

Title (en)

METHOD FOR REFINING CRYSTAL GRAINS IN PLATING FILM

Title (de)

VERFAHREN ZUM RAFFINIEREN VON KRISTALLKÖRNERN IN EINEM PLATTIERUNGSFILM

Title (fr)

PROCÉDÉ DE RAFFINAGE DE GRAINS CRISTALLINS DANS UN FILM DE PLACAGE

Publication

EP 3725921 A4 20210127 (EN)

Application

EP 18887864 A 20181214

Priority

- JP 2017240928 A 20171215
- JP 2018046031 W 20181214

Abstract (en)

[origin: EP3725921A1] In a crystal grain size reduction method for a plating film, electroplating is performed in a condition where ions of a plating metal, a nanocarbon, and an anion based surfactant as a dispersion agent for dispersing the nanocarbon have been blended in a plating solution.

IPC 8 full level

C25D 3/46 (2006.01); **C25D 3/12** (2006.01); **C25D 3/30** (2006.01); **C25D 3/48** (2006.01); **C25D 5/00** (2006.01)

CPC (source: EP US)

C25D 3/12 (2013.01 - EP US); **C25D 3/30** (2013.01 - EP US); **C25D 3/46** (2013.01 - EP US); **C25D 3/48** (2013.01 - EP US); **C25D 5/617** (2020.08 - EP US); **C25D 15/00** (2013.01 - US)

Citation (search report)

- [X] WO 2005106989 A1 20051110 - TOYO KOHAN CO LTD [JP], et al
- [X] US 2004011433 A1 20040122 - SHIOZAKI SHIGERU [JP], et al
- [X] WO 2011089933 A1 20110728 - EYETEC CO LTD [JP], et al
- [X] WO 2005056885 A1 20050623 - TOYO KOHAN CO LTD [JP], et al
- [X] US 2012121923 A1 20120517 - PALUMBO GINO [CA], et al
- See references of WO 2019117279A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3725921 A1 20201021; **EP 3725921 A4 20210127**; CN 111511964 A 20200807; JP 2021042397 A 20210318; US 2021156044 A1 20210527; WO 2019117279 A1 20190620

DOCDB simple family (application)

EP 18887864 A 20181214; CN 201880080829 A 20181214; JP 2017240928 A 20171215; JP 2018046031 W 20181214; US 201816954182 A 20181214