ABSTRACT

The work contains: 91 p., 35 fig., 16 table, 55 ref.

Object of study is composite materials based on eutectic composition alloy Ti –TiB

The aim of this work was to study the effect of the crystallization kinetic parameters on the structure , physical and mechanical properties of a eutectic alloy of the Ti-TiB system.

It was researched the regularities of effect of crystallisation rate on the microstructure, physical and mechanical properties of the alloy Ti-TiB eutectic composition which was obtained by the method of direct and massive crystalisation.

It was found out that increasing of crystallisation rate from 10^3 ^oC / sec to 10^5 ^oC /sec, couses reducing in size of includings of titanium monoboride and more densely distributed in a matrix of titanium, which leads to an increase in hardness of the composite material

Keywords: TITANUM MONOBORIDE, COMPOSITE MATERIALS, DIRECT CRYSTALLISATION, MASSIVE CRYSTALLISATION, CRYSTALLISATION RATE, HARDNESS, MICROSTRUCTURE