

Title (en)  
SECURITY ELEMENT AND METHOD FOR ITS PRODUCTION

Title (de)  
SICHERHEITSELEMENT UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)  
ÉLÉMENT DE SÉCURITÉ ET SON PROCÉDÉ DE FABRICATION

Publication  
**EP 2004420 B1 20140813 (DE)**

Application  
**EP 07723373 A 20070319**

Priority  
• EP 2007002406 W 20070319  
• DE 102006015023 A 20060331

Abstract (en)  
[origin: DE102006015023A1] The security element (20) has a diffraction pattern, which exhibits a coined relief structure and a top layer increasing the visibility of the diffraction effect of the coined relief structure. The relief structure is formed on basis of a cholesteric, liquid crystalline polymer material and top layer contains a reflecting or a high-refracting layer. The liquid crystalline material of the relief structure is present in the form of pigments embedded in a binder matrix. Independent claims are also included for the following: (1) a value document e.g. bank note, cheque, certificate, identification card, which is provided with security element (2) a method for the manufacturing of a security element.

IPC 8 full level  
**B42D 15/00** (2006.01); **B42D 25/00** (2014.01); **G07D 7/12** (2006.01)

CPC (source: EP US)  
**B42D 25/29** (2014.10 - EP US); **B42D 25/324** (2014.10 - US); **B42D 25/328** (2014.10 - EP US); **B42D 25/364** (2014.10 - US);  
**B42D 25/21** (2014.10 - US); **B42D 25/355** (2014.10 - US); **B42D 25/369** (2014.10 - US); **B42D 25/425** (2014.10 - US);  
**B42D 2033/26** (2022.01 - EP); **B42D 2035/24** (2022.01 - EP); **Y10T 428/24802** (2015.01 - EP US)

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**DE 102006015023 A1 20071004**; CN 101410257 A 20090415; CN 101410257 B 20121114; EP 2004420 A1 20081224;  
EP 2004420 B1 20140813; US 2009115185 A1 20090507; US 8968856 B2 20150303; WO 2007115648 A1 20071018

DOCDB simple family (application)  
**DE 102006015023 A 20060331**; CN 200780011230 A 20070319; EP 07723373 A 20070319; EP 2007002406 W 20070319;  
US 29422207 A 20070319