



Structure investigations of siliconized graphite obtained during the elaboration of sintering process technology

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Abstract : The experimental samples of siliconized graphite consisting of raw materials with relevant technological requirements for prototypes production of siliconized graphite were investigated in this work. It is found that the test samples acquire the desired hexagonal lattice after heating at the sintering temperature of 1550 °C. It is determined that the desired structure of the obtained material consists of three main phases corresponding to siliconized graphite: the silicon carbide (SiC), free carbon (C) and silicon (Si). It is found that that microhardness of the obtained samples was: for silicon from 5250 to 8720 MPa and for silicon carbide from 10840 to 15900 MPa which corresponds to known values.

Key words: graphite, sintering, structure, siliconized, microhardness.

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