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bcc: J. N. Beveridge

07402

May 20, 1970

Mr. R. L. Parks
Associate Managing Engineer
Fire Protection Department
Underwriters' Laboratories, Inc.
333 Pfingsten Road
Northbrook, Illinois 60062

Dear Russ:

I've attached some representative articles on the asbestos problem with sprayed fireproofing. Recognize that the problem did originate in New York and a major factor was the very bad work practices of application of fibers. Dr. Selikoff stated, "The worst he could imagine."

There are many more articles but are repetitive and this problem has been major in Philadelphia and San Francisco. Please let me know at once if there's more background data you may need.

Russ, in regards to applied density would there be an official statement from U. L., Inc. on the importance of the tested density in sprayed fireproofing? If not, could someone make such a statement?

Again, I must emphasis that this is one of the key issues in getting strong controls on the problem of long-term pollution. An answer on this question would be appreciated as soon as possible.

Yours truly,

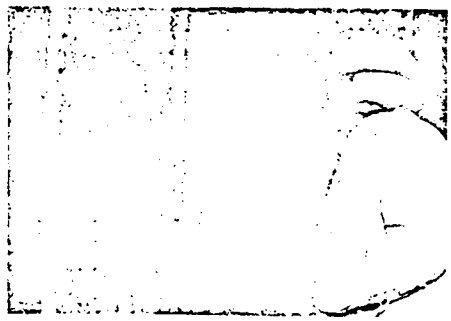
Thomas F. Egan - Manager
Fireproofing Products

TFE/jac

Attachments

DEPOSITION EXHIBIT
99
Egan

Loose asbestos fiber seen as cancer threat to men in building trades



Medical researchers have found strong evidence that sprayed asbestos used in fireproofing steel-framed buildings causes cancer in men who work on these buildings.

The hazards of asbestos are becoming a public issue. New York City is considering regulating its use and a California legislator introduced a bill this year to prohibit installation of asbestos inside air duct systems in public buildings. So far, however, no positive legislative action to control its use or method of application has been enacted.

The most likely victims are the men who spray the asbestos mixture on exposed steel members and ductwork and apparently inhaled the heaviest amounts of asbestos fiber.

Once asbestos fibers enter the pulmonary or gastro-intestinal tract, they never leave the body, never break down. Medical research is making an increasingly strong case against these fibers as a source of cancer.

The asbestos fibers and dust particles, those highly visible during a spraying operation and the millions of microscopic ones, also cause asbestosis, which is associated with lung cancer.

Three physicians have statistically tied asbestos to cancer among workers in or closely allied to the building trades. They are: Dr. Irving J. Selikoff, director of the Division of Environmental Medicine at Mt. Sinai Hospital, in New York City; Dr. Jacob Churg, chief pathologist at Barnert Memorial Hospital, of Paterson, N.J.; and Dr. E. Cuyler Hammond, vice president for epidemiology and statistics of the American Cancer Society.

In 1962 they compiled a list of 632 men who, as of Dec. 31, 1942, had been members of two metropolitan New York City locals of the International Association of Heat and Frost Insulators and Asbestos Workers (IAHFIAW), AFL-CIO, and who had been exposed to asbestos for 20 years or more. Union, medical and insurance records showed that in the 1932-1962 period, 262 out of the 632 had died, seven before 20 years of exposure. On the basis of ages of the study group, the normal death total should have been 203.

Moreover, 45 died of lung cancer, when actuarial tables anticipated only six. And another 50 deaths resulted from other types of cancer. Of this number, 29 died of gastro-intestinal cancer, although only 10 would have been the normal number for this disease.

Still working with the original list, Dr. Selikoff later found that between January, 1963, and March, 1968, of the 370 survivors of the original 632 men, 113 more had died, while standard mortality tables would predict only 50 deaths. Of the 113 deaths, 28 were caused by cancer in the pulmonary tract, eight by gastro-intestinal cancers and 15 from asbestosis, which is a build-up of scar tissue in the lungs resulting from the presence of asbestos particles.

