

Effect of soda-lime-silica glass addition on the physical properties of ceramic obtained from white rice husk ash

ABSTRACT

This study reports on the effect of soda-lime-silica (SLS) glass on the physical properties of the ceramic material obtained from white rice husk ash (WRHA). The crystallisation behaviour of samples was investigated by XRD analysis after different heat treatments. The bulk density and linear shrinkage (LS) of the samples were determined using Archimedes' method and direct geometric measurement, respectively. The residual pore contents of the specimens were determined using SEM micrographs. The results show that the bulk density and LS of the samples increased and the porosity decreased as the sintering temperature increased. The XRD analysis results show the formation of cristobalite to be a major phase and some tridymite phase was detected in the specimens.

Keyword: Crystallisation; Physical properties; Soda-lime-silica glass; White rice husk ash