

Job No./Report No: 20-006268

Date: 15/09/2020

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

Job no Report No.: 20-006268	Serie :
Receiving Date: 30/06/2020	Batch No.:
Test Start Date: 01/07/2020	Reference No.: POPELIN PES/MN HIDRO/ANTIBACT
Test End Date: 15/09/2020	Composition indicated: 100%polyester
Sample description: RAW MATERIAL	

SUMMARY OF TEST CONCLUSIONS

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

Sample Tested



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

ID	ID AMSLab	Description	Conclusion
3	S-200701-00150	FABRIC WHITE (5 WASHING CYCLES AT 60°C)	See Results
ID	ID AMSLab	Description	Conclusion
6	S-200831-00043	FABRIC WHITE (AFTER 30 WASHING CYCLES AT 60°C)	See Results

	CAS	S-200701-00150	S-200831-00043
Change of appearance after washing		No change	No change
Number of cycles		5	30
Washing Temperature		60°C	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-200701-00151	FABRIC WHITE (ORIGINAL)	See Results

	CAS	S-200701-00151
Test 1: Bacterial Filtration Efficiency		87.5
Test 1: Number of Bacteria		212
Test 2: Bacterial Filtration Efficiency		87.2
Test 2: Number of Bacteria		217
Test 3: Bacterial Filtration Efficiency		87.9
Test 3: Number of Bacteria		206
Test 4: Bacterial Filtration Efficiency		87.8
Test 4: Number of Bacteria		208
Test 5: Bacterial Filtration Efficiency		87.6
Test 5: Number of Bacteria		210

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Notes:

Test Metod Ref: TS EN 14683:2019 Medical Face Masks, Requirements and Test Methods

Specifications applied:

Spanish specification UNE 0065:2020: 90%

European specification CWA 17553:2020: Level 90% and Level 70%

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): 5x10⁵ cfu/ml

Incubation conditions: 24 hour, 35C ± 2C

Positive control sample average of number of Bacteria (C): 1.7x10³ cfu/ml

(*) Test subcontracted. Results in subcontracted report number: 20023506

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

ID	ID AMSLab	Description	Conclusion
5	S-200701-00152	FABRIC WHITE (AFTER 5 WASHING CYCLES AT 60°C)	See Results
ID	ID AMSLab	Description	Conclusion
7	S-200831-00044	FABRIC WHITE (AFTER 30 WASHING CYCLES AT 60°C)	See Results

	CAS	S-200701-00152	S-200831-00044
Test 1: Bacterial Filtration Efficiency		87.1	85.2
Test 1: Number of Bacteria		220	340
Test 2: Bacterial Filtration Efficiency		86.8	84.6
Test 2: Number of Bacteria		224	355
Test 3: Bacterial Filtration Efficiency		86.4	84.3
Test 3: Number of Bacteria		232	360
Test 4: Bacterial Filtration Efficiency		86.0	85.3
Test 4: Number of Bacteria		238	338
Test 5: Bacterial Filtration Efficiency		86.6	85.7
Test 5: Number of Bacteria		228	329

Notes:

Test Metod Ref: TS EN 14683:2019 Medical Face Masks, Requirements and Test Methods

Specifications applied:

Spanish specification UNE 0065:2020: 90%

European specification CWA 17553:2020: Level 90% and Level 70%

Report unit Bacterial Filtration Efficiency = %

Report unit Number of Bacteria = cfu/mL

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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): 5x10⁵ cfu/ml

Incubation conditions: 24 hour, 35°C ± 2°C

Positive control sample average of number of Bacteria (C): 1.7x10³ cfu/ml

(*) Test subcontracted. Results in subcontracted report number: 20023507 for 5 washing cycles and 20032186 for 30 washing cycles.

SOP106 - Determination of breathability (Differential Pressure) - Original

ID	ID AMSLab	Description	Conclusion
1	S-200701-00148	FABRIC WHITE (ORIGINAL)	See Results

	CAS	S-200701-00148
Average Differential pressure (Pa/cm ²)		29
Value 1 Differential pressure (Pa/cm ²)		29
Value 2 Differential pressure (Pa/cm ²)		30
Value 3 Differential pressure (Pa/cm ²)		31
Value 4 Differential pressure (Pa/cm ²)		28
Value 5 Differential pressure (Pa/cm ²)		30

Notes:

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

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 measurements: 5

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

Note 9: n.a. = not applicable

Requirement by standard:

- 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

Specific Notes:

(**) The result is out of specifications

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

ID	ID AMSLab	Description	Conclusion
2	S-200701-00149	FABRIC WHITE (AFTER 5 WASHING CYCLES AT 60°C)	See Results
ID	ID AMSLab	Description	Conclusion
8	S-200910-00163	FABRIC WHITE (AFTER 30 WASHING CYCLES AT 60°C)	See Results

	CAS	S-200701-00149	S-200910-00163
Average Differential pressure (Pa/cm2)		39	53
Value 1 Differential pressure (Pa/cm2)		39	53
Value 2 Differential pressure (Pa/cm2)		40	52
Value 3 Differential pressure (Pa/cm2)		38	53
Value 4 Differential pressure (Pa/cm2)		40	53
Value 5 Differential pressure (Pa/cm2)		39	54

Notes:

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

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 measurements: 5

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

Note 9: n.a. = not applicable

Requirement by standard:

- 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

Specific Notes:

(**) The result is out of specifications

Issue Date: 15/09/2020

Signed: Manuel Lolo



General Manager

Signed: Pablo Perez



Chemical Lab Manager

Signed: Esteban Ramirez



Physical Lab Manager

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Applied Mass Spectrometry Laboratory, S.L.U. Avda. Benigno Rivera, n°56 27003 Lugo (Spain)
Tel.: +34 982808074 - Fax.: +34 982803180 analysis@ams-lab.com / www.ams-lab.com