

ILIV

— CONTRACT TEXTILES —

Q1850

FIRE RATING CERTIFICATIONS

- EN 1021 1-2 Cig & Match
- BS 7176 - Medium Hazard
- BS 5852 Source 5
- B1

Test Certificate 103828

Report Details

Report Number 103828 - 1 **Service Requested** BS 7176: 2008+A1:2011 - Medium Hazard + Watersoak
Date Received 19-Dec-22 **Date Tested** 03-Jan-23 **Date Issued** 03-Jan-23

Customer Details

Company Name SMD CONTRACTS
Customer Contact **Company Address** UNIT F2, PITTMAN WAY
Customer Ref/PO FULWOOD
LANCASHIRE
PR2 9ZD

Customer Details - As Supplied by the Customer

Sample Description Q1850
Fibre Composition MICROPOROUS COATED POLYESTER

Quality/Batch Ref

Colour

Sample End Use CONTRACT UPHOLSTERY

Model Ref

Manufacturer

Supplier / Buyer SMD HOLDINGS LTD.

Specification:

BS 7176:2007+A1:2011 – Specification for the resistance to ignition of upholstered furniture for non-domestic seating by testing composites. (Medium Hazard)

Test Methods:

BS EN 1021-1:2006 – Furniture – Assessment of the ignitibility of upholstered furniture. Part 1: Ignition source smouldering cigarette.

BS EN 1021-2:2006 – Furniture – Assessment of the ignitibility of upholstered furniture. Part 2: Ignition source match flame equivalent.

BS 5852:2006 Clause 11 Source 5 – Methods of test for the assessment of the ignitibility of upholstered seating by smouldering and flaming ignition sources

Pre-Treatment:

The sample has been subjected to the water soaking procedure in accordance with Annex D of EN 1021:20065 and Annex E of BS 5852:2006 then line dried in ambient conditions.

Conditioning:

The sample was conditioned for 72 hrs in ambient conditions then for at least 24 hrs in a specified atmosphere at $23 \pm 2\text{C}$ and $50 \pm 5\% \text{ r h}$.

Test Certificate 103828

Test Results

The Following test results relate only to the ignitibility of the combination of the materials under the particular conditions of test; they are not intended as a means of assessing the full potential fire hazard of the materials in use.

Test Type	1021-1	Test 1	Test 2
Filling Material Used:		GM33-35	GM33-35

*Cigarette ceased smouldering within [mins]:		23	23
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Progressive Smouldering Criteria

3.1A: Unsafe escalating combustion:	<input type="checkbox"/>	<input type="checkbox"/>
3.1B: Smoulders to extremities:	<input type="checkbox"/>	<input type="checkbox"/>
3.1C: Smoulders through thickness:	<input type="checkbox"/>	<input type="checkbox"/>
*3.1D: Smoulders for more than 1 hour:	<input type="checkbox"/>	<input type="checkbox"/>
Evidence of melting / charring / dripping:	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
3.1E: Presence of active smouldering on final examination:	<input type="checkbox"/>	<input type="checkbox"/>

Flaming Criteria

Cover Split	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Occurrence of flames:	<input type="checkbox"/>	<input type="checkbox"/>

Test Result	PASS	PASS
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Test Certificate 103828

Test Type	1021-2	Test 1	Test 2	Test 3
Filling Material Used:		GM33-35	GM33-35	GM33-35
*Flaming Ceased: [Seconds]:		0:00	0:00	0:00
Progressive Smouldering Criteria				
3.1A: Unsafe escalating combustion:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1B: Smoulders to extremities:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1C: Smoulders through thickness:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*3.1D: Smoulders for more than 1 hour:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Evidence of melting / charring / dripping:		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Flaming Criteria				
Cover Split		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.2A: Unsafe escalating combustion:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2B: Test assembly consumed:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2C: Flaming to extremities:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2D: Flaming through thickness:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*Flaming continued for more than 120 seconds:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Result		PASS	PASS	PASS

Test Results

The Following test results relate only to the ignitibility of the combination of the materials under the particular conditions of test; they are not intended as a means of assessing the full potential fire hazard of the materials in use.

