

**Job No./Report No:** 20-009791

**Date:** 13/10/2020

**Client:** Ziraketan S.R.L.

**Code:** CL-1457

**Address:** P.I. Ciudad del transporte C/Francia,10 NOAIN (ELORTZIBAR) NAVARRA ESPAÑA

**Attn:** Alfonso Zabalza

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**Tel:** 0034 948316431

**Fax:**

The following sample was (were) submitted and identified by the client as:

Job no Report No.:	<b>20-009791</b>
Receiving Date:	<b>21/09/2020</b>
Test Start Date:	<b>30/09/2020</b>
Test End Date:	<b>13/10/2020</b>
Sample description:	<b>HIGIENICAL MASKS</b>

  

Serie :	<input type="text"/>
Batch No.:	<input type="text"/>
Reference No.:	<b>MASK MODELO PS200V1 (3 CAPAS) (NIDO+TRICOT+NIDO)</b>
Composition indicated:	<b>unknown</b>

## SUMMARY OF TEST CONCLUSIONS

SOP description	Conclusions
SOP305 - Change of appearance after washing (Garments and fabrics)	Pass
SOP 342- Bacterial Filtration Efficiency (BFE)	Pass
SOP 342- Bacterial Filtration Efficiency (BFE) - After Washing	Pass
SOP106 - Determination of breathability (Differential Pressure) - Original	Pass
SOP106 - Determination of breathability (Differential Pressure) - After Washing	Pass

## Sample Tested



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## SOP305 - Change of appearance after washing (Garments and fabrics)

ID	ID AMSLab	Description	Conclusion
3	S-200922-00159	MASK MULTICOLOR (AFTER 40 WASHING CYCLES AT 60°C)	Pass

	CAS	S-200922-00159
Change of appearance after washing		Slight change
Number of cycles		40
Washing Temperature		60°C

Notes:

Note 1: Washing and drying process applied based on UNE-EN ISO 6330:2012

Note 2:

- Detergent: 20 gr of Commercial detergent / - Drying procedure: Air dry without tumble dry.
- n.a.: not applicable
- Requirement: No obvious change/colour/shape/appearance/seams/embroidery/trimmings/applications

Note 3 - Meaning of the grades of change of appearance:

- No change in appearance after washing and drying process
- Slight change in appearance after washing and drying process
- Moderate change in appearance after washing and drying process
- Severe change in appearance after washing and drying process

## SOP 342- Bacterial Filtration Efficiency (BFE)

ID	ID AMSLab	Description	Conclusion
4	S-200922-00160	MASK MULTICOLOR (ORIGINAL)	Pass

	CAS	S-200922-00160
Test 1: Bacterial Filtration Efficiency		92.6
Test 1: Number of Bacteria		155
Test 2: Bacterial Filtration Efficiency		93.2
Test 2: Number of Bacteria		143
Test 3: Bacterial Filtration Efficiency		93.3
Test 3: Number of Bacteria		140
Test 4: Bacterial Filtration Efficiency		93.6
Test 4: Number of Bacteria		135
Test 5: Bacterial Filtration Efficiency		93.8
Test 5: Number of Bacteria		130

Notes:

Test Method: EN 14683:2019+AC:2019 (TS EN 14683+AC:2019) Annex-B / Medical Face Masks - Requirements and Test Methods

Requirements by specifications:

Spanish specification UNE 0064:2020: >=95%

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Spanish specification UNE 0065:2020:  $\geq 90\%$   
 European specification CWA 17553:2020: Level  $\geq 90\%$  and  
 European specification CWA 17553:2020: Level  $\geq 70\%$

Other requirements:

- Surgical Mask type I by UNE-EN 14683:  $\geq 95\%$
- Surgical Mask type II by UNE-EN 14683:  $\geq 98\%$
- Surgical Mask type IIR by UNE-EN 14683:  $\geq 98\%$

Report unit Bacterial Filtration Efficiency = %  
 Report unit Number of Bacteria = cfu/mL

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: 10x10 cm<sup>2</sup>  
 Microorganism: Staphylococcus aureus ATCC 6538  
 Bacterial concentration (cfu/ml): 5x10E5 cfu/ml  
 Incubation conditions: 24 hour, 35C  $\pm$  2C  
 Positive control sample average of number of Bacteria (C): 2.1x10E3 cfu/ml

(\*) Test subcontracted and accredited for medical mask tests (EN 14683). Results in subcontracted report number: 20036410

## SOP 342- Bacterial Filtration Efficiency (BFE) - After Washing

ID	ID AMSLab	Description	Conclusion
5	S-200922-00161	MASK MULTICOLOR (AFTER 40 WASHING CYCLES AT 60°C)	Pass

	CAS	S-200922-00161
Test 1: Bacterial Filtration Efficiency		92.4
Test 1: Number of Bacteria		160
Test 2: Bacterial Filtration Efficiency		91.7
Test 2: Number of Bacteria		174
Test 3: Bacterial Filtration Efficiency		92.0
Test 3: Number of Bacteria		169
Test 4: Bacterial Filtration Efficiency		91.9
Test 4: Number of Bacteria		171
Test 5: Bacterial Filtration Efficiency		91.9
Test 5: Number of Bacteria		170

Notes:

Test Method: EN 14683:2019+AC:2019 (TS EN 14683+AC:2019) Annex-B / Medical Face Masks - Requirements and Test Methods

Requirements by specifications:

