

Title (en)

OPTICALLY VARIABLE SECURITY ELEMENT HAVING REFLECTIVE SURFACE REGION

Title (de)

OPTISCH VARIABLES SICHERHEITSELEMENT MIT REFLEKTIVEM FLÄCHENBEREICH

Title (fr)

ÉLÉMENT DE SÉCURITÉ OPTIQUEMENT VARIABLE À ZONE DE SURFACE RÉFLÉCHISSANTE

Publication

EP 3820713 A1 20210519 (DE)

Application

EP 19742125 A 20190709

Priority

- DE 102018005447 A 20180709
- EP 2019000208 W 20190709

Abstract (en)

[origin: WO2020011390A1] The invention relates to a optically variable security element (12), in particular for protecting objects of value, wherein the surface area thereof defines a perpendicular z-direction thereon, comprising a multi-coloured, reflective surface region (20), wherein: the multi-coloured, reflective surface region (20) includes two relief structures (24, 34) arranged at different height levels in the z-direction; the relief structures (24, 34) are each provided with a colour coating (26, 36) which generate a different colour impression; the two relief structures (24,34) overlap in a feature region; in the feature region, the colour coating (36) of the higher relief structure (34) is designed as a regular or irregular grid (50) with grid elements (52) and grid spaces (54); and the dimensions of the grid elements (52) and/or grid spaces (54) are below 140 µm at least in one direction, such that, in the feature region, for a viewer at at least one viewing angle, the colour coating (26) of the lower relief structure (24) is visible through the grid spaces (54) of the colour coating (36) of the higher relief structure (34).

IPC 8 full level

B42D 25/324 (2014.01); **B42D 25/351** (2014.01)

CPC (source: EP US)

B42D 25/324 (2014.10 - EP US); **B42D 25/351** (2014.10 - EP US); **B42D 25/36** (2014.10 - EP); **B42D 25/373** (2014.10 - EP);
B42D 25/378 (2014.10 - EP); **B42D 25/435** (2014.10 - EP); **B42D 25/44** (2014.10 - EP); **B42D 25/445** (2014.10 - EP)

Citation (search report)

See references of WO 2020011390A1

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

DE 102018005447 A1 20200109; CN 112118965 A 20201222; CN 112118965 B 20220301; EP 3820713 A1 20210519;
EP 3820713 B1 20230719; US 11623465 B2 20230411; US 2021268825 A1 20210902; WO 2020011390 A1 20200116

DOCDB simple family (application)

DE 102018005447 A 20180709; CN 201980032968 A 20190709; EP 19742125 A 20190709; EP 2019000208 W 20190709;
US 201917258666 A 20190709