INSTYTUT WŁÓKIENNICTWA
Textile Research Institute
5/15 Brzezinska Str., 92-103 LODZ, Poland, www.iw.lodz.pl

Laboratory of Testing
Textile Raw Materials and Fabrics
92-103 Lodz, 5/15 Brzezinska Str., phone 48 42 6163142, fax 48 42 6792638
90-520 Lodz, 118 Gdanska Str., phone 48 42 2534419, fax 48 42 2534490
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jandrysiak@iw.lodz.pl, zmokwinska@iw.lodz.pl bak@iw.lodz.pl

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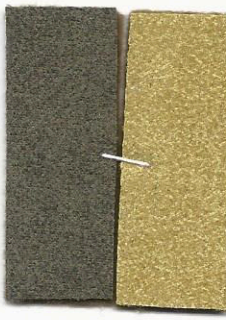
PCA Polskie Centrum Akredytacji BADANIA
AB 164

LABORATORY OF TESTING TEXTILE RAW MATERIALS AND FABRICS
Testing Laboratory accredited by the Polish Centre for Accreditation

TEST CERTIFICATE NO. BM 4.1.3.3 / 2017 / B / A

composition: 100 % Polyester

3. **Date of receiving material for testing:** 2017-01-04
4. **Date of test performance:** 2017-01-18
5. **Samples taken by:** 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 Certificate can be copied without written permission of the Head of the Laboratory; it can be copied only as a whole document.*
3. *Test Certificate 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. *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.*

Certificate date: 2017-01-19
Number of Certificate copies: 2
Test Certificate handed to:

2) Laboratory of Testing Textile Raw Materials and Fabrics - 1 copy.

INSTYTUT WŁÓKIENNICTWA Laboratorium Badań Struktury i Wyrobów Włókienniczych 92-103 Łódź, ul. Brzezińska 5/15

Certificate prepared by:
Patrycja Bąk MSc Eng

Person authorizing the Test Certificate:
Name and surname: Patrycja Bąk MSc Eng
Function: Deputy Technical Head of Laboratory 5/15 Brzezińska Street
Signature

-verte-

TEST CERTIFICATE NO. BM 4.1.3.3 / 2017 / 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 12947-2:2000 + AC:2006 + PN-EN 14465:2005+A1:2007, Annex A *Test conditions:* the abradant: the standard woollen fabric, the nominal pressure used in the test: 12 kPa, magnification factor in the magnifying device: 8, in holders used foam. Criterion of destruction of the testing specimens in accordance with that standard: three threads completely destroyed
	1 specimen	25 000	
	2 specimen	35 000	
	3 specimen	45 000	
	4 specimen	40 000	
	Total abrasion resistance (the lowest individual result)	**25 000**	
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			

The end of Test Certificate

Person authorizing the Test Certificate
Name and surname: Patrycja Bąk MSc Eng
Function: Deputy Technical Head of Laboratory 5/15 Brzezińska Street
Signature

TEST CERTIFICATE NO. BM 4.1.3.2 / 2017 / B / A

Parameter		Value	Remarks
Propensity to surface fuzzing and pilling,	*the number of rubs*		PN-EN ISO 12945-2:2002 (modified Martindale method) *Test conditions:* the abradant: the standard woolen fabric; mass of weight: 415 ± 2 g;
	500	5	
	1 000	4 - 5	
	2 000	**4 Slight surface fuzzing and partially formed pills**	
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 Certificate

Person authorizing the Test Certificate
Name and surname: Patrycja Bąk MSc Eng
Function: Deputy Technical Head of Laboratory 5/15 Brzezińska Street
Signature

TEST CERTIFICATE NO. BM 4.1.3.1 / 2017 / B / A

Parameter	Value	Remarks
Seam slippage resistance, mm: Warp **The mean value of seam slippage resistance for warp direction, mm** - individual results, mm Weft **The mean value of seam slippage resistance for weft direction, mm** - individual results, mm	 **2** 2,5; 2; 2; 1,5; 2 **2** 1,5; 2; 2,5; 2; 2	PN-EN ISO 13936-2:2005 *Test conditions:* 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 Certificate

