

Fiber-reinforced-resin composite molded article and method for producing same, antibacterial composite molded article

Patent number: WO2021/039722 A1

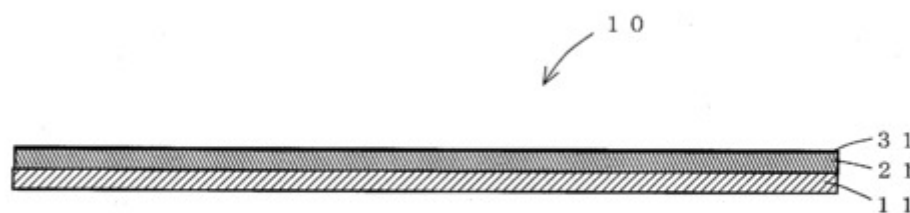
Publication date: 2021-03-04

Applicant(s): INOAC

Inventor(s): Yoshinori Sugiura, Naoyuki Tanabe, OYABU, Jun

Abstract

The present invention provides a fiber-reinforced-resin composite molded article including: a rigid layer (11) that is formed of a fiber-reinforced-resin material for a rigid layer; a shaping layer (21) that is formed, at least on one side of the rigid layer (11), of a shaping-layer compound composed of a thermosetting resin and fibers that are shorter than fibers contained in the fiber-reinforced-resin material for a rigid layer; and a cured resin (31) that is deposited on the surface of the shaping layer (21) and is formed of a liquid resin. The fiber-reinforced-resin composite molded article has a structure in which the fiber-reinforced-resin material for a rigid layer, the shaping-layer compound, and the liquid resin are cured under heat and pressure in a laminated state.



Fireproof polymer composite based on thermoplastic rubber reinforced with modified micro-particles

Patent number: RO134221

Publication date: 2020-06-30

Applicant(s): INSTITUTUL NATIONAL DE CERCETARE DEZVOLTARE TEXTILE PIELARIE
SUCURSALA INSTITUTUL DE CERCETARE PIELA

Inventor(s): SONMEZ MARIA, ALEXANDRESCU LAURENȚIA, JUGĂNARU MIRCEA, STELESCU
MARIA DANIELA

Abstract

The invention relates to a fireproof polymer composite meant to be used for manufacturing soles for protection shoe, for firemen. According to the invention, the composite consists of 100 parts of thermoplastic rubber based on styrene-butadiene-styrene, up to 5 parts of kaolin modified with 10 parts of titanium isopropoxide, 30...75 parts of dolomite modified with 5 parts of titanium isopropoxide and 5 parts of silicon-tetraethylorthosilicate precursor, the parts being expressed by mass.

