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From: Rob Moran, Ator Labs

To: Sabrina Paseman

Subj: Silicone head harness

Model testing has been completed on at 1122 CDT 25 February 2021. Testing was performed using ISO 16900 and NIOSH testing methodologies as adapted for use on the ATOR Labs Automated Breathing and Metabolic Simulator.

Performance flow testing was performed using the ABMS set at a flow rate of 85 lpm in accordance with NIOSH TEB- APR – STP – 0003 DETERMINATION OF EXHALATION RESISTANCE TEST, AIR-PURIFYING RESPIRATORS STANDARD TESTING PROCEDURE. Results are reported in mmH2O:

Sample	Maximum Allowable resistance (mmH2O) exhalation	Actual Resistance (mmH2O)	Result
Mask 6 Blue Surg Mask w/ Strap (2/25)	25	19.13	Pass

Performance flow testing was performed using the ABMS set at an instantaneous flow rate of 85 lpm in accordance with NIOSH TEB- APR – STP – 0007 DETERMINATION OF INHALATION RESISTANCE TEST, AIR-PURIFYING RESPIRATORS STANDARD TESTING PROCEDURE. Results are reported in mmH2O:

Sample	Maximum Allowable resistance (mmH2O) Inhalation	Actual Resistance (mmH2O)	Result
Mask 6 Blue Surg Mask w/ Strap (2/25)	35	22.43	Pass

According to NIOSH “*RCT-APR-STP-0064 DETERMINATION OF FACEPIECE CARBON-DIOXIDE AND OXYGEN CONCENTRATION LEVELS OF TIGHT FITTING, POWERED AIR PURIFYING RESPIRATORS WITH THE BLOWER UNIT OFF OR NON-POWERED RESPIRATORS STANDARD TESTING PROCEDURE*”, a device’s averaged inhaled carbon dioxide level cannot exceed 2%.

Mask	CO2 Minute Average % :10	Max minute average CO2
Mask 6 Blue Surg Mask w/ Strap (2/25)	0.95	1.225

Conclusion:

This device, in conjunction with the surgical masks, meets the requirements as outlined in 42CFR for breathability.



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Through out the week, personnel have been using the silicone strap. All users reported that the strap was comfortable, with several comments stating they liked not having fogged glasses.

Pictures:



Figure 1 surgical mask and silicone band on ABMS..