

Title (en)

METHOD FOR STRUCTURING A SURFACE BY MEANS OF REACTIVE ION-BEAM ETCHING

Title (de)

VERFAHREN ZUR STRUKTURIERUNG EINER OBERFLÄCHE MITTELS REAKTIVER IONENSTRAHLENÄTZUNG

Title (fr)

PROCEDE DE STRUCTURATION DE SURFACE PAR GRAVURE IONIQUE REACTIVE

Publication

EP 2507184 A1 20121010 (FR)

Application

EP 10799100 A 20101124

Priority

- FR 0905804 A 20091201
- FR 2010052508 W 20101124

Abstract (en)

[origin: WO2011067512A1] The invention relates to a method for structuring a surface, in other words, for forming at least one set of irregularities or patterns (2) having a submicronic height H and at least one characteristic lateral dimension W referred to as the micronic or submicronic width, on a surface of a material (1), in particular a glass, by means of reactive ion-beam etching, characterised in that said method includes the following steps: providing said material with a thickness of at least 100 nm, the material being hybrid and solid and including a single or mixed Si oxide, the molar percentage of oxide in the material being at least 40%, in particular 40% to 94%, and at least one species, separate from the Si of the oxide, in particular a metal, the molar percentage of species in the material ranging from 1% to 50% and being lower than the percentage of said oxide, at least the majority of the species having a largest characteristic dimension smaller than 50 nm, said hybrid material in particular being metastable prior to said etching; optionally heating said hybrid material prior to said etching; and structuring the surface of said hybrid material with an etching time of less than one hour on an etching surface of more than 1 cm² until said set of patterns is formed, the structuring step optionally including heating the hybrid material.

IPC 8 full level

C03C 15/00 (2006.01); **C03C 14/00** (2006.01); **C03C 21/00** (2006.01)

CPC (source: EP KR US)

C03C 14/00 (2013.01 - KR); **C03C 14/004** (2013.01 - EP US); **C03C 15/00** (2013.01 - EP KR US); **C03C 21/00** (2013.01 - KR); **C03C 21/005** (2013.01 - EP US); **C03C 2214/08** (2013.01 - EP US); **C03C 2217/77** (2013.01 - EP US); **Y10T 428/24479** (2015.01 - EP US)

Citation (search report)

See references of WO 2011067512A1

Citation (examination)

FR 2918981 A1 20090123 - SAINT GOBAIN [FR]

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

FR 2953212 A1 20110603; **FR 2953212 B1 20130705**; BR 112012013343 A2 20160301; CN 102712526 A 20121003; CN 102712526 B 20170531; EA 030119 B1 20180629; EA 201290415 A1 20121228; EP 2507184 A1 20121010; JP 2013512179 A 20130411; JP 6050119 B2 20161221; KR 101799121 B1 20171117; KR 20120107103 A 20120928; US 2012288681 A1 20121115; US 9371251 B2 20160621; WO 2011067512 A1 20110609

DOCDB simple family (application)

FR 0905804 A 20091201; BR 112012013343 A 20101124; CN 201080062909 A 20101124; EA 201290415 A 20101124; EP 10799100 A 20101124; FR 2010052508 W 20101124; JP 2012541558 A 20101124; KR 20127016917 A 20101124; US 201013513136 A 20101124