

Title (en)

Aqueous acid solutions for the electrodeposition of tin and/or lead/tin alloys.

Title (de)

Wässrige, saure Lösungen für die elektrolytische Abscheidung von Zinn und/oder Blei/Zinnlegierungen.

Title (fr)

Solutions aqueuses, acides pour le dépôt électrolytique d'étain et/ou d'alliages plomb/étain.

Publication

EP 0379948 B1 19940309 (DE)

Application

EP 90100870 A 19900117

Priority

DE 3902042 A 19890125

Abstract (en)

[origin: EP0379948A2] A description is given of aqueous acid solutions for the electrodeposition of tin and/or lead/tin alloys to improve electroplating in the high current density range and obtain uniform lustre throwing power in metals deposited in the low current density range. The solutions according to the invention contain a mixture of metal salts, free alkanesulphonic acid, nonionic wetting agents and, optionally, aromatic short-chain aldehydes and/or, optionally, aromatic ketones and/or, optionally, short-chain unsaturated carboxylic acids. The solutions according to the invention are therefore characterised in that tin and/or lead salts of the alkanesulphonic acid are used as metal salts, the alkyl group of the alkanesulphonic acid consisting of 1 to 5 carbon atoms, and the free alkanesulphonic acid containing alkyl groups with 1 to 5 carbon atoms. As a further brightener, the solutions contain a mixture of a reaction product of acetaldehyde and/or its aldol condensation products with ammonia and/or acyclic ketones and/or aliphatic amines, amides, amino acids and/or hydrazine compounds.

IPC 1-7

C25D 3/32; **C25D 3/60**; **C25D 3/56**

IPC 8 full level

C25D 3/32 (2006.01); **C25D 3/56** (2006.01); **C25D 3/60** (2006.01)

CPC (source: EP US)

C25D 3/32 (2013.01 - EP US); **C25D 3/56** (2013.01 - EP US); **C25D 3/60** (2013.01 - EP US)

Cited by

US7455458B2; EP1705267A1; WO2004007809A3; US7174637B2

Designated contracting state (EPC)

BE DE FR GB LU NL

DOCDB simple family (publication)

EP 0379948 A2 19900801; **EP 0379948 A3 19910731**; **EP 0379948 B1 19940309**; DD 291785 A5 19910711; DE 3902042 A1 19900726; DE 3902042 C2 19910502; DE 59004841 D1 19940414; JP 3096465 B2 20001010; JP H02232389 A 19900914; US 5021130 A 19910604

DOCDB simple family (application)

EP 90100870 A 19900117; DD 33731490 A 19900124; DE 3902042 A 19890125; DE 59004841 T 19900117; JP 1473090 A 19900124; US 46906690 A 19900123