

ROUGH DRAFT
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CTFA METHOD FOR FIBROUS AMPHIBOLE

If a talc sample reads positive for amphibole by x-ray diffraction, then optical support is required. The following is my first draft of such a procedure.

Mount sample in 1.600 index oil and scan at 200x using crossed polars.

Look for uniformly illuminated particles with parallel sided configuration and which have a sharp and uniform extinction as opposed to wavy or irregular (as in talc).

If such particles are found and meet the criteria for fibrous, they are probably amphibole mineral particles. To be sure, the investigator must determine the relative Refractive Index of the particle compared to the R.I. of the mounting media (1.600).

Amphibole particles will have R.I. higher than 1.600 in all positions. Talc particles will have a lower R.I. in all positions.

Talc particles will have extinction parallel to the vibration directions of the polars. Amphibole may have parallel or inclined extinction.

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