

Job No./Report No: 20-011929

Date: 20/11/2020

Client: Barrieras, S.A.

Code: CL-1460

Address: CL/Abeto,5 SARIÑENA HUESCA ESPAÑA

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

Serie : Batch No.: Reference No.: MASCARILLA HIGIENICA BLANCA DOBLE CAPA REF. 200186 Composition indicated: 1 capa:100%pes, 2capa: 100%pes	Job no Report No.: 20-011929 Receiving Date: 10/11/2020 Test Start Date: 11/11/2020 Test End Date: 20/11/2020 Sample description: HIGIENICAL MASKS
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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
4	S-201111-00105	MASK WHITE (AFTER 20 WASHING CYCLES AT 60°C)	Pass

	CAS	S-201111-00105
Change of appearance after washing		No change
Number of cycles		20
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
2	S-201111-00103	MASK WHITE (ORIGINAL)	Pass

	CAS	S-201111-00103
Test 1: Bacterial Filtration Efficiency		91.5
Test 1: Number of Bacteria		241
Test 2: Bacterial Filtration Efficiency		91.7
Test 2: Number of Bacteria		236
Test 3: Bacterial Filtration Efficiency		91.9
Test 3: Number of Bacteria		230
Test 4: Bacterial Filtration Efficiency		91.2
Test 4: Number of Bacteria		250
Test 5: Bacterial Filtration Efficiency		91.4
Test 5: Number of Bacteria		243

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 cm²
 Microorganism: Staphylococcus aureus ATCC 6538
 Bacterial concentration (cfu/ml): 5×10^5 cfu/ml
 Incubation conditions: 24 hour, 35C \pm 2C
 Positive control sample average of number of Bacteria (C): 2.84×10^3 cfu/ml

(*) Test subcontracted and accredited for medical mask tests (EN 14683). Results in subcontracted report number: 20043070

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

ID	ID AMSLab	Description	Conclusion
5	S-201111-00106	MASK WHITE (AFTER 20 WASHING CYCLES AT 60°C)	Pass

	CAS	S-201111-00106
Test 1: Bacterial Filtration Efficiency		90.3
Test 1: Number of Bacteria		275
Test 2: Bacterial Filtration Efficiency		90.6
Test 2: Number of Bacteria		266
Test 3: Bacterial Filtration Efficiency		90.9
Test 3: Number of Bacteria		258
Test 4: Bacterial Filtration Efficiency		90.5
Test 4: Number of Bacteria		271
Test 5: Bacterial Filtration Efficiency		90.7
Test 5: Number of Bacteria		263

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 cm²

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): 2.84x10E3 cfu/ml

(*) Test subcontracted and accredited for medical mask tests (EN 14683). Results in subcontracted report number: 20043071

SOP106 - Determination of breathability (Differential Pressure) - Original

ID	ID AMSLab	Description	Conclusion
1	S-201111-00102	MASK WHITE (ORIGINAL)	Pass

	CAS	S-201111-00102
Average Differential pressure (Pa/cm ²)		33
Value 1 Differential pressure (Pa/cm ²)		36
Value 2 Differential pressure (Pa/cm ²)		33
Value 3 Differential pressure (Pa/cm ²)		32
Value 4 Differential pressure (Pa/cm ²)		31
Value 5 Differential pressure (Pa/cm ²)		33

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 cm²

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/m²/s or 272 mm/s

Note 6: Report Unit: Pa and P (Pa/cm²)

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/cm²
- Reusable Hygienic Mask by UNE 0065: < 60 Pa/cm²
- European specification CWA 17553:2020: ≤ 70 Pa/cm²

Other requirements:

- Surgical Mask type I by UNE-EN 14683: < 40 Pa/cm²
- Surgical Mask type II by UNE-EN 14683: < 40 Pa/cm²

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- Surgical Mask type IIR by UNE-EN 14683: < 60 Pa/cm²

Specific Notes:

(**) The result is out of specifications

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

ID	ID AMSLab	Description	Conclusion
3	S-201111-00104	MASK WHITE (AFTER 20 WASHING CYCLES AT 60°C)	Pass

	CAS	S-201111-00104
Average Differential pressure (Pa/cm ²)		47
Value 1 Differential pressure (Pa/cm ²)		46
Value 2 Differential pressure (Pa/cm ²)		49
Value 3 Differential pressure (Pa/cm ²)		48
Value 4 Differential pressure (Pa/cm ²)		47
Value 5 Differential pressure (Pa/cm ²)		47

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 cm²

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/m²/s or 272 mm/s

Note 6: Report Unit: Pa and P (Pa/cm²)

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/cm²

- Reusable Hygienic Mask by UNE 0065: < 60 Pa/cm²

- European specification CWA 17553:2020: <= 70 Pa/cm²

Other requirements:

- Surgical Mask type I by UNE-EN 14683: < 40 Pa/cm²

- Surgical Mask type II by UNE-EN 14683: < 40 Pa/cm²

- Surgical Mask type IIR by UNE-EN 14683: < 60 Pa/cm²

Specific Notes:

(**) The result is out of specifications

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Issue Date: 20/11/2020

Signed: Manuel Lolo


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Physical Lab Manager

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