

Carbon containing fibre blends including aramid and modacrylic fibre

Patent number: US2018057965

Publication date: 2018-03-01

Applicant(s): Du Pont De Nemours

Abstract

An intimate blend of staple fibres, and a yarn, fabric, and article of clothing providing surprising arc performance; the intimate blend comprises 15 to 70 weight percent modacrylic fibre, 5 to 27 weight percent para-aramid fibre; and 3 to 80 weight percent meta-aramid fibre, wherein 25 to 100 parts of the meta-aramid fibre contains 0.5 to 20 weight percent discrete homogeneously dispersed carbon particles and 0 to 75 parts of the meta-aramid fibre free of discrete carbon particles, the intimate blend having a total content of 0.1 to 3 weight percent discrete carbon particles.

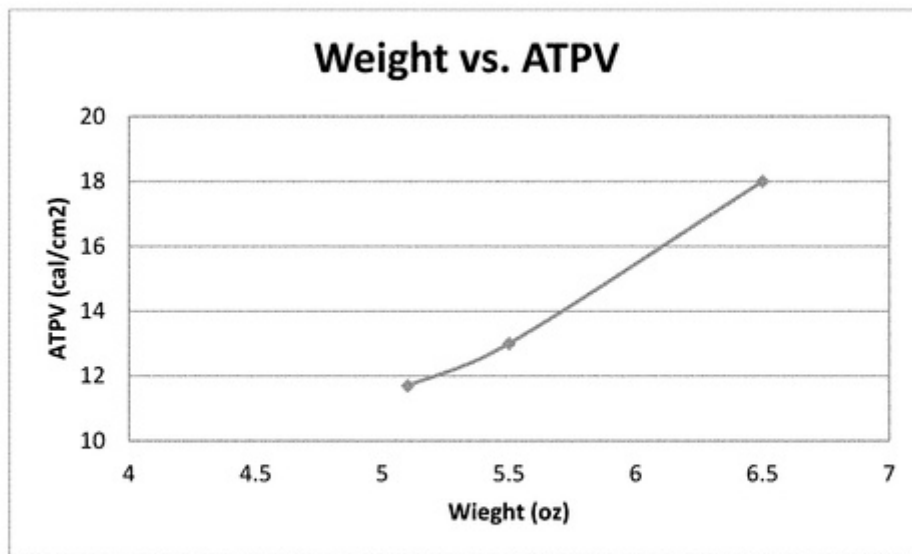


Fig. 1

Method for producing a plastic part with a metallic surface

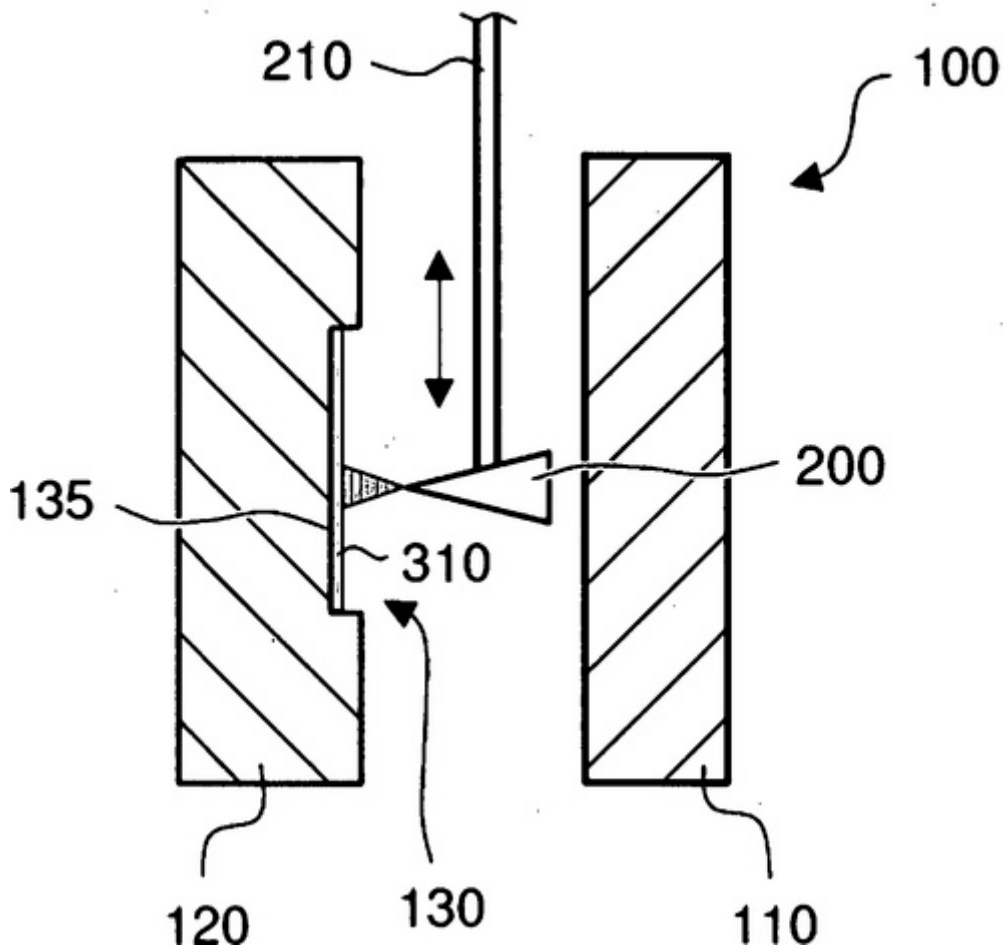
Patent number: DE102016012956

Publication date: 2018-01-25

Applicant(s): Audi

Abstract

The invention relates to a method for producing a plastic part with a metallic surface (310), comprising the steps of: - providing an injection (100) mould; - applying a thin metal (310) layer on the cavity wall (135) of the opened injection (100) mould; - closing the injection (100) mould and performing a moulding operation, the thin metal (310) layer with plastic backing; - opening the injection (100) mould and moulding the plastic part, after the plastic has solidified. The invention also relates to produced according to said method vehicle interior part and produced according to said method vehicle outer part.



