

TEST CERTIFICATE ON FLAMMABILITY TESTING OF UPHOLSTERY COMPOSITE

No 12 / BP / 20

Test method:

PN-EN 1021-1:2014-12 Furniture. Assessment of the ignitability of upholstered furniture. Part 1: Ignition source smouldering cigarette.

Orderer*:

Subject of testing*:

Upholstery composite:

- T-3037 SG polyurethane foam, self-extinguish

Testing sample with the correct size, in appropriate state for testing, supplied by the Orderer with its characteristic and without the Sampling Protocol.

Results of testing:

Standard	Test method	Result
PN-EN 1021-1:2014-12	Ignition source: smouldering cigarette	Neither progressive smouldering ignition nor flaming ignition occurred.

The above test results relate only to the ignitability of the combination of 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.

Tests performed by:

Kostanek

Krzysztof Kostanek Ph.D.

Test Certificate authorized by

Laboratorium Badań Palności Wyrobów
KIEROWNIK

mgr Inż. Małgorzata Szejna

Sample received on: 13.01.2020

Test performed on: 24.01.2020

Test Certificate issued on: 24.01.2020

NOTES:

1. The Testing results refer only to the tested sample.
2. Test Certificate consists of 2 pages.
3. Test Certificate must not be reproduced in another way, than as a whole without a prior written consent of the Testing Laboratory.
4. The Orderer using this Test Certificate is responsible for the conformity between the product and sample submitted for testing.
5. *Data provided by the Customer.

The Testing Laboratory accredited by the Polish Centre for Accreditation (PCA), No AB 029.

DETAILED TESTING RESULTSClimate conditions: temperature $(23 \pm 2) ^\circ\text{C}$; humidity $(50 \pm 5) \%$; time 24 hTesting conditions: temperature 21°C ; humidity 32 %**Preparation of test samples:**

the upholstery fabric, exposed to wetting in water and drying procedure, in accordance with Appendix D of the PN-EN 1021-1:2014-12 standard.

Upholstery composite characteristic:

Upholstery composite:

- T-3037 SG polyurethane foam, self-extinguish

Criteria		Cigarette			Remarks					
		1	2	3						
Smouldering criteria	Unsafe escalating combustion	NO	NO	-	Maximum cigarette smouldering time: 15 minutes 47 seconds					
	Test assembly consumed	NO	NO	-						
	Smoulders to extremities	NO	NO	-						
	Smoulders through thickness	NO	NO	-	Maximum upholstery composite destruction:					
	Smoulders more than 1 hour	NO	NO	-						
	In final examination, presence of active smouldering	NO	NO	-						
Flaming criteria	Occurrence of flames	NO	NO	-	horizontal [mm]			vertical [mm]		
					length	width	depth	length	width	depth
					69	13	3	68	16	3

Result of testing: Neither progressive smouldering ignition nor flaming ignition occurred.

END OF THE TEST CERTIFICATE



Laboratory of Chemical Testing and Instrumental Analysis

The Łukasiewicz Research Network – Textile Research Institute
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 e-mail: jpiestrzeniewicz@iw.lodz.pl, a@siak@iw.lodz.pl

Łódź, 30th January 2020

L-8/2020

TEST CERTIFICATE No. BCH 8/37/2020/A

2. Subject of study ¹⁾:

100 % Recykling Poliester

3. Date of receiving sample for testing:

08th January 2020

4. Date of the tests conducting:

20th January - 21st January 2020

5. Sampling:

sample in a proper size, in a proper condition for research, supplied by the customer

RESULTS OF THE TESTS

Tested feature	Result of the test [degree]	Reference document	Technical specifications	Level of requirements for categories according to PN- EN 14465:2005 + A1:2007		
				A	B	C
Colour fastness to: - dry rubbing: ¹⁾		PN-EN ISO 105- X12:2016-08	Acclimatization conditions: - temperature: 20 ± 2 °C - relative humidity: 65 ± 4 % - time of acclimatisation: 4 h			
weft	a/ 4-5		Test conditions: - ambient temperature and humidity	≥ 4-5	≥ 4	≥ 3-4
warp	a/ 4-5		- rubbing pick: 0 16 ± 0,1 mm			
- wet rubbing: ¹⁾			- push: 9 ± 0,2 N - degree of moisturising of the rubbing fabric: 95-100 %	≥ 3-4	≥ 3	≥ 2-3
weft	a/ 4-5					
warp	a/ 4-5					

