

Title (en)
Electrode and method for electrolytic layer deposition

Title (de)
Elektrode und Verfahren für eine elektrolytische Schichtabscheidung

Title (fr)
Electrode et procédé pour une séparation de couche électrolytique

Publication
EP 2184385 A2 20100512 (DE)

Application
EP 09010994 A 20090827

Priority
DE 102008053865 A 20081030

Abstract (en)
The total area of the electrode (2) is divided into separate faces (4) which are insulated from each other. Each face can be connected to an electrical potential. Connection to the faces is made individually, or in groups. It is made via a regulator and/or control unit (26). Opposite adjacent side areas of different faces are separated by insulating joints or gaps. Alternatively the electrodes each have an electrically-insulating core (12) and/or carrier. The spacing (A) between two points on adjacent side surfaces or edges of faces is related to the deposition layer thickness (D), such that 2D is greater than or equal to A, and/or A exceeds D. The rear sides of the faces are connected to electrical lines individually or in groups. The electrode can be re-used after removal of a deposited polymer film. One or more faces have a maximum width of 50 μ m, especially 30-5 μ m. For plating, the electrode is brought into contact with the electrolyte. A controlled potential is applied to cause electrolytic plating onto designated surfaces from at least one opposite electrode. Material is deposited from the electrolyte. It coats only the designated surfaces. Materials which can be polymerized and/or cross-linked, especially monomers and/or metallic substances are introduced into the electrolyte. By variation of process parameters, the control unit determines the areas to be plated and areas in which little or no plating occurs. The controller determines: voltage magnitudes, current through the plating areas, its duration and the depth of plating. Line connections are used; these include one or more switches (32). Connection is grouped or individual. Control parameters are intentionally related to the location, properties, thickness, structure, shape and/or geometry of the layer deposited on the designated areas. An independent claim IS INCLUDED FOR the method of deposition.

Abstract (de)
Erfindungsgemäß ist eine Elektrode für ein elektrolytisches Abscheidungsverfahren, dadurch gekennzeichnet, dass die Elektrode mehrere, voneinander elektrisch isolierend getrennte Teiloberflächen aufweist und dass die Teiloberflächen einzeln oder gruppenweise durch eine Regel- und/oder Steuereinheit mit einem elektrischen Potential verbindbar sind.

IPC 8 full level
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CPC (source: EP)
C25D 17/12 (2013.01); **C25D 21/12** (2013.01)

Citation (applicant)
EP 1289031 A2 20030305 - UNIV BRAUNSCHWEIG TECH [DE]

Cited by
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