Woven, nonwoven and expandable graphite composite material

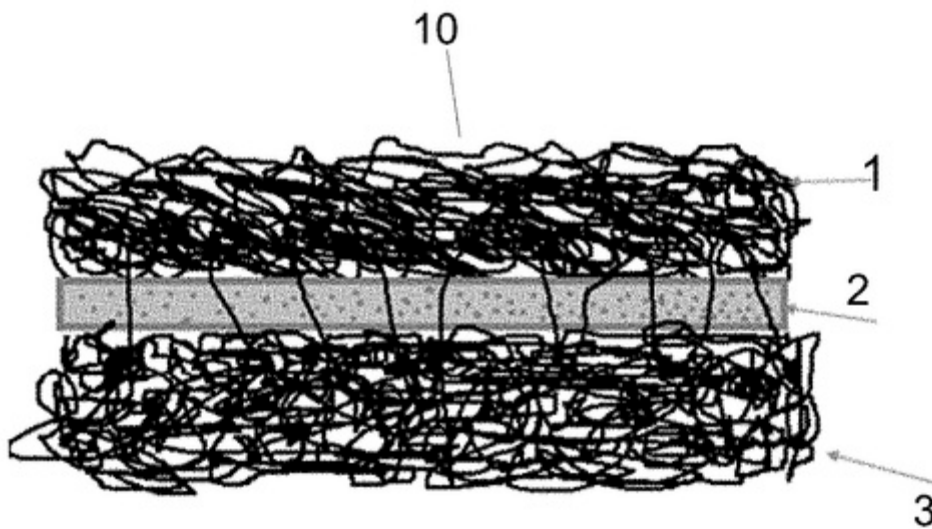
Patent number: US2018134002

Publication date: 2018-05-24

Applicant(s): Tex Tech Industries

Abstract

A composite flame barrier includes at least one layer of nonwoven flame resistant fibres, and at least one layer of heat absorbing intumescent expandable graphite held together with polymeric binders and fire resistant fibres in a sheet structure. The composite material provides thermal protection that cannot be achieved using the expandable graphite is alone. By mechanically attaching a nonwoven felt or hydro-entangled nonwoven material to the layer containing expandable graphite, the graphite becomes stabilized and is more resistant to forces that may damage the material (wind, high velocity flames etc.) and decrease or eliminate the thermal performance of the expandable graphite. The composite flame barrier is useful in applications where prolonged fire and heat resistance is required, and has an advantage of being flexible and lightweight. The uses for the material include emergency portable fire shelters, structural protection of aircraft, structural steel fire proofing, fire-rated wall assemblies, and other fire-resistant applications