¹⁾ colour fastness according to "Grey scale", indicator "5" means – no change in colour in cotton rubbing fabric, indicator "1" means – big change in colour

a/ staining - the cotton rubbing fabric

Remarks:

1. Test results refer only to the tested material.
2. Neither of the parts of this test certificate can be copied without written permission of the Head of the Laboratory.
3. ^{X)} Data provided by the principal/customer.
^{Y)} The decision-making principle in the event that the principal requires a statement of compliance – in accordance with the Principle of Acceptance described in Procedure No. 7.1:
 - **acceptance** (compliant) – the results are within the tolerance limit. The risk of incorrect acceptance is up to 50% in the case of results close to the tolerance limit;
 - **rejection** (incompatible) – the results obtained are outside the tolerance limit. The risk of incorrect rejection is 50% in the case of results close to the tolerance limit.^{Z)} The decision-making principle specified by the principal/customer.
4. Total number of pages of the test certificate: 2.

Tests authorized by:

LABORATORIUM BADAŃ CHEMICZNYCH
I ANALIZ INSTRUMENTALNYCH
ZASTĘPCA KIEROWNIKA
mgr inż. Agnieszka Lisjak-Kucińska

Confirmed by:
LABORATORIUM BADAŃ CHEMICZNYCH
I ANALIZ INSTRUMENTALNYCH
KIEROWNIK
mgr inż. Jerzy Piastrowicz

Number of copies: 3

The test certificate receive:

- Customer - 2 copy
- The LUKASIEWICZ Research Network – Textile Research Institute – BCH - 1 copy

- THE END -

Laboratory of Chemical Testing and Instrumental Analysis

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Łódź, 30th January 2020

L-8/2020

TEST CERTIFICATE No. BCH 8/37/2020/A/1

2. Subject of study ^{X1}:

100 % Recykling Poliester

3. Date of receiving sample for testing:

08th January 2020

4. Date of the tests conducting:

16th January - 27th January 2020

5. Sampling:

sample in a proper size, in a proper condition for research, supplied by the customer

RESULTS OF THE TESTS

Tested feature	Result of the test [degree]	Reference document	Technical specifications	Level of requirements for categories according to PN- EN 14465:2005 + A1:2007		
				A	B	C
Colour fastness to: - artificial light ¹⁾	a/ 6	PN-EN ISO 105- B02:2014-11 Method 2	- device: Xenotest Alpha + - light conditions: A1 - radiation measurement in the range 300-400 nm - sample rotation was not applied	≥ 6	≥ 5	≥ 4

¹⁾ colour fastness according to "Blue scale", indicator "8" means – no change in colour, indicator "1" means – big change in colour

a/ change of colour of the sample

Remarks:

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³¹⁾ The decision-making principle in the event that the principal requires a statement of compliance – in accordance with the Principle of Acceptance described in Procedure No. 7.1:
 - **acceptance** (compliant) – the results are within the tolerance limit. The risk of incorrect acceptance is up to 50% in the case of results close to the tolerance limit;
 - **rejection** (incompatible) – the results obtained are outside the tolerance limit. The risk of incorrect rejection is 50% in the case of results close to the tolerance limit.³²⁾ The decision-making principle specified by the principal/customer.
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mgr inż. Agnieszka Lisjak-Kucińska

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mgr inż. Jarzy Piastrowicz

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- THE END -



AB 164

Testing Laboratory accredited by the Polish Centre for Accreditation

TEST REPORT NO. 2.1 / 2020 / B / A

declared raw material composition: 100% Polyester Recycling.

3. **Date of receiving material for testing:** 2020-01-09
4. **Date of test performance:** 2020-01-22
5. **Samples taken by:** ^N correct sample size in appropriate state for testing, taken by the Client and delivered without the Sampling Protocol
6. **Tests carried out according to:** methods presenting in testing table

Results of Laboratory Tests

see page 2/2

Test performed by: Elzbieta Olczak

1. Test results refer only to the tested material.
2. Neither of the parts of this Test Report can be copied without written permission of the Head of the Laboratory. It can be copied only as a whole document.
3. Test Report presents test results included within accreditation field of testing.
4. Test results not included in accreditation scope, if occur, are marked with* in the test results table, at the para....
5. Test Report consists of test results carried out in location 90-520 Łódź, ul. Gdańska 118 (G) / 92-103 Łódź, ul. Brzezińska 5/15 (B).
6. Measurement uncertainty, if it is specified, has been determined according to the recommendations presented in document EA-4/16. Presented values of uncertainty constitute expanded uncertainty at 95% confidence level and coverage factor $k = 2$.
7. Laboratory uses the requirements of ILAC-G8:03/2009. The conformity statement of test result with requirements specification takes place, when the test results together with expanded uncertainty does not exceed the tolerance limit given in specification. The conformity assessment rules given by Client could be allowed.

