CONCLUSION

1. In this work composite materials were obtained by silicon infiltration of refractory frame made of carbon fiber reinforced boron carbide.

2. In order to reduce the influence of surface microcracks on the properties of ceramics strength by the method of electron-beam evaporation and condensation in a vacuum, the coating of molybdenum was applied on derived composites.

3. It was established that during the coating process at a temperature of 1135 ° C for 7 minutes, the diffusion of silicon from the base into the coating occurs, resulting in a layered structure of coating.

4. The chemical analysis determined the amount of silicon in the coating - 38.43% by weight, which corresponds to the compound $MoSi_2$.

5. The strength of the composite and the strength of the coated composite are determined by the method of three-point bending. It is established that when applying the coating, the strength of the material decreases from 433 MPa to 263 MPa, which can be explained by the weakening of the composite during the coating process.