[redacted]

KOPIJA TIKRA

[redacted]

TEST REPORT

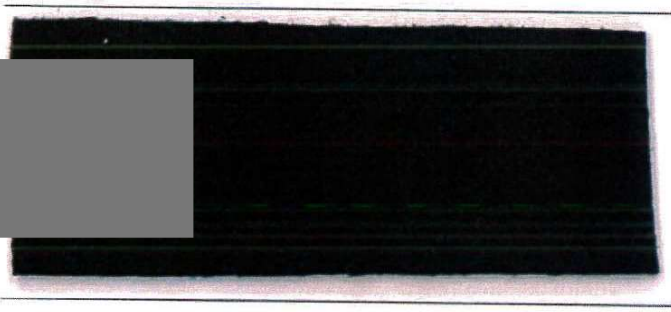
[redacted]

CUSTOMER: [redacted]

SAMPLE:
(according to the customer order)

Material: Softshell Quality
Colour: black

[redacted]



SUBJECT OF ASSESSMENT: Tests according to request of the customer

CONDITIONS OF APPLICATION OF THE TEST REPORT:

Test Report contains results of the tests related to the submitted sample only. Sampling has been done by customer. The Report may not be reproduced in any way other than as a complete set. Reproduction of certain parts of the Report is subject to approval of the test laboratory, which has issued it. All information about subcontracted tests results or unaccredited test methods is presented in text part of the Test report.

PREPARED BY: [redacted]
CHECKED BY:
NUMBER OF PAGES: 7

DATE OF ACCEPTANCE:	DATE OF EXAMINATION:	DATE OF ISSUE:
17. 3. 2023	20. 3. – 20. 4. 2023	21. 4. 2023

[redacted]

[redacted]

PROCEDURE OF ASSESSMENT

Quantitative chemical analysis of textile fibres
was determined according to the Regulation No. 1007/2011 of the European Parliament and of the Council. Before the analysis all fibres in the sample were examined and identified microscopically.
- Test method: No. 14 with concentrated sulphuric acid - content of polyester fibres
- Test method: No. 15 with cyclohexanone - content of elastane fibres

Content of polytetrafluoroethylene was calculated from the weight difference after dissolving of polyester fibres and confirmed microscopically by non-accredited Internal Method No. 7.
Results: Content of analysed fibres as a percentage corrected using agreed allowances (annex IX)
Uncertainty of measurement: 0, 5%

Mass per unit area
was determined according to the ČSN EN 12127:1999
- Conditioning: relative humidity (65±4) %, temperature (20±2) °C
- Standard atmosphere for testing: relative humidity 63 %, temperature 21 °C
- Dimension: 10 x 10 cm; Number of samples: 5

Results: Mass per unit area expressed in $g.m^{-2}$

Weave
was determined according to ČSN 80 0020:1965 Weaves and weaves technique. Terminology.
Results: verbal description of weave
Not accredited method.

Tensile strength
was determined according to ČSN EN ISO 1421:2017
- Conditioning: relative humidity (65±4) %, temperature (20±2)°C
- Standard atmosphere for testing: relative humidity 64%, temperature 20°C
- Tensile strength tester: [redacted]
- Load range: 0 - 5 000 N
- Rate of travel of clamping jaw: 100 $mm.min.^{-1}$
- Nominal gauge length: 200 mm
- Pre-tension: 5 N
- Number of specimens tested: 5 warp, 5 weft

Results: Tensile strength expressed as N

Resistance to water penetration
was determined according to ČSN EN 20811:1994
- Conditioning: relative humidity (65±4) %, temperature (20±2)°C
- Standard atmosphere for testing: relative humidity 63%, temperature 20°C
- Instrument: according to EN 20811
- Water pressure direction: from below
- Water temperature: (20±2)°C; Rate of pressure increase: 60 $cm.min^{-1}$

Tested specimens: original and after 3 cycles of washing according to ČSN EN ISO 6330:2012 – method 4N (40°C) + drying A
Results: The average height of water column in cm, when hydrostatic pressure caused infiltration of first three drops through tested sample.
The average height of water column expressed as cm of water column on original sample and three times washed sample.

