

## TEST REPORT

Order no: 05.09.2017

Signature: SL/Z-177/DIN4102-B1/376a/2017

Police, 25.09.2017

### Test methods:

1. DIN 4102-1:1998-05 Fire behaviour of building materials and building components - Part 1: Building materials; concepts, requirements and tests.
2. DIN 4102-16:1998-05 Fire behaviour of building materials and building components - Part 16: "Brandschacht" tests
3. DIN 53438-2:1984-06 Testing of combustible materials; response to ignition by a small flame; edge ignition
4. DIN 53438-3:1984-06 Testing of combustible materials; response to ignition by a small flame; surface ignition

**Content of request:** Testing according to DIN 4102-1:1998-05 (building class B1)

**Sponsor:** CAMELA S.A.  
Fabryka Wkładów Odzieżowych  
ul. Cicha 5  
58-300 Wałbrzych, Poland

**Material:** Bunting (Inter Fahnen-Bezeichnung Polywind-plus B1)

**Composition:** 100% PES

**Manufacturer/supplier:** CAMELA S.A.  
Fabryka Wkładów Odzieżowych  
ul. Cicha 5  
58-300 Wałbrzych, Poland

**Assessment:** The material fulfils the requirements of the building class B1 according to DIN 4102-1:1998-05

**Validity of test report:** 24.09.2022

**The reprint and the copying:** only with the agreement of. CAMELA S.A.

Without the written consent of the Sychta Laboratory the report can be copied only in one piece.

Report applies only to the sample tested and is not necessarily indicative of the qualities of apparently identical or similar products.

**Contain of test report:** six pages with signature and numbers.



## 1. Test results class B1 according to DIN 4102-16:1998-05

Name of measured quantity	Unit	Specimen				Requirement
		1	2	3	4	
No. test arrangement according to DIN 4102-15	-	1	1			
Speciment thicknes	mm	0,3	0,3			
Maximum flame height	cm	30	30			
Time	s	20	20			
Flamming time	s	23	22			
Ignition sample backside	yes/no	no	no			
Time	s	-	-			
Burning droplets	yes/no	yes	yes			
Duration failling of burning droplets	s	9	16			
- sporadic falling of burning droplets	yes/no	yes	yes			
- continuous falling of burning droplets	yes/no	no	no			
Burning separating sample parts	yes/no	no	no			
Duration failling of burning parts	s	-	-			
- sporadic falling of burning parts	yes/no	no	no			
- continuous falling of burning droplets	yes/no	no	no			
Duration of burning on the sieve tray	s	-	-			
Residual range						
1	cm	63	69			>0
2	cm	68	71			
3	cm	50	55			
4	cm	60	63			
Average value of the residual range	cm	60	65			≥15
Maximum flue gas temperature	°C	118	122			≤200
Time	s	600	600			
Duration of burning after end of test	s	0	0			
Maximum light attenuation	%	1,7	1,6			
Integrated smoke obscuration	min• %	2	2			≤400
Impairment of the burner flames by falling particles or droplets	yes/no	no	no			
Time of the appearance of falls for the burner	s	-	-			
Premature end of test	yes/no	no	no			
Time	s	-	-			

**Remarks:** Because of the residual length of > 45 cm in one test, the quantity of tests was reduced, according to DIN 4102-16.



