

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 PREPOLYMER ET D'UN ALLONGEUR DE CHAÎNE

Publication
EP 3131955 A1 20170222 (FR)

Application
EP 15725736 A 20150415

Priority
• FR 1453352 A 20140415
• FR 2015051018 W 20150415

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
C08J 5/04 (2006.01); **C08G 69/48** (2006.01)

CPC (source: CN EP KR US)
B29B 15/10 (2013.01 - CN); **B29C 45/0005** (2013.01 - US); **B29C 70/40** (2013.01 - CN); **C08G 69/265** (2013.01 - US); **C08G 69/32** (2013.01 - US); **C08G 69/44** (2013.01 - CN EP KR US); **C08G 69/48** (2013.01 - CN EP KR US); **C08J 5/04** (2013.01 - CN EP KR US); **C08J 5/10** (2013.01 - US); **C08J 5/241** (2021.05 - CN EP KR US); **C08J 5/243** (2021.05 - CN EP KR US); **C08J 5/244** (2021.05 - CN EP KR US); **C08J 5/246** (2021.05 - CN EP KR US); **C08J 5/249** (2021.05 - CN EP KR US); **C08K 5/353** (2013.01 - CN EP KR US); **C08L 77/06** (2013.01 - KR); **B29K 2077/00** (2013.01 - US); **B29L 2031/00** (2013.01 - US); **C08J 2377/06** (2013.01 - CN EP KR US); **C08J 2377/10** (2013.01 - CN EP KR US); **C08J 2377/12** (2013.01 - US)

C-Set (source: CN EP US)
C08K 5/353 + **C08L 77/06**

Citation (search report)
See references of WO 2015159021A1

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
FR 3019824 A1 20151016; **FR 3019824 B1 20171013**; CN 106459435 A 20170222; EP 3131955 A1 20170222; JP 2017513739 A 20170601; KR 20160147265 A 20161222; US 10240016 B2 20190326; US 2017037208 A1 20170209; WO 2015159021 A1 20151022

DOCDB simple family (application)
FR 1453352 A 20140415; CN 201580020148 A 20150415; EP 15725736 A 20150415; FR 2015051018 W 20150415; JP 2016562990 A 20150415; KR 20167031746 A 20150415; US 201515304657 A 20150415