

Centexbel PatentAlert 4/2011
COMPOSITES

US20110064949 - ELECTROSPUN NANO FABRIC FOR IMPROVING IMPACT RESISTANCE AND INTERLAMINAR STRENGTH

NORTH CAROLINA AGRICULTURAL & TECHNICAL STATE UNIVERSITY

Published 2011-03-17 Priority date 2010-06-14 (US)

The present invention provides a process for forming a composite material having improved interlaminar properties.

US20110014834 - PREFABRICATED FABRIC FOR LIQUID MOLDING COMPOSITE MATERIAL AND PREPARATION METHOD THEREOF

BEIJING INSTITUTE OF AERONAUTICAL MATERIALS AVIC I

Published 2011-01-20 Priority date 2009-07-15 (US)

The present invention is in the field of composite material manufacturing technology, and relates to a prefabricated fabric for liquid molding composite material and a preparation method thereof. The prefabricated fabric comprises a basal fiber fabric, which is characterized in that one or two surface(s) of the basal fiber fabric is(are) conglutinated with a toughening layer. The method for preparing the prefabricated fabric comprises the steps of conglutination of toughening layer, and conglutination of tackifying layer. The prefabricated fabric has both the interlaminar selective toughening and tackifying functions, and realizes the high toughness modification of the composite material while keeping the composite material liquid molding processibility and the good tackifying performance.

DE102009025981 - METHOD FOR PRODUCING A TEXTILE SEMI-FINISHED GOOD HAVING IMPROVED TOUGHNESS, AND A TEXTILE SEMI-FINISHED GOOD

SAERTEX GMBH & CO KG

Published 2011-03-31 Priority date 2009-06-16 (DE)

The aim of the present invention is to improve the known production method for textile semi-finished goods having increased toughness. According to the invention, the aim is achieved by a method for producing a textile semi-finished good, comprising a material for increasing toughness for producing a fiber composite component, having the step of applying the material for increasing toughness to the exterior of individual layers, fabrics, weaves, knitted fabrics, knits, mats, or meshes, or a combination thereof forming a fabric, wherein the material for increasing toughness comprises particles of a size in the range from 0.5 µm to 500 µm.

US20100288434 - METHOD OF FORMING A LAMINATED FABRIC PANTY

HBI BRANDED APPAREL ENTERPRISES

Published 2010-11-18 Priority date 2010-03-17 (US)

Feminine undergarments, particularly brassieres and other body shaping garments that are fabricated using a multi-layered fabric laminate that is formed by gluing multiple fabric layers together, preferably to permit body shaping garments to be substantially fabricated from a single main piece of material or blank cut from the multi-layered fabric laminate and which has finished edges which do not require separate binding or narrow edge finishing, together with a method of making such garments, both on an individual, batch basis, as well as an automated process for making the fabric laminate and multiple garments on a continuous basis, are disclosed. Multi-layer composite fabric laminate materials wherein different portions of at least one fabric layer thereof are made of different fabrics, and a method for making them, are also disclosed.

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WO2010120426 - METAL-COATED FABRICS FOR FIBER-METAL LAMINATES

BOEING

Published 2010-10-21 Priority date 2009-04-15 (US)

Disclosed herein are laminates that include a layer containing a metal-coated fabric. The laminate may also include a layer or layers of an organic polymeric matrix composite. In accordance with certain embodiments, the matrix composite includes a thermosetting or thermoplastic resin matrix with parallel-oriented reinforcing fibers embedded therein, interposed between the metal-coated fabric layers.

**GB201008650 - LOW TEMPERATURE THERMOPLASTIC, NYLON/POLYESTER AND FABRIC COMPOSITE
ORTHOPAEDIC SPLINTING MATERIAL**

SCOTT SEAN M

Published 2010-07-07 Priority date 2010-05-25 (GB)

US20100189976 - MULTI-LAYER COMPOSITE FABRIC

SNYDER MANUFACTURING

Published 2010-07-29 Priority date 2010-01-29 (US)

An architecture is presented for a composite fabric. The composite fabric comprises a scrim sheet and an underlying adhesive layer. The scrim sheet is combined with an adhesive as a set and then laminated with the adhesive layer. A top sheet, white polyvinyl chloride (PVC) layer overlays a second side of the scrim sheet. An opaque layer underlies a first side of the scrim sheet, wherein the adhesive layer bonds the opaque layer to the scrim sheet. Additionally, an abrasion resistant film layer underlies the opaque layer. Further, a bottom sheet, white layer underlies the abrasion resistant film layer. An adhesive is then applied to both sides of the abrasion resistant film layer to bond the abrasion resistant film layer to the PVC layers. Alternatively, ripstop or closely woven fabric can be applied to both side of the opaque layer with thermoplastic top and bottom layers.

EP2208614 - MINERAL-COATED TEXTILE SURFACES FOR WOOD MATERIALS

JOHNS MANVILLE EUROPE

Published 2010-07-21 Priority date 2009-01-14 (DE)

The present invention relates to a composite material consisting of a wood material base support and a textile surface which is applied by means of adhesives and provided with a mineral coating. The composite material according to the invention acts as a substitute for conventional wood material boards in the construction field, which are covered with plasterboard.

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US20100159760 - PRESS FABRIC FOR A MACHINE FOR THE PRODUCTION OF WEB MATERIAL AND METHOD TO PRODUCE SAID PRESS FABRIC

VOITH

Published 2010-06-24 Priority date 2008-12-19 (US)

A press fabric for a machine for the production of web material, especially paper or cardboard, includes a carrying structure and at least one layer of fibrous material on one web material contact side of the carrying structure, whereby at least some of the fibers of the at least one layer of fibrous material are coated at least partially with a film of a first polymeric material and whereby a permeable composite structure is formed by a second polymeric material in the at least one fibrous layer, in that the hollow spaces which are formed between fibers of the at least one fibrous layer are filled partially with the second polymeric material.

DE102008060389 - DECORATIVE COMPOSITE FOR SUBSEQUENT PROCESSING INTERIOR COMPONENT IN E.G. PASSENGER COMPARTMENT, OF MOTOR VEHICLE, HAS TEXTILE LAYER CONNECTED WITH SIDE OF DECORATION LAYER, AND MATERIAL EMBEDDED INTO ENTIRE THICKNESS OF TEXTILE LAYER

DRAXLMAIER

Published 2010-06-17 Priority date 2008-12-03 (DE)

The composite has a textile layer connected with a rear side of a planar decoration layer, where the textile layer is made of fleece, interlaced yarns, knitted fabric or cotton fibers and/or thermoplastic fibers. A filling material is completely embedded into entire thickness of the textile layer, where the filling material is a hotmelt with duroplastic characteristics, polyurethane (PUR)-system, foamed polymer or thermoplastic. The filling material on a side of the decoration layer is limited by the rear side of the decoration layer.

DE102008057058 - MANUFACTURING FABRIC COMBINING LOWER DENSITY WITH INCREASED STABILITY, FOR NOISE PROTECTION OR COMPOSITE REINFORCEMENT, TREATS FLEECE IN BATH CONTAINING EXPANSIBLE MICROSPHERES

ESWEGEE VLIESTOFF

Published 2010-05-27 Priority date 2008-11-13 (DE)

Microspheres are incorporated into a mechanically-consolidated fleece material from an aqueous liquor in a foulard coating bath. The consolidated fleece comprises staple fibers. The material is stitch-bonded fleece or water-jetted fleece. It is made from polyethylene terephthalate, optionally mixed with viscose. The weight of the fleece is 100-600 g/m². The aqueous liquor includes a dispersant, microspheres and a binder. The liquor is based on texturizing oil or coning oil. The binder is a thermoplastic. It is a phenolic resin dispersion binder. The mass ratio of binder to microspheres is 1:1. Fire-retardant and hydrophobic additives are included. The solids content of the aqueous composition is 15-25%. The mechanically pre-consolidated fleece material is fed into a bath. The fleece, now uniformly-coated, is passed through rollers. It then enters a continuous dryer. The rollers are under a pressure of 1.75-2.2 bar. The continuous dryer operates at 170-190°C. On meeting hot air in the drying process, the microspheres are caused to expand. The dryer includes a stage of pre-drying by infra red radiation.

