

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

Reference: FLT 3734120 (Translation of the German Prüfzeugnis - no guarantee for translation of technical terms)

Sponsor: Indetex NV
Rue du Mont Gallois 58
BE – 7700 Mouscron
(Belgium)

Order: 2020-11-02 **Arrived:** 2020-11-04

Description of samples: On one side coated polyester fabric, named "URBINO".
(for details see page 2)

Delivered: 2020-11-04

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: 2025-11-30

Sampling: The samples were sent to the 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 regarded as the sole proof if the tested building material is used as building product within 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 proof of conformity
- non-regulated building products for the needed proof of applicability.

This test certificate comprises 5 pages and 3 appendices.

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This test certificate must not be published and copied preceding agreement of the test laboratory and if agreed, only during validity and unchanged concerning appearance and contents.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



Prüfstelle für das
Brandverhalten
von Baustoffen
Dipl.-Ing. Uwe Kühnast

Steinstrasse 18
D - 14822 Borkheide
Fon: +49 33845 90901
Fax: +49 33845 90909
Mail: info@firelabs.de
PÜZ-Stelle (LBO): BRA09

TEST CERTIFICATE



1 Description of test material

1.1 Test material (according to the sponsor)

The material provided is a fabric made of polyester, coated on one side with flame retardant treated acylic coating. The coated surface is additionally fibre flocked. The coated fabric is intended to be used as curtain or for decorative purposes and was named with the trade name "URBINO" by the sponsor.

1.2 Description of the delivered samples

For the tests, the laboratory was provided with a section of a fabric about 3.5 m long and 1.5 m wide, coated on one side with plastic and flocked with fibers on the coated surface. The sample was not marked and was named "URBINO" by the client.

Colour: white fabric, white fiber flocking on the back.

Other specifications are not known to the laboratory, a retain sample is deposited.

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

2 Preparation of samples

For the small burner ("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 warp and in weft orientation of the base fabric.

For the fire shaft ("Brandschacht") tests 4 specimens were assembled. The samples (dimensions 1000 mm x 190 mm) for the test specimens A and C were cut in warp orientation; the samples for the test specimens 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) without edge protection.

Arrangement of all samples: The tests have been carried out in single layer, freely suspended, both from the coated and uncoated surface.

Examination period: December 2020

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

| Characteristics | | Manufacturer's data | Measured values | |
|----------------------|---------------------|---------------------|-----------------|-------|
| | | | m.v. | s |
| Total thickness | [mm] | 0.75 | 0.83 | 0.011 |
| Weight per unit area | [g/m ²] | 445 | 431 | |

m.v. mean value (n=10)

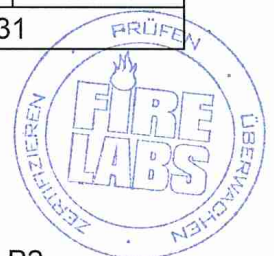
s standard deviation

./ not received/not measured

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 during these tests (Results: see enclosure 3).



4.2.2 Test results class B1 (Brandschacht)

Table 3

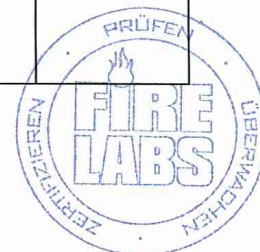
| Test results (part 1) | | | | | | |
|-----------------------|--|----------|----------|-----|-----|--------------|
| line no. | | Specimen | | | | requirements |
| | | A | B | C | D | |
| 1 | <u>Number of specimen arrangement</u> acc. DIN 4102 –15 Table 1 | 1 | 1 | 1 | 1 | |
| 2 | <u>Maximal flame height</u> above bottom edge cm | 60 | 50 | 60 | 50 | *) |
| 3 | Time ¹⁾ min | 1 | 1 | 1 | 1 | |
| 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 | ./. | ./. | ./. | ./. | |
| 6 | <u>Discolouring</u> Time ¹⁾ min | | | | | |
| 7 | <u>Falling of burning droplets</u> Begin ¹⁾ min | Yes 1 | Yes 1 | No | No | |
| 8 | Extend: Sporadic falling of burning droplets | Yes | Yes | | | |
| 9 | Continuous falling of burning droplets | No | No | | | |
| 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 | 0:04 | 0:06 | ./. | ./. | |
| 14 | <u>Impairment of the burner flames by dropping or falling Material</u> Time ¹⁾ min:s | ./. | ./. | ./. | ./. | |
| 15 | <u>Premature end of test</u> Final occurrence of burning at the specimen ¹⁾min | 2 | 3 | 2 | 3 | |
| 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



