

Title (en)  
Laser-marked document showing a colour-shift effect

Title (de)  
Laser-markiertes Dokument, das einen wechselnden Farbeffekt zeigt

Title (fr)  
Document marqué au laser doté d'un effet de décalage de couleur

Publication  
**EP 2174797 A1 20100414 (EN)**

Application  
**EP 08017527 A 20081007**

Priority  
EP 08017527 A 20081007

Abstract (en)  
Document comprising a coating containing at least one sort of effect pigments, wherein said document also comprises at least one laser mark having a high contrast and a strong colour shift effect Said document is obtainable by a process, wherein, a document comprising a coating containing at least one sort of effect pigments which show different colours under different viewing angles is treated on at least a part of the coated area with a pulsed laser beam at a rate of greater than 500 mm/s and a laser mark having a colour shift effect is obtained. The authenticity of the document can be easily checked by visual inspection from different viewing angles.

IPC 8 full level  
**B42D 15/00** (2006.01); **B41M 3/14** (2006.01); **B41M 5/24** (2006.01); **B42D 15/10** (2006.01)

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**B41M 3/148** (2013.01 - EP); **B41M 5/24** (2013.01 - EP); **B42D 25/29** (2014.10 - EP); **B42D 25/41** (2014.10 - EP US); **B41M 5/26** (2013.01 - EP); **B42D 2033/20** (2022.01 - EP); **B42D 2035/24** (2022.01 - EP)

Citation (applicant)  
• DE 2836526 A1 19790322 - FIAT SPA  
• US 4740269 A 19880426 - BERGER ERICH [AT], et al  
• DE 19544130 A1 19970528 - GIESECKE & DEVRIENT GMBH [DE]  
• DE 19704478 A1 19980813 - MERCK PATENT GMBH [DE]  
• DE 19732860 A1 19990204 - MERCK PATENT GMBH [DE]  
• DE 10008851 A1 20010830 - GIESECKE & DEVRIENT GMBH [DE]  
• DE 4243987 A1 19940630 - GAO GES AUTOMATION ORG [DE]  
• WO 02074548 A2 20020926 - SHERWOOD TECHNOLOGY LTD [GB], et al  
• WO 2005012442 A1 20050210 - SHERWOOD TECHNOLOGY LTD [GB], et al  
• DE 10232786 A1 20040212 - GIESECKE & DEVRIENT GMBH [DE]  
• DE 10247591 A1 20040422 - GIESECKE & DEVRIENT GMBH [DE]  
• EP 1658992 A1 20060524 - EUROPEAN CENTRAL BANK [DE]  
• US 6395191 B1 20020528 - SCHELL KAREL JOHAN [NL]  
• US 2006141391 A1 20060629 - KLEIN SYLKE [DE], et al

Citation (search report)  
• [XD] US 2006141391 A1 20060629 - KLEIN SYLKE [DE], et al  
• [XA] DE 102006057507 A1 20080612 - MERCK PATENT GMBH [DE]  
• [X] WO 2007062785 A2 20070607 - MERCK PATENT GMBH [DE], et al  
• [X] WO 2005108110 A1 20051117 - GIESECKE & DEVRIENT GMBH [DE], et al  
• [A] US 6017972 A 20000125 - HARRIS RONALD M [US], et al  
• [A] WO 2004101890 A1 20041125 - MERCK PATENT GMBH [DE], et al  
• [A] EP 1717059 A1 20061102 - VITRO LASER GMBH [DE]

Cited by  
JP2012148307A; EP2465703A3; US2012103545A1; ITMI20131476A1; KR20180098620A; JP2019503916A; WO2023094028A1

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Designated extension state (EPC)  
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