

Title (en)
LEATHER WITH SELF-CLEANING PROPERTIES AND RESISTANCE TO HEAT/FIRE AND METHOD OF OBTAINING THEREOF

Title (de)
LEDER MIT SELBSTREINIGENDEN EIGENSCHAFTEN UND BESTÄNDIGKEIT GEGEN WÄRME/FEUER SOWIE VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)
CUIR DOTÉ DE PROPRIÉTÉS AUTONETTOYANTES ET RÉSISTANTES À LA CHALEUR/AU FEU ET PROCÉDÉ D'OBTENTION DE CELUI-CI

Publication
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Application
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Abstract (en)
The invention relates to leather for furniture and automotive upholstery and protective footwear, surface finished with titanium dioxide nano particles doped with 10% silica with an average particle size of 46 nm and with self-cleaning properties and improved resistance to heat transmission and combustion. The process for obtaining leather with self-cleaning properties and resistance to heat/fire consists in applying the base coat containing 0.05-10% titanium dioxide nano particles (% relative to the amount of binder) doped with 10% of silica which are dispersed in an equal amount of polyethylene glycol 600 and, according to another variant, 0.01-15% sodium polyacrylate, by mechanical stirring for 10 minutes, followed by sonication for 5 minutes, with pigment paste based on macro titanium dioxide, water and acrylic binder. This composition is applied by spraying in successive coats with intermediate drying and final pressing at 110°C and 20 kgf, followed by fixation with nitrocellulose lacquer in successive coats, with intermediate drying and final pressing in the same conditions. Self-cleaning properties are provided through photocatalytic degradation of organic dirt under the influence of ultraviolet and visible light and resistance to heat transfer and combustion.

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CPC (source: EP)
C14C 9/00 (2013.01); **C14C 11/003** (2013.01); **C14C 13/00** (2013.01)

Citation (applicant)

- EP 1789595 A1 20070530 - TFL LEDERTECHNIK GMBH [DE]
- WO 9604123 A1 19960215 - BARTHLOTT WILHELM [DE]
- US 2013078451 A1 20130328 - ZHANG RUOFEI [CN]
- CN 101412869 B 20100811 - UNIV SICHUAN

Citation (search report)

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- [A] PETICA A. ET AL.: "Doped TiO2 nanophotocatalysts for leather surface finishing", JOURNAL OF COATINGS TECHNOLOGY AND RESEARCH, vol. 12, no. 6, 20 August 2015 (2015-08-20), Springer.com, pages 1153 - 1163, XP002764756, DOI: 10.1007/s11998-015-9711-2
- [A] DATABASE WPI Week 201556, Derwent World Patents Index; AN 2015-420494, XP002764757
- [AD] DATABASE WPI Week 200946, Derwent World Patents Index; AN 2009-H89744, XP002764758

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