Piezoelectric device

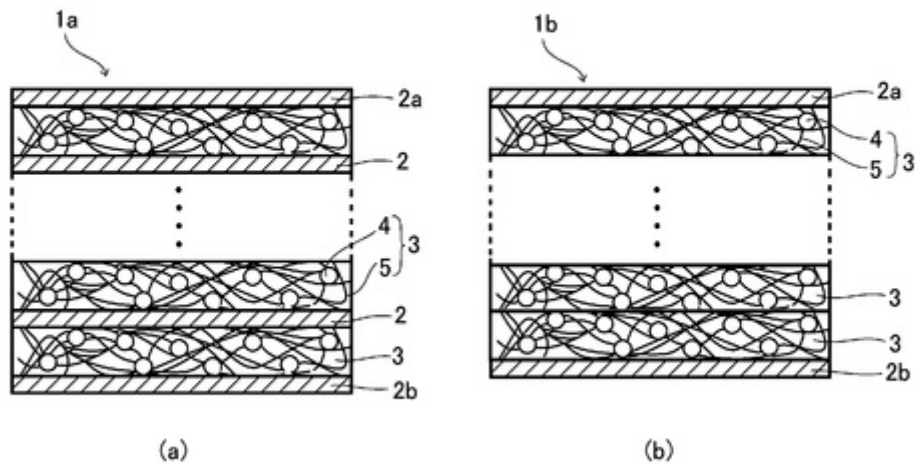
Patent number: WO2018070483

Publication date: 2018-04-19

Applicant(s): NTN Toyo Bearing

Abstract

Provided are: a piezoelectric device which can exhibit high power generation performance without compromising flexibility; and a method for producing the same. The piezoelectric device comprises a laminate 1 in which a polymer nonwoven fabric 3, in which piezoelectric ceramic particles 4 are held or mixed, and a polymer resin sheet 2, in which piezoelectric ceramic particles are mixed, are laminated such that the laminate includes at least one layer of the polymer nonwoven fabric. This laminate can generate power in an amount equal to or greater than the amount of power that is generated from a laminate in which one layer of a polymer resin sheet is laminated on each of two main plane sides of one layer of a polymer nonwoven fabric.



Connection of fibre reinforced plastics

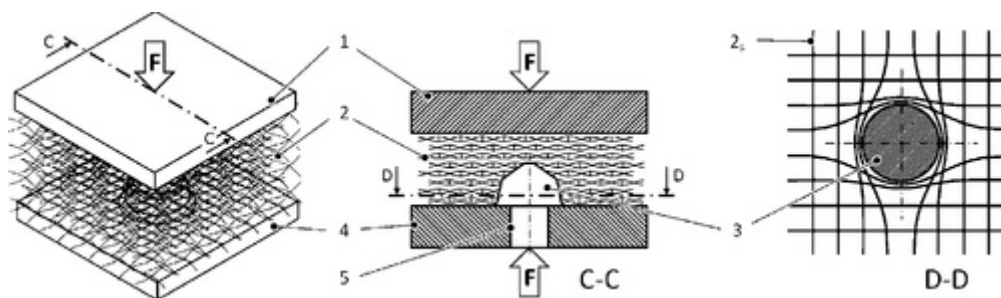
Patent number: DE1020016218896

Publication date: 2018-03-29

Applicant(s): Dresden University of Technology

Abstract

The invention relates to a method for pilot hole placement for the connection of fibre reinforced plastic connected to one another and other materials and a device for performing the method. The pilot holes are formed directly in the production of the components of the fibre reinforced plastic composite in this. An advantage both durplastische as fabricated thermoplastic fibre reinforced plastic composites. The method for pilot hole placement comprises the steps of: a - or multi-part forming tool for the provision mould, the mould at least one moulding tool for producing a pilot hole region, providing the fibre material and the matrix material or the fibre matrix material, positioning the fibre material or the fibre matrix material in the mould, forming the fibre matrix material or the fibre material to be mixed with the matrix material and local displacement of the reinforcing fibres of at least one location of a subsequent Vorloches by at least one stamping die under a pressure p , curing the formed fibre matrix material. Pilot hole installation comprises a mould with at least one to the device to heated and at least one second Die to the first and, consolidated fibre-plastic compound meets the the surface contour, wherein at least one mould at least one moulding tool for producing a pilot hole region.



Polycarbonate blends for high release performance

Patent number: WO2018020482

Publication date: 2018-02-01

Applicant(s): SABIC

Abstract

The disclosure concerns methods for moulding a polycarbonate containing plastic, the method including: (a) injecting a composition into a mould, the composition including (i) about 49 wt% to about 97.9 wt% of polycarbonate, (ii) about 2.0 wt% to about 50 wt% of a polycarbonate-polysiloxane copolymer, and (iii) about 0 wt% to about 1.0 wt% of at least one release agent; and (b) releasing the composition from the mould. The mould includes at least one draft angle of about 0.1 degrees to about 7 degrees. The polycarbonate blend includes a melt flow volume rate (MVR) of at least about 25 cm³/10 min as measured according to ISO 1133 at 300 °C and 1.2 kg.

