

Analytical Report Nr.

AR-21-YL-003893-01-EN

Sample code Nr.

560-2021-00002658

Date

14/04/2021

ANALYTICAL REPORT**Client Information**

HISPANO TEX, S.A.U.
Av. Via Augusta, 3 2a Planta
Sant Cugat del Vallés SPAIN
+34 935831470
n.moreras@hispanotex.com
For the attention of Mr Nil Moreras

Sample Information

Order Code: EUAA70-00011077
Reception Date: 11-Mar-2021
Analysis Starting Date: 11-Mar-2021
Analysis Ending Date: 13-Apr-2021
Sample code Nr. 560-2021-00002658
Sample described as: Mascarillas / Masks

Requirements and decision rule

Customer requirements: UNE 0065 Mascarillas higiénicas reutilizables
Decision Rule: Shared risk - Simple acceptance. Probability of False Acceptance <50%

Information provided by the customer*

Client Reference: Mascarilla Viroblock
Sample Description:
Purchase Order Number:

Batch No suministrado / Not provided

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SAMPLE PICTURE

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CONCLUSION:

TEST PROPERTY	PASS	FAIL	REMARKS
• Bacterial Filtration Efficiency (BFE) EN 14683:2019+AC:2019 Annex B			
A-En original / As received	X		
C-Tras 5 ciclos / After 5 cycles	X		
D-Tras 15 ciclos / After 15 cycles	X		
E-Tras 25 ciclos / After 25 cycles	X		
F-Tras 30 ciclos / After 30 cycles	X		
G-Tras 35 ciclos / After 35 cycles	X		
◆ Ironing Internal method			
B-Tras cada ciclo / After each cycle			REFER RESULT
◆ Cleaning and disinfection of reusable hygienic masks Disinfection method according to Ministry of Health of the Government of Spain			
B-Tras cada ciclo / After each cycle			REFER RESULT

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TEST PROPERTY	PASS	FAIL	REMARKS
Breathability (Differential Pressure) EN 14683:2019+AC:2019 Annex C			
A-En original / As received	X		
C-Tras 5 ciclos / After 5 cycles	X		
D-Tras 15 ciclos / After 15 cycles	X		
E-Tras 25 ciclos / After 25 cycles	X		
F-Tras 30 ciclos / After 30 cycles	X		
G-Tras 35 ciclos / After 35 cycles	X		

Remark: Test has been performed as per application request

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COMPONENT LIST:

COMPONENT ID	COMPONENT NAME	MATERIAL DESCRIPTION	COLOR	REMARKS
CUST 01	B-Tras cada ciclo / After each cycle	Mascarilla / Mask	Blanco White	---
CUST 02	A-En original / As received	Mascarilla / Mask	Blanco White	---
CUST 03	C-Tras 5 ciclos / After 5 cycles	Mascarilla / Mask	Blanco White	---
CUST 04	D-Tras 15 ciclos / After 15 cycles	Mascarilla / Mask	Blanco White	---
CUST 05	E-Tras 25 ciclos / After 25 cycles	Mascarilla / Mask	Blanco White	---
CUST 06	F-Tras 30 ciclos / After 30 cycles	Mascarilla / Mask	Blanco White	---
CUST 07	G-Tras 35 ciclos / After 35 cycles	Mascarilla / Mask	Blanco White	---

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MASKS TESTING	CAS No.	RESULTS	UNC.	LOQ	GUIDELINES
---------------	---------	---------	------	-----	------------

Analyses on:A-En original / As received

• Bacterial Filtration Efficiency (BFE)

Analysis Ending Date: 13/04/2021

EN 14683:2019+AC:2019 Annex B

Bacterial Filtration Efficiency (BFE)

98.5 %

-

≥ 90 % ✓ PASS

Complete test data reported at Annex.

Testing covered by NABL accreditation n°TC-5492.

Breathability (Differential Pressure)

Analysis Ending Date: 07/04/2021

EN 14683:2019+AC:2019 Annex C

Differential pressure

41.7 Pa/cm²

(± 1.8) Pa/cm²

-

<60 Pa/cm² ✓ PASS

Complete test data reported at Annex.

Analyses on:B-Tras cada ciclo / After each cycle

◆ Cleaning and disinfection of reusable hygienic masks

Analysis Ending Date: 07/04/2021

Disinfection method according to Ministry of Health of the Government of Spain

Number of total cycles

35

-

Procedure:

- Spray the masks with "Sanytol desinfectante hogar y tejidos" at a distance of about 25 cm, leave it to act for 5 minutes and rinse with water.
- Afterwards, they are washed with soap and water and rinsed well to remove any remaining product and left to dry.

◆ Ironing

Analysis Ending Date: 13/04/2021

Internal method

Equipment used

Scorch/Sublimation tester

-

Temperature

150 °C

-

Eurofins Textile Testing Spain, S.L.U.

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Activities not covered by ENAC accreditation are marked with ◆ ○ ● □ ■

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Date

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MASKS TESTING	CAS No.	RESULTS	UNC.	LOQ	GUIDELINES
---------------	---------	---------	------	-----	------------

Analyses on: C-Tras 5 ciclos / After 5 cycles

• Bacterial Filtration Efficiency (BFE)

Analysis Ending Date: 13/04/2021

EN 14683:2019+AC:2019 Annex B

Bacterial Filtration Efficiency (BFE)

98.3 %

-

≥ 90 % ✓ PASS

Complete test data reported at Annex.

Testing covered by NABL accreditation n°TC-5492.

Breathability (Differential Pressure)

Analysis Ending Date: 07/04/2021

EN 14683:2019+AC:2019 Annex C

Differential pressure

58.5 Pa/cm²

(± 1.9) Pa/cm²

-

<60 Pa/cm² ✓ PASS

Complete test data reported at Annex.

Analyses on: D-Tras 15 ciclos / After 15 cycles

• Bacterial Filtration Efficiency (BFE)

Analysis Ending Date: 13/04/2021

EN 14683:2019+AC:2019 Annex B

Bacterial Filtration Efficiency (BFE)

98.0 %

-

≥ 90 % ✓ PASS

Complete test data reported at Annex.

Testing covered by NABL accreditation n°TC-5492.

Breathability (Differential Pressure)

Analysis Ending Date: 07/04/2021

EN 14683:2019+AC:2019 Annex C

Differential pressure

54.5 Pa/cm²

(± 1.5) Pa/cm²

-

<60 Pa/cm² ✓ PASS

Complete test data reported at Annex.

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MASKS TESTING	CAS No.	RESULTS	UNC.	LOQ	GUIDELINES
---------------	---------	---------	------	-----	------------

Analyses on:E-Tras 25 ciclos / After 25 cycles

• Bacterial Filtration Efficiency (BFE)

Analysis Ending Date: 13/04/2021

EN 14683:2019+AC:2019 Annex B

Bacterial Filtration Efficiency (BFE)

97.7 %

-

≥ 90 % ✓ PASS

Complete test data reported at Annex.

Testing covered by NABL accreditation n°TC-5492.

Breathability (Differential Pressure)

Analysis Ending Date: 07/04/2021

EN 14683:2019+AC:2019 Annex C

Differential pressure

51.4 Pa/cm²

(± 1.5) Pa/cm²

-

<60 Pa/cm² ✓ PASS

Complete test data reported at Annex.

Analyses on:F-Tras 30 ciclos / After 30 cycles

• Bacterial Filtration Efficiency (BFE)

Analysis Ending Date: 13/04/2021

EN 14683:2019+AC:2019 Annex B

Bacterial Filtration Efficiency (BFE)

97.3 %

-

≥ 90 % ✓ PASS

Complete test data reported at Annex.

Testing covered by NABL accreditation n°TC-5492.

