

Title (en)

MATRIX BASED ON NANOCRYSTALLINE CRISTOBALITE FOR A THERMOSTRUCTURAL FIBROUS COMPOSITE MATERIAL

Title (de)

MATRIXBASIERTER NANOKRISTALL-CRISTOBALIT FÜR EIN THERMOSTRUKTURELLES FASERVERBUNDMATERIAL

Title (fr)

MATRICE À BASE DE CRISTOBALITE NANO-CRISTALLINE POUR MATÉRIAU COMPOSITE FIBREUX THERMOSTRUCTURAL.

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Application

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Abstract (en)

[origin: WO2011128521A1] The invention relates to a matrix for thermostructural fibrous composite materials, which is obtained by geopolymer synthesis based on nanocrystalline cristobalite resulting from the crystallization of geopolymer micelles of potassium polysiloxonate K-(Si-O-Si-O)_n. The nanocrystalline cristobalite is in the form of micelles and/or microspheres which have dimensions of less than 1 µm, preferably less than 500 nm, and are interconnected by an amorphous phase. It contains at least 85 wt % oxide SiO₂ with at most 15 wt %, preferably at most 10 wt %, alkaline oxide K₂O. The nanocrystalline cristobalite results from the crystallization of geopolymer micelles of potassium polysiloxonate by a thermal treatment at a temperature which is preferably between 600°C and 800°C, for a duration of less than 30 min. The fibrous composite material impregnated with said matrix is thermostructural.

IPC 8 full level

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Citation (search report)

See references of WO 2011128521A1

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