[redacted]

Resistance to surface wetting of fabrics
was determined according to the ČSN EN ISO 4920:2013
- Conditioning: temperature: (20±2) °C; relative humidity: (65±2) %
- Standard atmosphere for testing: relative humidity 64%, temperature 20°C
- Machine according to ISO 4920:2013
- Scale ISO for evaluation spraying (inside of standard)
- Temperature of water: 20±2°C

Results: average degree of wetting

Thermal resistance
was determined according to ČSN EN ISO 11092:2015
- Conditioning: relative humidity (65±4) %; temperature (20±2)°C
- Standard atmosphere for testing: air temperature (20±0,1)°C , relative humidity (65±3,0) %
- Temperature of hotplate (35±0,1)°C, temperature of measuring unit (35±0,1)°C
- Dimension: 29 x 29 cm, number of samples: 3
- Area of measuring unit: 0,0497m^2
- Air flow velocity: 1 $m.s^{-1}$

Results: thermal resistance R_{et} expressed as $m^2.K.W^{-1}$

Water – vapour resistance (sweating guarded-hotplate test)
was determined according to ČSN EN ISO 11092:2015
- Conditioning: relative humidity (40±3) %; temperature (35±0,1)°C
- Standard atmosphere for testing : air temperature (35±0,1)°C, relative humidity (40±3) %
- Temperature of hotplate (35±0,1)°C, temperature of measuring unit (35±0,1)°C
- Sample dimension: 21 x 21 cm, number of samples: 3
- Area of measuring unit: 0,044m^2
- Air flow velocity: 1 $m.s^{-1}$

Results: water – vapour resistance R_{et} expressed as $m^2.Pa.W^{-1}$

Propensity to surface pilling, fuzzing or matting
was determined according to ČSN EN ISO 12945-2:2021 – modified Martindale method
- Conditioning: relative humidity (65±4) %; temperature (20±2) °C
- Standard atmosphere for testing: relative humidity 65 %, temperature 21 °C
- Pilling tester: [redacted] modified according to ČSN EN ISO 12945-2:2021
- Total load: (415±2) g
- Number of specimens tested / evaluators: 3 / 3

Abrasion method: standard wool fabric
Results: evaluation of surface change, assessed in degrees according to ČSN EN ISO 12945-4:2021. (the assessment standard was used on the basis of the granted flexible scope of accreditation

Abrasion resistance of fabric
was determined according to ČSN EN ISO 12947-2:2017
- Conditioning: relative humidity (65±4) %, temperature (20±2)°C
- Standard atmosphere for testing: relative humidity 64 %, temperature 20°C
- Abrasion tester: [redacted]
- Load used for abrasion: (595±7) g
- Pressure of: 9kPa

Results: average number of revolutions when the sample wasn't damaged

[redacted]

Dimensional change after washing and drying
was evaluated according to ČSN EN ISO 5077:2008 The samples for evaluation were prepared according to ČSN EN ISO 3759:2012. Washing was carried out according to ČSN EN ISO 6330:2012.

- Conditioning: relative humidity (65±4) %, temperature (20±2)°C
- Method: 4N (40±3)°C
- Number of washings: 1x
- Washing machine: [redacted]
- Detergent: standard[redacted]
- Total mass of the specimens and loading fabric: 2 kg
- Drying: procedure A – Line dry

Results: dimensional change expressed in %

Colour fastness to rubbing
was determined according to ČSN EN ISO 105-X12:2016

- Rubbing conditions: dry
- Rubbing conditions: wet (wetting of rubbing cloth: 100%)
- Rubbing finger: for other textiles [diameter (16±0,1) mm; downward force (9±0,2) N]
- Climatic conditions during testing: temperature (20±2)°C, relative humidity (65±2) %
- Time of air-conditioning of samples: 4 hours

Result: numerical rating for the staining of tested specimen to the cotton rubbing cloth, assessed according to the EN 20105-A03

Colour fastness to light
was determined according to ČSN EN ISO 105-B02:2015

- Instrument: Q-SUN, B02
- Filter system: EN ISO 105-B02
- Lighting procedure: method 2
- Exposure conditions: A1 - normal, adequate to mild zone [relative humidity 40%, temperature of black standard thermometer (45±3)°C]

