
Internal and External Morphology of Tubular and Spheroidal Halloysite Particles*

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Abstract: Tubular halloysite from Wagon Wheel Gap, Colorado and spheroidal halloysite from Redwood County, Minnesota were examined by transmission electron microscopy. Clay samples were prepared by the following techniques: drop-mounted suspension on carbon support films; thin sections of clay in Araldite epoxy resin; and carbon-platinum-palladium single-stage replicas.

Both types of dehydrated halloysite have interlayer separations between packets of layers. Halloysite tubes are composed of packets as thin as five layers which sometimes reveal a rolled interior configuration in cross-sectional view. Thicker tubes are composed of many layers per packet. Some large tubes appear in cross section as folded packets of layers. The interior morphology of spheroidal halloysite particles is more irregular and the layer structure is more discontinuous than in most tubes. The spheroidal halloysite of this study is characterized by external tangential plates with hexagonal shape suggestive of kaolinite.

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