Test Criteria - BS 5852:2006 Source 5

	Initial Test	Repeat Test
*Smouldering Ceased Within: [mins]	0:35	0:22

Progressive Smouldering Criteria

Filling Material Used:	GM33-35	GM33-35
4.1.1A: Displays unsafe escalating smouldering combustion, requires to be forcibly extinguished?	<input type="checkbox"/>	<input type="checkbox"/>
4.1.1C: Any test specimen that smoulders until it is essentially consumed	<input type="checkbox"/>	<input type="checkbox"/>
*4.1.1E: Detectable amounts of smoke, heat or glowing 60 mins after crib ignition?	<input type="checkbox"/>	<input type="checkbox"/>
4.1.1F: On final inspection, any evidence of charring more than 100 mm in any direction (apart from upwards) from the original nearest position?	<input type="checkbox"/>	<input type="checkbox"/>

Flaming Criteria

*Flaming Ceased: [mm:ss]	2.52	3.04
4.2.1A: Displays unsafe escalating flaming combustion, requires to be forcibly extinguished?	<input type="checkbox"/>	<input type="checkbox"/>
4.2.1B: Any test specimen that burns until it is essentially consumed within the test duration and requires forcibly extinguishing	<input type="checkbox"/>	<input type="checkbox"/>
4.2.1C: Flame front reaches the lower margin, either side or passes through the full thickness?	<input type="checkbox"/>	<input type="checkbox"/>
*4.2.1E: Flaming continued for more than 10 minutes after the ignition of the crib?	<input type="checkbox"/>	<input type="checkbox"/>
*4.2.1G: Any test specimen from which flaming debris causes an isolated floor fire that continues to flame for longer then 10 mins?	<input type="checkbox"/>	<input type="checkbox"/>

Test Result	PASS	PASS
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Overall Result: PASS

The sample supplied meets the test criteria of BS 7176:2007 + A1:2011 (Medium Hazard)

Authorised Signature:



Zeb Alam

Operations Director

The uncertainty of measurement is taken into account when stating conformance to the specification. The test results are compared with the acceptance limits which are determined by reducing the specification limit by the expanded test uncertainty $U_{k=2}$ (approximately 95% confidence interval) and providing all measured values are within the tolerance limits then such results are declared as "Pass". The Uncertainty budgets are stated for each test method and should be considered when results are on or close to the acceptance limits, and in such cases it should be noted that the risk of false acceptance or false rejection is $\leq 2.5\%$. All test results issued on this report refer only to the item under test as supplied by the customer.

END OF REPORT

TEST CERTIFICATE
No. F16180/10Testing to BS 5852 : 2006, Methods of Test for the Assessment of the Ignitability
of Upholstered Seating by Smouldering and Flaming Ignition Sources**SAMPLE INFORMATION**

Client **Clarkson Textiles Ltd. Lindred Road, Lomeshaye Industrial Estate, Nelson, Lancashire, BB9 5SR.**

Fabric Reference **CT5 Twill/Int. Approx fabric weight: 357g/m2.**

Dimensions **136cm by 144cm (Full width)**

Date Received **11/2/2016**

Pre-treatment **Water soaking & Drying according to Annex E.**

Conditioning **BS 5852 : 2006, Clause 10.**

TESTING

Following the pre-treatment described above, the material was conditioned and tested according to **BS 5852 : 2006, Methods of Test for the Assessment of the Ignitability of Upholstered Seating by Smouldering and Flaming Ignition Sources, Clause 11, using Ignition Source 5.**

The results relate only to the ignitability of the combinations of upholstery composites (Clause 11) under the particular condition of test stated; they are not intended as a means of assessing the full potential fire hazard of the item in use.

COMBINATION OF MATERIALS

The sample was tested over combustion modified foam with a density of 36 kg/m³, Kayfoam CMP36S.

RESULTS

Specimen number	1	2
Duration of flaming of ignition source (min)	3'26	4'01
Duration of flames (min)	3'26	4'01
Duration of smoke (min)	<10'00	<10'00
Extent of damage of horizontal component		
- width (mm)	113	97
- length (mm)	76	66
- depth (mm)	30	30
Extent of damage of vertical component		
- width (mm)	133	122
- depth (mm)	62	58
Progressive smouldering >100mm from ignition source	No	No
Result	Pass	Pass

CONCLUSION

Since both specimens showed non-ignition, the combination of materials is designated as BS 5852 : 2006, Rating NI5. This Rating represents a Pass for Crib 5.



