



# Asbestos exposure limit reduced

New OSHA standard will significantly reduce health risk in workplace;  
requirements for compliance tailored to various types of operations

**J.E. Cox, P.E., Ph.D.**

*Director of Government Affairs*

**T**HE PERMISSIBLE exposure limit to asbestos in the workplace has been reduced from 2.0 to 0.2 fiber per cubic centimeter (f/cc) of air. The Occupational Safety and Health Administration (OSHA), which has responsibility for assuring safety in the workplace, determined that employees exposed to asbestos (along with tremolite, anthophyllite and actinolite) face a significant health risk and that the new standard will significantly reduce that risk. The health risks include asbestosis, lung cancer, pleural and peritoneal mesothelioma and gastrointestinal cancer.

The 0.2 f/cc limit is for an eight-hour, time weighted average (TWA) airborne concentration. All industries are covered by the OSHA action with the 178-page document including special instructions for the construction industry (*Federal Register*, 20 June 1986, pp. 22612-22790). An action level of 0.1 f/cc as an eight-hour TWA is established as a level above which employers must initiate certain compliance methods (such as employee training and medical surveillance).

The new OSHA standard provides requirements for methods of compliance - addressing such items as personal protective equipment, communication of hazards to employees, regulated areas, house-keeping procedures and record-keeping. OSHA first regulated asbestos in May 1971 specifying a 12-f/cc permissible exposure limit (PEL). Responding to a petition by the AFL-CIO, seven months later OSHA reduced its PEL to 5 f/cc as an eight-hour TWA and a peak exposure of 10 f/cc; these limits were intended primarily to protect workers against asbestosis. In July 1976, the level was reduced from 5 to 2 f/cc which has remained in effect for 10 years.



## Construction industry

In the regulatory process, OSHA received substantial input on the special situations existing in the construction industry as related to asbestos exposure (such as the frequency of non-fixed work-sites and the transient nature of the workforce). OSHA has tailored the requirements of the final construction standard to reflect differences in various types of construction operations. The variation in the exposure and work conditions within the industry were pointed out by the low exposures and well-controlled conditions prevailing in construction operations involving the installation of new asbestos-containing products as compared to the exposures and work conditions typical of major demolition, renovation and asbestos-removal operations.

The "high-hazard" operations are grouped separately in the OSHA standard. For example, the section on protective clothing differs for typical construction projects from that for removal, demoli-

tion and renovation operations. Also in this latter case, the standard specifies extensive and stringent requirements for enclosed negative-pressure regulated areas to confine asbestos fibers to an enclosed area and protect other employees and bystanders on the site.

The Environmental Protection Agency (EPA), whose authority extends beyond the workplace, is proceeding with additional regulation of asbestos under the authority of the Clean Air Act (*Federal Register*, 29 January 1986, pp. 3738-3759). EPA points out that asbestos is a known human carcinogen with an estimated 3,300 to 12,000 cancer cases per year in the United States as a result of past exposure to asbestos. Despite the known risk of asbestos, substantial amounts of material are still mined, imported and used in commercial products. About 240,000 metric tons were used domestically in 1984.

EPA is proposing to prohibit the manufacture, importation and processing of: (1) asbestos-cement pipe and fittings, (2) roofing felts, (3) flooring felts (and felt-backed sheet flooring), (4) vinyl-asbestos floor tile and (5) asbestos clothing. In addition, EPA is proposing to establish a permit system to phaseout all other asbestos products.

The ASHRAE Standard 62-1981 "Ventilation for Acceptable Indoor Air Quality" includes asbestos in its list of contaminants of indoor origin and indicates the use of "best available control technology" since asbestos is a known human carcinogen.

Both Standard 62-1981 and a draft of a proposed revision (62-1981R) may be purchased from ASHRAE Headquarters. Standard 62-1981 remains current until a revision completes public review, consensus is reached within affected industries, and approval is given by the Society's Board of Directors.