

showing evidence of pulmonary edema. In one case, positive for asbestos bodies, a slight monary fibrosis was histologically demonstrated but no case of clear-cut asbestosis was found. No parietal pleura plaques or thickening were found in any of the 65 subjects accurately studied from this point of view, 35 of whom were positive for asbestos bodies. -- Authors' summary

- 779 Settling Velocity and Density of Monodisperse Aerosols. J.W. Thomas and R.H. Knuth. *Am. Ind. Hyg. Assn. J.* 28, 229-237 (May-June, 1967).

The theory of particles settling in streamline flow in a horizontal tube has been applied to determine the settling velocity and density of a monodisperse aerosol. The aerosol is collected on a filter paper placed in a tube cross section downstream of the inlet. Microscopic examination of the characteristic pattern of the deposited particles on the paper permits a calculation of particle settling velocity and density. Tests of the theory, using monodisperse particles 0.796, 1.305, 1.90, and 2.68 microns in diameter, showed agreement to within 8% or better with settling velocity values calculated from the known size and density of the particles. The theory applies to spheres, cubes, and particles having symmetrical shapes. There are 12 references. -- Authors' abstract

- 780 Evaluation of Filters for High-Volume Sampling of Atmospheric Particulates. D.N. Krametz and P.W. Mitchell. *Am. Ind. Hyg. Assn. J.* 28, 224-228 (May-June, 1967).

A practical evaluation was carried out on commercially available glass fiber filter material for use in the high-volume sampling of atmospheric suspended particulates. Studies were carried out on the collection efficiency of the various filter materials under equilibration and nonequilibration conditions. Values were obtained of the ratio of decreased airflow through the filter at constant pressure drop as a function of particulate loading. It was concluded that improvements need to be made in the physical uniformity of the sampling matrices. A variation in suspended particulate values was observed employing standard techniques, but generally the filters were self-consistent. It was further concluded that the high-volume sampling method is only a semiquantitative measurement and that simpler and more accurate methods are required. There are 5 references. -- Authors' abstract

- 781 Estimation of Airstream Concentrations of Particulates From Subisokinetically Obtained Filter Samples. G.A. Sehmelt. *Am. Ind. Hyg. Assn. J.* 28, 243-253 (May-June, 1967).

Experimental estimates of errors in the measurement of concentrations of particulates in air from subisokinetically obtained samples were determined for a 1.65-inch-diameter filter holder geometry. Sampling velocities were from 0.008 of isokinetic to isokinetic for air velocities from 2.7 to 30 mph. Impaction efficiencies with no flow through the filter were determined for the lower limit of the model used to correlate the data. The model was used to calculate curves for comparison with the experimental data for finite subisokinetic sampling rates and to calculate concentration corrections as a function of particle size, sampling rate, and air velocity. There are 13 references. -- Author's abstract

- 782 Light-Field Microscope Versus Microprojector in Determining Coal Dust Concentrations. P. Zullo and E. Dignon. *Am. Ind. Hyg. Assn. J.* 28, 238-242 (May-June, 1967).

A study was undertaken to statistically compare equivalent area field counts and dust concentrations obtained by using a microprojector and a light-field microscope. This was to test the opinion that the two methods, although allowed by the standard dust counting technique, are not comparable. The precision between observers and within one method was also examined. The study shows that the two counting methods do not produce comparable results and that, on the average, higher dust concentrations can be expected with the microprojector. There are 10 references. -- Authors' abstract

PHYSICAL ASPECTS OF THE ENVIRONMENT

- 783 Cold Stress and Muscular Exercise With Special Reference to Accidental Hypothermia. L.G.C.E. Pugh. *Brit. Med. J.* 2, 333-336 (May 6, 1967).

Observation of O_2 intake and body temperature on clothed subjects during ergometer exercise in a simulated wet-cold situation showed that at work rates up to 800 kg/min, O_2 intake increased by 0.4 to 0.5 liter/min, compared with control observations in warm situations. At work rates of 900 kg/min and over there was no metabolic increase in response to cold. The metabolic response was inhibited at a rectal temperature of 37.8°C, mean skin temperature being