The scarring impairs the lungs so severely that they cannot absorb sufficient oxygen. There is no cure. Death, a strangulating, coughing demise, is the only end.

Dr. Selikoff says that products in which asbestos has been bonded into the material, such as floor and ceiling tiles, roofing, siding and pipe, are not considered a cause of cancer.

The data that scares. The data disclosed by Dr. Selikoff pushed the New York City Department of Air Resources into a start on writing regulations that would regulate the spray application of asbestos for both fireproofing and insulation.

The regulations would require: Before insulating and fireproofing material is applied, the entire floor of the area involved in the operation be cleared of all objects, materials and equipment except that needed to apply the material.

- As the material falls to the floor, fragments be swept up immediately and placed in special containers.
- Wet sweeping of the area, and vacuuming to pick up the material that had dried.
- Enclosure tarpaulins not be dismantled for 24 hours after completion of clean-up unless adequate mechanical means are provided to clean the air within the enclosed area.

Great Britain already has strict regulation of sprayed asbestos fireproofing (see box).

Richard L. Ottinger, a Democratic member of the House of Representatives from Westchester County, N.Y., last week latched on to the sprayed-asbestos operation as an environmental issue with political appeal.

Ottinger, a cosponsor of the federal Air Quality Act of 1967, charges that New Yorkers are exposed to tons of cancer-causing asbestos dust every year. He specifically cites the sprayed-asbestos method of fireproofing buildings and demands that the federal government impose regulations governing the use of asbestos.

He says the federal Air Pollution Control Administration can act now under authority already provided by the Air Quality Act.

The apparent virulence of asbestos is more than a table of death rates to Ottinger. Five years ago it struck at Mike Kitzmiller, now Ottinger's legislative aide. When Kitzmiller was making repairs on his house, some loose asbestos insulation fell into an open cut on his shoulder.

The cut healed, but one year later the scar developed a "mean-looking dark area around it," according to Kitzmiller. By last summer, the scar became painful. Tests showed it was malignant. Surgery removed the cancer.

Hitting the obvious. Ottinger, now seeking the Democratic nomination for U.S. senator from New York, was calling attention to a phenomenon seen by

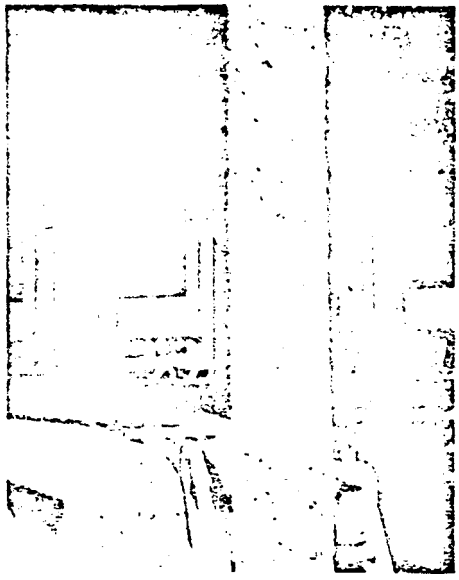
many persons in cities across the country, but understood by a relatively small number. From buildings under construction there is often a gentle floating fall of a cottony material. This is material that fails to adhere to the steel as it should and blows up, down, around and across a job and sometimes over wide sections of a city on windy days.

The fireproofing material is a mixture of asbestos, rock wool and cement. It is contained on the job in a cone-shaped hopper equipped with a worm gear at the bottom that feeds the mix into a hose. Compressed air, at about 22 psi, pushes it through the hose to a nozzle. Approximately 1 in. beyond the nozzle's end, the dry asbestos-rock wool-cement mix interacts with a stream of water running through a second hose.

The wet fireproofing material then is sprayed directly against the steel members previously hosed down with water to improve bonding.