Breathability (Differential Pressure)

Analysis Ending Date: 07/04/2021

EN 14683:2019+AC:2019 Annex C

Differential pressure

59.9 Pa/cm²

(± 1.6) Pa/cm²

-

<60 Pa/cm² ✓ PASS

Complete test data reported at Annex.

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MASKS TESTING	CAS No.	RESULTS	UNC.	LOQ	GUIDELINES
---------------	---------	---------	------	-----	------------

Analyses on: G-Tras 35 ciclos / After 35 cycles

• Bacterial Filtration Efficiency (BFE)

Analysis Ending Date: 13/04/2021

EN 14683:2019+AC:2019 Annex B

Bacterial Filtration Efficiency
(BFE)

97.1 %

-

≥ 90 % ✓ PASS

Complete test data reported at Annex.

Testing covered by NABL accreditation n°TC-5492.

Breathability (Differential Pressure)

Analysis Ending Date: 07/04/2021

EN 14683:2019+AC:2019 Annex C

Differential pressure

59.9 Pa/cm²

(± 1.6) Pa/cm²

-

<60 Pa/cm² ✓ PASS

Complete test data reported at Annex.

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Signed for and on behalf of Eurofins Textile Testing Spain:

Report electronically validated by

Axel Ferrando

Physical-Mechanical Lab Manager

EXPLANATORY NOTE

- ◆ Test not covered by ENAC accreditation scope
- Test is subcontracted within Eurofins group and is accredited
- Test is subcontracted within Eurofins group and is not accredited
- Test is subcontracted outside Eurofins group and is accredited
- Test is subcontracted outside Eurofins group and is not accredited

N/A = Not Applicable

*Eurofins Textile Testing Spain S.L.U. is not responsible of the information supplied by the customer and reported as section "Information provided by the customer".

Eurofins General Sales Terms and Conditions Applied.

Results obtained refer only to samples, products or material received in Laboratory, as described in section "Sample information" and tested in conditions shown in present report.

Test uncertainties not reported are at customer disposal, for those tests in which it is possible to evaluate the test uncertainty.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k = 2$, which for a normal distribution provides a level of confidence of approximately 95%.

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If you happen to have any comments, please do it by sending email to textile_spain@eurofins.com and referring to this report number.

End Of Report

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Código de Informe de Ensayo:

AR-21-YL-003893-01-ES

Código de muestra

560-2021-00002658

Fecha de emisión

14/04/2021

INFORME DE ENSAYO

Información del cliente

HISPANO TEX, S.A.U.
Av. Via Augusta, 3 2a Planta
Sant Cugat del Vallés ESPAÑA
+34 935831470
n.moreras@hispanotex.com

A la atención de Mr Nil Moreras

Información de la muestra

Código de la orden: EUAA70-00011077
Fecha de recepción de la muestra: 11-Mar-2021
Fecha de inicio de análisis: 11-Mar-2021
Fecha fin de análisis: 13-Apr-2021
Código de muestra 560-2021-00002658
Descripción de la muestra: Mascarillas / Masks

Requisitos y regla de decisión

Requerimientos del cliente: UNE 0065 Mascarillas higiénicas reutilizables
Regla de decisión: Riesgo compartido - Aceptación simple. Probabilidad de Aceptación Falsa <50%

Información suministrada por el cliente*

Referencia de cliente: Mascarilla Viroblock
Descripción de la muestra:
Guía de remisión:

Lote No suministrado / Not provided

Código de Informe de Ensayo:

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Código de muestra

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FOTOGRAFÍA DE LA MUESTRA

Código de Informe de Ensayo:

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Código de muestra

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Fecha de emisión

14/04/2021

CONCLUSIÓN:

ENSAYO	CUMPLE	NO CUMPLE	OBSERVACIONES
• Eficiencia de Filtración Bacteriana (BFE) EN 14683:2019+AC:2019 Anexo B			
A-En original / As received	X		
C-Tras 5 ciclos / After 5 cycles	X		
D-Tras 15 ciclos / After 15 cycles	X		
E-Tras 25 ciclos / After 25 cycles	X		
F-Tras 30 ciclos / After 30 cycles	X		
G-Tras 35 ciclos / After 35 cycles	X		
◆ Planchado Método interno			
B-Tras cada ciclo / After each cycle			VER RESULTADOS
◆ Limpieza y desinfección de Mascarillas higiénicas reutilizables Método de desinfección según el Ministerio de Sanidad del Gobierno de España			
B-Tras cada ciclo / After each cycle			VER RESULTADOS

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ENSAYO	CUMPLE	NO CUMPLE	OBSERVACIONES
Respirabilidad (Presión diferencial) EN 14683:2019+AC:2019 Anexo C			
A-En original / As received	X		
C-Tras 5 ciclos / After 5 cycles	X		
D-Tras 15 ciclos / After 15 cycles	X		
E-Tras 25 ciclos / After 25 cycles	X		
F-Tras 30 ciclos / After 30 cycles	X		
G-Tras 35 ciclos / After 35 cycles	X		

Observación: Los ensayos se realizaron según la solicitud del cliente

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Código de muestra

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Fecha de emisión

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LISTA DE COMPONENTES:

ID DEL COMPONENTE	NOMBRE DEL COMPONENTE	DESCRIPCIÓN DEL MATERIAL	COLOR	OBSERVACIONES
CUST 01	B-Tras cada ciclo / After each cycle	Mascarilla / Mask	Blanco White	---
CUST 02	A-En original / As received	Mascarilla / Mask	Blanco White	---
CUST 03	C-Tras 5 ciclos / After 5 cycles	Mascarilla / Mask	Blanco White	---
CUST 04	D-Tras 15 ciclos / After 15 cycles	Mascarilla / Mask	Blanco White	---
CUST 05	E-Tras 25 ciclos / After 25 cycles	Mascarilla / Mask	Blanco White	---
CUST 06	F-Tras 30 ciclos / After 30 cycles	Mascarilla / Mask	Blanco White	---
CUST 07	G-Tras 35 ciclos / After 35 cycles	Mascarilla / Mask	Blanco White	---

Código de Informe de Ensayo: AR-21-YL-003893-01-ES
Código de muestra: 560-2021-00002658
Fecha de emisión: 14/04/2021

ENSAYOS A MASCARILLAS	CAS No.	RESULTADOS	INC.	LOQ	LÍMITES
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Análisis sobre:A-En original / As received

• Eficiencia de Filtración Bacteriana (BFE)

Fecha fin de análisis: 13/04/2021

EN 14683:2019+AC:2019 Anexo B

Eficacia de filtración bacteriana (BFE)	98.5 %	-	≥ 90 %	✓ CUMPLE
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Datos completos del ensayo incluidos en el Anexo.
 Ensayo cubierto por acreditación NABL nº TC-5492.

Respirabilidad (Presión diferencial)

Fecha fin de análisis: 07/04/2021

EN 14683:2019+AC:2019 Anexo C

Presión diferencial	41.7 Pa/cm²	(± 1.8) Pa/cm²	-	<60 Pa/cm² ✓ CUMPLE
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Datos completos del ensayo incluidos en el Anexo.

Análisis sobre:B-Tras cada ciclo / After each cycle

◆ Limpieza y desinfección de Mascarillas higiénicas reutilizables

Fecha fin de análisis: 07/04/2021

Método de desinfección según el Ministerio de Sanidad del Gobierno de España

Número total de ciclos	35	-
------------------------	----	---

Procedimiento:

- Pulverización de las mascarillas con "Sanytol desinfectante hogar y tejidos" a unos 25 cm de distancia, dejar actuar 5 minutos y aclarar con agua.
- Después se lavan con agua y jabón y se aclaran bien para eliminar cualquier resto de producto y se dejan secar.

