



**ÇEVRE**  
ENDÜSTRİYEL ANALİZ  
LABORATUVARI

## ANALYSIS REPORT

Report No. : **2014585E-R1** Report Date : 12/08/2020

Applicant : UNIVERSAL SERT F KASYON VE GÖZET M H ZMETLER T CARET LTD. T .

Address : Necip Fazıl Bulvarı Keyap Sitesi E2 Blok No:44/84 Yukarı Dudullu  
Ümraniye/ İstanbul/Turkey

Sample : Apron Sample Code: 3151

Sample Package : Poly packing

Sample Amount : 5 adet

Sampling Point : -

Sampling Date : 01/07/2020

Sample Lot No. : -

Sample Carrying Conditions / Preservation Technique : -

Production Date : -

Packing Date : -

Expire Date : -

Producer Company : Narkonteks Tekstil İhr. İthal. San. ve Tic. A. Ş.

Sample Receiving Time : 01/07/2020 19:30:00

Analysis Beginning Time : 02/07/2020 09:00:00

Analysis Completion Time : 30/07/2020



Following analysis results were obtained from the specimen which was delivered to Çevre Laboratory by hand to hand

Parameters	Unit	Finding	Sınıf 1	Sınıf 2	Sınıf 3	LR Source	Method	Information
Sentetik Kanın Nüfuzuna Karşı Direnç								
The Average Thickness of the Material Tested	mm	0,21	-	-	-	-	ISO 16603	148
The Average Mass of the Material Tested	g	0,3622	-	-	-	-	ISO 16603	148
Test Spicemen 1: 0 kPa	-	Succeed	-	-	-	-	ISO 16603	149
Test Spicemen 1: 1,75 kPa	-	Succeed	-	-	-	-	ISO 16603	149
Test Spicemen 1: 3,5 kPa	-	Succeed	-	-	-	-	ISO 16603	149
Test Spicemen 1: 7 kPa	-	Succeed	-	-	-	-	ISO 16603	149
Test Spicemen 1: 14 kPa	-	Succeed	-	-	-	-	ISO 16603	149
Test Spicemen 1: 20 kPa	-	Succeed	-	-	-	-	ISO 16603	149
Test Spicemen 2: 0 kPa	-	Succeed	-	-	-	-	ISO 16603	149

**Kübra HANCI AKAN**  
Microbiology Laboratory Responsible

Approved by  
12/08/2020  
**Ömer Yasin BALIK**  
Laboratory Manager

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Parameters	Unit	Finding	Sınıf 1	Sınıf 2	Sınıf 3	LR Source	Method	Information
Test Spicemen 2: 1,75 kPa	-	Succeed	-	-	-	-	ISO 16603	149
Test Spicemen 2: 3,5 kPa	-	Succeed	-	-	-	-	ISO 16603	149
Test Spicemen 2: 7 kPa	-	Succeed	-	-	-	-	ISO 16603	149
Test Spicemen 2: 14 kPa	-	Succeed	-	-	-	-	ISO 16603	149
Test Spicemen 2: 20 kPa	-	Succeed	-	-	-	-	ISO 16603	149
Test Spicemen 3: 0 kPa	-	Succeed	-	-	-	-	ISO 16603	
Test Spicemen 3: 1,75 kPa	-	Succeed	-	-	-	-	ISO 16603	
Test Spicemen 3: 3,5 kPa	-	Succeed	-	-	-	-	ISO 16603	
Test Spicemen 3: 7 kPa	-	Succeed	-	-	-	-	ISO 16603	
Test Spicemen 3: 14 kPa	-	Succeed	-	-	-	-	ISO 16603	
Test Spicemen 3: 20 kPa	-	Succeed	-	-	-	-	ISO 16603	
Test Spicemen Thickness 1	mm	0,2	-	-	-	-	ISO 16603	
Test Specimen Mass 1	g	0,3764	-	-	-	-	ISO 16603	
Test Spicemen Thickness 2	mm	0,21	-	-	-	-	ISO 16603	
Test Specimen Mass 2	g	0,3661	-	-	-	-	ISO 16603	
Test Spicemen Thickness 3	mm	0,21	-	-	-	-	ISO 16603	
Test Specimen Mass 3	g	0,344	-	-	-	-	ISO 16603	
The Procedure Selected	-	D	-	-	-	-	ISO 16603	
<b>Microbial Penetration - Dry Bacterium</b>								
Microbial Penetration - Dry Bacterium	log cfu	1	2<-≤3	1<-≤2	≤1	-	ISO 22612	150, 151
Test Spicemen 1 - Colony Count	cfu	8	-	-	-	-	-	
Test Spicemen 2 - Colony Count	cfu	3	-	-	-	-	-	
Test Spicemen 3 - Colony Count	cfu	5	-	-	-	-	-	
Test Spicemen 4 - Colony Count	cfu	8	-	-	-	-	-	
Test Spicemen 5 - Colony Count	cfu	2	-	-	-	-	-	
Test Spicemen 6 - Colony Count	cfu	10	-	-	-	-	-	
Test Spicemen 7 - Colony Count	cfu	7	-	-	-	-	-	



