



Feabrik bv
Minosstraat 20
5048 CK TILBURG
Netherlands

Your notice of
 29-07-2021

Your reference

Date
 08-09-2021

Analysis Report 21.04905.01

Required tests :

ISO 13934-2 (2014)
ISO 13938-1 (2019)
EN ISO 13937-3 (2000)
ISO 12947-2 (2016)
ISO12945-2 (2020)
ASTM D3939/D3939 M (2017)
ISO 13936-2 (2004)

Determination of the tensile strength (grab method)
Determination of the bursting strength
Determination of tearing resistance - method wingrip
Determination of the abrasion resistance - Martindale
Determination of the resistance to pilling – Martindale
Determination of the snagging
Determination of the seam slippage at a specified force.

Sample id	Information given by the client	Date of receipt
T2117009	MIZMAZE	29-07-2021

Lies Alboort
 Order responsible

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 In assessing compliance with the specifications, we did not take into account the uncertainty on the test results.

Reference: T2117009 - MIZMAZE

Determination of the tensile strength (grab method)

Date of ending the test 08-09-2021
Standard used ISO 13934-2 (2014)

Deviation from the standard -
Conditioning 20°C, relative humidity 65%
Apparatus Instron, type CRE, class 0,5
Cell 1 kN (Length direction)
1 kN (Width direction)
Clamp in the front 25 mm x 25 mm
Rate 50 mm/min
Number of test specimens 5 (Length direction)
5 (Width direction)
Gauge length 100 mm

Conditioned

Specimen	Length direction		Width direction	
	Force (N)	Elongation (%)	Force (N)	Elongation (%)
#1	1 234*	72.9*	1 213*	76.3*
#2	1 322*	72.5*	1 343*	72.0*
#3	1 263*	73.5*	1 428**	68.4**
#4	391**	117**	1 425**	68.8**
#5	445**	123**	1 439**	68.2**
Average	931 N	92 %	1370 N	71 %

Remark: * = tested on red fabric
** = tested on yellow fabric

Reference: T2117009 - MIZMAZE

Determination of the bursting strength

Date of ending the test 01-09-2021
Standard used ISO 13938-1 (2019)

Deviation from the standard -
Conditioning 20°C, relative humidity 65%
Apparatus PSI - Burst Digital Bursting Strength Tester model 111A
Measuring surface 50 cm²
Time duration 20±5 s
Number of measurements 5

Conditioned

Test specimen	Measured bursting strength (kPa)	Height (mm)
#1	671	29
#2	642	29
#3	671	29
#4	678	31
#5	665	28
Average	666 kPa	29 mm

mean of measured bursting strength	666 kPa
average correction for the distension of the diaphragm	30 kPa
mean value for the corrected bursting strength	636 kPa

Reference: T2117009 - MIZMAZE

Determination of tearing resistance - method wingrip

Date of ending the test 24-08-2021
Standard used EN ISO 13937-3 (2000)

Deviation from the standard -
Conditioning 20°C, relative humidity 65%
Apparatus Instron, type CRE, class 0,5
Cell 1 kN (Warp direction)
1 kN (Weft direction)
Rate 100 mm/min
Number of test specimens 5 (Warp direction)
5 (Weft direction)
Calculation Automatic - the first quarter of the diagram is removed,
afterwards the average of all the peaks

	Tear resistance (N)	
	Warp direction	Weft direction
#1	133*	74.1
#2	139*	80.4
#3	138*	67.9
#4	138*	84.6
#5	131*	92.4
Average	140 N	80 N

For tests in warp direction, the weft yarns tear, for tests in weft direction, the warp yarns tear.
Remark * = tear transfer



Reference: T2117009 - MIZMAZE

Determination of the abrasion resistance - Martindale

Date of ending the test 09-08-2021
 Standard used ISO 12947-2 (2016)
 Deviation from the standard -
 Conditioning 20°C, relative humidity 65%
 Apparatus Martindale Wear and Abrasion Tester
 Pressure on test specimen 12 kPa
 Abradant Standard wool fabric
 Type of the felt Woven felt
 Approximate g/m² > 500
 Number of test specimens 4