◆ Planchado

Fecha fin de análisis: 13/04/2021

Método interno

Equipamiento utilizado	Scorch/Sublimation tester	-
Temperatura	150 °C	-

Código de Informe de Ensayo: AR-21-YL-003893-01-ES
Código de muestra: 560-2021-00002658
Fecha de emisión: 14/04/2021

ENSAYOS A MASCARILLAS	CAS No.	RESULTADOS	INC.	LOQ	LÍMITES
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Análisis sobre:C-Tras 5 ciclos / After 5 cycles

• Eficiencia de Filtración Bacteriana (BFE)

Fecha fin de análisis: 13/04/2021

EN 14683:2019+AC:2019 Anexo B

Eficacia de filtración bacteriana (BFE)	98.3 %	-	≥ 90 %	✓ CUMPLE
---	--------	---	--------	----------

Datos completos del ensayo incluidos en el Anexo.
Ensayo cubierto por acreditación NABL nº TC-5492.

Respirabilidad (Presión diferencial)

Fecha fin de análisis: 07/04/2021

EN 14683:2019+AC:2019 Anexo C

Presión diferencial	58.5 Pa/cm²	(± 1.9) Pa/cm²	-	<60 Pa/cm²	✓ CUMPLE
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Datos completos del ensayo incluidos en el Anexo.

Análisis sobre:D-Tras 15 ciclos / After 15 cycles

• Eficiencia de Filtración Bacteriana (BFE)

Fecha fin de análisis: 13/04/2021

EN 14683:2019+AC:2019 Anexo B

Eficacia de filtración bacteriana (BFE)	98.0 %	-	≥ 90 %	✓ CUMPLE
---	--------	---	--------	----------

Datos completos del ensayo incluidos en el Anexo.
Ensayo cubierto por acreditación NABL nº TC-5492.

Respirabilidad (Presión diferencial)

Fecha fin de análisis: 07/04/2021

EN 14683:2019+AC:2019 Anexo C

Presión diferencial	54.5 Pa/cm²	(± 1.5) Pa/cm²	-	<60 Pa/cm²	✓ CUMPLE
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Datos completos del ensayo incluidos en el Anexo.

Código de Informe de Ensayo:

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Código de muestra

560-2021-00002658

Fecha de emisión

14/04/2021

ENSAYOS A MASCARILLAS	CAS No.	RESULTADOS	INC.	LOQ	LÍMITES
-----------------------	---------	------------	------	-----	---------

Análisis sobre:E-Tras 25 ciclos / After 25 cycles

• Eficiencia de Filtración Bacteriana (BFE)

Fecha fin de análisis: 13/04/2021

EN 14683:2019+AC:2019 Anexo B

Eficacia de filtración bacteriana (BFE)

97.7 %

-

≥ 90 % ✓ CUMPLE

Datos completos del ensayo incluidos en el Anexo.
Ensayo cubierto por acreditación NABL nº TC-5492.

Respirabilidad (Presión diferencial)

Fecha fin de análisis: 07/04/2021

EN 14683:2019+AC:2019 Anexo C

Presión diferencial

51.4 Pa/cm²

(± 1.5) Pa/cm²

-

<60 Pa/cm² ✓ CUMPLE

Datos completos del ensayo incluidos en el Anexo.

Análisis sobre:F-Tras 30 ciclos / After 30 cycles

• Eficiencia de Filtración Bacteriana (BFE)

Fecha fin de análisis: 13/04/2021

EN 14683:2019+AC:2019 Anexo B

Eficacia de filtración bacteriana (BFE)

97.3 %

-

≥ 90 % ✓ CUMPLE

Datos completos del ensayo incluidos en el Anexo.
Ensayo cubierto por acreditación NABL nº TC-5492.

Respirabilidad (Presión diferencial)

Fecha fin de análisis: 07/04/2021

EN 14683:2019+AC:2019 Anexo C

Presión diferencial

59.9 Pa/cm²

(± 1.6) Pa/cm²

-

<60 Pa/cm² ✓ CUMPLE

Datos completos del ensayo incluidos en el Anexo.

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Fecha de emisión

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ENSAYOS A MASCARILLAS	CAS No.	RESULTADOS	INC.	LOQ	LÍMITES
-----------------------	---------	------------	------	-----	---------

Análisis sobre:G-Tras 35 ciclos / After 35 cycles

• Eficiencia de Filtración Bacteriana (BFE)

Fecha fin de análisis: 13/04/2021

EN 14683:2019+AC:2019 Anexo B

Eficacia de filtración bacteriana (BFE)

97.1 %

-

≥ 90 % ✓ CUMPLE

Datos completos del ensayo incluidos en el Anexo.
Ensayo cubierto por acreditación NABL nº TC-5492.

Respirabilidad (Presión diferencial)

Fecha fin de análisis: 07/04/2021

EN 14683:2019+AC:2019 Anexo C

Presión diferencial

59.9 Pa/cm²

(± 1.6) Pa/cm²

-

<60 Pa/cm² ✓ CUMPLE

Datos completos del ensayo incluidos en el Anexo.

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Código de Informe de Ensayo:

AR-21-YL-003893-01-ES

Código de muestra

560-2021-00002658

Fecha de emisión

14/04/2021

Firmado en representación de Eurofins Textile Testing Spain:

Informe validado electrónicamente por

Axel Ferrando

Responsable Laboratorio Físico/Mecánico

Nota aclaratoria

- ◆ Ensayo no amparado por la acreditación ENAC
- Test subcontratado dentro del grupo Eurofins y está acreditado
- Test subcontratado dentro del grupo Eurofins y no está acreditado
- Test subcontratado fuera del grupo Eurofins y está acreditado
- Test subcontratado fuera del grupo Eurofins y no está acreditado

N/A = No Aplica

*Eurofins Textile Testing Spain S.L.U no es responsable de la información suministrada por el cliente indicada en el apartado "Información suministrada por el cliente".

Los resultados obtenidos refieren solamente a las muestras, productos o materiales recibidos en el laboratorio, descritos en el apartado "Descripción de las muestras" y fueron ensayados en las condiciones descritas en el presente informe.

Las incertidumbres de ensayo no indicadas están a disposición del cliente, para aquellos ensayos en los que puedan ser estimadas.

La incertidumbres expandidas incluidas en el informe están basadas en la incertidumbre típica multiplicada por el factor de cobertura $k=2$, que para una distribución normal proporciona un nivel de confianza de aproximadamente el 95%

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FIN DEL INFORME**Eurofins Textile Testing Spain, S.L.U.**

Calle Germán Bernácer, 4

03203 Elche

ESPAÑA

Teléfono+34 966 299 638**www.eurofins.com/tex**

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Las actividades no amparadas por la acreditación ENAC están marcadas con ◆ ○ ● □ ■

CIN:U74220DL1998PLC092698

TEST REPORT

Test Report Issued To:

EUROFINS TEXTILE TESTING SPAIN SL

C/ GERMAN BERNACER, 9, 03203,
ELCHE (ALICANTE), ELCHE ALICANTE, SPAIN

Test Report No: N210320005/N210320005-11

Date of Issue: 25-Mar-2021



Sample Booking/Receipt Date: 20-Mar-2021

Date of Start of Testing: 20-Mar-2021

Date of Completion of Test: 25-Mar-2021

Customer Relationship Number

60680

Sample Description :

MASK SAMPLE 560-2021-00002658 ORIGINAL



Customer Reference No

EUAA70-00011077 ORIGINAL

Kind Attention : MELODIE RUIZ

E-Mail: resultintercotexspain@eurofins.com

Contact No: +34 966 299 638

Sample Condition : GOOD

Sample Quantity (Approx) : -

Sample Size (Approx) : -

SAMPLE NOT DRAWN BY OUR LABORATORY. THE RESULTS RELATE ONLY TO THE ITEMS TESTED

Report Issued By

ULR-TC549221000004861F

Authenticity of report can be verified by mail at verification@spectrolab.in

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Spectro Analytical Labs Limited, E-41, Okhla Indl. Area, Phase-II, New Delhi-110020(India)

Phone :+91-11-40522000, 41611000 || **Web**: www.spectro.in|| **Email**: care@spectro.in

ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Laboratory

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TEST REPORT FOR DETERMINATION OF:

Evaluating the Bacterial Filtration Efficiency (BFE) of Medical Face Mask Materials, Using a Biological Aerosol of Staphylococcus aureus

1. Name of Product

Mask

2. Test Method

BS EN 14683:2019/Annex B: Medical face masks - Requirements and test methods

3. Scope

To perform bacterial filtration efficiency test on surgical mask as per procedure given BS EN 14683:2019, by using biological aerosol of Staphylococcus aureus.

4. Testing Laboratory

Name: Spectro Analytical Labs Limited
Address: E-41, Okhla Phase-2
New Delhi
Pin Code: 110020
Ph: 011-40522000

5. Date of Test

Test Date : 20.03.2021

6. Specimen Verification

6.1. Specimen Definition

The testing laboratory was not involved in the selection of the test specimen.

7. Conditioning

Each test specimens were placed for 5 h at a temperature of 21 ± 5 °C and a relative humidity of 85 ± 5 %.

8. Inoculum Size

Staphylococcus aureus ATCC 6538 (5×10^5 cfu/ml)

9. Medium Used

Tryptic soya agar

10. Temperature condition

37°C /20 to 52 hours

Mahesh Bano
Analyst Signature



Testing(TC-5492)



ULR-TC549221000004861F



Authorised Signatory

11. Observation, Requirements & Result

Sr. no.	Test Parameters	Result	Limits as per BS EN 14683:2019/ANNEX B	Test Method
1	Bacterial Filtration Efficiency of Specimen (%)	98.9	Level 1= ≥ 95 Level 2= ≥ 98 Level 3= ≥ 98	BS EN 14683:2019
		98.3		
		98.7		
		98.2		
		98.4		
	Average of BFE results (%)	98.5		
2	Area of test Specimen	(100 mm×100 mm) Face side	Face side	BS EN 14683:2019
3	Flow rate of aerosol	28.3	28.3 L/Minute	BS EN 14683:2019
4	Mean particle size of Challenge aerosol of Staphylococcus aureus, micron	3.09	3±0.3	BS EN 14683:2019
5	Average Plate count of Positive control of Staphylococcus aureus in count, per test	1954	1700-3000	BS EN 14683:2019
6	Average Plate count of Negative control	Negative	Negative	BS EN 14683:2019

Remarks: The sample showed average 98.5 % Bacterial filtration efficiency against Staphylococcus aureus ATCC 6538 according to BS EN 14683:2019 test method.

Mahesh Bano
Analyst Signature



Testing(TC-5492)



ULR-TC549221000004861F



Authorised Signatory

TEST REPORT

12. Observations

Negative Plate count

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Negative control (cfu)	0	0	0	0	0	0	0

Positive Plate count

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Size of particle micron	7.00	4.70	3.30	2.10	1.10	0.65	
Positive control No.-1, cfu	297	275	436	425	282	274	1989
Positive control No.-2, cfu	263	249	461	443	258	245	1919

Mean of the total plate counts of the two positive controls (cfu)= 1954

Mean Particle size (MPS)

	MPS
Positive control No.-1, (µm)	3.11
Positive control No.-2, (µm)	3.07
Mean (µm)	3.09

Mahavish Bano
Analyst Signature



Testing(TC-5492)



ULR-TC549221000004861F



Authorised Signatory

TEST REPORT

Test Specimens Plate counts

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Aliquot-1	0	0	3	4	6	9	22
Aliquot-2	0	1	3	6	10	13	33
Aliquot-3	0	0	2	5	8	10	25
Aliquot-4	0	2	4	5	11	14	36
Aliquot-5	0	2	2	7	9	11	31

Test Specimens Bacterial Filtration efficiency (BFE)

	BFE (%)
Aliquot-1	98.9
Aliquot-2	98.3
Aliquot-3	98.7
Aliquot-4	98.2
Aliquot-5	98.4

-- End of Test Report --

ULR-TC549221000004861F



Mahavish Bano
Analyst Signature



Testing(TC-5492)



Authorised Signatory

CIN:U74220DL1998PLC092698

TEST REPORT

Test Report Issued To:

EUROFINS TEXTILE TESTING SPAIN SL

C/ GERMAN BERNACER, 9, 03203,
ELCHE (ALICANTE), ELCHE ALICANTE, SPAIN

Test Report No: N210327003/N210327003-11

Date of Issue: 01-Apr-2021



Sample Booking/Receipt Date: 27-Mar-2021

Date of Start of Testing: 27-Mar-2021

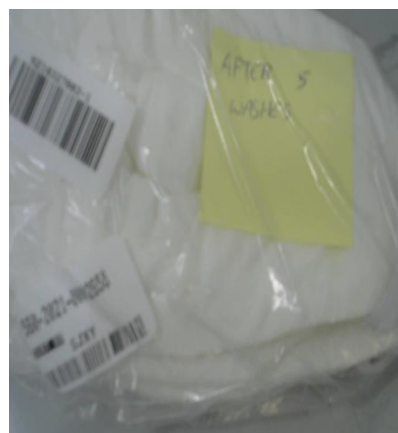
Date of Completion of Test: 01-Apr-2021

Customer Relationship Number

60680

Sample Description :

MASK SAMPLE 560-2021-00002658 AFTER 5 WASHES



Customer Reference No

EUAA70-00011077 AFTER 5 WASHES

Kind Attention : MELODIE RUIZ

E-Mail: resultintercotexspain@eurofins.com

Contact No: +34 966 299 638

Sample Condition : GOOD

Sample Quantity (Approx) : -

Sample Size (Approx) : -

SAMPLE NOT DRAWN BY OUR LABORATORY. THE RESULTS RELATE ONLY TO THE ITEMS TESTED

Report Issued By

ULR-TC549221000005095F

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TEST REPORT FOR DETERMINATION OF:

Evaluating the Bacterial Filtration Efficiency (BFE) of Medical Face Mask Materials, Using a Biological Aerosol of Staphylococcus aureus

1. Name of Product

Mask

2. Test Method

BS EN 14683:2019/Annex B: Medical face masks - Requirements and test methods

3. Scope

To perform bacterial filtration efficiency test on surgical mask as per procedure given BS EN 14683:2019, by using biological aerosol of Staphylococcus aureus.

4. Testing Laboratory

Name: Spectro Analytical Labs Limited
Address: E-41, Okhla Phase-2
New Delhi
Pin Code: 110020
Ph: 011-40522000

5. Date of Test

Test Date : 27.03.2021

6. Specimen Verification

6.1. Specimen Definition

The testing laboratory was not involved in the selection of the test specimen.

7. Conditioning

Each test specimens were placed for 5 h at a temperature of 21 ± 5 °C and a relative humidity of 85 ± 5 %.

8. Inoculum Size

Staphylococcus aureus ATCC 6538 (5×10^5 cfu/ml)

9. Medium Used

Tryptic soya agar

10. Temperature condition

37°C / 20 to 52 hours

Rity Tiwari
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005095F



Authorised Signatory

11. Observation, Requirements & Result

Sr. no.	Test Parameters	Result	Limits as per BS EN 14683:2019/ANNEX B	Test Method
1	Bacterial Filtration Efficiency of Specimen (%)	98.1	Level 1= ≥ 95 Level 2= ≥ 98 Level 3= ≥ 98	BS EN 14683:2019
		98.5		
		98.2		
		98.1		
		98.6		
	Average of BFE results (%)	98.3		
2	Area of test Specimen	(100 mm×100 mm) Face side	Face side	BS EN 14683:2019
3	Flow rate of aerosol	28.3	28.3 L/Minute	BS EN 14683:2019
4	Mean particle size of Challenge aerosol of Staphylococcus aureus, micron	3.13	3±0.3	BS EN 14683:2019
5	Average Plate count of Positive control of Staphylococcus aureus in count, per test	2328	1700-3000	BS EN 14683:2019
6	Average Plate count of Negative control	Negative	Negative	BS EN 14683:2019

Remarks: The sample showed average 98.3 % Bacterial filtration efficiency against Staphylococcus aureus ATCC 6538 according to BS EN 14683:2019 test method.

