8.010

	Effective: 3-7-97
DCR No.: 97033	Supersedes: 5-7-97
Revision No.: 2	Revision Date: 7-25-97
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## 1 Purpose

- 1.1 To establish a standard procedure for testing the exhaust ventilation of gas cylinder cabinet(s) to comply with local city HAZMAT requirements and codes.
- 2 Scope
  - 2.1 This procedure applies to the gas cylinder cabinet(s).
- 3 Reference
  - 3.1 Local City HAZMAT Requirements and Codes.
- 4 Definition
  - 4.1 CFM Cubic Feet per Minute
  - 4.2 FPM Feet Per Minute
  - 4.3 TAB Test, Adjust, and Balance

## 5 Responsibility

- 5.1 TAB technician(s) shall record all test readings on an appropriate Gas Cylinder Cabinet Certification Report, Form FN 8.010.1 or FN 8.010.2.
- 5.2 TAB technician(s) shall attach a PASS or FAIL label to the cabinet with date and initial of TAB technician(s) as the testing is complete.
- 5.3 All test reports shall be saved in files, located in the TAB Department of Therma.
- 5.4 All test equipment utilized shall be in calibration in accordance with NEBB Standards and traceable to the National Institute of Standards and Technology (NIST).

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- 6 Materials Requirement
  - 6.1 None
- 7 Test Equipment
  - 7.1 Anemometer
  - 7.2 Tape Measure
- 8 General Procedures
  - 8.1 Prior to commencing work, ensure that the exhaust fan is operating and that the cabinet is under negative pressure in relation to the surrounding area.
  - 8.2 Record all required information, including room number(s), cabinet number(s), gas contents, design airflow volume and design velocities.
  - 8.3 Measure the dimensions of the cabinet.
  - 8.4 Calculate the area of the service window or cabinet footprint.

Note: When four or more cabinets are served by the same fan or branch duct, open the door of an alternative cabinet during testing.

- 8.5 Verify that the exhaust damper is not closed.
- 8.6 Verify that the cabinet is in normal operating mode:
  - 8.6.1 Cabinet air inlets are free of derbies.
  - 8.6.2 Any filters are in good condition.
- 8.7 Holding the service window open, measure the velocities in the geometric center of equal area within the net free area of the open service window using an anemometer.
- 8.8 Calculate the average velocity by dividing the total of the measured velocities by the number of readings.
- 8.9 Verify that the average velocity is not less than 200 linear FPM with a minimum velocity of 150 linear FPM.
- 8.10 Calculate the exhausted air volume in CFM through the open service window using the following equation:

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Exhausted Air Volume (CFM) = Area x Average Velocity

Note: Cylinders located inside of gas cabinets shall be exhausted to a minimum of 300 CFM for a two-cylinder cabinet, and 450 CFM for a three-cylinder cabinet.

8.11 Measure the final exhausted air volume with the cabinet in normal operating mode [door(s) and service window(s) are closed].

Note: Silane compounds (pyrophorics): the exhausted volume shall equal not less than the area of the cabinet footprint in square feet times 200 FPM.

- 8.12 Record all data on an appropriate Gas Cylinder Cabinet Certification Report, Form FN 8.010.1 or FN 8.010.2.
- 8.13 Attach a PASS or FAIL label to the gas cylinder cabinet with date and the initial of TAB technician(s). If it is a PASS label, issue a PASS certification for the gas cylinder cabinet. Otherwise, notify the customer(s).
- 9 Review and Approval
  - 9.1 Return the Gas Cylinder Cabinet Certification Report to the TAB Department for review.

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**Document Approval** 

1.62 10 General Foreman

Service Manager

Quality Assurance Manager

.97 7-2Z Date

<u>**7**-</u><u></u> Date

<u>7-23-97</u> Date