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Parameters	Unit	Finding	Sınıf 1	Sınıf 2	Sınıf 3	LR Source	Method	Information
Test Spicemen 8 - Colony Count	cfu	4	-	-	-	-	-	
Test Spicemen 9 - Colony Count	cfu	4	-	-	-	-	-	
Test Spicemen 10 - Colony Count	cfu	6	-	-	-	-	-	
Ortalama Koloni Sayısı	cfu	6	-	-	-	-	-	
Negative Control Count 1	cfu	<1	-	-	-	-	-	
Negative Control Count 2	cfu	<1	-	-	-	-	-	
Talc Concentration	cfu/g	3,9*10 <sup>8</sup>	-	-	-	-	ISO 22612	
Microbial Penetration - Wet Bacterium								
Test Spicemen 1 - Colony Count	cfu	10	-	-	-	-	ISO 22610	154
Test Spicemen 2 - Colony Count	cfu	17	-	-	-	-	ISO 22610	154
Test Spicemen 3 - Colony Count	cfu	24	-	-	-	-	ISO 22610	154
Test Spicemen 4 - Colony Count	cfu	13	-	-	-	-	ISO 22610	154
Test Spicemen 5 - Colony Count	cfu	31	-	-	-	-	ISO 22610	154
Test Spicemen 1 - Barrier Index	-	5,21	-	-	-	-	ISO 22610	154
Test Spicemen 2 - Barrier Index	-	5,18	-	-	-	-	ISO 22610	154
Test Spicemen 3 - Barrier Index	-	4,85	-	-	-	-	ISO 22610	154
Test Spicemen 4 - Barrier Index	-	5,6	-	-	-	-	ISO 22610	154
Test Spicemen 5 - Barrier Index	-	4,56	-	-	-	-	ISO 22610	154
Test Spicemen 1 - Percentage of Penetration	%	0,17	-	-	-	-	ISO 22610	154
Test Spicemen 2 - Percentage of Penetration	%	0,29	-	-	-	-	ISO 22610	154
Test Spicemen 3 - Percentage of Penetration	%	0,41	-	-	-	-	ISO 22610	154
Test Spicemen 4 - Percentage of Penetration	%	0,22	-	-	-	-	ISO 22610	154
Test Spicemen 5 - Percentage of Penetration	%	0,53	-	-	-	-	ISO 22610	154
Average Penetration Percentage	%	0,33	-	-	-	-	ISO 22610	
Bacillus atrophaeus Concentration	spores/mL	5,8*10 <sup>3</sup>	-	-	-	-	ISO 22610	
Pathogen Penetration								



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Parameters	Unit	Finding	Sınıf 1	Sınıf 2	Sınıf 3	LR Source	Method	Information
The Procedure Selected	-	D	-	-	-	-	ISO 16604	155
Hydrostatic Pressure	kPa	20	-	-	-	-	ISO 16604	156
Test Spicemen 1	-	Succeed	-	-	-	-	ISO 16604	157
Test Spicemen 2	-	Succeed	-	-	-	-	ISO 16604	157
Test Spicemen 3	-	Succeed	-	-	-	-	ISO 16604	157
Pre-test Bacteriophage Titer	pfu/mL	4*10 <sup>8</sup>	-	-	-	-	ISO 16604	
Post-test Bacteriophage Titer	pfu/mL	3,4*10 <sup>8</sup>	-	-	-	-	ISO 16604	
Negative Control	-	Succeed	-	-	-	-	ISO 16604	
Positive Control	-	Fail	-	-	-	-	ISO 16604	