Results: change of colour shade after exposition of the specimen to artificial light, expressed as numerical value according to the blue scale (EN ISO 105-B02)

Colour fastness to washing
was determined according to ČSN EN ISO 105-C06:2010

- Test conditions: test A1S
- Number of steel balls: 10
- Detergent: [redacted]
- Additional souring: not used
- Adjacent fabrics used: multifibre DW (Acetate/Cotton/Polyamide/Polyester/Acryl/Wool)

Results: numerical rating of the tested specimen colour change, assessed according to EN 20105-A02. Staining of the tested specimen to the individual adjacent fabrics, assessed according to EN 20105-A03

[redacted]

Colour fastness to perspiration
was determined according to ČSN EN ISO 105-E04:2013
- Alkaline solution of model perspiration
- Acid solution of model perspiration
- Adjacent fabric: polyester/cotton

Results: numerical rating of the tested specimen colour change, assessed according to EN 20105-A02.
Staining of the tested specimen to the individual adjacent fabrics, assessed according to EN 20105-A03.

Oil repellency – hydrocarbon resistance test
was determined according to the ČSN EN ISO 14419:2010
- Conditioning: temperature: (20±2) °C; relative humidity: (65±2) %
- Number of tested specimens: 3
- Specimen dimensions: 20 x 20 cm

Results: repellence rating number highest-numbered test liquid which will not wet the fabric within a period of (30±2) s

Elasticity of fabrics *(Strip tests)*
was determined according to ČSN EN ISO 20932-1:2020 Method A
- Conditioning according: relative humidity (65±4) %, temperature (20±2) °C
- Standard atmosphere for testing: relative humidity 67%, temperature 21°C
- Tensile strength tester:
- Rate of travel of clamping jaw: 100 mm.min.$^{-1}$
- Nominal gauge length: 100 mm
- Number of specimens tested: 5 warp, 5 weft

Results: maximum extension S, recovered elongation D as %

TEST RESULTS:

Material: [redacted] Colour: black				
Characteristics	Test method	Measuring unit	Values found	
Fibre composition+	Regulation No. 1007/2011	%	Upper layer	Polyester Elastane [redacted]
			Middle layer	PTFE membrane*
			Lower layer	Polyester
Mass per unit area+ . coefficient of variation	ČSN EN 12127:1999	$g.m^{-2}$ %	[redacted]	
Tensile strength + . coefficient of variation	ČSN EN ISO 1421:2017	N %		
Water-vapour resistance R_{et}+ . coefficient of variation	ČSN EN ISO 11092:2015	$m^2.Pa.W^{-1}$ %		
Resistance to water penetration+ . origin . coefficient of variation . after 3 washing (40°C) . coefficient of variation	ČSN EN 20811:1994	cm % cm %		
Abrasion resistance +	ČSN EN ISO 12947-2:2001	number of cycles	average number of revolutions, when the sample wasn´t damaged [redacted]	
Propensity to surface pilling or fuzzing - standard wool fabric . 125 . 500 . 1000 . 2000 . 5000 . 7000	ČSN EN ISO 12945-2:2021	degree	pilling [redacted]	fuzzing [redacted]
Resistance to surface wetting +	ČSN EN ISO 4920:2013	grade	[redacted]	
Oil repellence+	ČSN EN ISO 14419:2010	rating number	[redacted]	

* Material was identified using [redacted] (identification is not subject of accreditation)

\+ Results taken from the protocol [redacted] sued by [redacted]
report was delivered by the customer, results were implemented into this report on his request.

