

## ABSTRACT

The work contains 68 p., 19 fig., 12 tab., 43 sources.

The object of study is composite materials based on boron carbide.

The aim is to study the impact of carbon on the structure and properties of composites B<sub>4</sub>C-SiC-Si.

The method of introducing carbon composite B<sub>4</sub>C-Si was developed and conducted a comprehensive study of the samples (metallographic analysis, X-ray analysis, durometric analysis). The results showed that the increase of carbon in the initial charge increases the amount silicon carbide microhardness increases.

Keywords: COMPOSITE MATERIALS, COMPOSITE, PHASE COMPOSITIONS, MICROHARDNESS, BORON CARBIDE, SILICON.