

Title (en)

Additive-free hard gold electroplating and resulting product.

Title (de)

Zusatzfreie galvanische Hartgoldabscheidung und erhaltenes Produkt.

Title (fr)

Dépôt d'or dur sans additif par voie électrolytique et produit obtenu.

Publication

EP 0025220 A1 19810318 (EN)

Application

EP 80105298 A 19800905

Priority

US 7306679 A 19790906

Abstract (en)

Method of producing articles electroplated with a gold coating having a Knoop hardness above 100, contg. not more than 0.1 wt.% additional metal components and having a surface roughness characteristic of 0.5 microns max. over at least 95% of the major surface is described. Specifically, the surface is made the cathode in an electrolyte of aq. gold cyanide. Additional metal hardening components such as Co, Ni, Ca and As are present. Plating conditions are adjusted to pH 7.5 or less, 50 deg. C or less and current is not more than 0-9i where i is the mass transport limiting current beyond which gold plating rate does not increase, while the flow rate of fluid is at least 50 cm/sec. over the surface to be coated.. Used in electrical switches, the plating efficiency is higher than in prior hard gold plating, as high as for soft gold. Increased limiting current conditions obtain, while bath chemistry is simplified and costs are reduced. The operating temp. is lower than in prior art.

IPC 1-7

C25D 3/48; **C25D 5/08**

IPC 8 full level

C25D 3/48 (2006.01); **C25D 5/02** (2006.01); **C25D 5/08** (2006.01)

CPC (source: EP KR US)

C25D 3/48 (2013.01 - EP KR); **C25D 5/02** (2013.01 - EP US); **C25D 5/08** (2013.01 - EP KR US); **C25D 5/611** (2020.08 - EP KR US)

Citation (search report)

- CH 552069 A 19740731 - ENGELHARD MIN & CHEM
- CH 485863 A 19700215 - ENGELHARD IND INC [US]
- CH 480444 A 19691031 - ENGELHARD IND INC [US]
- CH 444608 A 19670930 - ENGELHARD IND INC [US]
- DE 2523510 B1 19761014 - SIEMENS AG
- DE 1941822 B2 19721228
- DD 59022 A

Cited by

DE102005036133C5; ES2166660A1; EP0582353A1; US5459001A; WO2006073960A3

Designated contracting state (EPC)

BE DE FR GB IT NL SE

DOCDB simple family (publication)

EP 0025220 A1 19810318; JP S5644791 A 19810424; KR 830003601 A 19830621

DOCDB simple family (application)

EP 80105298 A 19800905; JP 12296480 A 19800906; KR 800003528 A 19800905