About 200 tons of sprayed fiber material is used on a 30-story building. Depending on weather conditions and measures taken to provide some enclosure, as much as 50% of the sprayed material may be wasted.

The resulting storm of asbestos dust is a potential danger to everyone on the job, according to Dr. Selikoff. He has not as yet gathered extensive data on the threat to the general public and will not guess the possible incidence of asbestosis or lung cancer among those not directly working with asbestos but intermittently exposed to it in a casual way.



Asbestos airborne is source of worry.

The helping hands. Dr. Selikoff has received support from the insulators and asbestos workers international union since mid-1950. The union first provided the health histories of its members. Then in October, 1968, Johns-Manville Corp., of New York City, the largest producer of asbestos in this country, joined with the international union in backing Dr. Selikoff's work with cash. The company and the union provided $362,500 to finance a new program called the Insulation Industry Hygiene Research Program (IIHRP). Dr. Selikoff directs the program out of Mt. Sinai Hospital.

IIHRP's primary purpose is to develop methods of minimizing exposure of all insulation workers to dust and fumes encountered on the job.

The program has already had some repercussions. Chief among them is the sprayed asbestos fireproofing operation at the twin 110-story towers of the World Trade Center in New York City. On this job, which will require an estimated 5,000 tons of sprayed fireproofing, specially designed tarpaulins cover the exterior of the floors being fireproofed. The tarps extend through the window openings and are tucked back under the sprandrels so that material being sprayed will not escape from the area and fall on other floors, or surrounding streets. Moreover, the area being sprayed is closed off inside the building with plastic sheeting so that the materials will not drift into adjacent work areas.

New York City has also taken an initial step by preparing rules to control the application of sprayed-asbestos fireproofing. But the regulations have not gone much further than an initial draft since the city's Environmental Protection Administration and the Department of Air Resources have not had commissioners at the helm for several weeks. The rules, therefore, have not been pushed.

As proposed the regulations would require that sprayed asbestos fireproofing contractors obtain a license. In addition, the area of a building being sprayed would be tightly sealed, the precautions approximating, and in some cases, exceeding those now in effect at the $600-million World Trade Center project.

Should such regulations ever become effective, they would raise costs of fireproofing with sprayed asbestos. A structural engineer reports the costs now range between 30 cents and 60 cents a sq ft.

And another broad estimate came from Mario & DiBonno Plastering Co., Inc., of Great Neck, N.Y., which said the approximate cost of fireproofing a 30-story building is $250,000.

One of the five major companies that make the spray-asbestos material has sought and succeeded in developing a spray-on fireproofing compound that contains no asbestos. The manufacturer, U.S. Mineral Products Co., of Stanhope, N.J., said that the new product, Cafco Type D-C/F, will be on the market in about a month.

It contains mineral wool and proprietary binders it will not identify. It will cost about 10% more than spray-on asbestos fireproofing material.

Company officials say that they developed the new material because of the controversy starting to develop over asbestos.

Great Britain restricts asbestos spraying

The United Kingdom, with extensive statistical material linking asbestos to cancer, only last year cracked down on the use of asbestos in the building trades.

The thorough, detailed and apparently restrictive regulations have all but eliminated asbestos-spray fireproofing as a method, according to an officer in the National Federation of Plastering Contractors. He says that instead of using sprayed asbestos as the fireproofing agent, contractors are boxing asbestos panels around the structural members.

The regulations require:

- Filing by the contractor of an application with the Department of Employment and Productivity 28 days before asbestos is to be applied on a structure.
- Operation of exhaust and ventilating equipment in the area of asbestos application.
- Mandatory use of respirators by workers in asbestos-contaminated areas, and wearing of special clothing. The mask and clothing must be provided by the contractor.
- Storage of asbestos in "suitable containers," marked with blue paint or ink, "asbestos—do not inhale."
- Vacuuming of all surfaces, machines and equipment in areas where asbestos is applied.