

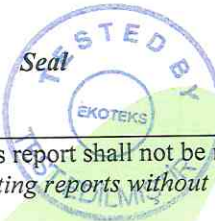
TEST REPORT
DENEY RAPORU

20014086

05-20

Customer name: ARITEKS BOYACILIK TİCARET VE SAN. A.Ş.
Address: Hacı Şeremet 4. Sok. 59850 YULAFLI/ ÇORLU/ TEKİRDAĞ
Buyer name: -
Contact Person: ÖZGÜR KUŞKU
Order No: -
Article No: -
Name and identity of test item: One sample of white woven fabric.
The date of receipt of test item: 04.05.2020
Re-submitted/re-confirmation date: 05.05.2020
Date of test: 05.05.2020-18.05.2020
Remarks: -
Sampling: The results given in this report belong to the received sample by vendor.
End-Use: -
Care Label: Not specified.
Number of pages of the report: 7

Gen.f136-2/03



Seal

Date
21.05.2020

Customer Representative
Özlem ULUS

Head of Testing Laboratory
Sevim A. RAZAK

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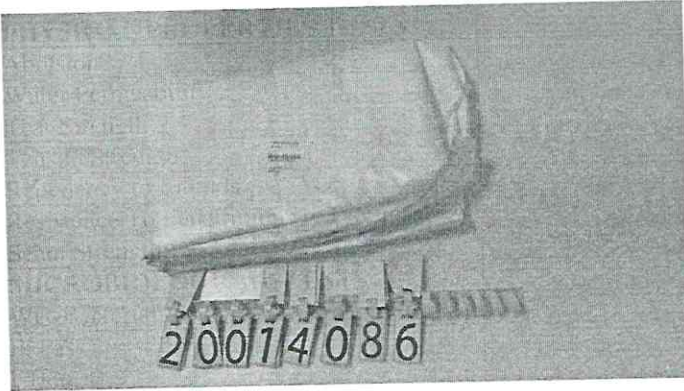
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REQUIRED TESTS	RESULT	COMMENTS
PHYSICAL PROPERTIES TESTS⁽¹⁾		
Abrasion	-	Class 6
Water Permeability	-	Class 6
Tear Strength	-	Class 3
Tensile Strength	-	Class 4
Repellency to Liquids	-	Class 3
Resistance To Penetration By Liquids	-	Class 3
Seam Strength	-	Class 4
MICROBIOLOGICAL TESTS		
Wet-Bacterial Penetration	-	Class 4
P: Pass F: Fail R: Refer to retailer technologist Tests were evaluated and classified according to BS EN 14325:2018 limit values.		

REMARK: Original samples are kept for 3 months and all technical records are kept for 5 years unless otherwise specified. If requested, measurement uncertainty will be reported. But unless otherwise specified, measurement uncertainty is not considered while stating compliance with specification or limit values. The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95 %. Tests marked (*) in this report are not included in the accreditation schedule.



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TEST RESULTS

Test Method : BS EN 14325:2018 (PROTECTIVE CLOTHING AGAINST CHEMICALS:TEST METHODS AND PERFORMANCE CLASSIFICATION OF CHEMICAL PROTECTIVE CLOTHING MATERIALS,SEAMS,JOINS AND ASSEMBLAGES (*))

ABRASION RESISTANCE AND LEAK TIGHTNESS

Clause 4.4.Abrasion Resistance (EN ISO 12947-2) ANNEX-B

Martindale Test Machine (47.5±2 rpm) with Lissajous Figure.
9 kPa pressure.

Performed in the conditioned room (20±2°C-65%±4).

RESULT

No abrasion @ 2.000 revs

CLASS

6

Classified according to the
Table-1

Determination of the highest number of abrasion rubs which does not cause damage to the material and which shall be used for the performance classification.
The abrasion resistance of sample shall be Classified according to the levels of performance given in Table-1

Table-1 Classification of Abrasion Resistance

Class	Number of rubs
6	>2000
5	>1000
4	>400
3	>100
2	>40
1	>10

Clause 4.4.2.3 Hydrostatic head end –point determination (EN 20811)

If the average hydrostatic head exceeds 200mm,then the hydrostatic head method is applicable and the leak tightness shall be determined.

WATER PERMEABILITY ; EN ISO 811:2018

Hydrostatic Head Tester, Textest marka Fx 3000 model
Temperature of water 10.°C. Pressure increase ratio 10 mbar/dk.
Performed in the conditioned room (20±2°C-65%±4)

RESULT

Sample 1	986.3 mm SS
Sample 2	2560.6 mm SS
Sample 3	1448.4 mm SS
Sample 4	920.0 mm SS
	580.4 mm SS
Average	1099.2 mm SS

REQUIREMENT

>200 mmSS

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TRAPEZOIDAL TEAR STRENGTH

Clause: 4.7.Trapezoidal Tear Resistance TS EN ISO 9073-4:2002(*)

Instron 4411 Speed:100±10 mm/min, Gauge length:5cm

The average results are given for width and length direction of five samples.

2 pre-tension applied

Performed in the conditioned room. (20±2°C - 65% ±4)

Width **RESULT**
43.6 N

Length 54.4 N

CLASS

3

Classified according to
the Table-4

Table-4 Classification of Trapezoidal Tear Resistance

Class	Tear Strength
6	>150 N
5	>100 N
4	>60 N
3	>40 N
2	>20 N
1	>10 N

TENSILE STRENGTH

Clause 4.9.Tensile Strenght EN ISO 13934-1:2013

Instron 5969 (Load: 50 kN), Strip Method.

