ABSTRACT

The work contains 73 p., 25 fig., 22 tabl., 25 sources.

In the thesis paper presents an overview of the current state of literary theory and practice of modern state of the theory of compact powder material receiving system iron-aluminum.

Object of study: compact powder material system iron-aluminum.

Subject of study: the impact of material on the method of obtaining.

Methods and apparatus: samples were obtained on a hydraulic press withsubsequent spikannyav in a muffle furnace in a hydrogen atmosphere, the structure of materials at doslidzhuvalasyata scanning electron microscope Selmi РЭМ 106. Phase composition was investigated on ustavtsi Rigaku Ultima IV

Scientific novelty of the results:

a) established quality mixing takes place when added to the starting mixture of oil and 1.6% of spending in furthering mixing 2.0-4.0 hours at two conical mixer speed of 50-60 rpm. / min .;

b) it is shown that the interaction with the sintering of iron and aluminum to form intermetallic FeAl with greater specific volume than the initial components that cause the destruction of the samples during the first sintering;

Keywords: IRON, ALUMINUM, SEALS, FeAl, MICROSTRUCTURE, PHASE COMPOSITION, MICROHARDNESS.