ANALYSIS REPORT

Report No. **: 2022130E** Report Date **:** 15/09/2020

Applicant **:** UNIVERSAL SERTİFİKASYON VE GÖZETİM HİZMETLERİ TİCARET LTD.ŞTİ.

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



Sample **:** Protective Coverall (XL) Model: CRM-PCA / Type: 3-B / 4-B / Category III

Sample Package **:** Poly packing

Sample Amount **:** 5 pieces

Sampling Point **:** -

Sampling Date **:** 07/09/2020

Sample Lot No. **:** -

Sample Carrying Conditions / Preservation Technique **:** -

Production Date **:** 15/08/2020

Packing Date **:** -

Expire Date **:** 18/08/2022

Producer Company **:** Carine Europe Gmbh

Sample Receiving Time **:** 08/09/2020 18:15:00

Analysis Beginning Time **:** 09/09/2020 12:00:00

Analysis Completion Time **:** 15/09/2020

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

Parameters	Unit	Finding	Method	Information
Sentetik Kanın Nüfuzuna Karşı Direnç				
The Average Thickness of the Material Tested	mm	0,26	ISO 16603	148
The Average Mass of the Material Tested	g	0,3876	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 Thickness 1	mm	0,27	ISO 16603	
Test Specimen Mass 1	g	0,4001	ISO 16603	

Kübra HANCI AKAN
Microbiology Laboratory Responsible

Approved by
16/09/2020
Ömer Yasin BALIK
Laboratory Manager

Çevre Endüstriyel Analiz Laboratuvarı Hiz. Tic. A.Ş. Merkez Mahallesi Tatlıpınar Sokak No:13 Mart Plaza Kat:2/A Kağıthane / İstanbul
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Parameters	Unit	Finding	Method	Information
Test Spicemen 2: 0 kPa	-	Succeed	ISO 16603	149
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 Thickness 2	mm	0,26	ISO 16603	
Test Specimen Mass 2	g	0,3743	ISO 16603	
Test Spicemen 3: 0 kPa	-	Succeed	ISO 16603	149
Test Spicemen 3: 1,75 kPa	-	Succeed	ISO 16603	149
Test Spicemen 3: 3,5 kPa	-	Succeed	ISO 16603	149
Test Spicemen 3: 7 kPa	-	Succeed	ISO 16603	149
Test Spicemen 3: 14 kPa	-	Succeed	ISO 16603	149
Test Spicemen 3: 20 kPa	-	Succeed	ISO 16603	149
Test Spicemen Thickness 3	mm	0,26	ISO 16603	
Test Specimen Mass 3	g	0,3883	ISO 16603	
The Procedure Selected	-	D	ISO 16603	
Microbial Penetration - Dry Bacterium				
Microbial Penetration - Dry Bacterium	log cfu	<1	ISO 22612	150, 151
Test Spicemen 1 - Colony Count	cfu	7	-	
Test Spicemen 2 - Colony Count	cfu	1	-	
Test Spicemen 3 - Colony Count	cfu	5	-	
Test Spicemen 4 - Colony Count	cfu	2	-	
Test Spicemen 5 - Colony Count	cfu	4	-	
Test Spicemen 6 - Colony Count	cfu	4	-	
Test Spicemen 7 - Colony Count	cfu	2	-	
Test Spicemen 8 - Colony Count	cfu	1	-	
Test Spicemen 9 - Colony Count	cfu	1	-	
Test Spicemen 10 - Colony Count	cfu	5	-	

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Parameters	Unit	Finding	Method	Information
Ortalama Koloni Sayısı	cfu	3	-	
Negative Control Count 1	cfu	<1	-	
Negative Control Count 2	cfu	<1	-	
Talc Concentration	cfu/g	$4,7*10^8$	ISO 22612	
Microbial Penetration - Wet Bacterium				
Test Spicemen 1 - Colony Count	cfu	242	ISO 22610	154
Test Spicemen 2 - Colony Count	cfu	211	ISO 22610	154
Test Spicemen 3 - Colony Count	cfu	232	ISO 22610	154
Test Spicemen 4 - Colony Count	cfu	264	ISO 22610	154
Test Spicemen 5 - Colony Count	cfu	249	ISO 22610	154
Test Spicemen 1 - Barrier Index	-	3,64	ISO 22610	154
Test Spicemen 2 - Barrier Index	-	4,05	ISO 22610	154
Test Spicemen 3 - Barrier Index	-	4,03	ISO 22610	154
Test Spicemen 4 - Barrier Index	-	4,07	ISO 22610	154
Test Spicemen 5 - Barrier Index	-	4,05	ISO 22610	154
Test Spicemen 1 - Percentage of Penetration	%	3,78	ISO 22610	154
Test Spicemen 2 - Percentage of Penetration	%	3,3	ISO 22610	154
Test Spicemen 3 - Percentage of Penetration	%	3,63	ISO 22610	154
Test Spicemen 4 - Percentage of Penetration	%	4,13	ISO 22610	154
Test Spicemen 5 - Percentage of Penetration	%	3,89	ISO 22610	154
Average Penetration Percentage	%	3,74	ISO 22610	
Bacillus atrophaeus Concentration	spores/mL	$6,4*10^3$	ISO 22610	
Pathogen Penetration				
The Procedure Selected	-	D	ISO 16604	155
Hydrostatic Pressure - 1	kPa	20	ISO 16604	
Test Spicemen 1	-	Succeed	ISO 16604	157
Hydrostatic Pressure - 2	kPa	20	ISO 16604	
Test Spicemen 2	-	Succeed	ISO 16604	157
Hydrostatic Pressure - 3	kPa	20	ISO 16604	

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Parameters	Unit	Finding	Method	Information
Test Spicemen 3	-	Succeed	ISO 16604	157
Pre-test Bacteriophage Titer	pfu/mL	$3,8*10^8$	ISO 16604	
Post-test Bacteriophage Titer	pfu/mL	$3,5*10^8$	ISO 16604	
Negative Control	-	Succeed	ISO 16604	
Positive Control	-	Fail	ISO 16604	

MU: Measurement Uncertainty

Method ISO : International Organization for Standardization

Information

148 : Test sample-1 is sampled from the right arm, test sample-2 left leg, 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.
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

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

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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ÇEVRE ENDÜSTRİYEL ANALİZ LABORATUVARI
ÇEVRE ENDÜSTRİYEL ANALİZ LABORATUVAR HİZM. TİC. A.Ş.

Microbial Penetration - Wet Bacteria Analysis Report Attachment (ISO 22610)										
Sample No:	2022130E									
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	6400	92	13	22	54	61	74	242	3,78	
Test Specimen - 2		48	28	35	21	79	85	211	3,30	
Test Specimen - 3		22	33	49	63	65	62	232	3,63	
Test Specimen - 4		34	62	31	59	78	102	264	4,13	
Test Specimen - 5		26	41	57	75	50	92	249	3,89	
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 İndex (EPP)**	**Donor (cfu)**	**Incubator Control (cfu)**	**Ambient Test Control (cfu)**
Test Specimen - 1	316	0,29	0,33	0,40	0,57	0,77	3,64	112	<4	<25
Test Specimen - 2	296	0,16	0,26	0,38	0,45	0,71	4,05	136	<4	<25
Test Specimen - 3	294	0,07	0,19	0,35	0,57	0,79	4,03	109	<4	<25
Test Specimen - 4	366	0,09	0,26	0,35	0,51	0,72	4,07	127	<4	<25
Test Specimen - 5	341	0,08	0,20	0,36	0,58	0,73	4,05	145	<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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