

On Feb 1

As a reference of what the
use of a particular asbestos
product generates in
contaminations

PLAINTIFF'S
EXHIBIT
WRG-1372E

AIRBORNE ASBESTOS: *PLU*

Test Results

- Johns-Manville and NRCA find some encouraging data -

If you are a close OSHA-watcher, you know that last year the Feds issued an "emergency" standard covering airborne asbestos. This standard calls for a maximum of 5 fibers per cubic centimeter in all workplaces. The standard is scheduled to be tightened to 2 fibers in 1975.

NRCA was concerned that there might be a release of asbestos fibers from the handling of asbestos felts. Johns-Manville has been most cooperative in scheduling testing to determine the amount of asbestos released from the



Mop, Roll and
Hot Men were
Equipped with
Testing Devices

Fiber Canisters
were Pinned
to the Men's
Shirt Fronts



handling of asbestos felts on the roof.

The most recent test was conducted in May at a school job in Hobart, Indiana. D. R. Christensen, of J-M's Environmental Control Division conducted the air sampling, using six battery powered testing units. These units consist of a battery pack and air pump, attached by a rubber hose to a filter canister. The air filter is a cellulose-ester material with a pore size of 0.8 microns. Air is pumped through this filter, thereby trapping dust and fibers on the filter. Later, in the

blowing process, which might be done by partially de-gassing the still, following blowing to remove light ends in the void space of the still. This is only a remote and unproven possibility, and would probably require very heavy expenditure for facilities as well as a long period of time to achieve.

2. Changes in handling. It is undoubtedly possible to satisfy Ringleman requirements in eliminating smoke through the use of specially treated high-efficiency air filters, which are presently commercially available. However, the filters presently on the market are extremely high-efficiency, and awkward units with correspondingly high costs. There is also no information as to filter life under average operating and maintenance conditions. Simpler, more usable filters have not yet been placed on the market.

3. Afterburners are perhaps the most immediately practical solution. Their cost is comparatively small, and they are commercially available. NRCA has been testing different versions of afterburners and will continue in that area. The efficiency of afterburners is attested to by their acceptance in parts of California.

4. Another possible approach to the emission problem has been suggested by Professor Thomas. If the production of emissions is considered as a distillation process, then it should be possible to use a condensing unit to break up the aerosol mist, and collect the liquid or return it to the kettle.

"... perhaps nothing is more important than letting NRCA know of any developments ..."

5. There are several additional kettle modifications which are not directly related to emissions per se, but which could influence efficiency of operations and therefore the emission level, particularly if cracking is an important emission source. Basically these involve alterations in the heating and handling systems. Better loading systems such as "revolving-door" or mail-slot devices will reduce the atmospheric exposure of the vapor-filled air space in the kettle.

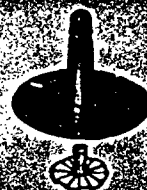
It is very desirable to reduce the presence of hot-spots in the kettle, particularly on the surface of the heater tubes, since these superheated surfaces can cause cracking reactions in which fragments light enough to contribute to emissions can be torn off the asphalt molecules. Our data indicate that this does indeed take place. Redesign of the kettle to minimize hot spots or to improve circulation and thereby cut down the exposure to the hot areas would surely be desirable. NRCA is working with manufacturers in this area.

But whatever the ultimate solution — whatever the immediate problem — perhaps nothing is more important than letting NRCA know of any developments if and when they occur. The problems have been largely isolated; the solutions are largely tentative. NRCA has invested a great deal of time and money in avoiding problems and proposing solutions, and will invest a lot more time and money as research continues and pending cases begin to finalize.

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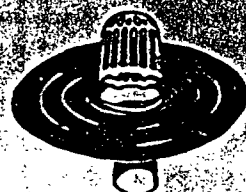
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laboratory, the filter material is dissolved, leaving only the dust and fibers. The asbestos fibers are counted on a grid system, using a conventional optical microscope. Only asbestos fibers longer than 5 microns are considered harmful by OSHA.

Three of the testers were set up on the roof, downwind from the roofing work. The mop man, roll man, and hot man each had a tester hooked to his belt with the filter canister pinned to his shirt front. Results of the testing were as follows:

Location	Asbestos Fibers Per Cubic Centimeter
Mop Man	0.1
Roll Man	0.1
Hot Man	0.2
Downwind No. 1	0.1
Downwind No. 2	0.4
Downwind No. 3	0.1

The relatively high reading at the No. 2 Downwind Station is interpreted to be caused by normal statistical variation. The results are accurate with a tolerance of $\pm 25\%$.

A previous test at a roofing job on the University of Wisconsin Parkside Campus yielded similar results: three me-

chanics had readings of 0.3 fibers, 0.2 fibers, and 0.2 fibers, with stationary locations all reading 0.1 fibers.

On the basis of this data, it appears that we have no problem whatsoever in handling asbestos felts. Tear-off jobs show higher figures but are still within the 1975 standard.

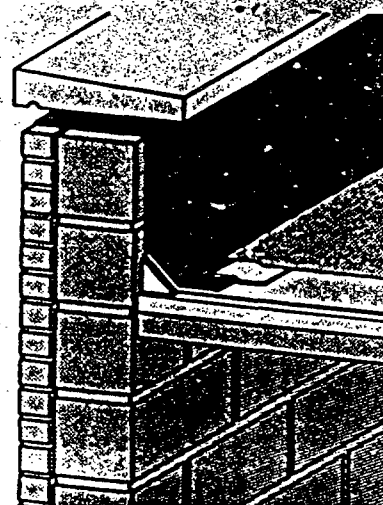
Following are the results of a test conducted at a tear-off job on a St. Regis Paper Co. facility in Bridgeview, Ill.

Location	Asbestos Fibers Per Cubic Centimeter
Tear-off Machine Operator	1.6
Pick-up Man No. 1	1.5
Pick-up Man No. 2	0.8
Shovel Man	1.4
Tractor Operator	1.7
Chute Man	1.3

This job generated moderate to heavy visible dust, found to consist mostly of fiberglass insulation fibers. It is interesting to note that the National Institute for Occupational Safety and Health is currently considering a criteria document for fiberglass dust exposure. We may well have a problem on tear-off jobs in the future. ● ● ●



Results of the Hobart, Ind. test indicate that asbestos felts present no problem for OSHA compliance.



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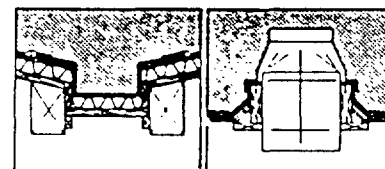
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