

Title (en)
SECURITY ELEMENT WITH COLOURSHIFTING THIN FILM

Title (de)
SICHERHEITSELEMENT MIT FARBKIPPENDEM DÜNNSCHICHTELEMENT

Title (fr)
ELEMENT DE SECURITE AVEC COUCHE MINCE A CHANGEMENT DE COULEUR

Publication
EP 3212430 B2 20211201 (DE)

Application
EP 15787472 A 20151028

Priority
• DE 102014016028 A 20141029
• EP 2015002143 W 20151028

Abstract (en)
[origin: WO2016066264A1] The invention relates to a security element (12) for securing valuable objects, comprising a substrate (20) and a thin-film element (30) arranged on the substrate (20). The thin-film element has a reflection layer (32) arranged over the substrate, a dielectric spacing layer (34) arranged over the reflection layer (32), and an absorber layer (36) arranged over the dielectric spacing layer (34). According to the invention, the thin-film element (30) has two partial regions (22, 24) having different color-shifting effect and a partial region (26) without color-shifting effect, each of which partial regions forms patterns, characters, or a coding. The partial region (26) without color-shifting effect is formed by holes (44) in the reflection layer (32) in the form of patterns, characters, or a coding. In a first (22) of the two color-shifting partial regions, the dielectric spacing layer (34) consists of first and second dielectric partial layers (40, 42) arranged one over the other and produces a partial region (22) having a first color-shifting effect. In a second (24) of the two color-shifting partial regions, the dielectric spacing layer (34) consists only of the second dielectric partial layer (42) and produces a partial region (24) having a second, different color-shifting effect.

IPC 8 full level
B42D 25/00 (2014.01)

CPC (source: EP)
B42D 25/00 (2014.10); **B42D 25/29** (2014.10); **B42D 25/45** (2014.10)

Citation (opposition)
Opponent :
• EP 2225109 B1 20110720 - GIESECKE & DEVRIENT GMBH [DE]
• US 2001028921 A1 20011011 - SHAW DAVID G [US], et al

Cited by
EP4311683A1

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 102014016028 A1 20160504; EP 3212430 A1 20170906; EP 3212430 B1 20181024; EP 3212430 B2 20211201;
WO 2016066264 A1 20160506

DOCDB simple family (application)
DE 102014016028 A 20141029; EP 15787472 A 20151028; EP 2015002143 W 20151028