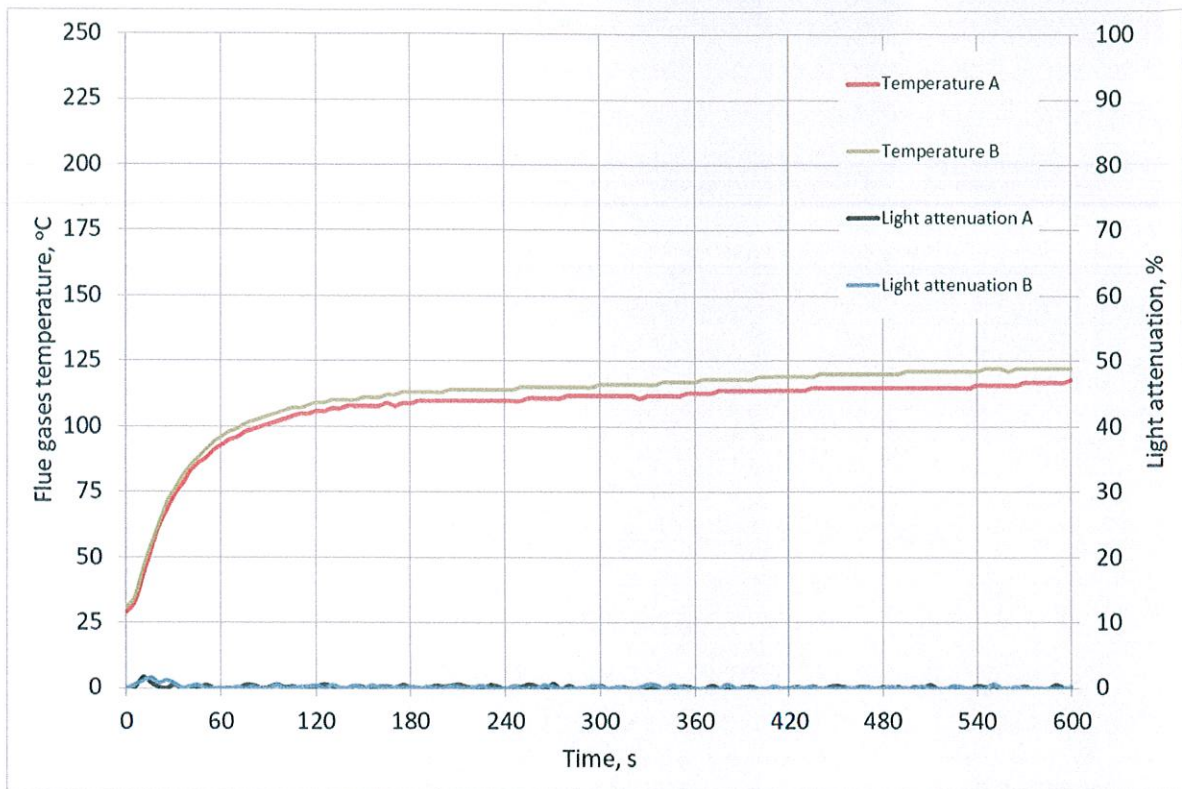


Figure 1. The relation of flue gases temperature and of the light attenuation in the time

