

Łódź, 15th November 2021

L-441/2021

TEST CERTIFICATE No BCH 416/875/2021/A/1

1. Name and address of the principal ^{X)}:
2. Subject of study ^{X)}: sample of furniture upholstery fabric BRAID, material composition 100 % polyester
3. Date of receiving sample for testing: 29.10.2021
4. Date of the test conducting: 29.10 - 10.11.2021
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	Test conditions	Level of requirements for categories according to PN- EN 14465:2005 + A1:2007		
				A	B	C
Colour fastness to: - artificial light ¹⁾	a/ 4	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 in colour of the sample

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.
4. Total number of pages of the test certificate: 2.

Authorized by:

Laboratorium Badań Chemicznych
i Analiz Instrumentalnych
STARSZY SPECJALISTA ds. BADAWCZYCH
Z-CA KIEROWNIKA TECHNICZNEGO


mgr inż. Zdzisława Mrozińska

Confirmed by:

Laboratorium Badań Chemicznych
i Analiz Instrumentalnych
LIDER OBSZARU
KIEROWNIK


mgr inż. Jerzy Pięstrzeniewicz

Number of copies of the test certificate: 3

The test certificate receive:

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

- THE END -

Łódź, 15th November 2021

L-441/2021

TEST CERTIFICATE No BCH 416/875/2021/A

1. Name and address of the principal ^{X)}:
2. Subject of study ^{X)}: sample of furniture upholstery fabric BRAID, material composition 100 % polyester
3. Date of receiving sample for testing: 29.10.2021
4. Date of the test conducting: 09.11.2021
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	Test conditions	Level of requirements for categories according to PN-EN 14465:2005 + A1:2007		
					A	B	C
Colour fastness to:							
- dry rubbing: ¹⁾							
longitudinal direction	a/	4-5	PN-EN ISO 105-X12:2016-08	- time of acclimatisation: 4 h			
cross direction	a/	4-5		- temperature of the test: 19.7 °C			
- wet rubbing: ¹⁾				- humidity of the test: 35.1 %	≥ 4-5	≥ 4	≥ 3-4
longitudinal direction	a/	4-5		- rubbing pick: Ø 16 ± 0.1 mm			
cross direction	a/	4-5		- push: 9 ± 0.2 N	≥ 3-4	≥ 3	≥ 2-3
				- degree of moisturising of the rubbing fabric: 100 %			

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:

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3. ^{x)} Data provided by the principal/customer.
4. Total number of pages of the test certificate: 2.

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Laboratorium Badań Chemicznych
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STARSZY SPECJALISTA ds. BADAWCZYCH
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mgr inż. Zdzisława Mrozińska

Confirmed by:

Laboratorium Badań Chemicznych
i Analiz Instrumentalnych
LIDER/OBSZARU
KIEROWNIK


mgr inż. Jerzy Pięstrzeniewicz

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- THE END -

TEST CERTIFICATE ON FLAMMABILITY TESTING OF UPHOLSTERY COMPOSITE

No 365 / BP / 21

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:

- upholstery fabric named BRAID, composition: 100% polyester
- polyurethane foam T-3037 SG, 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:



Katarzyna Maciejewska MSc. Eng.

Test Certificate authorized by:

Laboratorium Badań Palności Wytrobów
STARSZY SPECJALISTA
ds. BADAWCZYCH
KIEROWNIK TECHNICZNY

dr inż. Krzysztof Kostanek

Sample received on: 02.11.2021
Test performed on: 22.11.2021
Test Certificate issued on: 23.11.2021

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. *Data provided by the Customer.
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 $19 ^\circ\text{C}$; humidity 41 %**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:

- upholstery fabric named BRAID, composition: 100% polyester
- T-3037 polyurethane foam, self-extinguish.

Criteria		Cigarette			Remarks
		1	2	3	
Smouldering criteria	Unsafe escalating combustion	NO	NO	NO	Cigarette 1 fail to smoulder its complete length. It was extinguished after 3 min. 51 s.
	Test assembly consumed	NO	NO	NO	
	Smoulders to extremities	NO	NO	NO	
	Smoulders through thickness	NO	NO	NO	Cigarette 2 fail to smoulder its complete length. It was extinguished after 5 min. 15 s.
	Smoulders more than 1 hour	NO	NO	NO	
	In final examination, presence of active smouldering	NO	NO	NO	Cigarette 3 fail to smoulder its complete length. It was extinguished after 7 min. 45 s.
Flaming criteria	Occurrence of flames	NO	NO	NO	

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

END OF THE TEST CERTIFICATE





Łukasiewicz

Instytut Włókiennictwa
Laboratory of Testing Raw Materials, Textiles
and Electrostatic Properties

The Łukasiewicz Research Network – Textile Research Institute,
92-103 Łódź, 5/15 Brzezinska Str., phone 48 42 6163142, fax 48 42 6792638
90-520 Łódź, 118 Gdańska Str., phone 48 42 2534419, fax 48 42 2534490
e-mail: beata.witkowska@iw.lukasiewicz.gov.pl,
jerzy.andrysiak@iw.lukasiewicz.gov.pl

TEST REPORT NO. BM 589.2 / 2021 / B

- raw material composition: 100% Polyester.
- Date of receiving material for testing:** 2021-10-29
 - Date of test performance:** 2021-11-22
 - Samples taken by:** ^X correct sample size in appropriate state for testing, taken by the Client and delivered without the Sampling Protocol
 - Tests carried out according to:** methods presenting in testing table

Results of Laboratory Tests

see page 2/2

Test performed by: Małgorzata Frołow

- Test results refer only to the tested material.
- 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.
- Test Report consists of test results carried out in location 90-520 Łódź, ul. Gdańska 118 (G) / 92-103 Łódź, ul. Brzezinska 5/15(B).
- 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 $k=2$.
- Laboratory uses the requirements of ILAC-G8:09/2019. The conformity statement of test results with requirements/specification takes place, when the test results together with expanded uncertainty does not exceed the tolerance limit given in specification. The conformity statement's rules given by Client could be allowed.

