IDENTIFICATION OF ASBESTOS BY POLARIZED LIGHT MICROSCOPY

John Delly
Walter C. McCrone Associates, Inc.
Chicago, Illinois

A number of analytical tools can be used to characterize and identify asbestos: infrared absorption, x-ray diffraction, DTA, SEM, TEM, and the light microscope. Each has advantages and limitations. The polarized light microscope (PLM) has many advantages, and the only disadvantages are: 1) the asbestos particles must be at least a micrometer in largest dimension, and 2) considerable training in optical crystallography is needed.

PLM, on the other hand is very sensitive (ppm range), extremely rapid (1-5 minutes to identify all components of most samples) and, of all the methods, only PLM will identify the individual amphiboles.

ASB 0004071