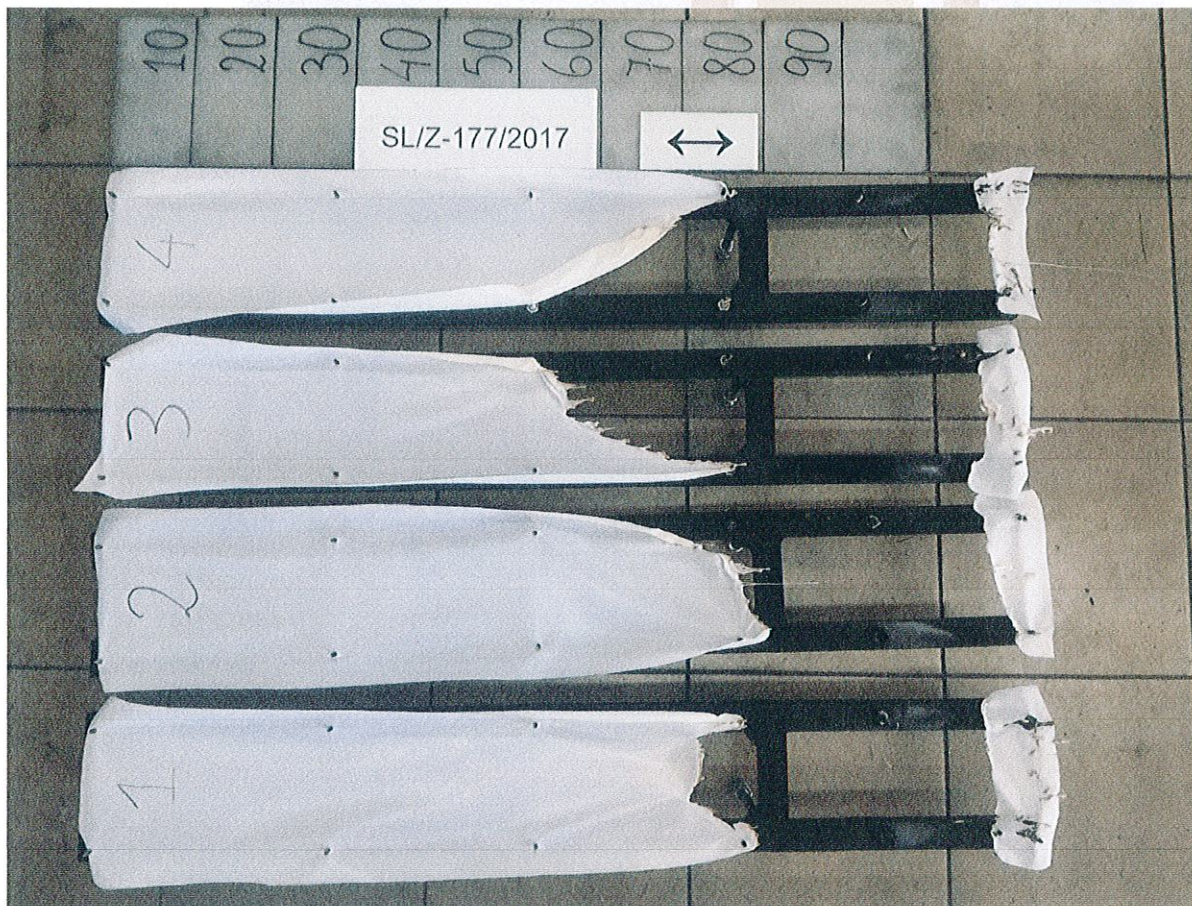


Figure 2. Appearance of the sample 1 after the test - lenght direction



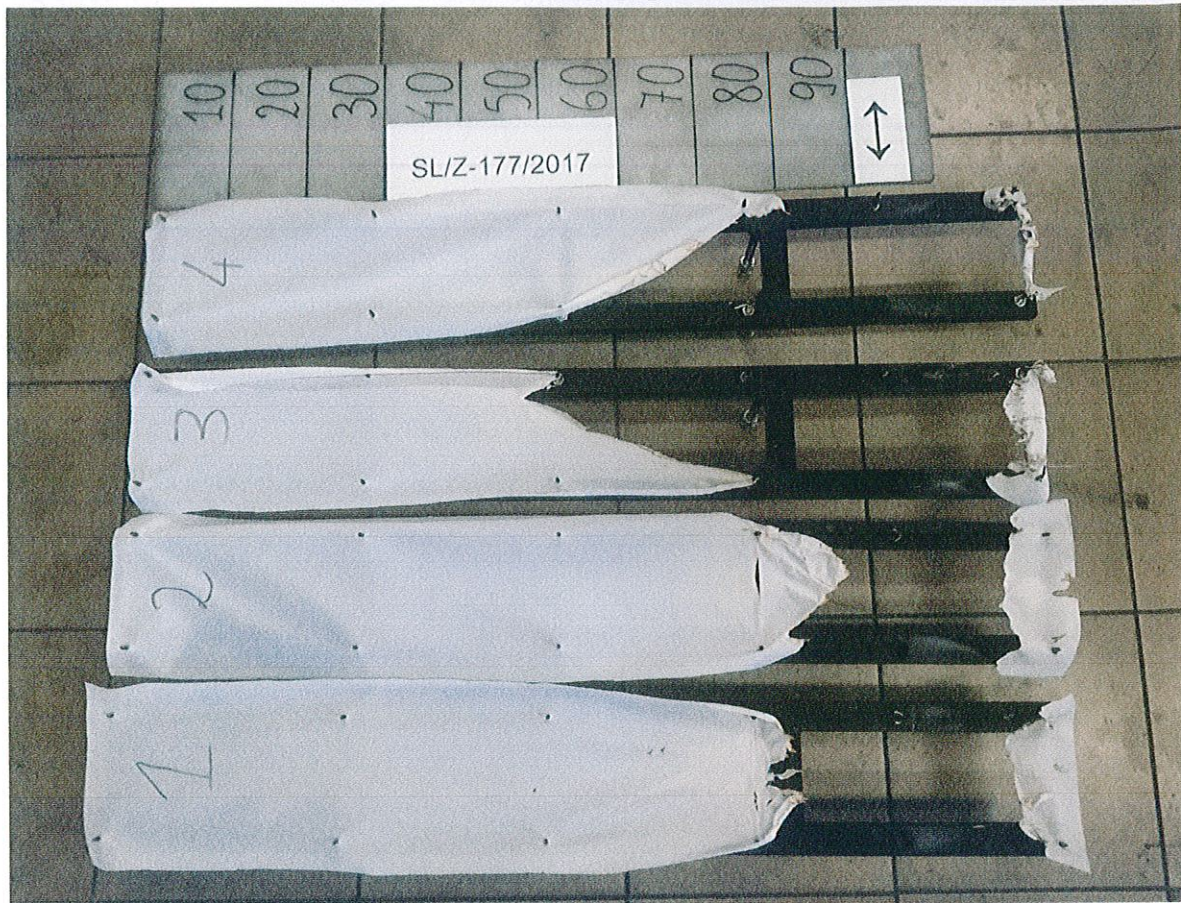


Figure 3. Appearance of the sample 2 after the test – cross direction

## 2. Test results class B2 according to DIN 4102-1 (DIN 53438-2)

### 2.1. Edge ignition

Exposure time of pilot burner flame - 15 s

Time from start of test.

Name of measured quantity	Unit	Specimen no./Test direction									
		length direction					cross direction				
		1	2	3	4	5	6	7	8	9	10
Specimen thickness	mm	0,3	0,3	0,3	0,3	0,3	-	-	-	-	-
Ignition time	s	1	1	1	1	1	-	-	-	-	-
Flame height 150 mm within 20 s	yes/no	no	no	no	no	no	-	-	-	-	-
Max. flame height Time	cm	4	4	4	4	4	-	-	-	-	-
	s	-	-	-	-	-	-	-	-	-	-
Extinction time	s	3	4	3	4	4	-	-	-	-	-
Flaming particles or droplets	yes/no	no	no	no	no	no	-	-	-	-	-
Ignition of paper	yes/no	no	no	no	no	no	-	-	-	-	-
Smoke development (visual impression)	-	lack of smoke									

Remarks: none.





Figure 4. Appearance of the sample after the small burner test

### 3. Assessment

The determined test results show that the material fulfils the requirements of the building class B2 according to DIN 4102-1:1998-05.

The determined test results show that the material fulfils the requirements **of the building class B1** according to DIN 4102-1:1998-05.

In combination with other materials (for example coatings, deposits) the burning behaviour could be influenced unfavourable so that the classification above is not valid any longer. According to DIN 4102-1 the burning behaviour in combination with other materials has to be tested separately.

