

ABSTRACT

Research work contains: 105 pages, 24 drawings, 32 tables, years. 38 sources of literature.

DIOXIDE CIRCONIA, DIBORIDE NIOBIUM, MICROTILITY, DYBORIDES OF CIRCONIA, DIABORID GAFRIA, DANIEL DIBORIDES, EVTEKTIC COORDINATES, DIAGRAM OF PLANTS, CERAMICS, RENGENO-PHASE ANALYSIS.

Purpose: in this paper we present an overview of the current state, theory and technology of obtaining composite materials of ZrO_2-NbB_2 , ZrO_2-ZrB_2 , ZrO_2-HfB_2 systems.

Research methods: studying the patterns of structure formation of alloys of ZrO_2-NbB_2 , ZrO_2-ZrB_2 , ZrO_2-HfB_2 systems and the construction of fusion diagrams, microstructure studies, hardness and phase composition.

Object of research: the effect of molar content of diboride in ZrO_2-MeB_2 systems on the melting point of eutectics was investigated.

Scientific novelty: the graph of the dependence of the melting temperatures of the ZrO_2-MeB_2 eutectic system on the content of diboride has been constructed. Clarification of the melting temperatures of the eutectic systems ZrO_2-NbB_2 , ZrO_2-ZrB_2 , ZrO_2-HfB_2 .

A fluctuation diagram of the quasibinary system ZrO_2-NbB_2 , ZrO_2-ZrB_2 , ZrO_2-HfB_2 was constructed. The diagrams are eutectic with the coordinates of the eutectic point.

The method of X-ray diffraction analysis revealed that the structure of eutectic alloys of this system consists of two phases.