Rity Tiwari
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005095F



Authorised Signatory

TEST REPORT

12. Observations

Negative Plate count

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Negative control (cfu)	0	0	0	0	0	0	0

Positive Plate count

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Size of particle micron	7.00	4.70	3.30	2.10	1.10	0.65	
Positive control No.-1, cfu	356	348	513	479	341	313	2350
Positive control No.-2, cfu	337	326	521	491	322	309	2306

Mean of the total plate counts of the two positive controls (cfu)= 2328

Mean Particle size (MPS)

	MPS
Positive control No.-1, (µm)	3.15
Positive control No.-2, (µm)	3.12
Mean (µm)	3.13

Rity Tiwari
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005095F



Authorised Signatory

TEST REPORT

Test Specimens Plate counts

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Aliquot-1	1	1	7	8	14	16	47
Aliquot-2	0	2	2	6	10	14	34
Aliquot-3	0	2	4	7	11	17	41
Aliquot-4	1	1	3	9	12	18	44
Aliquot-5	0	2	3	5	9	13	32

Test Specimens Bacterial Filtration efficiency (BFE)

	BFE (%)
Aliquot-1	98.1
Aliquot-2	98.5
Aliquot-3	98.2
Aliquot-4	98.1
Aliquot-5	98.6

-- End of Test Report --

ULR-TC549221000005095F



Rity Tiwari
Analyst Signature



Testing(TC-5492)



Authorised Signatory

TEST REPORT

Test Report Issued To:

EUROFINS TEXTILE TESTING SPAIN SL

C/ GERMAN BERNACER, 9,31, 03203,
ELCHE (ALICANTE), ELCHE ALICANTE, SPAIN

Test Report No: N210406006/N210406006-11

Date of Issue: 10-Apr-2021



Sample Booking/Receipt Date: 06-Apr-2021

Date of Start of Testing: 06-Apr-2021

Date of Completion of Test: 10-Apr-2021

Customer Relationship Number

60680

Sample Description :

MASKS SAMPLE DESCRIPTION - 560 - 2021 - 00002658 - AFTER
15 WASHES



Customer Reference No

EUAA70 - 00011077 - AFTER 15 WASHES

Kind Attention : MELODIE RUIZ

E-Mail: resultintercotexspain@eurofins.com

Contact No: +34 966 299 638

Sample Condition : GOOD

Sample Quantity (Approx) : -

Sample Size (Approx) : -

SAMPLE NOT DRAWN BY OUR LABORATORY. THE RESULTS RELATE ONLY TO THE ITEMS TESTED

Report Issued By

ULR-TC549221000005340F

Authenticity of report can be verified by mail at verification@spectrolab.in

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Phone :+91-11-40522000, 41611000 || **Web**: www.spectro.in|| **Email**: care@spectro.in

ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Laboratory

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TEST REPORT FOR DETERMINATION OF:

Evaluating the Bacterial Filtration Efficiency (BFE) of Medical Face Mask Materials, Using a Biological Aerosol of Staphylococcus aureus

1. Name of Product

Mask

2. Test Method

BS EN 14683:2019/Annex B: Medical face masks - Requirements and test methods

3. Scope

To perform bacterial filtration efficiency test on surgical mask as per procedure given BS EN 14683:2019, by using biological aerosol of Staphylococcus aureus.

4. Testing Laboratory

Name: Spectro Analytical Labs Limited
Address: E-41, Okhla Phase-2
New Delhi
Pin Code: 110020
Ph: 011-40522000

5. Date of Test

Test Date : 06.04.2021

6. Specimen Verification

6.1. Specimen Definition

The testing laboratory was not involved in the selection of the test specimen.

7. Conditioning

Each test specimens were placed for 5 h at a temperature of 21 ± 5 °C and a relative humidity of 85 ± 5 %.

8. Inoculum Size

Staphylococcus aureus ATCC 6538 (5×10^5 cfu/ml)

9. Medium Used

Tryptic soya agar

10. Temperature condition

37°C /20 to 52 hours

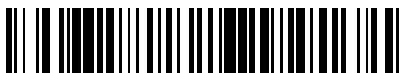
Mahesh Bano
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005340F



Authorised Signatory

11. Observation, Requirements & Result

Sr. no.	Test Parameters	Result	Limits as per BS EN 14683:2019/ANNEX B	Test Method
1	Bacterial Filtration Efficiency of Specimen (%)	98.2	Level 1= ≥ 95 Level 2= ≥ 98 Level 3= ≥ 98	BS EN 14683:2019
		97.8		
		98.3		
		98.1		
		97.6		
	Average of BFE results (%)	98.0		
2	Area of test Specimen	(100 mm×100 mm) Face side	Face side	BS EN 14683:2019
3	Flow rate of aerosol	28.3	28.3 L/Minute	BS EN 14683:2019
4	Mean particle size of Challenge aerosol of Staphylococcus aureus, micron	3.23	3±0.3	BS EN 14683:2019
5	Average Plate count of Positive control of Staphylococcus aureus in count, per test	2065	1700-3000	BS EN 14683:2019
6	Average Plate count of Negative control	Negative	Negative	BS EN 14683:2019

Remarks: The sample showed average 98.0 % Bacterial filtration efficiency against Staphylococcus aureus ATCC 6538 according to BS EN 14683:2019 test method.

Mahesh Bano
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005340F



Authorised Signatory

Spectro Analytical Labs Limited, E-41, Okhla Indl. Area, Phase-II, New Delhi-110020(India)

Phone :+91-11-40522000, 41611000 || Web: www.spectro.in|| Email: care@spectro.in

ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Laboratory

TEST REPORT

12. Observations

Negative Plate count

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Negative control (cfu)	0	0	0	0	0	0	0

Positive Plate count

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Size of particle micron	7.00	4.70	3.30	2.10	1.10	0.65	
Positive control No.-1, cfu	349	326	467	438	289	263	2132
Positive control No.-2, cfu	314	303	452	414	275	240	1998

Mean of the total plate counts of the two positive controls (cfu)= 2065

Mean Particle size (MPS)

	MPS
Positive control No.-1, (µm)	3.24
Positive control No.-2, (µm)	3.22
Mean (µm)	3.23

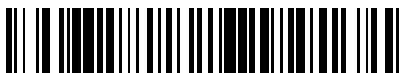
Mahavish Bano
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005340F



Authorised Signatory

TEST REPORT

Test Specimens Plate counts

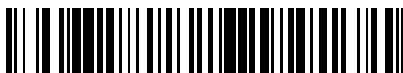
Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Aliquot-1	2	3	5	4	9	14	37
Aliquot-2	1	5	6	8	10	15	45
Aliquot-3	2	4	5	6	7	11	35
Aliquot-4	2	2	5	7	7	16	39
Aliquot-5	3	3	5	9	12	18	50

Test Specimens Bacterial Filtration efficiency (BFE)

	BFE (%)
Aliquot-1	98.2
Aliquot-2	97.8
Aliquot-3	98.3
Aliquot-4	98.1
Aliquot-5	97.6

-- End of Test Report --

ULR-TC549221000005340F



Mahavish Bano
Analyst Signature



Testing(TC-5492)



Authorised Signatory

CIN:U74220DL1998PLC092698

TEST REPORT

Test Report Issued To:

