SAMPLING FOR ASBESTOS FIBER COUNTING

Mr. Stone questioned the possible movement of asbestos inside the filter sample when sent to the lab for examination. Mr. Weaver indicated that this possibility was quite remote. Apparently the question arose after an OSHA visit to the member's plant. In response to a question, one member indicated it takes about two months from the OSHA sampling until the OSHA report is received. Further, it was indicated that the company hears if it is to be cited and not if the conditions are satisfactory. The OSHA regulations call for an eight hour time weighted average (TWA) for the measurement of airborne concentration of asbestos fibers. One member indicated that he runs his sample test for a continuous four hours to compute the concentration. With a continuous four hour sampling, there are sometimes reactions from the shop people.

Returning to the question on sampling for fiber counting, OSHA recommends a full straight eight hour sample. It was indicated they used 8 filters during this continuous sample. A member suggested using 90 minute sampling for most areas, or a complete job cycle if it took longer than 90 minutes. He recommended four hours of sampling for specials. A member questioned as to what minimum time was necessary in sampling to determine the peak concentrations that cannot exceed 10 fibers per cc. No specific answer was given, but Mr. Weaver indicated some sampling procedures which he felt were optimum for counting fibers entrapped by the filter. The number of tests for various conditions is suggested in this tabulation. One condition is where you are measuring friction materials with asbestos in the compund, and the other is for areas where you are handling all asbestos.

Optimized time for fiber collection - depending on TWA fiber per cc concentration expected in area. (Optimum for counting fibers on the filter)

Friction Materials TWA Fibers per cc	Optimum Number of Tests	All Asbestos TWA Fibers per cc
0- 5	1-8 hr. test	0- 3
5-10	2-4 hr. tests	3- 6
10-15	3 tests, 3,3,2 hrs.	6- 9
15-20	4-2 hr. tests	9-13
-	8-1 hr. tests	13-20

The question arose concerning the sample, where one is trying to pick up asbestos for counting. What about the other fibrous materials in brake lining that are not considered hazardous? Might these not be counted on the filter as well as asbestos? One answer that is indicated for the skilled laboratory man making the examination is that he should be able to distinguish between asbestos fibers and other materials. Further, one can go to 800X on the microscope and get a closer look at the materials picked up on the filter. Dr. Spurgeon indicated that one can use low temperature ashing to remove resins and other organic materials (primarily friction dust).