

EP1/2286/2015-MUN

ABSTRACT



A DEVICE AND METHOD TO TRANSFER PRINTED MATTER UPON ANY  
SURFACE

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The present invention relates to a device and method for transferring an impression from a substrate to a surface comprising a surface coated with first layer of release agent; either a second layer of polyvinyl acetate; and a third layer of mixture of acrylamide and styrene acetate or a single layer of mixture of polyvinyl acetate,  
10 acrylamide and styrene acetate; and having the impression to be transferred thereon, and a method of making the aforesaid device and transferring an impression from a substrate to a surface.

*Where*



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**We claim:**

1. A method of transferring an impression from a substrate to a surface comprising the following steps:
  - (i) Applying a release agent upon a side of the substrate and drying the same;
  - 5 (ii) Applying polyvinyl acetate upon the said layer of the said release agent on the said substrate and drying the same;
  - (iii) Applying mixture of acrylamide and styrene acetate upon the layer of polyvinyl acetate on the said substrate and drying the same;
  - (iv) Impressing a mark or graphic or pictorial representation of someone or  
10 something (impression) on the layer of acrylamide and styrene acetate;
  - (v) Separating from the said substrate the coating/film of polyvinyl acetate, acrylamide and styrene acetate bearing the said impression;
  - (vi) Adhering the rear side of the said separated coating/film obtained in step (v) above on the said surface;
  - 15 (vii) Applying water on the said coating/film bearing the said impression adhered to the said surface.
  
2. A method of transferring an impression from a substrate to a surface comprising the following steps:
  - 20 (i) Applying a release agent upon a side of the substrate and drying the same;
  - (ii) Applying mixture of polyvinyl acetate, acrylamide and styrene acetate upon the said layer of the release agent on the substrate and drying the same;
  - (iii) Impressing a mark or graphic or pictorial representation of someone or something (impression) on the layer of mixture of polyvinyl acetate, acrylamide  
25 and styrene acetate;
  - (iv) Separating from the said substrate the coating/film of polyvinyl acetate, acrylamide and styrene acetate bearing the impression;
  - (v) Adhering the rear side of the said separated coating/film obtained in step (iv) above on the said surface;
  - 30 (vi) Applying water on the said coating/film bearing the said impression adhered to the said surface.

3. A method of transferring an impression from a substrate to a surface as claimed in claims 1 or 2 wherein, adhesive is applied on the rear side of the said coating/film obtained in step (v) in claim 1 or step (iv) in claim 2 before adhering it on the said surface.
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4. A method of transferring an impression from a substrate to a surface as claimed in claims 1 or 2 wherein, adhesive is applied over the said surface before adhering the coating/film obtained in step (v) in claim 1 or step (iv) in claim 2 on the said surface.
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5. A method of transferring an impression from a substrate to a surface as claimed in claim 2, wherein a second substrate with a release agent applied on the said substrate as in steps (i) is obtained/made, adhesive is applied on the layer of release agent of the said second substrate, the coating/film obtained in step (ii) in claim 2 is transferred upon the said layer of adhesive on the said second substrate and thereafter the
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- remaining steps (iii) to (vi) in claim 2 are followed.
6. A method of transferring an impression from a substrate to a surface as claimed in claims 1 or 2 wherein, release agent is selected from a group silicone release agents.
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7. A method of transferring an impression from a substrate to a surface as claimed in claims 1 or 2 wherein, the substrate is a liner material.
8. A method of transferring an impression from a substrate to a surface as claimed in claim 7 wherein, the liner material is selected from paper such as Super Calandered
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- Kraft (SCK) paper, poly coated Kraft paper, Glassine, Clay Coated Kraft (CCK) paper, Machine Finished Kraft (MFK) paper or Machine Glazed (MG) paper or from plastic film such as BO-PET film (biaxially oriented), poly coated BO-PET film, BOPP (biaxially oriented PP film) or other Polyolefins typically made out of HDPE, LDPE or PP plastic resins.