This report does not determine admission to the use of the product, when tested material is used as a construction product within the meaning of terrestrial technical requirements. In the process of construction supervision test results can be the basis for a preliminary assessment of the compatibility/suitability.



**4. Remaining required information**

**Date of receipt of samples:** 06.09.2017

**System of the sampling:** sponsor took and delivered samples.

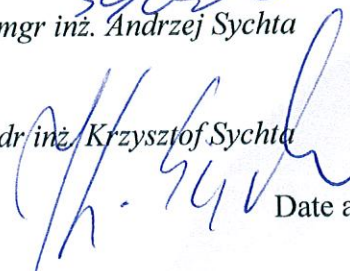
**Description of the test material:** one piece of white knitted fabric dimension of 1,6x5,0 m and mass per square metre of 110 g/m<sup>2</sup> were delivered by the sponsor. Laboratory prepared samples for the tests.

**Conditioning of specimens:** > 14 days before the tests or constant mass at temperature of 23°C, and relative humidity of 50 % (DIN 50014-23/50-2).


**Declaring:** The test results rate to the behaviour of the test specimens under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the products in use.

**Operators:**

  
mgr inż. Andrzej Sychta

  
dr inż. Krzysztof Sychta

**Signature:**

  
KIEROWNIK LABORATORIUM  
dr hab. n. t. Zygmunt Sychta

Date and place of test - 22-25.09.2017, Police

SYCHTA LABORATORIUM Sp. J.  
72-010 Police, ul. Ofiar Stutthofu 90  
tel./fax +48 91 3170161, tel. +48 502 078855  
e-mail: biuro@sychta.eu www.sychta.eu  
KRS: 0000387681 REGON: 321023120  
NIP: 8513152392