Spanish specification UNE 0064:2020:  $\geq 95\%$   
 Spanish specification UNE 0065:2020:  $\geq 90\%$   
 European specification CWA 17553:2020: Level  $\geq 90\%$  and  
 European specification CWA 17553:2020: Level  $\geq 70\%$

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Other requirements:

- Surgical Mask type I by UNE-EN 14683:  $\geq 95\%$
- Surgical Mask type II by UNE-EN 14683:  $\geq 98\%$
- Surgical Mask type IIR by UNE-EN 14683:  $\geq 98\%$

Report unit Bacterial Filtration Efficiency = %

Report unit Number of Bacteria = cfu/mL

A specimen of the mask material is clamped between an 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: 10x10 cm<sup>2</sup>

Microorganism: Staphylococcus aureus ATCC 6538

Bacterial concentration (cfu/ml): 5x10E5 cfu/ml

Incubation conditions: 24 hour, 35C  $\pm$  2C

Positive control sample average of number of Bacteria (C): 2.1x10E3 cfu/ml

(\*) Test subcontracted and accredited for medical mask tests (EN 14683). Results in subcontracted report number: 20036411

## **SOP106 - Determination of breathability (Differential Pressure) - Original**

ID	ID AMSLab	Description	Conclusion
1	S-200922-00157	MASK MULTICOLOR (ORIGINAL)	Pass

	CAS	S-200922-00157
Average Differential pressure (Pa/cm <sup>2</sup> )		34
Value 1 Differential pressure (Pa/cm <sup>2</sup> )		32
Value 2 Differential pressure (Pa/cm <sup>2</sup> )		35
Value 3 Differential pressure (Pa/cm <sup>2</sup> )		33
Value 4 Differential pressure (Pa/cm <sup>2</sup> )		36
Value 5 Differential pressure (Pa/cm <sup>2</sup> )		34

Notes:

Note 1: Applied standard UNE-EN 14683:2019 and Spanish Specification UNE 0064-1, 0064-2, 0065 and European Specification CWA 17553

Note 2: Size of test specimen: 4.9 cm<sup>2</sup>

Note 3: Tested area of the test specimen: 2.5 cm

Note 4: Flow of air: (8  $\pm$  0.2) l/min

Note 5: Velocity of 272 l/m<sup>2</sup>/s or 272 mm/s

Note 6: Report Unit: Pa and P (Pa/cm<sup>2</sup>)

Note 7: Number of samples tested: 5 / Number of measurements: 5

Note 8: Conditioned samples: 4 hours at 21  $\pm$  5 °C and 85  $\pm$  5 HR

Note 9: n.a. = not applicable

Requirements by specifications:

- Non-reusable Hygienic Mask by UNE 0064-1-2: < 60 Pa/cm<sup>2</sup>
- Reusable Hygienic Mask by UNE 0065: < 60 Pa/cm<sup>2</sup>
- European specification CWA 17553:2020:  $\leq 70$  Pa/cm<sup>2</sup>

Other requirements:

- Surgical Mask type I by UNE-EN 14683: < 40 Pa/cm<sup>2</sup>
- Surgical Mask type II by UNE-EN 14683: < 40 Pa/cm<sup>2</sup>

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- Surgical Mask type IIR by UNE-EN 14683: < 60 Pa/cm<sup>2</sup>

Specific Notes:

(\*\*) The result is out of specifications

## **SOP106 - Determination of breathability (Differential Pressure) - After Washing**

ID	ID AMSLab	Description	Conclusion
2	S-200922-00158	MASK MULTICOLOR (AFTER 40 WASHING CYCLES AT 60°C)	Pass

	CAS	S-200922-00158
Average Differential pressure (Pa/cm <sup>2</sup> )		42
Value 1 Differential pressure (Pa/cm <sup>2</sup> )		43
Value 2 Differential pressure (Pa/cm <sup>2</sup> )		45
Value 3 Differential pressure (Pa/cm <sup>2</sup> )		41
Value 4 Differential pressure (Pa/cm <sup>2</sup> )		40
Value 5 Differential pressure (Pa/cm <sup>2</sup> )		42

Notes:

Note 1: Applied standard UNE-EN 14683:2019 and Spanish Specification UNE 0064-1, 0064-2, 0065 and European Specification CWA 17553

Note 2: Size of test specimen: 4.9 cm<sup>2</sup>

Note 3: Tested area of the test specimen: 2.5 cm

Note 4: Flow of air: (8 ± 0.2) l/min

Note 5: Velocity of 272 l/m<sup>2</sup>/s or 272 mm/s

Note 6: Report Unit: Pa and P (Pa/cm<sup>2</sup>)

Note 7: Number of samples tested: 5 / Number of measurements: 5

Note 8: Conditioned samples: 4 hours at 21 ± 5 °C and 85 ± 5 HR

Note 9: n.a. = not applicable

Requirements by specifications:

- Non-reusable Hygienic Mask by UNE 0064-1-2: < 60 Pa/cm<sup>2</sup>

- Reusable Hygienic Mask by UNE 0065: < 60 Pa/cm<sup>2</sup>

- European specification CWA 17553:2020: <= 70 Pa/cm<sup>2</sup>

Other requirements:

- Surgical Mask type I by UNE-EN 14683: < 40 Pa/cm<sup>2</sup>

- Surgical Mask type II by UNE-EN 14683: < 40 Pa/cm<sup>2</sup>

- Surgical Mask type IIR by UNE-EN 14683: < 60 Pa/cm<sup>2</sup>

Specific Notes:

(\*\*) The result is out of specifications

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Issue Date: 13/10/2020

Signed: Manuel Lolo



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General Manager

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Physical Lab Manager

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