Person authorizing the Test Certificate
Name and surname: Patrycja Bąk MSc Eng
Function: Deputy Technical Head
of Laboratory 5/15 Brzezińska Street
Signature

IW INSTYTUT WŁÓKIENNICTWA
Textile Research Institute
5/15 Brzezinska Str., 92-103 LODZ, Poland, www.iw.lodz.pl

AB 077

Laboratory of Chemical Testing and Instrumental Analysis

92-103 Lodz, 5/15 Brzezinska Str.
phone no. +48 42 6163130 (120, 128), fax +48 42 6163131
e-mail: jpiestrzeniewicz@iw.lodz.pl, labchem@iw.lodz.pl

Łódź 20th of January 2017

L – 8/2017

ŚWIADECTWO Z BADAŃ nr BCH 8/28/2017/A/1

2. **Name and description of tested sample:** sample of furniture upholstery fabric BIZON – declared material composition: 100 % Polyester
3. **Date of receiving sample for testing:** 09.01.2017
4. **Date of performance of testing:** 19.01. – 20.01.2017
5. **Sampling:** sample in a proper size, in a proper condition for research, supplied by the client

RESULTS OF THE TESTS

Property of investigation	Results	Testing method	Test conditions	Level of requirements for categories according to PN-EN 15618:2009 + A1:2012 A	B
Colour fastness to: - *artificial light* [2)]	a/ 3	PN-EN ISO 105-B02:2014-11 Method 2	Device: Xenotest Alpha + Light conditions: - wavelenght: 380-750 nm - filters: 7IR - BST temperature = 47 ± 3 °C - chamber temperature: 45 ± 3°C - RH = 40% Estimation: Multilight chamber, light D65	≥ 6	≥ 5

[2)] Colour fastness according to "Blue scale" , indicator "8" means – no change in colour, indicator "1" means – big change in colour
a/ change of colour

Remarks:
1. In accordance with ISO ILAC-IAF (January 2009) Communicate available on www.pca.gov.pl, laboratory accreditation referring to ISO/IEC 17025:2005 means fulfilling the demands concerning technical laboratory competence and managing system, which are required to ensure technical reliable results of the tests.
2. Test results refer only to the tested material.
3. Neither of the parts of this test certificate can be copied without written permission of the Head of the Laboratory.
4. Total number of pages of the test certificate 1.

Test authorized by:
Zdzisława Mrozińska, M.Sc. Eng.

Confirmed by:
LABORATORIUM BADAŃ CHEMICZNYCH I ANALIZ INSTRUMENTALNYCH
KIEROWNIK TECHNICZNY
ds. Badań Chemicznych i Odporności Wybarwień
mgr inż. Katarzyna Chylewska

Number of copies: 4
The test certificate receive:
- Customer – 2 copies
- IW – Laboratory of Chemical Testing and Instrumental Analysis – 1 copy
- IW – Laboratory of Testing Textile Raw Materials and Fabrics – 1 copy

IW INSTYTUT WŁÓKIENNICTWA
Textile Research Institute
5/15 Brzezinska Str., 92-103 LODZ, Poland, www.iw.lodz.pl

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PCA Polskie Centrum Akredytacji BADANIA
AB 077

Laboratory of Chemical Testing and Instrumental Analysis

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Łódź 20th of January 2017

L – 8/2017

ŚWIADECTWO Z BADAŃ nr BCH 8/28/2017/A

2. **Name and description of tested sample:** sample of furniture upholstery fabric BIZON – declared material composition: 100 % Polyester
3. **Date of receiving sample for testing:** 09.01.2017
4. **Date of performance of testing:** 19.01. – 20.01.2017
5. **Sampling:** sample in a proper size, in a proper condition for research, supplied by the client

