**EKOTEKS LABORATUVAR ve GÖZETİM HİZMETLERİ A.Ş.**
Esenyurt Firuzköy Bulvarı No:29 34325 Avcılar
İstanbul/ TÜRKİYE

Test
TS EN ISO/IEC 17025
AB-0583-T

| |
|---|
| AB-0583-T |
| 20011163 |
| 03-20 |

# TEST REPORT
*DENEY RAPORU*

Gen.f136-2/03

| | |
|---|---|
| ***Customer name:*** | KURT KUMAŞ SAN.VE TİC.A.Ş |
| ***Address:*** | 2. OSB 83228 Nolu CAD. NO:16 ŞEHİTKAMİL/GAZİANTEP |
| ***Buyer name:*** | - |
| ***Contact Person:*** | MURAT ERBAĞCI |
| ***Order No:*** | - |
| ***Article No:*** | - |
| ***Name and identity of test item:*** | One sample of white nonwoven fabric. (Claimed to be; 25 GSM MELTBLOWN) |
| ***The date of receipt of test item:*** | 19.03.2020 |
| ***Re-submitted/re-confirmation date:*** | - |
| ***Date of test:*** | 19.03.2020-23.03.2020 |
| ***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:*** | 3 |

***The Turkish Accreditation Agency (TURKAK) is signatory to the multilateral agreements of the European co-operation for the Accreditation (EA) and of the International Laboratory Accreditation (ILAC) for the Mutual recognition of test reports.***
***EKOTEKS LABORATUVAR ve GÖZETİM HİZMETLERİ A.Ş. accredited by TÜRKAK under registration number [AB-0583-T] for ISO 17025:2017 as test laboratory.***
***The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report.***

TESTED BY Seal EKOTEKS TESTEDILMISTIR

| *Date* | *Customer Representative* | *Head of Testing Laboratory* |
|---|---|---|
| 23.03.2020 | Ahmet GİRKİN | Sevim A. RAZAK<br>23.03.2020 |

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| REQUIRED TESTS | RESULT | COMMENTS |
|---|---|---|
| **MICROBIOLOGICAL TEST** | | |
| Bacterial Filtration Efficiency (BFE) | - | |
| No requirements were given by vendor. | | |

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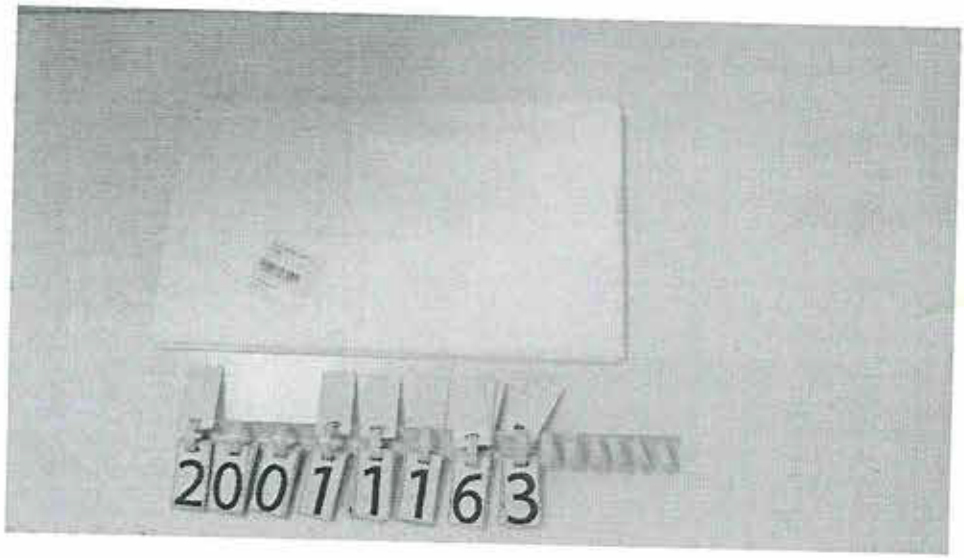
REMARK: Original samples are kept for 3 months and all technical records are kept for 5 years unless otherwise specified.If requested, measurement uncertainty will be reported. But unless otherwise specified, measurement uncertainty is not considered while stating compliance with specification or limit 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

## BACTERIAL FILTRATION EFFICIENCY (BFE)

Test Metod: EKOTEKS 70 (In-House Method-Bacterial Filtration Efficiency Testing /Ref: TS EN 14683:2019 Medica Face Masks,Requirements and Test Methods (*)

A specimen of the mask material is clamped between a impactor and an aerosol chamber. An aerosol of Staphylococcus aureus is introduced into the aerosol chamber and drawn through the mask material and the impactor under vacuum. The bacterial filtration efficiency of the mask is given by the number of colony forming units passing through the medical face mask material expressed as a percentage of the number of colony forming units present in the challenge aerosol.

| | |
|---|---|
| **Test Flow Rate** | 28,3 L/min |
| **Test Flow Time** | 2 minute |
| **Sample Sizes** | 20x20 $cm^2$ |
| **Microorganism** | *Staphylococcus aureus* ATCC 6538 |
| **Bacterial concentration (cfu/ ml )** | $5x10^5$ cfu/ ml |
| **incubation conditions** | 24 hour, 35°C ± 2°C |
| **Positive control sample average of number of Bacteria (C)** | $2.6x10^3$ cfu/ ml |

| RESULTS | | |
|---|---|---|
| **Number of Test Sample** | **Test Sample (T) Number of Bacteria (cfu/ml)** | **Bacterial Filtration Efficiency ( % B )** |
| **1** | 15 | 99.4 % |
| **2** | 10 | 99.6 % |
| **3** | 25 | 99.0 % |
| **4** | 24 | 99.1 % |
| **5** | 26 | 99.0 % |

*cfu: Colony-forming unit*

B= ( C-T ) / C x 100

%B: Bacterial Filtration Efficiency
C: is the mean of the total plate counts for the two positive control runs
T: is the total plate count for the test specimen

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Esenyurt Firuzköy Bulvarı No:29 34325 Avcılar
İstanbul/ TÜRKİYE

# TEST REPORT
*DENEY RAPORU*

| 20009637 |
|---|
| 03-20 |

| | |
|---|---|
| ***Customer name:*** | |
| ***Address:*** | |
| ***Buyer name:*** | |
| ***Contact Person:*** | |
| ***Order No:*** | - |
| ***Article No:*** | MB – MELT BLOWN FABRIC |
| ***Name and identity of test item:*** | White non-woven fabric. (Claimed to be: 100 % PP , 30 gsm , Color Code: White) |
| ***The date of receipt of test item:*** | 09.03.2020 |
| ***Re-submitted/re-confirmation date:*** | - |
| ***Date of test:*** | 09.03.2020-13.03.2020 |
| ***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:*** | 4 |

Gen.Ü36-2/03

*Seal*

***Date***
13.03.2020

***Customer Representative***
Hatice AÇARÇELP

***Head of Testing Laboratory***
Sevim A. RAZAK
13.03.2020

EKOTEKS LABORATUVAR ve GÖZETİM HİZMETLERİ A.Ş.

EKOTEKS

| 20009637 |
| --- |
| 03-20 |

| REQUIRED TESTS | RESULT | COMMENTS |
| --- | --- | --- |
| MICROBIOLOGICAL TEST | | |
| Antibacterial Activity | P | |

P: Pass
F: Fail
R: Refer to retailer technologist.

Test results were evaluated according to EKOTEKS 70 (REF: 14683:2014) requirements

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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*Testing reports without signature and seal are not valid.*

# TEST RESULT

## BACTERİAL FİLTRATİON EFFİCİENCY (BFE)

Test Metod: EKOTEKS 70 (In-House Method-Bacterial Filtration Efficiency Testing /Ref: TS EN 14683:2019 Medical Face Masks.Requirements and Test Methods (*)

A specimen of the mask material is clamped between a impactor and an aerosol chamber. An aerosol of Staphylococcus aureus is introduced into the aerosol chamber and drawn through the mask material and the impactor under vacuum. The bacterial filtration efficiency of the mask is given by the number of colony forming units passing through the medical face mask material expressed as a percentage of the number of colony forming units present in the challenge aerosol.



