

Over recent years, a hot topic has been attracted much research attention is the development and/or optimization of porous materials with requirements for intended applications in catalyzing, filtration and isolation among others. This paper presents a method of elaboration of cellular ceramic bricks using three type of Algerian kaolin which were obtained from different regions at "Djebel Debbagh" in Eastern Algeria, Bechar "Tabelbala site" in Western Algeria and "Boudouaou site" in central region of Algeria. The elaboration of cellular ceramic bricks based on the creation of the cellular structure at room temperature, starting from barbotine (slurry), which was prepared by mixing argillaceous materials, foaming agent, and water. The solidification was carried out at room temperature by adding a mineral binder which allows the transformation of the foamed slurry into a rigid and stiff cellular body after being dried. The sintering treatments for 2 h at 1100, 1100 and 900 °C, respectively, consolidate the so-called green cellular body and produced the interconnected cellular ceramic materials with a good pore size distribution. The volume of porosity and the cell sizes were exclusively controlled by the foam volume generated. The porosity was varied from 60 to 90% of the total volume of the material, where the cell sizes ranging from 0.01mm to 1mm. in this study, the followed approach of elaboration of cellular materials was clearly allowed us to envisage the volume of porosity with acceptable precisions