

Title (en)

ELECTROPLATING BATH FOR ELECTROCHEMICAL DEPOSITION OF A CU-SN-ZN-PD ALLOY LAYER, METHOD FOR ELECTROCHEMICAL DEPOSITION OF SAID ALLOY LAYER, SUBSTRATE COMPRISING SAID ALLOY LAYER AND USES OF THE COATED SUBSTRATE

Title (de)

GALVANIKBAD ZUR ELEKTROCHEMISCHEN ABSCHEIDUNG EINER CU-SN-ZN-PD LEGIERUNGSSCHICHT, VERFAHREN ZUR ELEKTROCHEMISCHEN ABSCHEIDUNG DER LEGIERUNGSSCHICHT, SUBSTRAT MIT DER LEGIERUNGSSCHICHT UND VERWENDUNGEN DES BESCHICHTETEN SUBSTRATS

Title (fr)

BAIN GALVANIQUE POUR LE DÉPÔT ÉLECTROCHIMIQUE D'UNE COUCHE D'ALLIAGE CU-SN-ZN-PD, PROCÉDÉ DE DÉPÔT ÉLECTROCHIMIQUE DE CETTE COUCHE D'ALLIAGE, SUBSTRAT COMPRENNANT CETTE COUCHE D'ALLIAGE ET UTILISATIONS DU SUBSTRAT REVÊTU

Publication

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Application

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Priority

EP 15187511 A 20150930

Abstract (en)

[origin: EP3150744A1] The invention provides an electroplating bath for electrochemical deposition of a novel Cu-Sn-Zn-Pd alloy on a substrate. The novel alloy is characterized by exceptional corrosion resistance and the commonly used precious metal intermediate layer (e.g. a Pd-layer) between the substrate and the finishing layer is no longer necessary which allows a substantial reduction of the production costs of the plated substrates.

IPC 8 full level

C22C 9/02 (2006.01)

CPC (source: EP US)

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C25D 5/611 (2020.08 - EP US); **C25D 5/627** (2020.08 - EP US); **C25D 7/005** (2013.01 - EP)

Citation (examination)

- WO 2017021916 A2 20170209 - BLUCLAD S R L [IT]
- JP 2977503 B2 19991115
- US 6780527 B2 20040824 - NAOI KOICHI [JP], et al

Citation (opposition)

- Opponent : BLUCLAD S.p.A.
- JP H06293990 A 19941021 - NIPPON SHINKINZOKU KAKO KK
 - EP 2799595 A1 20141105 - DELPHI TECH INC [US]
 - WO 2017021916 A2 20170209 - BLUCLAD S R L [IT]
 - JP H10219467 A 19980818 - BIKUTORIA KK
 - US 6780527 B2 20040824 - NAOI KOICHI [JP], et al
 - BE 805602 A 19740201 - JOHNSON MATTHEY CO LTD
 - US 3440151 A 19690422 - DUVA ROBERT, et al
 - US 2014055026 A1 20140227 - HUTIN OLIVIER [DE], et al
 - US 5972526 A 19991026 - MATSUMOTO YOSUKE [JP], et al
 - WO 2015039152 A1 20150326 - W GARHÖFER GES M B H ING [AT]
 - DEPOTO ET AL.: "White Bronze, Copper-Tin-Zinc Tri-metal: Expanding Applications and New Developments in a Changing Landscape", 20 May 2013 (2013-05-20), XP055142805, Retrieved from the Internet <URL:<https://www.pfonline.com/articles/white-bronze-copper-tin-zinc-tri-metal-expanding-applications-and-new-developments-in-a-changing-landscape>>

Cited by

IT202000011203A1; IT201800004235A1; WO2021229481A1

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DOCDB simple family (publication)

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WO 2017055553 A1 20170406

DOCDB simple family (application)

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