Test Report date: 2020-01-28

Number of Test Report 's copies: 2

Test Report handed to:

2) Laboratory for Testing Raw Materials, Textiles and Electrostatic Properties (location: 5/15 Brzezińska str.) - 1 copy.

Test Report prepared by:
Patrycja Bąk

Person authorizing the Test Report:

Name and surname: mgr inż. Jerzy Andrysiak
Function: ZASTĘPCA KIEROWNIKA
Signature:

mgr inż. Jerzy Andrysiak



ŁUKASIEWICZ-
INSTITUT WŁÓKNIARSTWA
LABORATORIUM BADAŃ SURDOWCÓW,
WYROBÓW WŁÓKNIENICZYCH
I WŁASNOŚCI ELEKTROSTATYCZNYCH
92-103 Łódź, ul. Brzezińska 5/15
tel. 42 61 63 142, fax 42 67 92 638

TEST REPORT NO. BM 2.1 / 2020 / B / A

Parameter	Value	Remarks
Seam slippage resistance, mm: <u>Warp</u> The mean value of seam slippage resistance for warp direction, mm - individual results, mm <u>Weft</u> The mean value of seam slippage resistance for weft direction, mm - individual results, mm	5 ± 0 5; 5; 5,5; 5; 5 6 ± 0 6; 7; 6; 7; 6	PN-EN ISO 13936-2:2005 the conditioned sample, sample conditioned according to PN-EN ISO 139:2006 + A1:2012, temp. 20° C ± 2 °C, RH: 65% ± 4%, tensile tester: Hounsfield H50 KM, testing force: 180 N, 100% PES sewing threads (74 ± 5) tex, the number of sewing needle: 110 the number of stitch: 32±2/100 mm rate of extension: 50 mm/min. number of test specimens: 5
Evaluation: according to PN-EN 14465:2005 + A1:2007 requirements level: A category: ≤ 4 mm; B category: ≤ 6 mm; C category: ≤ 8 mm		

The end of Test Report

Person authorizing the Test Report

LABORATORIUM BADAŁ SURCZAKÓW
WYROBÓW WŁÓKIENNICZYCH
I WŁASNOŚCI ELEKTROSTATYCZNYCH
ZASTĘPCA KIEROWNIKA

mgr inż. Jerzy Andrysiak

Testing Laboratory accredited by the Polish Centre for Accreditation

TEST REPORT NO. 2.2 / 2020 / B / A

declared raw material composition: 100% Polyester Recycling.

3. **Date of receiving material for testing:** 2020-01-09
4. **Date of test performance:** 2020-01-23
5. **Samples taken by:** ^N correct sample size in appropriate state for testing, taken by the Client and delivered without the Sampling Protocol
6. **Tests carried out according to:** methods presenting in testing table

Results of Laboratory Tests

see page 2/2

Test performed by: Elżbieta Olczak

1. *Test results refer only to the tested material.*
2. *Neither of the parts of this Test Report can be copied without written permission of the Head of the Laboratory; copied only as a whole document.*
3. *Test Report presents test results included within accreditation field of testing.*
4. *Test results not included in accreditation scope, if occur, are marked with* in the test results table, at the parameter label.*
5. *Test Report consists of test results carried out in location 90-520 Łódź, ul. Gdańska 118 (G) / 92-103 Łódź, ul. Brzezińska 5/15 (B).*
6. *Measurement uncertainty, if it is specified, has been determined according to the recommendations presented in document EA-4/16. Presented values of uncertainty constitute expanded uncertainty at 95% confidence level and coverage factor $k = 2$.*
7. *Laboratory uses the requirements of ILAC-G8:03/2009. The conformity statement of test result with requirements specification takes place, when the test results together with expanded uncertainty does not exceed the tolerance limits given in specification. The conformity assessment rules given by Client could be allowed.*

Test Report date: 2020-01-28

Number of Test Report 's copies: 2

Test Report handed to:

2) Laboratory for Testing Raw Materials, Textiles and Electrostatic Properties (location: 5/15 Brzezińska str.) - 1 copy.

