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Location Building 94, Niagara Falls, N.Y.

Date October 27, 1967
Originating Dept. Research and Development Department
Answering letter date

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Subject Identification of Asbestos Particles in Paper

A method has been devised in our paper laboratory whereby the distribution of asbestos particles can visually be determined on the surface of cellulosic paper. This simple test can be used to determine the extent to which the asbestos fibrils have been liberated and may possibly aid us in establishing which sheets will cause picking problems in a paper mill.

The surfaces of the paper samples tested were coated with a solution of VYHH-vinyl chloride, vinyl acetate polymer dissolved in methyl ethyl ketone. The treated sheets were air dried and then heated on a hot plate (200-300°C.) for one minute. The asbestos particles appeared as black specks on the surface of the sheet.

Attached are a number of samples showing the effects of poor and well liberated asbestos particles.

Figure 1 represents the kraft trial run at Longview, Wash. with the new high-pressure repulper. Figure 2 is a treated sheet from the recent Weyerhaeuser trial at Plymouth, North Carolina run with the F-3 Fitz mill. Figure 3 represents a sample from the West Virginia trial at Tyrone, adding Asbestos "T" by beater addition. The Hammermill sheet from Lock Haven, Pa. (Figure 4) shows no specks. Figures 5 and 6 are laboratory handsheets representing the dramatic effects of Kady mill on the asbestos. Both samples contain approximately the same amount of asbestos and titanium dioxide. In Figure 5, the asbestos-titania slurry was prepared in the laboratory Hermann Disintegrator. Figure 6 shows the improvement achieved in asbestos dispersion with the Kady mill.

Further work is being initiated to determine whether or not this test can be used in evaluating paper mill trials on the basis of what is seen on the surface of the paper.

FHT/bsn
Attach.

RECEIVED OCT 30 1967 A. E. P.

F. H. Thompson

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PAPER SAMPLES TREATED WITH POLYVINYL CHLORIDE-POLYVINYL ACETATE

Figure 1

Longview Fiber Co.
Longview, Wash.

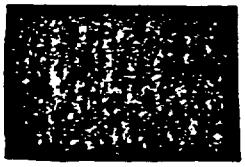


Figure 2

Weyerhaeuser Paper Co.
Plymouth, N.Carolina

Figure 3

West Va. Pulp & Paper Co.
Tyrone, Pennsylvania

Figure 4

Hammermill Paper Co.
Lock Haven, Pa.

Figure 5

Laboratory Slurry
Asbestos-Titania

Figure 6

Kady Mill Slurry
Asbestos-Titania

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