

ABSTRACT

Work contains: 59 p., 20 pic., 7 tabl., 13 sources. Object of research: SiO_2 - Al_2O_3 - Li_2O - TiO_2 ceramics.

The purpose of this work is to study the influence of Al_2O_3 on the formation of the SiO_2 - Al_2O_3 - Li_2O - TiO_2 system of ceramics, its properties.

Methods of manufacturing samples: pressing - using hydraulic press, sintering - muffle furnace.

Using the method of hydrostatic weighing, the density of samples was investigated, scanning electron microscopy was carried out, the content of phases was investigated by X-ray diffraction analysis.

Dependence of density and volume shrinkage on compression pressure and the influence of material composition on the properties of sintered ceramics has been established.

Key words: POWDER, CERAMIC, RADOMES, SILICON DIOXIDE, ALUMINIUM OXIDE, LITHIUM OXIDE, TITANIUM DIOXIDE, MATERIAL SCIENCE.