test report FLT 3370311 dated 18th of July 2011.
This test report includes 5 pages and 2 enclosures.

Approved testing, inspection and certification body

FIRELABS DIPL.-ING. U. KÜHNAST

1 Description of test material in condition as delivered (according to the manufacturer)

The material provided is a fabric made of polyester with a polyurethane coating on both sides. The coated fabric will be used as advertising space or for decoration purposes inside of buildings and was labelled as "UVtex blockout 290".

For the tests the laboratory received a sample of 5,05 m width and app. 2 m length.
Colour: white fabric on one side with black precoating, both sides white coated;
characteristic values: see paragraph 4.1; Photos: see enclosure 1.
Further specifications are not known by the laboratory, samples are stored.

2 Preparation of samples

From the test material the following samples had been cut: For the small burner test (Brennkasten) samples for edge flame exposure (dimensions 190 mm x 90 mm) and samples for surface flame exposure (dimensions 230 mm x 90 mm) were cut in machine and in cross direction.
For the fire shaft test (Brandschacht) 2 specimens were assembled. The samples for the test specimen A were cut out of machine direction, the samples for the test specimen B were cut out of cross direction of the fabric.

Following all samples kept in a climate chamber acc. DIN 50014-23/50-2 until they reached constant weight.

3 Arrangement of samples

The tests have been performed acc. DIN 4102-1, chapter 6.2.4.2 (building materials class B2) and DIN 4102-1 and -16 (building materials class B1).

Examination period: February 2010

4 Results

- Table 1 Material characteristics
- Table 2 Test results class B2 (enclosure 2)
- Table 3 Test results class B1

4.1 Material characteristics

Table 1

Name / type	Manufacturer´s data		Measured values	
	thickness [mm]	mass / unit [g/m²]	mass/unit [g/m²]	thickness (m.v.) [mm]
UVtex blockout 290	./.	./.	328	0,37 s=0,005

m.v. mean value
./. not received / not measured
s standard deviation

4.2 Results of the fire behaviour

4.2.1 Test results class B2 (Brennkasten)

All building materials class B1 (not easily flammable) must also meet the requirements of materials class B2 (flammable). The material, tested in "Brennkasten" acc. DIN 50 050 meets the requirements of building materials class B2.
The material did not show burning particles / droplets during this tests.
(Results: see enclosure 2)

4.2.2 Test results class B1 (Brandschacht)

Table 3

Test results (part 1)						
line no.	Measurement	Test results				require-ments
		A	B	C	D	
1	Number of specimen arrangement acc. DIN 4102 –15 Table 1	1	1	-	-	
2 3	Maximal flame height above bottom edge ..... cm Time [1] ..... min	 50 1	 50 1	-	-	 *)
4	Burning / melting through Time [1] ..... min	1	7	-	-	
5 6	Back side of the specimens: Flames / glowing Time [1] .....min:s Discolouring Time [1] .....min:s	./. ./.	./. ./.	- -	- -	
7 8 9	Falling of burning droplets Begin [1].....min:s Extend: Sporadic falling of burning droplets Continuous falling of burning droplets	No	No	-	-	
10 11 12	Falling of burning parts Begin [1].....min:s Extend: Sporadic falling of burning parts Continuous falling of burning parts	No	Yes 0:20 Yes No	-	-	
13	Afterflame time at the bottom of the sieve (max.) ..... min:s	-	0:05			
14	Impairment of the burner flames by dropping or falling material Time [1] ..... min:s	No	No	-	-	
15 16	Premature end of test Final occurrence of burning at the specimen [1].....min Time of eventually end of test [1] ..... min:s	No 5 -	No 5 -	-	-	

[1] Indication of time: from the beginning of testing procedure
- Not tested
. /. Not occurred
*) No cause for complaint