RESULTS OF THE TESTS

Property of investigation	Results	Testing method	Test conditions	Level of requirements for categories according to PN-EN 15618:2009 + A1:2012 A	B
Colour fastness to rubbing:		PN-EN ISO 105-X12:2005	Acclimatization conditions: temperature: (20,0±2)°C; relative humidity: (65,0±2)%; time: 4h; Test conditions : ambient temperature; rubbing pick: Ø 16±0,1mm; push: 9±0,2 N; degree of moisturising of rubbing to fabric: 100%		
- Dry [1]					
longitudinal direction	a/ 4-5			≥ 4-5	≥ 4
cross direction	a/ 4-5				
- Wet					
longitudinal direction	a/ 4			≥ 4	
cross direction	a/ 4-5				

[1] Colour fastness according to "Grey scale" , indicator "5" means – no change in colour, indicator "1" means – big change in colour
a/ staining rubbing to cotton

Remarks:
1. In accordance with ISO ILAC-IAF (January 2009) Communicate available on www.pca.gov.pl, laboratory accreditation referring to ISO/IEC 17025:2005 means fulfilling the demands concerning technical laboratory competence and managing system, which are required to ensure technical reliable results of the tests.
2. Test results refer only to the tested material.
3. Neither of the parts of this test certificate can be copied without written permission of the Head of the Laboratory.
4. Total number of pages of the test certificate 1.

Test authorized by:
Zdzisława Mrozińska, M.Sc. Eng.

Confirmed by:
LABORATORIUM BADAŃ CHEMICZNYCH I ANALIZ INSTRUMENTALNYCH
KIEROWNIK TECHNICZNY
ds. Badań Chemicznych i Odporności Wybarwień
mgr inż. Katarzyna Chylewska

Number of copies: 4
The test certificate receive:
- Customer – 2 copies
- IW – Laboratory of Chemical Testing and Instrumental Analysis – 1 copy
- IW – Laboratory of Testing Textile Raw Materials and Fabrics – 1 copy

IW INSTYTUT WŁÓKIENNICTWA
Textile Research Institute
5/15 Brzezinska Str., 92-103 LODZ, Poland, www.iw.lodz.pl

Laboratory of Flammability Testing

90-520 Lodz, 118 Gdanska Str.
phone 48 42 2534435 (436), fax 48 42 2534490
e-mail: mszejna@iw.lodz.pl

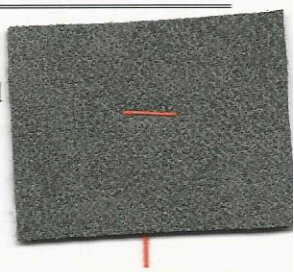
PCA Polskie Centrum Akredytacji BADANIA
AB 029

TEST CERTIFICATE ON FLAMMABILITY TESTING OF UPHOLSTERY COMPOSITE

No 11 / BP / 17

Test method:

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



INSTYTUT WŁÓKIENNICT
LABORATORIUM
BADAŃ PALNOŚCI WYROBÓ
ul. Gdańska 118, 90-520 Ł

Orderer:

Subject of testing:

Upholstery composite:
- upholstery fabric for furniture named BIZON
  composition: 100% polyester
- CM-3040 polyurethane flame-retardant foam

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:
Andrzej Kubacki, technician

Test Certificate authorized by:
Laboratorium Badań Palności Wyrobów
KIEROWNIK
mgr Inż. Małgorzata Szejna
18.01.2017

Sample received on: 05.01.2017
Test performed on: 16.01.2017

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.

DETAILED TESTING RESULTS

Climate conditions: temperature (23 ± 2) °C; humidity (50 ± 5) %; time 24 h
Testing conditions: temperature 22 °C; humidity 30 %

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

Upholstery composite characteristic:

Upholstery composite of:
- upholstery material named BIZON
  composition: 100% polyester
- CM-3040 polyurethane flame-retardant foam

Criteria		Cigarette			Remarks						
		1	2	3							
Smouldering criteria	Unsafe escalating combustion	NO	NO	-	Maximum cigarette smouldering time: 17 minutes 03 seconds						
	Test assembly consumed	NO	NO	-							
	Smoulders to extremities	NO	NO	-							
	Smoulders through thickness	NO	NO	-							
	Smoulders more than 1 hour	NO	NO	-	Maximum upholstery composite destruction:						
	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	
					70	11	19	68	11	6	

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

END OF THE TEST CERTIFICATE