



9210 Panama City Beach Parkway Suite C, Panama City Beach, FL 32407,
p: 850-807-7888, w: <https://atorlabs.com/>

From: Rob Moran, Ator Labs

To: Jocelyn Songer, Ph.D

Subj: Soft mask over N95 mask

The soft masks were visually inspected prior to placement over a 3m N95 mask on the ISO head form. There were no visible tears, rips, or gross material deformities in the filter material or the mask covers. Masks are marked as JR1, JR2, and JR3.

Testing was completed at 1542CDT on 24 April 2020. Testing was completed 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
JR1	20	12.71	Pass
JR2	20	13.17	Pass
JR3	20	13.69	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
JR1	35	12.71	Pass
JR2	35	12.94	Pass
JR3	35	14.61	Pass

According to NIOSH “*RCT-APR-STP-0064 DETERMINATION OF FACEPIECE CARBON-DIOXIDE AND OXYGEN CONCENTRATION LEVELS OF TIGHT FITTING, POWERED AIR PURIFYING*”



9210 Panama City Beach Parkway Suite C, Panama City Beach, FL 32407,
p: 850-807-7888, w: <https://atorlabs.com/>

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
JR1	1.716	1.784
JR2	1.798	1.871
JR3	1.663	1.830

Conclusion:

All three mask coverings would pass NIOSH/NPPTL testing for form, fit and function.



Figure 1 JR1 on testing head



9210 Panama City Beach Parkway Suite C, Panama City Beach, FL 32407,
p: 850-807-7888, w: <https://atorlabs.com/>



Figure 2 JR2 on testing head



Figure 3 JR3 on testing head