

Title (en)

METHOD AND DEVICE FOR INTRODUCING A SECURITY FEATURE INTO A VALUABLE DOCUMENT OR SECURITY DOCUMENT

Title (de)

VERFAHREN UND VORRICHTUNG ZUM EINBRINGEN EINES SICHERHEITSMERKMALS IN EIN WERT- ODER SICHERHEITSDOKUMENT

Title (fr)

PROCÉDÉ ET DISPOSITIF D'INSERTION D'UN SIGNE DE SÉCURITÉ DANS UN DOCUMENT DE VALEUR OU DE SÉCURITÉ

Publication

EP 2303603 B1 20121226 (DE)

Application

EP 09772197 A 20090702

Priority

- EP 2009004964 W 20090702
- DE 102008031653 A 20080703

Abstract (en)

[origin: WO2010000497A1] The invention relates to a method and a device for introducing a security feature into a valuable document or security document (2), the valuable document or security document (2) comprising a document body (10) having at least one thermoplastic surface layer (8). The method according to the invention comprises the following steps: making a document body (10) available; making available and/or producing a structured sonotrode (3) that has been or is coupled to a sound source (4); arranging the document body (10) relative to the sonotrode (3); contacting the sonotrode (3) and the surface layer (8) of the document body (10) and at the same time coupling sound waves into the valuable document or security document (2) via the sonotrode (3) in such a manner that a relief structure is formed in the surface layer (8), the sonotrode (3) being made available and/or being produced with a structured feature, that structured feature having a desired penetration plane (15) and the sonotrode (3) being structured in such a manner that portions projecting from the desired penetration plane (15) and recessed portions projecting into the desired penetration plane (15) are present. The sonotrode (3) is displaced into the document body (10) during the coupling in of sound while applying pressure until the desired penetration plane (15) coincides with a desired document body surface level (17) and the projecting portions (12) produce recessed relief structures (20) and the recessed portions (13) produce projecting relief structures (19) in the surface layer (8).

IPC 8 full level

B44B 5/00 (2006.01); **B44B 5/02** (2006.01); **B44C 1/24** (2006.01)

CPC (source: EP)

B44B 5/0066 (2013.01); **B44B 5/026** (2013.01); **B44C 1/24** (2013.01)

Designated contracting state (EPC)

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 SE SI SK SM TR

DOCDB simple family (publication)

WO 2010000497 A1 20100107; CN 102066130 A 20110518; CN 102066130 B 20140319; DE 102008031653 A1 20100114; EP 2303603 A1 20110406; EP 2303603 B1 20121226; PL 2303603 T3 20130531

DOCDB simple family (application)

EP 2009004964 W 20090702; CN 200980123332 A 20090702; DE 102008031653 A 20080703; EP 09772197 A 20090702; PL 09772197 T 20090702