**Source of Limit Ranges** : El ve Kol Koruması ve Can Yele i Dahil Koruyucu Kıyafetler (EN 14126)

A: Acceptable NA: Not Acceptable

MU: Measurement Uncertainty

**Method** ISO : International Organization for Standardization

- Information**
- 148 : Test sample-1 is sampled from the right arm, test sample-2 body part. The thickness and mass given are the average of the results for these two samples.
- 148 : Test sample-1 is sampled from the right arm, test sample-2 left arm, test sample-3 body part. The thickness and mass given are the average of the results for these three samples.
- 149 : The retaining screen has 50% open area
- 150 : Test Conditions : 65±5 relative humidity and 20±2°C  
ATCC 9372 Bacillus subtilis spores were used in the concentration of ethyl alcohol.  
Talc concentration 10<sup>8</sup> cfu/g  
200 mm x 200 mm 12 test pieces used  
The vibrator was operated in an air flow with a vibration frequency of 20800 per minute.
- 151 : EN 14126 standard provides Class 3 values according to Table 4.
- 154 : Test Conditions : 65±5 relative humidity and 20±2°C minimum 24 hours  
The distance to the distance agar-to-brim is 3.0 mm.  
25 cm x 25 cm 5 test pieces were used.  
The tests were carried out from the outside of the sample.  
ATCC 9372 Bacillus atrophaeus spore suspension was used.  
Incubator Control <4 cfu  
Test Environment Control <25 cfu
- 155 : Test Conditions: Minimum 24 hours at 20±2°C and 65±5 % relative humidity  
Sample size and number: 3 test samples in size 75x75mm  
Name of test microorganism: ATCC 13706-B1 Escherichia coli bacteriophage Phi X174  
PFU: Plate forming unit
- 156 : The application pressure was chosen over the values obtained as a result of the procedure applied according to the ISO

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16603 method.

157 : Test sample-1 is sampled from the right arm, test sample-2 left arm, test sample-3 body part.

R1 : This report supersedes 04/08/2020 date 2014585E number of report which is invalid.

### Note

1. When request, the conformit assessment is carried out in accordance with the legal regulations and standards or the decision rules which are agreed with the customer.
2. Descriptive information about the samples / sampling in the analysis report has been declared by the customer. Our laboratory is not responsible for the legal losses.
3. Analysis report covers samples/sampling that comes to the laboratory.
4. This report and results don't not be copied and printed partially or completely without permission of Cevre Industrial Analysis Laboratory for any commercial and advertising purposes.
5. This report shall not be used official purposes related to Enviromental Regulations.
6. The test report without sign is not valid.

End of Report



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**12/08/2020**

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**Laboratory Manager**

Microbial Penetration - Wet Bacteria Analysis Report Attachment (ISO 22610)										
Sample No:	2014585E									
Analysis Results										
	Bacillus atrophaeus Spore Concentration (spore/mL)	X1 (cfu)	X2 (cfu)	X3 (cfu)	X4 (cfu)	X5 (cfu)	Z (cfu)	Total Colony Count (cfu)	% Pn	
		0-15 minute	15-30 minute	30-45 minute	45-60 minute	60-75 minute				
Test Specimen - 1	5800	7	1	2	0	0	47	10	0,17	
Test Specimen - 2		5	3	2	6	1	51	17	0,29	
Test Specimen - 3		3	10	2	1	8	38	24	0,41	
Test Specimen - 4		3	1	0	2	7	62	13	0,22	
Test Specimen - 5		1	12	5	7	6	30	31	0,53	
X1: 1.plates colony count										
X2: 2.plates colony count										
X3: 3.plates colony count										
X4: 4.plates colony count										
X5: 5.plates colony count										
Z: Number of plates in the reverse test sample										
Pn: Percentage of penetration										
Total Colony Count = X1+X2+X3+X4+X5										
	T (cfu)	CUM1	CUM2	CUM3	CUM4	CUM5	Barrier index (EPP)	Donor (cfu)	Incubator Control (cfu)	Ambient Test Control (cfu)
Test Specimen - 1	57	0,12	0,14	0,18	0,18	0,18	5,21	80	<4	<25
Test Specimen - 2	68	0,07	0,12	0,15	0,24	0,25	5,18	65	<4	<25
Test Specimen - 3	62	0,05	0,21	0,24	0,26	0,39	4,85	74	<4	<25
Test Specimen - 4	75	0,04	0,05	0,05	0,08	0,17	5,60	105	<4	<25
Test Specimen - 5	61	0,02	0,21	0,30	0,41	0,51	4,56	93	<4	<25
T = Z + X1 + X2 + X3 + X4 + X5										
CUM1 = X1/T										
CUM2 = (X2 + X1)/T										
CUM3 = (X3 + X2 + X1)/T										
CUM4 = (X4 + X3 + X2 + X1)/T										
CUM5 = (X5 + X4 + X3 + X2 + X1)/T										



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