

§ 74.4

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or decompose when emersed in ethyl or isopropyl alcohol. The strength and surface characteristics of the filter shall be such that dust deposited on its surface may be removed by ultrasonic methods without tearing the filter. The filter resistance shall not be more than 2 inches of water at an airflow rate of 2 liters per minute.

(ii) *Capsule.* The capsule enclosing the filter shall not permit sample air to leak around the filter. The capsule shall be made of nonhygroscopic material. Its weight, including the enclosed filter, shall not exceed 5 grams and it shall be preweighed by the manufacturer with a precision of ± 0.1 milligrams. Impact to the capsule shall not dislodge any dust from the capsule, which might then be lost to the weight measurement.

(iii) *Cassette.* The cassette shall enclose the capsule so as to prevent contamination. The cassette must be easily removable without causing a loss or gain of capsule weight. Appropriate covers shall be provided to prevent contaminants from entering, or dust from leaving, the capsule when it is not in use.

(3) *Arrangement of components.* The connections between the cyclone vortex finder and the capsule and between the capsule and the $\frac{1}{4}$ -inch (inside diameter) hose mentioned in paragraph (b) (5) of this section shall be mechanically firm and shall not leak at a rate of more than 0.1 liters per hour under a vacuum of 4 inches of water.

(4) *Clamping of components.* The clamping and positioning of the cyclone body, vortex finder, and cassette shall be rigid, remain in alignment, be firmly in contact and airtight. The cyclone-cassette assembly shall be attached firmly to a backing plate or other means of holding the sampling head in position. The cyclone shall be held in position so that the inlet opening of the cyclone is pointing perpendicular to, and away from, the backing plate.

(5) *Hose.* A 3-foot long, $\frac{1}{4}$ -inch (inside diameter) hose shall be provided to form an airtight connection between the inlet of the sampler pump and the outlet of the filter assembly. A device, capable of sliding along the hose and

attaching to the miner's outer garment shall be provided.

(c) *Battery charger*—(1) *Power supply.* The battery charger shall be operated from a 117 volt, 60 Hz power line.

(2) *Connection.* The battery charger shall be provided with a cord and polarized connector so that it may be connected to the charge socket on the pump or battery case.

(3) *Protection.* The battery charger shall be fused, shall have a grounded power plug, and shall not be susceptible to damage by being operated without a battery on charge.

(4) *Charge rates.* The battery charger shall be capable of operating at either a 16-hour or a 64-hour charge rate. The battery charger shall be capable of fully charging the battery in the pump unit in the stated times and shall not overcharge a discharged battery in 16 hours when operating at the 16-hour charge rate or in 88 hours when operating at the 64-hour charge rate.

[35 FR 4326, Mar. 11, 1970, as amended at 37 FR 26712, Dec. 15, 1972; 37 FR 28294, Dec. 22, 1972; 39 FR 3677, Jan. 29, 1974]

§ 74.4 Tests of coal mine dust personal sampler units.

(a) The National Institute for Occupational Safety and Health, Department of Health and Human Services, shall conduct tests to determine whether a coal mine dust personal sampler unit which is submitted for approval under these regulations meets the requirements set forth in § 74.3.

(b) The Mine Safety and Health Administration, Department of Labor (MSHA) will conduct tests, pursuant to § 18.68 of this chapter, to determine whether the pump unit of a coal mine dust personal sampler unit submitted for approval under these regulations is intrinsically safe.

[35 FR 4326, Mar. 11, 1970, as amended at 37 FR 26712, Dec. 15, 1972; 43 FR 12319, Mar. 24, 1978; 47 FR 28095, June 29, 1982]

§ 74.5 Conduct of tests; demonstrations.

Prior to the issuance of a certificate of approval, only personnel of MSHA and National Institute for Occupational Safety and Health, representatives of the applicant, and such other persons as may be mutually agreed