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WO201046936 - PUNCTURE-RESISTANT COMPOSITE FABRICS

VELA TECHNOLOGIES UNIPER

Published 2010-04-29 Priority date 2008-10-20 (WO)

A fabric for puncture-resistant composite material is described, wherein the filaments which form the threads composing the fabric are able to reciprocally move; composite materials including said fabrics are further described.

WO201042536 - NON-WOVEN FABRIC COMPOSITES FROM LIGNIN-RICH, LARGE DIAMETER NATURAL FIBERS

BAYLOR UNIVERSITY

Published 2010-04-15 Priority date 2008-10-06 (US)

A non-woven fabric composite containing natural fibers and a method for producing such composites. The non-woven fabric composite is comprised of large diameter, lignin-rich natural fibers with a high viscous flow temperature and a high degradation temperature combined with fibers made of a thermoplastic polymer with a lower viscous flow temperature such as polypropylene, polyethylene or a biodegradable thermoplastic polymer fiber such as polylactic acid, or mixture thereof. A hot-pressed non-woven fabric composite material prepared from the non-woven fabric composite.

FR2936824 - COMPOSITE MATERIAL FOR STRENGTHENING A CIVIL ENGINEERING STRUCTURE, COMPRISES A LAYER OF CARBON FIBER FABRIC IMPREGNATED WITH A THERMOSETTING OR THERMOPLASTIC RESIN COMPRISING GRAPHITE POWDER

FREYSSINET

Published 2010-04-09 Priority date 2008-10-07 (FR)

The composite material for strengthening a civil engineering structure, comprises a layer of carbon fiber fabric impregnated with a thermosetting or thermoplastic resin (1-15%) comprising graphite powder (2-7%) whose maximum size is 5-100 µm. Independent claims are included for: a process for strengthening a civil engineering structure; a process for prevention and/or cathodic protection of a civil engineering structure; and a civil engineering structure.

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DE102008037417 - TUBULAR ARTICLE MADE OF POLYMER MATERIAL WITH ELASTIC CHARACTERISTICS USEFUL FOR ELECTRICAL INDUSTRY, WHERE THE POLYMER MATERIAL IS EQUIPPED WITH AN EMBEDDED SINGLE OR MULTI-LAYERED STRENGTHENING SUPPORTS MADE OF TEXTILE MATERIALS

CONTITECH SCHLAUCH

Published 2010-04-08

Priority date 2008-10-07 (DE)

The tubular article made of polymer material with elastic characteristics, where the polymer material is equipped with an embedded single or multi-layered strengthening supports made of textile materials, is claimed. The first textile material receives strengthening function within the strengthening supports. The first textile material is combined with a second textile material under formation of textile composite. The second textile material receives the adhesive function within the strengthening supports and is connected to the surrounding polymer material. The tubular article made of polymer material with elastic characteristics, where the polymer material is equipped with an embedded single or multi-layered strengthening supports made of textile materials, is claimed. The first textile material receives strengthening function within the strengthening supports. The first textile material is combined with a second textile material under formation of textile composite. The second textile material receives the adhesive function within the strengthening supports and is connected to the surrounding polymer material. The second textile material is used in raw form or is adhesively activatable. The article consists of 55-70 wt.% of first and second textile materials and if necessary 45-30 wt.% of further textile material. The first and the second textile material and if necessary further textile material are formed from yarn or fibers and form a cord fiber, filament fiber or twine fiber or form short strengthening support particles, which are short fibers. The strengthening support particles are uniformly distributed within the polymer materials. The polymer material is an elastomeric material based on vulcanized rubber mixture that consists of non-extended rubber component and/or extended rubber component. The polymer material comprises a styrene based thermoplastic elastomer, olefin-based cross-linked or partially cross-linked thermoplastic elastomer or olefin-based completely cross-linked thermoplastic elastomer, and mixture ingredients.

FR2935107 - RECTANGULAR FLAT BIDIMENSIONAL FABRIC SHEET TRANSFORMING METHOD FOR FABRICATING E.G. FUSELAGE FRAME, OF AIRCRAFT, INVOLVES INCLINING PLATES IN SAME DIRECTION WITH RESPECT TO INITIAL DIRECTION OF PLATES FOR TRANSFORMATION OF SHEET

EADS

Published 2010-02-26

Priority date 2008-08-22 (FR)

The method involves shaping a rectangular flat bidimensional fabric sheet along a cylindrical surface that is determined by profiling plates supported on a concave profile, by bending of the sheet, where the sheet is made of composite material. The sheet is heated. The profiling plates are inclined angularly in a same deformation direction with respect to an initial direction of the plates, while maintaining the shape of the profile on a folding line at the proximity of a rectilinear reference edge of the sheet, for transformation of the sheet. The composite material comprises a network of long fibers maintained in a thermoplastic or thermosetting matrix. An independent claim is also included for a device for transforming a flat sheet made of composite material, comprising a plate.

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WO201020237 - METHOD FOR THE PRODUCTION OF A FIBER COMPOSITE COMPONENT, AND SEMIFINISHED TEXTILE PRODUCT THEREFOR

AIRBUS

Published 2010-02-25 Priority date 2008-08-18 (DE)

It is desirable in many uses of fiber composite components to have improved properties (e. g. fire resistance) which are often impossible or difficult to obtain by means of conventional matrix materials (e. g. epoxy resin systems). The invention relates to a method for producing a fiber composite component, comprising the steps of injecting matrix material into a semifinished textile product and then curing the infiltrated semifinished product. The semifinished textile product that is to be cured contains at least one semifinished product layer which is formed by a film of a thermoplastic with particles that are nano-dispersed therein. This allows oriented exfoliated phyllosilicates to be incorporated into an epoxy resin matrix of a fiber composite component, for example, the thermoplastic being used as a "vehicle" and being dissolved in the matrix material, for example.

GB201101310 - SELF CONFORMING NON-CRIMP FABRIC AND CONTOURED COMPOSITE COMPONENTS COMPRISING THE SAME

GEN ELECTRIC

Published 2011-03-09 Priority date 2009-07-02 (WO)

Self-conforming non-crimp fabric having at least one conforming region including a first tailored parameter selected from stitch type, stitch spacing, stitch density, stitch material, stitch weight, stitch tension, and combinations thereof.

GB201101309 - METHODS FOR IMPROVING CONFORMABILITY OF NON-CRIMP FABRIC AND CONTOURED COMPOSITE COMPONENTS MADE USING SUCH METHODS

GEN ELECTRIC

Published 2011-03-09 Priority date 2009-07-02 (WO)

Methods for making a self-conforming non-crimp fabric involving tailoring at least a first parameter to anchor the fabric and at least a second parameter to provide conformability of the fabric, the first and second parameters selected from stitch type, stitch spacing, stitch density, stitch material, stitch weight, stitch tension, and combinations of the same.

WO201010938 - FALSE TWIST YARN, PROCESS FOR PRODUCING THE SAME, AND PROCESS FOR PRODUCING INTERLINING BASE FABRIC FROM THE SAME

SEIREN

Published 2010-01-28 Priority date 2008-07-24 (JP)

Provided are: a false twist yarn which is suitable for use in an interlining base fabric which is thin, lightweight, and soft; and an interlining base fabric. The false twist yarn is a multifilament yarn in which each filament is a composite fiber comprising a first component comprising a polyester and a second component comprising a thermoplastic resin having higher solubility than the first component. The false twist yarn has a total fineness of 10-20 dtex. The interlining base fabric comprises the false twist yarn. Preferably, the first component and the second component have been combined with each other side by side. The first component preferably is a homopolyester, and the second component preferably is a copolyester.