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9. A method of transferring an impression from a substrate to a surface as claimed in claims 1 or 2 wherein, the layer of polyvinyl acetate is prepared by the following steps:

- 5 (i) Water is heated in a reactor between 70°C and 90°C. Polyvinyl alcohol is added and stirred slowly for about an hour to make a solution of Polyvinyl alcohol;
- (ii) An anti-foaming agent is added to the aforesaid solution of Polyvinyl alcohol and the mixture is slowly stirred. The reactor is then sealed;
- 10 (iii) An oxidising agent pre-dissolved in water is added into the aforesaid mixture in Step (ii) and the mixture is slowly stirred;
- (iv) Vinyl acetate monomer is added into the mixture in step (iii) for over an hour and the mixture is slowly stirred for about an hour while maintaining the temperature between 70°C and 90°C;
- 15 (v) Again the oxidising agent dissolved in water is added to mixture in step (iv) and slowly stirred like in step (iii) and then Vinyl acetate monomer is slowly added into the above mixture over an hour;
- (vi) The process in step (v) may be repeated;
- (vii) During the above process, the pressure is controlled by condensation of
- 20 gases and sending back the condensate to the reactor;
- (viii) The mixture is cooled to about room temperature.
- (ix) Whitening agent is, optionally, added to the above mixture.

25 10. A method of transferring an impression from a substrate to a surface as claimed in claims 1 or 2 wherein, mixture of acrylamide and styrene acetate is prepared by the following steps:

- 30 (i) A solution comprising of acrylamide and water is added to a container and is heated between 70°C and 90°C while slowly stirring it;

- (ii) An oxidizing agent dissolved in water is added to the above solution of acrylamide;
- (iii) Styrene Acetate Monomer is added to the mixture in step (ii). The temperature of the mixture is maintained between 70°C and 90°C;
- 5 (iv) In another reactor, water is heated between 70°C and 90°C and Polyvinyl alcohol is added and stirred for an hour;
- (v) An anti-foaming agent is added into mixture in step (iv) and stirred slowly for about an hour. The reactor is then sealed;
- 10 (vi) An oxidising agent dissolved in water is slowly added into the mixture in step (v) and stirred;
- (vii) Thereafter, Acrylamide and Styrene Acetate Monomer mixture in step (iii) and Anti foaming agent and oxidising agent mixture in step (vi) are slowly mixed and stirred for over an hour;
- (viii) The mixture in step (vii) is cooled to room temperature.

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11. A method of transferring an impression from a substrate to a surface as claimed in claim 1 wherein, in step (iii) in the mixture of acrylamide and styrene acetate, acrylamide is 55% to 60% and styrene acetate is 40% to 45%.

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12. A method of transferring an impression from a substrate to a surface as claimed in claim 2 wherein, in the mixture of polyvinyl acetate, acrylamide and styrene acetate, polyvinyl acetate is 50% to 65%, acrylamide is 23% to 32% and styrene acetate is 12% to 18%.

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13. A device for transferring an impression from a substrate to a surface prepared by the method as claimed in claims 1, 3, 4 and 6 to 11 comprising a substrate coated with a first layer of release agent, with or without adhesive; a second layer of polyvinyl acetate; a third layer of mixture of acrylamide and styrene acetate and having the impression to be transferred thereon.

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14. A device for transferring an impression from a substrate to a surface prepared  
by the method as claimed in claims 2 to 10 and 12 comprising a substrate coated  
with a first layer of release agent, with or without adhesive; a second layer of  
mixture of polyvinyl acetate, acrylamide and styrene acetate; and having the  
impression to be transferred thereon.

Dated this 26<sup>th</sup> day of February, 2015



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**FIELD OF INVENTION:**

The present invention relates to a method and device of transferring an impression, such as marks or graphic or pictorial representations from a substrate to a surface.

