



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : G09F 3/02, 3/10	A1	(11) International Publication Number: WO 00/55832 (43) International Publication Date: 21 September 2000 (21.09.00)		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top; padding: 5px;"> (21) International Application Number: PCT/EP00/02528 (22) International Filing Date: 11 March 2000 (11.03.00) (30) Priority Data: 99105311.7 16 March 1999 (16.03.99) EP (71) Applicant: SIHL GMBH [DE/DE]; Kreuzauer Strasse 33, D-52355 Düren (DE). (72) Inventors: BUCHBINDER, Elisabeth; Panoramaweg 27, D-52385 Nideggen-Rath (DE). LIEBLER, Ralf; Bilsteiner Weg 8, D-52372 Kreuzau (DE). (74) Agent: PATENTANWÄLTE STERNAGEL & FLEISCHER; Braunsberger Feld 29, D-51429 Bergisch Gladbach (DE). </td> <td style="width: 50%; vertical-align: top; padding: 5px;"> (81) Designated States: AU, CA, JP, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> </td> </tr> </table>			(21) International Application Number: PCT/EP00/02528 (22) International Filing Date: 11 March 2000 (11.03.00) (30) Priority Data: 99105311.7 16 March 1999 (16.03.99) EP (71) Applicant: SIHL GMBH [DE/DE]; Kreuzauer Strasse 33, D-52355 Düren (DE). (72) Inventors: BUCHBINDER, Elisabeth; Panoramaweg 27, D-52385 Nideggen-Rath (DE). LIEBLER, Ralf; Bilsteiner Weg 8, D-52372 Kreuzau (DE). (74) Agent: PATENTANWÄLTE STERNAGEL & FLEISCHER; Braunsberger Feld 29, D-51429 Bergisch Gladbach (DE).	(81) Designated States: AU, CA, JP, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i>
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(54) Title: TAG WITH COLD SEALING LAYER				
The diagram shows a rectangular labelling tag (1) with a downward-pointing arrow. It consists of a backing layer (2). On the top surface (3), there is a printable layer (5). On the bottom surface (4), there are two rectangular regions (6) of cold-seal adhesive, labeled as regions (8). Arrows point from the labels 1, 2, 3, 4, 5, 6, and 8 to their respective parts in the diagram.				
(57) Abstract Labelling tags (1) having a backing layer (2), selected from paper, polymer films and laminates of paper and polymer films, on whose first surface (3) there is a printable layer (5) comprising antiblocking agents and on whose opposed second surface (4) a layer (6) of cold-seal adhesive is disposed in at least two regions (8) disposed at a distance from one another, so that the tags can be made up into rolls and there is no blocking of the cold-seal adhesive with the printable tag surface.				

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Tag with cold sealing layer

The present invention relates to labelling tags having a layer of cold-seal adhesive.

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Conventional luggage tags as used by airline companies to identify luggage items generally feature a printable backing layer with a layer of pressure-sensitive adhesive on the underside, the adhesive layer being provided with a removable cover layer. The removable cover layer, which
10 is known as a liner, has a release layer on its surface facing the pressure-sensitive adhesive layer in order to allow easy detachment. A commonly used cover layer is silicone paper. When the luggage tag is to be attached to a luggage item, the cover layer must be removed beforehand. Since this cover layer has no further use, but merely represents rubbish, a luggage tag of
15 this kind with a removable cover layer is undesirable owing to wastage of resources and to the costs entailed in producing and disposing of the cover layer.

