

Kaolin from Tamazert deposit in the north Algeria was used in this study. The physical and chemical properties were determined by the performance of several analyses as well as the X-ray fluorescence, X-ray diffraction, thermal behaviour (ATD, TG), dilatometric and granulometric distribution. The study of ceramic behaviour as function of firing temperature has been investigated by shrinkage, adsorption both density and mechanical tests after gradually increasing from room temperature to 1500 °C. The modification of the structure of the raw material samples has been observed after fining and the crystallization of mullite and amorphous silica phase were confirmed by scanning microscopy SEM and evaluated by XRD. The suitability of kaolin for ceramics process was discussed from the linear shrinkage, both density and open porosity. The amorphous phase content is varied from 27-34 % and the tests of flexion have been carried out as depending of temperature, revealed a suitable mechanical properties and the relationship between amorphous phase and sample properties. The adsorption rate was found to be about 35%