Test end point Knitted - 1 loop completely damaged

Specimen	Number of rubs	Final result
#1	100 000	≥ 100 000
#2	100 000	≥ 100 000
#3	100 000	≥ 100 000
#4	100 000	≥ 100 000
Minimum value	100 000	≥ 100 000

Reference: T2117009 - MIZMAZE

Determination of the resistance to pilling – Martindale

Date of ending the test 25-08-2021
Standard used ISO12945-2 (2020)

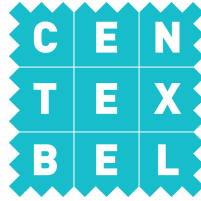
Deviation from the standard -
Conditioning 20°C, relative humidity 65%
Apparatus Martindale Wear and Abrasion Tester
Pressure on test specimen 6,5 cN/cm²
Abradant Standard wool fabric
Number of test specimens 3
Number of assessors 2
The final assessment is based on

Pilling

	Test specimen 1	Test specimen 2	Test specimen 3	
Number of rounds	Result	Result	Result	Average
125	5	5	5	5
500	5	5	5	5
1000	4-5	4-5	4-5	4-5
2000	4-5	4-5	4-5	4-5
5000	4	4	4	4
7000	4	4	4	4

Fuzzing

	Test specimen 1	Test specimen 2	Test specimen 3	
Number of rounds	Result	Result	Result	Average
125	5	5	5	5
500	5	5	5	5
1000	4-5	4-5	4-5	4-5
2000	4-5	4-5	4-5	4-5
5000	4	4	4	4
7000	4	4	4	4



Matting

	Test specimen 1	Test specimen 2	Test specimen 3	
Number of rounds	Result	Result	Result	Average
125	5	5	5	5
500	5	5	5	5
1000	5	5	5	5
2000	5	5	5	5
5000	4-5	4-5	4-5	4-5
7000	4-5	4-5	4-5	4-5



Reference: T2117009 - MIZMAZE

Determination of the snagging

Date of ending the test 25-08-2021
 Standard used ASTM D3939/D3939 M (2017)

Deviation from the standard On specimen without pretreatment
 Apparatus I.C.I Mace Snag Tester
 Number of revolutions 60 / min
 Assessment After 600 cycles (= 10 min.) in the I.C.I. Mace Snag Viewing cabinet

	Assessment
Wales direction (course//seam) // cylinder	4
Wales direction (course//seam) // cylinder	4
Average	4
Course direction (Wales//seam) // cylinder	4
Course direction (Wales//seam) // cylinder	4
Average	4

Reference: T2117009 - MIZMAZE

Determination of the seam slippage at a specified force.

Date of ending the test	25-08-2021
Standard used	ISO 13936-2 (2004)
Product standard	EN 14465 (2003) + A1 (2006)
Deviation from the standard	-
Conditioning	20°C, relative humidity 65%
Stitching type	74 tex (PES) and a needle size N° 110 and 32 stitches per 100 mm
Apparatus	Instron, type CRE, class 0,5
Cell	1 kN
Rate	50 mm/min
Number of test specimens	5 (Wales direction (course//seam)) 5 (Course direction (Wales//seam))

Seam opening after reduction at 5 N (mm)

	Wales direction (course//seam)	Course direction (Wales//seam)
	Seam opening after reduction at 5 N (mm)	Seam opening after reduction at 5 N (mm)
#1	1.5	1.0
#2	2.0	1.0
#3	2.0	1.0
#4	1.5	1.0
#5	2.0	1.0
Average	2.0 mm	1.0 mm

During the test executed in the direction of the warp, the weft threads are gliding, during the test executed in the direction of the weft, the warp threads are gliding