Test results (part 2)						
line no.	Measurement	Test results				require-ments
		A	B	C	D	
	Afterflame after end of test	No	No	-	-	
17	Time .....min:s					
18	Number of specimen					
19	Front side of specimen					
20	Back side of specimen					
21	Flame length .....cm					
	Afterglow after end of test	No	No	-	-	
22	Time .....min:s					
23	Number of specimen					
	Place of appearance:					
24	Lower half of specimen					
25	Upper half of specimen					
26	Front side of specimen					
27	Back side of specimen					
	Smoke density					
28	≤ 400 % min	41,4	38,4			
29	≥ 400 % min (very strong smoke density)					
30	Diagram fig. no.	1	3			
	Residual length					
31	Individual value .....cm	55 48 50 50	50 53 52 52	- - - -	- - - -	> 0
32	Average value .....cm	**50**	**51**	-	-	≥15
33	Photo of the test specimen fig. no.	2	4			
	Flue gas temperature					
34	Maximum of average value...°C	109	111	-	-	≤200
35	Time [1] .....min:s	9:12	9:46			
36	Diagram fig. no.	1	3			
37	Remarks: line 13: Afterflame time at the bottom of the sieve < 20 sec. is not rated as "falling of burning parts or droplets" line 32: There were no additional tests proceeded, because of the residual length of more then 45 cm.					

Test specimen A (VN 280710-001): "UVtex blockout 290" - machine direction
Test specimen B (VN 280710-002): "UVtex blockout 290" - cross direction

1) indication of time: from the beginning of testing procedure
- not tested
. /. not occurred
*) no cause for complaint
VN test-number

5 Assessment

According to the test results in section 4.2 the material, described in section 1, fulfils the requirements of building materials class B1 and B2 according to DIN 4102-1 if the material is used suspended freely or with a distance of > 40 mm to the same or other plain materials.

The requirements of building materials class B2 are also fulfilled, no falling of burning parts or droplets occurred during this tests.

This test report is not valid for
- the exposure to outdoor climate conditions
- washing or cleaning with chemicals.

6 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, as soon as the product 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, or particular private proprietary rights.

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

The explanations from DIN 4102-1 appendix D, concerning the surveillance have to be considered.
This test report is valid until the mentioned date on page 1, provided that the test methods, the classification rules and the technology do not change during this period.

Borkheide, 11th of January 2012

Head of the test laboratory
Dipl.-Ing. Uwe Kühnast

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In charge for testing
Dipl.-Ing. Manfred Sailer

Test specimen A:

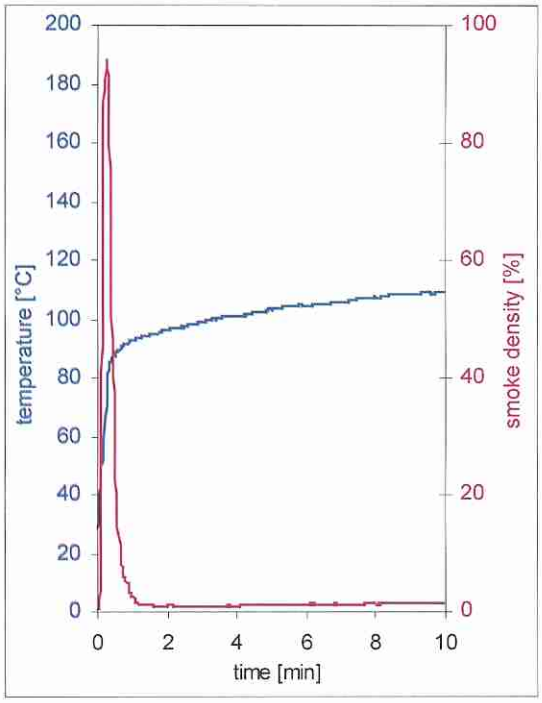

Fig. 1
Graphs of the flue gas temperature and the smoke density

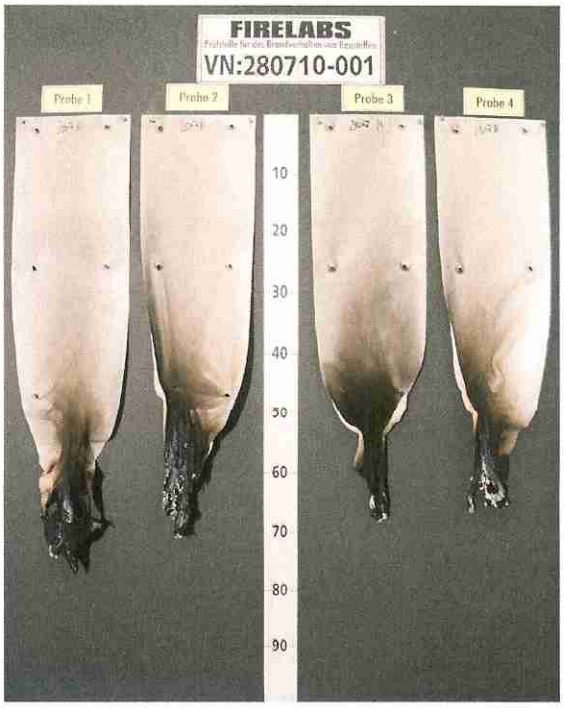

Fig. 2
Photo of test specimen after the test

Test specimen B:

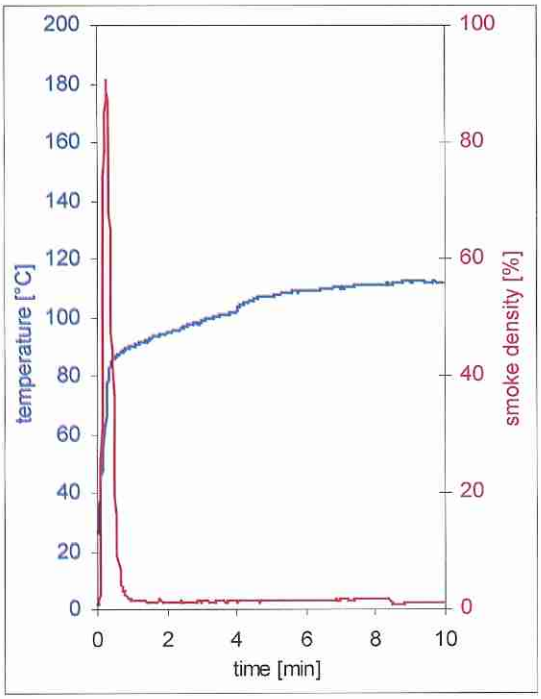

Fig. 3
Graphs of the flue gas temperature and the smoke density

Fig. 4
Photo of test specimen after the test

Test results small burner test (Brennkasten), freely suspended

Table 2

	machine direction						cross direction						dim.	require-ments
Sample-No.	1	2	3	4	5	6	1	2	3	4	5	6	-	-
Ignition of the sample	1	1	1	1	1	4	1	1	1	1	1	4	s	-
Maximum flame height	7	7	6	7	7	6	6	8	7	6	8	7	cm	-
Time of the maximum	12	10	11	11	12	14	13	12	13	12	13	14	s	
Flame tip reached the 150 mm test mark	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	s	≥ 20
Flame has extinguished before reaching the test mark	16	14	14	15	16	16	15	14	14	13	14	16	s	
Ignition of filter paper	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	s	1)
Smoke density	moderate						moderate						-	-
Afterburning time	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	s	-
View of the samples after the test (20 seconds after exposure the flame): - machine direction: destroyed or burned length app. 6cm / width app. 2,5cm. - cross direction: destroyed or burned length app. 6cm / width app. 2,5cm.														

Samples 1-5: edge flame exposure
Samples 6: surface flame exposure

1) No ignition within 20 seconds
./. Not occurred
dim. Dimension
Indication of time: from the beginning of testing procedure
Indication of measurements: from reference line of the flame