Test Report prepared by:
Patrycja Bąk

Person authorizing the Test Report:

Name and surname: mgr inż. Jerzy Andrysiak
Function: ZASTĘPCA KIEROWNIKA
Signature: 

mgr inż. Jerzy Andrysiak

SIEĆ BADAWCZA
 INSTYTUT WŁÓKIENICZWA
 LABORATORIUM BADAŃ SURWOCÓW,
 WŁASNOŚCI ELEKTROSTATYCZNYCH
 92-103 Łódź, ul. Brzezińska 5/15
 tel. 42 61 63 142, fax 42 67 92 638

TEST REPORT NO. BM 2.2 / 2020 / B / A

Parameter		Value	Remarks
Propensity to surface fuzzing and pilling, grade	the number of rubs		PN-EN ISO 12945-2:2002 (modified Martindale method) the conditioned sample, sample conditioned according to PN-EN ISO 139:2006 + A1:2012, temp. 20° C ± 2 °C, RH: 65% ± 4%, the abradant: the standard woolen fabric; mass of weight: 415 ± 2 g.
	500	5	
	1 000	4 – 5	
	2 000	4 – 5 Slight surface fuzzing	
	5 000	4 – 5	
Evaluation according to PN-EN 14465:2005+A1:2007: A category: grade ≥ 4 – 5; B category: grade 4; C category: grade 3 – 4; D category: grade 3			

The end of Test Report

Person authorizing the Test Report

LABORATORIUM BADAŃ I WYROBÓW WŁÓKNIENICZYCH
I WŁASNOŚCI ELEKTROSTATYCZNYCH
ZASTĘPCA KIEROWNIKA

mgr inż. Jerzy Andrysik



AB 164

Testing Laboratory accredited by the Polish Centre for Accreditation

TEST REPORT NO. 2.3 / 2020 / B / A

declared raw material composition: 100% Polyester Recycling.

3. **Date of receiving material for testing:** 2020-01-09
4. **Date of test performance:** 2020-01-13-20
5. **Samples taken by:** ^X correct sample size in appropriate state for testing, taken by the Client and delivered without the Sampling Protocol
6. **Tests carried out according to:** methods presenting in testing table

Results of Laboratory Tests

see page 2/2

Test performed by: Elżbieta Olczak

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7. Laboratory uses the requirements of ILAC-G8:03/2009. The conformity statement of test result with requirements specification takes place, when the test results together with expanded uncertainty does not exceed the tolerance limit given in specification. The conformity assessment rules given by Client could be allowed.

Test Report date: 2020-01-28

Number of Test Report 's copies: 2

Test Report handed to:

2) Laboratory for Testing Raw Materials, Textiles and Electrostatic Properties (location: 5/15 Brzezińska str.) - 1 copy.

Test Report prepared by:

Patrycja Bąk

Person authorizing the Test Report:

Name and surname: **mgr inż. Jerzy Andrysiak**
Function: **ZASTĘPCA KIEROWNIKA**
Signature: **mgr inż. Jerzy Andrysiak**

TEST REPORT NO. BM 2.3 / 2020 / B / A

Parameter	Value	Remarks
color change after 3 000 rubs, grade of grey scale	4 - 5	PN-EN ISO 12947-2:2017-02 + PN-EN 14465:2005+A1:2007, Annex A the conditioned sample, sample conditioned according to PN-EN ISO 139:2006 + A1:2012, temp. 20° C ± 2 °C, RH: 65% ± 4%, the abradant: the standard woolen fabric, the nominal pressure used in the test: 12 kPa, magnification factor in the magnifying device: 8. Criterion of <u>destruction of the testing specimens in accordance with that standard</u> : flat woven fabric – three threads are completely broken.
Abrasion resistance, number of rubs	> 100 000 without reaching the end-point	
1 specimen	> 100 000 without reaching the end-point	
2 specimen	> 100 000 without reaching the end-point	
3 specimen	> 100 000 without reaching the end-point	
4 specimen	> 100 000 without reaching the end-point	
Total abrasion resistance (the lowest individual result)	> 100 000 without reaching the end-point	
Evaluation: according to PN-EN 14465:2005 + A1:2007: A category: number of rubs ≥ 35 000 rubs, B category: number of rubs: 12 000 ÷ 30 000, C category: number of rubs: 4 000 ÷ 10 000		

The end of Test Report

Person authorizing the Test Report

LABORATORIUM BADAŁ SUROWCÓW
WYROBÓW WŁÓKNIENICZYCH
I WŁAŚNOŚCI ELEKTROSTATYCZNYCH
ZASTĘPCA KIEROWNIKA

mgr inż. Jerzy Andrysiak