

Title (en)

Visually variable security element with additional visual reflection/transmission effect

Title (de)

Optisch variables Sicherheitselement mit zusätzlichem Auf-/Durchsichtseffekt

Title (fr)

Élément de sécurité optique variable avec effet visuel supplémentaire de réflexion/transmission

Publication

**EP 2708371 B1 20180801 (DE)**

Application

**EP 13004502 A 20130913**

Priority

DE 102012018434 A 20120918

Abstract (en)

[origin: EP2708371A1] The element has a combination of thin optical effective layers including a color impression in an overview, and another color impression in a phantom view. The element has an additional overview/phantom view effect, which is produced by an arrangement of pixels e.g. raster elements (2). The arrangement of pixels is applied on a side of the element. The pixels are designed as a continuous or discontinuous surface or a line in form of an alphanumeric character, graphics or a pattern. The pixels are formed from print colors. An independent claim is also included for a method for producing an optical variable security element.

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); **B42D 25/30** (2014.10 - US); **B42D 25/351** (2014.10 - EP); **B42D 25/36** (2014.10 - EP); **B42D 25/373** (2014.10 - EP)

Citation (examination)

- WO 9913157 A1 19990318 - GIESECKE & DEVRIENT GMBH [DE], et al
- WO 9747478 A1 19971218 - THOMAS DE LA RUE INTERNATIONAL [GB], et al
- RUDOLF L. VAN RENESSE: "Optical Document Security (Third Edition)", 2005, ARTECH HOUSE, Boston / London, ISBN: 1-58053-258-6

Citation (opposition)

Opponent : Hueck Folien Gesellschaft m.b.H.

- WO 2004097112 A1 20041111 - GIESECKE & DEVRIENT GMBH [DE], et al
- WO 9747478 A1 19971218 - THOMAS DE LA RUE INTERNATIONAL [GB], et al
- WO 0153113 A1 20010726 - FLEX PRODUCTS INC [US]
- WO 2004014663 A1 20040219 - HUECK FOLIEN GMBH [AT], et al
- WO 9913157 A1 19990318 - GIESECKE & DEVRIENT GMBH [DE], et al
- US 5278590 A 19940111 - PHILLIPS ROGER W [US], et al
- WO 2009149833 A2 20091217 - GIESECKE & DEVRIENT GMBH [DE], et al
- WO 2009149831 A2 20091217 - GIESECKE & DEVRIENT GMBH [DE], et al
- DE 102008013167 A1 20090910 - GIESECKE & DEVRIENT GMBH [DE]
- DE 102009053925 A1 20110526 - GIESECKE & DEVRIENT GMBH [DE]

Cited by

US11221448B2; US10859851B2; EP4000941A1; WO2018082806A1; US11113919B2; US11861966B2; WO2016173696A1; US10850550B2; US11618275B2; US10252563B2; US11590790B2; EP3271191B1

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)

**EP 2708371 A1 20140319**; **EP 2708371 B1 20180801**; CN 103660686 A 20140326; CN 103660686 B 20160831; DE 102012018434 A1 20140320

DOCDB simple family (application)

**EP 13004502 A 20130913**; CN 201310416454 A 20130913; DE 102012018434 A 20120918