

Title (en)  
SECURITY ELEMENT COMPRISING A PRINTED IMAGE WITH A THREE-DIMENSIONAL EFFECT

Title (de)  
SICHERHEITSELEMENT MIT RÄUMLICH WIRKENDEM DRUCKBILD

Title (fr)  
ÉLÉMENT DE SÉCURITÉ COMPRENANT UNE IMAGE IMPRIMÉE À EFFET TRIDIMENSIONNEL

Publication  
**EP 3645302 B1 20220810 (DE)**

Application  
**EP 18734748 A 20180622**

Priority  
• DE 102017006040 A 20170627  
• EP 2018000314 W 20180622

Abstract (en)  
[origin: WO2019001763A1] The invention relates to a method for producing a physical security element comprising a pattern (10) with a three-dimensional effect. A support (1) and at least one translucent cover layer (8, 9) are provided. A design layer (3) is applied onto the support (1). Either the support (1) has a lower degree of thermal dimensional stability than the cover layer (8) or the cover layer (9) has a lower degree of thermal dimensional stability than the support (1). The design layer (3) is deformable under the effect of pressure. A translucent structural layer is arranged between the support (1) and the cover layer (8), said structural layer forming the pattern (10). The structural layer (5) has a higher degree of thermal dimensional stability than either the support (1) or the cover layer (9). The support (1) and the layers (3, 5, 8, 9) are laminated under the effect of pressure and heat. During the lamination process, the structural layer (5) is pressed into the support (1) or into the cover layer (9), whereby the design layer (3) is deformed in a manner corresponding to the pattern (10) formed by the structural layer (5), and the structural layer (5) is deformed in the edge regions (15) of the structural layer such that the surfaces (17, 18) of the structural layer run together tangentially in the cross-section.

IPC 8 full level  
**B42D 25/425** (2014.01); **B42D 25/23** (2014.01); **B42D 25/24** (2014.01); **B42D 25/29** (2014.01); **B42D 25/305** (2014.01); **B42D 25/324** (2014.01); **B42D 25/351** (2014.01); **B42D 25/373** (2014.01); **B42D 25/455** (2014.01); **B42D 25/46** (2014.01); **B42D 25/475** (2014.01)

CPC (source: EP US)  
**B42D 25/23** (2014.10 - EP); **B42D 25/24** (2014.10 - EP); **B42D 25/29** (2014.10 - EP); **B42D 25/305** (2014.10 - EP); **B42D 25/324** (2014.10 - EP); **B42D 25/351** (2014.10 - EP US); **B42D 25/355** (2014.10 - US); **B42D 25/373** (2014.10 - EP); **B42D 25/40** (2014.10 - US); **B42D 25/425** (2014.10 - EP US); **B42D 25/455** (2014.10 - EP US); **B42D 25/46** (2014.10 - EP US); **B42D 25/475** (2014.10 - EP); **B42D 25/48** (2014.10 - US)

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 102017006040 A1 20181227**; CN 110678336 A 20200110; CN 110678336 B 20210323; EP 3645302 A1 20200506; EP 3645302 B1 20220810; US 11267277 B2 20220308; US 2020147992 A1 20200514; WO 2019001763 A1 20190103

DOCDB simple family (application)  
**DE 102017006040 A 20170627**; CN 201880033381 A 20180622; EP 18734748 A 20180622; EP 2018000314 W 20180622; US 201816625896 A 20180622