

Abstract

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

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Diploma project, year 2016. The number of pages - 90, tables-23, pictures-5, literature sources – 26, applications – 2.

In this diploma the technology is proposed and the constructive technological calculations of indices of the process of nickel underlayer applying in the three-layered coating copper-nickel-chrome are provided. The productivity of the production is 18 000 m² per year. Electrolyte – pyrophosphate is selected for applying copper underlayer. The bright electrolyte for nickel-plating is sulfate-chloride, electrolyte of shiny chrome according to the operational conditions of the details and the standard and comprises 30-18-1 micrometers respec.

The technical economic indices for nickel underlayer are calculated and the scheme of the automation of the nickel 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, nickel coating, sulfate-chloride electrolyte, copper-nickel-chrome, galvanic bath, technological map, tension current density, ecological safety, sewage treatment, manufacturing automation, technique of safety manufacturing.

					ДП ХЕ2211.1450.000 ПЗ	Арк.
Эмн.	Арк.	№ докум.	Підпис	Дата		6