EP-A-747 871 discloses adhesive labels which do not have a covering layer for the pressure-sensitive adhesive. The upper face of a
20 support web comprising paper or a polymer film is provided at selected points with printable layers. In certain embodiments, a continuous layer covering the printable layers is disposed on the upper face of the support web, functions as a base coat for the cover layer, which comprises a release agent, and, during the rolling-up of the web, prevents blocking with the
25 pressure-sensitive adhesive disposed on the reverse face of the support web. EP-A-600 622 describes a printed luggage tag without a removable cover layer. It consists of a substrate having a first and second surface, a pressure-sensitive adhesive which is disposed on only part of the second surface of the substrate, a heat-sensitive layer on the first surface of the substrate,
30 an imprint on the heat-sensitive layer, and a release layer comprising a material which does not adhere to the pressure-sensitive adhesive layer covering the heat-sensitive layer. These luggage tags, separated from one

another by perforation lines, are rolled up in the form of a long strip on a roll, with the release layer facing outwards. For the production of the luggage tags disclosed in EP-A-600 622, first the heat-sensitive layer is printed and then, in succession, the release layer is applied to the heat-sensitive layer and the pressure-sensitive adhesive is applied to the second surface of the substrate. For the production of these luggage tags, therefore, it is necessary to have an appropriate device which first carries out printing and then permits the application of the layers, and with which the material can be rolled up, before the luggage tags are removed again from the roll for fastening to the luggage items.

A major disadvantage of these luggage tags is that without further auxiliary equipment they cannot be printed on demand on customary thermal printers such as are already located at airports.

DE-A-23 58 707 discloses a printable labelling tag or luggage tag having a film strip which is provided with at least two stripes of contact adhesive which are located at a distance from one another and which can be bonded to one another by pressing them against one another.

It is an object of the present invention to provide labelling tags which have no covering layer for the adhesive layer, can be rolled up without blocking of the adhesive layer, and can be provided directly on demand with the desired information, on conventional printers.

This object is achieved by means of a labelling tag having a backing layer, selected from paper, polymer films and laminates of paper and polymer films, on whose first surface there is a printable layer comprising organic antiblocking agent(s) and on whose opposed second surface a layer of cold-seal adhesive is disposed in at least two regions disposed at a distance from one another.

The labelling tags preferably have an elongated form. In the case of such embodiments, the strip width of the tags in the lengthwise direction can be configured with different widths, in order to facilitate the attachment of the tags by looping them around articles that are to be labelled. Especially

if the backing layer is configured so as to be tear resistant or tear propagation resistant, the tags can be provided with one or more punched perforations.

5 The printable layer comprising the organic antiblocking agent should have preferably a specific surface roughness to be printable with improved quality by the common printing techniques. The maximum height of profile R_z should be from 8-20 and the arithmetical mean deviation of the assessed profile R_a should be from 1-2.5. Both parameters are determined
10 according to ISO 4287 "Surface texture: Profile method-Terms, definitions and surface texture parameters" 1997 and ISO 4288 "Surface texture: Profile method-Rules for procedures for the assessment of surface texture" 1998.

 The printable layer comprising organic antiblocking agent(s) in
15 addition may comprise optionally film-forming binder(s), pigment(s) and customary auxiliaries, in order to improve printability. However it is surprising that the specific organic blocking agents itself forming a printable layer.

Useful pigments include clay, satin white, calcium carbonate, silica, barium
20 sulfate, zinc oxide, titanium dioxide, e.c.t. and mixtures thereof.

Film-forming binders useful for the printable layer include starch, casein, polyvinylalcohol, synthetic polymer Latices, e.c.t. and mixtures thereof.

Such auxiliaries include dispersing agents, antifoaming agents, whitening agents, lubricants, UV-stabilizers, colors, and mixtures thereof.

25 Preferably the printing layer has a structure common for coated art paper.

This layer can be applied by surface sizing or coating of the base paper or board and the applied composition may contain the antiblocking agent or the coating may be impregnated with the antiblocking agent subsequent to the application.

30 Suitable organic agents for preventing the blocking of the paper backing with the cold-seal adhesive in the rolled-up state without at the same time adversely affecting printability are:

polyamides, amide waxes, such as octadecanamide, bisstearoylethylenediamide, montan waxes, polyolefin waxes, such as polyethylene waxes having a melting point of from 50° to 60°C in the form of anionically stabilized aqueous dispersions having a pH of from 7.1 to 9, ester waxes, e.g. octadecyl
5 stearate, calcium stearate, and zinc stearate, poly(meth)acrylates with alkyl side chains having 16 to 20 carbon atoms, e.g. octadecyl acrylate, and copolymers thereof with acrylic acid; polyvinyl esters, e.g. vinyl stearate, vinyl palmitate, vinyl arachidate and vinyl behenate, alone or in combination with polyvinyl alcohol and/or polyvinyl acetate high molecular weight
10 aromatic linear saturated polyester resins.

