



TEST LABS Report

25 January 2022

The following report is prepared for ZENITH by TestLabs, Flinders University.

Test	Inhalation / Exhalation resistance, and Particle Filtration Efficiency tests were performed in accordance with AS/NZS 1716:2012 <ul style="list-style-type: none"> Inhalation resistance (4.3.4 and Appendix G) Particle filtration efficiency (4.3.5 and Appendix I) Exhalation resistance (3.2.5 and Appendix G). 		
Test Dates	24 January 2022		
Completed by	O Small	Location: Tonsley 5.24	
Masks tested	Manufacturer:	Zenith	
	Mask Type:	Zenith	
	Mask Code/Label:	N95 MC1-JAN 2022	
Ambient Conditions	Barometric Pressure (kPa):	99.67	
	Temperature (°C):	21.4	
	Relative Humidity (%):	55.0	
Test samples and conditions	<ul style="list-style-type: none"> 20 Samples were received in individually sealed packaging. Mask type was labelled as N95 on external packaging 10 masks were selected from those supplied for testing using a simple random sampling plan, and labelled A-J. Masks were inspected for strap attachments and consistency. Straps were removed from masks and masks were fixed to test fixtures before undergoing testing for inhalation/exhalation resistance and particle filtration. 		

Table 1: Pass requirements according to AS/NZS 1716:2012 (Inhalation resistance Table 4.1 and exhalation resistance for half-facepiece masks, section 3.2.5 specification (b)).

Filter Class	Inhalation (Pa)		Exhalation (Pa)	Particle Filtration Efficiency (%)
	30 (L/min)	95 (L/min)	85 (L/min)	
P1	≤ 110	≤ 340	≤ 120	≥ 80.00
P2	≤ 120	≤ 370	≤ 120	≥ 94.00
P3	≤ 170	≤ 570	≤ 120	≥ 99.95

Results

Mask construction appeared consistent across all samples.
Challenge aerosol concentration: 17.15mg/m³

Table 2 Results

Mask Sample	Max Inhalation Resistance @ 95 L/min (Pa)	Min Filtration Efficiency @ 95L/min (%)	Max Inhalation Resistance @ 30L/min (Pa)	Max Exhalation Resistance @ 85 L/min (Pa)
A	93.75	97.259	25.89	67.27
B	91.59	97.248	25.40	65.12
C	86.59	96.793	23.73	69.82
D	93.75	96.752	25.69	72.67
E	90.42	96.688	25.11	73.06
F	97.09	96.355	25.79	69.33
G	92.48	96.730	25.11	74.24
H	94.05	96.857	25.69	74.53
I	92.38	96.551	24.61	71.98
J	101.01	95.874	25.40	69.63



Flinders
UNIVERSITY

Flinders University
Sturt Road, Bedford Park SA 5042
GPO Box 2100 Adelaide SA 5001



Final Remarks:

Masks were supplied in individual packaging without original box.

No pre-conditioning was performed on masks prior to testing.

Inspection of masks indicated consistency across all samples.

At a flow rate of 30 L/min the supplied masks produced an inhalation resistance differential pressure ≤ 120 Pa.

At a flow rate of 95 L/min the supplied masks produced an inhalation resistance differential pressure ≤ 370 Pa and a particle filtration efficiency $\geq 95.0\%$ for all masks.

At a flow rate of 85 L/min the supplied masks produced an exhalation resistance differential pressure ≤ 120 Pa.

The supplied masks are compliant with the performance requirements for P2 as described in AS 1716:2012.

Authorised by: