

Control of parameters of the modified layer of tools hard alloys by plasma processing

Development overview (project idea)

Developer information

Scope of application Steel making industry, mechanical engineering, agricultural and processing industry facilities

DVNZ "Pryazovsky State Technical University"
+38 (0629) 446463
office@pstu.edu
<https://pstu.edu>

Abstract Improving the wear resistance of parts

Kudinova Kateryna Vitaliyivna, Kandidat of Technical Sciences, Associate Professor.

Brief description The methodology of structure formation control during plasma modification of instrumental hard alloys has been developed in order to obtain an ultrafine structure with a high level of operational characteristics in the surface layer. The structural scheme of synthesis of modified layers with ultrafine structure has been developed. The structural scheme includes a complex of theoretical, experimental and technological studies

Field of research – modification of hard-alloy tools by plasma jet, crack testing of modified hard alloys, mathematical modeling of the process of plasma surface modification of hard-alloy tools

Expected result from implementation.

Economic result – economic effect based on previous computations will total, in case of implementation, 150 thousand UAH

Development stage A laboratory model has been developed that requires modernization (depending on the field of application) and can be used for industrial production

Environmental result – reducing the anthropogenic impact on environment

Term of commercialization About 36 months

Social result – contributing to employees qualifications upgrade and improving labor conditions at an enterprise

Possible sources of investment Budget funds, grants, funds of business entities in the relevant field, other sources not prohibited by law