

Protecting The Asbestos Worker

The asbestos industry has invested millions of dollars in equipment and techniques to prevent the inhalation of asbestos dust by workers involved in the mining and milling of asbestos and in the manufacture of asbestos-containing products. Many more millions are earmarked today for continued improvement in the years to come.

Establishing Safe Dust Levels

When asbestos is mined, milled or processed in manufacturing plants, its minute dry fibers become airborne like dust particles. Long exposure to heavy concentrations of asbestos dust has been linked directly to an increased incidence of such diseases as pulmonary fibrosis (asbestosis), bronchogenic carcinoma (lung cancer) and mesothelioma among long time workers in the asbestos industry.

The first epidemiological study of the effects of asbestos dust on workers was reported in 1930. From that time on, it was generally recognized in industry that asbestosis serious enough to interfere with respiratory or cardiovascular functions could be prevented by reducing dust levels to a specified threshold limit value (TLV).

The American Conference of Governmental Industrial Hygienists (ACGIH) set the industry's first standard in 1938 by establishing a threshold limit value of five million particles per cubic foot of air. Independent research supported by the Johns-Manville Corporation concluded at about the same time that a TLV of one million fibers, 10 microns in length or longer, per cubic foot would be an adequate level for safe occupational exposure.

In 1968, the ACGIH established a new standard with a TLV of 12 asbestos fibers, five microns or longer, per cubic centimeter, and this was later modified in 1970 by reducing the time-weighted average to five fibers per cubic centimeter with a maximum or peak of 10 fibers per cubic centimeter at any one time.