

Title (en)
METHOD FOR PRODUCING TAMPER-PROOF IDENTIFICATION ELEMENTS

Title (de)
VERFAHREN ZUR HERSTELLUNG VON FÄLSCHUNGSSICHEREN IDENTIFIKATIONSMERKMALEN

Title (fr)
PROCEDE DE PRODUCTION DE CARACTERISTIQUES D'IDENTIFICATION INFALSIFIABLES

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Application
EP 03784094 A 20030728

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Abstract (en)
[origin: WO2004014663A1] The invention relates to a method for producing tamper-proof identification elements, and to tamper-proof identification elements produced according to said method and consisting respectively of at least one layer (2) reflecting electromagnetic waves (3), a spacer layer, and a layer consisting of metallic clusters (4). According to said method, a partial or all-over layer reflecting electromagnetic waves is applied to a carrier substrate (1), followed by at least one partial and/or all-over polymer layer having a defined thickness (3), and a layer consisting of metallic clusters which is produced by means of a method using vacuum technology or from systems based on solvents is then applied to said spacer layer(s).

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Opponent : Giesecke & Devrient GmbH
• AT 407165 B 20010125 - SCHALKHAMMER THOMAS DR [AT], et al
• WO 0231214 A1 20020418 - HUECK FOLIEN [AT], et al
• WO 03095227 A1 20031120 - KURZ LEONHARD FA [DE], et al
• US 4639069 A 19870127 - YATABE TOSHIKI [JP], et al
• DE 4017220 A1 19910131 - TVG THERMO VAC ENTWICKLUNGS GM [DE]
• US 5278590 A 19940111 - PHILLIPS ROGER W [US], et al
• WO 0103945 A1 20010118 - FLEX PRODUCTS INC [US]
• US 4705300 A 19871110 - BERNING PETER H [US], et al
• WO 0034395 A1 20000615 - FLEX PRODUCTS INC [US]
• WO 0200445 A1 20020103 - RUE DE INT LTD [GB], et al
• DE 10208036 A1 20030821 - NOVEMBER AG MOLEKULARE MEDIZIN [DE]
• WO 0218155 A2 20020307 - NOVEMBER AG MOLEKULARE MEDIZIN [DE], et al
• WO 0153113 A1 20010726 - FLEX PRODUCTS INC [US]
• WO 02051646 A1 20020704 - OVD KINEGRAM AG [CH], et al
• WO 03016073 A1 20030227 - NOVEMBER AG MOLEKULARE MEDIZIN [DE], et al
• US 4856857 A 19890815 - TAKEUCHI SATOSHI [JP], et al
• WO 9848275 A1 19981029 - SCHALKHAMMER THOMAS [AT], et al
• US 5611998 A 19970318 - AUSSENEGG FRANZ [AT], et al
• LEITNER, AUSSENEGG ET AL.: "Optical properties of a metal island film close to a smooth metal surface", APPLIED OPTICS, vol. 32, no. 1, 1993, pages 102 - 110, XP002574134
• VAN RENESSE, ?OPTICAL DOCUMENT SECURITY, 1998, pages 289 - 322
• RÖMPP LEXIKON, CHEMIE, 1999, pages 4204
• "?Untersuchungen über den Aufbau aufgedampfter Metallschichten mittels Übermikroskop und Elektroneninterferenzen", HASS, COLLOID & POLYMER SCIENCE, vol. 100, no. 2, 1942, pages 230 - 242

Cited by
WO2011147520A1; EP2420391A2; EP2127899A1; WO2021185729A1; EP2578414A1; WO2013050140A1; EP3233516B1

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