Sanding and mixing of drywall taping compounds can cause serious asbestos risk

In spite of the introduction of asbestos-free insulation materials and the existing bans on the use of asbestos-containing spray fireproofing, a serious asbestos hazard remains in the construction industry, with members of the Painters Brotherhood of the Building and Construction Trades Department being at greatest risk.

Wallboard finishing compounds and spackle have been found to contain significant amounts of chrysotile asbestos, which is released into the air as dust either during the dry mixing of these compounds or during sanding.

Drywall taping compounds came into widespread use shortly after World War II. Until fairly recently, most of the material used was mixed at the construction site, raising large clouds of dust. In the past few years, many contractors have switched to premixed compounds, thereby eliminating one major source of asbestos dust. This practice, though, depends entirely on the contractor and what he supplies; several tapers interviewed recently by Mount Sinai personnel said they still had occasion to use the dry-mix brands.

Sanding can be Dangerous

The problem that remains, even when ready-mixed compounds are used, is that of the dust produced when the dried compound is sanded, prior to painting. In some areas of the country, tapers, or their apprentices, stay and do their own sanding; in others, the painters are left to finish the job, often sanding while other men are working in the same room. Sanding is done either by hand or with a pole.

The Environmental Sciences Laboratory took air samples at selected job sites in New York City while tapers were at work. Personal samples taken during pole sanding ranged from 1.2 fibers per milliliter (f/ml) to 19.3 f/ml; in an adjacent room, at a distance of 25 feet from the sander, a level of 8.8 f/ml was found. Levels for hand sanding ranged from 1.3 to 16.9 f/ml in the breathing zone of the workers, and a high of 7.1 f/ml was obtained in an adjacent room, at a distance of 15 feet. During dry mixing, a breathing zone sample was found to contain 59 E/ml, though after a H-minute lapse the level went down to 0.5 f/ml.

The sweeping of floors after sanding was also found to stir up considerable quantities of settled dust. Thirty-five minutes after sweeping at the site of the sanding, a fiber concentration of 26.4 f/ml was obtained. The current U.S. standard in industry is an average not to exceed 5 f/ml, mandated to go to 2 f/ml in July, 1976. The Department of Labor has recently initiated procedures to have the standard lowered to 0.5 f/ml.

The results of this sampling, especially when contrasted with the current standard in industry, emphasize the importance of both respiratory protection and careful cleanup in order to reduce the risk of inhaling asbestos fibers. A respirator should be worn by sanders and by any other workers who must be in adjacent areas while this work is in progress. If possible, other workers should wait to allow the dust to settle and be removed before proceeding with their own trades. The area should be cleaned, preferably with a vacuum, as soon as the dust has settled. If no vacuum is available the floor should be dampened prior to sweeping, and the sweeper should wear a mask.

Health Effects Seen

Simply because sanding is only a small part of this construction ac-

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tivity is no reason to minimize the importance of the problem. Although exposure duration may be short, the cumulative effect of repeated short-term exposures to measurable concentrations of asbestos fibers can be serious. In the course of a medical study of 69 drywall tapers belonging to Local 1974 of the Drywall Tapers and Painters of Greater New York, two-thirds of whom had had an exposure of ten years duration or longer and 61 of whom were smokers or ex-smokers, X-ray abnormalities characteristic of asbestos exposure were found in 37 out of 63 films. There is a close similarity between these findings and those among insulators.

At least two brands of commercial wallboard finishing compound are currently available containing no asbestos. It is likely that, as the negative aspects of asbestos-containing compounds become more widely known, other manufacturers will develop new formulations that are free of asbestos. Until then, only premixed materials should be used and the sanding of dry material eliminated or reduced as much as possible.

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