

Study of properties of cambodian clays by X-ray diffraction technique

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In this study, the natural clay deposits from central Cambodia (Kampong Chhnang and Kandal) were collected and investigated analyzed in terms of their mineral phases, mineralogical composition and phase changes after firing by qualitative and quantitative XRD analysis. To examine the phase changes, the samples were prepared and fired from 950 to 1200 oC. Results show that Cambodian clays contained quartz, illite, kaolinite, and chlorite-vermiculite mixed-layer as dominant mineral phases and the minor phases of feldspar (albite) and calcite also appeared in the samples. The rational analysis shows that chlorite-vermiculite was the main mineral in all Cambodian clays. The content of chlorite-vermiculite could be up to 48%. After the samples were preceded upon firing, new phases of mullite, hematite and crystobalite were appeared above 1050 oC

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