

ABSTRACT

Diploma work: 92 pages, 39 figures, 13 tables, 26 references.

Purpose of study: to study the structure, kinetics of formation and micro hardness alloy layer obtained on the surface after the electric-spark alloying of the steel mark 3 with chromium and copper in air and subsequent shock treatment.

Methods: microstructural, microhardness, gravimetric, X-ray diffraction and research on durability.

Subject of study: the surface layers of steel mark 3 received electric-spark alloying with chromium, copper and consistent electric-spark alloying by chromium and copper in the air after shock treatment.

Practical value: the obtained results in the formation and established patterns of structure and properties of alloy layers after electric-spark alloying process and shock treatment in air can be used to extend the life of the machine parts and mechanisms operating under extreme loads.

ELECTRIC – SPARK ALLOYING (ESA), SHOCK TREATMENT, DOPED
LAYER, AN ALLOY OF IRON, CHROMIUM, COPPER