Said aromatic polyester resins are amorphous polymers exhibiting high tensile strength and low elongation. The intrinsic viscosity may be from 0.4-0.7.

It is also possible to use mixtures of the above mentioned antiblocking
15 agents.

Suitable formulations for forming the layer comprising antiblocking agent in order to avoid blocking with the cold-seal adhesive are described in Handbook of Pressure Sensitive Adhesive Technology, edited by Don Satas.

The applied weight (dry) of this layer on the upper face of the
20 backing can be from 0.1 g/m² to 15 g/m².

The backing layer suitably comprises wood containing or wood-free papers, so-called coating base papers or board, having basis weights of from 40 g/m² to 300 g/m², preferably up to 280 g/m². The papers or board can be reinforced with synthetic fibbers in order to increase the tensile strength.

25 The backing layer can also be a polymer film selected from polyolefin films (polyethylene, polypropylene), polyester films (PETP), polyvinyl chloride films and laminates of these films with one or more paper plies. Suitable films have thicknesses of from 23 µm to 300 µm.

Papers suitable for film/paper laminates have basis weights of from 30 to 150
30 g/m². The laminates are multi-ply, it being possible for one film to be disposed between two paper plies. It is also possible to use a laminate comprising film and only one paper ply as backing layer.

The printable layer comprising antiblocking agent that is disposed in accordance with the invention on the upper face - that is, the first surface - of the backing layer can readily be printed directly on demand with the printing inks and printing techniques customary for the purpose, especially by thermal transfer printing or by the ink-jet technique.

If the printable layer comprising organic antiblocking agents is configured as a heat-sensitive layer, printing can be performed without problems using any commercial thermal printer, without the need for further, converted components (e.g. incorporation of Teflon-coated rollers).

10 The labelling tag of the invention in the embodiment having a paper backing layer constitutes a more environmentally friendly and cost-effective alternative than film-based labelling tags and luggage tags which are already known in principle.

In one embodiment, the printable layer comprising organic
15 antiblocking agents is configured as a heat-sensitive recording layer. The heat-sensitive layer normally comprises a dye precursor compound, which on exposure to heat reacts with an appropriate acidic compound to develop a color, one or more meltable compounds such as waxes, accelerators, etc., binders, pigments and customary auxiliaries, and antiblocking agents
20 compatible with the above mentioned components; for example an antiblocking agent or a combination of two or more antiblocking agents, such as calcium stearate or zinc stearate and polyethylene wax, in amounts of from 2 to 7% by weight, or from 1 to 5% by weight of the latter, based in each case on total solids in the layer. Suitable heat-sensitive layers are described, for
25 example, in DE-C-40 22 537, the content thereof is incorporated by reference. The weight of the heat-sensitive layer per unit area is preferably 4-15 g/m², with particular preference 4-8 g/m².

In another embodiment, an insulating layer as is known for heat-sensitive recording materials is disposed between the backing layer and the
30 heat-sensitive layer. This interlayer customarily contains heat-insulating organic and/or inorganic pigments, as are described, for example, in EP-A-186 375, the content thereof is incorporated by reference.

The layer of cold-seal adhesive is disposed on the second surface of the paper backing in at least two regions disposed at a distance from one another, so that the labelling tag can be attached to the product to be labelled by looping the tag around at least one part of the article, and the two regions with cold-seal adhesive meet and undergo mutual sealing. Because the cold-seal adhesive layer seals only to itself and is blocking-free with respect to the other surface of the backing layer, the cold-seal adhesive can also be applied to the entire second surface of the backing layer without the labelling tag adhering to the product to be labelled itself in the course of attachment.

