

Facts About Asbestos-Cement Pipe

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Asbestos—an irreplaceable material.

Fact:

A/C pipe is one of more than 3,000 products containing asbestos that serve people beneficially worldwide. In many products, such as A/C pipe, brake linings, fire protection equipment, and textiles, asbestos is irreplaceable.

Fact:

Although asbestos represents only about 15% of the material used in A/C pipe, it contributes its tensile strength, almost five times greater than that of steel. It gives A/C pipe flexibility, excellent chemical resistance, and provides the taxpayer with a very cost-effective pipe material.

A/C pipe is used worldwide.

Fact:

A/C water pipe is recommended and installed in virtually every country in the world and in all 50 of the United States. Over 1,600,000 miles are in service worldwide, with 250,000 miles in the U.S. where over a quarter-billion dollars worth is installed annually. One-third of all U.S. water pipe in use today is A/C.

A/C pipe is safe to use.

Fact:

There is no evidence that anyone in the general public has ever contracted any disease from naturally-occurring asbestos found in most water systems.

Fact:

The release of asbestos fibers from A/C pipe is infinitesimal and is far less than the amount of fiber found in many natural-source drinking waters. This has been confirmed by government, industry, and scientific studies in the U.S. and abroad.

Fact:

Despite more than 40 years of rapidly increasing A/C pipe usage in the U.S., a 1977 American Cancer Society report: "Cancer Facts and Figures," states that "gastrointestinal cancer rates for all sites (where A/C pipe was being used) for the period 1952-54 and 1972-74 declined 33 percent."

A 1977 study in Connecticut said there was "no correlation between the incidence of GI cancer and the use of A/C water pipe."

Knoxville, Tenn., has been using A/C pipe since 1938. Nashville, Tenn., has no A/C pipe in its system. A study by HEW, NCI, and the National Institute of Health: "U.S. Cancer Mortality by County," showed that over a 20-year period, Nashville, with metallic pipe, had a 29 percent higher death rate from GI cancer than Knoxville, with A/C pipe.

Fact:

Asbestos fibers in A/C pipe are securely bound into the chemically stable cement and silica materials from which the pipe is formed.

The hazards of aggressive water

Fact:

Certain types of "aggressive" water will attack all water system components, even including corrosion-resistant A/C pipe, as well as metallic pipe and pipe installed in homes. Aggressive (very soft, highly acidic) water costs the U.S. waterworks industry a billion dollars annually in replacement and repair. No piping is suitable for use in highly aggressive water areas. The answer to aggressive water is to neutralize it at the source, regardless of the pipe materials used.

A/C pipe is safe to install

Fact:

Manufacturers and the water utility industry have made mass distribution of detailed work practices to contractors and installers of A/C water pipe. These present proven methods of cutting, beveling and tapping pipe to insure a safe work environment.

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Facts About Ingested Asbestos Fibers

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#2 of a Series

No Evidence of Risk

- Although inhaled asbestos has been recognized as a human health hazard, "At this stage there is no firm evidence from any studies that directly ingested asbestos gives rise to a detectable effect in man," states Technical Report TR 100, "Asbestos in Drinking Water: A Review," Water Research Centre, U.K., January 1979.
- Examination has been undertaken of the mortality statistics of people living in areas where the levels of asbestos in water are high. No increase has been revealed in malignancies of the gastro-intestinal tract after 14 and 17 years exposure to asbestos laden Lake Superior water. *Journal American Water Works Association*, September 1979.
- In the British Medical Journal "Risks of Environmental Exposure to Asbestos," 1978, it is pointed out that there is no definite risk from ingesting asbestos in water. It concludes that any substantial hazard from environmental asbestos overall is likely to have been detected by now. Also, a current review "Public Health Aspects of Asbestos Fibres in Drinking Water," 1978, published in the *Journal of the American Water Works Association* confirms that there is no firm evidence to suggest that asbestos ingested from water is a health hazard.
- In the comprehensive report of the Commission of the European Communities "Public Health Risks of Exposure to Asbestos," Pergamon Press, 1977, two relevant conclusions were drawn: (a) "at this moment there is no solid evidence from epidemiological studies that gastro-intestinal exposure may induce peritoneal mesothelioma." (b) "experience from drinking water authorities has not shown any relation be-

tween the prevalence of gastro-intestinal tumors and the presence of asbestos in drinking water. At this moment there is no evidence that there exists any increased health risk from asbestos fibers present in drinking water, beverages, food, and in fluids used for administration of drugs."

Animal Feeding Studies Show No Increased Cancer Risk

- The National Institute of Environmental Health Sciences is sponsoring an animal feeding study with chrysotile asbestos, which is used in A/C pipe. An EPA researcher recently reported that the length of life of the exposed animals (hamsters) has not been reduced from cancerous tumors. Tissue studies will be completed in the coming months. This is just a segment of a \$5 million animal feeding program which is scheduled for completion in mid 1980.
- Animal studies, in which rats or hamsters are fed quantities of cancer-causing substances, often are used as models to extrapolate for human exposure and risk. The animal dose levels extrapolated to man for the NIEHS Study mentioned above are such that an individual would have to drink 363 quarts of water per day for 80 years, each quart containing 164 million asbestos fibers. That is about 100 times more water than normally is consumed in a lifetime, at fiber levels which are extremely rare.
- To date none of the animal feeding studies have proven that the ingestion of even large amounts of asbestos results in an increased risk of cancer.
- Given the fact that no federal or state regulatory body has banned or restricted the use of A/C pipe, it should be evident that if any of the animal feeding studies truly had been conclusive, then EPA or other health regulatory agencies would have taken remedial action.

Epidemiology Also Shows No Health Hazard

- The value of epidemiology studies in contrast to experiments with laboratory animals, is that human populations can be observed directly without extrapolation of unusually high doses from mouse to man.
- Cancer statistics of people living in these areas with high levels of naturally occurring asbestos have been studied extensively:
 - In Duluth, Minnesota where as much as 600 million fibers per liter of an asbestos-like mineral were present in the drinking water, researchers concluded that no carcinogenic effects were apparent after 17 years. "Investigating Possible Effects of Asbestos in City Water," *American Journal of Epidemiology*, 1976.
 - In Canada, a study of 22 municipalities with high concentrations of naturally-occurring asbestos in their water supplies failed to reveal any excess cancer which could be attributed to asbestos consumed in drinking water. "Cancer Mortality in Relation to Asbestos in Municipal Water Supplies," *Archives of Environmental Health*, 1977.

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In Connecticut an EPA funded study concluded: "This study detected no changes in incidence rates or patterns in Connecticut for cancers of the stomach, colon or rectum over the period 1935-1973, that would be construed as related to the introduction around 1950 of A/C pipe to carry domestic water supplies to some or most of the residents of certain towns." *"An Investigation of the Use of Asbestos Cement Pipe for Public Water Supply and the Incidence of Gastro-intestinal Cancer in Connecticut," American Journal of Epidemiology, 1935-1973.*

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