

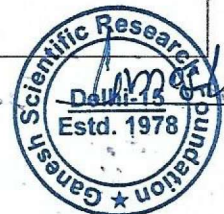
TEST CERTIFICATE

Issued to: AIR FOR LIFE UK LIMITED SUITE 402, MILTON KEYNES BUSINESS CENTRE FOXHUNTER DRIVE, HAYLEY COURT, LINFORD WOOD, MK14 6 GD MILTON KEYNES	Report No.: 13668
	Date of Issue: 24.08.2020
	Reference: Client's Letter
	Kind Atten.: Mr. Nirav M Minawaala
	Format TCF-GSRF/09/2019

SAMPLE PARTICULARS

Nature of Sample: ELECTRONIC FACE MASK (AIR RESPIRATOR)	Test Start: 12.08.2020
LOT No: Regular	Test Completed: 24.08.2020
Name of Sample – AIR FOR LIFE - MASK	Samples Qty: 35
Sampling done by Manufacturer/Client	Date of sample receipt: 11.08.2020

Description – a) Complies to Highly Efficient Mask Criteria of N99, Multilayer design, Breathable and Comfortable with Components – 1) Electric Fan for continuous air flow 2) Comfortable Headbands, leak proof design b) Colour – Multicolour The sample meets the criteria as per the below tests for mentioned reference standards in this test certificate.			Sample Complies as per NIOSH/EN 149 FFP3 approved N95/99 Mask without Exhalation Valve rating EN 14683, 2019, ASTM F2101, ASTM F1862/ISO 22609 Meets NIOSH 42 CFR 84 N95 requirements for a minimum 95% filtration efficiency against solid aerosols Meets N95 Respirator with Antimicrobial/Antiviral Agent Filtering Respirator. Meets - RESPIRATORY PROTECTIVE DEVICES (IS 9473:2002)	
S. No	Meets - RESPIRATORY PROTECTIVE DEVICES (IS 9473:2002)	Results	Specifications	Method
1	Visual Inspection	Pass	Sample complies for proper marking and instructions for use.	IS 9473:2002
2	Flammability {800°C, 6 + 0.5 cm/s}	Pass	Shall not present a danger for the wearer and shall not be of highly flammable, the face piece shall not continue to burn after removal from the flame	IS 9473:2002, 16
3	Carbon dioxide Content	Pass	The carbon dioxide content of the inhalation air (dead space) shall not exceed an average of 1.0 percent (by volume).	IS 9473:2002
4	Breathing resistance			



(4.1)	Exhalation Resistance (25 cycles/min and a 2.0 l/stroke or a continuous flow of 160 l/min.)	1.0(Pass)	Permitted resistance mbar, Max (Exhalation @ 160 l/min) 3 for FFP2	IS 9473:2002, EN 14683, ASTM F2299, NIOSH N95, EN 149 FFP2/3
(4.2) a	Inhalation (Resistance 30 l/min)	0.2(Pass)	Permitted resistance mbar, Max (Inhalation @ 30 l/min) 0.7 for FFP2	IS 9473:2002, EN 14683, ASTM F2299, NIOSH N95, EN 149 FFP2/3, IS16289:2014
4.2) b	Inhalation (Resistance 95 l/min)	1.1(Pass)	Permitted resistance mbar, Max (Inhalation @ 95 l/min) 2.4 for FFP2	IS 9473:2002, EN 14683, ASTM F2299, NIOSH N95, EN 149 FFP2/3, IS16289:2014
5	PFE, High (Particulate) Filtration Efficiency Test or Particle filter penetration {testing filters against 95 l/min, penetration %}	99.9%(Pass)	NLT 95% for FFP2	ASTM F2299M-03 2010, IS 9473:2002
6	Leakage Test {The sodium chloride aerosol test LWD of Face & W of mouth Taken Normal (Test solution Flow rate of 0.12 m/s.)} %	2.5%(Pass)	NMT 11 percent for FFP2	IS 9473:2002
7	Clogging(dolomite)	Inhalation Resistance 1.0 mbar, Exhalation resistance 1.0 mbar and PFE with NaCl aerosol is 0.1 (Pass)	Performance tests FFP2: 4 mbar at 95 l/min continuous flow (Inhalation Resistance) The exhalation resistance shall not exceed 4 mbar at 160 l/min continuous flow) Penetration after clogging within limits	EN 149/ IS9473:2002
8	Practical Performance			IS 9473:2002
	a) Head harness comfort	Pass	Pass/Fail	
	b) Security of fastenings,	Pass	Pass/Fail	
	c)Field of vision	Pass	Pass/Fail	
	8.1 Walking Test(6km/h,10mins)	Pass	Pass/Fail	
	8.2 Work Simulation Test (20 min test)	Pass	Pass/Fail	
9	Mechanical Strength (simulating rough usage of filter) (10Kgt, 2000 Rotation min in 20 minutes)	Pass	Pass/Fail	



गणेश वैज्ञानिक अनुसन्धान संस्थापन

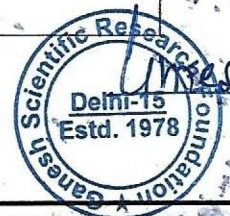
(भारत सरकार के साथ तेल आयुक्त एवं दिल्ली सरकार के खाद्य मंत्रालय द्वारा अनुमोदित)

GANESH SCIENTIFIC RESEARCH FOUNDATION

(Approved Competent Laboratory by Government of India and Delhi Govt.)



10	Compatibility with Skin	Pass	Materials that may come into contact with the wearer's skin shall not be known to have potential to cause irritation or any adverse effect to health.	IS 9473:2002, ISO 10993-1:2018
11	Bacterial Filtration Efficiency (BFE)	99.9%(Pass)	Min 95%{With aerosol impact Staphylococcus aureus at flow rate of 28.3 l/min}	ASTM F2101
12	Fluid Resistance or Resistance against penetration by Synthetic Blood (fixed volume, horizontally projected)	>120.0 mm hg	Resistance against penetration by Synthetic Blood (fixed volume, horizontally projected) (≥ 16 kPa) or (≥ 120 mm hg)	ASTM F1862/ISO22609
13	The bio-burden or microbial charge (Microbial Cleanliness)	< 10 (Pass)	< 30 cfu/g	EN ISO 11737-1:2018
14	16 CFR Part 1610: Flame Spread (Flammability)	Class 1, Passes the Test	A standardized flame shall be applied to the surface near the lower end of the specimen for 1 second, and the time required for the flame to proceed up the fabric a distance of 127 mm (5 in) shall be recorded. (Class 1 and Class 2). Mask shall not burn or not to continue to burn for more than 5s after removal from the flame.	16 CFR Part 1610
15	Air permeability/Breathability Differential Pressure (Pa/cm ²)	Complies	<60.0 (Air permeability of the mask)	ASTM D737-96 EN 14683



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16.0	Penetration of Filter Material			
16.1	Particle filter penetration {testing filters against 95 l/min, penetration NaCl aerosols test %	<1.0 (Pass)	Max 6.0%	EN 149/ IS 9473:2002
16.2	Paraffin Oil test, penetration of paraffin oil @ 95 l/min, %	<0.2 (Pass)	Max 2.0%	EN 149/ IS 9473:2002


ANALYST


AUTHORISED SIGNATORY

Current Updates

- Our laboratory (gsrf.co.in) tech partner Progenbiolab Technologies Pvt. Ltd which is in association (Transfer of Technology) with DRDO for **Production of Equipment for Combating of Covid 19**. Find us at DRDO website <https://drdo.gov.in/counter-covid-19-technologies>. For more details call@9599974780

End of the Report (Total 4 pages)