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(71) Applicant: **Lampe Textiles**
8700 Tielt (BE)

(72) Inventor: **LAMPE, Philippe**
8700 Tielt (BE)

(74) Representative: **DenK iP**
Hundelgemsesteenweg 1116
9820 Merelbeke (BE)

(54) TRANSPARENT TEXTILE WITH SELF-ADHESIVE PROPERTIES FOR DAMP ENVIRONMNENTS

(57) The present invention relates to a textile (10) which is capable of being stuck to a transparent surface and which makes it possible to look out of a room with a lower light intensity into a room with a higher light intensity but which prevents looking out of a room with a higher light intensity inside into a room with a lower light intensity. The textile (10) comprises threads (11, 12) from thread material, wherein a moisture blocking material (30) is applied between the thread material and an adhesive (14) on one side of the threads (11, 12) for preventing the threads (11, 12) from loosening from the adhesive (14) in damp environments.

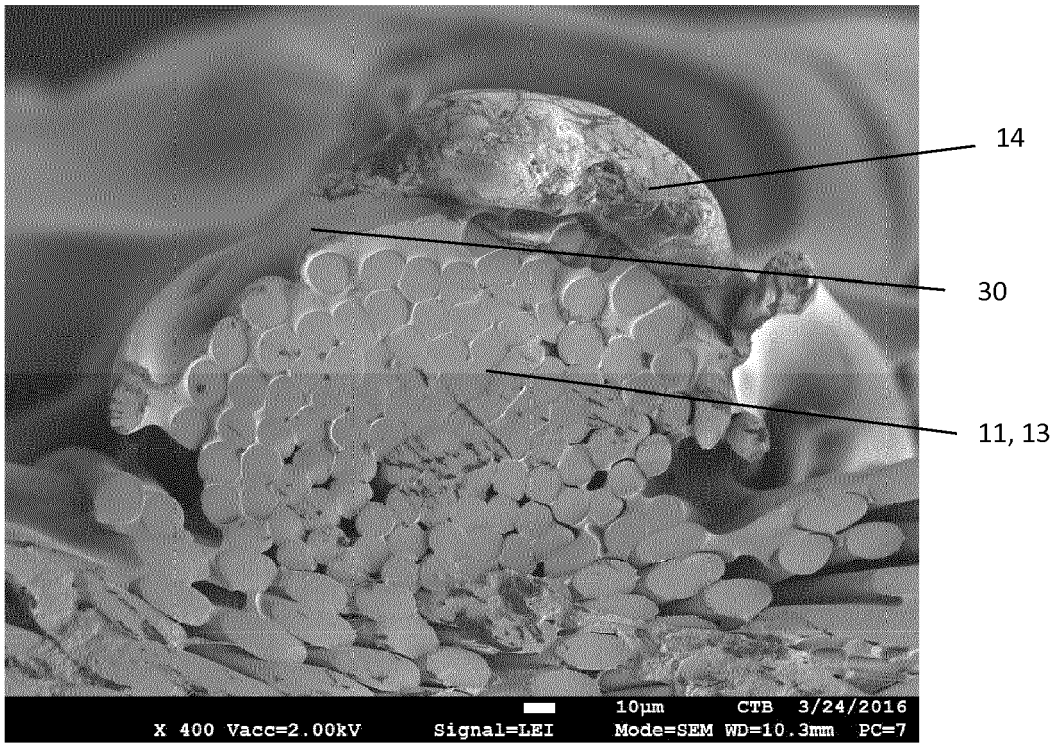

FIG. 5

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Description

Field of the invention

[0001] The present invention relates generally to a textile, in particular to a tissue or a knitted fabric which can be stuck to transparent surfaces, which makes it possible to look out of a room with a lower light intensity into a room with a higher light intensity but which prevents looking out of a room with a higher light intensity inside into a room with a lower light intensity, and which is suitable for use in damp rooms. The invention further relates to a method of producing a textile of this type.

[0002] The invention is useful in particular in the field of interior design, more particularly in the field of window decoration.

Background of the invention

[0003] Textile fabric is used in the form of curtains in order to screen or to conceal something. Curtains are frequently suspended on the inside of an outside window.

[0004] As an alternative to curtains, films are also commercially available which are intended to be fastened to the inside of a window, in order to reduce incoming light and/or in order to keep out inquisitive looks. Films of this type can be produced from paper or plastics material, and frequently cause a diffuse reflection of light. Films of this type provide the desired effect of keeping out inquisitive looks, but have the drawback that the visibility from the inside to the outside is substantially limited. In addition, it is not always equally easy to apply films of this type without creases and without air bubbles trapped inside. The attractive aesthetic aspect of textile is also not present in films of this type.

[0005] EP 2946954 describes a textile capable of being stuck to a transparent surface and which makes it possible to look out of a room with a lower light intensity into a room with a higher light intensity but which prevents looking out of a room with a higher light intensity inside into a room with a lower light intensity. The textile comprises threads with a fibrous character that are shear-resistant with respect to one another, in such a way that a textile aspect is retained. This may be obtained by impregnating the thread, e.g. with an acrylate material. An adhesive, e.g. an acrylate adhesive, is applied to the threads on one side in order to apply the textile to the transparent surface, wherein the adhesive is applied such that at least at one side the fibrous character is preserved. It is a disadvantage that such textile is not suitable for use in damp rooms: after a period of use in a damp room, the textile tends to loosen from the transparent surface.

Summary of the invention

[0006] An object of embodiments of the present invention is to provide a textile which can be stuck to transparent surfaces and which makes it possible to look out of a room with a lower light intensity into a room with a higher light intensity but which prevents looking out of a room with a higher light intensity inside into a room with a lower light intensity, and is suitable for use in damp rooms.

[0007] The above object is attained by a textile, for instance a tissue or knitted fabric, according to embodiments of the present invention.

[0008] In a first aspect the invention provides a textile, for example a tissue or knitted fabric, which is capable of being stuck to a transparent surface and which makes it possible to look out of a room with a lower light intensity into a room with a higher light intensity but which prevents looking out of a room with a higher light intensity inside into a room with a lower light intensity. The tissue or the knitted fabric comprises threads, for example threads with fibrous character. The textile is characterized in that a moisture blocking material is applied between the thread material and an adhesive on one side of the threads in order to apply the textile to a transparent surface. The moisture blocking material is such that it prevents the threads from loosening from the adhesive in damp environments.

[0009] In particular embodiments, the threads have a fibrous character, and the textile made from these threads has a textile aspect. The moisture blocking material and the adhesive are applied such that at least on one side the fibrous character of the threads is preserved. This way, the textile is further characterized in that a textile aspect is retained, i.e. its appearance as a textile material is preserved. This is particularly advantageous as a textile with textile aspect is much nicer to look at than a screen, which also is a tissue of woven or knitted threads, but where the threads do not have a fibrous character, and where hence the tissue does not present the textile aspect.

[0010] In particular embodiments of the present invention, the moisture blocking material is a cross-linked resin, for instance a cross-linked acrylate, a cross-linked polyurethane, cross-linked polyvinylchloride or any type of polymer suitable for application in watery and solvent environment. Due to the cross-linking, a water-impermeable layer is formed between the actual threads of the textile and the adhesive. This water-impermeable layer prevents water, moisture or vapour from reaching the adhesive through the threads, and thus this way prevents the adhesive to solve, and hence detach from the threads. In particular embodiments, the moisture blocking material is a hard acrylate. An acrylate is found to be particularly advantageous for use as a base material for the moisture blocking material since it is UV-resistant, highly resistant to ageing and little influenced by temperature. Acrylate is easy to process. Acrylate has a low comparable weight.

[0011] The threads may be shear-resistant with respect to one another. This means that the threads may have substantially no freedom of movement with respect to one another. The expression "substantially no freedom

of movement" is intended to mean that the threads can scarcely shift, or even cannot shift at all, with respect to one another, in particular when forces are applied to the textile such as those which are applied during the application of a textile of this type to a transparent surface such as a glass plate. When the textile is rubbed, the threads cannot move with respect to one another. Shear resistance of the threads in this way can be achieved by impregnating the threads with an impregnation material or by using a weave which allows the threads virtually no freedom of movement or by using threads which consist in part of melt fibres or which consist of bicomponent fibres, in which case part of the material is melted.

[0012] An advantage of a textile according to the present invention is that it is particularly suitable for being applied to glass, for example of windows or doors, and is in particular suitable for being used also in damp environments such as bathrooms and kitchens. In this way, it is suitable for ensuring during the day, in daylight, that people can look from the inside to the outside through the expanses of glass without people from outside being able to look inside. In this respect a textile has an advantage over a film that it has a textile aspect, which appears better to many people and is felt to be more pleasant and warmer. In addition, the openings in the textile, in between the threads, allow the possibility of looking through from one side.

[0013] In order to ensure that the textile retains its function, the threads of the textile have to remain substantially in the same place. This can be carried out in embodiments of the present invention by the impregnation of the threads. As a result of the impregnation of the threads, the impregnation material is introduced deep into the thread, between the fibres thereof. After the textile has dried out, the impregnation material is condensed out and the fibres stick well to one another. In addition, in the case of tissues the points of intersection between the warp threads and the weft threads can stick to one another, as a result of which the warp and the weft can no longer move with respect to each other. As a result, the tissue becomes stronger and is not frayed when cut. The elasticity of the tissue is also reduced considerably on account of this impregnation, so that the application thereof to the transparent surface becomes much easier, since there is less chance of deformation.

[0014] The retention of the position of the warp threads and the weft threads with respect to one another in a tissue can also make use of specific weaves which ensure that the threads have hardly any freedom of movement with respect to one another. An example of a weave of this type is gauze weave. In order to retain the position still better, the threads of such tissues with specific weaves which ensure that the threads have scarcely any freedom of movement with respect to one another can also be impregnated, as described above.

[0015] The retention of the position of the threads in a knitted fabric can also make use of specific weaves which ensure that the threads have no freedom of movement with respect to one another. An example of a weave of this type is knitting according to warp knitting such as run-resistant fabric. In order to retain the position still better, the threads of knitted fabrics of this type can also be impregnated, as described above.

[0016] The retention of the position of the threads can also make use of threads which comprise fibres, in which case part of the fibres or part of the material of the fibres can melt. The threads then consist in part of bicomponent fibres or of melt fibres. After the weaving or the knitting the meltable part can be melted in a furnace. On account of the flow of the material the fibres should adhere mutually to one another well and should also stick the points of intersection between the threads to one another well. As a result, the threads can no longer move with respect to one another.

[0017] A major advantage of a textile according to the present invention is that the textile aspect is retained, in other words the textile keeps its appearance as textile material even after the impregnation with the impregnation material or after the partial melting of the threads. This is in contrast to a tissue in which the threads are completely enclosed in a resin, as a result of which part of or usually the whole of the surface profile and thus the textile aspect automatically disappears. According to embodiments of the present invention the textile is changed as little as possible in terms of its appearance and in terms of touch.

[0018] In a textile according to embodiments of the present invention the impregnation material can be an acrylate. An acrylate is found to be particularly advantageous for use as a base material for the impregnation of the threads since it is UV-resistant, highly resistant to ageing and little influenced by temperature. Acrylate is easy to process. Acrylate has a low comparable weight. Alternatively, the impregnation material can be polyurethane, polyvinylchloride or any type of polymer suitable for application in watery and solvent environment.

[0019] In addition, the adhesive can also be an acrylate. An acrylate is found to be particularly advantageous for use as an adhesive for applying the textile to a transparent surface since it is UV-resistant, highly resistant to ageing and little influenced by temperature, as a result of which the adhesive capable of being glued can be applied to the transparent surface both at high and at low temperatures. Alternatively, the adhesive can for instance be a hotmelt, such as acrylate, reactive polyurethane or any other polymer suitable for being used in such hotmelt technique.

[0020] The impregnation material which is optionally present in the threads, the moisture blocking material and the adhesive can be from the same family for example. If the moisture blocking material and the adhesive are from the same family, for example - but not limited thereto - two acrylates, then an increased adhesion between the moisture blocking material and the adhesive is observed. This prevents the moisture blocking material from becoming loose from the adhesive, where the ad-

hesive is to remain sticking to the transparent surface. If also the threads have a good adhesion to the moisture blocking material, for instance by their impregnation with material from the same family as the moisture blocking material, a better adhesion of the textile to the transparent surface is achieved. As, in accordance with embodiments of the present invention, the moisture blocking material prevents the threads from loosening from the adhesive in damp environments, a better adhesion of the textile to the transparent surface is achieved, also in damp environments.

[0021] In a textile according to embodiments of the present invention the bicomponent fibre or the melt fibre can consist of polyolefin. A polyolefin is particularly suitable for melting within a limited temperature range and for producing sufficient flow between the fibres. Polyolefins are, in addition, highly resistant to ageing, and they are easy to process.

[0022] In embodiments of the present invention the adhesive can be applied to the points of intersection of the threads, which manifest themselves as raised portions. An advantage of a textile according to embodiments of the present invention is that it is possible for the moisture blocking material and the adhesive to be applied only to the points of intersection between the threads. In this way, sufficient force can nevertheless be obtained with a minimum quantity of adhesive to stick the textile to a transparent surface in a lasting manner. The invention, however, is not limited to this: the moisture blocking material and the adhesive can also be applied to the threads between the points of intersection. In embodiments of the present invention it is thus possible to apply moisture blocking material and adhesive not only to points of intersection between the threads, but also to the pieces of thread between them. The application of more adhesive increases the adhesive force of the textile.

[0023] In a tissue according to embodiments of the present invention the warp threads and the weft threads can form a gauze weave for example. An advantage of a gauze weave is that the threads inside the tissue are shear-resistant and can thus move only with difficulty with respect to one another, as a result of which impregnation is not necessary in the case of this weave.

[0024] In a knitted fabric according to embodiments of the present invention use can be made for example of a run-resistant fabric. An advantage of a run-resistant fabric is that the threads inside the knitted fabric are shear-resistant and can thus move only with difficulty with respect to one another, as a result of which impregnation is not necessary in the case of this knitted fabric.

[0025] In a tissue according to embodiments of the present invention the warp threads and the weft threads can form a plain weave. An advantage of a plain weave is that this imparts a certain degree of rigidity to the tissue, as a result of which the tissue is easier to handle during the application to the transparent surface. Other types of weave between the warp threads and weft threads are of course possible.

[0026] A textile according to embodiments of the present invention comprises sufficient threads to make it possible to look out of a room with a lower light intensity into a room with a higher light intensity and also to prevent looking out of a room with a higher light intensity inside into a room with a lower light intensity. In the case of a tissue the number of warps and wefts is necessary to reach this characteristic in a manner dependent upon the sort of thread and the diameter of the thread used. On the one hand the openings in the textile, for example the meshes of the tissue, have to be sufficiently large in order to make it possible to look in one direction (dark to light), and on the other hand they have to be sufficiently small to prevent looking in the other direction (light to dark).

[0027] According to embodiments of the present invention, the treads used for the textile comprise a plurality of fibres, such that the threads obtain a fibrous character. Mono-filament threads, to the contrary, do not have a fibrous character, due to which tissue with mono-filament threads exhibit less a textile aspect. Use of such threads, however, is not excluded from the present invention.

[0028] In a second aspect the present invention provides a method of producing a textile which is adhesive on a transparent surface and which makes it possible to look out of a room with a lower light intensity into a room with a higher light intensity but which prevents looking out of a room with a higher light intensity inside into a room with a lower light intensity. The method comprises the following steps:

- the provision of a textile with threads from thread material, which is either a tissue with intersecting warp threads and weft threads and or is a knitted fabric,
- the application of moisture blocking material between the thread material and adhesive on one side to at least part of the threads, for preventing the threads from loosening from the adhesive in damp environments..

[0029] A method according to the present invention is easy to carry out and delivers pieces of textile which have sufficient adhesive force to remain fastened to a transparent surface over a prolonged period, i.e. for several weeks to several months or years, even in damp environments.

[0030] In embodiments of the present invention, applying a moisture blocking material comprises applying a cross-linked resin, for example a cross-linked acrylate such as a hard acrylate, a cross-linked polyurethane, a cross-linked polyvinylchloride or any type of polymer suitable for application in watery and solvent environment, the present invention not being limited to these examples. Due to the cross-linking of the moisture blocking material, a water-impermeable layer is formed between the actual threads of the textile and the adhesive.

[0031] The application of the moisture blocking material is done on the threads, before the adhesive is applied.

Adhesive is preferably only applied on top of the moisture blocking material, such that there is no direct contact between the fibrous material of the threads and the adhesive. There may be more locations covered with moisture blocking material than locations covered with adhesive, or the locations covered with moisture blocking material may be larger than the locations covered with adhesive.

[0032] The provision of a textile with threads may include the provision of a textile with threads with a fibrous character. In this case, application of the moisture blocking material and of the adhesive may be such that at least at one side of the textile, the fibrous character of the threads is preserved.

[0033] In particular embodiments, the method may also comprise a step of making the threads of the textile shear-resistant in such a way that a textile aspect is retained, for example by a specific weave (suitably linked) of the threads, and/or by impregnating the threads of the textile with impregnation material or by partially melting the threads.

[0034] The optional impregnation of the threads with an impregnation material can be carried out by means of foularding. The threads can be impregnated before or after they are processed to form a textile.

[0035] The impregnation of threads with an impregnation material and the application of moisture blocking material and adhesive to at least part of the threads can include the application of materials of the same family. This increases the bond between the adhesive and the moisture blocking material on the one hand, and between the moisture blocking material and the impregnation material on the other hand, and therefore the adherence to each other. Improved adherence results in more robust and reliable end products.

[0036] Specific and preferred aspects of the invention are set out in the attached independent and dependent claims. Features of the dependent claims can be combined with features of the independent claims and with features of further dependent claims as indicated and not merely as expressly set out in the claims.

[0037] For summarizing the invention and the advantages achieved with respect to the prior art, certain aims and advantages of the invention have been described above. It should of course be understood that all these aims or advantages cannot necessarily be achieved by every specific embodiment of the invention. In this way for example, persons skilled in the art will recognize that the invention can be embodied or carried out in a manner which achieves or optimizes one advantage or a number of advantages as presented here, without necessarily in this case achieving other aims or advantages which can be presented or suggested here.

[0038] The above aspects and other aspects of the invention will be clear and will be elucidated with reference to the embodiment(s) described hereinafter.

Brief description of the drawings

[0039] The invention will now be described in greater detail, by way of example, with reference to the accompanying figures:

FIG. 1 shows a Scanning Electron Microscopy (SEM) photograph for a tissue not impregnated.

FIG. 2 is an enlargement of three points of intersection of the tissue not impregnated from FIG. 1.

FIG. 3 (a) schematically illustrates a cross-section of a thread of a textile according to a first embodiment of the present invention, where a moisture blocking layer is partially covering an impregnated thread, the moisture blocking layer being present between the impregnated thread and an adhesive layer.

FIG. 3 (b) schematically illustrates a cross-section of a thread of a textile according to a second embodiment of the present invention, where a moisture blocking layer completely covers an impregnated thread, an adhesive layer being applied onto the moisture blocking layer at one side of the textile.

FIG. 3(c) schematically illustrates a cross-section of a thread of a textile according to a third embodiment of the present invention, where a thread is impregnated with a moisture blocking material before an adhesive layer is applied thereto.

FIG. 4 shows a Scanning Electron Microscopy (SEM) photograph for the adhesive side of a tissue according to the first embodiment of the present invention. The impregnated warp threads and weft threads of a tissue may be seen. Furthermore, dots of adhesive are visible on the various points of intersection of the warp threads and weft threads, as well as moisture blocking material at least partially covering the threads.

FIG. 5 and FIG. 6 are SEM cross-sectional views of a tissue according to the first embodiment of the present invention, in which the adhesive side is present on the top side and the non-adhesive side is present on the underside of the picture. The impregnated filaments from which the thread is formed are visible in the cross-section. The moisture blocking material is partially covering the thread at the side where the adhesive is applied. The adhesive is also visible, on the top side. It is clear that at the bottom side the fibrous character of the thread is preserved.

FIG. 7 is an SEM photograph of a top view of the non-adhesive side of a tissue according to embodiments of the present invention. No adhesive nor moisture blocking material is visible on this side. At the non-adhesive side, the fibrous character of the thread is clearly preserved.

FIG. 8 illustrates the stages in a method according to embodiments of the present invention.

[0040] The figures are solely diagrammatic and not lim-

iting. In the figures the dimensions of some components may be shown exaggerated and not to scale for purposes of illustration. Dimensions and relative dimensions do not necessarily agree with effective embodiments of the invention.

[0041] Reference numbers in the claims may not be interpreted so as to restrict the protective scope.

[0042] In the various figures the same reference numbers refer to the same or similar elements.

Detailed description of illustrative embodiments

[0043] The present invention will be described with reference to particular embodiments and with reference to certain drawings, but the invention, however, is not restricted to them but is restricted only by the claims.

[0044] The terms "first", "second" and the like in the description and in the claims are used to differentiate similar elements and not necessarily for describing a sequence, either chronologically or spatially or in ranking or in any other manner. It has to be understood that the terms and the manner applied are interchangeable under suitable circumstances and that the embodiments of the invention are suitably described therein in order to work in a sequence other than described or reproduced here.

[0045] In addition, the terms "uppermost", "lowermost", "above", "under" and the like in the description and the claims are used for the purposes of description and not necessarily to describe relative positions. It should be understood that the terms which are used in this way can be mutually interchanged under certain circumstances and that the embodiments of the invention described here are also suitable for operating in accordance with orientations other than described or reproduced here.

[0046] It should be pointed out that the term "comprises", as used in the claims, should not be interpreted as limited to the means described hereinafter; this term does not rule out other elements or steps. It should therefore be interpreted as specifying the existence of the mentioned features, values, steps or components to which reference is made, but does not rule out the existence or addition of one or more other features, values, steps or components, or groups of them. In this way, the scope of the expression "a device comprising means A and B" should not be limited to devices which comprise only components A and B. It means that with respect to the present invention, A and B are the only relevant components of the device.

[0047] References throughout this specification to "one embodiment" or to "an embodiment" mean that a specific feature, structure or characteristic described in conjunction with the embodiment is included in at least one embodiment of the present invention. In this way, occurrences of the expressions "in one embodiment" or "in an embodiment" in various locations throughout this specification do not necessarily have to refer in every case to the same embodiment, but they can indeed do so. In addition, the specific features, structures or characteristics can be combined in any suitable manner, as should be clear to the average person skilled in the art on the basis of this announcement, in one or more embodiments.

[0048] In a comparable manner it should be appreciated that, in the description of embodiments of the invention by way of example, various features of the invention are sometimes grouped together in one single embodiment, figure or description thereof with the aim of streamlining the disclosure and assisting the comprehension of one or more of the various inventive aspects. This method of disclosure should in any case not be interpreted as a reflection of an intention that the invention claims more features than are explicitly specified in each claim. Previously, as the following claims reflect, inventive aspects are present in less than all the features of one single previous disclosed embodiment. In this way, the claims following the detailed description are herewith explicitly incorporated into this detailed description, with each stand-alone claim as a separate embodiment of this invention.

[0049] In addition, whilst some embodiments described therein comprise some, but not other, features included in other embodiments, combinations of features of various embodiments are intended as being within the scope of the invention and form these various embodiments, as should be understood by the person skilled in the art. By way of example, in the following claims any of the embodiments described can be used in any combination.

[0050] In the description provided here numerous specific details are put forward. In any event it has to be understood that embodiments of the invention can be carried out without these specific details. In other cases well-known methods, structures and techniques have not been shown in detail in order to keep this description clear.

DEFINITIONS

[0051] In the context of the present invention, tissue is intended to be a piece of textile of threads which are woven through one another. During the weaving a number of threads have been stretched parallel to the loom; these are the warp threads. After that, other threads are laid one by one perpendicular to this, between the warp threads; these are the weft threads. A point of intersection between the two threads, which to a greater or lesser extent provides for a raised portion in the tissue (depending upon the diameter of the threads), occurs where the warp threads and weft threads intersect one another.

[0052] In the context of the present invention, knitted fabric is intended to be a piece of textile of threads which are knitted through one another. This can for example be carried out according to one of the knitting techniques described in ISO 8388 and ISO 3572.

[0053] Meshes are intended to be openings which occur as voids between the threads of the tissue and the knitted fabrics. The various sides of the meshes can be different in dimension and shape, depending upon the weave used and the number of threads which are used. In particular, in the case of tissues in which warp threads and weft threads are used, the meshes can be rectangular.

[0054] The size of the mesh is the surface of the opening in the textile which is referred to as a mesh. For a fixed thread diameter the size is set by providing another number of threads per centimetre for the textile. In the case of a tissue, for a fixed number of warp threads and weft threads, the size varies per centimetre in inverse proportion to the diameter of the warp threads and weft threads.

[0055] The mesh surface of a textile is defined as the sum of all the surfaces of the meshes in the textile.

[0056] A thread with fibrous character may be composed of short thin fibres of synthetic or natural source, of the same or different materials, which are twisted together to form a thread (= spinning). A thread with fibrous character can alternatively also be a multifilament thread, consisting of two or more continuous fibres of synthetic or natural source, of same of different materials, that run aside one another or that are twisted together or that are entangled via a so-called texturing process.

[0057] Each fibre forms in the thread a discernable entity. With "fibrous character" in the context of the present invention is meant that the fibres are visually discernable in the final textile product.

[0058] A transparent textile is a textile through which it is possible to look. The question as to whether or not it is transparent is determined by the ratio of "total mesh surface / total surface of the textile". In the context of the present invention, transparent textiles are considered which make it possible to look out of a room with a lower light intensity, for example indoors, into a room with a higher light intensity, for example outside, and which at the same time prevent looking from a room with a higher light intensity, for example outside, into a room with a lower light intensity, for example indoors. To this end, the ratio of "total mesh surface / total surface of the textile" should lie between 18% and 60%, preferably between 35% and 45%.

[0059] A "damp room" is a room in which moisture is present. In a house, damp rooms are typically the bathroom and the kitchen, the cellar, the attic. Other types of damp rooms in the context of the present invention are rooms where single-glazing is provided, as moisture easily sets down on the windows. Examples are any room in old houses, caravans, garden houses, etc.

[0060] With "moisture blocking material" in the context of the present invention is meant any material which is completely blocking for the passage of water, moisture and vapour. This can be obtained for instance by a cross-linked polymer of any suitable type, e.g. a cross-linked resin. With "moisture blocking material" is also meant a material which repels water, moisture and vapour to a sufficient extent, e.g. at least 80%, more preferably at least 90%, at least 95%, at least 99%. Such repellence may be obtained by any suitable surface modification technique, such as for instance a corona treatment or a teflon treatment of the material, at a single side or at both sides. Hence "moisture blocking" in the context of the present invention does not need to be completely blocking for moisture, but super- repellence is required.

[0061] Impregnation in the context of the present invention signifies the penetration of a material, in the context of the present invention a thread, by another substance, in the context of the present invention referred to as an impregnation material. The impregnation material can be for example, but in a manner not limiting the invention thereto, a resin, such as for example an acrylate, or a starch derivative, such as for example potato starch. Low-viscosity liquids with hardening properties are possible. Impregnation can be done with a material suitable for hardening the threads and/or with a moisture blocking material.

[0062] In the context of the present invention this can typically be carried out by immersing the textile in a dispersion, an emulsion or a solution of the impregnation material.

[0063] Bicomponent fibres in the context of the present invention are synthetic fibres with a core / mantle structure in which the core and the mantle consist of different polymers. The mantle is the polymer which is present on the outer edge of the fibre. This polymer has a lower melting temperature than the polymer which is present in the core. A bicomponent fibre can be for example, but in a manner not limiting the invention thereto, a polyolefin fibre, such as for example polypropylene in the core and another polypropylene, with a different molecular weight and a different melting temperature, for example a lower melting temperature, in the mantle.

[0064] Melt fibres in the context of the present invention are synthetic fibres which consist completely of one thermoplastic polymer. The processed threads then consist to a great extent of these fibres. The thermoplastic polymer can be for example, but in a manner not limiting the invention thereto, a polyethylene.

[0065] With threads which have substantially no freedom of movement with respect to one another it is intended that crossing threads or threads touching one another in another manner should be shear-resistant with respect to one another, and in an optimum manner should not shift with respect to one another. Being shear-resistant is determined in accordance with forces upon the textile as they are adjusted in the application of a textile of this type to a transparent surface, such as a glass plate, in order to stick the textile to it. If the textile is rubbed the threads cannot shift with respect to one another.

[0066] Foularding in the context of the present invention is intended to be a continuous process in which working is carried out with a foulard. In this case material is conveyed into a trough, where it is saturated with the

impregnation material. In a roller mill following downstream of this, the impregnation material is introduced deep into the thread between the fibres under the effect of pressure, and the surplus impregnation material is pressed back, so that a set quantity of impregnation material remains behind in the threads. After that, the impregnation material is fixed in the textile, for example by hardening in a temperature step. To this end, the textile can be introduced into a furnace for a predetermined period of time.

[0067] In the context of the present invention "the textile aspect of a textile material" is intended to mean that a fibre-like structure is perceptible in the threads used. If the threads are completely enclosed, so that the various fibres of the thread can no longer be differentiated, then it may be said that this textile has no textile aspect. In the same way, it may be said that if the threads in the textile consist of monofilaments, this is a tissue or a knitted fabric without a textile aspect.

DESCRIPTION

[0068] In a first aspect the invention provides for a textile 10 which is capable of being stuck to a flat transparent surface, such as for example glass. The purpose of the textile, once applied to the transparent surface, is to make it possible to look out of a room with a lower light intensity, for example indoors, into a room with a higher light intensity, for example outside, and at the same time to prevent looking from a room with a higher light intensity, for example outside, into a room with a lower light intensity, for example indoors. The textile can be applied for example to a pane of glass in order to implement the envisaged aim.

[0069] The threads of the textile may be, but do not need to be, threads with a fibrous character. The textile 10 can be for example a woven textile and it can comprise intersecting warp threads 11 and weft threads 12. According to embodiments of the present invention the threads in the textile may have substantially no freedom of movement with respect to one another. This facilitates application of the textile to a transparent substrate, but does not, however, limit the present invention. In order to make the threads more shear-resistant in the tissue the threads can be impregnated. The warp threads and weft threads 11 and 12 are impregnated, i.e. soaked in depth, with an impregnation material 13, whereby the fibrous character of the thread is preferably preserved. For comparison, in FIG. 1 a Scanning Electron Microscopy (SEM) photograph is shown of a tissue which is not impregnated. The fibrous character of the tissue is clearly visible, i.e. the fibres are visually discernable in the tissue. FIG. 2 is an enlarged view of such tissue which is not impregnated. The other pictures relate to impregnated tissues.

[0070] In addition, an adhesive 14 is applied to the tissue on one side, in order to stick the tissue on the side to the transparent surface. The adhesive 14 is preferably applied such that at least at one side the fibrous character of the threads 11, 12 is preserved, although the present invention is not limited to such embodiments. In accordance with the present invention, a moisture blocking material 16 is applied to the threads 11, 12 at least at the side where the adhesive 14 is applied. This may be implemented either by applying a separate moisture blocking layer between the impregnated or non-impregnated thread and the adhesive, or alternatively by impregnating the thread with moisture blocking material and applying the adhesive on top.

[0071] A problem occurring when applying prior art textile materials as described in EP 2946954 onto a transparent surface, e.g. a window, is that the threads, even if impregnated, will somehow absorb some of the moisture, possibly via their ends, or via capillary action in between the fibres. The adhesive used is water-soluble, which is a desired characteristic, as it is desired to be able to easily (e.g. with water and soap) remove traces of adhesive left behind on the transparent substrate when the textile material is removed therefrom. However, due to this water-solubility of the adhesive, when moisture is absorbed by the threads, the textile tends to loosen from the substrate. This problem gets bigger if the environment gets more damp. In accordance with the present invention, this problem is alleviated by introducing a moisture blocking material underneath the adhesive, as stated above.

[0072] The moisture blocking material, in accordance with embodiments of the present invention, is a cross-linked resin, for instance a cross-linked acrylate, a cross-linked polyurethane, a cross-linked polyvinylchloride or any type of cross-linked polymer suitable for application in watery and solvent environment.. Due to the cross-linking of the resin, a water-insoluble layer is provided in between the water-soluble adhesive and the threads. Any water or vapour, e.g. emanating from the damp environment, will not reach the adhesive through the textile material, and will hence not solve the adhesive and detach it from the threads. Hence, by applying a moisture blocking material in between the thread material and the adhesive, an improved adhesion of the threads to the adhesive layer is obtained, especially in damp environments.

[0073] On account of its composition with (possibly impregnated) threads 11, 12, moisture blocking material 30 and adhesive 14 applied thereto, the tissue can be glued in a permanent manner to a smooth surface, even in damp environments. The tissue attached in this way ensures that a one-way see-through effect is produced.

[0074] In order to achieve this one-way see-through effect the textile has to be formed in such a way that the diameter of the threads and the size of the openings (meshes) between the threads are of a size that in daylight outside and with no light inside it is easy to see through to the outside but difficult to see inside. Different diameters of thread allow different mesh sizes in this case.

[0075] In an advantageous embodiment the ratio of the mesh surface to the overall surface is approximately 40%.

[0076] In order to fasten the textile to the transparent surface in an easy manner it is better to provide a textile which already has a certain degree of rigidity. To this end, in an embodiment a tissue can consist of a plain weave. Various other weaves, such as for example gauze weaves and twill weaves, are also possible, but it is preferable for a weave to be used which already imparts a certain degree of rigidity to the tissue, such as a plain weave. A knitted fabric can be knitted for example in accordance with a run-resistant fabric.

[0077] The threads 11, 12 used for a textile according to particular embodiments of the present invention may be threads with fibrous character. A thread of this type consists of various fibres of the same or different materials, which extend alongside one another or are turned into one another. The fibres can be of natural or synthetic origin. Examples of fibres of natural origin are: cotton, flax, viscose, hemp, wool, jute, sisal, coconut fibre etc. Examples of fibres of synthetic origin are polyester, polyolefins, polyamides, acrylic etc. The threads can also be produced from mixtures of the fibres named above.

[0078] According to embodiments of the present invention the textile is shear-resistant. This means that the threads which form the textile have substantially no freedom of movement with respect to one another, so that they can scarcely move, for example shift, or even cannot move at all, with respect to one another. This increases the ease of application of the textile to the transparent material

[0079] According to embodiments of the invention the threads can be impregnated for this purpose of increased shear-resistance. This can either be carried out before the weaving or knitting or after the threads have been processed to form a textile. Impregnation can be carried out for example by immersion of the thread or the textile into an impregnating material 13, in which case the thread absorbs the impregnating material. This absorption can take place by the material of the fibres itself absorbing impregnating material (for example cotton, viscose, flax, etc.), or, in the case of synthetic fibres the impregnating material 13 is set on, around and between the different fibres by virtue of capillary action. A pressure may be suitably applied in order to achieve a better impregnation. After the immersion of the textile in an impregnation bath it can be pressed out, for example by being passed between rollers, in order to remove excess impregnating material. This combination of immersion and pressing out is also referred to as foularding. During this pressing step not only is excess impregnating material removed, but part of the impregnating material is also pushed into the threads.

[0080] Other suitable techniques for impregnation can likewise be adapted according to the present invention, for example the vaporization of impregnating material, spreading the impregnating material as a layer onto the textile, or applying the impregnating material onto the textile by way of a foam application. Particular techniques for applying the hardening or stiffening material onto the threads may be coating techniques. In each of these methods it is crucial that suitable measures are taken so that the meshes 15 in the textile remain open at least in part, in order to make one-way see-through possible. This can be achieved by selective application of the impregnating material 13 substantially only to and into the threads, or, in the case of techniques in which impregnating material 13 will nevertheless finish up in the meshes 15, the renewed opening up of these openings, for example by the directed blowing of air flows.

[0081] Suitable impregnating materials 13 according to embodiments of the present invention are inter alia polyacrylates, polyurethanes, polyvinyl alcohols, polyvinyl acetates, and starch derivatives.

[0082] In particular, an aqueous acrylate dispersion for example can be used. This has the advantage that this displays a high degree of UV resistance, and has a low susceptibility to ageing. After being polymerized out 100%, acrylates are completely insoluble in water, so that the textile treated has a low susceptibility to moisture.

[0083] After the impregnation or coating and possible pressing out of the textile, the textile 10 is dried, as a result of which the water evaporates and the acrylate or other used material is condensed out to form a strengthening material.

[0084] In particular embodiments, without the invention being limited thereto, an acrylate dispersion used for strengthening the threads can be a mixture of a hard acrylate, a soft acrylate and water.

[0085] Hard acrylate is a polymerized-out acrylate with hard properties, produced by the complete condensation out of a polymer acrylate dispersion. A polymer acrylate dispersion of this type, adapted or textile substrate, imparts a hard characteristic to the textile after being condensed out. An example of a hard acrylate is TUBICOAT A 41, available from CHT - BEZEMA.

[0086] Soft acrylate is a polymerized-out acrylate with soft, adhesive properties, produced by the complete condensation out of a polymer acrylate dispersion. A polymer acrylate dispersion of this type, adapted to a textile substrate, will make the threads and fibres adhere mutually after the condensation out. An example of a soft acrylate is TUBICOAT A 22, available from CHT- BEZEMA.

[0087] The impregnation or coating ensures on the one hand that the threads 11, 12 themselves acquire a certain degree of rigidity, since the fibres are mutually stuck to one another. In addition, this ensures that the entire textile acquires extra strength, since the points of intersection between the threads are also stuck to one another. This ensures that the textile 10 becomes shear-resistant, in other words that the threads 11, 12 cannot shift with respect to one another, for example during the application of the textile 10 to the transparent surface. As a result, the textile 10 is also not frayed, for example in the cutting. In addition, the elasticity of the textile 10 is considerably

reduced by impregnation, which again facilitates the application to the transparent surface so that the textile 10 has less chance of deforming. Since the textile 10 has become harder it is also easier to cut. Above all, however, a crucial advantage of impregnating the textile 10 according to the invention is that the textile aspect of the tissue or the knitted fabric is retained; or, with other words, that the fibrous character of the threads is still visually perceptible after impregnation. In addition, the impregnation ensures a better adhesion of the adhesive to be applied subsequently, and it ensures that as little adhesive as possible has to be applied while an adequate adhesive force is still achieved.

[0088] Another way of making the textile shear-resistant is by working with threads 11, 12 which consist in part of melt fibres or which consist of bicomponent fibres. These textiles can also be made shear-resistant by melting the meltable part by passing the textile for example through a hot-air furnace or through an infrared field. As a result, the low-melting material will melt and the points of intersection of the threads will stick to one another. As a result, the application of the textile to a transparent surface will be facilitated and the threads will also remain in the same place even with repeated recycling (removal and refitting) of the textile.

[0089] Yet another way of making the textile shear-resistant is to use, during the production of the textile, specific weaves which have this property, such as for example gauze weave in the tissues or knitted fabric in accordance with a run-resistant fabric.

[0090] In accordance with the present invention, before applying an adhesive 14 to the textile, be it impregnated or coated, or not, a moisture blocking material 30 is applied thereto. This can be done in any suitable way.

[0091] The moisture blocking material can be any suitable material that prevents water, moisture or vapour to pass from the threads to the adhesive. The moisture blocking material can for instance be a cross-linked resin, such as an acrylate or a polyurethane that does not soften in contact with water, moisture or vapour. The cross-linking provides a moisture-impermeable layer between the thread material and the adhesive.

[0092] In one embodiment, a layer of moisture blocking material 30 can be applied so as to partially cover the textile (which may be, but does not need to be, impregnated or coated for shear-resistance as set out above), at the side where the adhesive 14 is to be applied later on. This situation is illustrated in FIG. 3(a). This application can be done in any suitable way, for instance by spreading a moisture blocking paste over the textile, by the application of a moisture blocking foam, by spraying moisture blocking material over the textile or by the selective application of moisture blocking material to the textile (dot-coating), for example by means of a kiss roll, a magnet roll or any other suitable technique.

[0093] Alternatively, a layer of moisture blocking material 30 can be applied, which completely covers the threads 11, 12 of the textile material, i.e. the moisture blocking material 30 not only covers the threads 11, 12 at the side where adhesive 14 will be applied, but covers it substantially all around, or even all around. This application can be done in any suitable way, for instance by immersing the textile in a moisture blocking coating material, by spreading a moisture blocking paste over the textile, by application of a moisture blocking foam, by spraying moisture blocking material over the textile, by knife coating, etc.

[0094] In yet alternative embodiments, rather than surrounding the threads 11, 12 with moisture blocking material 30, they can be impregnated with such moisture blocking material, as schematically illustrated in FIG. 3(c). The impregnation of the thread with moisture blocking material can be performed by any suitable impregnation method, as set out above with respect to the basic impregnation step of the threads, for example by immersion of the thread or the textile into an impregnating moisture blocking material 30, with or without application of pressure, by vaporization of impregnating material, by spreading the impregnating material as a layer onto the textile, or by applying the impregnating material onto the textile by way of a foam application.

[0095] Whatever embodiment is applied (partial encapsulation, full encapsulation or impregnation by moisture blocking material), and whatever method is used to apply the moisture blocking material, it is always important that the meshes in the textile are kept open, or are re-opened after application of the moisture blocking material.

[0096] An adhesive 14 is applied to the, possibly shear-resistant, textile provided with moisture blocking material 30. In particular embodiments where the threads have a fibrous character, this provision of moisture blocking material may be done such that at least at one side the fibrous character of the textile is preserved. This can be carried out in any suitable manner, for example by spreading a paste over the textile, by the application of a foam, by spraying adhesive over the textile or by the selective application of adhesive to the textile (dot-coating), for example by means of a kiss roll, a magnet roll, or any other suitable technique. In principle, it is sufficient, in accordance with embodiments of the present invention, for only adhesive to be applied to the points of intersection between the threads 11, 12. The adhesive 14 must be applied on top of the moisture blocking material 30, and should not be in direct contact with the fibrous material of the threads 11, 12. Possibly other layers or materials can be provided between the moisture blocking material 30 and the adhesive 14, for instance materials which improve adherence of one layer to the other. It is important that during the application of the adhesive 14 the meshes 15 in the textile 10 also remain open or are opened again immediately after the application of the adhesive 14, for example by the provision of specially directed air flows.

[0097] Use can be made of any suitable adhesive 14 to fasten a textile 10 to a transparent surface. An acrylate

is particularly suitable, for example in the form of a viscous acrylate paste. This has the advantage that it is UV-resistant and resistant to ageing, and has a low susceptibility to temperature (it could be used both at low and at high temperatures). Alternatively, hotmelts can be used for the adhesive 14, such as acrylates, reactive polyurethanes, or other polymers suitable for this technique.

[0098] An adhesive 14 in the form of an acrylate is preferably a soft acrylate, with soft, adhesive properties, but where these adhesive properties are permanently self-adhesive. An example of an acrylate adhesive is TUBICOAT STC 100, available from CHT - BEZEMA. Typically the adhesive 14 is selected to be water-soluble, such that, when the textile is removed from the transparent substrate, and adhesive traces would be left behind on the substrate, they can easily be removed by water or soap.

[0099] It is particularly advantageous to use an adhesive 14 of the same family as the moisture blocking material 30, for example both acrylates or both polyurethanes, on account of their good adhesion to each other.

[0100] After application of the moisture blocking material 30, e.g. after being impregnated with moisture blocking material or after being encapsulated by moisture blocking material, and after the application of an adhesive 14 in accordance with embodiments of the present invention, on the adhesive side, i.e. the side to which the adhesive 14 is applied, the resulting (optionally shear-resistant) textile 10, for the embodiment in which the threads are impregnated, has a surface as reproduced in FIG. 4. FIG.4 shows a SEM photograph of a tissue comprising threads 11, 12 impregnated with moisture blocking material 30. Adhesive dots 14 are applied to the points of intersection between the warp threads and the weft threads 11, 12, according to an embodiment of the invention. It is clear that neither the impregnation material 30 nor the adhesive 14 fills the meshes 15 of the tissue 10. Outside the points of intersection between the warp threads and the weft threads it may be clearly seen that the threads are permeated with moisture blocking impregnation material 30and that the various filaments of the thread are surrounded by a thin film, originating from a full bath treatment. As a result, the filaments of the threads stick to one another and the various threads also stick to one another. The fibrous character of the threads, however, is still visible. The threads are not completely covered in such a way that the fibrous character (and hence also the textile aspect) would disappear.

[0101] FIG. 5 and FIG. 6 are cross-sections through a thread 11, transverse to the longitudinal direction thereof, according to another embodiment of the present invention. The different fibres from which the thread 11 is formed are evident from this figure. The thread 11 is impregnated with an impregnation material 13. The impregnation material, acrylate dispersion in the example illustrated, permeates the thread and is present between as many fibres of the thread as possible and sticks the latter to one another and bonds them as such to one another. In this figure the absorption / penetration of the acrylate dispersion which is applied as a full bath treatment is evident in various places. In addition, a moisture blocking layer 30, partially covering the impregnated thread 11, is illustrated in FIG. 5. On top of the moisture blocking layer 30, an adhesive 14 is applied,, as visualised in the cross-section shown in FIG. 5. In this embodiment, both the moisture blocking material 30 and the adhesive 14 are present only on the top side of the thread 11 and do not penetrate deep into the thread 11, such that at least at one side (the bottom side which is not clearly visible in FIG. 5, and which is intended to be oriented away from the transparent surface, e.g. window, towards the inside of the room) the fibrous character is preserved.

[0102] It can be seen from FIG. 7, which shows the rear side of the same tissue as illustrated in FIG. 5, that the adhesive 14 which is applied to one side of the tissue does not penetrate to the other side. Neither does the moisture blocking material 30. The impregnation material, the acrylate dispersion in the example presented, has penetrated thoroughly, however, between the fibres. This does not harm the fibre structure of the thread which is retained to the maximum degree, however, as a result of which the textile aspect of the tissue is not lost. Water or moisture which would come into contact with the textile 10, may affect the textile such that it absorbs some moisture, e.g. by capillary action between the fibers. However, the moisture blocking material 30 will prevent the threads 11, 12 to become loose from the adhesive 14.

[0103] A textile 10 according to embodiments of the present invention can function in an internal location, even in damp rooms, for several months and make it possible to look out of a room with a lower light intensity into a room with a higher light intensity but which prevents looking out of a room with a higher light intensity inside into a room with a lower light intensity, if it does not come into contact with environmental factors such as additional forces which are exerted upon the textile applied to the transparent surface.

[0104] The textile can be removed without difficulty from the transparent surface, for example for washing a window, or in the event that something has unfortunately gone wrong in the application, the application may be carried out again. Various cycles, up to tens of cycles, of sticking fast and loosening can be carried out without difficulty, up to more than 40 cycles, even more than 100 cycles, with an acrylate adhesive. Residues of glue which remain behind on the transparent surface during the removal of the textile therefrom are minimal and can easily be removed from the transparent surface.

[0105] In a second aspect, illustrated in FIG. 8, the invention provides a method 50 for producing a textile 10 which is capable of being stuck to a transparent surface, even in a damp environment, and which makes it possible to look out of a room with a lower light intensity into a room with a higher light intensity but which prevents look-

ing out of a room with a higher light intensity inside into a room with a lower light intensity. A method according to embodiments of the present invention is illustrated diagrammatically in FIG. 8. The method 50 comprises the following steps:

- the provision 51 of a textile, either a tissue with intersecting warp threads and weft threads or a knitted fabric, wherein the textile is made from threads with fibrous character,
- optionally making shear-resistant 52 the textile such that a textile aspect is preserved, for instance by the impregnation of the threads of the textile with an impregnation material or by the melting of the melt fibres or the bicomponent threads,
- the application 54 of a moisture blocking material to at least part of the threads, at least on one side of the textile, and
- the application 53 of adhesive on the moisture blocking material 30, such that moisture blocking material 30 is present between the adhesive 14 and the threads 11, 12; for example on the points of intersection between the threads, whereby at least at one side the fibrous character of the threads is preserved.

[0106] The various stages of this method have already been set out above in the review of the textile.

EXAMPLE

[0107] The invention will now be explained further with reference to the following example, without being limited thereto in any way.

[0108] This example relates to a tissue produced from polyester threads. The tissue consists of a plain weave in which 14 weft threads and 21 warp threads are provided per centimetre. As a result, meshes are produced with an average length of 450 micrometres and an average width of 300 micrometres. The tissue has a weight of 75 g/m^2. The polyester threads in this specific example have a diameter of 200 micrometres and consist of 96 filaments, each of these filaments having a diameter of 10 micrometres.

[0109] The tissue was impregnated in a full-bath treatment. The full bath of the full-bath treatment was an acrylate dispersion which in this specific example comprised 20 parts of hard acrylate of the type TUBICOAT A 41, 20 parts of soft acrylate of the type TUBICOAT A 22 and 60 parts of water.

[0110] In this specific example the full-bath treatment was applied by passing the tissue first through a full bath (foulard tank) and having the tissue pressed out by a foulard press. For this purpose a pressure of 50 N/mm was exerted, as a result of which the acrylate dispersion was pressed to the maximum degree into the thread between the filaments. After this full-bath treatment the tissue passed through a furnace at 150°C for a duration of 90 seconds. This full heating step ensured that the complete cross-linking of the monomers took place, as a result of which the tissue acquired a stronger structure than before. On account of carrying out an impregnation step as described above, a yield of 15 g/m^2 was applied, which means that 15 g/m^2 of impregnation product was applied by the impregnation.

[0111] After the full-bath treatment for impregnation, moisture blocking material was applied to the impregnated tissue by way of a kiss roll. Thereafter, adhesive was applied on the moisture blocking material, also by way of a kiss roll. As a result, only the top points of the tissue (points of intersection between the warp threads and the weft threads) came into contact with the adhesive which was applied by way of the kiss roll. Underneath these locations where adhesive was present, between the adhesive and the fibrous material of the threads, moisture blocking material was provided. The moisture blocking material used was a composition of ELASTO-COAT BD 0406 200g/l + isocyanate 10 g/l, applied to the threads in wet condition, at a resulting quantity of 12g/m^2 in dry condition. The adhesive which was used was a polyacrylate, a paste of the type TUBICOAT STC 100, which was applied to the tissue on one side in a quantity of 15 g/m^2.

[0112] As a result of the application of the moisture blocking material and the adhesive by way of a kiss roll the meshes of the tissue remained open, the textile character of the tissue was retained, and the tissue remained transparent in such a way that with greater light intensity along a first side of the tissue and lower light intensity along a second side of the tissue it is easy to see from the second side to the first side, but it is difficult to see from the first side to the second side. The presence of the moisture blocking material between the thread material and the adhesive allowed the textile to be used for a longer time in a damp environment.

[0113] By means of the method with the kiss roll, the tissue described above was provided along one side with the acrylate moisture blocking material and the acrylate adhesive in a selective manner on protruding parts of the tissue. After this application, the tissue passed into a furnace at a temperature of 130°C for a duration of 90 seconds, as a result of which the adhesive was fixed.

[0114] The resulting tissue was a tissue according to the features of the present invention. This tissue can stick with the adhesive side thereof, i.e. the side on which the adhesive has been applied, to different surfaces, such as for example windows. This prevents people from looking out of a room with a higher light intensity inside into a room with a lower light intensity but which still allows people to look out of a room with a lower light intensity into a room with a higher light intensity. The tissue could be used in damp environments, e.g. bathrooms and kitchens, without loosening from the surface to which it was applied.

[0115] The tissue can be covered with a liner, during storage and/or transportation. Such liner covers the adhesive side of the textile, and protects it from dust, do

that it remains clean up to the moment of application on the transparent substrate.

[0116] The present description gives details of particular embodiments of the invention. It should nevertheless be pointed out that however detailed the foregoing appears in the text the invention can be adapted in numerous ways. It should be pointed out that the use of particular terminology when describing particular features or aspects of the invention must not be taken to imply that the terminology herein is newly defined so as to be limited to specific features of the aspects of the invention to which this terminology is linked.

Claims

1. A textile (10) which is capable of being stuck to a transparent surface and which makes it possible to look out of a room with a lower light intensity into a room with a higher light intensity but which prevents looking out of a room with a higher light intensity inside into a room with a lower light intensity, the textile (10) comprising threads (11, 12) formed of thread material, wherein a moisture blocking material (30) is applied between the thread material and an adhesive (14) on one side of the threads (11, 12) for preventing the threads (11, 12) from loosening from the adhesive (14) in damp environments.

2. The textile (10) according to claim 1, wherein the moisture blocking material (30) is a cross-linked resin.

3. The textile (10) according to any of the previous claims , wherein the threads are shear-resistant with respect to one another as a result of impregnating the threads with impregnation material.

4. The textile (10) according to any of the previous claims, wherein the impregnation material (13), if present, the moisture blocking material and the adhesive (14) are acrylates.

5. The textile (10) according to any of the previous claims, wherein the moisture blocking material (30) is a hard acrylate.

6. The textile (10) according to any of the previous claims, wherein the moisture blocking material (30) and the adhesive (14) are from the same family.

7. The textile (10) according to any one of the preceding Claims, wherein the threads (11, 12) have a plain weave.

8. The textile (10) according to any one of the preceding Claims, wherein the threads comprise fibres, wherein a part of the fibres or a part of the material of the fibres can melt.

9. A method (50) of producing a textile (10) which is adhesive on a transparent surface and which makes it possible to look out of a room with a lower light intensity into a room with a higher light intensity but which prevents looking out of a room with a higher light intensity inside into a room with a lower light intensity, **characterized in that** the method comprises the following steps:

   - the provision (51) of a textile with threads (11, 12) of thread material,
   - the application (53) of a moisture blocking material (30) between the thread material and adhesive (14) on one side to at least part of the threads (11, 12) for preventing the threads (11, 12) from loosening from the adhesive (14) in damp environments.

10. The method (50) according to claim 9, wherein applying a moisture blocking material (30) comprises applying a cross-linked resin.

11. The method (50) according to any of claims 9 or 10, wherein applying a moisture blocking materials (30) is performed by a full-bath method.

12. The method (50) according to any of claims 9 to 11, further comprising making the textile shear- resistant.

13. The method (50) according to claim 12, wherein making the textile shear-resistant (52) includes a specific weave of the threads (11, 12), or the partial melting of the threads (11, 12), or impregnating (52) the threads of the textile with an impregnation material (13).

14. The method (50) according to Claim 13, wherein the impregnation (52) of the threads (11, 12) of the textile (10) with an impregnation material (13) is carried out by means of foularding.

15. The method (50) according to any of claims 9 to 14, wherein the application of moisture blocking material (30) and the application (53) of adhesive (14) to at least part of the threads (11, 12) includes the application of materials of the same family.

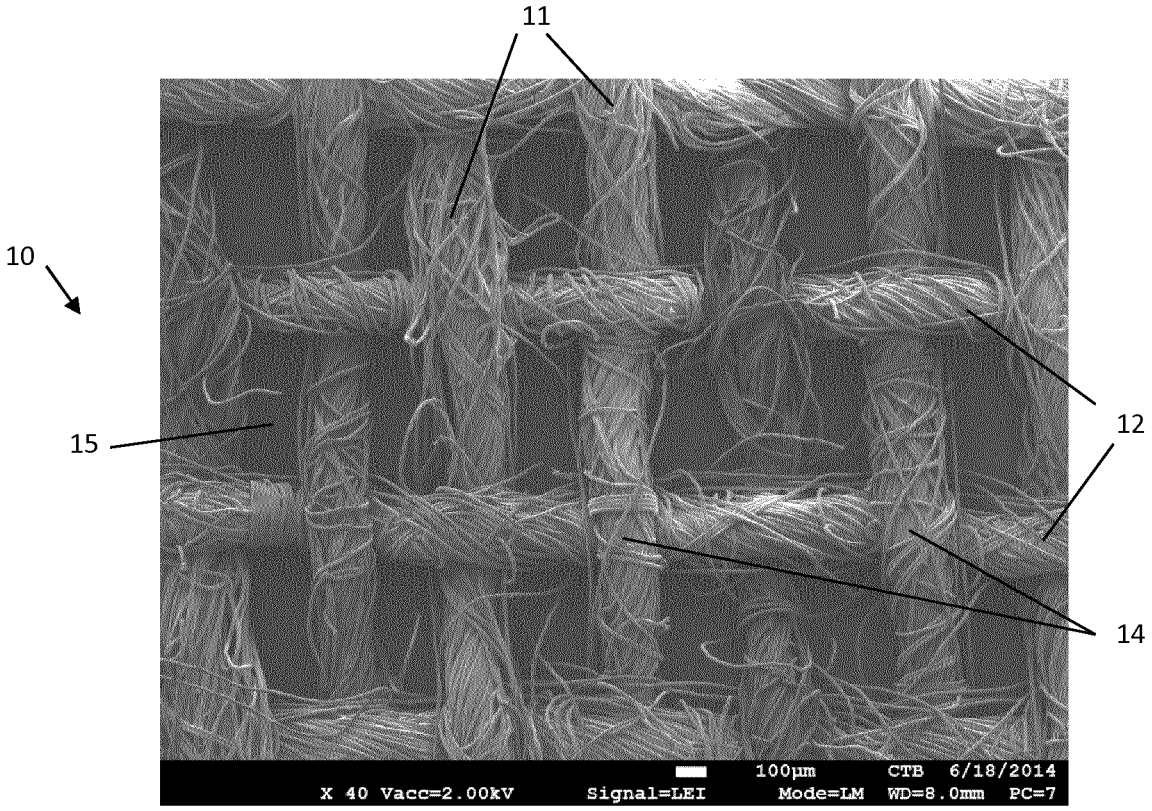
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FIG. 1

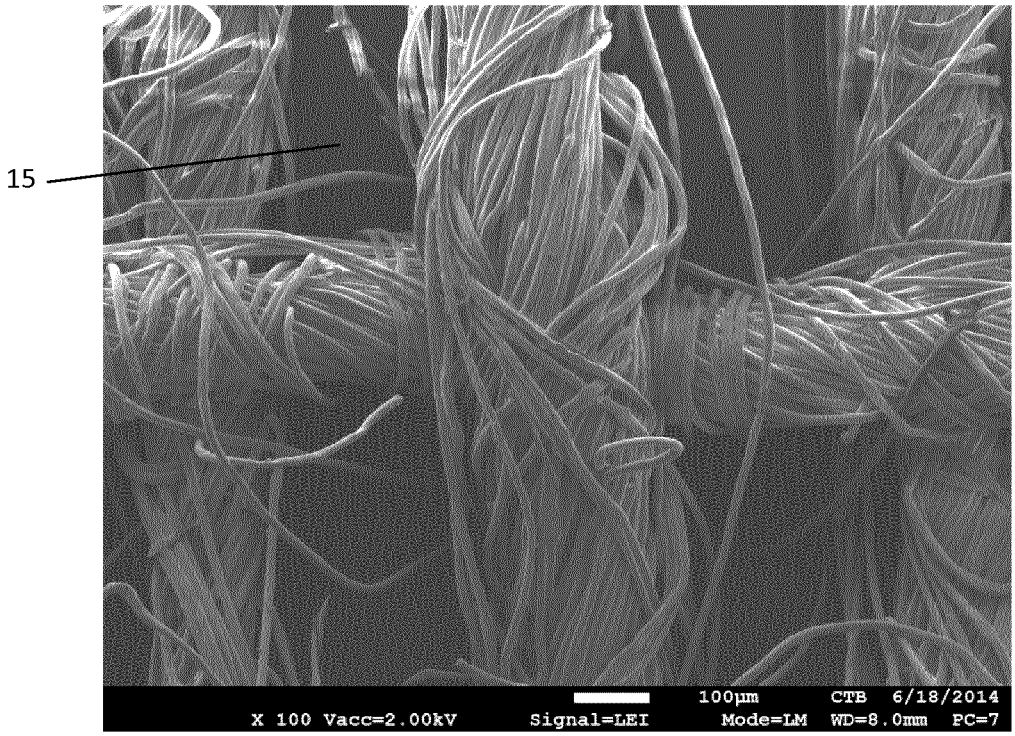
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FIG. 2

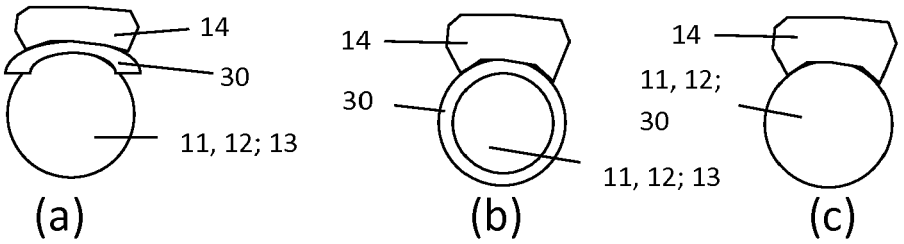
14
30
11, 12; 13
(a)
14
30
11, 12; 13
(b)
14
11, 12;
30
(c)

FIG. 3

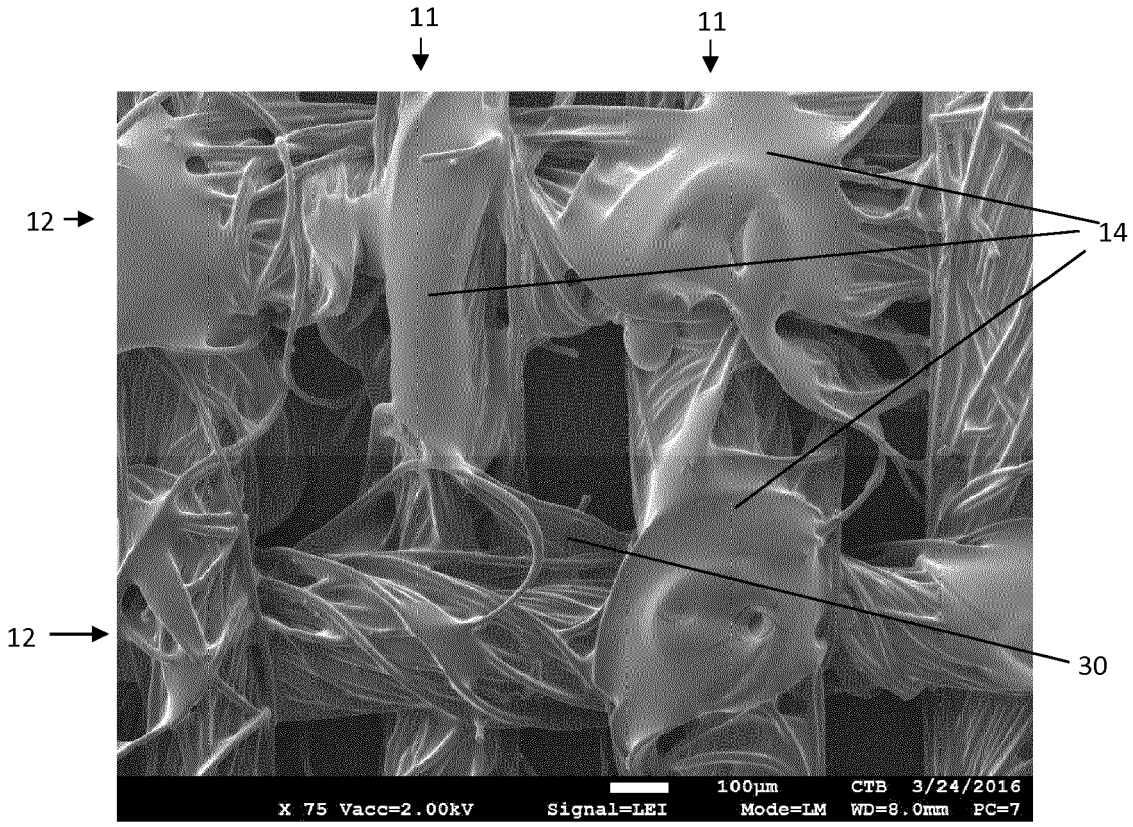
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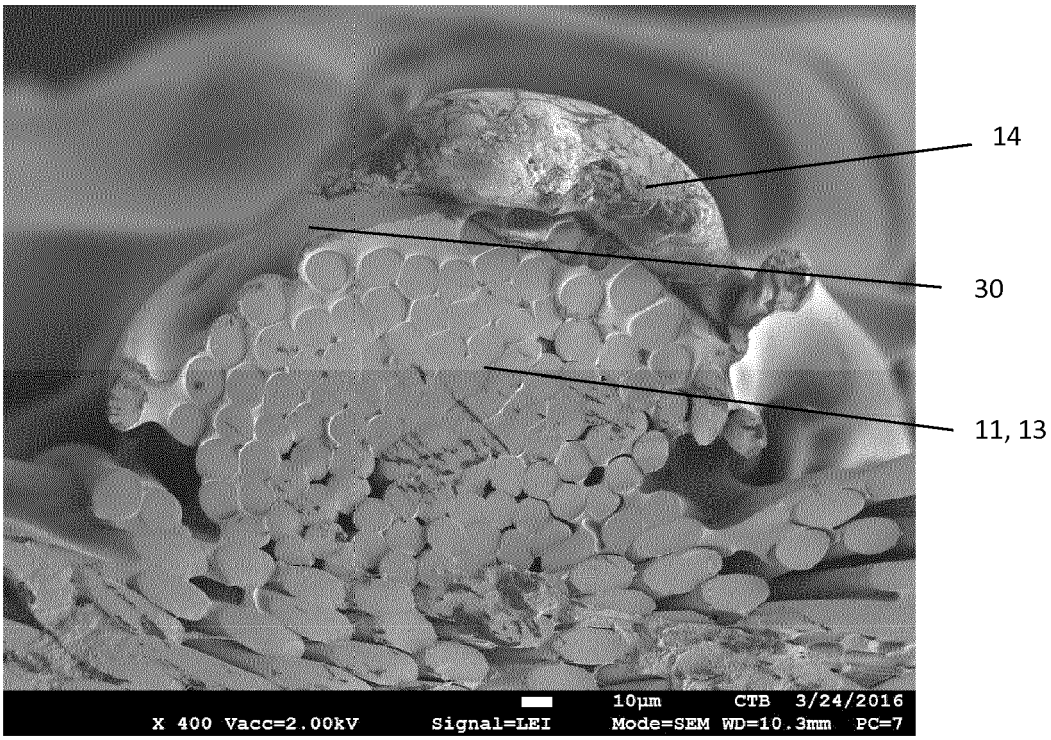
FIG. 4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10µm CTB 3/24/2016
X 400 Vacc=2.00kV Signal=LEI Mode=SEM WD=10.3mm PC=7

FIG. 5

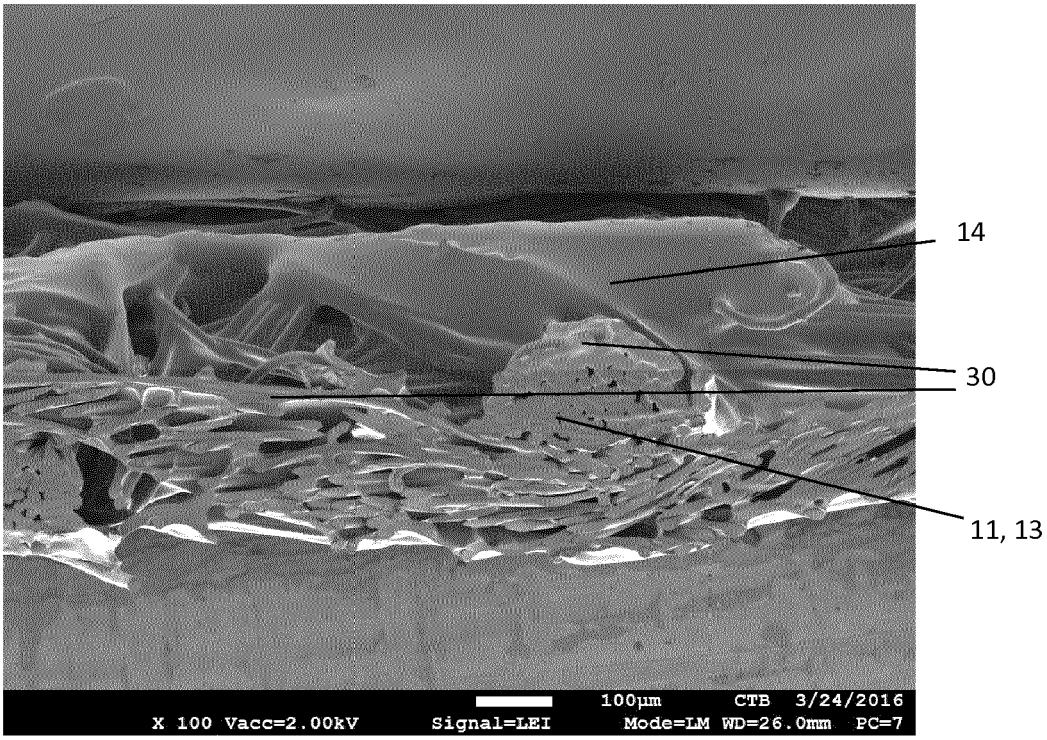
14
30
11, 13
100µm CTB 3/24/2016
X 100 Vacc=2.00kV Signal=LEI Mode=LM WD=26.0mm PC=7

FIG. 6

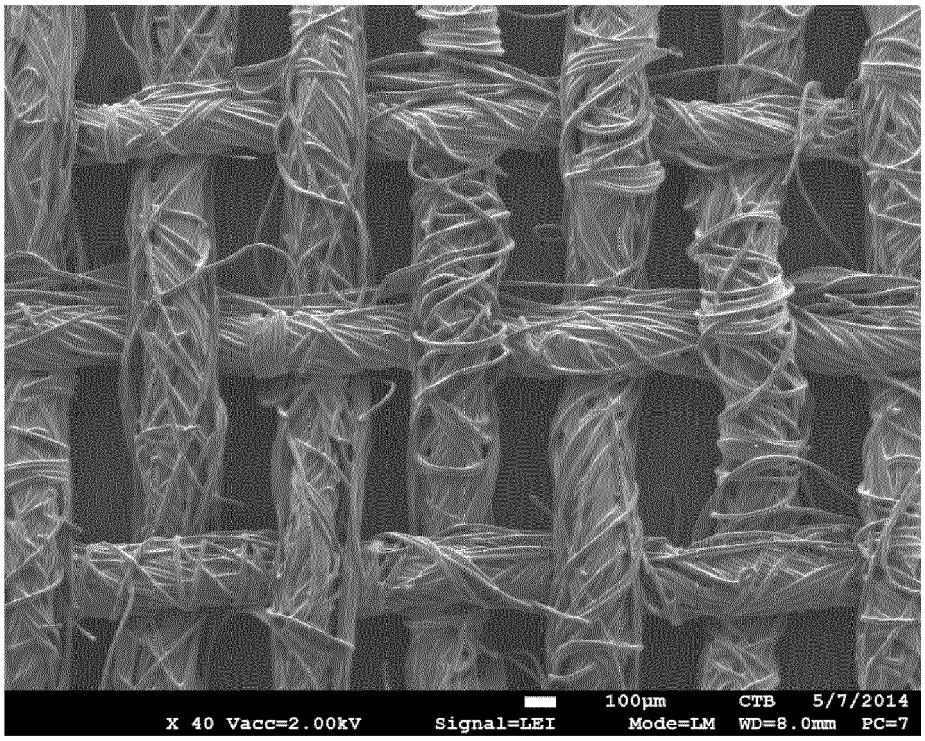
100µm CTB 5/7/2014
X 40 Vacc=2.00kV Signal=LEI Mode=LM WD=8.0mm PC=7

FIG. 7

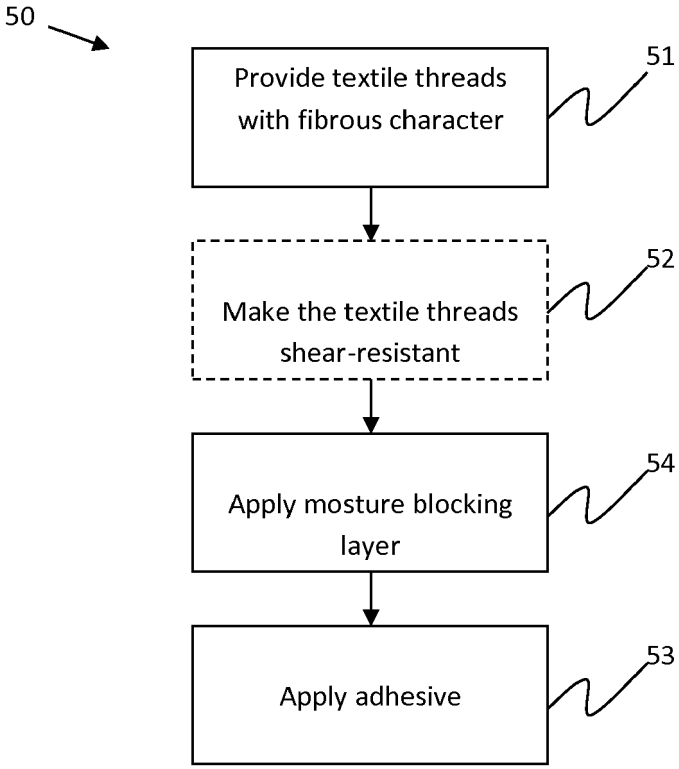
50
Provide textile threads with fibrous character
51
Make the textile threads shear-resistant
52
Apply mosture blocking layer
54
Apply adhesive
53

FIG. 8

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EUROPEAN SEARCH REPORT

Application Number
EP 16 16 3610

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
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