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**BACKGROUND AND PRIOR ART:**

Image transfer techniques for transferring images from one surface to another including acrylic transfer, xylene transfer, caulking transfer, heat transfer, water transfer, paper image transfer, fabric image transfer, contact paper transfer, waxed paper transfer are known. The selection of a type of method for transferring image/impression from one surface to another usually depends upon the material on which matter is sought to be transferred. The appealing feature about transfer of image/impression from one surface to another is that after transfer of the image/impression, the effect achieved is as if the image/impression was printed or painted on the surface as opposed to just glued.

US89188 discloses a process for applying oil or other paintings from their primary flexible support to any suitable surface. The oil-colors used for the painting inter alia contain boiled linseed-oil and white lead. The primary surface on which the matter is painted upon is coated with three consecutive coats of adhesive such as starch glue. After the three layers are completely dried, two or more coats of a mixture composed of gum-arabic and flaxseed, dissolved in water, in the proportions of one part of gum and flaxseed to eight parts of water are applied. These two coats constitute temporary adhesive medium for connecting the painting with the canvass. After the aforesaid layers are dried, the said layers along with the painting are detached from the primary surface (canvass) by means of a muslin cloth or gauze which is placed on the canvass on top of the said layers. Thereafter, the muslin/gauze containing the painting is placed over a surface with the side of the painting facing the surface, for the

purposes of transferring the painting to the surface. Upon such placement of painting on the surface, the painting containing layers of adhesive adheres to the surface, causing the painting to be transferred to the said desired surface. After transferring the painting onto the desired surface, water is sprayed on the said surface over the muslin/gauze on the painting which causes the muslin/gauze to fall off by itself. The said process enables an artist to paint at his studio at his convenience and paste the subject matter on the desired surface once the same is ready. However, the said prior art involves use of several coats of adhesive. As is clear from the description, in addition to the three layers of starch glue and two or more layers of gum-arabic and flaxseed dissolved in water already applied on the primary surface i.e. canvass, the aforesaid process requires the surface on which the matter is to be transferred to be coated with fat boiled oil containing calcinated white lead, which renders the oil adhesive. The use of such excessive amount of adhesive coating damages the surface on which matter is to be transferred. Further, the said prior art is suitable for transfer of matter only physically painted/drawn by an artist on a substrate, thereby excluding application of the aforesaid process to printed matter.

US20040218028 discloses a color image transfer method comprising performing solid printing of an image portion on a hydrophilic transfer sheet substrate having coated on a surface thereof a water-soluble resin with an aqueous ink solution containing a component that imparts the water-soluble resin with an adhesive property for a certain period of time by use of an ink jet printer; scattering heat-bondable resin powder onto the solid printed portion and fixing it thereto while removing the powder from portions other than the image portion; printing a sublimation ink on the solid printed image by use of an ink jet printer in register with the solid printed image; superimposing the thus printed image surface on an article to be transferred and then heat pressing it; and peeling off the transfer sheet from the article to be transferred by giving moisture to the transfer sheet. The said document further claims a color image transfer method wherein, after printing with the sublimation ink, the transfer sheet having heat-bondable resin powder image thereon with the sublimation



ink being attached thereon is heated in advance to cause the sublimation ink to develop colours before superimposing the image surface on an article for the image to be transferred, heat pressing to bond to each other, and peeling off the transfer sheet by giving moisture. This method requires a special printer and special aqueous ink solution (sublimation ink) for printing on the hydrophilic transfer sheet substrate. The method is therefore dependent on the use of printers and more particularly a type of printer of specification suitable for printing on hydrophilic transfer sheet substrate. Further, the method requires means for heating the sheet for the purposes of bonding the colour image with the surface. Thus, the method has limitations on its use.

WO2013132339 discloses a method for treating a hydrophobic release layer of intermediate transfer member for use in a printing process in which a negatively charged aqueous ink including an organic polymeric resin and a colorant are jetted onto said layer, the claimed method comprising contacting the release layer, prior to jetting the ink, with a solution or dispersion in an aqueous solvent of a chemical agent which suppose to reduce the tendency of a jetted ink droplet that spreads on impinging upon the intermediate transfer member to bead under the action of the surface tension of the aqueous carrier of the ink. The said invention pertains to a process and system of indirect digital inkjet printing using aqueous inks. This method also requires a special printer of suitable specification for printing on hydrophobic release paper which uses a special aqueous ink. Thus, this method is also limited in its scope of application to a great extent.