Test Report date: 2021-11-24

Number of Test Report 's copies: 2

Test Report handed to:

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

Test Report prepared by:

Patrycja Bąk

Person authorizing the Test Report

Laboratorium Badań Surowców, Wyrobów
Włókienniczych i Własności Elektrostatycznych
GŁÓWNY SPECJALISTA
Z-CIA KIEROWNIKA

mgr inż. Jerzy Andrysiak

TEST REPORT NO. BM 589.2 / 2021 / B

Parameter	Value	Remarks
Seam slippage resistance, mm: <u>Longitudinal direction</u> The mean value of resistance to perforation in the seam for longitudinal direction, mm - individual results, mm	5 ± 0 5; 6; 6; 5; 5	PN-EN ISO 13936-2:2005 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
<u>Cross direction</u> The mean value of resistance to perforation in the seam for cross direction, mm - individual results, mm	6 ± 0 6; 6; 6; 5; 5	

Evaluation according to PN-EN 14465:2005 + A1:2007:

requirements level: A category: ≤ 4 mm; **B category: ≤ 6 mm;** C category: ≤ 8 m

Person authorizing the Test Report
 Laboratorium Włókienniczych i Własności Elektrostatycznych
 GŁÓWNY SPECJALISTA
 Z-CIA KIEROWNIKA

mgr inż. Jerzy Andrysiak

-----The end of Test Report-----



Łukasiewicz

**Instytut Włókiennictwa
Laboratory of Testing Raw Materials, Textiles
and Electrostatic Properties**

Łukasiewicz Research Network – Textile Research Institute,
92-103 Łódź, 5/15 Brzezinska Str., phone 48 42 6163142, fax 48 42 6792638
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jerzy.andrysiak@iw.lukasiewicz.gov.pl



AB 164

Testing Laboratory accredited by the Polish Centre for Accreditation

TEST REPORT NO. BM 589.3 / 2021 / B / A

raw material composition: 100% Polyester.

- 3. Date of receiving material for testing:** 2021-10-29
- 4. Date of test performance:** 2021-11-09
- 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: Małgorzata Frołow

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 parameter name.
5. Test Report consists of test results carried out in location 90-520 Łódź, ul. Gdańska 118 (G) / 92-103 Łódź, ul. Brzezinska 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-G8:09/2019. 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 statement's rules given by Client could be allowed.

Test Report date: 2021-11-24

Number of Test Report 's copies: 2

Test Report handed to:

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

Test Report prepared by:
Patrycja Bąk

Person authorizing the Test Report:

Laboratorium Badań Surowców, Włókienniczych i Własności Elektrostatycznych
GŁÓWNY SPECJALISTA
Z-CIA KIEROWNIKA
mgr inż. Jerzy Andrysiak

TEST REPORT NO. BM 589.3 / 2021 / B / A

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

Person authorizing the Test Report

Laboratorium Badania Surowców, Wytrobów
Włókienniczych i Własności Elektrostatycznych
GŁÓWNY SPECJALISTA
Z-CIA KIEROWNIKA

mgr inż. Jerzy Andrysiak

_____ **The end of Test Report** _____



Łukasiewicz

**Instytut Włókiennictwa
Laboratory of Testing Raw Materials, Textiles
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jerzy.andrysiak@iw.lukasiewicz.gov.pl



AB 164

Testing Laboratory accredited by the Polish Centre for Accreditation

TEST REPORT NO. BM 589.1 / 2021 / B / A

raw material composition: 100% Polyester.

3. **Date of receiving material for testing:** 2021-10-29
4. **Date of test performance:** 2021-11-04 ÷ 23
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

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Test Report date: 2021-11-24

Number of Test Report 's copies: 2

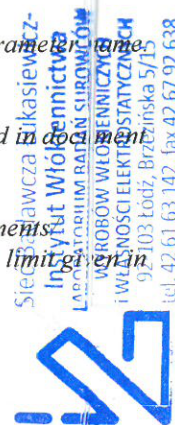
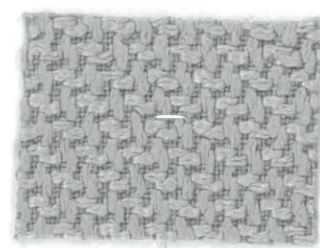
Test Report handed to:

- 2) Laboratory of 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:

Laboratorium Badań Surowców, Włóknienniczych i Właściwości Elektrostatycznych
GŁÓWNY SPECJALISTA
Z-CIA KIEROWNIKA
mgr inż. Jerzy Andrysiak



TEST REPORT NO. BM 589.1 / 2021 / B / A

Parameter		Value	Remarks
Abrasion resistance, number of rubs	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
	1 specimen	140 000	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 completely broken.
	2 specimen	140 000	
	3 specimen	140 000	
	4 specimen	140 000	
	Total abrasion resistance (the lowest individual result)		100 000
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			

Person authorizing the Test Report

Laboratorium Badań Syntetycznych, Włókien i Włókien
 Włókienniczych i Własności Elektrostatycznych
 GŁÓWNY SPECJALISTA
 Z-CIA KIEROWNIKA

mgr inż. Jerzy Andrysiak

_____ **The end of Test Report** _____