

Title (en)

METHOD AND DEVICE FOR HIGH-RATE COATING BY MEANS OF HIGH-PRESSURE EVAPORATION

Title (de)

VERFAHREN UND VORRICHTUNG ZUR HOCHRATENBESCHICHTUNG DURCH HOCHDRUCKVERDAMPFEN

Title (fr)

PROCÉDÉ ET DISPOSITIF POUR L'ENDUCTION À VITESSE ÉLEVÉE PAR ÉVAPORATION À HAUTE PRESSION

Publication

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Application

EP 10716336 A 20100427

Priority

- EP 2010055633 W 20100427
- DE 102009019146 A 20090429

Abstract (en)

[origin: WO2010133426A1] The invention relates to a vacuum coating method having very high deposition rates, high coating thickness homogeneity, and high material yield and to devices for performing the coating process. In order to solve the conflict in conventional vacuum evaporation between coating thickness homogeneity on one side and material yield and coating rate on the other side, the substrate forms the boundary of a substantially closed coating chamber, which is fed by an evaporation source. The walls of said coating chamber and all surfaces that should not be coated are either temperature-controlled or provided with an anti-adhesive layer so that the vapor cannot condense thereon and is scattered back into the coating chamber. A very high vapor pressure thus builds up in the coating chamber and leads to a very high condensation rate on the substrate and to homogenization of the coating thickness. Because the substrate is the only surface on which the vapor can condense, hardly any material is lost and the yield is extremely high. Short-cycle coating can be achieved by means of pulsed operation of the evaporator source.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

See references of WO 2010133426A1

Citation (examination)

- JP H06172973 A 19940621 - TOYOTA MOTOR CORP
- US 3925146 A 19751209 - OLSEN KEITH H, et al

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