However, a uniform/common method and device of transferring an impression from a substrate to a surface of any type, which is cost effective, and easy in application is yet to be fully developed for use in day to day life.

### **OBJECT OF THE INVENTION:**

5 The object of the present invention is to overcome the disadvantages/shortcomings of the devices and methods known in the prior art by providing a method and device for transferring impression from a substrate to a surface which is not dependent on a printer or special ink or heating means and which does not have any limitation with respect to the size of the image/impression to be transferred or surface upon which an image/impression is to be transferred.

10 Another object of the present invention is to provide a method and device for transferring an impression from a substrate to a surface which could be metallic or non-metallic, even or uneven. The present invention is suitable for transferring an impression to any surface.

15 Yet another object of the present invention is to provide a method and device for transferring an impression of any size from a substrate to any surface.

20 Yet another object of the present invention is to provide a method and device for transferring an impression from a substrate to a surface, in which any means for impressing an impression may be used.

25 Yet another object of the present invention is to maintain quality control of the printing/impressing without compromising on the flexibility in application of the impression to any surface.

Yet another object of the present invention is to provide a device and method for transferring an impression from a substrate to a surface, which is easy to use and cost effective.

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## **SUMMARY OF THE INVENTION:**

5 The present invention relates to a method of transferring an impression from a substrate to a surface comprising the following steps:

- (i) Applying a release agent upon a side of the substrate and drying the same;
- (ii) Applying polyvinyl acetate upon the said layer of the said release agent on the said substrate and drying the same;
- 10 (iii) Applying mixture of acrylamide and styrene acetate upon the layer of polyvinyl acetate on the said substrate and drying the same;
- (iv) Impressing a mark or graphic or pictorial representation of someone or something (impression) on the layer of acrylamide and styrene acetate;
- (v) Separating from the said substrate the coating/film of polyvinyl acetate, acrylamide and styrene acetate bearing the said impression;
- 15 (vi) Adhering the rear side of the said separated coating/film obtained in step (v) above on the said surface;
- (vii) Applying water on the said coating/film bearing the said impression adhered to the said surface.

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The present invention also relates to a method of transferring an impression from a substrate to a surface comprising the following steps:

- (i) Applying a release agent upon a side of the substrate and drying the same;
- 25 (ii) Applying mixture of polyvinyl acetate, acrylamide and styrene acetate upon the said layer of the release agent on the substrate and drying the same;
- (iii) Impressing a mark or graphic or pictorial representation of someone or something (impression) on the layer of mixture of polyvinyl acetate, acrylamide and styrene acetate;
- 30 (iv) Separating from the said substrate the coating/film of polyvinyl acetate, acrylamide and styrene acetate bearing the impression;

- (v) Adhering the rear side of the said separated coating/film obtained in step (iv) above on the said surface;
- (vi) Applying water on the said coating/film bearing the said impression adhered to the said surface.

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The present invention also relates to a device for transferring an impression from a substrate to a surface made by the method described above comprising a substrate coated with a first layer of release agent, with or without adhesive; a second layer of polyvinyl acetate; a third layer of mixture of acrylamide and styrene acetate and having the impression to be transferred thereon.

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The present invention further relates to a device for transferring an impression from a substrate to a surface made by the method described above comprising a substrate coated with a first layer of release agent, with or without adhesive; a second layer of mixture of polyvinyl acetate, acrylamide and styrene acetate; and having the impression to be transferred thereon.

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#### **DESCRIPTION OF THE INVENTION:**

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The invention will now be described with reference to the accompanying drawings wherein same reference numerals are used to denote the same parts. However, it is made clear that the description only illustrates the invention and in no way limits the same.

