

Title (en)

Electrically conductive filaments, fabrics made of these filaments and their use

Title (de)

Elektrisch leitfähige Fäden, daraus hergestellte Flächengebilde und deren Verwendung

Title (fr)

Fils conducteurs d'électricité, tissus fabriqués à partir de ceux-ci et leur utilisation

Publication

EP 1961845 A2 20080827 (DE)

Application

EP 08001371 A 20080125

Priority

DE 102007009118 A 20070224

Abstract (en)

The melt-spun thread useful in screen textiles and filter cloths for gas and fluid filters, comprises a thermoplastic polymer, a thermoplastic elastomer block copolymer, and soot particle in the form of aggregates aligned along the longitudinal axis of the thread. The thread is a core-skin or monofilament and has a modulus of elasticity of 0.1-5.5 GPa and an elastic elongation of greater than 1.5-4%. The aggregates are formed from primary particles connected with each other. The aggregates form electrically conductive paths along the longitudinal axis of the thread. The melt-spun thread useful in screen textiles and filter cloths for gas and fluid filters, comprises a thermoplastic polymer, a thermoplastic elastomer block copolymer, and soot particle in the form of aggregates aligned along the longitudinal axis of the thread. The thread is a core-skin or monofilament and has a modulus of elasticity of 0.1-5.5 GPa and an elastic elongation of greater than 1.5-4%. The aggregates are formed from primary particles connected with each other. The aggregates form electrically conductive paths along the longitudinal axis of the thread. The soot particle causes an electrical conductivity of the thread of 1.0-10 -> 5> Siemens/cm measured in the longitudinal direction of the thread. The core is formed from thermoplastic polymer. The weight ratio of core and skin is 70:30 to 50:50. An independent claim is included for textile surface structure such as fabric.

Abstract (de)

Beschrieben werden schmelzgesponnene Fäden mit einem Elastizitätsmodul von kleiner als 6 GPa und einer elastischen Dehnung von größer als 1,5 % enthaltend a) einen thermoplastisches Polymer, b) ein thermoplastisches elastomeres Block-Copolymer, und c) Ruß- und/oder Graphitteilchen in der Form von entlang der Längsachse des Fadens ausgerichteten Aggregaten, welche entlang der Längsachse des Fadens elektrisch leitfähige Pfade bilden. Die Fäden weisen eine sehr hohe elektrische Leitfähigkeit auf und lassen sich zur Herstellung von Sieben oder anderen technischen Geweben einsetzen.

IPC 8 full level

D01F 1/09 (2006.01); **D01F 6/86** (2006.01); **D01F 6/90** (2006.01); **D01F 6/92** (2006.01); **D01F 8/14** (2006.01)

CPC (source: EP)

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Citation (applicant)

- EP 0387395 A2 19900919 - JWI LTD [CA]
- EP 0674029 A1 19950927 - HOECHST AG [DE]
- EP 0735165 A2 19961002 - HOECHST TREVIRA GMBH & CO KG [DE]
- DE 69123510 T2 19970410 - POLYPLASTICS CO [JP]
- DE 69007517 T2 19941013 - GEN ELECTRIC [US]
- WO 9814647 A1 19980409 - HOECHST CELANESE CORP [US]
- EP 1559815 A2 20050803 - TEIJIN MONOFILAMENT GER GMBH [DE]

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DE102019132028B3; CN102296407A; WO2021104899A1

Designated contracting state (EPC)

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