

Title (en)

CIRCUIT FOR OPTIMAL CURRENT PRODUCTION IN PROCESSES OF ELECTROCHEMICALLY INITIATED PLASMA CHEMICAL LAYER PRODUCTION

Publication

**EP 0508350 A3 19930602 (DE)**

Application

**EP 92105924 A 19920406**

Priority

DE 9104200 U 19910408

Abstract (en)

[origin: EP0508350A2] The invention relates to a circuit arrangement for current supply in processes of electrochemically initiated plasma-chemical layer production. It is preferably used in the plasma-chemical conversion of electrochemically preformed layers, for example on light alloys. According to the invention, the output of the adjustable three-phase transformer (1) branches twice with a downstream-connected 6-pulse rectifier circuit (2), a first bridge circuit consisting of a capacitor (8) connected in parallel with a voltage sensor (9), a second bridge circuit containing a freewheeling diode (10) parallel to the current-limiting inductor (3) and the bath (5) for carrying out the process, in parallel with which there is a pulse analyser (4), and both bridge circuits being isolated by a switch component (6). An opto-electronic sensor (11) is fitted in the bath (5) for carrying out the process in order to indicate the pulsed plasma discharges which are controlled by the circuit arrangement, which sensor (11) is connected to the control unit (12) in the same way as the pulse analyser (4), the voltage sensor (9) and a current sensor (7), the control unit (12) influencing the switch component (6) with the three-phase transformer (1) in an objective manner, in order to set the pulse frequency and duty ratio to the optimum.

<IMAGE>

IPC 1-7

**H02M 3/156**

IPC 8 full level

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CPC (source: EP US)

**C25D 11/024** (2013.01 - EP US); **C25D 11/04** (2013.01 - EP US)

Citation (search report)

- [A] WO 9100380 A1 19910110 - HULL HARRY F [BR], et al
- [A] DE 2831948 A1 19800207 - SCHERING AG
- [A] US 4839002 A 19890613 - PERNICK JEFFREY R [US], et al

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