

Title (en)
Textile substrates having self-cleaning properties (lotus effect)

Title (de)
Textile Substrate mit selbstreinigenden Eigenschaften (Lotuseffekt)

Title (fr)
Substrat textile ayant des propriétés autonettoyantes (effet Lotus)

Publication
EP 1674610 A1 20060628 (DE)

Application
EP 05110589 A 20051110

Priority
DE 102004062742 A 20041227

Abstract (en)
In a first stage, a substrate textile is treated with a fluid containing a bonding agent, then dried. It is then treated in a second stage with a mixture. This contains hydrophobic particles of mean size 0.02 to 100 μm , a solvent and a bonding agent. It is then dried. The fluid of the first stage is water, another solvent or a mixture of water and solvent. The particles have a fine structure with projections having a mean spacing of 1-1000 nm and a mean height of 1-1000 nm. Hydrophobic properties are conferred to the particles by treatment with one or more of alkyl silanes, fluoroalkyl silanes and/or disilazanes. The solvent in either or both stages is ethanol. Both treatments apply the appropriate mixture to the cloth by wiping, spraying or rolling it on. Alternatively the cloth is saturated or immersed. Drying in either case, is at 80-250 [deg]C. The substrate is a woven fabric, knit, felt or fleece, of polymer fibers and/or natural fibers. An independent claim is included for the textile substrate so produced.

IPC 8 full level
D06M 23/08 (2006.01); **C08J 7/04** (2006.01); **D06M 11/79** (2006.01); **D06M 11/83** (2006.01); **D06M 13/50** (2006.01)

CPC (source: EP US)
D06M 11/79 (2013.01 - EP US); **D06M 11/83** (2013.01 - EP US); **D06M 13/50** (2013.01 - EP US); **D06M 23/08** (2013.01 - EP US);
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Y10T 442/2164 (2015.04 - EP US); **Y10T 442/2221** (2015.04 - EP US)

Citation (search report)
• [A] DE 10208280 A1 20030904 - CREAVIS TECH & INNOVATION GMBH [DE]
• [A] WO 2004101880 A1 20041125 - CREAVIS TECH & INNOVATION GMBH [DE], et al
• [X] WO 2004048450 A1 20040610 - CREAVIS TECH & INNOVATION GMBH [DE], et al

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CN110201244A; WO2021133331A1

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)
EP 1674610 A1 20060628; DE 102004062742 A1 20060706; JP 2006183230 A 20060713; JP 4809054 B2 20111102;
US 2006172641 A1 20060803; US 2011136400 A1 20110609; US 7842624 B2 20101130

DOCDB simple family (application)
EP 05110589 A 20051110; DE 102004062742 A 20041227; JP 2005372860 A 20051226; US 31234005 A 20051221; US 93867710 A 20101103