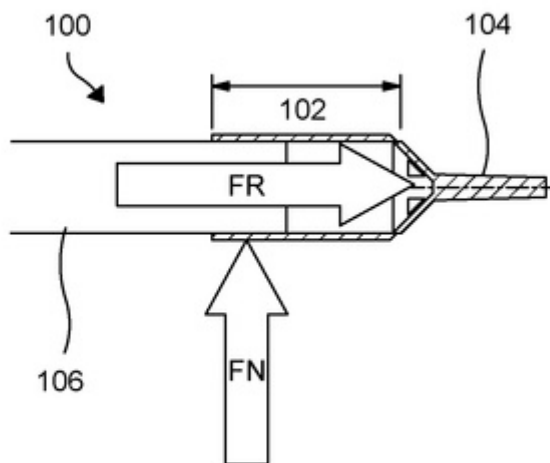


FIG. 1

Method for preparing carbon fibre reinforced plastics

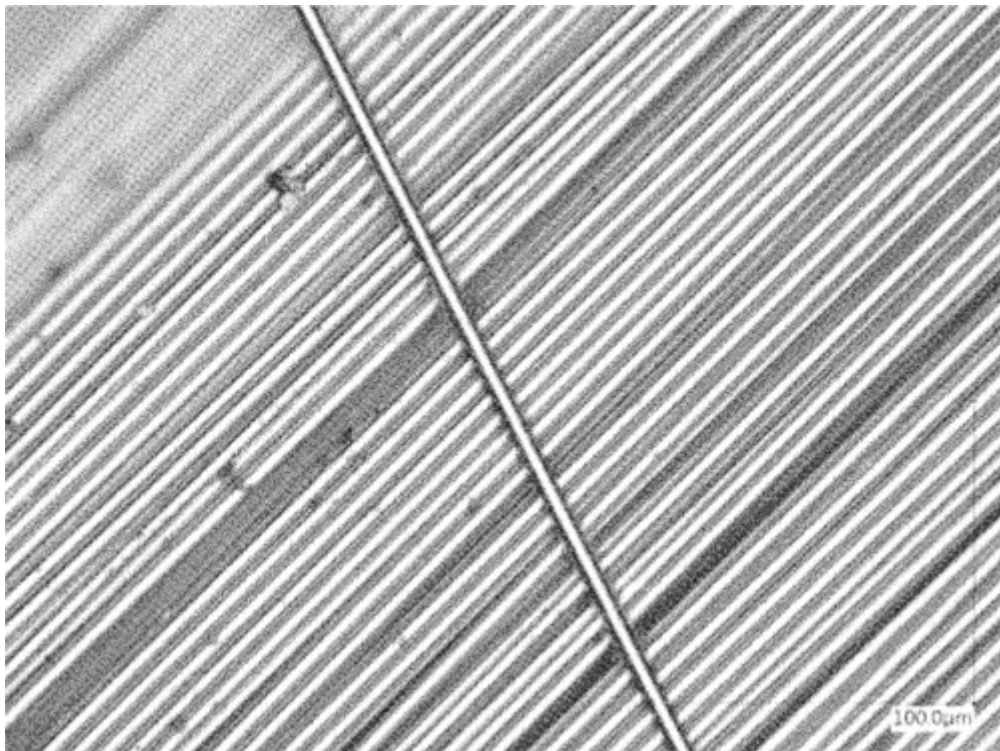
Patent number: DE102016113777

Publication date: 2018-02-15

Applicant(s): RWTH AACHEN

Abstract

The invention relates to a method for treating carbon fibre reinforced plastics. The invention also relates to the method of the invention prepared carbon fibres, the use thereof and plastics, building materials and cement system with the inventive processed carbon fibres. Use of the prior art treated carbon fibres often remains a residue on these and/or the surface of the carbon fibres is attacked, whereby the mechanical properties of the carbon fibres conditions and only for reuse suitable are, in which low mechanical requirements of the carbon fibres are placed. The processed carbon fibres of high quality can be provided to For this purpose carbon fibre reinforced plastic articles is provided and a heat treatment, wherein the carbon fibre reinforced plastic parts with an atmosphere are brought into contact, at least a gaseous oxygen-transmitting oxidant and free of elemental oxygen, wherein the heat treatment at temperatures between 400°C and 1500°C is performed.



Sustainable polyol blends for high-performance coatings

Patent number: WO2018009355

Publication date: 2018-01-11

Applicant(s): RESINATE MATERIALS

Abstract

Polyester polyol blends are disclosed. The blends comprise 70 to 99 wt.% of an aromatic or aliphatic polyester polyol, 0.1 to 10 wt.% of a sugar having an average hydroxyl functionality of 4 to 6 and a melting point less than 125°C, and 1 to 20 wt.% of a glycidyl compound having a boiling point of at least 200°C at 760 mm Hg. The polyester polyol can be made by glycolysis of a recycled thermoplastic polymer, such as polyethylene terephthalate. The polyol blends are useful for the production of polymeric coatings and other products. Coatings made from blends of the polyester polyols and 0.1 to 10 wt.% of a sugar are also described.