| | |
| --- | --- |
| **Test Flow Rate** | 28,3 L/min |
| **Test Flow Time** | 2 minute |
| **Sample Sizes** | 5 piece (10x10 $cm^2$) |
| **Microorganism** | *Staphylococcus aureus* ATCC 6538 |
| **Bacterial concentration (cfu/ ml )** | $5x10^5$ cfu/ ml |
| **Incubation conditions** | 24 hour, 35°C ± 2°C |
| **Positive control average(C)** | $3.0x10^3$ cfu/ ml |

| RESULTS | | |
| --- | --- | --- |
| **Test Sample (T)** | **Number of Bacteria (cfu/ml)** | **Bacterial Filtration Efficiency ( % B )** |
| **1** | 115 | 96.2 % |
| **2** | 110 | 96.3 % |
| **3** | 120 | 96.0 % |
| **4** | 126 | 95.8 % |
| **5** | 130 | 95.7 % |

*cfu: Colony-forming unit*

B= ( C-T ) / C x 100

%B: Bacterial Filtration Efficiency
C: is the mean of the total plate counts for the two positive control runs
T: is the total plate count for the test specimen

**Test Report No.: 721653307**
**Report Date: 17 April 2020**

## Results

| No. | Test Item | Test Result |
|---|---|---|
| 1 | Bacterial Filtration Efficiency (BFE) Test | Specimen 1#: 99.9%<br>Specimen 2#: 99.9%<br>Specimen 3#: 99.8%<br>Specimen 4#: 99.8%<br>Specimen 5#: 99.7% |
| 2 | Differential Pressure Test | 25.3 Pa/cm$^2$ |
| 3 | Synthetic Blood Penetration Test | Specimen 1#~13#: None seen |
| 4 | Microbial Cleanliness Test | Specimen 1#: 22 CFU/g<br>Specimen 2#: 14 CFU/g<br>Specimen 3#: 10 CFU/g<br>Specimen 4#: 8 CFU/g<br>Specimen 5#: 10 CFU/g |

## Bacterial Filtration Efficiency (BFE) Test

**1. Purpose**

For evaluating the bacterial filtration efficiency (BFE) of mask.

**2. Sample description was given by client**

Sample description : Surgical masks
Specification : M
Lot Number : 200318
Sample Receiving Date : 2020-03-28

**3. Test Method**

EN 14683:2019+AC:2019(E) Annex B

**4. Apparatus and materials**

4.1 *Staphylococcus aureus* ATCC 6538.
4.2 Peptone water.
4.3 Tryptic Soy Broth(TSB).
4.4 Tryptic Soy Agar(TSA).
4.5 Bacterial filtration efficiency test apparatus.
4.6 Six-stage viable particle Anderson sampler.
4.7 Flow meters.

**5. Test specimen**

5.1 As requested by client, take a total of 5 test specimens.
5.2 Prior to testing, condition all test specimens for a minimum of 4 h at (21±5)°C and (85±5)% relative humidity.

**Test Report No.: 721653307**
**Report Date: 17 April 2020**

# TEST REPORT

| | | |
|---|---|---|
| Sample Description | : | Surgical masks |
| Sample Quantity | : | 50 pieces |
| Lot Number/Batch Code | : | 200318 |
| Specification | : | M |
| Size | : | / |
| Type of Mask | : | Type IIR |
| Brand Name | : | / |

Remark: The above information was provided by applicant.

## Summary of Test Results

| No. | Test Item | Test Standard | Judgement |
|---|---|---|---|
| 1 | Bacterial Filtration Efficiency (BFE) Test | EN 14683:2019+AC:2019(E) Annex B | Pass |
| 2 | Differential Pressure Test | EN 14683:2019+AC:2019(E) Annex C | Pass |
| 3 | Synthetic Blood Penetration Test | ISO 22609:2004 | Pass |
| 4 | Microbial Cleanliness Test | EN 14683:2019+AC:2019(E) Annex D | Pass |

Note: Pass = Meet customer requirements;
Fail = Fail customer requirements;
# = No comment;
N.D. = Not detected.

## Photo of Samples