For the purposes of the present invention it is possible to use known, essentially blocking-free cold-seal adhesives. Cold-seal adhesives and their properties are described, for example, by L. Placzek in Coating, 18 (4); pp. 94-95, 1985.

The principal constituent of many common cold-seal adhesives is a natural latex in combination with a plastic polymer and further customary additives, such as tackifying resins, inorganic antiblocking agents, such as silica, stabilizers and wetting agents.

A typical such composition contains 55-60% by weight of a natural latex emulsion with a high ammonia content, 30-40% by weight of a styrene-acrylate emulsion, and small amounts of wetting agents, latex stabilizers, antioxidants, biocides and thickeners. Further cold-seal adhesives, based inter alia on aqueous polyacrylate dispersions, are described in US-A-5,070,164, US-A-4,898,787 and US-A-4,888,395.

A particularly suitable cold-seal adhesive based on an aqueous acrylate copolymer dispersion or solution prepared by emulsion-polymerizing alkyl esters of acrylic acid and of methacrylic acid and α,β -ethylenically unsaturated carboxylic acids is disclosed in DE-A-43 41 815.

EP-B-338 304 describes another synthetic cold-seal adhesive which is particularly suitable for use in the present invention. The cold-seal adhesive composition contains 45-70% by weight of a synthetic base polymer and 30-55% by weight of a synthetic secondary polymer, the base polymer

comprising a polymer, a copolymer or a mixture thereof selected from the group consisting of acrylic polymers and styrene-butadiene rubbers and the secondary polymer comprising a styrene-acrylic copolymer, a synthetic styrene-acrylic resin or a mixture thereof or a mixture of one or more
5 styrene-acrylic copolymers or styrene-acrylic resins or any mixture thereof with one or more synthetic polymers, copolymers or synthetic resins.

The cold-seal adhesive is preferably applied with a weight per unit area of from 3 to 20 g/m², with particular preference in amounts of 6-15 g/m².

10 In the case of preferred embodiments, a large number of labelling tags are configured as a continuous strip. In order to facilitate the separation of individual tags from the strip, the continuous strip can feature prepared parting lines between the labels transverse to the running direction of the strip, such as perforations. The prepared parting lines
15 should be visible in order to make it easier as well to position the tags accurately on printing.

The tags in strip form are preferably made up as rolls each containing up to 200 individual tags.

20 The strip width of the preferably elongated tags is selected such that the tags can be printed directly on demand on commercial printers. The strip width can be from 40 mm to 120 mm.

The invention will now be illustrated with reference to a number of drawings.

Fig. 1 shows a labelling tag 1 in section, having a backing layer
25 2 comprising the above-described materials, the layer 5, comprising antiblocking agent, on the first surface 3 of the backing layer 2, and the cold-seal adhesive 6 on the second surface 4 of the backing layer 2.

Fig. 2 shows a labelling tag 1 in section, having a paper backing layer 2, an insulating layer 11 on the first surface 3, the layer 5 which
30 comprises antiblocking agent and is configured as a heat-sensitive layer, and the cold-seal adhesive 6 on the second surface 4 of the paper backing 2.

Fig. 1 shows the simplest embodiment of a labelling tag 1 of the invention with the layer 5 comprising organic antiblocking agent(s). The labelling tag 1, which is depicted in longitudinal section, consists of a backing layer 2 comprising the materials to be used in accordance with the invention, preferably comprising paper, the layer 5, comprising antiblocking agent, on the first surface 3 of the backing layer 2, and a non-continuous layer 6 of cold-seal adhesive on the second surface 4 of the backing layer 2.

Fig. 2 differs from Fig. 1 in that an insulating layer 11 is additionally disposed between the paper backing layer 2 and the layer 5 which comprises antiblocking agent and which is configured as a heat-sensitive layer.

The examples which follow are intended to describe the invention in more detail.

