



PARTICULATE FILTRATION EFFICIENCY (PFE)

Test Summary Filtered and dried air was passed through an atomizer to produce an aerosol containing suspended polystyrene latex (PSL) spheres. The aerosol was then mixed and diluted with additional preconditioned air to produce a stable, non-neutralized, and dried aerosol of latex spheres. The aerosol was passed through the mask material. An optical particle counter was used to sample upstream and downstream aerosol concentrations to determine the particulate filtration efficiency of the mask. The test was conducted in accordance with Test Method ASTM F2299 with the exception that a non-neutralized particle challenge was used in place of a neutralized challenge as per FDA guidance document on surgical facemasks (FDA-2003-D-0305)

Date Tested 16-Oct-2020

Test Side and Area Inside, Centre (28.3 cm²)

Conditioning Parameters 30-50% ± 5% relative humidity and 21 ± 3°C

Face Velocity 6 to 7 cm/s

Laboratory Conditions 34.5 % Relative Humidity; 21.8 °C

Particle Size 0.1 µm

Acceptance Criteria ASTM Level 1: ≥ 95% PFE
ASTM Level 2,3: ≥ 98% PFE

TEST LOT NUMBER

Article No.	PFE %
1	97.31
2	96.81
3	96.49
4	96.74
5	97.76

Article No.	PFE %
6	n/a
7	n/a
8	n/a
9	n/a
10	n/a

Average Filtration Efficiency 97.02

Standard Deviation 0.509

Authorized by:



DIFFERENTIAL PRESSURE

Test Summary Differential pressure testing was performed to determine the breathability of the sample material. Air was passed through a prescribed surface area of the sample material at a constant air flow rate of 8 litres per minute, measured by a calibrated flow meter. A manometer was used to measure the differential pressure across the sample.

The test was conducted as directed in EN 14683:2019 Annex C

Date Tested 16-Oct-2020

Test Side and Area Inside, Centre (4.9 cm²)

Conditioning Parameters 85 ± 5% relative humidity and 21 ± 5°C for a minimum of 4h

Flow Rate 8 L/min

Acceptance Criteria Flow rate must be maintained at 8 L/min throughout testing
ASTM Level 1: < 5.0 mm H₂O/cm²
ASTM Level 2,3: < 6.0 mm H₂O/cm²

TEST LOT NUMBER

Article No.	Delta P (mm H ₂ O/cm ²)
1	3.56
2	4.52
3	3.92
4	4.29
5	4.09

Article No.	Delta P (mm H ₂ O/cm ²)
6	n/a
7	n/a
8	n/a
9	n/a
10	n/a

Average Delta P 4.08
Standard Deviation 0.365

Authorized by: