



TEST REPORT

Job No./Report No: 20-005248

Date: 26/06/2020

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

ID	ID AMSLab	Description	Conclusion
2	S-200603-00013	FABRIC MULTICOLOR (20 WASHING CYCLES AT 60°C)	See Results
5	S-200617-00018	FABRIC MULTICOLOR (50 WASHING CYCLES AT 60°C)	See Results
8	S-200619-00140	FABRIC MULTICOLOR (25 WASHING CYCLES AT 60°C)	See Results

	CAS	S-200603-00013	S-200617-00018	S-200619-00140
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) - After Washing

ID	ID AMSLab	Description	Conclusion
3	S-200603-00014	FABRIC MULTICOLOR (AFTER 20 WASHING CYCLES AT 60°C)	See Results
6	S-200617-00019	FABRIC MULTICOLOR (AFTER 50 WASHING CYCLES AT 60°C)	See Results
9	S-200619-00141	FABRIC MULTICOLOR (AFTER 25 WASHING CYCLES AT 60°C)	See Results

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	CAS	S-200603-00014	S-200617-00019	S-200619-00141
Test 1: Bacterial Filtration Efficiency		84.6	80.6	82.1
Test 1: Number of Bacteria		320	410	380
Test 2: Bacterial Filtration Efficiency		84.6	79.9	82.4
Test 2: Number of Bacteria		326	425	374
Test 3: Bacterial Filtration Efficiency		84.5	79.6	82.7
Test 3: Number of Bacteria		329	435	366
Test 4: Bacterial Filtration Efficiency		84.7	79.8	83.1
Test 4: Number of Bacteria		325	429	358
Test 5: Bacterial Filtration Efficiency		85.0	79.4	83.3
Test 5: Number of Bacteria		318	436	354

Notes:

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

Specifications applied:

Spanish specification UNE 0065:2020: $\geq 90\%$

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

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 \pm 2C

Positive control sample average of number of Bacteria (C): 2.12x10³ cfu/ml

(*) Test subcontracted. Results in subcontracted report number: 20018267

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

ID	ID AMSLab	Description	Conclusion
1	S-200603-00012	FABRIC MULTICOLOR (AFTER 20 WASHING CYCLES AT 60°C)	See Results
4	S-200617-00017	FABRIC MULTICOLOR (AFTER 50 WASHING CYCLES AT 60°C)	See Results
7	S-200619-00139	FABRIC MULTICOLOR (AFTER 25 WASHING CYCLES AT 60°C)	See Results

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	CAS	S-200603-00012	S-200617-00017	S-200619-00139
Average Differential pressure (Pa/cm2)		16	13	14
Value 1 Differential pressure (Pa/cm2)		16	13	14
Value 2 Differential pressure (Pa/cm2)		16	12	14
Value 3 Differential pressure (Pa/cm2)		17	12	13
Value 4 Differential pressure (Pa/cm2)		16	13	13
Value 5 Differential pressure (Pa/cm2)		17	13	15

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



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Physical Lab Manager

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