



TEST REPORT

Job No./Report No: 20-005247

Date: 26/06/2020

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

ID	ID AMSLab	Description	Conclusion
3	S-200603-00009	FABRIC BLACK (20 WASHING CYCLES AT 60°C)	See Results
7	S-200617-00015	FABRIC BLACK (50 WASHING CYCLES AT 60°C)	See Results
10	S-200619-00137	FABRIC BLACK (25 WASHING CYCLES AT 60°C)	See Results

	CAS	S-200603-00009	S-200617-00015	S-200619-00137
Change of appearance after washing		No change	Slight change	Slight change
Number of cycles		20	50	25
Washing Temperature		60°C	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-200603-00010	FABRIC BLACK (ORIGINAL)	See Results

	CAS	S-200603-00010
Test 1: Bacterial Filtration Efficiency		92.5
Test 1: Number of Bacteria		210
Test 2: Bacterial Filtration Efficiency		92.8
Test 2: Number of Bacteria		203
Test 3: Bacterial Filtration Efficiency		91.4
Test 3: Number of Bacteria		240
Test 4: Bacterial Filtration Efficiency		90.5
Test 4: Number of Bacteria		265
Test 5: Bacterial Filtration Efficiency		90.0
Test 5: Number of Bacteria		279

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TEST REPORT

Job No./Report No: 20-005247

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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) : 5x10E5 cfu/ml

Incubation conditions: 24 hour, 35C ± 2C

Positive control sample average of number of Bacteria (C): 2.8x10E3 cfu/ml

(*) Test subcontracted. Results in subcontracted report number: 20017784

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

ID	ID AMSLab	Description	Conclusion
5	S-200603-00011	FABRIC BLACK (AFTER 20 WASHING CYCLES AT 60°C)	See Results
8	S-200617-00016	FABRIC BLACK (AFTER 50 WASHING CYCLES AT 60°C)	See Results
11	S-200619-00138	FABRIC BLACK (AFTER 25 WASHING CYCLES AT 60°C)	See Results

	CAS	S-200603-00011	S-200617-00016	S-200619-00138
Test 1: Bacterial Filtration Efficiency		85.4	79.5	82.3
Test 1: Number of Bacteria		410	435	485
Test 2: Bacterial Filtration Efficiency		85.6	79.8	82.5
Test 2: Number of Bacteria		403	428	490
Test 3: Bacterial Filtration Efficiency		85.7	80.1	82.8
Test 3: Number of Bacteria		400	421	483
Test 4: Bacterial Filtration Efficiency		85.2	80.4	82.4
Test 4: Number of Bacteria		415	416	494
Test 5: Bacterial Filtration Efficiency		85.0	80.6	82.9
Test 5: Number of Bacteria		419	412	480

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%

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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) :5x10E5 cfu/ml

Incubation conditions: 24 hour, 35C ± 2C

Positive control sample average of number of Bacteria (C): 2.8x10E3 cfu/ml / 2.12x10E3 cfu/ml for sample S-200617-00016

(*) Test subcontracted. Results in subcontracted report number: 20018265

SOP106 - Determination of breathability (Differential Pressure) - Original

ID	ID AMSLab	Description	Conclusion
1	S-200603-00007	FABRIC BLACK (ORIGINAL)	See Results

	CAS	S-200603-00007
Average Differential pressure (Pa/cm ²)		12
Value 1 Differential pressure (Pa/cm ²)		12
Value 2 Differential pressure (Pa/cm ²)		12
Value 3 Differential pressure (Pa/cm ²)		13
Value 4 Differential pressure (Pa/cm ²)		12
Value 5 Differential pressure (Pa/cm ²)		13

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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Job No./Report No: 20-005247

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

ID	ID AMSLab	Description	Conclusion
2	S-200603-00008	FABRIC BLACK (AFTER 20 WASHING CYCLES AT 60°C)	See Results
ID	ID AMSLab	Description	Conclusion
6	S-200617-00014	FABRIC BLACK (AFTER 50 WASHING CYCLES AT 60°C)	See Results
ID	ID AMSLab	Description	Conclusion
9	S-200619-00136	FABRIC BLACK (AFTER 25 WASHING CYCLES AT 60°C)	See Results

	CAS	S-200603-00008	S-200617-00014	S-200619-00136
Average Differential pressure (Pa/cm2)		10	9	10
Value 1 Differential pressure (Pa/cm2)		10	9	10
Value 2 Differential pressure (Pa/cm2)		11	8	10
Value 3 Differential pressure (Pa/cm2)		11	9	11
Value 4 Differential pressure (Pa/cm2)		10	9	10
Value 5 Differential pressure (Pa/cm2)		10	9	10

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: 26/06/2020

Signed: Manuel Lolo



General Manager

Signed: Pablo Perez



Chemical Lab Manager

Signed: Esteban Ramirez



Physical Lab Manager

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