

Perspective of electrosark alloying method development

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The way of electrosark processing of materials has proved the perspectivity in competition to other ways of metal working due to simplicity of realization of technological operations, small to power consumption, practically unlimited scope. It is necessary to note, that last years the Russian development starts to retard in struggle against similar development of the advanced industrial countries. Suffice it to say, that Japanese firm TechnoCoat International Co., Ltd produces manual installations of models "MicroDepo". The certain successes are achieved by "TWI world center for materials joining technology". They have adapted a working body as the rotating head connected from pulse generator to hand of the robot moved on 6 axes in order to improve a quality of covering and to increase the productivity electrosark alloying. Firm ASAP (Advanced Surfaces and Processes, Inc.) develops own installations for electrosark alloying. Technology of hardening by hard alloys of knife edges with self-sharpening properties has been developed and patented. They use the technology for improvement of physical and chemical characteristics of valves, for hardening the medical tool, for restoring the blades of turbines, etc.

During work at own ESA equipment the reasons of breakages and refusals of installations for electrosark alloying issued earlier on an experimental plant of Institute of applied physics in republic Moldova and Institute of materiology the Russian Academy of Science have been investigated and analysed. In limited company "Discharge 04" for elimination of the revealed lacks an electric basic circuit of new installation for electrosark alloying with the increased frequency of following of electric pulses has been developed. Now it is tested. New installation raises the efficiency of electrosark alloying process due to increase of frequency of electric pulses following up to 1 kHz. The researches for using inverter source of current is carried out.

* Research and development for elaboration of new generation of installations for electrosark alloying with support of "Fund of assistance to development of small forms of the enterprises in scientific and technical sphere" under the contract № 2734p/5121 are carried out.