Abstract

Galvanic coatings in the device manufacturing. The technological development of copper underlayer applying in the three-layered coating copper-nickel-chrome.

Panteleimonov R. – Kyiv: NTU “KPI”, HTF, group ChE – 21.

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In this diploma the technology is proposed and the constructive technological calculations of indices of the process of copper underlayer applying in the three-layered coating copper-nickel-chrome are provided. The productivity of the production is 18 000 m^2 per year. Electrolyte – pyrophosphate is selected for applying copper underlayer. The basic electrolyte for nickel-plating is examined, electrolyte of shiny chrome is chosen and well-founded. The thickness of this coating is chosen according to the operational conditions of the details and the standard and comprises 30-18-1 micrometers respec.

The technical economic indices for copper underlayer are calculated and the scheme of the automation of the copper plating process is developed. The scheme of the sewage treatment by reagent and ionex-change methods is developed; the harmful and dangerous productive factors are analyzed and the safety manufacturing and the work protection in the galvanic shop are proposed.

Keywords: galvanic coatings, three-layered coating, copper coating, copper-nickel-chrome, galvanic bath, technological map, tension current density, ecological safety, sewage treatment, manufacturing automation, technique of safety manufacturing.