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The terms and words used in the following description and claims are not limited to the bibliographical meanings, but, are merely used by the inventor to enable a clear and consistent understanding of the invention. Accordingly, it should be apparent to those skilled in the art that the following description of exemplary embodiments of the present invention are provided for illustration purpose only and not for the purpose of limiting the invention as defined by the appended claims and their equivalents.

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purpose only and not for the purpose of limiting the invention as defined by the appended claims and their equivalents.

In the accompanying drawing:

5 Fig.1 shows a device comprising of layers of release agent, polyvinyl acetate and acrylamide and styrene acetate, wherein 1 is a Substrate; 2 is a layer of Release Agent; 3 is a Layer of polyvinyl acetate; and 4 is a Layer of acrylamide and styrene acetate.

10 In a preferable embodiment according to the present invention, the substrate (1) is a liner material, typically either paper or plastic films such as Super Calandered Kraft (SCK) paper, poly coated Kraft paper, Glassine, Clay Coated Kraft (CCK) paper, Machine Finished Kraft (MFK) paper or Machine Glazed (MG) paper or from plastic film such as BO-PET film (biaxially oriented), poly  
15 coated BO-PET film, BOPP (biaxially oriented PP film) or other Polyolefins typically made out of HDPE, LDPE or PP plastic resins.

A layer of release agent (2) is applied over the said substrate (1). The said release agent (2) may be selected from a group of silicone release agents. After  
20 application of layer of release agent (2) on the substrate, the same is allowed to dry. Thereafter, layer inter alia comprising of polyvinyl acetate (3), as prepared in the manner provided in the example provided herein below, is applied over the layer of release agent (2) on the substrate (1). The said layer of polyvinyl acetate (3) helps in the formation of the base coat. After application of the layer  
25 of polyvinyl acetate (3) over the release agent (2) on the substrate, the same is allowed to dry. After the said layer of polyvinyl acetate (3) has dried completely, a layer comprising of mixture of acrylamide and styrene acetate (4), as prepared in the manner provided in the example provided herein below, is applied over the said layer of polyvinyl acetate (3) on the substrate (1). The said  
30 layer comprising of mixture of acrylamide and styrene acetate (4) serve as the ink receptive coat. After application of the said layer of acrylamide and styrene

5 separated from the substrate. After the drying of the aforesaid layer (4), the impression to be transferred to a surface is impressed, either by means of a printer or by physically drawing/painting, on the substrate over the layer of acrylamide and styrene acetate (4). The impression so impressed on the substrate is now ready for transfer.

10 In another embodiment of the present invention, a single layer comprising of a mixture of polyvinyl acetate, acrylamide and styrene acetate is applied over the layer of the release agent (2) on the substrate (1). In the said mixture of polyvinyl acetate, acrylamide and styrene acetate, preferably polyvinyl acetate is 50% to 65%, acrylamide is 23% to 32% and styrene acetate is 12% to 18%.

15 In another embodiment of the present invention, in the mixture of acrylamide and styrene acetate, acrylamide is 55% to 60% and styrene acetate is 40% to 45%.

20 In yet another embodiment of the present invention, adhesive is applied either on the rear side of the coating/film after it is separated from the substrate or on the surface on which the impression is to be transferred or both.

25 In yet another embodiment of this invention, adhesive is applied on the layer of release agent of a second substrate; the coating/film of polyvinyl acetate, acrylamide and styrene acetate is separated from a first substrate having layer of release agent and transferred upon said second substrate having layer of release agent and layer of adhesive; and thereafter impression is printed/made thereon.

5 Before the impression impressed on the substrate is transferred to a surface, the surface upon which impression is to be transferred is cleaned to remove any dust or other foreign material. Thereafter, the coating/film of polyvinyl acetate, acrylamide and styrene acetate formed on the substrate in the manner described aforesaid bearing the said impression is separated from the substrate by peeling of the said coating/film from the substrate. After separating the coating/film bearing the impression from the substrate, the rear side of the said separated coating/film so obtained is adhered on the said surface.

