

Title (en)

SELF-HEALING SURFACE PROTECTIVE FILM WITH AN ACRYLATEFUNCTIONAL TOP-COAT

Title (de)

SELBSTTHEILENDE OBERFLÄCHENSCHUTZFOLIE MIT ACRYLATFUNKTIONELLEM TOP-COAT

Title (fr)

FILM PROTECTEUR SUPERFICIEL AUTO-CICATRISANT AVEC REVÊTEMENT À FONCTION ACRYLATE

Publication

EP 3478784 A1 20190508 (DE)

Application

EP 17768356 A 20170703

Priority

- DE 102016212106 A 20160704
- EP 2017000783 W 20170703

Abstract (en)

[origin: WO2018007002A1] The invention relates to a composite film comprising at least one paint layer, a polymer film layer and an adhesive layer, the paint layer being bound to a main surface of polymer film layer and the adhesive layer being bound to the opposite main surface of the polymer film layer in such a way that the polymer film layer is embedded between the paint layer and the adhesive layer. The paint layer is an acrylate paint layer which is produced from a paint formulation which comprises at least one compound that has at least two (meth)acrylate functions;- the paint layer has a surface hardness (HM 0.300 / 20.0 / 5.0) of 2.0 - 3.5 N/mm² at room temperature and ' - the polymer film layer has a surface hardness (HM 0.300 i / 20.0 / 5.0) of 2.0 - 4.0 N/mm² at room temperature and an elastic recovery after measuring the surface hardness with a balancing speed of 300nN/20s at more than 75%. The composite film synergistically activates self-healing properties of the paint and flexible properties of the film such that the protective film has a resistance to wear which neither the paint or the film can achieve alone. In a preferred embodiment, the paint formulation contains an urethane(meth)acrylate having a weight proportion of at least 36%.

IPC 8 full level

C09J 7/29 (2018.01)

CPC (source: EP KR US)

B29D 11/00865 (2013.01 - US); **B32B 27/40** (2013.01 - EP US); **C08F 290/067** (2013.01 - EP US); **C08G 18/4277** (2013.01 - EP US); **C08G 18/7837** (2013.01 - EP US); **C09D 7/61** (2017.12 - KR); **C09D 175/14** (2013.01 - KR); **C09D 175/16** (2013.01 - EP US); **C09J 7/22** (2017.12 - KR); **C09J 7/29** (2017.12 - EP US); **B05D 3/061** (2013.01 - US); **B32B 2305/72** (2013.01 - US); **B32B 2307/554** (2013.01 - US); **B32B 2605/006** (2013.01 - US); **C09J 2301/122** (2020.08 - EP KR US); **C09J 2301/162** (2020.08 - EP KR US); **C09J 2301/302** (2020.08 - EP KR US); **C09J 2475/006** (2013.01 - EP KR US)

Citation (search report)

See references of WO 2018007002A1

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 102016212106 A1 20180104; CN 109415605 A 20190301; EP 3478784 A1 20190508; JP 2019519410 A 20190711; JP 6799089 B2 20201209; KR 102186425 B1 20201203; KR 20190025015 A 20190308; US 2019308398 A1 20191010; WO 2018007002 A1 20180111

DOCDB simple family (application)

DE 102016212106 A 20160704; CN 201780041940 A 20170703; EP 17768356 A 20170703; EP 2017000783 W 20170703; JP 2018568714 A 20170703; KR 20197003319 A 20170703; US 201716315339 A 20170703