

Embedded Asbestos and the Wear
of Uncoated Floor Tile
File No. 24134-2

PLAINTIFF'S EXHIBIT

SWB-20

November 2, 1984

Northwest Bell Telephone Co.
9700 Harnel Road
Plymouth, MN 55442

Attn: Mr. Richard Schuenke
Staff Manager - Buildings
Room 3E10

Dear Dick:

Recommendation Letter, RL 83-03-169, dated 3/28/83 states that application of floor waxes or other finishes be avoided as a precautionary measure designed to lower the possibility of electronic equipment failures due to electro-static discharge (ESD). During your October 4, 1984 telephone call you requested that Bell Communications Research, Inc. (Bellcore) determine if the elimination of protective coatings on floor tile in switching equipment rooms could result in the release of asbestos into the room air and promote additional tile wear.

Your concern of possible harmful effects from unwaxed floor tile has been reviewed and Bellcore's opinion is that under normal central office conditions neither free asbestos nor unusual wear will result from floor tile having no protective coating. Our opinion regarding the asbestos question is supported by report data and information obtained through direct contacts with several state and federal health and toxic substances agencies and a toxic substance testing laboratory. The question of tile wear is very subjective as it involves a judgment of "attractiveness" after a lengthy service time. Tile wear considerations are briefly discussed in this letter.

Environmental Protection Agency (EPA) report, EPA 560/5-83-002, titled: "Guidance for Controlling Friable Asbestos-Containing Materials in Buildings" classifies all materials with embedded asbestos into two categories; friable and non-friable. Only friable materials are considered to have a potential for the release of asbestos which would represent a health hazard. In the EPA regulation, 40 CFR,

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Part 763 - Asbestos (Asbestos-in-Schools Rule), issued 5/27/82, friable material is defined as any material applied on ceilings, walls, structural members, piping, ductwork, or any other part of the building structure which, when dry, may be crumbled, pulverized or reduced to powder by hand pressure. Asbestos-containing material is also meant to apply when the composition is greater than 1% by weight. Numerous materials found in buildings exceed the 1% content limit but many uses of asbestos are for the purpose of binding to achieve a firm, stable (non-friable) material. The EPA reports composition of vinyl floor tile up to 21% asbestos as a binder for strength and rigidity but the "Asbestos-in-Schools Rule" and other government agency documents exempt floor tile from asbestos-in-building surveys. The following statement is extracted in part from EPA's, Toxic information Series-Asbestos, dated April, 1980:

"Not All Asbestos Products are Hazardous! Asbestos becomes a health hazard only when fibers are released into the air. This usually happens...when the asbestos material is friable...In contrast, vinyl asbestos floor tile is not generally friable. The asbestos fibers are firmly bound or sealed into the tile and can be released into the air only if the tile is cut, ground or sanded."

During the course of a telephone conversation to a toxic substance testing laboratory their representative stated that attempts to free asbestos fibers in floor tiles through heat and acid exposure tests were all negative, as determined with the use of light microscopy instrumentation.

State regulations governing asbestos limits may be lower than the OSHA* standard of 2 fibers per cubic centimeter (2 fibers/cc). A fiber just long and thick enough to detect by the NIOSH** procedure is 5 microns in length and 0.3 microns in diameter. In New Jersey the limit is 0.1 fibers/cc and a study is under way to determine if a lower standard should be imposed. OSHA is considering a reduction to 0.5 fibers/cc. You may wish to inquire of asbestos limit in your state by contacting the local EPA branch.

The wear effect on unprotected floor tile is reported to be negligible by suppliers of vinyl/asbestos tile. One supplier commented that the unwaxed floor is vulnerable to scuffing

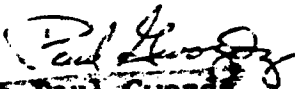
* Occupational Safety and Health Administration

** National Institute of Occupational Safety and Health

and scratching and might be considered less attractive after a lengthy exposure to traffic. Damp mopping should remove the scuff marks but the scratches would remain. It is considered that the good housekeeping practices and low level of people traffic in central office switching rooms will prevent the accumulation of significant surface scratches.

A recently distributed Bellcore Information Letter, IL 84-08-057, dated 9/84, titled: Electrostatic Discharge in Central Offices, provides information on precautions that can be taken to reduce possible damage from ESD. I regret the lack of data covering unwaxed floor tile in the central office environment. As field experiences are reported it should become possible to clarify the long-term tile wear effects.

Please advise me if I can be of further assistance. My present telephone number is 201-386-6399.


Paul Gwozdz

Member of Technical Staff
Common Systems Engineering

PPG-ldg/srf

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