

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-181262

on the reaction to fire according to DIN 4102, part 1

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

company	Vescom B.V. St. Jozefstraat 20 NL – 5753 AV Deurne
description of samples	fabric of 80% wool and 20% PA, with FR -in three different colours
name of the material sampling	„LINDAU 7028“ by the company
content of request	Prove of the Fire behaviour according to the requirements of the class "normal entflammbar" according to the German standard DIN 4102, part 1.
validity of test report	31.10.2023
result	The product complies in any colour freely suspended or in a distance > 40 mm to same or other plain materials with the requirements of class B2 for "normal entflammbare" building materials according to the German standard DIN 4102, part 1, (May 1998).

This test report includes 5 pages.

Remarks:

For legal interests only the German original version is relevant.

If the above mentioned building material is not used as product according to MBO § 2, Abs. 9, No. 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This test report must not be published and copied without preceding agreement of the test laboratory and if agreed, only during validity and unchanged concerning appearance and contents.

result achieved with
additional FR finish

1. Properties and composition of the test material in as-delivered condition

PN 28245 „LINDAU 7028“

green-grey-yellow fabric of 80% wool and 20% PA, with FR

Characteristic values determined by the laboratory:

thickness	≈ 1,23 mm
area weight	≈ 456 g/m ²

PN 28246 „LINDAU 7028“

beige fabric of 80% wool and 20% PA, with FR

Characteristic values determined by the laboratory:

thickness	≈ 1,25 mm
area weight	≈ 445 g/m ²

PN 28247 „LINDAU 7028“

blue-black fabric of 80% wool and 20% PA, with FR

Characteristic values determined by the laboratory:

thickness	≈ 1,27 mm
area weight	≈ 456 g/m ²

More details of the composition of the test samples are not known to the laboratory.
Reference samples are deposit.

2. Preparation and conditioning of the samples

From the delivered material samples were cut for the edge and surface test with the dimensions 9 x 19 cm and 9 x 23 cm.

The samples were kept in the climate chamber (23/50) according to DIN 50014-23/50-2 for a minimum of 14 days.

3. Arrangement of samples

- freely suspended

4. Date of test 09. to 13.01.2018

5. Results of the fire tests

The fire test was carried out according to the German standard DIN 4102-1 clause 6.2 (edition May 1998).

PN 28245	edge exposure						surface exposure						dimension
No substrate	tested freely suspended												
sample no.	1	2	3	4	5	6	1	2	3	4	5	6	--
side and direction	AK	BK	AS	BS	--	--	AL	AL	AK	BK	--	--	--
start of ignition ¹⁾	1	1	1	1	--	--	2	2	2	2	--	--	s
time to reach gauge mark ¹⁾²⁾	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
max. flame height	7	7	7	7	--	--	7	7	7	7	--	--	cm
time max. flame height ¹⁾²⁾	15	15	15	15	--	--	15	15	15	15	--	--	s
self-extinguishing of the flames ¹⁾	16	16	19	18	--	--	15	15	15	15	--	--	s
begin of the smouldering	10	10	10	10	--	--	-/-	-/-	-/-	-/-	--	--	s
end of the smouldering	16	16	19	18	--	--	-/-	-/-	-/-	-/-	--	--	s
flames were extinguished after ¹⁾	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
smoke development (visually)	moderate						moderate						--
burning droplets within 20 s ¹⁾	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
The samples were burned/melted cone-shaped with a max. width of 2 cm x height 6 cm.													

PN 28246	edge exposure								surface exposure				dimension
No substrate	tested freely suspended												
sample no.	1	2	3	4	5	6	7	8	1	2	3	4	
side and direction	AK	BK	AS	BS	BK	BK	BK	BK	AK	BK	AS	BS	--
start of ignition ¹⁾	1	1	1	1	1	1	1	1	2	2	2	2	s
time to reach gauge mark ¹⁾²⁾	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	s
max. flame height	7	8	7	7	8	7	7	7	7	7	7	7	cm
time max. flame height ¹⁾²⁾	15	15	15	15	15	15	15	15	15	15	15	15	s
self-extinguishing of the flames ¹⁾	15	15	15	19	15	15	16	15	15	15	15	15	s
begin of the smouldering	10	10	10	10	10	10	10	10	-/-	-/-	-/-	-/-	s
end of the smouldering	15	15	15	19	15	15	16	15	-/-	-/-	-/-	-/-	s
flames were extinguished after ¹⁾	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	s
smoke development (visually)	moderate								moderate				--
burning droplets within 20 s ¹⁾	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	s
The samples were burned/melted cone-shaped with a max. width of 2 cm x height 6 cm.													

¹⁾ time from the beginning

²⁾ within 20 seconds

³⁾ acc. to DIN 4102-16

-/- no occurrence

A front side

-- no data

B = backside

L = lengthwise

Q = crosswise

PN 28247	edge exposure						surface exposure						dimension
No substrate	tested freely suspended												
sample no.	1	2	3	4	5	6	1	2	3	4	5	6	--
side and direction	AK	BK	AS	BS	--	--	AL	AL	AK	BK	--	--	--
start of ignition ¹⁾	1	1	1	1	--	--	2	2	2	2	--	--	s
time to reach gauge mark ¹⁾²⁾	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
max. flame height	7	7	7	7	--	--	7	7	7	7	--	--	cm
time max. flame height ¹⁾²⁾	15	15	15	15	--	--	15	15	15	15	--	--	s
self-extinguishing of the flames ¹⁾	15	17	15	15	--	--	15	15	15	15	--	--	s
begin of the smouldering	10	10	10	10	--	--	-/-	-/-	-/-	-/-	--	--	s
end of the smouldering	16	17	15	15	--	--	-/-	-/-	-/-	-/-	--	--	s
flames were extinguished after ¹⁾	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
smoke development (visually)	moderate						moderate						--
burning droplets within 20 s ¹⁾	-/-	-/-	-/-	-/-	--	--	-/-	-/-	-/-	-/-	--	--	s
The samples were burned/melted cone-shaped with a max. width of 2 cm x height 6 cm.													

¹⁾ time from the beginning

²⁾ within 20 seconds

³⁾ acc. to DIN 4102-16

-/- no occurrence

A front side

-- no data

B = backside

L = lengthwise

Q = crosswise

6. Remarks to the setting of the test –none

7. Classification

7.1 Building material class

Based on the test results described above the material complies with the requirements of the building material class "normal entflammbar" DIN 4102 - B2.

The classification is valid freely suspended or in a distance > 40 mm to same or other plain materials.

7.2 Test for falling of burning particles (droplets)

The material shows no burning particles / droplets as described in DIN 4102-1, clause 6.2.6.1.

8. Additional directions

This test report is no substitute for a General Building Inspectorate Certificate. For legal interests only the German original version is relevant.

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. The fire performance of other than the parameters given above has to be tested and classified separately.

This test report is not valid, as soon as the material is used as a building product in the sense of the "Landesbauordnungen" (state building requirements, MBO § 17, par. 3). According DIN 4102, section 7, the material has to be marked:

DIN 4102 – B2

result achieved with
additional FR finish

9. Validity of the test report

This test report is valid to date specified on page 1.

The test report becomes invalid in case the standards on which the tests are based are changed.

Fladungen, 26-11-2018

Clerk in charge



(Silke Biendara)



Head of the test laboratory



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