Title (en)

ELECTRICALLY CONDUCTIVE SHAPED BODY WITH A POSITIVE TEMPERATURE COEFFICIENT

Title (de)

ELEKTRISCH LEITFÄHIGE FORMKÖRPER MIT POSITIVEM TEMPERATURKOEFFIZIENTEN

Title (fr)

CORPS MOULÉ ÉLECTRIQUEMENT CONDUCTEUR À COEFFICIENT DE TEMPÉRATURE POSITIF

Publication

EP 3475958 B1 20221116 (DE)

Application

EP 17736583 A 20170622

Priority

- DE 102016111433 A 20160622
- EP 2017065461 W 20170622

Abstract (en)

[origin: CA3029093A1] The invention describes electrically conductive shaped bodies with an inherent positive temperature coefficient (PTC), produced from a composition which contains at least one organic matrix polymer (compound component A), at least one submicroscale or nanoscale, electrically conductive additive (compound component B) and at least one phase-change material with a phase-transition temperature in the range of from -42°C to +150°C (compound component D). The phase-change material is incorporated into an organic network (compound component C). The electrically conductive shaped body with an inherent PTC effect is, in particular, a filament, a fibre, a spun-bonded web, a foam, a film, a foil or an injection-moulded article. The switching point for the PTC behaviour is dependent on the type and also the phase-conversion temperature of the phase-change material. By way of example, a self-regulating surface heater in the form of a foil and/or a textile can be realized in this way.

IPC 8 full level

H01C 7/02 (2006.01)

CPC (source: EP KR RU US)

H01C 7/02 (2013.01 - RU); **H01C 7/027** (2013.01 - EP KR US); **H01C 7/028** (2013.01 - EP KR US); **H01C 17/006** (2013.01 - US); **H01C 17/06586** (2013.01 - EP KR US)

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 102017113884 A1 20171228; CA 3029093 A1 20171228; CA 3029093 C 20230808; CN 109328390 A 20190212; CN 109328390 B 20211105; EP 3475958 A1 20190501; EP 3475958 B1 20221116; ES 2938439 T3 20230411; JP 2019527251 A 20190926; JP 7019613 B2 20220215; KR 102320339 B1 20211103; KR 20190020127 A 20190227; MX 2018015398 A 20190429; RU 2709631 C1 20191219; RU 2709631 C9 20200604; US 10468164 B2 20191105; US 2019237224 A1 20190801; WO 2017220747 A1 20171228

DOCDB simple family (application)

DE 102017113884 A 20170622; CA 3029093 A 20170622; CN 201780038645 A 20170622; EP 17736583 A 20170622; EP 2017065461 W 20170622; ES 17736583 T 20170622; JP 2018567086 A 20170622; KR 20197002181 A 20170622; MX 2018015398 A 20170622; RU 2018141551 A 20170622; US 201716312147 A 20170622