

Title (en)

COMPOSITIONS AND TREATED SUBSTRATES HAVING REVERSIBLY ADAPTABLE SURFACE ENERGY PROPERTIES AND METHOD FOR MAKING THE SAME

Title (de)

ZUSAMMENSETZUNGEN UND BEHANDELTE SUBSTRATE MIT REVERSIBEL ADAPTIERBAREN OBERFLÄCHENENERGIEEIGENSCHAFTEN UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

COMPOSITIONS ET SUBSTRATS TRAITES A PROPRIETES D'ENERGIE DE SURFACE REVERSIBLES ADAPTABLES ET PROCEDE DE PREPARATION CORRESPONDANT

Publication

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Application

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- US 34030003 A 20030110
- US 33984003 A 20030110
- US 33997103 A 20030110
- US 33991103 A 20030110

Abstract (en)

[origin: WO2004063241A1] The present invention relates generally to substrates that exhibit useful, auto adaptable surface energy properties that depend on the environment of the substrate. Such surface energy properties provide relatively high advancing and receding contact angles for liquids when in contact with the target substrate surface. The substrates exhibit low surface energy quantities of at most about 20 millijoules per square meter (mJ/m<sup>2</sup>) at a temperature of about 25 degrees C and a surface energy greater than about 20 mJ/m<sup>2</sup> at, or with exposure to, a temperature of about 40 degrees C. More specifically, encompassed within the present invention are textile substrates having this highly desirable unique surface energy modification property and which exhibit wash durable oil and water repellency and stain release features. Novel compositions and formulations that impart such surface energy modifications to substrates are also encompassed within this invention, as well as methods for producing such treated substrates.

IPC 8 full level

**D06M 13/11** (2006.01); **B05D 3/02** (2006.01); **C08G 8/30** (2006.01); **D06M 13/395** (2006.01); **D06M 15/277** (2006.01); **D06M 15/564** (2006.01); **D06M 15/576** (2006.01)

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Citation (search report)

- [Y] US 3597145 A 19710803 - MARCO FRANCIS W
- [Y] US 5372731 A 19941213 - MICHELS GISBERT [DE], et al
- [Y] US 3872058 A 19750318 - GRESHAM JOHN T
- [A] WO 9851727 A1 19981119 - MINNESOTA MINING & MFG [US], et al
- [Y] SATO Y ET AL: "EFFECT OF CROSSLINKING AGENTS ON WATER REPELLENCY OF COTTON FABRICSTREATED WITH FLUOROCARBON RESIN", TEXTILE RESEARCH JOURNAL, SAGE PUBLICATIONS, LONDON, GB, vol. 64, no. 6, 1 June 1994 (1994-06-01), pages 316 - 320, XP000452004, ISSN: 0040-5175
- See references of WO 2004063241A1

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