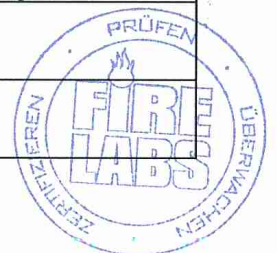
| Test results (part 2) | | | | | | |
|-----------------------|---|----------------------|----------------------|----------------------|----------------------|--------------|
| line no. | | Specimen | | | | requirements |
| | | A | B | C | D | |
| 17 | <u>Afterflame after end of test</u> Timemin:s | No | No | No | No | |
| 18 | Number of specimen | | | | | |
| 19 | Front side of specimen | | | | | |
| 20 | Back side of specimen | | | | | |
| 21 | Flame lengthcm | | | | | |
| 22 | <u>Afterglow after end of test</u> Timemin: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 | 36.2 | 45.2 | 20.1 | 24.1 | |
| 29 | ≥ 400 % min (very strong smoke density) | ./. | ./. | ./. | ./. | |
| 30 | Diagram fig. no. | 1 | 3 | 5 | 7 | |
| 31 | <u>Residual length</u> Individual valuecm | 45 47 48 51 | 52 54 55 58 | 59 51 51 53 | 61 59 62 55 | > 0 |
| 32 | Average valuecm | 47 | 54 | 53 | 59 | ≥ 15 |
| 33 | Photo of test specimen fig. no. | 2 | 4 | 6 | 8 | |
| 34 | <u>Flue gas temperature</u> Maximum of average value...°C | 109 | 108 | 116 | 114 | ≤ 200 |
| 35 | Time ¹⁾min:s | 9:48 | 9:18 | 8:12 | 9:52 | |
| 36 | Diagram fig. no. | 1 | 3 | 5 | 7 | |
| 37 | <p><u>Remarks:</u> line 13: Afterflame time at the bottom of the sieve < 20 sec. is not rated as "falling of burning parts or droplets". line 32: Due to the residual length of > 45 cm no additional tests were proceed (DIN 4102-16, 5.2 b)). (Diagrams and photos see appendices 1, 2)</p> | | | | | |

1) indication of time: from the beginning of testing procedure
./.

not occurred

*) no cause for complaint

| Specimen | Test-no. | Direction of fabric | Side of flame impingement |
|----------|------------|---------------------|---------------------------|
| A | 734120-001 | warp | coated side |
| B | 734120-002 | weft | |
| C | 734120-003 | warp | uncoated side |
| D | 734120-004 | weft | |



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 by outdoor weathering)
- after washing or cleaning with chemicals

is not proved with this test certificate.

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 regarded as the sole proof if the tested building material is used as a building product within the meaning of state building prescriptions (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 not 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 2025-11-30, provided that the test methods, the classification rules and the technology do not change during this period.

Borkheide, 8th of December 2020



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

This translation was issued the 8th of December 2020, in a case of doubt the German version is valid solely.

