

ABSTRACT

Report: 38 pages, 11 figures, 23 references.

Aim of the work: establishing patterns of structure coatings on steel 45 in the electro-spark alloying metals (Zr, Ti, C) in argon.

Research methods: gravimetric analysis, microstructural analysis, microhardness.

Scientific novelty: It is established that the use of interelectrode argon during electro-spark alloying of 45 steel leads to an increase in layer thickness and microhardness of the produced coating.

Practical value: The results are of practical importance for the development of new modes of electro-spark alloying (ESA) to enhance the surface of steel products. ESA developed regimes can improve the physical and mechanical properties of 45 steel, which makes it possible to use it in terms of sliding friction.

ALLOYED LAYER, ELECTRO-SPARK ALLOYING, 45 STEEL, TITANIUM,
ZIRCONIUM, GRAPHITE COATING, SURFACE STRENGTHENING.