

**§ 84.157**

(b) The exhalation resistance to a flow of air at a rate of 85 liters (3 cubic feet) per minute shall not exceed 25 millimeters (1 inch) of water.

**§ 84.157 Airflow resistance test; Type C supplied-air respirator, pressure-demand class; minimum requirements.**

(a) The static pressure in the facepiece shall not exceed 38 mm. (1.5 inches) of water-column height.

(b) The pressure in the facepiece shall not fall below atmospheric at inhalation airflows less than 115 liters (4 cubic feet) per minute.

(c) The exhalation resistance to a flow of air at a rate of 85 liters (3 cubic feet) per minute shall not exceed the static pressure in the facepiece by more than 51 mm. (2 inches) of water-column height.

**§ 84.158 Exhalation valve leakage test.**

(a) Dry exhalation valves and valve seats will be subjected to a suction of 25 mm. water-column height while in a normal operating position.

(b) Leakage between the valve and valve seat shall not exceed 30 milliliters per minute.

**§ 84.159 Man tests for gases and vapors; supplied-air respirators; general performance requirements.**

(a) Wearers will enter a chamber containing a gas or vapor as prescribed in §§ 84.160, 84.161, 84.162, and 84.163.

(b) Each wearer will spend 10 minutes in work to provide observations on freedom of the device from leakage. The freedom and comfort allowed the wearer will also be considered.

(c) Time during the test period will be divided as follows:

(1) *Five minutes.* Walking, turning head, dipping chin; and

(2) *Five minutes.* Pumping air with a tire pump into a 28-liter (1 cubic foot) container, or equivalent work.

(d) No odor of the test gas or vapor shall be detected by the wearer in the air breathed during any such test, and the wearer shall not be subjected to any undue discomfort or encumbrance because of the fit, air delivery, or other features of the respirator during the testing period.

**42 CFR Ch. I (10–1–10 Edition)**

**§ 84.160 Man test for gases and vapors; Type A and Type AE respirators; test requirements.**

(a) The completely assembled respirator will be worn in a chamber containing 0.1 ±0.025 percent isoamyl acetate vapor, and the blower, the intake of the hose, and not more than 25 percent of the hose length will be located in isoamyl acetate-free air.

(b) The man in the isoamyl acetate atmosphere will draw his inspired air through the hose, connections, and all parts of the air device by means of his lungs alone (blower not operating).

(c) The 10-minute work test will be repeated with the blower in operation at any practical speed up to 50 revolutions of the crank per minute.

**§ 84.161 Man test for gases and vapors; Type B and Type BE respirators; test requirements.**

(a) The completely assembled respirator will be worn in a chamber containing 0.1 ±0.025 percent isoamyl acetate vapor, and the intake of the hose, and not more than 25 percent of the hose length will be located in isoamyl acetate-free air.

(b) The man in the isoamyl acetate atmosphere will draw his inspired air through the hose and connections by means of his lungs alone.

**§ 84.162 Man test for gases and vapors; Type C respirators, continuous-flow class and Type CE supplied-air respirators; test requirements.**

(a) The completely assembled respirator will be worn in a chamber containing 0.1 ±0.025 percent isoamyl acetate vapor, the intake of the hose will be connected to a suitable source of respirable air, and not more than 25 percent of the hose length will be located in isoamyl acetate-free air.

(b) The minimum flow of air required to maintain a positive pressure in the respiratory-inlet covering throughout the entire breathing cycle will be supplied to the wearer, provided however, that airflow shall not be less than 115 liters per minute for tight-fitting and not less than 170 liters per minute for loose-fitting respiratory inlet-coverings.