

Description

The present invention relates generally to the manufacture of a surface-type fastener having a multiplicity of interlocking elements such as hooks or loops for use on a cover of a garment, a bag, a brief case or the like, and more particularly to a method of providing a mark or design pattern on such surface-type fastener.

According to a method disclosed in Japanese Utility Model Laid-open Publication No. 58-191808, marks are provided on a surface type fastener in such a manner that an elongate strip of thermoplastic synthetic resin is placed over loop-shaped interlocking elements disposed on one surface of a foundation fabric, then portions of the elongate strip are cut off and fused to the one surface of the foundation fabric by a high-frequency welder or a ultrasonic welder having seal-cut blades complementary in contour to the respective marks to be produced, and finally the remaining non-fused portion of the strip is removed.

With the marks thus provided, the fused strip portions or marks themselves cover portions of the interlocking elements, and hence the covered interlocking element portions are no longer effective to perform their prescribed interlocking function. Accordingly, the disclosed method is not suitable in application wherein a mark or design to be provided has a relatively large surface area.

According to another known method, a mark is provided on the reverse surface of a foundation fabric. The mark thus provided is however invisible as the reverse surface is concealed when the fastener is attached to an article such as a garment. Accordingly, this method is practically useless.

The present invention seeks to provide a method of providing a mark on the obverse side of a surface-type fastener without effecting negative influence on the shape and function of interlocking elements disposed on the obverse side.

The present invention further seeks to provide a simple method of providing a distinctive mark or design on the obverse side of a surface-type fastener.

According to the invention, there is provided a method of providing a mark on an obverse side of a surface-type fastener, the obverse side including a multiplicity of interlocking elements disposed on one of opposite surfaces of a foundation fabric, said method comprising the steps of: imprinting a viscous printing paste on the other, reverse surface of the foundation fabric to produce a first printed mark thereon which is a reversed image of a mark to be ultimately provided; forcing the imprinted printing paste while being still viscous to penetrate the foundation fabric from the other, reverse surface to the obverse surface, thereby producing a second printed mark on the obverse surface of the foundation fabric; and heating the printing paste to cure the same, thereby setting the configuration of the second mark.

Many other advantages, features and other objects of the present invention will become manifest to those versed in the art upon making reference to the detailed description and the accompanying sheets of drawings in which preferred structural embodiments incorporating the principles of the present invention are shown by way of illustrative example.

Figure 1 is a fragmentary schematic perspective view of a hooked fastener tape having a mark provided thereon in accordance with the present invention;

Figure 2 is a view similar to Figure 1, showing a looped fastener tape having a mark provided thereon in accordance with the invention;

Figure 3 is a schematic perspective view, on reduced scale, of a loop-and-hook fastener including the fastener tapes shown in Figures 1 and 2;

Figures 4A through 4D are schematic perspective views showing the manner in which a mark is provided on a surface-type fastener; and

Figure 5 is a schematic view showing a modification of the present invention.

Figure 1 shows a fastener tape 10 including a foundation fabric 11, and a multiplicity of interlocking elements 12 disposed on and projecting from one surface 13 of the foundation fabric 11. The foundation fabric 11 is formed of natural or synthetic yarns, preferably polyamide yarns woven or knitted together. The interlocking elements comprise hooks 12 formed by severing loops of thermoplastic monofilament woven or knitted with yarns of the foundation fabric 11 as the latter is produced. The surface 13 is normally exposed to sight and it is hereinafter referred to as "obverse surface". The hooked fastener tape 10 has a mark 14 (letter "A" in the illustrated embodiment) provided on the obverse surface 13 according to the present invention.

A fastener tape 15 shown in Figure 2 comprises a foundation fabric 16 woven or knitted of natural or synthetic yarns, preferably polyamide yarns, and a multiplicity of loop-shaped interlocking elements 17 disposed on and projecting from an obverse surface 18 of the foundation fabric 16. The foundation fabric 16 has a mark 19 (letter "B" in the illustrated embodiment) provided according to the invention. In use, the looped fastener tape 15 is combined with the hooked fastener tape 10 to jointly constitute a surface-type fastener 20 generally known as a loop-and-hook fastener, as shown in Figure 3.

The mark 14, 19 are provided on the respective fastener tapes 10, 15 in such a manner as shown in Figures 4A-4D. A fastener tape 15a to be processed is shown in Figure 4A. This fastener tape 15a includes a multiplicity of loops 7 on an obverse surface 18 of a foundation fabric 16 which is formed of polyamide yarns. The foundation fabric 18 has not been dyed and has a white color.

Then with the aid of printing plate 22, a viscous printing paste 23 is imprinted on the reverse surface 21 of the foundation fabric 16, as shown in

Figure 4B. The printing plate 22 has an aperture 24 which is reversed in contour to a mark to be provided on the obverse surface 18, so that imprinted printing paste 23 produces a mark having a reversed image of the desired mark. The printing paste contains a coloring material, such as a dye, a pigment or a color developer, a suitable agent or a combination thereof. Although not shown, a printing screen plate may be employed in place of the printing plate 22.

Thereafter, as shown in Figure 4C, the imprinted printing paste 23 while being still viscous is drawn by a suction force produced by a suitable vacuum source 25 such as a vacuum pump, so as to strike through or penetrate the foundation fabric 16 from the reverse surface 21 to the obverse surface 18. Thus, a mark of the printing paste 23 appears on the obverse surface, the mark having a reversed image of the mark on the reverse surface 21.

Finally, the printing paste 23 is, as shown in Figure 4D, cured by being heated with saturated vapor, overheated vapor or hot air 26, thereby setting the configuration of the mark 19 on the obverse surface 18 of the foundation fabric 16. The mark 19 thus provided is distinctive and constitutes an accurate mirror image of the initially imprinted mark on the reverse surface 21.

As an optional processing step, a foundation fabric 16 is dyed either before or after the curing of the printing paste 23 in which case a suitable agent is used in combination of the coloring material, as described below.

After having been printed with the mark 19 thereon, the white foundation fabric 16 is dyed by being immersed in a dye liquid 27 contained in a bath or container 28, as shown in Figure 5. In this instance, the printing paste 23 contains a resist printing agent, then a distinctive white mark is left in a background color on an obverse surface of the dyed foundation fabric. More specifically, the foundation fabric 16 is formed of polyamide yarns containing amino groups, and the dye liquid 27 is acidic and contains anionic dyes capable of being linked by ion-bonding to the amino groups of the polyamide yarns. The resist printing agent is resistant to dyeing and capable of linking by ion-bonding to the amino groups of the polyamide yarns before the foundation fabric 16 is dyed. As an alternative, the dye liquid 27 may contain both an acidic dye and a basic dye and the resist printing agent of the printing paste 23 may be resistant to the acidic dye but reactive to the basic dye. In this case, a colored mark is provided in a background color on the obverse surface of the dyed foundation fabric.

It is possible to increase the color concentration of the marked portion of a dyed foundation fabric by printing the foundation fabric with a printing paste containing a color concentrating agent. The foundation fabric is formed of polyamide yarns containing amino groups and a dye liquid used for dyeing the foundation fabric contains an acidic dye capable of linking by ion-bonding to the amino groups of the foundation fabric. The color

concentrating agent contains amino groups larger in number than the amino groups of the foundation fabric, and a chemical component capable of linking to the amino groups of the polyamide yarns. During the dyeing process, the acidic dye is linked with the amino groups of the color concentrating agent, thereby increasing the color concentration of the marked portion of the foundation fabric.

Alternatively, before heating the printed paste 23, the white foundation fabric 16 may be dyed by being immersed in a dye liquid. In this instance, the printing paste 23 contains a discharging agent capable of discharging or removing the dye in the dye liquid so that a distinctive white mark is left in a background color on an obverse surface of the dyed foundation fabric. If the printing paste also contains a dye not affected by the discharging agent, a colored mark will be produced in a background color on the obverse surface of the dyed foundation fabric. As a further alternative, it is possible to imprint a printing paste containing a discharging agent on a previously dyed foundation fabric. Upon setting of the imprinted paste, the dye is removed by the discharging agent from the foundation fabric, thereby leaving a distinct white mark in a background color on the dyed foundation fabric. In case the printing paste also contains a dye resistant to the discharging agent and capable of generating a color which is different from the color of the foundation fabric, a colored mark is produced on the colored foundation fabric.

As described above, since the printing paste is first imprinted on the reverse surface of the foundation fabric which is free of the interlocking elements, and then forced to penetrate the foundation fabric, a distinctive mark is provided on the obverse surface of the foundation fabric without effecting negative influence on the shape and function of the inter-locking elements. Accordingly, the present method is particularly suitable for the production of a surface-type fastener having a mark occupying a relatively large surface area of the foundation fabric.

Claims

1. A method of providing a mark (14, 19) on an obverse side of a surface-type fastener (10, 15), the obverse side including a multiplicity of interlocking elements (12, 17) disposed on one of opposite surfaces (13, 18; 21) of a foundation fabric (11, 16), said method comprising the steps of:

(a) imprinting a viscous printing paste (23) on the other reverse surface (21) of the foundation fabric (11, 16) to produce a first printed mark thereon which is a reversed image of a mark to be ultimately provided;

(b) forcing the imprinted printing paste (23) while being still viscous to penetrate the foundation fabric (11, 16) from the other, reverse surface (21) to the obverse surface (13, 18), thereby producing a second printed mark on the obverse

Figure 4B. The printing plate 22 has an aperture 24 which is reversed in contour to a mark to be provided on the obverse surface 18, so that imprinted printing paste 23 produces a mark having a reversed image of the desired mark. The printing paste contains a coloring material, such as a dye, a pigment or a color developer, a suitable agent or a combination thereof. Although not shown, a printing screen plate may be employed in place of the printing plate 22.

Thereafter, as shown in Figure 4C, the imprinted printing paste 23 while being still viscous is drawn by a suction force produced by a suitable vacuum source 25 such as a vacuum pump, so as to strike through or penetrate the foundation fabric 16 from the reverse surface 21 to the obverse surface 18. Thus, a mark of the printing paste 23 appears on the obverse surface, the mark having a reversed image of the mark on the reverse surface 21.

Finally, the printing paste 23 is, as shown in Figure 4D, cured by being heated with saturated vapor, overheated vapor or hot air 26, thereby setting the configuration of the mark 19 on the obverse surface 18 of the foundation fabric 16. The mark 19 thus provided is distinctive and constitutes an accurate mirror image of the initially imprinted mark on the reverse surface 21.

As an optional processing step, a foundation fabric 16 is dyed either before or after the curing of the printing paste 23 in which case a suitable agent is used in combination of the coloring material, as described below.

After having been printed with the mark 19 thereon, the white foundation fabric 16 is dyed by being immersed in a dye liquid 27 contained in a bath or container 28, as shown in Figure 5. In this instance, the printing paste 23 contains a resist printing agent, then a distinctive white mark is left in a background color on an obverse surface of the dyed foundation fabric. More specifically, the foundation fabric 16 is formed of polyamide yarns containing amino groups, and the dye liquid 27 is acidic and contains anionic dyes capable of being linked by ion-bonding to the amino groups of the polyamide yarns. The resist printing agent is resistant to dyeing and capable of linking by ion-bonding to the amino groups of the polyamide yarns before the foundation fabric 16 is dyed. As an alternative, the dye liquid 27 may contain both an acidic dye and a basic dye and the resist printing agent of the printing paste 23 may be resistant to the acidic dye but reactive to the basic dye. In this case, a colored mark is provided in a background color on the obverse surface of the dyed foundation fabric.

It is possible to increase the color concentration of the marked portion of a dyed foundation fabric by printing the foundation fabric with a printing paste containing a color concentrating agent. The foundation fabric is formed of polyamide yarns containing amino groups and a dye liquid used for dyeing the foundation fabric contains an acidic dye capable of linking by ion-bonding to the amino groups of the foundation fabric. The color

concentrating agent contains amino groups larger in number than the amino groups of the foundation fabric, and a chemical component capable of linking to the amino groups of the polyamide yarns. During the dyeing process, the acidic dye is linked with the amino groups of the color concentrating agent, thereby increasing the color concentration of the marked portion of the foundation fabric.

Alternatively, before heating the printed paste 23, the white foundation fabric 16 may be dyed by being immersed in a dye liquid. In this instance, the printing paste 23 contains a discharging agent capable of discharging or removing the dye in the dye liquid so that a distinctive white mark is left in a background color on an obverse surface of the dyed foundation fabric. If the printing paste also contains a dye not affected by the discharging agent, a colored mark will be produced in a background color on the obverse surface of the dyed foundation fabric. As a further alternative, it is possible to imprint a printing paste containing a discharging agent on a previously dyed foundation fabric. Upon setting of the imprinted paste, the dye is removed by the discharging agent from the foundation fabric, thereby leaving a distinct white mark in a background color on the dyed foundation fabric. In case the printing paste also contains a dye resistant to the discharging agent and capable of generating a color which is different from the color of the foundation fabric, a colored mark is produced on the colored foundation fabric.

As described above, since the printing paste is first imprinted on the reverse surface of the foundation fabric which is free of the interlocking elements, and then forced to penetrate the foundation fabric, a distinctive mark is provided on the obverse surface of the foundation fabric without effecting negative influence on the shape and function of the inter-locking elements. Accordingly, the present method is particularly suitable for the production of a surface-type fastener having a mark occupying a relatively large surface area of the foundation fabric.

Claims

1. A method of providing a mark (14, 19) on an obverse side of a surface-type fastener (10, 15), the obverse side including a multiplicity of interlocking elements (12, 17) disposed on one of opposite surfaces (13, 18; 21) of a foundation fabric (11, 16), said method comprising the steps of:

(a) imprinting a viscous printing paste (23) on the other reverse surface (21) of the foundation fabric (11, 16) to produce a first printed mark thereon which is a reversed image of a mark to be ultimately provided;

(b) forcing the imprinted printing paste (23) while being still viscous to penetrate the foundation fabric (11, 16) from the other, reverse surface (21) to the obverse surface (13, 18), thereby producing a second printed mark on the obverse



surface (13, 18) of the foundation fabric (11, 16); and

(c) heating the printing paste (23) to cure the same, thereby setting the configuration of the second mark (19).

2. A method according to claim 1, said forcing step (b) comprising drawing the imprinted paste (23) by a suction force.

3. A method according to claim 1, said printing paste (23) containing a coloring material, an agent or a combination thereof.

4. A method according to claim 1, after said heating step (c), further comprising the step of dyeing the foundation fabric (11, 16) by immersing the same in a dye liquid (27), the printing paste (23) containing a resist printing agent resistant to dyeing.

5. A method according to claim 4, the foundation fabric (11, 16) being formed of polyamide yarns containing amino groups, the dye liquid (27) being acidic and containing anionic dyes capable of being linked by ion-bonding to the amino groups of the polyamide yarns, the resist printing agent being capable of linking by ion-bonding to the amino groups of the polyamide yarns.

6. A method according to claim 4, the dye liquid (27) containing both an acidic dye and a basic dye, the resist printing agent being resistant to one of the acidic and basic dyes and reactive to the other dye.

7. A method according to claim 6, the foundation fabric (11, 16) being formed of polyamide yarns containing amino groups, the acidic dye being capable of linking by ion-bonding to the amino groups of the polyamide yarns, the resist printing agent being reactive to the basic dye.

8. A method according to claim 1, after said heating step (c), further comprising the step of dyeing the foundation fabric (11, 16) by immersing the same in a dye liquid (27), the printing paste (23) containing a color concentrating agent reactive to the dye liquid (27) to increase the color concentration of the second mark (19).

9. A method according to claim 8, the foundation fabric (11, 16) being formed of polyamide yarns containing amino groups, the color concentrating agent containing amino groups larger in number than the amino groups of the polyamide yarns and also containing a chemical component capable of linking to the amino groups of the polyamide yarns, the dye liquid (27) containing an acidic dye capable of linking by ion-bonding to the amino groups of both the color concentrating agent and the polyamide yarns.

10. A method according to claim 1, between said forcing and heating steps (b) and (c), further comprising the step of dyeing the foundation fabric (11, 16) by immersing the foundation fabric (11, 16) in a dye liquid (27), the printing paste (23) containing a discharging agent capable of discharging the dye in the dye liquid (27).

11. A method according to claim 10, the printing paste (23) further containing a dye resistant to the discharging agent.

12. A method according to claim 1, the foundation fabric (11, 16) is previously dyed, the printing paste (23) containing a discharging agent capable of removing the dyes from the previously dyed foundation fabric (11, 16).

13. A method according to claim 12, the printing paste (23) further containing a dye resistant to the discharging agent and capable of generating a color which is different from the color of the previously dyed foundation fabric (11, 16).

Patentansprüche

1. Verfahren zum Anbringen einer Markierung (14, 19) auf der Vorderseite eines Flächenhaftverschlusses (10, 15), wobei die Vorderseite eine Vielzahl von Kuppel-elementen (12, 17) aufweist, die auf einer der gegenüberliegenden Seiten (13, 18; 21) eines Grundgewebes (11, 16) angeordnet sind, wobei das Verfahren die Schritte umfaßt:

(a) Aufdrucken einer viskosen Druckpaste (23) auf die Rückseite (21) des Grundgewebes (11, 16), um darauf eine erste gedruckte Markierung zu erzeugen, die ein Spiegelbild einer endgültig zu erzeugenden Markierung ist;

(b) zwangsweises Durchdringen der noch im viskosen Zustand befindlichen aufgedruckten Druckpaste (23) durch das Grundgewebe (11, 16) von der Rückseite (21) zur Vorderseite (13, 18), um dadurch auf der Vorderseite (13, 18) des Grundgewebes (11, 16) eine zweite gedruckte Markierung zu erzeugen; und

(c) Erhitzen der Druckpaste (23), um diese auszuhärten, wodurch die Form der zweiten Markierung (19) fixiert wird.

2. Verfahren nach Anspruch 1, wobei der Durchdringungsschritt (b) das Ansaugen der aufgedruckten Paste (23) mit einer Saugkraft umfaßt.

3. Verfahren nach Anspruch 1, wobei die Druckpaste (23) ein Färbemittel, ein Agens oder eine Kombination davon enthält.

4. Verfahren nach Anspruch 1, wobei das Grundgewebe (11, 16) nach dem Erhitzungsschritt (c) durch Eintauchen desselben in eine Färbeflüssigkeit (27) gefärbt wird, wobei die Druckpaste (23) eine gegen das Färben resistente Druckfarbe enthält.

5. Verfahren nach Anspruch 4, wobei das Grundgewebe (11, 16) aus Aminogruppen enthaltenden Polyamidfäden gebildet ist, wobei die Färbeflüssigkeit (27) sauer ist und anionische Farbstoffe enthält, die durch Ionenbindung mit den Aminogruppen der Polyamidfäden eine Bindung eingehen können, wobei die farbfeste Druckfarbe mit den Aminogruppen der Polyamidfäden durch Ionenbindung eine Verbindung eingehen kann.

