

ABSTRACT

Work capacity: p. – 56, fig. – 20, table. – 18, references – 42.

This work presents a review of contemporary theory and technology of a directed crystallized titanium carbide thermal emission cathodes and influence of the rate of loading on structure and properties of TiC.

The aim is to study the structure and properties of directionally solidified titanium carbide.

Methods:

- metallographic analysis (optical microscopy);
- research of microhardness and fracture toughness;
- roentgen–phase analysis.

Study of mechanical properties showed that the microhardness and fracture toughness of TiC varies with the varying of rate of loading.

Keywords: TITANIUM CARBIDE, ZONE MELTING, THERMAL-EMISSION, DIRECTIONAL SOLIDIFICATION.