10 After the coating/film bearing the impression is adhered to the surface, water is applied over the said coating/film on the surface. Application of water activates the polyvinyl acetate in the coating/film which enables the impression to conform to the contours and boundaries of the desired surface thereby infusing/merging itself with the desired surface.

15 In another embodiment of the present invention, after application of water on the surface, the said surface bearing the impression is dabbed to remove air bubbles or gaps, if any, formed between the impression and the surface.

20 **EXAMPLE:**

The chemical layers coated over the release agent on the substrate over the release agent are prepared as under:

**Layer comprising of polyvinyl acetate is prepared as under:**

- 25 (i) Water is heated in a reactor between 70°C and 90°C. Polyvinyl alcohol is added and stirred slowly for about an hour to make a solution of Polyvinyl alcohol;

- (ii) An anti-foaming agent is added to the aforesaid solution of Polyvinyl alcohol and the mixture is slowly stirred. The reactor is then sealed;
- (iii) An oxidising agent pre-dissolved in water is added into the aforesaid mixture in Step (ii) and the mixture is slowly stirred;
- 5 (iv) Vinyl acetate monomer is added into the mixture in step (iii) for over an hour and the mixture is slowly stirred for about an hour while maintaining the temperature between 70°C and 90°C;
- (v) Again the oxidising agent dissolved in water is added to mixture in step (iv) and slowly stirred like in step (iii) and then Vinyl acetate monomer is
- 10 slowly added into the above mixture over an hour;
- (vi) The process in step (v) may be repeated;
- (vii) During the above process, the pressure is controlled by condensation of gases and sending back the condensate to the reactor;
- (viii) The mixture is cooled to about room temperature.
- 15 (ix) Whitening agent is, optionally, added to the above mixture.

**Layer comprising of acrylamide and styrene acetate is prepared as under:**

- (i) A solution comprising of acrylamide and water is added to a container and is heated between 70°C and 90°C while slowly stirring it;
- 20 (ii) An oxidizing agent dissolved in water is added to the above solution of acrylamide;
- (iii) Styrene Acetate Monomer is added to the mixture in step (ii). The temperature of the mixture is maintained between 70°C and 90°C;
- (iv) In another reactor, water is heated between 70°C and 90°C and Polyvinyl
- 25 alcohol is added and stirred for an hour;
- (v) An anti-foaming agent is added into mixture in step (iv) and stirred slowly for about an hour. The reactor is then sealed;
- (vi) An oxidising agent dissolved in water is slowly added into the mixture in step (v) and stirred;
- 30 (vii) Thereafter, Acrylamide and Styrene Acetate Monomer mixture in step (iii) and Anti foaming agent and oxidising agent mixture in step (vi) are slowly mixed and stirred for over an hour;



(viii) The mixture in step (vii) is cooled to room temperature.

In a preferable embodiment, percentage of acrylamide and styrene acetate in the above mixture is 60: 40 to 55:45.

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In another embodiment according to this invention, when white background is desired, whitening agent, preferably titanium dioxide is mixed in the mixture. So also, different pigments may be added to the top coat chemical to give it different colours.

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In another embodiment a single layer of a mixture of polyvinyl acetate, acrylamide and styrene acetate may be used in place of two separate layers wherein preferably polyvinyl acetate is 50% to 65%, acrylamide is 23% to 32% and styrene acetate is 12% to 18%.

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In a preferable embodiment of the invention, the polyvinyl alcohol used is GH-17.

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In another preferable embodiment, the anti-foaming agent <sup>is</sup> Octyl Alcohol.

In yet another preferable embodiment, the oxidising agent <sup>is</sup> Potassium Persulfate.

