

Method of forming multicomponent wear-resistant coatings on steel parts by electro-spark alloying involves applying a first paste-like substance containing sulfur and aluminum powder to the surface of the steel parts. After this, without waiting for the paste to dry, electric spark alloying (ESA) is performed on the steel parts using a graphite electrode at a discharge energy of  $W_p = 0.52\text{--}6.8$  J and a deposition rate of  $1.0\text{--}3.0$  cm<sup>2</sup>/min. After the first alloying, the next alloying with a graphite electrode is performed, preceded by the application of a second paste containing 90% aluminum powder and 10% petroleum jelly.