Fibre-reinforced composite part with increased vibration resistance

Patent number: FR3090462

Publication date: 2020-06-25

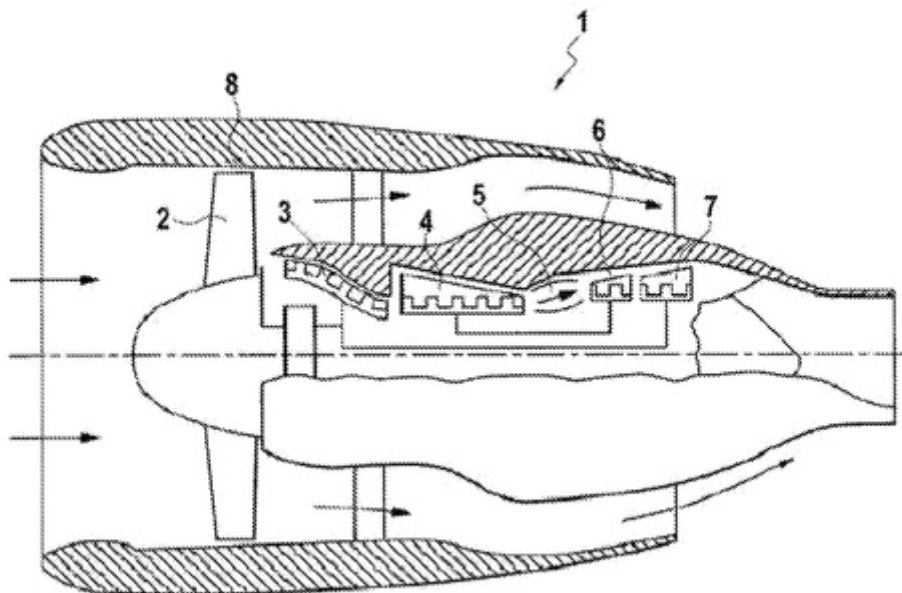
Applicant(s): Safran

Inventor(s): DAMBRINE BRUNO JACQUES GÉRARD, TRANQUART BASTIEN
COUPE DOMINIQUE MARIE CHRISTIAN, COLOT MARC-ANTOINE

Abstract

The invention concerns a part (10) for a turbomachine (1) made from composite material comprising a fibrous reinforcement (11) having a three-dimensional weave that comprises a first set of yarns (12) made from a first material, characterised in that the fibrous reinforcement (11) comprises a vibration-damping element (13) formed by a second set of yarns (14) comprising a second material that is viscoelastic and that is different from the first material, the second set of yarns (14) being woven with the first set of yarns (12).

(From WO2020128367 A1)



Method for producing fibre-reinforced composite materials with stabilised fibres, fibre coatings and/or fibre bundle coatings

Patent number: EP3789364

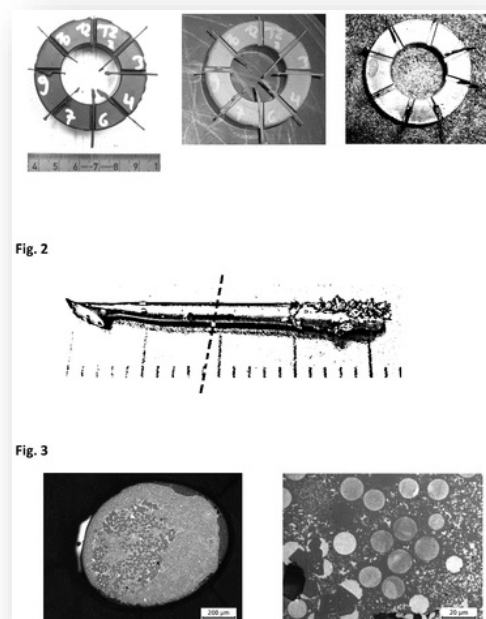
Publication date: 2021-03-04

Applicant(s): Fraunhofer

Inventor(s): RAETHER FRIEDRICH, KONSCHAK ALEXANDER, SCHMIDT JENS

Abstract

The present invention relates to a process for producing fiber-reinforced composites having stabilized fibers, fiber coatings and/or fiber bundle coatings. The method provides a fibre preform comprising reinforcing fibres, wherein the reinforcing fibres are each coated with at least one coating and/or the reinforcing fibres are arranged in bundles which are each coated with at least one coating. Convex particles are introduced into the fibre preform and contain or consist of at least one material which is identical to a material of the reinforcing fibres and/or to a material of the at least one coating of the reinforcing fibres and/or to a material of the at least one coating of the bundles. During and/or after the introduction of the convex particles into the fiber preform, the fiber preform is infiltrated with a melt. According to the invention, the radius of curvature of the convex particles is smaller than the radius of curvature of the reinforcing fibers. In this way, stabilization of the reinforcing fibers, reinforcing fiber coatings and/or reinforcing fiber bundle coatings can be achieved. The present invention also relates to a fiber-reinforced composite material with stabilized fibers, fiber coatings and/or fiber bundle layers. The fiber preforms are infiltrated with particles which are smaller than the thickness of the reinforcing fiber.



Multiaxial textile fabric with discontinuous intermediate layer

Patent number: WO2020/225019

Publication date: 2020-11-12

Applicant(s): TEIJIN CARBON EUROPE

Inventor(s): REHBEIN JOHANNES, RICHTER VERA, WOCKATZ RONNY

Abstract

The invention relates to a multiaxial textile fabric with at least two thread layers and at least one nonwoven layer. Each thread layer is made of multifilament reinforcement yarns arranged parallel to one another and so as to lie adjacently next to one another within the thread layers, wherein at least one thread layer is at least partially directly contacted by the nonwoven layer, and cut-out sections are provided within the nonwoven layer, said cut-out sections having a size of at least 4 mm². The invention additionally relates to a fiber-reinforced composite material which has a multiaxial textile fabric.

