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# Particle Size-Shape Relationships in Georgia Sedimentary Kaolins—II

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**Abstract:** Crude sedimentary kaolin clay from central Georgia, U.S.A., which had a wide distribution of particle size, was divided into several size fractions by repeated sedimentation in water. The resulting fractions had approximately a 2:1 ratio in dia. between their upper and lower limits. Each fraction was then studied by transmission and scanning electron microscopy and characterized in terms of surface area (both geometric and by gas adsorption), particle shape and impurity analysis.

Particle diameter determined from measurements made on electron micrographs showed considerable deviation from the diameter obtained by Stokes sedimentation. This deviation was especially large for the coarser particles and could be explained by the microscopically observed porosity of the kaolinite booklets. Imperfect stacking of the crystallites within a kaolinite booklet leads to a moderately regular array of slit-like voids. Effective particle densities as low as about  $1 \cdot 6$  have been observed. The pore structure was also investigated by use of mercury intrusion porosimetry.

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