

"Ultraviolet Irradiation of Air Supplies (with Special Reference to Intensity Measurements)," by H. Mellors. According to published results, ultraviolet radiation is more expensive than, and inferior to, other methods, but final conclusions await further controlled tests. The most efficient sources of bactericidal energy are the low pressure mercury-vapor "germicidal lamps." The radiation may be measured by methods described. Preliminary experiments have demonstrated the varying resistivity of pathogenic spore-forming and soil-dust bacteria and also the low air velocities necessary when complete sterilization is required. Several improvements can be made in large scale sterilization, such as more ducts and lamps, precleaning of air, and humidity control, but ultraviolet irradiation may prove useful only where reduction of bacterial concentration and not complete sterilization is required.

INDUST. HYG. DIGEST.

FUNDAMENTALS OF SMOKE ABATEMENT. J. F. BARKLEY, Information Circular 7588, United States Bureau of Mines, December 1950.

This 34 page information circular is a revision of Information Circular 7090, published in 1939. Since then there have been many new ordinances and regulations. Most of the circular consists of text and discussion of actual and proposed regulation; as an example, the rules and regulations for Washington, D. C., are given in full. In the final four pages methods of smoke abatement usable at individual plants are discussed, applicable to stokers and to hand-fired boilers.

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Ventilating, Air Conditioning and Engineering Control

NEW LABORATORY FUME HOODS CUT AIR CONDITIONING LOAD. JOHN F. TURNER, Heating, Piping & Air Conditioning **23:113** (Jan.) 1951.

With the increasing precision of laboratory instrumentation goes the precise control of air conditions. Use of laboratory fume hoods varies the air-conditioning load from a minimum with all hoods closed to a maximum with all open. Design of air-conditioning equipment for the maximum condition is expensive; underdesign assuming a 50 per cent usage factor is dangerous. A method of design for a constant small amount is presented here.

In the conventional 8 ft. (2.5 m.) fume hood the vertical sash is replaced by two horizontal sliding glass panels. If these panels are mechanically or electrically connected to a bypass damper in the top of the hood so that as the panels close the damper opens, the air velocity at the hood face and the total air quantity are maintained constant.

By removing the vertical sash rails and installing side inlet air-flow shapes in conjunction with a bottom inlet air-flow vane, the air velocity can be reduced from the present standard minimum of 100 fpm, to 50 fpm, with better exhaust flow and elimination of any eddy currents at the sides.

A small opening is provided at the bottom in back of a safety spill shelf to provide continuous scavenging when the panels are closed.

The 50 per cent reduction in both face area and face velocity, with the bypass damper, gives a lower constant air-conditioning load and a safer hood at the expense of some accessibility.

CHARLES E. BILLINGS, Boston.

AIR POLLUTION BY INDUSTRIAL FUMES, GASES AND DUSTS. LOUIS C. MCCABE, Mining Eng. **187:971-973**, 1950.

This discussion of control of atmospheric contamination by industrial plants refers specifically to the Los Angeles area. Pilot tests on two open hearth steel furnaces proved that either a Venturi scrubber or an electrostatic precipitator will meet Los Angeles standards successfully in collecting fume and dust. The fume-discharge problem of the electric steel furnace was solved