ABSTRACT

«Physico-chemical properties of composite coatings based on Nickel»

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The physicochemical properties of nickel composite coatings are investigated in the dissertation. A nickel-based coating with Al_2O_3 and SiO_2 particles fused into the matrix was obtained. The elemental composition of the obtained coatings and their morphology were studied. The study of corrosion resistance of the obtained coatings in sulfuric acid medium by weight method is carried out. Polarization researches of electrochemical properties of the received coverings are carried out. The technological process of obtaining the developed composite coatings in the industry is offered and the necessary technological calculations are carried out. The scheme of automation and control of working parameters is offered for technological process. A start-up project for the production of a hard-resistant nickel coating on a rod for the formation of glass products has been developed.

Key words: composite coating, non-metallic particles, sulfamate electrolyte, polarization study.