

Title (en)

Self-cleaning surfaces with hydrophobic structures and process for making them

Title (de)

Selbstreinigende Oberflächen durch hydrophobe Strukturen und Verfahren zu deren Herstellung

Title (fr)

Surfaces auto-nettoyantes avec des structures hydrophobes et procédé pour leur réalisation

Publication

EP 1249280 B2 20090701 (DE)

Application

EP 02003960 A 20020222

Priority

DE 10118352 A 20010412

Abstract (en)

[origin: US6858284B2] A self-cleaning surface which has an artificial, at least partially hydrophobic, surface structure containing elevations and depressions, which comprises an at least partially hydrophobic surface formed from structure-forming particles of hydrophobic fumed silica having elevations and depressions ranging in dimensions of 1 to 1000 nm and the particles themselves having an average size of less than 50 nm adhered to the surface by way of a viscous, curable carrier material selected from the group consisting of polyurethane, polyurethane acrylates, silicone acrylates and singly and/or multiply unsaturated (meth)acrylates applied to the surface, which is sufficient to bond the structure forming particles without substantial wetting of the particles by the carrier material while retaining the fissured structure of elevations and depressions of the structure-forming particles in the nanometer range.

IPC 8 full level

B05D 5/00 (2006.01); **B05D 5/08** (2006.01); **B05D 5/06** (2006.01)

CPC (source: EP US)

B05D 5/08 (2013.01 - EP US); **B05D 5/083** (2013.01 - EP US); **Y10S 977/773** (2013.01 - EP US); **Y10S 977/787** (2013.01 - EP US); **Y10T 428/24372** (2015.01 - EP US); **Y10T 428/2438** (2015.01 - EP US); **Y10T 428/24388** (2015.01 - EP US); **Y10T 428/24405** (2015.01 - EP US); **Y10T 428/24413** (2015.01 - EP US); **Y10T 428/24421** (2015.01 - EP US); **Y10T 428/25** (2015.01 - EP US); **Y10T 428/254** (2015.01 - EP US); **Y10T 428/256** (2015.01 - EP US); **Y10T 428/259** (2015.01 - EP US); **Y10T 428/26** (2015.01 - EP US)

Citation (opposition)

Opponent :

- US 5432000 A 19950711 - YOUNG SR RICHARD H [US], et al
- WO 02055446 A1 20020718 - BASF AG [DE], et al

Cited by

DE102007012924A1; EP1283076A3; DE102012201899A1; CN109642003A; CN111763100A; DE102011110163A1; DE102011110163B4; CN111484723A; US7211313B2; US8443483B2; WO2009067414A1; WO2004014574A3; WO2008113624A1; EP2332792A1; EP2332792B1

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