Test specimen A

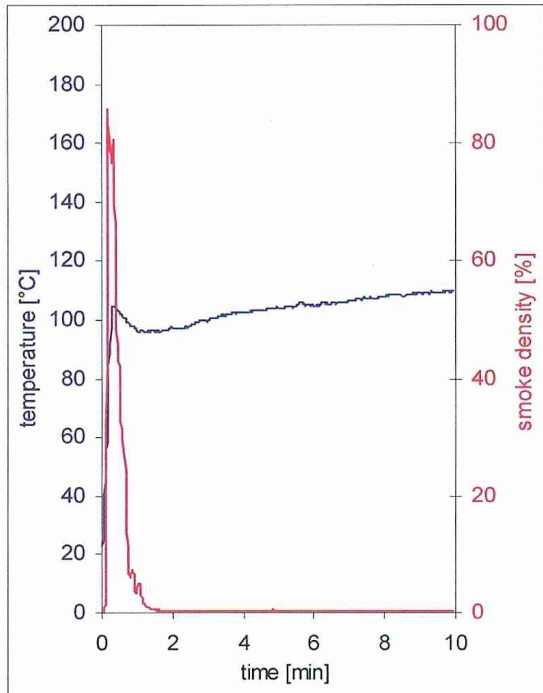


fig. 1
Graphs of the flue gas temperature and the smoke density

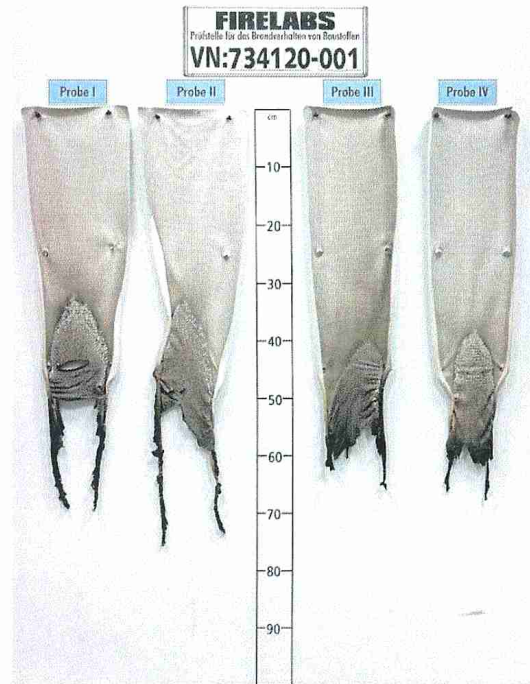


fig. 2
View of test specimen after the test

Test specimen B

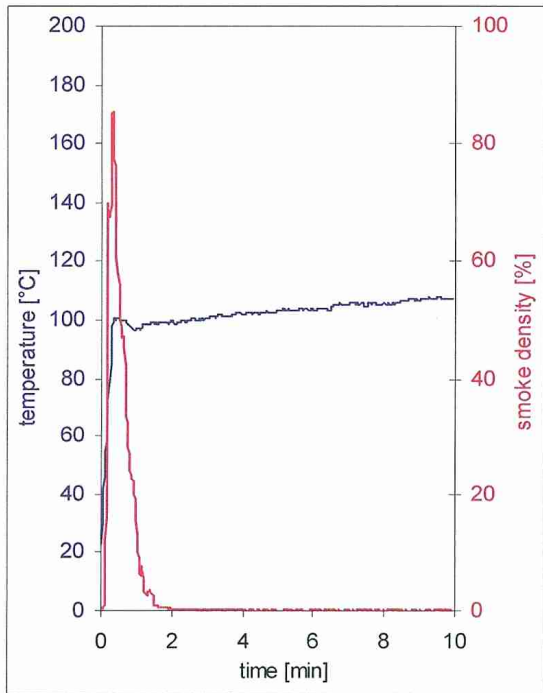


fig. 3
Graphs of the flue gas temperature and the smoke density



fig. 4
View of test specimen after the test

Test specimen C

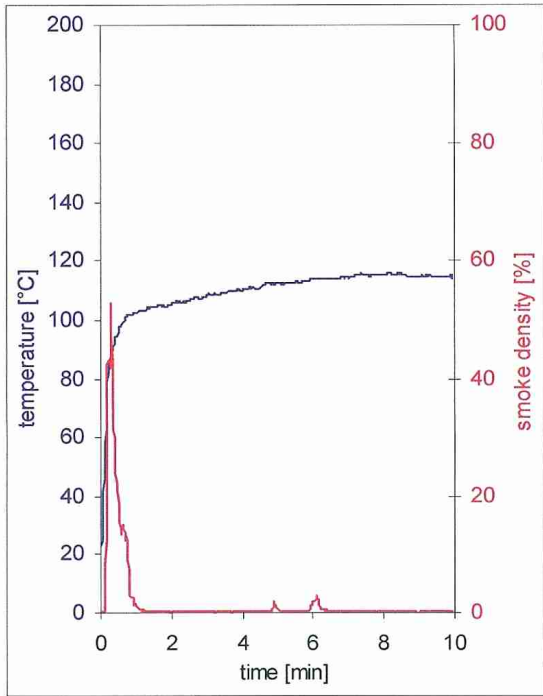


fig. 5
Graphs of the flue gas temperature and the smoke density

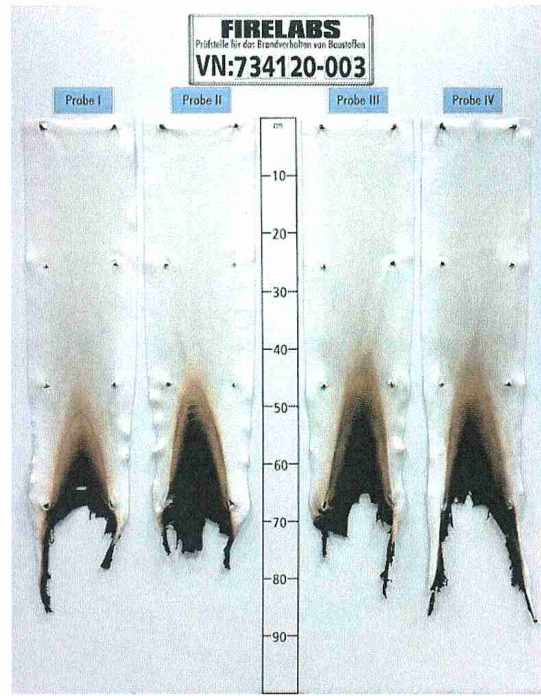


fig. 6
View of test specimen after the test

Test specimen D

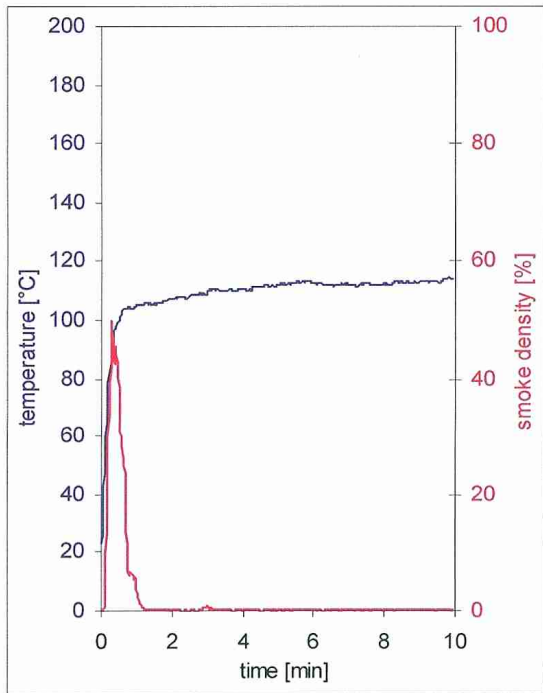


fig. 7
Graphs of the flue gas temperature and the smoke density

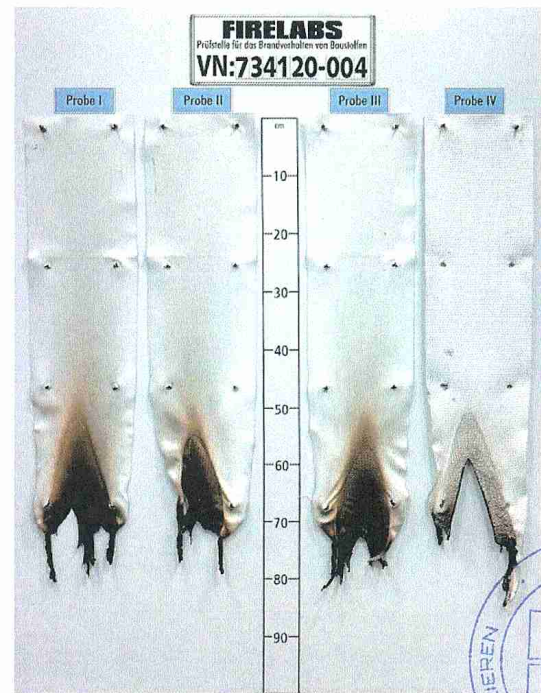


fig. 8
View of test specimen after the test



Test results small burner ("Brennkasten") tests

Table 2

| Sample-No. | Warp direction | | | | | | | Weft direction | | | | | | | Dim. | Requirements |
|-----------------------------------|----------------|-----|-----|-----|-----|-----|-----|----------------|-----|-----|-----|-----|-----|-----|------|--------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| Ignition of the sample | 1 | 1 | 1 | 1 | 1 | 4 | 3 | 1 | 1 | 1 | 1 | 1 | 4 | 3 | s | - |
| Maximum flame height | 9 | 8 | 9 | 9 | 10 | 7 | 6 | 7 | 8 | 7 | 7 | 8 | 8 | 7 | cm | - |
| Time of the maximum | 10 | 13 | 15 | 11 | 12 | 15 | 15 | 12 | 13 | 13 | 12 | 11 | 15 | 13 | s | - |
| Flame tip reached the 150 mm mark | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | s | ≥ 20 |
| Extinction of flames | 11 | 14 | 16 | 12 | 13 | 19 | 17 | 13 | 14 | 14 | 13 | 13 | 18 | 18 | s | - |
| Ignition of filter paper | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | s | 1) |
| Smoke density (visual) | moderate | | | | | | | moderate | | | | | | | - | - |
| Afterburning time | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | s | - |
| Flames were extinguished after | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | ./. | s | - |

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

In the area of the impingement point the samples were destroyed up to a max. height of approx. 6 cm and approx. 2 cm in width, soot above until top edge of the sample.

Samples 1-5: Edge flame exposure

Samples 6: Surface flame exposure coated surface

Samples 7: Surface flame exposure uncoated 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

