

The Degree of Conversion of Dehydroxylation in a Large Electroceramic Body

Jan Ondruska^{C, S}, Igor Stubna and Anton Trnik

Department of Physics, Faculty of Natural Science, Constantine the Philosopher University, Nitra, Slovakia

The initial composition (36 wt. % kaolin, 30 wt. % alumina, 22 wt. % feldspar, 12 wt. % clay) and density of a body containing kaolinite is substantially altered during dehydroxylation which starts at the temperature ~ 420 °C. Values of the degree of the dehydroxylation conversion of kaolinite into metakaolinite were experimentally obtained for a cylindrical sample with the radius 80 mm from isothermal regimes at 450, 500, 550, 600, and 650 °C with heating times from 0 to 9 hours. The degree of conversion was determined for small samples (10x10x5 mm) from different places of the cylindrical sample. This value was calculated from the weight loss caused by dehydroxylation. The dependencies of the degree of conversion on the small sample position, temperature, and time are presented.