EUROFINS TEXTILE TESTING SPAIN SL

C/ GERMAN BERNACER, 9,31, 03203,
ELCHE (ALICANTE), ELCHE ALICANTE, SPAIN

Test Report No: N210406004/N210406004-11

Date of Issue: 10-Apr-2021



Sample Booking/Receipt Date: 06-Apr-2021

Date of Start of Testing: 06-Apr-2021

Date of Completion of Test: 10-Apr-2021

Customer Relationship Number

60680

Sample Description :

MASKS SAMPLE DESCRIPTION - 560 - 2021 - 00002658 - AFTER
25 WASHES



Customer Reference No

EUAA70 - 00011077 - AFTER 25 WASHES

Kind Attention : MELODIE RUIZ

E-Mail: resultintercotexspain@eurofins.com

Contact No: +34 966 299 638

Sample Condition : GOOD

Sample Quantity (Approx) : -

Sample Size (Approx) : -

SAMPLE NOT DRAWN BY OUR LABORATORY. THE RESULTS RELATE ONLY TO THE ITEMS TESTED

Report Issued By

ULR-TC549221000005341F

Authenticity of report can be verified by mail at verification@spectrolab.in

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Phone :+91-11-40522000, 41611000 || **Web**: www.spectro.in || **Email**: care@spectro.in

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TEST REPORT FOR DETERMINATION OF:

Evaluating the Bacterial Filtration Efficiency (BFE) of Medical Face Mask Materials, Using a Biological Aerosol of Staphylococcus aureus

1. Name of Product

Mask

2. Test Method

BS EN 14683:2019/Annex B: Medical face masks - Requirements and test methods

3. Scope

To perform bacterial filtration efficiency test on surgical mask as per procedure given BS EN 14683:2019, by using biological aerosol of Staphylococcus aureus.

4. Testing Laboratory

Name: Spectro Analytical Labs Limited
Address: E-41, Okhla Phase-2
New Delhi
Pin Code: 110020
Ph: 011-40522000

5. Date of Test

Test Date : 06.04.2021

6. Specimen Verification

6.1. Specimen Definition

The testing laboratory was not involved in the selection of the test specimen.

7. Conditioning

Each test specimens were placed for 5 h at a temperature of 21 ± 5 °C and a relative humidity of 85 ± 5 %.

8. Inoculum Size

Staphylococcus aureus ATCC 6538 (5×10^5 cfu/ml)

9. Medium Used

Tryptic soya agar

10. Temperature condition

37°C / 20 to 52 hours

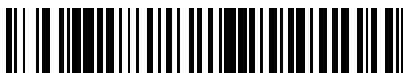
Rity Tiwari
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005341F



Authorised Signatory

11. Observation, Requirements & Result

Sr. no.	Test Parameters	Result	Limits as per BS EN 14683:2019/ANNEX B	Test Method
1	Bacterial Filtration Efficiency of Specimen (%)	97.6	Level 1= ≥ 95 Level 2= ≥ 98 Level 3= ≥ 98	BS EN 14683:2019
		98.0		
		97.5		
		97.8		
		97.6		
	Average of BFE results (%)	97.7		
2	Area of test Specimen	(100 mm×100 mm) Face side	Face side	BS EN 14683:2019
3	Flow rate of aerosol	28.3	28.3 L/Minute	BS EN 14683:2019
4	Mean particle size of Challenge aerosol of Staphylococcus aureus, micron	3.23	3±0.3	BS EN 14683:2019
5	Average Plate count of Positive control of Staphylococcus aureus in count, per test	2065	1700-3000	BS EN 14683:2019
6	Average Plate count of Negative control	Negative	Negative	BS EN 14683:2019

Remarks: The sample showed average 97.7 % Bacterial filtration efficiency against Staphylococcus aureus ATCC 6538 according to BS EN 14683:2019 test method.

Rity Tiwari
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005341F



Authorised Signatory

TEST REPORT

12. Observations

Negative Plate count

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Negative control (cfu)	0	0	0	0	0	0	0

Positive Plate count

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Size of particle micron	7.00	4.70	3.30	2.10	1.10	0.65	
Positive control No.-1, cfu	349	326	467	438	289	263	2132
Positive control No.-2, cfu	314	303	452	414	275	240	1998

Mean of the total plate counts of the two positive controls (cfu)= 2065

Mean Particle size (MPS)

	MPS
Positive control No.-1, (µm)	3.24
Positive control No.-2, (µm)	3.22
Mean (µm)	3.23

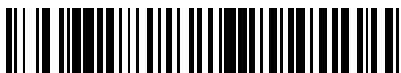
Rity Tiwari
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005341F



Authorised Signatory

TEST REPORT

Page 5 of 5

Report No. N210406004/N210406004-11

Test Specimens Plate counts

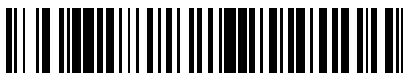
Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Aliquot-1	0	0	3	8	11	28	50
Aliquot-2	0	0	0	7	9	25	41
Aliquot-3	0	0	0	10	12	29	51
Aliquot-4	0	0	0	6	16	24	46
Aliquot-5	0	0	0	5	17	27	49

Test Specimens Bacterial Filtration efficiency (BFE)

	BFE (%)
Aliquot-1	97.6
Aliquot-2	98.0
Aliquot-3	97.5
Aliquot-4	97.8
Aliquot-5	97.6

-- End of Test Report --

ULR-TC549221000005341F



Rity Tiwari
Analyst Signature



Testing(TC-5492)



Authorised Signatory

Spectro Analytical Labs Limited, E-41, Okhla Indl. Area, Phase-II, New Delhi-110020(India)

Phone :+91-11-40522000, 41611000 || Web: www.spectro.in|| Email: care@spectro.in

ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Laboratory

CIN:U74220DL1998PLC092698

TEST REPORT

Test Report Issued To:

EUROFINS TEXTILE TESTING SPAIN SL

C/ GERMAN BERNACER, 9,31, 03203,
ELCHE (ALICANTE), ELCHE ALICANTE, SPAIN

Test Report No: N210406003/N210406003-11

Date of Issue: 10-Apr-2021



Sample Booking/Receipt Date: 06-Apr-2021

Date of Start of Testing: 06-Apr-2021

Date of Completion of Test: 10-Apr-2021

Customer Relationship Number

60680

Sample Description :

MASKS SAMPLE DESCRIPTION - 560 - 2021 - 00002658 - AFTER
30 WASHES



Customer Reference No

EUAA70-00011077 - AFTER 30 WASHES

Kind Attention : MELODIE RUIZ

E-Mail: resultintercotexspain@eurofins.com

Contact No: +34 966 299 638

Sample Condition : GOOD

Sample Quantity (Approx) : -

Sample Size (Approx) : -

SAMPLE NOT DRAWN BY OUR LABORATORY. THE RESULTS RELATE ONLY TO THE ITEMS TESTED

Report Issued By

ULR-TC549221000005342F

Authenticity of report can be verified by mail at verification@spectrolab.in

This is a Digitally Signed Report and hence doesn't require Physical Signature.

Spectro Analytical Labs Limited, E-41, Okhla Indl. Area, Phase-II, New Delhi-110020(India)

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TEST REPORT FOR DETERMINATION OF:

Evaluating the Bacterial Filtration Efficiency (BFE) of Medical Face Mask Materials, Using a Biological Aerosol of Staphylococcus aureus

1. Name of Product

Mask

2. Test Method

BS EN 14683:2019/Annex B: Medical face masks - Requirements and test methods

3. Scope

To perform bacterial filtration efficiency test on surgical mask as per procedure given BS EN 14683:2019, by using biological aerosol of Staphylococcus aureus.

4. Testing Laboratory

Name: Spectro Analytical Labs Limited
Address: E-41, Okhla Phase-2
New Delhi
Pin Code: 110020
Ph: 011-40522000

5. Date of Test

Test Date : 06.04.2021

6. Specimen Verification

6.1. Specimen Definition

The testing laboratory was not involved in the selection of the test specimen.

