

ABSTRACT

The work consists of: 83 pages., 24 figures, 12 tables, 42 references to literature sources .

The object of the research is the technological parameters of free hot forging powder obtained by compressing iron powder and mixtures based on it.

The aim of this work is to study the influence of technological regimes and carbon content on the structure and durometric properties of the material.

It was received a certain amount of powder pellets obtained by pressing iron powder and mixtures based on it, recognize the influence of technological regimes and carbon content on the structure and durometric properties of the material.

It was established that the hot forging of powder briquettes based on iron leads to increasing of hardness to 92-94 HRB, which is a result of strain hardening of the material, and that the hot forging of pellets that contains by 11% of carbon leads to the formation of conglobate eutectoid, which provides reduction of fragility compared with high hardness by 95-96 HRB. It is shown that increasing of carbon content in the powder pellets composition provides activities which pull down hardening under deformation during the forging, on condition that stipulate reducing of hardness to 70-80 HRB.

Keywords: CONGLOBATE EUTECTOID, FREE HOT FORGING, POWDER PELLET, DUROMETRIC PROPERTIES.