

Title (en)  
Substrates with electrically conducting layers

Title (de)  
Substrate mit elektrisch leitfähigen Schichten

Title (fr)  
Substrats avec couches électriquement conductrices

Publication  
**EP 1357226 A3 20040107 (DE)**

Application  
**EP 03008537 A 20030412**

Priority  
• AT 6142002 A 20020422  
• AT 3082003 A 20030303  
• CH 2702003 A 20030220

Abstract (en)  
[origin: EP1357226A2] A substrate or film carries a layer of an electrically-conductive polymer. Independent claims are also included for (1) production of a substrate carrying an electrically-conductive layer by in-situ polymerization of a monomer or pre-polymer or by application of a polymer dispersion; (2) apparatus for applying the polymer dispersion, the monomer solution or the monomer/initiator or catalyst mixture in a solvent, the apparatus comprising a temperature-controlled application tank, plunge cylinder, application roller or printer; and (3) a magnetic pigment composition for use with the electrically-conductive product, the composition comprising pigments based on iron oxide, iron, nickel-cobalt or alloys, barium, cobalt-ferrite or hard or soft magnetic iron or steel in aqueous, solvent-free or solvent-containing dispersions such as nitrocellulose, acrylate polymer dispersions of mol. wt. 150,000-300,000, acrylate-urethane dispersions or acrylate-styrene or PVC (co)polymer dispersions.

IPC 1-7  
**D21H 21/48**; **G06K 19/077**; **G06K 19/08**; **H01B 1/12**

IPC 8 full level  
**B42D 15/00** (2006.01); **D21H 21/48** (2006.01)

CPC (source: EP)  
**B42D 25/29** (2014.10); **D21H 21/48** (2013.01)

Citation (search report)  
• [DX] DE 10025522 A1 20011129 - UNIV DRESDEN TECH [DE]  
• [X] US 5176405 A 19930105 - KAULE WITTICH [DE], et al  
• [X] US 6197418 B1 20010306 - CLOOTS TOM [BE], et al  
• [X] EP 0615257 A2 19940914 - KONINKL PHILIPS ELECTRONICS NV [NL]  
• [X] DE 19937262 A1 20010301 - SIEMENS AG [DE]  
• [X] EP 1079397 A1 20010228 - AGFA GEVAERT NV [BE]  
• [X] WO 0120691 A1 20010322 - KONINKL PHILIPS ELECTRONICS NV [NL], et al

Cited by  
EP1841004A1; EP2966221A1; EP1562154A1; US8048605B2; US9368010B2; WO2004111338A1; WO2006042568A1; US10671192B2; WO2005012442A1; US8698863B2; US8753791B2; US8936901B2

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