6. Verfahren nach Anspruch 4, wobei die Färbeflüssigkeit (27) sowohl einen sauren Farbstoff als auch einen basischen Farbstoff enthält, wobei die farbfeste Druckfarbe gegen den sauren oder den basischen Farbstoff resistent ist und mit dem anderen Farbstoff reagiert.

7. Verfahren nach Anspruch 6, wobei das Grundgewebe (11, 16) aus Aminogruppen



enthaltenden Polyamidfäden gebildet ist, wobei der saure Farbstoff durch Ionenbindung mit den Aminogruppen der Polyamidfäden eine Verbindung eingehen kann, wobei die resistente Druckfarbe mit dem basischen Färbemittel reagiert.

8. Verfahren nach Anspruch 1, wobei das Grundgewebe (11, 16) nach dem Erhitzungsschritt (c) durch Eintauchen desselben in eine Färbeflüssigkeit (27) gefärbt wird, wobei die Druckpaste (23) ein Farbkonzentrationsmittel enthält, das mit der Färbeflüssigkeit (27) reagiert, um die Farbkonzentration der zweiten Markierung (19) zu verstärken.

9. Verfahren nach Anspruch 8, wobei das Grundgewebe (11, 16) aus Aminogruppen enthaltenden Polyamidfäden gebildet ist, wobei das Farbkonzentrationsmittel Aminogruppen enthält, deren Zahl größer ist als die Aminogruppen der Polyamidfäden, und ferner eine chemische Komponente enthält, die mit den Aminogruppen der Polyamidfäden eine Bindung eingehen können, wobei die Färbeflüssigkeit (27) einen sauren Farbstoff enthält, der durch Ionenbindung sowohl mit den Aminogruppen des Farbkonzentrationsmittels als auch der Polyamidfäden eine Bindung eingehen kann.

10. Verfahren nach Anspruch 1, wobei das Grundgewebe (11, 16) zwischen dem Ansaugschritt (b) und dem Erhitzungsschritt (c) gefärbt wird durch Eintauchen des Grundgewebes (11, 16) in eine Färbeflüssigkeit (27), wobei die Druckpaste (23) ein Ausfällungsmittel enthält, das den in der Färbeflüssigkeit (27) befindlichen Farbstoff ausfällen kann.

11. Verfahren nach Anspruch 10, wobei die Druckpaste (23) ferner einen gegen das Ausfällungsmittel resistenten Farbstoff enthält.

12. Verfahren nach Anspruch 1, wobei das Grundgewebe (11, 16) vorher gefärbt wird, wobei die Druckpaste (23) ein Ausfällungsmittel enthält, das die Farbstoffe aus dem zuvor gefärbten Grundgewebe (11, 16) beseitigen kann.

13. Verfahren nach Anspruch 12, wobei die Druckpaste (23) ferner einen Farbstoff enthält, der gegen das Ausfällungsmittel resistent ist und eine Farbe erzeugen kann, die von der Farbe des zuvor gefärbten Grundgewebes (11, 16) verschieden ist.

Revendications

1. Procédé de mise en place d'une marque (14, 19) sur la face endroit d'une fermeture (10, 15) du type de surface, la face endroit comprenant une multiplicité d'éléments d'accrochage mutuel (12, 17) disposés sur l'une des faces opposées (13, 18; 21) d'un tissu de base (11, 16) ledit procédé comportant les opérations suivantes:

(a) impression au moyen d'une pâte d'impression visqueuse (23) d'une autre face, envers, (21) du tissu de base (11, 16) en vue de créer sur celle-ci une première marque imprimée qui présente l'image inversée d'une marque qui doit être finalement mise en place;

(b) poussée de force sur la pâte d'impression (23) déposée par impression pendant qu'elle est encore visqueuse de manière à la faire pénétrer

dans le tissu de base (11, 16) à partir de l'autre face, envers, (21) jusqu'à la face endroit (13, 18), en réalisant de ce fait une seconde marque imprimée sur la face endroit (13, 18) du tissu de base (11, 16); et

(c) chauffage de la pâte d'impression (23) de façon à durcir celle-ci, en fixant de ce fait la configuration de la seconde marque (19).

