

Title (en)
COMPOSITE MATRIX COMPRISING NANOFRACTALS AND METHOD FOR PRODUCING SAID MATRIX

Title (de)
KOMPOSITMATRIX MIT NANOFRAKTALEN UND VERFAHREN ZUR HERSTELLUNG DIESER MATRIX

Title (fr)
MATRICE COMPOSITE COMPORTANT DES NANOFRACTALES ET PROCEDE DE REALISATION DE CETTE MATRICE

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Application
EP 13711063 A 20130116

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Abstract (en)
[origin: WO2013107959A1] The present invention concerns a composite binding matrix impregnating the long fibres comprising a doping material formed from a plurality of functionalised dendritic nanofractals carrying epoxy functions and being compounded with the epoxy resin of the composite, or hardening functions and being compounded with the hardener of the composite. The composite matrix, which can be used to produce technical parts, is formed from a mixture comprising at least one resin, at least one of the following elements: a hardener and a catalyst, functionalised dendritic nanofractals 8 formed from nano-potatoids 16 from 10 to 50 nanometres in diameter aggregated together by covalent bonds to form dendrites 13, enclosed in a volume 50 to 1000 nanometres in diameter. Said matrix is characterised by the fact that the functionalised dendritic nanofractals are uniformly covered with a functionalising agent 20 disposed in a monomolecular layer 19 over the whole of the accessible surface 17 thereof. The present invention also concerns a method for producing the composite matrix. Application, in particular but not exclusively, to the blades of wind turbines or aircraft, to the structural or non-structural components of aircraft, boats, land vehicles or recreational vehicles, to industrial components, to the fields of astronautics, aeronautics, marine applications, transport, industry, wind and the leisure sector.

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