

## Instytut Włókiennictwa

# Laboratory of Testing Raw Materials, Textiles and Electrostatic Properties

The Łukasiewicz Research Network – Textile Research Institute, 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

e-mail: bwitkowska@iw.lodz.pl , jandryslak@iw.lodz.pl





AB 164

#### Testing Laboratory accredited by the Polish Centre for Accreditation

#### TEST REPORT NO. 147 / 2020 / B / A

- 1. Test ordered by: X "TOPTEXTIL" Sp. z o.o., 29 Mickiewicza Street, 34-100 Wadowice
- 2. Name and description of tested material: the sample: X the upholstery woven fabric AURORA, declared raw material composition: 100% Polyester.
- 3. Date of receiving material for testing: 2020-03-13
- 4. Date of test performance: 2020-03-20
- 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

- 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. Brzezińska 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.
- 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: 2020-03-24 Number of Test Report 's copies: 2

Test Report handed to:

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

Test Report prepared by:

Person authorizing the Test Report:

LAZ MATGRIUM BADAN SUROWCÓW, VYAOBÓW WYOJIENNICZYCH IWEASNOSCIELAK ROSTATYCZNYCH ZASTĘPCA KIEROWNIKA

#### TEST REPORT NO. BM 147 / 2020 / B / A

Parameter	Value	Remarks
Seam slippage resistance, mm:		PN-EN ISO 13936-2:2005
Warp		the conditioned sample,
The mean value of seam slippage resistance		sample conditioned according to PN-EN
for warp direction, mm	$4 \pm 0$	ISO 139:2006 + A1:2012, temp. 20° C ± 2 °C RH: 65% ± 4%.
- individual results, mm	4; 3,5; 3,5; 4; 4	tensile tester: Hounsfield H50 KM, testing force: 180 N,
Weft		100% PES sewing threads $(74 \pm 5)$ tex,
The mean value of seam slippage resistance	$4 \pm 0$	the number of sewing needle: 110 the number of stitch: 32±2/100 mm
for weft direction, mm	4-0	rate of extension: 50 mm/min.
- individual results, mm	3,5; 3,5; 4; 4; 4	number of test specimens: 5

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 BADAŃ SUROWCÓW, WYROBÓW WŁONIENNICZYCH I WŁASNOŚCI ELĘKTHOSTATYCZNYCH ZASTĘPCA/K/ZROWNIKA

# The Łukasiewicz Research Network Textile Research

### **Laboratory of Testing Textile Raw Materials and Fabrics**

The Łukasiewicz Research Network – Textile Research Institute, 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

e-mail: bwitkowska@iw.lodz.pl, jandrysiak@iw.lodz.pl

#### TEST CERTIFICATE NO. BM 613 / 2019 / B

1. Test ordered by: "TOPTEXTIL" Sp. z o.o., 12 Wadowicka Street, 30-415 Kraków

2. Name and description of tested material: the sample: the upholstery fabric AURORA, declared raw material composition: 100% Polyester

3. Date of receiving material for testing: 2019-09-09

4. Date of test performance: 2019-09-19

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

it can be copied only as a whole document.

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: 2019-10-09 Number of Certificate copies: 2 Test Certificate handed to:

1) TOPTEXTIL Sp. z o.o., Kraków - 1 copy

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

Certificate prepared by:

Jerzy Andrysiak

Person authorizing the Test Certificate:

Name and surname:

Function:

Signature:

Zastępca Kierownika Laboratorium Ballań Surowców i Wyrobów Włókienniczych

### TEST CERTIFICATE NO. BM 613 / 2019 / B

Parameter	Value	Remarks
e mean of bursting strength, kPa	560 ± 9	PN-EN ISO 13938-1:2002 (hydraulic method the conditioned sample, test area: 50 cm <sup>2</sup> ,
e mean of height at burst, mm	$30 \pm 1$	time at burst of test specimen: $(20 \pm 5)$ s
		time at burst of test specimen: $(20 \pm 5)$ s  A category: $\geq 600$ kPa; B category: $\geq 400$ k

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The end of Test Certificate
The cha of Test Certificate

Person authorizing the Test Certificate

Zastępca Kięrownika Laboratorium Bayań Surowców i Wyrobów Włókienniczych

# The Łukasiewicz Research Network Textile Research Institute

# Laboratory of Chemical Testing and Instrumental Analysis

The Łukasiewicz Research Network – Textile Research Institute, 92-103 Lodz, 5/15 Brzezinska Str.

phone no. +48 42 6163130 (128), fax +48 42 6163131 e-mail: jpiestrzeniewicz@iw.lodz.pl, alisiak@iw.lodz.pl





