Pulse reversal plating of nickel-cobalt alloys - DTU Orbit (27/10/2019)

**Pulse reversal plating of nickel-cobalt alloys**

Electroforming, as a versatile process for fabrication of durable tools, is experiencing an increasing interest with the start of commercial use of products with micro or nanofeatures. Electroformed tools can be utilised for polymer, glass and metal replication processes and, in addition, when extreme demands, in terms of tool accuracy, process temperature and tool wear, are requested. In order to meet these demands, electroforming of hard nickel alloys is an obvious way forward. This paper presents several electrolytes from which it is possible to deposit nickel-cobalt alloys with high hardness (>550 HV), low internal stress and easy maintenance. Moreover, different organic complexing agents - as well as alternatives to boric acid - have been investigated.

**General information**

Publication status: Published
Organisations: Institute for Product Development, Materials and Surface Engineering, Department of Mechanical Engineering, Jagiellonian University in Kraków
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Pages: 72-77
Publication date: 2009
Peer-reviewed: Yes

**Publication information**

Journal: Transactions of the Institute of Metal Finishing
Volume: 87
Issue number: 2
ISSN (Print): 0020-2967
Ratings:
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.834 SNIP 0.963
Web of Science (2009): Indexed yes
Original language: English
Keywords: Pulse plating, Complexing agent, Nickel-cobalt alloy, Internal stress
DOIs:
10.1179/174591909X424834
Source: orbit
Source ID: 243233
Research output: Contribution to journal › Conference article – Annual report year: 2009 › Research › peer-review