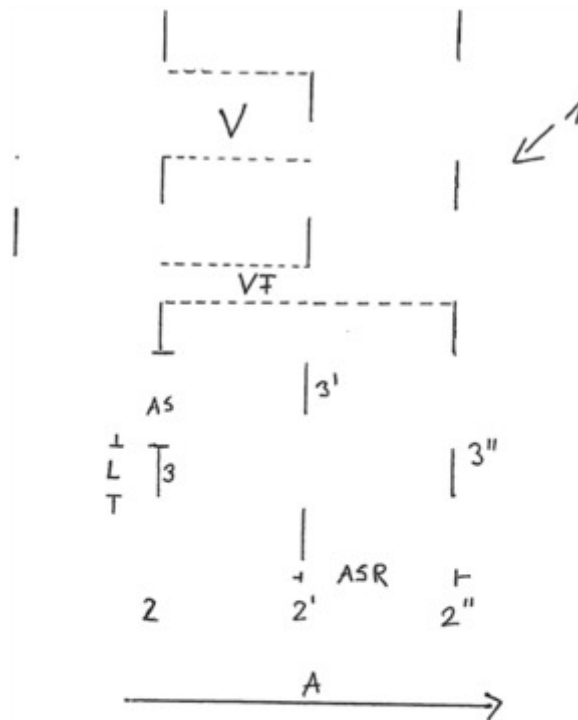


Fig 1

Ropes reinforced wood plastic composites

Patent number: WO2020/060506

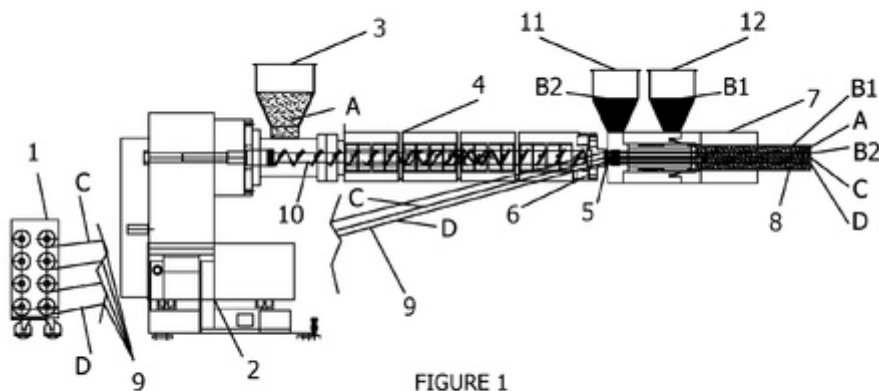
Publication date: 2020-03-26

Applicant(s): GALIBOFF PLASTIK KOMPOZIT EKSTRUZYON TEKNOLOJILERI STI

Inventor(s): YALCIN NURETTIN, YALCIN MEHMET, YALCIN MELIS

Abstract

This invention relates to a wood plastic composite extrusion system wherein the system comprises of three extruders and complex head with profile forming die. This invention includes apparatus for continuously extruding wood plastic composites mixture, co-extruding long fibers and thermoplastic materials composition mixture together with reinforcing ropes and straps as outer layer onto profile surface and co-extruding forcedly reinforcing ropes and straps together with long fibers and thermoplastic materials composition mixture inside the profile by forming intermediate filaments and at the same time surrounding the ropes and straps. Wherein co-extruded mixture plastic melt promotes bounding of reinforcing ropes and straps with wood plastic composites mixture.



Method for producing a thermoplastically deformable fibre-reinforced flat semi-finished product

