



INHALATION RESISTANCE

The inhalation breathing resistance was performed by CMTL on a TSI 8130A instrument, which is considered to be the reference standard used by NIOSH. The results were recorded during the initial penetration test.

Although the TEB-APR-STP-0007 and TEB-APR-STP-0003 stipulate samples be tested for inhalation/exhalation resistance without the usage of an aerosol, they do not require it. In addition, there is no evidence suggesting that a minimum amount of NaCl loading (following a <1 minute test on the TSI 8130A) will negatively impact resistance.

Exhalation testing is performed only when there is reason to believe that a specific respirator model or design, or the material used in the construction of the respirator, can potentially have an impact based on the direction of the airflow. It is also performed when specifically requested, otherwise it is considered that the exhalation resistance is equal to the inhalation resistance.

When exhalation testing is performed, the mounted sample is inserted in a reversible bell for testing on the TSI 8130A instrument. Testing conditions are the same as per inhalation resistance apart from the direction of the flow through the sample.

CMTL now has the option of testing for inhalation and exhalation resistance under no loading conditions, by turning off the aerosol generator on the TSI 8130A.

Note: The equipment was outsourced and located at University of Toronto, 223 College Street, Toronto, ON, M5T 1R4.

RESULTS

Sample#	Inhalation Resistance (Pa)	Requirement (≤ 343 Pa) (Pass/Fail)
1-1	85.7	Pass
1-2	95.6	Pass
1-3	84.7	Pass
1-4	77.9	Pass
1-5	68.3	Pass

Note: When seeking Interim Order guidance approval from Health Canada a sample size of 20 is required and all samples must pass this requirement.