

Title (en)

Security element and method of manufacturing thereof

Title (de)

Sicherheitselement und Verfahren zu seiner Herstellung

Title (fr)

Élément de sécurité et son procédé de fabrication

Publication

**EP 2269837 B1 20161012 (DE)**

Application

**EP 10012391 A 20050808**

Priority

- EP 05784426 A 20050808
- DE 102004039355 A 20040812

Abstract (en)

[origin: US2008054621A1] The invention relates to a security element ( 30 ) for securing valuables. Said element comprises at least one at least partial first layer ( 13 ) from a cholesteric liquid-crystalline material, an at least partial second layer ( 14 ) from a liquid-crystal material, and an at least partial additional layer ( 22 ) having a machine-readable feature that is at least partially covered by the first and second layer from the liquid-crystalline material.

IPC 8 full level

**B42D 15/00** (2006.01); **B32B 7/06** (2006.01); **G06K 19/18** (2006.01)

IPC 8 main group level

**B32B 7/00** (2019.01)

CPC (source: EP US)

**B42D 15/00** (2013.01 - EP US); **B42D 25/364** (2014.10 - US); **B42D 25/391** (2014.10 - EP US); **B42D 2033/26** (2022.01 - EP); **B42D 2035/34** (2022.01 - EP)

Citation (examination)

- US 6570648 B1 20030527 - MUELLER-REES CHRISTOPH [DE], et al
- DE 19907697 A1 20000824 - GIESECKE & DEVRIENT GMBH [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 NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

**US 2008054621 A1 20080306; US 8622435 B2 20140107**; AT E484398 T1 20101015; BR PI0515000 A 20080701; CA 2575498 A1 20060223; CN 100469590 C 20090318; CN 100560380 C 20091118; CN 101001758 A 20070718; CN 1993236 A 20070704; DE 102004039355 A1 20060223; DE 502005010400 D1 20101125; EP 1836057 A1 20070926; EP 1836057 B1 20101013; EP 2269837 A1 20110105; EP 2269837 B1 20161012; EP 2269837 B8 20170419; ES 2352848 T3 20110223; MX 2007001546 A 20080304; PL 1836057 T3 20110429; RU 2007108660 A 20080920; RU 2384416 C2 20100320; SI 1836057 T1 20110131; WO 2006018172 A1 20060223; ZA 200702028 B 20080730; ZA 200702029 B 20080925

DOCDB simple family (application)

**US 57350605 A 20050808**; AT 05784426 T 20050808; BR PI0515000 A 20050808; CA 2575498 A 20050808; CN 200580026743 A 20050808; CN 200580026833 A 20050808; DE 102004039355 A 20040812; DE 502005010400 T 20050808; EP 05784426 A 20050808; EP 10012391 A 20050808; EP 2005008568 W 20050808; ES 05784426 T 20050808; MX 2007001546 A 20050808; PL 05784426 T 20050808; RU 2007108660 A 20050808; SI 200531169 T 20050808; ZA 200702028 A 20070308; ZA 200702029 A 20070308