Mr J Firth
Technical Manager
END OF REPORT

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

Reference:	FLT 3647218	(Translation of the German Prüfzeugnis - no guarantee for translation of technical terms)
Sponsor:	SMD Textiles Ltd. Pittman Way Fulwood, Preston PR2 9ZD United Kingdom	
Order:	2018-01-05	Arrived: 2018-01-05
Description of samples:	On one side coated fabric made of polyester, named "Q1850 Textured finish waterproof upholstery". (for details see page 2)	
Delivered:	2018-01-08	
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 suspended freely or with distance of > 40 mm to the same or other plain materials. (for details see page 5)	
Validity of test certificate:	2023-02-28	
Sampling:	The sample was send to the testing laboratory by the sponsor.	

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

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

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

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

This test certificate comprises 5 pages and 3 enclosures.

Approved testing, inspection and certification body

This test certificate must not be published and copied preceding agreement of the test laboratory and if agreed, only during validity and unchanged concerning appearance and contents. Agreement of the test laboratory has to be given in any case if norms on which the tests are based or other technical standards have changed.



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PÜZ-Stelle (LBO): BRA09

TEST CERTIFICATE



1 Test material

1.1 **Description** (according to the sponsor)

The material provided is a fabric made of polyester with a one-sided coating of a flame-retardant acrylate. The fabric is intended to be used indoor as screen fabric or for decorative purposes and was named with the trade name "Q1850 Textured finish waterproof upholstery".

1.2 **Description of the delivered samples**

For the tests the laboratory received a section of fabric made of synthetic fibres with a plastic coating on the rear of a length of approx 3,3 m and a width of 1.5 m. The material was marked with "Q1850 Textured finish Waterproof upholstery".

Color: white fabric, white coating on the rear

Characteristic values: see passage 4.1; photos: see enclosures 1, 2.

Further details are not known to the laboratory; a retain sample has been deposited.

2 Preparation of samples

For the small burner (Brennkasten) tests samples for edge flame exposure (dimensions 190 mm x 90 mm) and samples for surface flame exposure (dimensions 230 mm x 90 mm) have been cut in warp and in weft orientation of the fabric.

For the fire shaft (Brandschacht) tests 4 specimens were assembled. The samples (dimensions 1000 mm x 190 mm) for the test specimen A and C were cut in warp orientation; the samples for the test specimen B and D were cut in weft orientation of the fabric.

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

3 Arrangement of samples

The tests in the fire shaft ("Brandschacht") have been performed acc. DIN 4102-1 and -16 (building materials class B1). The small burner tests ("Brennkasten") have been performed acc. DIN 4102-1, chapter 6.2.5 (building materials class B2).

The tests were carried out in a single layer, freely suspended, both from the front and from the rear side of the coated fabric.

Period of testing: February 2018

4 Results

- section 4.1 Material characteristics
- section 4.2.1 Test results class B2 (Brennkasten)
- section 4.2.2 Test results class B1 (Brandschacht)

4.1 **Material characteristics**

Table 1

Specifications		manufacturer's data	Measured values	
			m.v.	s
Thickness	[mm]	./.	0,61	0.028
Weight per unit area	[g/m ²]	420	395	

./. not received / not measured

m.v. mean value

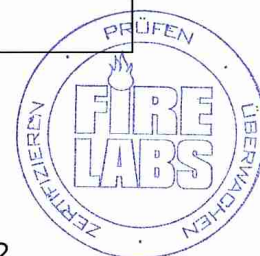
s standard deviation

4.2 **Results of the fire behaviour**

4.2.1 **Test results class B2 (Brennkasten)**

All building materials class B1 must also meet the requirements of materials class B2 (flammable). The material, tested in "Brennkasten" acc. DIN 50 050 meets the requirements class B2; the material did not show burning particles/droplets.