7. Conditioning

Each test specimens were placed for 5 h at a temperature of 21 ± 5 °C and a relative humidity of 85 ± 5 %.

8. Inoculum Size

Staphylococcus aureus ATCC 6538 (5×10^5 cfu/ml)

9. Medium Used

Tryptic soya agar

10. Temperature condition

37°C /20 to 52 hours

Rity Tiwari
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005342F



Authorised Signatory

11. Observation, Requirements & Result

Sr. no.	Test Parameters	Result	Limits as per BS EN 14683:2019/ANNEX B	Test Method
1	Bacterial Filtration Efficiency of Specimen (%)	97.4	Level 1= ≥ 95 Level 2= ≥ 98 Level 3= ≥ 98	BS EN 14683:2019
		97.3		
		97.6		
		97.0		
		97.2		
	Average of BFE results (%)	97.3		
2	Area of test Specimen	(100 mm×100 mm) Face side	Face side	BS EN 14683:2019
3	Flow rate of aerosol	28.3	28.3 L/Minute	BS EN 14683:2019
4	Mean particle size of Challenge aerosol of Staphylococcus aureus, micron	3.23	3±0.3	BS EN 14683:2019
5	Average Plate count of Positive control of Staphylococcus aureus in count, per test	2065	1700-3000	BS EN 14683:2019
6	Average Plate count of Negative control	Negative	Negative	BS EN 14683:2019

Remarks: The sample showed average 97.3 % Bacterial filtration efficiency against Staphylococcus aureus ATCC 6538 according to BS EN 14683:2019 test method.

Rity Tiwari
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005342F



Authorised Signatory

TEST REPORT

12. Observations

Negative Plate count

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Negative control (cfu)	0	0	0	0	0	0	0

Positive Plate count

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Size of particle micron	7.00	4.70	3.30	2.10	1.10	0.65	
Positive control No.-1, cfu	349	326	467	438	289	263	2132
Positive control No.-2, cfu	314	303	452	414	275	240	1998

Mean of the total plate counts of the two positive controls (cfu)= 2065

Mean Particle size (MPS)

	MPS
Positive control No.-1, (µm)	3.24
Positive control No.-2, (µm)	3.22
Mean (µm)	3.23

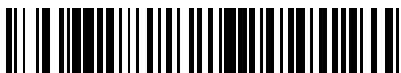
Rity Tiwari
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005342F



Authorised Signatory

TEST REPORT

Test Specimens Plate counts

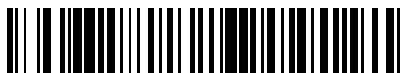
Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Aliquot-1	0	0	1	5	16	31	53
Aliquot-2	0	0	7	9	11	29	56
Aliquot-3	0	0	0	5	19	26	50
Aliquot-4	0	0	3	9	21	28	61
Aliquot-5	0	2	2	10	19	25	58

Test Specimens Bacterial Filtration efficiency (BFE)

	BFE (%)
Aliquot-1	97.4
Aliquot-2	97.3
Aliquot-3	97.6
Aliquot-4	97.0
Aliquot-5	97.2

-- End of Test Report --

ULR-TC549221000005342F



Rity Tiwari
Analyst Signature



Testing(TC-5492)



Authorised Signatory

CIN:U74220DL1998PLC092698

TEST REPORT

Test Report Issued To:

EUROFINS TEXTILE TESTING SPAIN SL

C/ GERMAN BERNACER, 9,31, 03203,
ELCHE (ALICANTE), ELCHE ALICANTE, SPAIN

Test Report No: N210406005/N210406005-11

Date of Issue: 10-Apr-2021



Sample Booking/Receipt Date: 06-Apr-2021

Date of Start of Testing: 06-Apr-2021

Date of Completion of Test: 10-Apr-2021

Customer Relationship Number

60680

Sample Description :

MASKS SAMPLE DESCRIPTION - 560 - 2021 - 00002658 - AFTER
35 WASHES



Customer Reference No

EUAA70 - 00011077 - AFTER 35 WASHES

Kind Attention : MELODIE RUIZ

E-Mail: resultintercotexspain@eurofins.com

Contact No: +34 966 299 638

Sample Condition : GOOD

Sample Quantity (Approx) : -

Sample Size (Approx) : -

SAMPLE NOT DRAWN BY OUR LABORATORY. THE RESULTS RELATE ONLY TO THE ITEMS TESTED

Report Issued By

ULR-TC549221000005339F

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TEST REPORT FOR DETERMINATION OF:

Evaluating the Bacterial Filtration Efficiency (BFE) of Medical Face Mask Materials, Using a Biological Aerosol of Staphylococcus aureus

1. Name of Product

Mask

2. Test Method

BS EN 14683:2019/Annex B: Medical face masks - Requirements and test methods

3. Scope

To perform bacterial filtration efficiency test on surgical mask as per procedure given BS EN 14683:2019, by using biological aerosol of Staphylococcus aureus.

4. Testing Laboratory

Name: Spectro Analytical Labs Limited
Address: E-41, Okhla Phase-2
New Delhi
Pin Code: 110020
Ph: 011-40522000

5. Date of Test

Test Date : 06.04.2021

6. Specimen Verification

6.1. Specimen Definition

The testing laboratory was not involved in the selection of the test specimen.

7. Conditioning

Each test specimens were placed for 5 h at a temperature of 21 ± 5 °C and a relative humidity of 85 ± 5 %.

8. Inoculum Size

Staphylococcus aureus ATCC 6538 (5×10^5 cfu/ml)

9. Medium Used

Tryptic soya agar

10. Temperature condition

37°C /20 to 52 hours

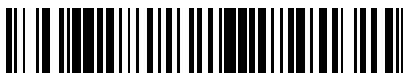
Mahesh Bano
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005339F



Authorised Signatory

11. Observation, Requirements & Result

Sr. no.	Test Parameters	Result	Limits as per BS EN 14683:2019/ANNEX B	Test Method
1	Bacterial Filtration Efficiency of Specimen (%)	97.1	Level 1= ≥ 95 Level 2= ≥ 98 Level 3= ≥ 98	BS EN 14683:2019
		96.9		
		97.3		
		96.8		
		97.4		
	Average of BFE results (%)	97.1		
2	Area of test Specimen	(100 mm×100 mm) Face side	Face side	BS EN 14683:2019
3	Flow rate of aerosol	28.3	28.3 L/Minute	BS EN 14683:2019
4	Mean particle size of Challenge aerosol of Staphylococcus aureus, micron	3.23	3±0.3	BS EN 14683:2019
5	Average Plate count of Positive control of Staphylococcus aureus in count, per test	2065	1700-3000	BS EN 14683:2019
6	Average Plate count of Negative control	Negative	Negative	BS EN 14683:2019

Remarks: The sample showed average 97.1 % Bacterial filtration efficiency against Staphylococcus aureus ATCC 6538 according to BS EN 14683:2019 test method.

