

In fact, the history, and the medical and radiological features of the cases of fibrosis, together with the results of comparison of the dust counts, all contribute in some degree to the view that with comparatively low concentration of dust in the neighbourhood of a process, the resulting cases of fibrosis amongst the workers in that process are longer in developing and remain longer in a milder stage. It follows, therefore, that in such cases the rate of accumulation of dust in the lung has not greatly exceeded the rate of elimination, and a further point of great practical importance emerges, namely, that in order to prevent the full development of the disease amongst asbestos workers within the space of an average working lifetime, it is necessary to reduce the concentration of dust in the air of the workrooms to a figure below that pertaining to spinning at the time over which these cases were exposed.

Not only does group 3 show the lowest incidence of fibrosis, but it forms the largest individual group in these sections of the industry—about one third.

Relative Dustiness of Various Asbestos Processes.—While some reference here to the varying amount of dust evolved by the different processes is necessary, the causation of these differences and methods of suppression of dust are discussed in Part II of this Report.

Different asbestos processes do cause the evolution of different amounts of dust into the air of the workrooms, and, under present conditions, the difference between the least dusty and the most dusty processes is very pronounced.

In some processes the production of asbestos dust is insignificant; in a second group dust is continuously evolved but in relatively low concentration, as in spinning; in a third group the evolution of dust is continuous and in high concentration, as in dry cloth weaving; and in a fourth group much dust is dissipated in bursts of short duration, as in emptying the fibre from settling chambers by hand into bags.

Some additional data were obtained by means of a limited number of determinations of the dust content of the air at the breathing level of operatives engaged in various processes, with the aid of the Owens' Jet Apparatus. The figures in Table 5 which were calculated from some 50 determinations, give a rough idea of the general dustiness of the processes concerned, and also of the effect of localised exhaust ventilation and damping in reducing the concentration of dust in some of them. The counts in other processes are expressed proportionately to the spinning, plaiting and braiding group, taken as unity.

It will be seen from this Table that the dustiest processes are opening (with old fashioned teasers), sieving (with no local exhaust ventilation), and shovelling or otherwise handling asbestos fibre, with a comparative figure of 2.34. The heaviest counts of all were found in this group, in sack filling by hand in a settling chamber. The comparative figure here was 6.84, but the record was dense, with much clumping together of the dust particles, with the result that the total dust count arrived at was undoubtedly too low.

Next in order is dry cloth weaving without the application of localised exhaust ventilation, with a figure of 1.95. This is undoubtedly a dusty process, and although local exhaust ventilation reduces the count at the breathing level of the weaver, much dust still escapes into the workroom. Weaving cloth wet, not merely damp, reduces the dust count to a remarkable degree. Column

TABLE 5.—*Relative Dustiness of various Processes and Effects of Localised Exhaust Ventilation and Damp Methods in suppressing Dust.*

Spinning, Braiding, Plaiting, Without local exhaust ventila- tion.	Carding with local exhaust ventila- tion.	Weaving.					Mattress Making.			Opening and handling fibre, without local exhaust ventila- tion.
		Cloth		Wet.	Band.		Dry, without local exhaust ventila- tion.	Dry, with exhaust ventila- tion.	Damp, with exhaust ventila- tion.	
		Dry								
Without local exhaust ventila- tion.	With local exhaust ventila- tion.	Without local exhaust ventila- tion.	With local exhaust ventila- tion.		Dry, with local exhaust ventila- tion.	Wet.				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	1.17	1.95	1.05	.43	.61	.91	1.45	.49	.55	2.34

* Note that here the exhaust ventilation means special general ventilation of the mattress making work-rooms, not localised at the work benches.