(Results: see enclosure 3)



4.2.2 Test results class B1 (Brandschacht)

Table 3

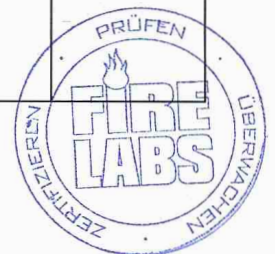
Test results "Brandschachtprüfung" (part 1)						
line no.		Test results				requirements
		A	B	C	D	
1	<u>Number of specimen arrangement</u> acc. DIN 4102 –15 Table 1	1	1	1	1	
2	<u>Maximal flame height</u> above bottom edge cm	40	50	40	40	*)
3	Time ¹⁾ min	1	3	1	2	
4	<u>Burning / melting through</u> Time ¹⁾ min	1	1	1	1	
5	<u>Back side of the specimens:</u> <u>Flames / glowing</u> Time ¹⁾ min	No	No	No	No	
6	<u>Discolouring</u> Time ¹⁾ min	1	1	1	1	
7	<u>Falling of burning droplets</u> Begin ¹⁾ min	No	No	No	No	
8	Extend: Sporadic falling of burning droplets					
9	Continuous falling of burning droplets					
10	<u>Falling of burning parts</u> Begin ¹⁾ min	No	No	No	No	
11	Extend: Sporadic falling of burning parts					
12	Continuous falling of burning parts					
13	<u>Afterflame time at the bottom of the sieve (max.)</u> min:s	./.	./.	./.	./.	
14	<u>Impairment of the burner flames by dropping or falling Material</u> Time ¹⁾ min:s	No	No	No	No	
15	<u>Premature end of test</u> Final occurrence of burning at the specimen ¹⁾ min	3	10	3	10	
16	Time of eventually end of test ¹⁾ min:s	./.	./.	./.	./.	

1) Indication of time: from the beginning of testing procedure

- Not tested

./. Not occurred

*) No cause for complaint



Test results "Brandschachtprüfung" (part 2)						
line no.		Test results				requirements
		A	B	C	D	
17	<u>Afterflame after end of test</u> Time min:s	No	No	No	No	
18	Number of specimen					
19	Front side of specimen					
20	Back side of specimen					
21	Flame length cm					
22	<u>Afterglow after end of test</u> Time min:s	No	No	No	No	
23	Number of specimen					
24	<u>Place of appearance:</u> Lower half of specimen					
25	Upper half of specimen					
26	Front side of specimen					
27	Back side of specimen					
28	<u>Smoke density</u> ≤ 400 % min	81.3	64.6	69.6	52.1	
29	≥ 400 % min (very strong smoke density)	./.	./.	./.	./.	
30	Diagram fig. no.	1	3	5	7	
31	<u>Residual length</u> Individual value cm	73 45 41 55	35 59 54 47	68 69 43 43	55 49 59 65	> 0
32	Average value cm	53	48	55	57	≥ 15
33	Photo of the test specimen fig. no.	2	4	6	8	
34	<u>Flue gas temperature</u> Maximum of average value...°C	105	110	116	110	≤ 200
35	Time ¹⁾ min:s	8:42	9:46	9:54	9:08	
36	Diagram fig. no.	1	3	5	7	
37	<u>Remarks:</u> line 32: There were no additional tests proceeded because of the residual length of > 45 cm (DIN 4102-16, 5.2 b))					

Specimen	Test-no.:	Direction of samples	Tested surface
A	647218-001	warp	fabric
B	647218-002	weft	
C	647218-003	warp	coating
D	647218-004	weft	

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



5 Assessment

According to the test results in section 4.2 the material, described in section 1 and 4.1, fulfils the requirements of building materials class B1 according to DIN 4102-1 if the material is used in one layer, 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 these tests.

The verification

- for outdoor usage (ageing behaviour by outdoor weathering)
- after washing or cleaning with chemicals

has not been proved.

6 Special remarks

This certificate is only valid for the material as described under paragraph 1. In combination with other materials or with additional coatings or surfaces etc. the burning behaviour may differ.

This test certificate 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).

This test certificate is no substitute for a General Building Inspectorate Certificate. This test certificate is granted without prejudice to the rights of third parties, or particular private proprietary rights.

In General Building Inspectorates procedures this test certificate can be based for

- regulated building materials for the required proof of accordance
- for non-regulated building materials for the required proof of applicability

The explanations given in DIN 4102-1 app. D, especially concerning an external production control has to be considered.

This test certificate is valid until 2023-02-28, provided that the test methods, the classification rules and the technology do not change during this period.

