

Job No./Report No: 20-005246

Date: 26/06/2020

Client: Textil Manly SA

Code: CL-0838

Address: C/ Garbí, 18 Nave 6 Dcha. Pol. Ind. Can Volart Parets del Vallés Barcelona ESPAÑA

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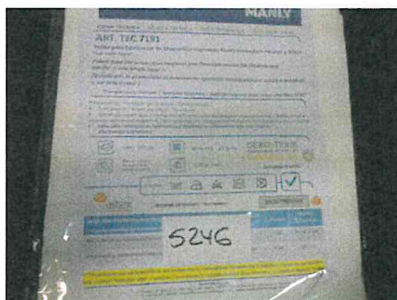
The following sample was (were) submitted and identified by the client as:

Serie : Batch No.: Reference No.: TEJIDO ART. TEC 7191 BLANCO Composition indicated: 80%PES,20%PA	Job no Report No.: 20-005246 Receiving Date: 01/06/2020 Test Start Date: 03/06/2020 Test End Date: 26/06/2020 Sample description: RAW MATERIAL MASKS
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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-200603-00004	FABRIC WHITE (20 WASHING CYCLES AT 60°C)	See Results
ID	ID AMSLab	Description	Conclusion
7	S-200617-00012	FABRIC WHITE (50 WASHING CYCLES AT 60°C)	See Results
ID	ID AMSLab	Description	Conclusion
9	S-200619-00133	FABRIC WHITE (25 WASHING CYCLES AT 60°C)	See Results

	CAS	S-200603-00004	S-200617-00012	S-200619-00133
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-200603-00005	FABRIC WHITE (ORIGINAL)	See Results

	CAS	S-200603-00005
Test 1: Bacterial Filtration Efficiency		92.3
Test 1: Number of Bacteria		215
Test 2: Bacterial Filtration Efficiency		92.1
Test 2: Number of Bacteria		221
Test 3: Bacterial Filtration Efficiency		91.9
Test 3: Number of Bacteria		226
Test 4: Bacterial Filtration Efficiency		91.8
Test 4: Number of Bacteria		230
Test 5: Bacterial Filtration Efficiency		92.1
Test 5: Number of Bacteria		221

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Job No./Report No: 20-005246

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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: $\geq 90\%$

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): 5×10^5 cfu/mL

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

Positive control sample average of number of Bacteria (C): 2.8×10^3 cfu/mL

(*) Test subcontracted. Results in subcontracted report number: 20018261

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

ID	ID AMSLab	Description	Conclusion
5	S-200603-00006	FABRIC WHITE (AFTER 20 WASHING CYCLES AT 60°C)	See Results
ID	ID AMSLab	Description	Conclusion
8	S-200617-00013	FABRIC WHITE (AFTER 50 WASHING CYCLES AT 60°C)	See Results
ID	ID AMSLab	Description	Conclusion
11	S-200619-00135	FABRIC WHITE (AFTER 25 WASHING CYCLES AT 60°C)	See Results

	CAS	S-200603-00006	S-200617-00013	S-200619-00135
Test 1: Bacterial Filtration Efficiency		85.2	80.0	83.4
Test 1: Number of Bacteria		415	425	465
Test 2: Bacterial Filtration Efficiency		85.0	80.1	83.5
Test 2: Number of Bacteria		421	421	462
Test 3: Bacterial Filtration Efficiency		84.8	81.0	82.9
Test 3: Number of Bacteria		426	403	478
Test 4: Bacterial Filtration Efficiency		84.6	80.9	82.9
Test 4: Number of Bacteria		430	405	480
Test 5: Bacterial Filtration Efficiency		85.0	80.7	83.6
Test 5: Number of Bacteria		421	410	460

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 $\geq 70\%$

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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) : 5x10⁵ cfu/ml

Incubation conditions: 24 hour, 35C ± 2C

Positive control sample average of number of Bacteria (C): 2.8x10³ cfu/ml / 2.12x10³ cfu/ml for sample S-200617-00013

(*) Test subcontracted. Results in subcontracted report number: 20018262

SOP106 - Determination of breathability (Differential Pressure) - Original

ID	ID AMSLab	Description	Conclusion
1	S-200603-00002	FABRIC WHITE (ORIGINAL)	See Results

	CAS	S-200603-00002
Average Differential pressure (Pa/cm ²)		15
Value 1 Differential pressure (Pa/cm ²)		14
Value 2 Differential pressure (Pa/cm ²)		15
Value 3 Differential pressure (Pa/cm ²)		16
Value 4 Differential pressure (Pa/cm ²)		14
Value 5 Differential pressure (Pa/cm ²)		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

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

ID	ID AMSLab	Description	Conclusion
2	S-200603-00003	FABRIC WHITE (AFTER 20 WASHING CYCLES AT 60°C)	See Results
ID	ID AMSLab	Description	Conclusion
6	S-200617-00011	FABRIC WHITE (AFTER 50 WASHING CYCLES AT 60°C)	See Results
ID	ID AMSLab	Description	Conclusion
10	S-200619-00134	FABRIC WHITE (AFTER 25 WASHING CYCLES AT 60°C)	See Results

	CAS	S-200603-00003	S-200617-00011	S-200619-00134
Average Differential pressure (Pa/cm2)		13	10	11
Value 1 Differential pressure (Pa/cm2)		12	11	13
Value 2 Differential pressure (Pa/cm2)		11	9	11
Value 3 Differential pressure (Pa/cm2)		12	10	11
Value 4 Differential pressure (Pa/cm2)		11	9	10
Value 5 Differential pressure (Pa/cm2)		13	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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