FILE NAME: Flooring (FLR)

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OCCUPATIONAL EXPOSURE TO ASBESTOS

U.S. Department of Health, Education, and Welfare
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Murphy et al.[59] presented data concerning two cases of workers exposed to asbestos. One case on biopsy confirmed mesothelioma and the other case had extensive pleural calcification. Both workers had frequently sanded asphalt and vinyl tile floors prior to installation of new floor covering. A technique to simulate normal work practice was developed and levels of 1.2 and 1.3 fibers/cc >5 μm in length resulted. The authors noted that under other work conditions these values may be higher. In the case involving mesothelioma, the worker was 44 years old and had no other history of occupational exposure to asbestos, although he had worked in a shipyard in a "non-dusty" gyroscope repair area from 1945-1947. The repair area would practically have to be considered a clean room operation in view of the precision involved in gyroscopic instrument repairs. He had smoked one package of cigarettes a day between the ages of 17 and 30 and had worked from 1948-1967 as a floor tile installer. The second case involved a 61-year-old worker who had been a floor tile installer for the last 30 years and had smoked one pack of cigarettes per day for the last 45 years. This second patient had no history of other asbestos exposure different from the first; however, some question may be raised of a possible neighborhood exposure even if it only concerned going to work. The possibility of such exposure must be considered in view of the neighborhood case noted by Selikoff,[15] Table XXIX.

The possibility of the development of asbestos-related diseases in floor tile installation must be considered, and special attention must be given to this operation when considering the low levels of

exposure that may be related to these two cases. If even in actual practice, levels were found to be 10 times those found by the investigators, it would substantiate the low levels of exposure recommended in this standard. The time interval for sanding as compared to tile installation must be small, and, if this is true, then, in fact, any level found would be very low if based on a time-weighted average exposure. This increases the weight of consideration that must be given to this possibly exposed occupational group and the relationship of these low exposures to asbestos to the development of disease.

Consideration must also be given related to the effect that may have resulted from exposure to other material in the floor tile. The level of, and effect of such material as asphalt and any decomposition products from sanding must be considered.

Isolated clinical case reports are difficult to interpret in terms of dose-time response relationship and can only be used to indicate other possible problem areas and to highlight what may prove to be practicable areas for further study.