[redacted]

Material: Softshell Quality Colour: black			
Characteristics	Test method	Measuring unit	Values found
Elasticity . elongation S . residual elongation C after 1 min . residual elongation D after 30 min	ČSN EN ISO 20932-1: 2020 Method A	%	
Dimensional change after washing and drying + . temperature 40°C	ČSN EN ISO 6330:2012	%	
			upper layer *lower layer*
Colour fastness to rubbing + . dry . wet	ČSN EN ISO 105-X12:2016	grade grey scale	staining of the adjacent fabric - warp / weft
Colour fastness to light+	ČSN EN ISO 105-B02:2015	grade blue scale	change in colour
Colour fastness to washing+ . test A1S	ČSN EN ISO 105-C06:2010	grade grey scale	change in colour/ staining of the adjacent fabric
Colour fastness to perspiration+ . alkaline solution . acid solution	ČSN EN ISO 105-E04:2013	grade grey scale	change in colour/ staining of the adjacent fabric
Weave +	ČSN 80 0020:1965 *	-	
Thermal resistance R_{ct}+ . coefficient of variation	ČSN EN ISO 11092:2015	$m^2.K.W^{-1}$ %	

* This test in not accredited method.

\+ Results taken from the protocol

Test report was delivered by the customer, results were implemented into this report on his request.

Approved:

[redacted]

TEST REPORT

[redacted]

CUSTOMER: [redacted]

SAMPLE:
(according to the customer order)

[redacted]
Fibre composition:
Upper layer – [redacted]
Middle layer –
Bottom layer –
Colour: navy

[redacted]

The laboratory is not responsible for information supplied by the customer that may affect the validity of test results.

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PREPARED BY: [redacted]
CHECKED BY:
NUMBER OF PAGES:

DATE OF ACCEPTANCE:	DATE OF EXAMINATION:	DATE OF ISSUE:
10.06.2024	11.06.-21.06.2024	24.06.2024

[redacted]

[redacted]

Determination of the abrasion resistance of fabrics using a [redacted]
was performed according to ČSN EN ISO 12947-2:2017

- conditioning: temperature (20±2) °C; RH (65±4) %
- mass and nominal pressure used: (795±7) g/ 12 kPa
- specimen treatment before testing: tested in original state
- specimens tested: 3 face side
- foam backing: used
- specimen fabric type/end-point assessment: woven fabric (without pile) / 2 threads broken

Result: the lowest individual result of all test specimens expressed by the number of rubs, prior to the end-point being reached.
In case the test was stopped before reaching its end-point, result is expressed as „≥ ", indicating the successfully reached number of rubs

Results	
Abrasion resistance specimen 1 specimen 2 specimen 3	[redacted]

Determination of colour fastness to rubbing
was tested according to ČSN EN ISO 105-X12:2016

- rubbing conditions: dry / wet (wetting of rubbing cloth: 100 %)
- rubbing finger: for textiles [diameter (16±0,1) mm; downward force (9±0,2) N]
- climatic conditions during testing: temperature (20±2) °C, RH (65±2) %
- time of air-conditioning of samples: 4 hours

Result: grade of grey scale (staining to cotton rubbing cloth according to ČSN EN ISO 105-A03:2020)

Results	
	staining in warp / weft direction
dry conditions	[redacted]
wet conditions	

Determination of colour fastness to washing
was tested according to ČSN EN ISO 105-C06:2010

- test conditions: A1S (40 °C)
- steel balls number: 10
- washing detergent: [redacted]
- souring treatment: not used
- adjacent fabrics: polyester/cotton
- treatment before testing: 5x washing according to ČSN EN ISO 6330:2022 (4N, A)

Result: grade of grey scale (colour change according to ČSN EN 20105-A02:1995, staining according to ČSN EN ISO 105-A03:2020)

Results
colour change / staining [redacted]

[redacted]

Determination of colour fastness to perspiration
was tested according to ČSN EN ISO 105-E04:2013

- adjacent fabrics: polyester/cotton
- the option used: samples tested horizontally

Result: grade of grey scale (colour change according to ČSN EN 20105-A02:1995, staining according to ČSN EN ISO 105-A03:2020)

Results	
	colour change / staining
alkaline solution	
acid solution	

Determination of colour fastness to artificial light:
was tested according to ČSN EN ISO 105-B02:2015

- instrument:
- lighting procedure: method 2
- sample´s rotation: not used
- exposure conditions: A1 - normal, adequate to mild zone (RH 40 %, BST (45±3) °C)
- approximate radiation energy: (300-400 nm): 20,1 MJ/m^2

Result: grade of blue scale

Results
colour change

Approved by:

End of report