AIR HYGIENE COMMITTEE MEETING
Asbestos Textile Institute
March 10, 1954

The industrial hygiene survey program was participated in by seven plants of six member companies. Samples were taken under standard procedures at similar locations in all the plants. The samples were forwarded to the Chemical Engineering Laboratory of Travelers Insurance Company, and analyzed for dust particles under 10 microns in size and for asbestos fibers 10 microns and longer at 100 and 200 magnifications, light field illumination (a standard technique). Detailed reports have been forwarded to each participating plant and the summary report without plant identification was discussed.

A general review of the report indicated that:

1. there was no fixed relation of quantity of dust to quantity of fiber in the samples. It was evident that some dust concentrations which would be considered satisfactory under present state standards contained an unfavorable concentration of fiber.

2. good control is indicated at most sampling locations in most plants, by the fact that fiber counts were below the tentative maximum allowable concentration of one million fibers per cubic foot, recommended at the 1952 Saranac Symposium.

3. the data will be reviewed statistically to determine whether the higher magnification makes possible the identification of a significantly greater number of fibers. A separate report will be forwarded to committee members.

It was reported that the New Jersey Standards and Code Committee had accepted for adoption the recommendation of one million fibers per cubic foot as the maximum allowable concentration for asbestos fiber. Definition of fiber and reference to the analysis techniques is included in the Committee's recommendation. The Air Hygiene Committee members requested that information used in discussions with the New Jersey Code Committee be forwarded to each in order that pertinent information be passed on to agencies in other States. The American Conference of Governmental Industrial Hygienists has received the Saranac Research work but desires to have more extensive data before modifying its present list of threshold limits. Studies such as ones we are working on would be of considerable import to this group.

The committee recommended that additional surveys be made in those member plants where both wet and dry weaving methods are used. Samples will be taken during each process type in order to evaluate the effectiveness in dust control of wet weaving. Analytical laboratory services will be arranged for as in the current survey. It was further recommended that all future surveys be member companies whether made by their own or state technicians be analyzed for both the dust and fiber content and the data included in the Committee records.

In a review of fiber conditioning techniques several members reported trials of various materials. With several, there were visual improvements in dust levels though some offered problems of application. It was proposed that at our next meeting, each member would report on his company's experience with materials for fiber conditioning and the cumulative list would be submitted to the Technical Committee and to the Fellow for evaluation in terms of product characteristics.

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It was the consensus of the Air Hygiene Committee that the problem of dust determination in fiber as a raw material was primarily one which would concern the Technical Committee. After a standard measurement technique is developed, the Air Hygiene Committee would then be in a position to study the relationship of dust content of fiber to the dust levels during processing.

As resolved from the discussion in the General Meeting, the Air Hygiene Committee will prepare an outline of the information pertaining to asbestos which would be appropriate for those making inquiry concerning the health and Hygiene aspects of asbestos fiber exposure. The outline will be submitted for consideration at the next Board of Governors Meeting.

Correspondence from our French Associates pertaining to dust control methods and medical experience was reviewed and discussed. The techniques described in the letter on dust control are similar to those used by various member companies. It was reported that by visual observation, considerable improvement was noted. However, there is no data concerning dust or fiber counts. In the opinion of the Medical Officers,

1. there is no relationship of pulmonary cancer to asbestosis in the French experience,

2. while asbestosis does not predispose to tuberculosis, observation was made that recovery from T.B. was difficult,

3. a positive relationship was observed between alcoholism and asbestosis.

Summaries of this correspondence are attached as a part of the minutes.

J. W. Weber presented and discussed his design for twister-spinner ventilation control. Air Hygiene samples indicate dust level is less than one million particles per cubic foot. Although no fiber analysis was made it can be safely assumed that it was considerably less than this. Not only does the design provide excellent dust control but also provides a substantial guard for rig and spool breakage. A drawing of this design is reproduced as a part of the minutes.

The United States Public Health Service study on instrumentation was reported to be in progress. The samples of asbestos have been forwarded. The study, however, will probably not be reported for a considerable length of time since there are a number of instruments whose efficiency is being determined. Asbestos is but one of a group of five or six materials being used.

The following are excerpts from a letter on asbestosis submitted by Dr. du Mesnil du Buisson, of associate member Societe Anonyme Francaise du Ferodo.

Asbestosis and silicosis are entirely dissimilar diseases. Silicosis is a clear-cut disease with a typical x-ray pattern and a typical clinical picture. Asbestosis on the other hand, has few if any clinical signs and no characteristic x-ray pattern.

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The diagnosis of asbestosis rests only on the clinical symptoms and abnormal x-ray picture and the presence of asbestos bodies in the sputum.

The French authorities believe that the presence of asbestos bodies in the sputum are diagnostic of pulmonary asbestosis. The American authorities do not agree with this concept.

Asbestosis is not a progressive disease and it can be arrested and cured by removal of the employee from exposure.

There are no reported cases where pulmonary carcinoma is associated with asbestosis.

Alcoholism plays an important part in the development of asbestosis for this condition predisposes to many types of lung pathology. It is noted that 2/3 of asbestosis cases found in the factories of Claigny and Fontaine were alcoholics.

Asbestosis can be controlled only by adequate ventilation of the factories, by annual physical examination, x-rays and sputum analysis.

The Doctor also quotes as follows from a letter he received from the Medical Council of an insurance group:

"Great caution should be used in the diagnosis of such occupational diseases as asbestosis for if an employee is unable to work because of this disease he will receive compensation but no medical or drug bills associated with his illness will be paid."

Societe Anonyme Francaise du Ferodo

Dust eliminating equipment in asbestos factories at Vallee de la Vere.

In the asbestos preparation sections pneumatic conveyors are used. In the spinning and twisting and adjacent areas no great amount of dust is produced. In carding and weaving special exhaust is used.

Carding machines are built over long shallow trenches and entirely sealed from above. Air is drawn in at the loaders and the conbers. The trough is connected to the exhaust system and kept under pressure.

Air shafts under the shuttle the entire width of the machine and funnels placed above the warp control the dust at the weavers.

The speed of intake at orifices and in air shafts is 15 to 18 cubic meters per second. It is the objective to remove the dust at the source or to enclose the apparatus as completely as possible maintaining it under pressure. The dust is collected in a battery of stocking collectors and the purified air recirculated.

Respectfully submitted,

H. H. Jackson, Chairman
Air Hygiene Committee

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