Mahesh Bano
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005339F



Authorised Signatory

Spectro Analytical Labs Limited, E-41, Okhla Indl. Area, Phase-II, New Delhi-110020(India)

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TEST REPORT

12. Observations

Negative Plate count

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Negative control (cfu)	0	0	0	0	0	0	0

Positive Plate count

Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Size of particle micron	7.00	4.70	3.30	2.10	1.10	0.65	
Positive control No.-1, cfu	349	326	467	438	289	263	2132
Positive control No.-2, cfu	314	303	452	414	275	240	1998

Mean of the total plate counts of the two positive controls (cfu)= 2065

Mean Particle size (MPS)

	MPS
Positive control No.-1, (µm)	3.24
Positive control No.-2, (µm)	3.22
Mean (µm)	3.23

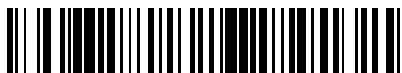
Mahavish Bano
Analyst Signature



Testing(TC-5492)



ULR-TC549221000005339F



Authorised Signatory

TEST REPORT

Test Specimens Plate counts

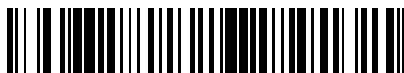
Specimen	Count of Plate at stage-1	Count of Plate at stage-2	Count of Plate at stage-3	Count of Plate at stage-4	Count of Plate at stage-5	Count of Plate at stage-6	Total sum of counts
Aliquot-1	3	5	7	10	13	22	60
Aliquot-2	4	4	9	8	15	24	64
Aliquot-3	3	4	6	9	12	21	55
Aliquot-4	5	8	7	10	13	23	66
Aliquot-5	2	3	7	8	14	20	54

Test Specimens Bacterial Filtration efficiency (BFE)

	BFE (%)
Aliquot-1	97.1
Aliquot-2	96.9
Aliquot-3	97.3
Aliquot-4	96.8
Aliquot-5	97.4

-- End of Test Report --

ULR-TC549221000005339F



Mahavish Bano
Analyst Signature



Testing(TC-5492)



Authorised Signatory

METHOD FOR DETERMINATION OF BREATHABILITY (DIFFERENTIAL PRESSURE)
DETERMINACIÓN DE LA RESPIRABILIDAD (PRESIÓN DIFERENCIAL)

Test Method / Método de ensayo: EN 14683: 2019+AC: 2019 Annex C

Number of test specimens / Número de muestras de ensayo: 5

Number of test per specimen / Número de ensayos por muestra: 5

Sample area tested / Dimensión de la muestra de ensayo: Circular, diameter 2,5 cm/Circular, diametro 2,5 cm

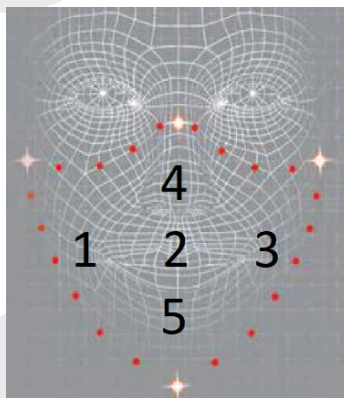
Tested area of the test sample / Tamaño del área sometida a ensayo: 4,9 cm²

Flow rate during testing / Caudal de aire: 8±0,6 l/min

General location of measurement areas / Ubicación general de las áreas de medición: Representative of the overall surface / Representativos de toda la superficie

Conditioning / Acondicionamiento: T^a between 16,7°C and 26 °C. RH between 82,8% and 88 % during at least 4 h. / T^a entre 16,7°C y 26 °C. HR entre 82,8% y 88% durante al menos 4 h.

Airflow direction during testing / Dirección del flujo de aire durante el ensayo: From the inner layer to the outer layer / Desde la capa interior hasta la capa exterior.



Results original sample / Resultados muestra original

Specimen Probeta	Units / Unidades (Pa)						ΔP (Pa/cm ²)
	Position Posición 1	Position Posición 2	Position Posición 3	Position Posición 4	Position Posición 5	Mean value Valor medio (Pa)	
1	197	203	174	195	215	197	40,2
2	182	196	179	191	234	196	40,1
3	190	207	196	199	214	201	41,1
4	216	218	227	234	218	223	45,4
5	198	193	179	215	240	205	41,8
						Mean Value Media	41,7
						Uncertainty Incertidumbre	± 1,8

Results after 5 cycles / Resultados tras 5 ciclos

Specimen Probeta	Units / Unidades (Pa)						ΔP (Pa/cm ²)
	Position Posición 1	Position Posición 2	Position Posición 3	Position Posición 4	Position Posición 5	Mean value Valor medio (Pa)	
1	291	294	290	270	292	287	58,7
2	284	277	281	265	264	274	56,0
3	261	293	292	270	311	285	58,2
4	291	280	274	279	307	286	58,4
5	292	289	293	306	315	299	61,0
						Mean Value Media	58,5
						Uncertainty Incertidumbre	± 1,9

Results after 15 cycles / Resultados tras 15 ciclos

Specimen Probeta	Units / Unidades (Pa)						ΔP (Pa/cm ²)
	Position Posición 1	Position Posición 2	Position Posición 3	Position Posición 4	Position Posición 5	Mean value Valor medio (Pa)	
1	260	261	272	269	284	269	54,9
2	270	269	256	254	262	262	53,5
3	277	257	263	253	281	266	54,3
4	273	274	266	250	262	265	54,1
5	276	279	272	278	261	273	55,8
						Mean Value Media	54,5
						Uncertainty Incertidumbre	± 1,5

Results after 25 cycles / Resultados tras 25 ciclos

Specimen Probeta	Units / Unidades (Pa)						ΔP (Pa/cm ²)
	Position Posición 1	Position Posición 2	Position Posición 3	Position Posición 4	Position Posición 5	Mean value Valor medio (Pa)	
1	258	245	268	240	269	256	52,2
2	250	253	245	251	243	248	50,7
3	238	242	232	249	247	242	49,3
4	254	260	267	260	245	257	52,5
5	266	263	252	249	254	257	52,4
						Mean Value Media	51,4
						Uncertainty Incertidumbre	± 1,5

Results after 30 cycles / Resultados tras 30 ciclos

Specimen Probeta	Units / Unidades (Pa)						ΔP (Pa/cm ²)
	Position Posición 1	Position Posición 2	Position Posición 3	Position Posición 4	Position Posición 5	Mean value Valor medio (Pa)	
1	290	289	288	296	305	294	59,9
2	295	293	296	285	298	293	59,9
3	283	290	274	292	302	288	58,8
4	294	309	285	304	291	297	60,5
5	293	305	300	272	305	295	60,2
Mean Value Media							59,9
Uncertainty Incertidumbre							± 1,6

Results after 35 cycles / Resultados tras 35 ciclos

Specimen Probeta	Units / Unidades (Pa)						ΔP (Pa/cm ²)
	Position Posición 1	Position Posición 2	Position Posición 3	Position Posición 4	Position Posición 5	Mean value Valor medio (Pa)	
1	277	293	301	296	300	293	59,9
2	305	289	302	282	307	297	60,6
3	292	294	295	288	277	289	59,0
4	300	305	284	287	303	296	60,4
5	295	283	289	301	292	292	59,6
Mean Value Media							59,9
Uncertainty Incertidumbre							± 1,6

Observation / Observación:

For thick and rigid masks the test method may not be suitable as a proper seal cannot be maintained in the sample holder. / Para mascarillas gruesas y rígidas, el método de ensayo puede no ser adecuado dado que no se pueden mantener un sello apropiado en el soporte de la muestra.

SUMMARY ACCEPTANCE CRITERIA FOR REUSABLE HYGIENIC MASKS ACCORDING TO
ESPECIFICACION UNE 0065:2020
RESUMEN CRITERIOS DE ACEPTACIÓN PARA MASCARILLAS HIGIÉNICAS REUTILIZABLES SEGÚN
UNE 0065:2020

Tests Ensayos	Acceptance criteria Criterio de aceptación
Bacterial filtration efficiency (BFE), (%) (Section 5.2.2 of the UNE-EN 14683: 2019+AC: 2019 Standard) Eficacia de filtración. (%) (BFE") (apartado 5.2.2 de la Norma UNE-EN 14683:2019+AC:2019)	≥ 90
Breathability (Differential pressure), (Pa/cm ²) (Section 5.2.3 of the UNE-EN 14683: 2019+AC: 2019 Standard) Respirabilidad (Presión diferencial), (Pa/cm ²) (apartado 5.2.3 de la Norma UNE-EN 14683:2019+AC:2019)	< 60