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#### **ADVANTAGES:**

1. The present invention is suitable for application of an impression on a multitude of surfaces such as wall, ply, metal, tile, glass, wood, stone, shutters of shops, rooftops, flooring, all types of clothes, leather, vessels, toys, glass, metal, cement, plastic and other even or uneven surfaces among others;

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2. The device as claimed herein is suitable for all types of printing e.g screen printing, offset printing, inkjet printing, digital printing, laser printing, flexo-printing, rotogravure printing, latex printing, printer using ultra-violet ink, photocopying among others.
- 5 3. The device as claimed herein is suitable for both water based and solvent based printing.
4. The device as claimed herein is PVC free.
5. The impression transferred by the method claimed herein can fit into the contours of any surface and get infused/merged with the surface
- 10 6. The impression transferred by the method claimed herein lasts longer.
7. The device and method claimed herein can be used for application of large advertisements on various surfaces conveniently and speedily.
8. The device and method do not require application of heat.
9. The device and method are cost effective, easy to use and save time in
- 15 their application.

Many features and advantages of the invention are apparent from the detailed specification, and thus, it is intended by the appended claims to cover all such features and advantages of the invention which fall within the true spirit and

20 scope of the invention. Further, since numerous modifications and variations will readily occur to those skilled in the art, it is not desired to limit the invention to the exact preparation and application illustrated and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

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**We claim:**

1. A method of transferring an impression from a substrate to a surface comprising the following steps:
  - (i) Applying a release agent upon a side of the substrate and drying the same;
  - 5 (ii) Applying polyvinyl acetate upon the said layer of the said release agent on the said substrate and drying the same;
  - (iii) Applying mixture of acrylamide and styrene acetate upon the layer of polyvinyl acetate on the said substrate and drying the same;
  - (iv) Impressing a mark or graphic or pictorial representation of someone or  
10 something (impression) on the layer of acrylamide and styrene acetate;
  - (v) Separating from the said substrate the coating/film of polyvinyl acetate, acrylamide and styrene acetate bearing the said impression;
  - (vi) Adhering the rear side of the said separated coating/film obtained in step (v) above on the said surface;
  - 15 (vii) Applying water on the said coating/film bearing the said impression adhered to the said surface.
  
2. A method of transferring an impression from a substrate to a surface comprising the following steps:
  - 20 (i) Applying a release agent upon a side of the substrate and drying the same;
  - (ii) Applying mixture of polyvinyl acetate, acrylamide and styrene acetate upon the said layer of the release agent on the substrate and drying the same;
  - (iii) Impressing a mark or graphic or pictorial representation of someone or something (impression) on the layer of mixture of polyvinyl acetate, acrylamide  
25 and styrene acetate;
  - (iv) Separating from the said substrate the coating/film of polyvinyl acetate, acrylamide and styrene acetate bearing the impression;
  - (v) Adhering the rear side of the said separated coating/film obtained in step (iv) above on the said surface;
  - 30 (vi) Applying water on the said coating/film bearing the said impression adhered to the said surface.

3. A method of transferring an impression from a substrate to a surface as claimed in claims 1 or 2 wherein, adhesive is applied on the rear side of the said coating/film obtained in step (v) in claim 1 or step (iv) in claim 2 before adhering it on the said surface.
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4. A method of transferring an impression from a substrate to a surface as claimed in claims 1 or 2 wherein, adhesive is applied over the said surface before adhering the coating/film obtained in step (v) in claim 1 or step (iv) in claim 2 on the said surface.
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5. A method of transferring an impression from a substrate to a surface as claimed in claim 2, wherein a second substrate with a release agent applied on the said substrate as in steps (i) is obtained/made, adhesive is applied on the layer of release agent of the said second substrate, the coating/film obtained in step (ii) in claim 2 is transferred upon the said layer of adhesive on the said second substrate and thereafter the
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- remaining steps (iii) to (vi) in claim 2 are followed.
6. A method of transferring an impression from a substrate to a surface as claimed in claims 1 or 2 wherein, release agent is selected from a group silicone release agents.
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7. A method of transferring an impression from a substrate to a surface as claimed in claims 1 or 2 wherein, the substrate is a liner material.
8. A method of transferring an impression from a substrate to a surface as claimed in claim 7 wherein, the liner material is selected from paper such as Super Calandered
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- Kraft (SCK) paper, poly coated Kraft paper, Glassine, Clay Coated Kraft (CCK) paper, Machine Finished Kraft (MFK) paper or Machine Glazed (MG) paper or from plastic film such as BO-PET film (biaxially oriented), poly coated BO-PET film, BOPP (biaxially oriented PP film) or other Polyolefins typically made out of HDPE, LDPE or PP plastic resins.