Speed: 100 mm/min±10, Gauge length 200 mm.

Pre-load was not applied. Without wetting samples.

The average results are given for width and length direction of five samples.

Performed in the conditioned room (20±2°C-65%±4).

Width **RESULT**
450.9 N

Length 666.4 N

Table-4 Classification of Tensile Strenght

CLASS

4

Classified according to
the Table-5

Class	Tensile Strength
6	>1000 N
5	>500 N
4	>250 N
3	>100 N
2	>60 N
1	>30N

REPELLENCY TO LIQUIDS

Clause 4.12 Repellency to Liquids (EN ISO 6530:2005)

When tested in accordance with EN ISO 6530 for repellency to the liquid chemicals given in Table -9, the material shall be classified according to the levels performance in given Table-10 for each chemical tested. Use those liquids against which protection is required, water is also convenient and safe liquid for general screening purposes. Performed in the conditioned room (20±2°C-65%±4).

For each test liquid ,cut six test specimens of (360±2)mm by (235±5)mm from the sample. Chemicals shall be of analytical purity grade. Discharged the test liquid (10cm 3) within (10±1)s

Table-9 List of reference chemicals for absorption ,penetration and repellency testing

Chemical	Concentration weight %	Temperature of chemical (±2°C)
Sulfuric Acid (H ₂ SO ₄)	30	20
Sodium Hydroxide (NaOH)	10	20
o-Xylene	Undiluted	20

Table 10- Classification of Repellency to liquids

Class	Repellency Index (I _R)
3	> 90 %
2	>80 %
1	>70 %

Clause 4.13 Resistance to penetration by liquids (EN ISO 6530)

Table 11- Classification of Resistance to penetration by liquids

Class	Penetration Index (I _A)
3	< 1 %
2	< 5 %
1	<10 %

RESULT

Chemical	Concentration weight %	I _P	Class	I _R	Class
Sulfuric Acid (H ₂ SO ₄)	30	0%	3	97,5%	3
Sodium Hydroxide (NaOH)	10	0%	3	93,4%	3
o-Xylene	Undiluted	0%	3	98,4%	3

I_P:index of penetration
I_R: index of repellency

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SEAM STRENGTH-GRAB METHOD

Clause 5.5 Seam Strength ISO 13935-2: 2014

Jaw Speed: 50±5 mm/min, Gauge Length: 100 mm±1 mm.

Seam Type : 301. 100 % Polyester core-spun sewing-thread was used.

5kN. load was applied.

The average results are given for width and length direction of five samples.

Performed in the conditioned room(20±2°C-65%±4)

	<u>Seam Strength (N)</u>	<u>Fail</u>	<u>CLASS</u>
Width	336.4 N	STB	4 Classified according to the Table-13
Length	281.0 N	FTS	

STB: Seam thread breakage.

FTS: Fabric tear at seam

Table 13- Classification of Seam Strength

CLASS	Seam strength
6	>500 N
5	>300 N
4	>125 N
3	>75 N
2	>50 N
1	>30 N

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TEST RESULTS

Test Method: BS EN 22610: 2006 (Surgical drapes, garments and fresh air clothes used as medical devices for patients, hospital staff and equipment - Test method for determination of resistance to wet bacterial permeability) (*)

A test sample is placed on the agar plate on a rotating disc. Bacteria carrier material and coating film are placed on the test sample and all parts are fixed on the disk. A finger is placed on the test sample to apply a certain force ($3N \pm 0.02$). The finger moves on the test sample over the entire surface of the agar within 15 minutes. 5 studies are carried out for 15 minutes. 6. The study is repeated by inverting the sample.

Sample amount:	5 pieces 25x25cm ²
Carrier Material:	30 µm thin, 25x25cm ² Polyurethane Film
Coating Material:	25x25cm ² HDPE Film
Microorganism:	Staphylococcus aureus ATCC 29213
Bacterial Concentration (kob / ml):	1-4x10 ⁴ kob / ml
Incubation Conditions:	(36 ± 1) ° C 48 hours

RESULTS				
Breakthrough time, <i>t</i> min	Number of Populating Bacteria (cfu)		Penetration Rate	
	15	X ₁	0	R _{CUM1}
30	X ₂	0	R _{CUM2}	0,1
45	X ₃	0	R _{CUM3}	0,1
60	X ₄	250	R _{CUM4}	0,5
75	X ₅	200	R _{CUM5}	0,8
	Z	150		
	T	700		

X₁ X₅: Number of colonies growing in 5 parallel petri in the same sample

Z: number of colonies growing in the sixth petri dish

T: X₁ + X₂ + X₃ + X₄ + X₅ + Z

R_{CUM1} = X₁/T

R_{CUM2} = (X₂ + X₁)/T

R_{CUM3} = (X₃ + X₂ + X₁)/T

R_{CUM4} = (X₄ + X₃ + X₂ + X₁)/T

R_{CUM5} = (X₅ + X₄ + X₃ + X₂ + X₁)/T

EVALUATION

Result	Class (*)
45 < <i>t</i> ≤ 60	4

(*) BS EN 14126:2003 Protective Clothing —Performance requirements and tests methods for protective clothing against infective agents

Class	Breakthrough time, <i>t</i> min
6	<i>t</i> > 75
5	60 < <i>t</i> ≤ 75
4	45 < <i>t</i> ≤ 60
3	30 < <i>t</i> ≤ 45
2	15 < <i>t</i> ≤ 30
1	≤ 15 min