Łódź, 8<sup>th</sup> of October 2019

L - 439/2019

#### TEST CERTIFICATE no BCH 389/976/2019/A/1

1. Name and address of the principal X):

"TOPTEXTIL" Sp. z o.o.

ul. Wadowicka 12, 30 – 415 Kraków

2. Name and description of tested sample X): Sample no 1 – furniture upholstery fabric AURORA

3. Date of receiving sample for testing:

10.09.2019

4. Date of performance of testing:

19.09. - 07.10.2019

5. Sampling:

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

the Client

#### RESULTS OF THE TESTS

Tested feature	Results of the test	Reference document	Technical specifications	Level of a categori PN-14465	es accord	ling to
	[degree] <sup>1)</sup>	document	<u> </u>	A	В	C
Colour fastness to rubbing:  - Dry longitudinal direction cross direction - Wet longitudinal direction cross direction	a/ 4-5 a/ 4-5 a/ 4-5 a/ 4-5	PN-EN ISO 105- X12:2016-08	Acclimatization conditions: temperature: (20,0±2)°C; relative humidity: (65,0±4)%; time: 4h;  Test conditions: ambient temperature rubbing pick: Ø 16±0,1mm; push: 9±0,2 N; degree of moisturising of the rubbing cotton fabric: 100%	≥ 4-5 ≥ 3-4	4 3	3-4 2-3

<sup>1)</sup> Colour fastness according to "Grey scale", indicator "5" means – no change in colour, indicator "1" means – big change in colour a/ the staining of the cotton rubbing fabric

#### Remarks:

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.

X) data provided by the principal/customer.

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: 1.

Test authorized by:

Zdzisława Mrozińska, M.Sc. Eng.

Theung

Confirmed by:

LABORATORIUM HADAK CHEMICZNYCH I ANALIZ INGTRUMENTALNYCH K I E R O W N I K

mar inż. Jerzy Piestrzeniewicz

Number of copies: 4

The test certificate receive:

- Client – 2 copies

- The ŁUKASIEWICZ Research Network - Textile Research Institute - BM - 1 copy

The ŁUKASIEWICZ Research Network – Textile Research Institute – BCH – 1 copy

The ŁUKASIEWICZ Research Network - Textile Research Institute - BCH | Enclose No 3 Procedure No 7.8 KP | Edition 1 | Date 01.06.2019 | p. 1/1

# The Łukasiewicz Research Network Textile Research Institute

# **Laboratory of Chemical Testing** and Instrumental Analysis

The Łukasiewicz Research Network - Textile Research Institute, 92-103 Lodz, 5/15 Brzezinska Str.

phone no. +48 42 6163130 (128), fax +48 42 6163131 e-mail: jpiestrzeniewicz@iw.lodz.pl, alisiak@iw.lodz.pl





**AB 077** 

Łódź, 8th of October 2019

L - 439/2019

#### TEST CERTIFICATE no BCH 389/976/2019/A

1. Name and address of the principal X):

"TOPTEXTIL" Sp. z o.o.

ul. Wadowicka 12, 30 - 415 Kraków

2. Name and description of tested sample X: Sample no 1 – furniture upholstery fabric AURORA

3. Date of receiving sample for testing:

10.09.2019

4. Date of performance of testing:

19.09. - 07.10.2019

5. Sampling:

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

the Client

#### RESULTS OF THE TESTS

Tested feature	Results of the test	the test Reference		categories	f requirem according 5:2005 + A	to PN-EN
	[degree] <sup>1)</sup>		specifications	A	В	C
Colourfastness to: - artificial light	a/ 5-6	PN-EN ISO 105- B02:2014-11 Method 2	Device: Xenotest Alpha LM Light conditions: A1 Radiation measurement in the range (300-400) nm Sample rotation was not used	≥ 6	≥ 5	≥ 4

<sup>1)</sup> Colour fastness according to "Blue scale", indicator "8" means - no change in colour of the sample, indicator "1" means - big change in colour

#### Remarks

Test results refer only to the tested material.

Neither of the parts of this test certificate can be copied without written permission of the Head of the Laboratory. X) data provided by the principal/customer. 2

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

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

The decision-making principle specified by the principal/customer.

Total number of pages of the test certificate: 1.

Test authorized by:

Zdzisława Mrozińska, M.Sc. Eng.