2. Procédé selon la revendication 1, ladite opération de poussée de force (b) comprenant l'attraction de la pâte imprimée (23) au moyen d'une force de succion.

3. Procédé selon la revendication 1, ladite pâte d'impression (23) contenant un colorant, un agent ou une combinaison de ceux-ci.

4. Procédé selon la revendication 1, comprenant en outre après l'opération (c) de chauffage, une opération de teinture de tissu de base (11, 16) consistant en une immersion de celui-ci dans un liquide (27) de teinture, la pâte d'impression (23) contenant un agent d'impression repoussant la teinture.

5. Procédé selon la revendication 4, le tissu de base (11, 16) étant formé de fils de polyamide contenant des groupes amine, le liquide de teinture (27) étant acide et contenant des colorants anioniques aptes à être fixés par liaison ionique sur les groupes amine des fils de polyamide, l'agent d'impression repoussant la teinture étant apte à se fixer par adhésion ionique sur les groupes amine des fils de polyamide.

6. Procédé selon la revendication 4, le liquide de teinture (27) contenant à la fois un colorant acide et un colorant basique, l'agent d'impression repoussant la teinture, repoussant un des colorants, acide ou basique, et étant réactif à l'autre colorant.

7. Procédé selon la revendication 6, le tissu de base (11, 16) étant formé de fils de polyamide contenant des groupes amine, le colorant acide étant apte à se fixer par liaison ionique sur les groupes amine des fils de polyamide, l'agent d'impression repoussant la teinture étant réactif au colorant basique.

8. Procédé selon la revendication 1 comprenant en outre après ladite opération (c) de chauffage, l'opération de teinture du tissu de base (11, 16) par immersion de celui-ci dans un liquide de teinture (27) la pâte d'impression (23) contenant un agent de concentration de la couleur réactif au liquide de teinture (27) afin d'augmenter la concentration en couleur de la seconde marque (19).

9. Procédé selon la revendication 8, le tissu de base (11, 16) étant formé de fils de polyamide contenant des groupes amine, l'agent de concentration de couleur contenant des groupes amine en plus grand nombre que les groupes amine des fils de polyamide, et contenant également un composant chimique apte à se fixer sur les groupes amine des fils de polyamide, le liquide de teinture (27) contenant un colorant acide apte à se fixer par liaison ionique aux groupes amine de l'agent de concentration de la couleur ainsi que sur ceux des fils de polyamide.

10. Procédé selon la revendication 1, compor-



tant en outre entre lesdites opérations (b) et (c) de
poussée en force et de chauffage l'opération de
teinture du tissu de base (11, 16) par immersion
du tissu de base (11, 16) dans un liquide de
teinture (27), la pâte d'impression (23) contenant
un agent de décharge apte à faire décharger le
colorant dans le liquide de teinture (27).

11. Procédé selon la revendication 10, la pâte
d'impression (23) contenant en outre un colorant
résistant à l'agent de décharge.

12. Procédé selon la revendication 1, le tissu de
base (11, 16) étant teint au préalable, la pâte
d'impression (23) contenant un agent de
décharge apte à faire décharger les colorants hors
des tissus de base (11, 16) teints au préalable.

13. Procédé selon la revendication 12, la pâte
d'impression (23) contenant en outre un colorant
résistant à l'agent de décharge et apte à créer une
couleur qui soit différente de la couleur du tissu
de base (11, 16) teint au préalable.

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