

FILE NAME: WR Grace (WRG)

DATE: Unknown

DOC#: WRG236

DOCUMENT DESCRIPTION: 0000 Unpublished Internal Report
Regarding the Multibestos Company.

The Multibestos Company

Mr. McKordie, who designed a large part of the ventilating equipment used at the plant, showed me about.

There have been numerous cases of asbestosis developed here, and as a result the methods of manufacture have been greatly modified. The carding process has been dropped, the yarn being bought already spun, and a wet weave substituted for a dry weave process. Mr. Bateson said that more cases of asbestosis were developed in the weave room where the dust count was about seven and a half-million particles per cubic foot, than in the carding room, where the dust count was much higher. The most recent counts ran from half a million to two million, except at a carboloy saw, where it was 6.7 million, and at the paper beater during its feeding (31 million). A new process has been developed for feeding the paper beater. The use of the carboloy saw is discouraged pending its removal, and the general ventilation has been greatly improved since these counts were made.

Woven fabrics are used chiefly for brake linings, but for some clutch facings as well. Most of the latter and some brake linings, especially for heavy brakes, are moulded, or made originally as an asbestos paper. For impregnating materials asphalt, kerosene, and bituminous resins are used. Rubber bonded linings are not impregnated; the rubber bonding is done in Cambridge, but all cutting, shaping and finishing is done in Elphinstown.

Weave Room:

The yarn consists of cotton and asbestos fibre wound around a small wire. The yarn is dry as it leaves the spools but passes over a wet roll before going through the guide so that the dust given off by the vigorous agitation of the dry yarn in the weaving process is largely eliminated, since the yarn is wet at this stage. The spindles of weaving yarn are soaked in water before use. The loom spools of dry yarn are shaken somewhat but undoubtedly by far the largest part of the potential dust is prevented from coming off.

On some of the looms a process of impregnating the yarn as it is woven is being tried. The roll wet with water is replaced with one wet with impregnating solution, in most cases asphalt in kerosene. This is supposed to give a more thorough impregnation and eliminates a process. It has the disadvantage of dirtying up the loom, however, and the fumes of the solution contaminate the air of the weave room. A solution of resin was also being applied in this way: they have succeeded in eliminating alcohol from the solvent for these mixtures. On one section of a loom a water emulsion of a resin impregnant was being tried, it being both non-toxic and non-inflammable.

The fumes of kerosene near the looms until the carbolic impregnant was used.

Impregnation Room:

The method still used for most of the woven linings is that of impregnating the fabric after it is woven. A long strip is run through a bath of solution, before and after which are cold drying ovens. Conditions in this room are satisfactory.

W. R. Grace & Co. received this document on July 27, 1985, from the plaintiff as a trial exhibit in Greenville County School

Dist. v. U. S. Gypsum Co., et al., C/A No. 82-3142-14 (U.S.D.C. South Carolina). No copy of this document has been found in Grace's own files.

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Work on form:

Here the clutch facings and brake linings are ground down to the proper size, the required holes are drilled, etc., and in this room the most strenuous efforts in ventilation have been made. The removal of visible dust seemed almost perfect in the case of all the grinding operations observed. The chief source of dust seemed to lie in the handling of piles of articles in loading or unloading of machines. In some cases ventilation was even provided for these operations.

One of the men operating an inside grinder (for the inside of clutch facings) wore a respirator, however.

Clutch department:

In the process of making moulded brake linings and especially clutch facings, asbestos is fed into a paper beating machine, where it is mixed with water, pigments, fillers and a little red lead, which helps the impregnant to harden. From here it is pumped to the paper machine where a layer of the mixture is carried continuously on an endless belt, the water drained off, and the resulting sheet of asbestos paper is removed, pressed, and cut up.

Formerly the act of feeding asbestos into this machine was very dusty. Now the bags of asbestos are emptied into a chute (in an enclosed room on the second floor) and the water for the mixture is sprayed in simultaneously, wetting down the asbestos so that it is soaked with water when it enters the beater, and little or no dust is given off. The man handling the bags of asbestos wears a respirator, the operation taking but a few minutes. The room where this was done seemed surprisingly free from visible dust.

This seemed to me a very satisfactory, common sense and economical solution of this particular problem.

Twenty pounds of red lead are sprinkled with a hand scoop into each batch mixed up in the paper beater. This is heavier than many lead compounds and even if it should be liberated in the form of dust, I understood the reason for saying that the maximum output of the machine was five batches a day.

Clutch impregnating room:

Most of the clutch facings are impregnated with AR dope, a solution of a coal tar pitch in toluol, which is made in the Cambridge plant. A rack about 4' x 8' x 6' is filled with clutch facings and then submerged in one of the tanks of dope, of which there are three or four in a room about 27' x 12' x 8'. The solution is kept at 80 degrees F. or higher, and the tanks are covered except when the solution is solvent is being added, when the rack of clutch facings is being introduced, and when the clutch facings have just been removed. The waste solution is allowed to drain back into the tanks.

There is no man in the room when the clutch facings are being impregnated. The only man in the room is the one who adds the solvent to the solution. One of the men who is in the room is the one who adds the solvent to the solution, and he has his collection suffered considerable discomfort as a result.

It seemed to me that unless these tanks were ventilating properly the conditions should by all means be improved. A determination of the toluol concentration in the air might be worth while. Two or three window blowers, to be operated when the tanks were open, might improve the situation sufficiently for practical purposes.

While the insurance company was said to have investigated these conditions and to be satisfied, and while it is true that toluol is not as insidious a poison as benzol, or asbestos dust, and while there is some doubt about its ever causing chronic poisoning, it is still classified with benzol in Bulletin 182 of the U. S. Dept. of Labor. Certainly conditions such as apparently exist here should not be tolerated if they can be easily remedied.

Drums containing toluol were in some cases labelled as containing alcohol.

General:

Mr. McMurrie said that some dermatitis was caused by the formaldehyde used with tar acid in the manufacture of bakelite resins.

Respirators were worn on many odd jobs, such as sweeping the floor, using the oxy-acetylene cut, etc.

In general the firm has been admirably thorough, ingenious, and, I believe, effective in the steps taken to eliminate dusty conditions.

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