



Your notice of
10-02-2020

Your reference

Date
13-02-2020

Analysis Report 20.00770.00

Required tests :

EN 14683 (2019) + AC (2019)	EN 14683 - annex C (2019) + AC (2019)	Bacterial filtration efficiency
EN 14683 (2019) + AC (2019)	EN 14683 - annex C (2019) + AC (2019)	Medical face masks - Breathability (differential pressure)

Identification number	Information given by the client	Date of receipt
T2002902	Three-layer product (spunbond + meltblown + spunbond) for medical face mask	10-02-2020

[SIGNATURE]

Order responsible

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The results of the analysis cover the received samples. Centexbel is not responsible for the representativeness of the samples.
In assessing compliance with the specifications, we did not take into account the uncertainty on the test results.

Reference: T2002902 - Three-layer product (spunbond + meltblown + spunbond) for medical face mask

Bacterial filtration efficiency

Date of ending the test	12-02-2020
Standard used	EN 14683 - annex C (2019) + AC (2019)
Product standard	EN 14683 (2019) + AC (2019)
Sample description	Filter sample of three-layer product
Number of tested specimens :	5
BFE Area tested :	$\pm 49 \text{ cm}^2$
Specimen conditioning :	$21 \pm 5^\circ\text{C}$ and $85 \pm 5\% \text{ RH}$
Side of the specimen in contact with the bacterial challenge :	Inner side (fixed arbitrarily - no distinction between sides)
Challenge bacterial strain used :	<i>Staphylococcus aureus</i> ATCC6538
Bacterial challenge per test :	1700 - 3000 CFU
Total test time :	1 min. delivering challenge + 1 min. without challenge (air flow continuing)
Flow rate :	28.3 l/min.
Positive control	Tests performed with no filter material in the air stream
Negative control	Test performed without challenge



Results

B = Bacterial filtration efficiency (%)

$$B = \frac{(C - T)}{C} \times 100$$

With C = mean of the total plate counts for the positive control runs
 T = total count for the tested specimen

#Specimen	B (%)
1	99.2
2	99.1
3	98.6
4	98.7
5	99.0

Mean particle size of the bacterial challenge aerosol : 2.9 µm

Controls

Mean positive controls 2256 CFU
 Negative control < 1 CFU

Reference: T2002902 - Three-layer product (spunbond + meltblown + spunbond) for medical face mask

Medical face masks - Breathability (differential pressure)

Date of ending the test 12-02-2020
Standard used EN 14683 - annex C (2019) + AC (2019)
Product standard EN 14683 (2019) + AC (2019)

Mask description Filter sample of three-layer product
Number of tested masks : 5
Number of areas per mask 5 (see figure)
Dimension of the areas : Disc whose diameter is 2.5 cm
Surface areas : 4.9 cm²
Flow rate : 8 l/min.
Direction of the air flow : From the inside to the outside (Inner side fixed arbitrarily - no distinction between sides)
Masks conditioning : 21 ± 5°C and 85 ± 5% RH

Results ΔP

	Mask 1	Mask 2	Mask 3	Mask 4	Mask 5
Area A	19.1	20.6	23.8	23.2	21.8
Area B	18.9	20.2	22.4	20.8	21.4
Area C	23.8	22.8	21.6	23.0	24.9
Area D	21.4	24.6	25.5	26.7	25.5
Area E	22.2	21.2	21.4	23.2	21.8
Average ΔP (Pa/cm²)	21.1	21.9	22.9	23.4	23.1