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WO2009149548 - HIGH FIBER SUPPORT INTRINSIC WARP-TIED COMPOSITE FORMING FABRIC

ASTENJOHNSON

Published 2009-12-17

Priority date 2008-06-09 (CA)

A woven filtration fabric for cellulosic sheet formation. The warp yarns comprise intrinsic binder yarn pairs, and a set of dedicated machine side layer warp yarns. The members of each intrinsic binder yarn pair alternate with each other to define a single combined path in each layer. Whenever a member interweaves with a machine side layer weft yarn, at least one machine side layer warp yarn interweaves with the same weft yarn in the same knuckle. In some embodiments, the members form double knuckles in the machine side layer, firstly together with a first machine side layer warp yarn and then together with a second machine side layer warp yarn. The warp yarn path ratio of machine side layer warp yarns to single combined paths of the intrinsic binder yarn pairs is at least 1.5:1. The fabrics provide increased center plane resistance, resulting in improved drainage and sheet uniformity.

EP2269789 - METHOD OF PRODUCING COMPOSITE PLANT FIBER MATERIAL

TOYOTA BOSHOKU

Published 2011-01-05

Priority date 2009-03-24 (WO)

The object of the present invention is to provide a method for producing a composite plant fiber material capable of achieving both of higher lightweight and better mechanical characteristics. The method of producing a composite plant fiber material having a structure wherein plant fibers (kenaf fibers, etc.) are bonded together via a thermoplastic resin (a polypropylene-based resin, etc.) and containing 30% to 95% by weight of the plant fibers referring the total amount of plant fibers and thermoplastic resin as to 100% by weight, which comprises, in this order, a spinning process for melt-spinning a thermoplastic resin (a polypropylene-based resin) containing an acid-modified thermoplastic resin (maleic anhydride-modified polypropylene, etc.) to give thermoplastic resin fibers; a fiber-mixing process for combining plant fibers (kenaf fibers, etc.) with the thermoplastic resin fibers to give a fiber mixture; and a heating process for melting the thermoplastic resin fibers in the fiber mixture.

EP2257419 - METHOD FOR TOLERANCE COMPENSATION BETWEEN TWO FIBER COMPOSITE COMPONENTS

AIRBUS OPERATIONS

Published 2010-12-08

Priority date 2009-02-04 (WO)

The invention relates to a method for tolerance compensation between two fiber composite components for airplanes. In order to easily compensate tolerances between two fiber composite components to be joined, the method according to the invention comprises the following steps: a) producing the first fiber composite component, wherein a mounting surface can have tolerance deviations, b) producing a tool insert using a surface geometry of the mounting surface, c) producing the second fiber composite component using the tool insert, wherein a surface geometry of a contact surface of the second fiber composite component substantially corresponds to the surface geometry of the mounting surface, and d) joining the first fiber composite component to the second fiber composite component in the area of the mounting surface and the contact surface.

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**EP2265436 - METHOD FOR THE PRODUCTION OF A PROFILED PREFORM OR A PROFILED FIBER COMPOSITE-
PLASTIC COMPONENT**

AIRBUS OPERATIONS

Published 2010-12-29

Priority date 2009-02-27 (WO)

Pultrusion methods and apparatus for manufacturing a profiled preform or FRP-component with cross-sectional segments that extend angularly to one another from a plurality of semifinished products in a quasi-continuous process, where: at least one multilayer semifinished product arrangement [of a multilayer semifinished product arrangement] is dispensed from a dispenser unit in order to manufacture the preform, with the multilayer semifinished product arrangement dispensed from the dispenser unit being fed to the forming device and including a combination of several webs of semifinished reinforcement fiber layers and at least one resin film; the semifinished product arrangement is guided through a forming device and at least one cross-sectional segment of the semifinished product arrangement is angled in order to form an angle profile, with the semifinished product arrangement being compressed in a pressing device, optionally after a hardening process, and with a longitudinal section of the preform or the component being removed after a cutting process.

**EP2233625 - REINFORCING FIBER BASE OF CURVED SHAPE, LAYERED PRODUCT EMPLOYING THE SAME,
PREFORM, FIBER-REINFORCED RESIN COMPOSITE MATERIAL, AND PROCESSES FOR PRODUCING THESE**

TORAY INDUSTRIES

Published 2010-09-29

Priority date 2009-01-08 (WO)

Provided are: a curved reinforcing fiber substrate characterized by having a curved planar shape and by comprising reinforcing fiber yarns arranged parallel with a direction along a circumferential direction of the curved shape and auxiliary weft yarns arranged in directions crossing a plurality of the reinforcing fiber yarns each arranged in one direction of the circumferential direction; a curved reinforcing-fiber layered product using the substrate; a preform; a reinforced composite material; and processes for producing those. These can be provided as: a reinforcing fiber substrate curved along the longitudinal direction and arranged with reinforcing fibers along the curved shape in a desirable formation; a curved reinforcing-fiber layered product layered with at least one layer of the reinforcing fiber substrate and a process for producing the layered product efficiently in a short time; a preform using the layered product and a process for forming the preform efficiently; and a long-extended curved fiber-reinforced composite material and a process for producing the same.

EP2188426 - TEXTILE-REINFORCED COMPOSITES WITH HIGH TEAR STRENGTH

MILLIKEN

Published 2010-05-26

Priority date 2008-10-14 (WO)

The present disclosure relates to a reinforcing textile material that comprises a weft-inserted warp knit fabric, in which the warp yarns are configured in a pattern having a majority of successive flat stitches that are used in conjunction with a minority of subsequent successive round stitches. The warp yarn configuration may be represented by the expression $x+y$, where x is the number of successive needle positions in which a warp yarn is positioned in a flat stitch arrangement and y is the number of subsequent successive needle positions in which the same warp yarn is positioned in a round stitch arrangement. The present weft-inserted warp knit fabrics possess improved dimensional stability, high tensile strength, high tear strength, and a relatively smooth surface, making them well-suited for use as reinforcements in roofing membranes, signs, banners, tents, and the like.

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EP2209847 - THERMOPLASTIC COMPOSITIONS, METHOD OF MANUFACTURE, AND ARTICLES THEREFROM

SABIC INNOVATIVE PLASTICS

Published 2010-07-28 Priority date 2008-10-24 (WO)

A thermoplastic composition comprising, based on the total weight of the thermoplastic composition, from 0.1 to 30 weight percent of an inorganic filler composition comprising an inorganic filler-polyorganosiloxane composite; up to 80 weight percent of a polycarbonate; and from 1 to 25 weight percent of an impact modifier. Methods of preparing the compositions and articles comprising the compositions are described.

EP2174090 - COMPOSITE BALLISTIC FABRIC STRUCTURES FOR HARD ARMOR APPLICATIONS

HONEYWELL

Published 2010-04-14 Priority date 2008-07-29 (WO)

A ballistic resistant composite material useful in rigid armor applications. The composite material includes at least one consolidated network of high tenacity fibers in a thermoplastic matrix material. The resin is a thermoplastic polyurethane resin that is semi-crystalline at room temperature. The high tenacity fibers have a tenacity of at least about 7 g/d. Prior to consolidation the polyurethane resin matrix material is in an aqueous medium. When dry, the polyurethane matrix material has a tensile modulus (at 100% elongation) of at least about 500 psi (3.45 MPa), a tensile modulus (at 300% elongation) of at least about 500 psi (3.45 MPa), and an ultimate tensile strength of at least about 2000 psi (13.78 MPa). The ballistic resistant composite material has improved ballistic properties.