Mung

Confirmed by:

MICZNYCH LABORATORIUM BADA KIERP

mgr inż. Jerzy Piestrzeniewicz

Number of copies: 4

The test certificate receive:

- Client - 2 copies

The ŁUKASIEWICZ Research Network – Textile Research Institute – BM – 1 copy

The ŁUKASIEWICZ Research Network – Textile Research Institute – BCH – 1 copy

The ŁUKASIEWICZ Research Network - Textile Research Institute - BCH | Enclose No 3 Procedure No 7.8 KP Edition 1 Date 01.06.2019 p. 1/1

a/ change of colour

# The Łukasiewicz Research Network Textile Research Institute

## **Laboratory of Flammability Testing**

The Łukasiewicz Research Network - Textile Research Institute,

92-103 Lodz, 5/15 Brzezinska Str.

Laboratory: 90-520 Lodz, 118 Gdanska Str., phone 48 42 2534435 (436), fax 48 42 2534490

e-mail: mszejna@iw.lodz.pl



AB 029

#### TEST CERTIFICATE ON FLAMMABILITY TESTING OF UPHOLSTERY COMPOSITE

No399/BP/19

Sleć Badawczą Łukasiewicz-

INSTYTUT WŁÓKIENNICTWA LABORATORIUM BADAÑ PALNOŚCI WYRODÓW ul. Gdańska 118, 90-520 Łódź

#### Test method:

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

#### Orderer\*:

TOPTEXTIL Sp. z o.o. ul. Mickiewicza 29 34-100 Wadowice

#### Subject of testing\*:

Upholstery composite:

- upholstery fabric named AURORA, composition: 100% Polyester,

- T-3037polyurethane 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:

Krzysztof Kostanek Ph.D.

Test Certificate authorized by

Sample received on:

11.08.2019

Test performed on:

20.09.2019

Test Certificate issued on:

23.09.2019

#### 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 RESULTS

Climate conditions: temperature  $(23 \pm 2)$  °C; humidity  $(50 \pm 5)$  %; time 24 h

Testing conditions: temperature 21°C; humidity 39 %

### **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 AURORA, composition: 100% Polyester,

- T-3037polyurethane foam, self-extinguish.

	Critorio		Cigarette			Remarks				
Criteria		1	2	3	Remarks					
	Unsafe escalating combustion	NO	NO	-	Maximum cigarette					
Test assembly consumed		NO	NO	-	smouldering time:					
Smoulders to extremities		NO	NO	-	11					
Smouldering criteria Smoulders through thickness		NO	NO	-	14 minutes 56 seconds					
Cineria	Smoulders more than 1 hour		NO	-	Maximum upholstery					
In final examination, presence of active smouldering		NO	NO	-				destruc		
Flaming					hori	zontal [	mm]	ver	tical [n	ım]
criteria	Occurrence of flames	NO	NO	-	length 71	width	depth 10	length 70	width	depth 5

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

END OF THE TEST CERTIFICATE







**AB 164** 

The Łukasiewicz Research Network – Textile Research Institute, 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

e-mail: bwitkowska@iw.lodz.pl , jandrysiak@iw.lodz.pl

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

#### TEST CERTIFICATE NO. BM 613 / 2019 / B / A

- 1. Test ordered by: "TOPTEXTIL" Sp. z o.o., 12 Wadowicka Street, 30-415 Kraków
- 2. Name and description of tested material: the sample: the upholstery fabric AURORA, declared raw material composition: 100% Polyester
- 3. Date of receiving material for testing: 2019-03-28
- 4. Date of test performance: 2019-09-24÷27
- **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**

#### 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: 2019-10-09 Number of Certificate copies: 2 Test Certificate handed to:

- 1) TOPTEXTIL Sp. z o.o., Kraków 1 copy
- 2) Laboratory of Testing Textile Raw Materials and Fabrics 1 copy

Certificate prepared by:

Jerzy Andrysiak

Person authorizing the Test Certificate:

Name and surname:

Function: Signature:

Zastępca Kięrownika Laporatorium Badań Surowców Wyrobów Włokienniczych

mgr inż. Jerzy Andrysiak

INSTYT OF WŁÓKIENNICZWA Laboratuskie Princia Suropiców i Wyrobów Włókienniczych 92-103 Łódź, ul. Brzezińska 5/15

### TEST CERTIFICATE NO. BM 613/2019/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,
Abrasion resistance, number of rubs	1 specimen	50 000	the abradant: the standard woolen fabric, the nominal pressure used in the test: 12 kPa,
	2 specimen	50 000	magnification factor in the magnifying device: 8.
	3 specimen	50 000	Criterion of destruction of the testing specimens in accordance with that standard:
	4 specimen	50 000	complete worn off chenille
	Total abrasion resistance (the lowest individual result)	50 000	

Evaluation: according to PN-EN 14465:2005 + A1:2007: A category: number of rubs ≥ 45 000 rubs, B category: number of rubs: 25 000 ÷ 40 000, C category: number of rubs: 10 000 ÷ 20 000

