

Title (en)

METHOD AND SECURITY ELEMENT FOR STORING INFORMATION BY MEANS OF MICROCHANNELS IN A SUBSTRATE

Title (de)

VERFAHREN UND SICHERHEITSELEMENT ZUR SPEICHERUNG EINER INFORMATION MIT HILFE VON MIKROKANÄLEN IN EINEM SUBSTRAT

Title (fr)

PROCÉDÉ ET ÉLÉMENT DE SÉCURITÉ DESTINÉS À STOCKER UNE INFORMATION À L'AIDE DE MICROCANAU DANS UN SUBSTRAT

Publication

**EP 2681055 B1 20150121 (DE)**

Application

**EP 12707529 A 20120301**

Priority

- DE 102011004933 A 20110301
- EP 2012053514 W 20120301

Abstract (en)

[origin: WO2012117056A2] The invention relates to a method for producing a security element (20), in particular for a security document (30), and to such a security element (30), which is obtained by carrying out the following method steps: providing a substrate (1) which is opaque to light at least in one continuous three-dimensional zone; providing information to be stored in the form of a set of orientations (directional vectors (3.1 to 3.n)); storing the information in the substrate (1) by forming transparent channels within the opaque three-dimensional zone in the opaque substrate such that at least one, preferably a plurality, of the transparent channels (2.1 to 2.n) is/are associated with each of the orientations (each of the directional vectors (3.1 to 3.n)), wherein each of the channels (2.1 to 2.n) facilitates the travel of light along one directional vector (4.1 to 4.n) associated with the respective channel, preferably allows light to travel exclusively along the directional vector (4.1 to 4.n) associated with the respective channel and running collinear to the orientation (the directional vector (3.1 to 3.n)) with which the respective transparent channel (2.1 to 2.n) is associated.

IPC 8 full level

**B42D 15/00** (2006.01); **B42D 25/00** (2014.01)

CPC (source: EP US)

**B42D 25/00** (2014.10 - EP); **B42D 25/29** (2014.10 - EP US); **B42D 25/40** (2014.10 - US); **B42D 25/346** (2014.10 - EP)

Citation (examination)

WO 2012046213 A1 20120412 - ARJOWIGGINS SECURITY [FR], et al

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

**DE 102011004933 A1 20120906; DE 102011004933 B4 20121031**; EP 2681055 A2 20140108; EP 2681055 B1 20150121; WO 2012117056 A2 20120907; WO 2012117056 A3 20121206

DOCDB simple family (application)

**DE 102011004933 A 20110301**; EP 12707529 A 20120301; EP 2012053514 W 20120301