EP2185768 - PAPERMAKING FABRIC

VOITH

Published 2010-05-19 Priority date 2008-04-28 (WO)

The present invention relates to a method of making an industrial fabric comprising the following steps: a) providing particulate polymeric material and b) providing a batt fiber structure with an upper and a lower surface, said upper and lower surface extending parallel relative to each other and being spaced from each other along a thickness direction perpendicular to said upper and lower surface, c) applying said particulate polymeric material to at least one of said surfaces of said batt fiber structure, causing said particulate polymeric material to at least partly penetrate into said batt fiber structure in a controlled manner along said thickness direction to adjust the amount of polymeric material along said thickness direction, e) thermally activating said particulate polymeric material to form a composite structure in which the particulate material is bonded to fibres, such that it partly impregnates fibres of the batt structure and partly fills interstices between the fibres of the batt structure. The present invention further relates to an industrial fabric made according to the method of the present invention.

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GB200811518 - A METHOD OF ADHERING AN ADHESIVE TO A FABRIC PIECE

PRO FIT STRETCHTAPE TECHNOLOGY; BONDMOR

Published 2008-07-30 Priority date 2008-06-23 (GB)

A method of adhering an adhesive to a fabric piece comprising the steps of providing a fabric piece, pre-treating a portion of the fabric piece to increase its surface wettability; and, pressing the adhesive and the pre-treated portion of the fabric piece together. The pre-treatment may include roughening the surface or subjecting the surface to plasma, preferably neutral plasma. The adhesive may be a film, preferably thermoplastic, more preferably a polyurethane. Most preferably the adhesive is a coating on a tape. In another aspect, a composite structure comprising a fabric piece, a portion of the surface of which has a greater surface wettability than the surrounding surface and an adhesive bonded to the portion. In yet another aspect, an apparatus for adhering an adhesive to a fabric comprising first and second plates having a gap therebetween, a displacement means and a pretreatment means.

EP2173544 - COMPOSITE FABRIC PRODUCT AND PRODUCTION PROCESS THEREFOR

TEXOPLAST

Published 2010-04-14 Priority date 2008-06-23 (WO)

A composite fabric product comprises at least one layer of textile material and at least one layer of melted plastic material, wherein non-melting textile material is embedded in at least one of the said layers of melted plastic material, and wherein filaments or yarns located in at least one of said layers of textile material extend into said at least one layer of melted plastic material and interlace with the non-melting textile material embedded therein.

EP2145036 - REINFORCEMENT TEXTILE ARMATURE AND METHOD FOR MAKING SAME

CHOMARAT GILBERT (CH) (Inventor)

Published 2010-01-20 Priority date 2008-05-14 (WO)

The invention relates to a textile armature that can be used for making composite materials or parts, and comprising: a central layer containing fibre segments of a first type of synthetic material previously submitted, before the shaping thereof into a layer, to a process imparting thereto a permanent crimp; outer layers including a mixture of segments of chemical fibres previously submitted to a process imparting thereto a permanent crimping and of segments of reinforcing fibres at least some of the segments of chemical fibres of the outer layers penetrate along a portion of their length into the central layer. First segments of chemical fibres of the outer layers are bonded at least partially between them and to the other fibre segments of the textile armature.

EP2145048 - PAPER MACHINE FABRIC

VOITH

Published 2010-01-20 Priority date 2008-02-22 (WO)

A composite paper machine fabric substrate of a base and batt formed from polyamide is reinforced by a polymer having a glass transition temperature (TG) of -40 to 15°C. that is dispersed at below the face side surface of the fabric substrate to mechanically bond to the substrate. The polymer is thermoplastic enabling an improvement in flexibility and overall wear while at the same time permitting porosity necessary for proper drying of paper.