The end of Test Certificate
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Person authorizing the Test Certificate:

Zastępca Kierownika caboratorium Bayań Surowców i Wyrobów Wyokienniczych







**AB 164** 

The Łukasiewicz Research Network – Textile Research Institute, 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

e-mail: bwitkowska@iw.lodz.pl , jandrysiak@iw.lodz.pl

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

#### TEST CERTIFICATE NO. BM 613/2019/B/A

- 1. Test ordered by: "TOPTEXTIL" Sp. z o.o., 12 Wadowicka Street, 30-415 Kraków
- 2. Name and description of tested material: the sample: the upholstery fabric AURORA, declared raw material composition: 100% Polyester
- 3. Date of receiving material for testing: 2019-09-09
- 4. Date of test performance: 2019-10-04
- **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**

#### 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: 2019-10-09 Number of Certificate copies: 2 Test Certificate handed to:

- 1) TOPTEXTIL Sp. z o.o., Kraków 1 copy
- 2) Laboratory of Testing Textile Raw Materials and Fabrics 1 copy

Certificate prepared by:

Jerzy Andrysiak

Person authorizing the Test Certificate:

Name and surname:

Function:

Signature:

Zastępca Kierownika Laboratorium Badań Surowców i Wyrobów Włokienniczych

mgr inż. Jerzy Andrysiak

Sieć Badawcza Łukasiewicz-INSTYTUT WŁÓKIENNICTWA Laborator – dań Swiewców i Wyrobów Włókienniczych

#### TEST CERTIFICATE NO. BM 613/2019/B/A

Para	meter	Value	Remarks
Propensity to surface fuzzing	the number of rubs 500	5	PN-EN ISO 12945-2:2002 (modified Martindale method) the conditioned sample,
and pilling, grade	1 000	5	the abradant: the standard woolen fabric; mass of weight: $415 \pm 2$ g;
	2 000	4 - 5 Slight surface fuzzing	
	5 000	4 - 5	

Evaluation according to PN-EN 14465:2005+A1:2007: A category: grade  $\geq$  4-5; B category: grade 3-4; D category: grade 3

The end of Test Certificate	
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Person authorizing the Test Certificate:

Zastępca Kierownika Laboratorium Badary Surowców i Wyrobów Włokienniczych

### The Łukasiewicz Research Network



# Laboratory of Testing Textile Raw Materials and Fabrics

The Łukasiewicz Research Network – Textile Research Institute, 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

e-mail: bwitkowska@iw.lodz.pl, jandrysiak@iw.lodz.pl

#### TEST CERTIFICATE NO. BM 613/2019/B

- 1. Test ordered by: "TOPTEXTIL" Sp. z o.o., 12 Wadowicka Street, 30-415 Kraków
- 2. Name and description of tested material: the sample: : the upholstery fabric AURORA, declared raw material composition: 100% Polyester
- 3. Date of receiving material for testing: 2019-09-09
- 4. Date of test performance: 2019-10-04
- 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: Elzbieta 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. 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: 2019-10-09 Number of Certificate copies: 2 Test Certificate handed to:

- 1) TOPTEXTIL Sp. z o.o., Kraków 1 copy,
- 2) Laboratory of Testing Textile Raw Materials and Fabrics 1 copy.

Certificate prepared by:

Jerzy Andrysiak

Person authorizing the Test Certificate:

Name and surname:

Function:

Signature:

Zastępca Kięrownika Laboratorium Badan Surowców i Wyrobów Włók enniczych

mgr inż. Jerzy Andrysiak

INSTYT LOKIENNICTWA LAborate um Badań Surowców t Wyrobów Włókienniczych 92-103 Łódź, ul. Brzezińska 5/15

### TEST CERTIFICATE NO. BM 613 / 2019 / B

Parameter	Result	Test method
Resistance to drawing out the threads for longitudinal direction, degree	3-4	PN-79/P-04664 conditioned sample, device for testing resistance to drawing out the threads: Shirley ICI Mace snag tester, England, number of the template used for sewing: 2, number of the roller revolutions: 600, number of tested specimens: 2 for each direction
Resistance to drawing out the threads for cross direction, degree	3	Assessment according to photographic standard: degree 5: very good resistance to drawing out the threads (without puffs), degree 4: good resistance to drawing out the threads, degree 3: sufficient resistance to drawing out the threads, degree 2: insufficient resistance to drawing out the
		threads,  degree 1: very poor resistance to drawing out the threads.

The end of	Test Certificate	
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Person authorizing the Test Certificate

Zastępca Kierownika Laboratorium Badan Surowców i Wyrobów Włokienniczych