

Title (en)  
SEE-THROUGH SECURITY ELEMENT WITH MICROSTRUCTURES

Title (de)  
DURCHSICHTSSICHERHEITSELEMENT MIT MIKROSTRUKTUREN

Title (fr)  
ÉLÉMENT DE SÉCURITÉ TRANSPARENT DOTÉ DE MICROSTRUCTURES

Publication  
**EP 2091756 B1 20150513 (DE)**

Application  
**EP 07819023 A 20071016**

Priority

- EP 2007008953 W 20071016
- DE 102006050047 A 20061024

Abstract (en)  
[origin: DE102006050047A1] The transparent security element (12) has a microstructure having a visual appearance (26,28) that is dependent on the viewing angle upon inspection. The microstructure is formed from an arrangement of multiple structure elements having a characteristic structure spacing of 1 micro meters or more. The transparent security element has a total thickness of 50 micrometers or less. The transparent security element has a transparent or translucent substrate (20) and a marking layer applied on the substrate, which has the micro structure. An independent claim is also included for a method for manufacturing the transparent security element.

IPC 8 full level  
**B42D 15/00** (2006.01)

CPC (source: EP US)  
**B42D 25/21** (2014.10 - US); **B42D 25/29** (2014.10 - EP US); **B42D 25/351** (2014.10 - US); **B42D 2033/24** (2022.01 - EP); **Y10T 156/10** (2015.01 - EP US)

Citation (examination)

- DE 4421407 C1 19950601 - KURZ LEONHARD FA [DE]
- DE 3422908 A1 19860102 - KURZ LEONHARD FA [DE]

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 102006050047 A1 20080430**; CN 101528474 A 20090909; CN 101528474 B 20120523; EP 2091756 A2 20090826; EP 2091756 B1 20150513; EP 2939845 A2 20151104; EP 2939845 A3 20160413; EP 2939845 B1 20180502; RU 2009119034 A 20101127; RU 2452627 C2 20120610; US 2010194091 A1 20100805; US 8534708 B2 20130917; WO 2008049533 A2 20080502; WO 2008049533 A3 20090115

DOCDB simple family (application)  
**DE 102006050047 A 20061024**; CN 200780039605 A 20071016; EP 07819023 A 20071016; EP 15001325 A 20071016; EP 2007008953 W 20071016; RU 2009119034 A 20071016; US 44649407 A 20071016