Borkheide, 4th of March 2018



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

This translation was issued on 4th of March 2018, in a case of doubt the German version is valid solely.

Test specimen A

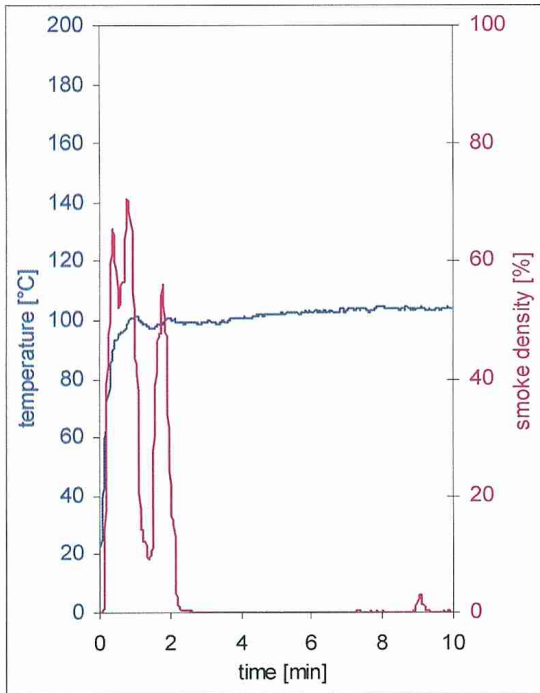


fig. 1
Graphs of the flue gas temperature and the smoke density



fig. 2
Photo of the test specimen after the test

Test specimen B

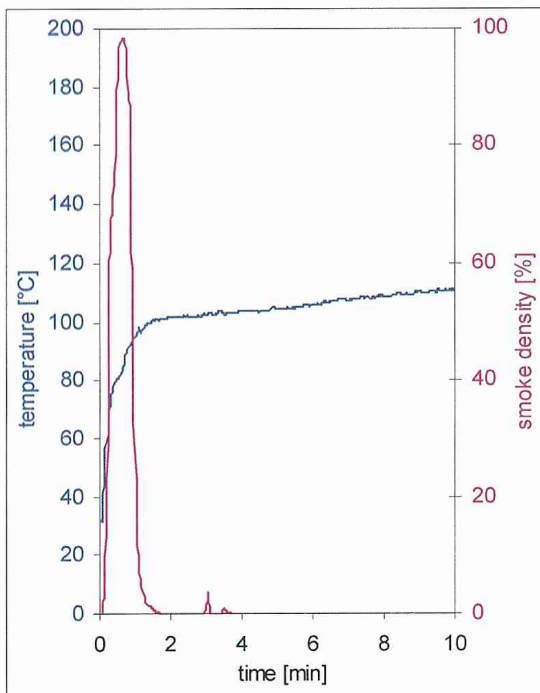


fig. 3
Graphs of the flue gas temperature and the smoke density



fig. 4
Photo of the test specimen after the test



Test specimen C

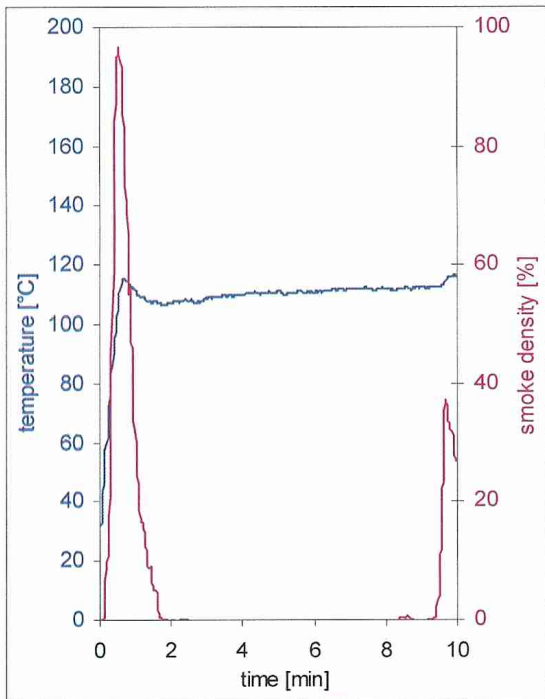


fig. 5
Graphs of the flue gas temperature and smoke density

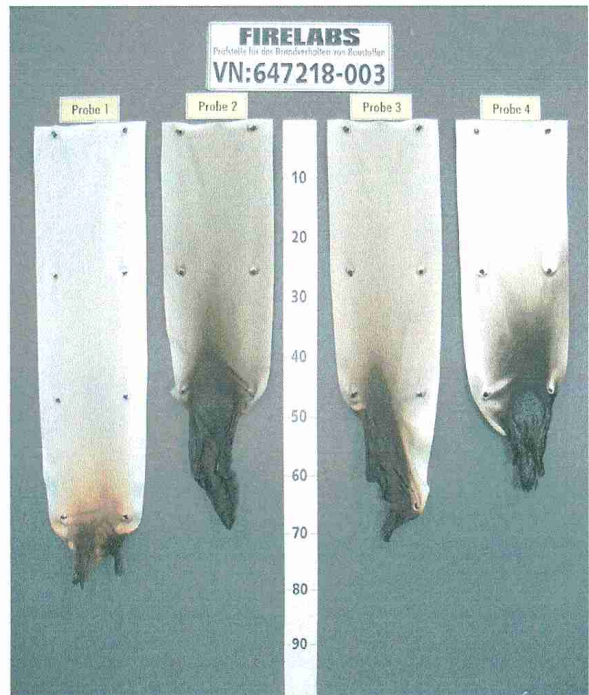


fig. 6
Photo of the test specimen after the test (sample 4: rear side)

Test specimen D

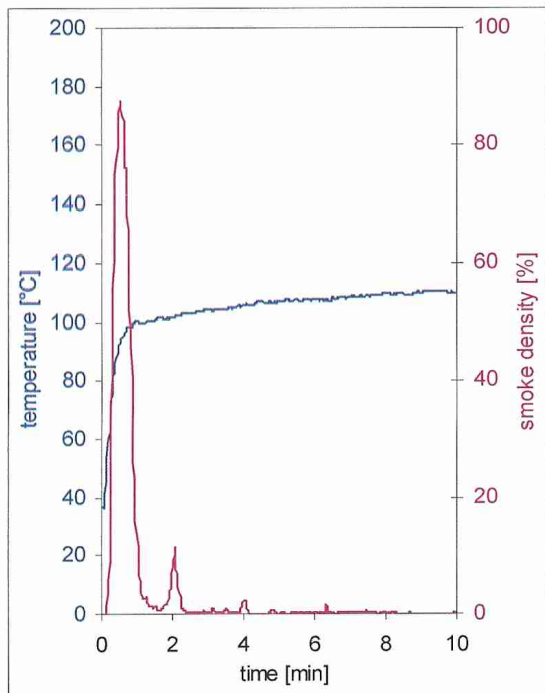


fig. 7
Graphs of the flue gas temperature and smoke density



fig. 8
Photo of the test specimen after the test (sample 4: rear side)



Test results small burner test (Brennkasten)

Table 2

Sample-No.	warp direction							weft direction							dim.	requirements
	1	2	3	4	5	6	7	8	9	10	11	12	13	14		
Ignition of the sample	1	5	5	4	5	5	5	1	1	1	1	1	4	5	s	-
Maximum flame height	7	9	8	8	9	9	7	7	6	7	6	6	5	5	cm	-
Time of the maximum	15	15	15	15	15	15	10	13	8	12	10	14	15	10	s	-
Flame tip reached the 150 mm test mark	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	s	≥ 20
Flame has extinguished	17	24	19	18	31	22	16	14	9	16	13	16	96	16	s	-
Ignition of filter paper	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	s	1)
Smoke density (visual)	moderate							moderate							-	-
Afterburning time	./.	4	./.	./.	11	2	./.	./.	./.	./.	./.	./.	76	./.	-	-
Flames have been extinguished	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	./.	-	-

View of the samples after the test (20 seconds after exposure the flame):

The samples were destroyed at flame impingement area: length max. 8 cm, destroyed width approx 3 cm, soot above until top edge of the samples.

Samples 1, 8-12: edge flame exposure

Samples 2-6, 13: surface flame exposure uncoated surface

Samples 7, 14: surface flame exposure coated surface

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