Patent number: EP3680097

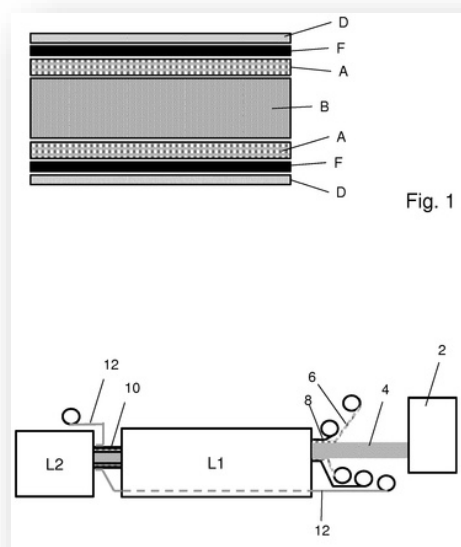
Publication date: 2020-07-15

Applicant(s): QUADRANT PLASTIC COMPOSITES

Abstract

The invention relates to a method for producing a thermoplastically deformable fibre-reinforced planar semi-finished product with a composite structure (A-B-A') or (A-B), comprising: -a core layer (B) made of a porous reinforcing fibre thermoplastic material with a weight per unit area of 300 to 3000 g/m.² By weight, a fibre content of from 20 to 60% by weight and a content of air pores of from 5 to 80% by volume, and -one or two outer layers (A, A') which are integrally bonded to the core layer (B) and are composed of a thermoplastic-impregnated woven or laid reinforcing fibre fabric, each outer layer having a thickness of from 0.2 to 2.5 mm, a basis weight of from 200 to 4000 g/m.² and an air pore content of less than 3% by volume.

The following method steps are carried out: -a core layer precursor in the form of a flat porous reinforcing fibre thermoplastic material with a weight per unit area of 500 to 3000 g/m is applied to a core layer precursor in the form of a flat porous reinforcing fibre thermoplastic material with a weight per unit area of 500 to 3000 g/m.² By weight, a fiber content of from 20 to 60% by weight and a content of air pores of from 20 to 80% by volume, in each case at least one reinforcing fiber fabric or scrim having a basis weight of from 100 to 1000 g/m is applied on one or both sides.² and a low-viscosity thermoplastic layer having a weight per unit area of from 50 to 1000 g/m.² , -the layer structure (A-B) or respectively (A-B-A') is heated and pressed in such a way that the thermoplastic is melted and the reinforcing fibres penetrate into the applied reinforcing fibre woven or laid fabric and into the core layer and, after cooling, form a cohesive connection of core layer and cover layer.



Composite material, implant comprising thereof, use of the composite material and method for preparing a medical device

Patent number: EP3782657

Publication date: 2021-02-24

Applicant(s): BIORETEC

Inventor(s): LÄHTEENKORVA KIMMO, NUMMINEN TOMI

Abstract

The present application provides a composite material comprising bioresorbable magnesium or magnesium alloy embedded in bioresorbable glass fiber reinforced polymer matrix, and a bioresorbable implant comprising the composite material. The present application also provides use of the composite material, and a method for preparing a medical device of a part thereof.

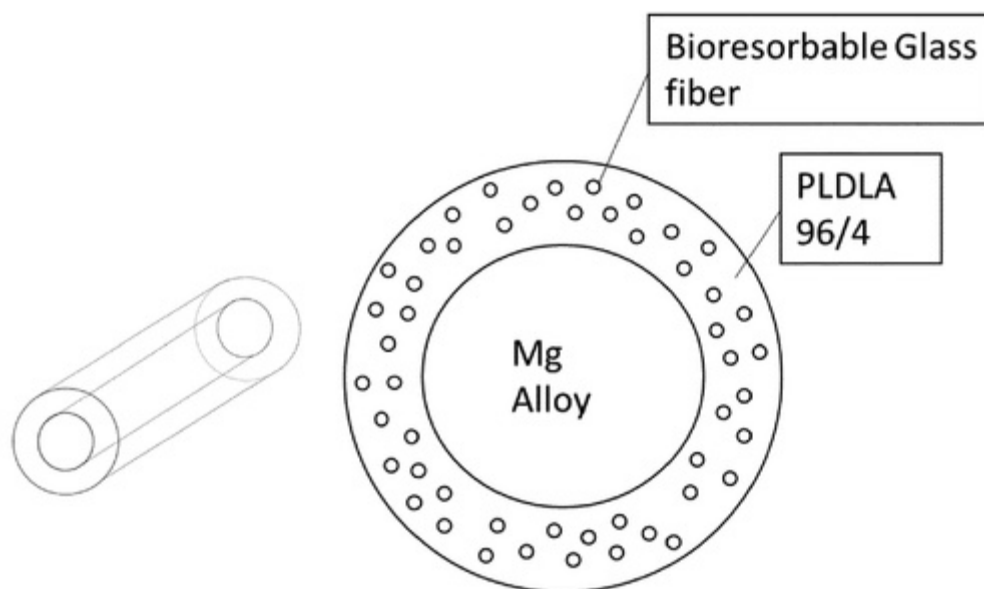


Fig. 1