Example 1

15 A woodfree base paper having a basis weight of 80 g/m², whose top face has a Bekk smoothness of about 110 sec. and whose wire side has a Bekk smoothness of about 80 sec. is provided on the rougher side with a coating comprising antiblocking agent and the smoother side with a cold seal adhesive.

The coating composition comprising 30% by weight polyamide resin, 3% by weight amide wax as antiblocking agents and 67 by weight of a solvent mixture comprising ethanol, cyclohexane and ethyl acetate.

It is applied by means of a roll applicator and blade metering or screen rollers and dried. The coating weight after drying is 2g/m².

The cold-seal adhesive contains about 70% by weight natural latex, about 13% by weight acrylate-vinyl acetate copolymer, about 7% by weight hydrocarbon resin as tackifier, about 7% by weight silica as antiblocking agent, and commercially customary wetting agent and stabilizer.

The formulation is applied as a 50% by weight ammoniacal dispersion by means of a roll applicator and blade metering and dried. The applied weight after drying is 8 g/m².

The coated paper web is rolled up into a roll having an external diameter of 90 cm and is stored under ambient conditions for 9 weeks. No blocking

problems occurred in the course of finishing to give rolls having a width of about 8 cm and a length of 225 m.

The web in roll form can be provided with desired tag information by means of flexographic printing and configured at a distance of in each case 50 cm, 5 between the labels, with parting lines prepared by punching. Reduced-size rolls containing 200 tags and having a web length of 100 m are made up.

Alternatively, for labelling plastic baskets, the rolled-up tag web is provided with the desired information using an appropriate thermal transfer printer (Zebra 140X.II). The printed label is separated from the web by means 10 of the cutting device on the printer and pushed through a handle opening in a basket, and the two ends, provided with cold-seal adhesive, are pressed firmly together. The loop which is formed sticks together firmly and is securely fastened to the basket.

15 Example 2

A paper web is coated as in Example 1. However, the layer comprising antiblocking agent is formed on the smoother side of the coating base paper from an aqueous acrylate dispersion, with an applied weight (dry) of 5 g/m². The cold-seal adhesive was applied to the rougher side of the paper.

20 Following storage of the rolled-up paper web for 9 weeks, the material is printed by flexographic printing and its subsequent processing takes place as in Example 1, without the rolled-up web blocking as it is being unrolled.

Comparative Examples 1 and 2

25 Labelling tags are produced as described in Examples 1 and 2 but without a layer comprising antiblocking agent on a paper surface. Just a short time after the web has been rolled up, blocking of the cold-seal adhesive on the uncoated paper surface can be observed in the course of unrolling, and there is a markedly audible noise. After 4 weeks of storage, the web can no longer 30 be unrolled because the cold-seal adhesive layer is stuck fast to the uncoated paper surface.

Example 3

A calendered coating base paper with a basis weight of 80 g/m² and having a Bekk smoothness of 1030 sec. on both sides is used and, as in Example 1, the printable layer comprising the antiblocking agent is applied, but with an applied weight of only 1.5 g/m². The cold-seal adhesive of Example 1 is applied in an amount of 10 g/m² (dry) to the other side of the web.

The blocking tendency of the rolled-up web is very low, so that after 9 weeks of storage the web can still be made up into reduced-size rolls having a width of 110 mm and a web length of 100 m. The reduced-size roll is provided with prepared parting lines between the tags.

The tags can be printed flawlessly with the desired information from the reduced-size roll on demand on conventional thermal transfer printers. The imprint is high in contrast and adheres well.

Example 4

A coating base paper having a basis weight of 160 g/m² and a Bekk surface smoothness of about 150 sec. is coated in one operation with a heat insulation layer based on commercial hollow-body pigments and binders, and atop this coat is applied a heat-sensitive recording layer which, in addition to lactone colour former, bisphenol A as developer, stearamide as accelerator, film-forming binder and customary auxiliaries, comprises as antiblocking agent a mixture of 5% by weight zinc stearate and 3% by weight polyethylene wax with a melting point of 54°C, based in each case on the total solids of the layer. The polyethylene wax is added as a 30% aqueous, anionic stabilized dispersion of a linear polyethylene wax having a pH of 8.2 and an average particle size of 54 µm to the formulation of the coating composition.