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9. A method of transferring an impression from a substrate to a surface as claimed in claims 1 or 2 wherein, the layer of polyvinyl acetate is prepared by the following steps:

- 5 (i) Water is heated in a reactor between 70°C and 90°C. Polyvinyl alcohol is added and stirred slowly for about an hour to make a solution of Polyvinyl alcohol;
- (ii) An anti-foaming agent is added to the aforesaid solution of Polyvinyl alcohol and the mixture is slowly stirred. The reactor is then sealed;
- 10 (iii) An oxidising agent pre-dissolved in water is added into the aforesaid mixture in Step (ii) and the mixture is slowly stirred;
- (iv) Vinyl acetate monomer is added into the mixture in step (iii) for over an hour and the mixture is slowly stirred for about an hour while maintaining the temperature between 70°C and 90°C;
- 15 (v) Again the oxidising agent dissolved in water is added to mixture in step (iv) and slowly stirred like in step (iii) and then Vinyl acetate monomer is slowly added into the above mixture over an hour;
- (vi) The process in step (v) may be repeated;
- (vii) During the above process, the pressure is controlled by condensation of
- 20 gases and sending back the condensate to the reactor;
- (viii) The mixture is cooled to about room temperature.
- (ix) Whitening agent is, optionally, added to the above mixture.

25 10. A method of transferring an impression from a substrate to a surface as claimed in claims 1 or 2 wherein, mixture of acrylamide and styrene acetate is prepared by the following steps:

- 30 (i) A solution comprising of acrylamide and water is added to a container and is heated between 70°C and 90°C while slowly stirring it;

- (ii) An oxidizing agent dissolved in water is added to the above solution of acrylamide;
- (iii) Styrene Acetate Monomer is added to the mixture in step (ii). The temperature of the mixture is maintained between 70°C and 90°C;
- 5 (iv) In another reactor, water is heated between 70°C and 90°C and Polyvinyl alcohol is added and stirred for an hour;
- (v) An anti-foaming agent is added into mixture in step (iv) and stirred slowly for about an hour. The reactor is then sealed;
- 10 (vi) An oxidising agent dissolved in water is slowly added into the mixture in step (v) and stirred;
- (vii) Thereafter, Acrylamide and Styrene Acetate Monomer mixture in step (iii) and Anti foaming agent and oxidising agent mixture in step (vi) are slowly mixed and stirred for over an hour;
- (viii) The mixture in step (vii) is cooled to room temperature.

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11. A method of transferring an impression from a substrate to a surface as claimed in claim 1 wherein, in step (iii) in the mixture of acrylamide and styrene acetate, acrylamide is 55% to 60% and styrene acetate is 40% to 45%.

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12. A method of transferring an impression from a substrate to a surface as claimed in claim 2 wherein, in the mixture of polyvinyl acetate, acrylamide and styrene acetate, polyvinyl acetate is 50% to 65%, acrylamide is 23% to 32% and styrene acetate is 12% to 18%.

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13. A device for transferring an impression from a substrate to a surface prepared by the method as claimed in claims 1, 3, 4 and 6 to 11 comprising a substrate coated with a first layer of release agent, with or without adhesive; a second layer of polyvinyl acetate; a third layer of mixture of acrylamide and styrene acetate and having the impression to be transferred thereon.

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14. A device for transferring an impression from a substrate to a surface prepared  
by the method as claimed in claims 2 to 10 and 12 comprising a substrate coated  
with a first layer of release agent, with or without adhesive; a second layer of  
mixture of polyvinyl acetate, acrylamide and styrene acetate; and having the  
impression to be transferred thereon.

Dated this 26<sup>th</sup> day of February, 2015



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