re for all particles, direct comparison is taken were the number of particles 10 n 94 percent of the whole.

*num dust counts in million particles per cubic foot by plant and department*

| Plant B | | Plant C | | Plant D | | Plant E | |
|---|---|---|---|---|---|---|---|
| Number of samples taken | Million particles per cubic foot of air | Number of samples taken | Million particles per cubic foot of air | Number of samples taken | Million particles per cubic foot of air | Number of samples per cubic foot of air | Million particles per cubic foot of air |
| 9 | ½–8 | 8 | 2 –43 | ------- | ------- | 3 | 30 –82 |
| 5 | ¾–4¾ | 6 | 3½–15½ | ------- | ------- | 3 | 26 –76 |
| 5 | ½–1 | 3 | 1¼– 4½ | ------- | ------- | 3 | 5½–10 |
| ------- | (1) | 8 | 1 – 3¾ | ------- | ------- | 3 | 10½– 7 |
| 4 | ½– ⅝ | 6 | 3¾–10 | 15 | 1 –7 | 3 | 10½–19¾ |
| ------- | ------- | ------- | ------- | ------- | ------- | ------- | ------- |
| ------- | ------- | ------- | ------- | ------- | ------- | ------- | ------- |
| ------- | ------- | ------- | ------- | 2 | ½– ⅝ | ------- | ------- |

[1] Includes broad loom weaving.

preparation room is practically all due to he case in the other departments. In the aving rooms asbestos comprises about 25 sed. On special jobs the percentage of at in general the figure quoted is approxi- material consisting principally of cotton. ents of plant A, asbestos is but 5 percent . In the molded brake-lining and clutch os comprises about 25 percent of the total sure to asbestos dust, therefore, is consid- d in the dust counts in table 1.

TIONS IN THE PLANTS

lants were very similar to those in cotton ration, the process in the preparation room at length:

ags. These are emptied upon the floor and to pug mills and run for about 5 minutes n the fibers. From there the asbestos is wheeled to hoppers with either horizontal to those used in textile mills. After passing material is discharged into trucks. Waste first run through a garnet machine and



discharged into trucks, which are wheeled to the openers, and the material is fed into these in the same manner as is the new material. After being discharged from the opener, the material is put onto a vibrating or shaking screen, where the long fibers are picked off by a suction hood and blown into a bin to be used again in textiles. The short fibers falling through the screen are either sold as such or used in making an asbestos cement.

The cotton is received in bales, opened, and also run through vertical openers. It is discharged into trucks. The filled trucks from the vertical and horizontal openers containing either the asbestos fiber, the cotton, or the waste material are taken to separate storage bins. As needed, these materials are weighed and dumped onto the floor in proportion to the mixture desired, and the resulting mixed materials are then passed through a mixing picker. As this mixture is discharged from the picker, it is sprayed with a light mineral oil. The material is then taken by a mechanical conveyor to the storage bin in the card room. Two of these mixing pickers discharge onto this conveyor system, while a third machine is equipped with a suction device which conveys the material to a storage bin in the card room. The object of the two systems is to facilitate the handling of two grades of material at the same time. The third machine is not equipped with an oil spray. The object of the oil spray is primarily to entrap the small asbestos fibers and hold them enmeshed in the cotton fiber throughout the processes of carding, spinning, and weaving. Incidentally, it is apparent that it also diminishes the amount of dust. The material is saturated with about 4 percent of oil at this point; but by the time it reaches the looms, the oil had diminished to less than 1 percent.

While mineral oil was used in the preparation room of plant C, it apparently was not as efficacious as in plant B. In plant E oil was not used, nor was there any attempt at humidification or any system of dust exhausting. Carding machines were fed by hand. In plant A there was a humidifying, ventilating, and heating system, while plant B depended on natural humidity. In plant E the carding machines were equipped with a dust-exhaust system, but it was not efficiently used. In plant C carding was done in 2 buildings, 1 of which was equipped with an air-conditioning system, and in both buildings the machines had exhaust equipment.

Two plants, B and C, had artificial humidity installations in their spinning rooms. In the former the temperature was 76° F., relative humidity 78 percent. One plant, C, had a humidification system in the twisting department and also in the weaving department, where the relative humidity was 76 percent with a dry-bulb temperature of 69° F., as compared with a relative humidity of 44 percent in the weaving room of plant A.