Following rewetting and calendering, cold-seal adhesive according to Example 1 or 2 is applied to the opposite surface of the paper.

After storage for two weeks, the roll was made up into reduced-size rolls with a width of 54 mm and a web length of 50 m, without blocking.

The tags can be printed flawlessly using commercial thermal printers. The information is very legible and meets the requirements of high-quality heat-sensitive recording materials.

5 Example 5

A polyethylene film or a polyester film is provided on the one side with a printable coating comprising antiblocking agent and on the other side with a cold-seal adhesive.

The coating composition comprising antiblocking agent contains and 30% by weight polyamide resin, 3% by weight amide wax and 67% by weight solvent mixture comprising ethanol, cyclohexane and ethyl acetate.

It is applied by means of a roll applicator and blade metering or screen rollers and dried. The application weight of the antiblocking agent after drying is 2 g/m².

The cold-seal adhesive contains about 70% by weight natural latex, about 13% by weight acrylate-vinyl acetate copolymer, about 7% by weight hydrocarbon resin as tackifier, about 7% by weight silica as antiblocking agent, and commercially customary wetting agent and stabilizer.

The formulation is applied as a 50% by weight ammoniacal dispersion by means of a roll applicator and blade metering and dried. The applied weight after drying is 13 g/m².

The coated film web is rolled up into a roll having an external diameter of 100 cm and is stored under ambient conditions for 9 weeks. No blocking problems occurred in the course of finishing to give rolls having a width of about 54 cm and a length of 1000 m.

The web in roll form is provided with desired tag information by means of flexographic printing and configured at a distance of in each case 50 cm, between the labels, with parting lines prepared by punching. Reduced-size rolls containing 200 tags and having a web length of 100 m are made up.

Example 6

As in Example 1, a layer comprising antiblocking agent is applied with an applied weight of the antiblocking agent of only 2 g/m², to a laminate comprising two paper webs with a basis weight of 50 g/m² and a 40 µm thick polypropylene film disposed between them. The cold-seal adhesive of Example 1 is applied in an amount of 10 g/m² (dry) to the other side of the laminate web.

The blocking tendency of the rolled-up web is very low, so that after 9 weeks of storage the web can still be made up into reduced-size rolls having a width of 110 mm and a web length of 100 m. The reduced-size roll is provided with prepared parting lines between the tags.

The tags can be printed flawlessly with the desired information from the reduced-size roll on demand on conventional printers, for example by thermal transfer printing. The imprint is high in contrast and adheres well.

Patent Claims

1. Labelling tag (1) having a backing layer (2), selected from paper, polymer films and laminates of paper and polymer films, on whose first surface (3) there is a printable layer (5) comprising organic antiblocking agents and on whose opposed second surface (4) a layer (6) of cold-seal adhesive is disposed in at least two regions (8) disposed at a distance from one another.
- 10 2. Labelling tag (1) according to Claim 1, characterized in that the antiblocking agent is selected from polyamides, amide waxes, montan waxes, polyolefin waxes, ester waxes, calcium stearate, zinc stearate, poly(meth)acrylates with alkyl side chains having 16 to 20 carbon atoms and copolymers thereof with acrylic acid; polyvinyl esters, polyvinyl alcohol, 15 polyvinyl acetate, aromatic linear saturated polyester resins and mixtures thereof.
3. Labelling tag (1) according to Claim 1 or 2, characterized in that the cold-seal adhesive is selected from natural latex, acrylate copolymers and mixtures thereof.
- 20 4. Labelling tag (1) according to one of the preceding claims, characterized in that the layer (5) comprising antiblocking agent is configured as a heat-sensitive recording layer or as a layer printable by means of ink-jet techniques or thermal transfer printing.
- 25 5. Labelling tag (1) according to one of the preceding claims, characterized in that the backing layer (2) is a wood-free or wood-containing paper having a basis weight of from 40 g/m² to 300 g/m².
- 30 6. Labelling tag (1) according to Claim 5, characterized in that the paper is reinforced with synthetic fibres.

