

Title (en)

METHOD FOR PREPARING AN IMPREGNATED FIBROUS MATERIAL BY REACTIVE PULTRUSION

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES IMPRÄGNIERTEN FASERMATERIALS DURCH REAKTIVE PULTRUSION

Title (fr)

PROCEDE DE PREPARATION D'UN MATERIAU FIBREUX IMPREGNE PAR PULTRUSION REACTIVE

Publication

EP 3997160 A1 20220518 (FR)

Application

EP 20750321 A 20200707

Priority

- FR 1907685 A 20190709
- FR 2020051202 W 20200707

Abstract (en)

[origin: WO2021005302A1] The present invention concerns a method for manufacturing at least one impregnated fibrous material comprising a fibrous material made of continuous fibres and at least one thermoplastic polymer having a glass transition temperature T_g of not less than 40°C, or a melting temperature T_m of not more than 400°C, characterized in that said method comprises a step of impregnating said at least one fibrous material in a pultrusion head by injecting a reactive composition in the melt state comprising at least one precursor of said thermoplastic polymer in the presence of said fibrous material, said at least one fibrous material on entry into said pultrusion head being divided in its thickness into n layers, especially of substantially equal thickness, where n is from 2 to 20, with each layer circulating in its own channel within said pultrusion head, said reactive composition being injected into each channel and/or between said layers when they are recombined at the exit from each channel, said channel being heated at a temperature such that the initial melt viscosity of the reactive composition is less than 50 Pa.s, with impregnation starting at the moment of injection and ending before or after said layers are recombined by superposition to form said at least one final impregnated fibrous material, in which said precursors of said thermoplastic polymer are at least partly polymerized.

IPC 8 full level

C08J 5/24 (2006.01); **B29B 15/12** (2006.01); **C08J 5/04** (2006.01)

CPC (source: CN EP KR US)

B29B 15/122 (2013.01 - EP KR); **B29C 70/522** (2013.01 - CN KR US); **B29C 70/523** (2013.01 - KR US); **B29C 70/526** (2013.01 - KR US); **C08J 5/043** (2013.01 - EP KR); **C08J 5/24** (2013.01 - US); **C08J 5/244** (2021.05 - CN EP KR US); **B29K 2077/00** (2013.01 - KR US); **C08J 2300/22** (2013.01 - EP KR US); **C08J 2371/12** (2013.01 - KR); **C08J 2377/00** (2013.01 - EP); **C08J 2377/06** (2013.01 - KR US); **C08J 2379/02** (2013.01 - KR)

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)

EP 3763775 A1 20210113; **EP 3763775 B1 20210901**; CN 114096401 A 20220225; CN 114096401 B 20231003; EP 3997160 A1 20220518; ES 2897466 T3 20220301; FR 3098517 A1 20210115; FR 3098517 B1 20210604; JP 2022540444 A 20220915; KR 20220034161 A 20220317; US 2022275157 A1 20220901; WO 2021005302 A1 20210114

DOCDB simple family (application)

EP 20184485 A 20200707; CN 202080049864 A 20200707; EP 20750321 A 20200707; ES 20184485 T 20200707; FR 1907685 A 20190709; FR 2020051202 W 20200707; JP 2022500873 A 20200707; KR 20227004077 A 20200707; US 202017624653 A 20200707