Title (en)

METHOD FOR A COMPOSITE MATERIAL IMPREGNATED WITH THERMOPLASTIC POLYMER, OBTAINED FROM A PREPOLYMER AND A CHAIN EXTENDER

Title (de)

VERFAHREN FÜR EINEN MIT EINEM THERMOPLASTISCHEN POLYMER IMPRÄGNIERTEN VERBUNDSTOFF AUS EINEM PRÄPOLYMER SOWIE KETTENERWEITERER

Title (fr)

PROCÉDÉ POUR MATÉRIAU COMPOSITE AVEC IMPREGNATION PAR POLYMERE THERMOPLASTIQUE, ISSU D'UN PREPOLYMERE ET D'UN ALLONGEUR DE CHAÎNE

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Application

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Abstract (en)

[origin: WO2015159021A1] The invention relates to a method for a composite material, comprising an assembly of one or more reinforcement fibres, impregnated with at least one thermoplastic polymer having a glass transition temperature (Tg) no higher than 75 °C and a melting temperature from 150 °C to less than 250 °C or a Tg higher than 75 °C, said method including: i) a step of bulk melt impregnating said assembly with at least one thermoplastic polymer, which is the product of an addition polymerization reaction of a reactive precursor composition including: a) at least one prepolymer P(X)n of said thermoplastic polymer including a hydrocarbon molecular chain P and having at the ends thereof n identical reactive X functions, wherein X is a reactive function among: OH, NH2 or COOH, wherein n ranges from 1 to 3; b) at least one chain extender, represented by Y-A-Y, including two identical Y functions that are reactive with at least one of said X functions of said prepolymer a), wherein A is a single covalent bond linking the two Y functions or a non-polymer hydrocarbon biradical; ii) a step of cooling and obtaining a fibrous prepreg; iii) a step of implementing said composite material and final shaping of same. The invention also relates to the use of said thermoplastic polymer as a matrix for impregnating said assembly of fibres enabling the implementation of a fibrous prepreg or composite parts.

IPC 8 full level

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