7. Labelling tag (1) according to one of Claims 1 to 4 above, characterized in that the backing layer (2) is selected from polyolefin films, polyester films, polyvinyl chloride films and laminates of these films with one or more paper plies.

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8. Labelling tag (1) according to one of the preceding claims, characterized in that the layer (6) of cold-seal adhesive is configured over the full area of the second surface (4) of the backing layer (2).

10 9. Labelling tag (1) according to one of the preceding claims, characterized in that a large number of labelling tags (1) are configured as a continuous strip, prepared parting lines being present between the labels transverse to the running direction of the strip.

15 10. Labelling tag (1) according to Claim 9, characterized in that the continuous strip is made up as a roll.

Fig 1

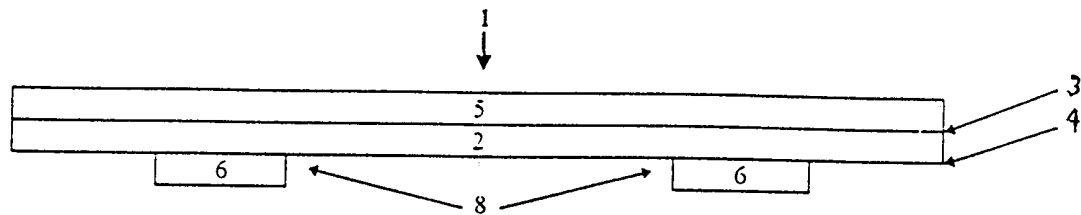
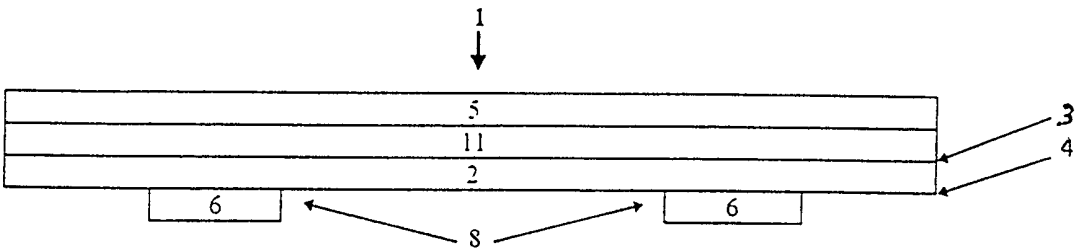


Fig 2



INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/02528

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G09F3/02 G09F3/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G09F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 747 871 A (STANDARD REGISTER CO) 11 December 1996 (1996-12-11)	1
A	column 1, line 3-22 column 2, line 32-36 column 3, line 23-28 column 4, line 48 -column 5, line 31 column 6, line 38 -column 7, line 27; figures 1-3,8,9	2-8
Y	DE 23 58 707 A (JOHN DICKINSON & CO LTD) 28 May 1975 (1975-05-28) cited in the application	1
A	page 2 -page 3; figures 1,2	3,7
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

16 June 2000

Date of mailing of the international search report

28/06/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Jandl, F

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International Application No

PCT/EP 00/02528

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 774 363 A (OJI PAPER CO) 21 May 1997 (1997-05-21) page 1, line 7-11 page 12, line 39-47 page 14, line 43 -page 15, line 11 -----	1-4

INTERNATIONAL SEARCH REPORT

Information on patent family members

Int. l. Application No

PCT/EP 00/02528

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0747871 A	11-12-1996	CA 2176180 A US 5840657 A	06-12-1996 24-11-1998
DE 2358707 A	28-05-1975	AU 6294473 A	29-05-1975
EP 0774363 A	21-05-1997	JP 9142025 A JP 9263057 A JP 9290565 A DE 69601778 D DE 69601778 T US 5804528 A	03-06-1997 07-10-1997 11-11-1997 22-04-1999 11-11-1999 08-09-1998