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EP2112973 - DIRECTLY DECORATABLE COMPOSITE MATERIALS, METHOD FOR THEIR MANUFACTURE AND THEIR USE

JOHNS MANVILLE EUROPE

Published 2009-11-04 Priority date 2008-02-20 (WO)

A composite material comprising: a) a carrier, b) at least one textile surface structure laminated on at least one of the two sides of the carrier, which textile surface structure having at least one finally hardened B-stage binder and can be optionally provided with at least one functional material, characterized in that the side(s) of the composite material equipped with the textile surface structure have a surface quality such that the latter can be directly printed or lacquered. These composite materials suitable in particular as materials in interior finishing, for linings, constructions and for the manufacture of furniture and similar products.

WO200891811 - HURRICANE RESISTANT COMPOSITES

JHRG; HONEYWELL

Published 2008-07-31 Priority date 2007-01-24 (US)

A composite flexible fabric is employed as a covering for an opening of a building, such as a window or door. The composite fabric protects the opening from hurricane force winds and associated flying objects. The composite fabric is formed from at least one layer of a fabric comprised of high tenacity polyolefin fibers and at least one layer of a plastic film. The film is attached to at least one surface of the high tenacity polyolefin fiber fabric. Each of the fabric layer and the film layer are sufficient translucent so as to permit light to enter the opening of the building. The fabric layer provides protection against high wind and impact from projectiles, and the film layer provides an impervious barrier to water, such as wind driven rain. An adhesive layer may be used to enhance bonding between the fabric layer and the film layer.

WO200817160 - MULTILAYERED FABRIC STRUCTURE FOR THE PRODUCTION OF COMPOSITE MATERIALS

TEXEL UNE DIVISION DE ADS

Published 2008-02-14 Priority date 2006-08-09 (CA)

The invention relates to a fibrous structure comprising at least one layer of discontinuous thermoplastic fibres partially bound together, wherein said fibres can be dyed and are transferred to one or more backup fabric structures so as to create a resistant binding between the layers while maintaining a continuous felt-like surface appearance of the assembly thus obtained. This structure can be produced in a continuous manner. Upon the application of appropriate pressure and temperature, the structure provides composite materials that do not require any additional surface-finishing process.

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EP1873292 - MULTICOMPOSITE VARIABLE-DENSITY MULTILAYER NON-WOVEN FABRIC AND METHOD FOR MANUFACTURING IT

MARANGHI MARCO (IT) (Inventor)

Published 2008-01-02 Priority date 2006-06-26 (EP)

A non-woven fabric, characterized in that it is multilayer, with variable density and with longitudinal channels, and is constituted by a non-bonded ply, having non-absorbent hydrophilic characteristics, rested on a bonded ply, having absorbent characteristics, bonded together along parallel lines. A method for manufacturing the non-woven fabric, in which a non-bonded ply is deposited on a bonded ply and is connected to the bonded ply with a particular spunlacing system, which allows the binding of the two plies only along binding lines, forming troughs in the non-bonded ply, while longitudinal ridges remain in the gaps between the binding lines, the fibers of the non-bonded ply remaining soft and loose in the gaps, providing the composite product.

EP1846267 - THE MEMBER FOR HEADLINER ON MOTOR VEHICLES

LI & S

Published 2007-10-24 Priority date 2006-02-06 (WO)

The present invention relates to a recyclable eco-friendly automobile headliner, and more particularly to an automobile headliner comprising an expanded composite sheet formed by integrally expansion molding a base material, comprising a sheath-core bicomponent fiber composed of a high-melting-point core component and a low-melting-point sheath component, with a reinforcing material composed of a functional thermoplastic organic fiber. The inventive automobile headliner shows the same thermal resistance and dimensional stability as those of the prior automobile headliner, and at the same time, has improved noise absorption and thermal insulation compared to the prior automobile headliner because it utilizes the functional thermoplastic organic fiber having excellent elasticity and expandability. In the inventive automobile headliner, a covering material is adhered to the substrate using the difference in melting points. Also, the inventive automobile headliner has useful effects in terms of improvement of the working environment and maintaining of human health due to the use of only eco-friendly recyclable materials in place of the prior thermosetting material and inorganic fiber.