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(54) **DONOR FILM FOR FLAT PANEL DISPLAY AND METHOD OF FABRICATING OLED USING THE SAME**

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(57) **ABSTRACT**

A donor film for a flat panel display and a method of fabricating an Organic Light Emitting Device using the same. The donor film for the flat panel display has a base film, a Light-To-Heat Conversion layer disposed on the base film, a transfer layer disposed on the Light-To-Heat Conversion layer, and a buffer layer interposed between the Light-To-Heat Conversion layer and the transfer layer, wherein the buffer layer includes a material whose glass transition temperature (Tg) is lower than 25° C. The donor film for the flat panel display interposes the buffer layer between the Light-To-Heat Conversion layer of the donor substrate and the transfer layer, thereby improving the adhesion between the transfer layer and the donor substrate. Therefore, the organic layer pattern formed on an acceptor substrate by transferring the transfer layer using the donor film does not include any defect.

FIG. 1A

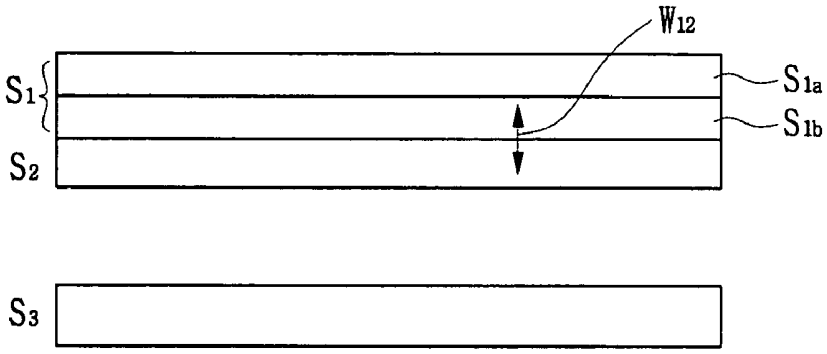


FIG. 1B

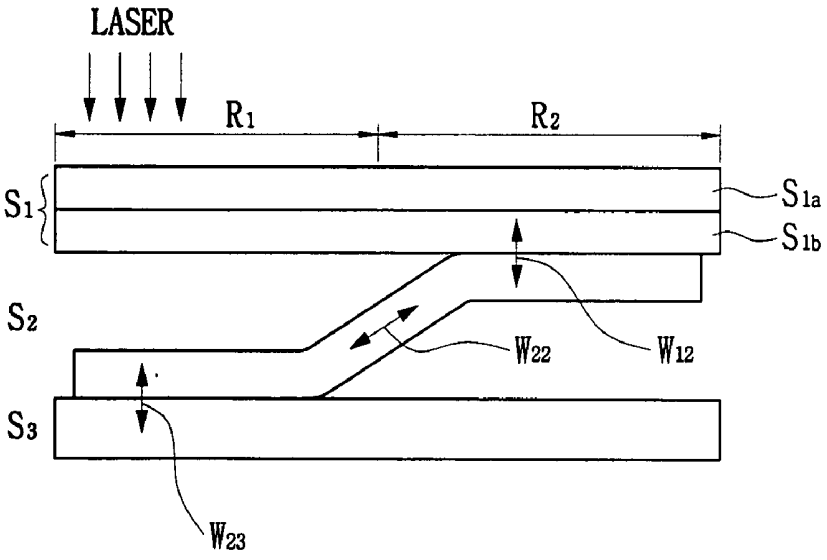


FIG. 2

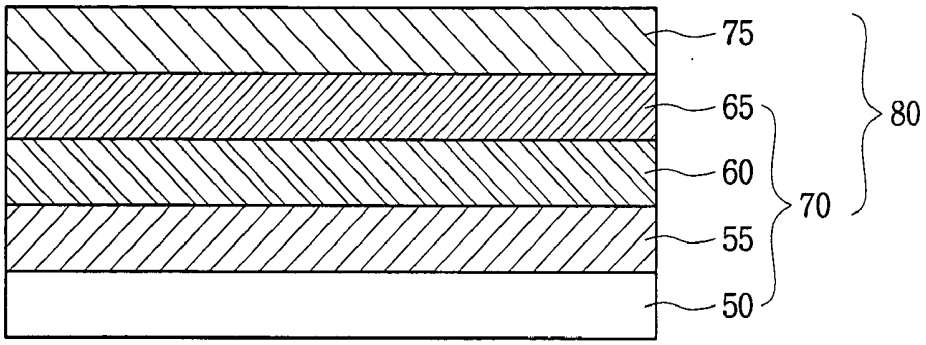


FIG. 3

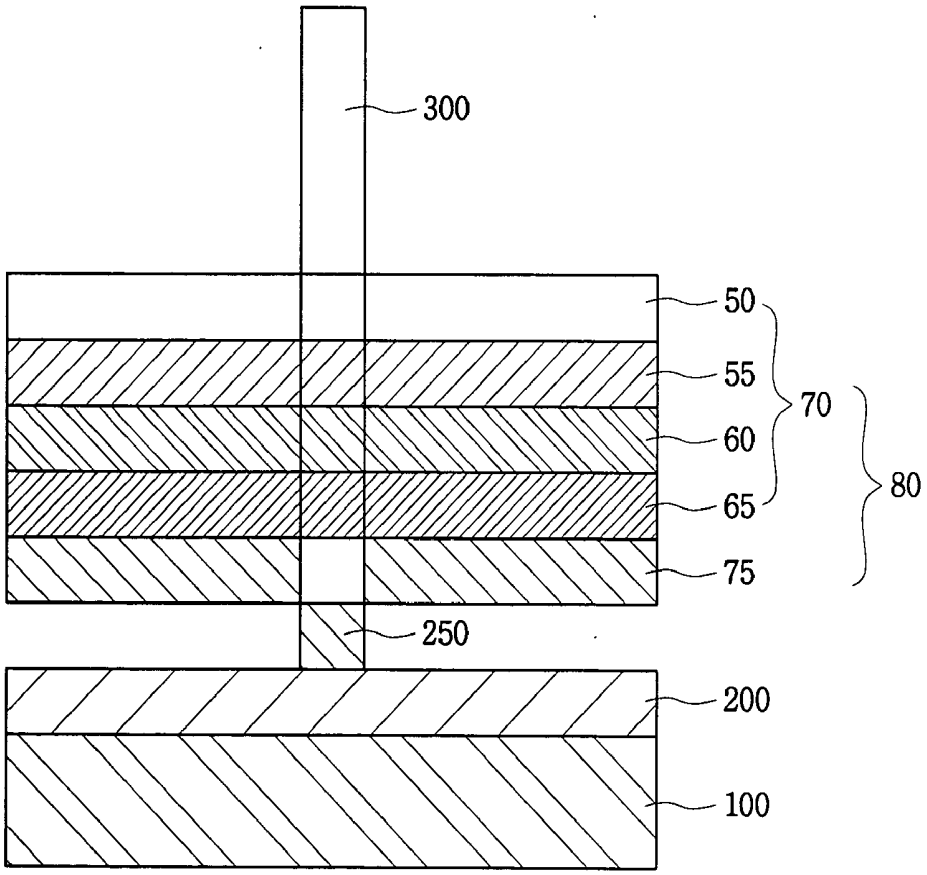


FIG. 4A

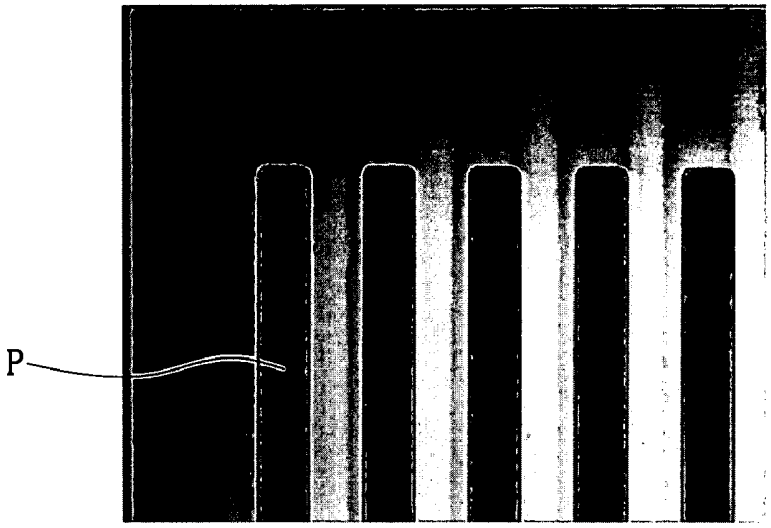


FIG. 4B

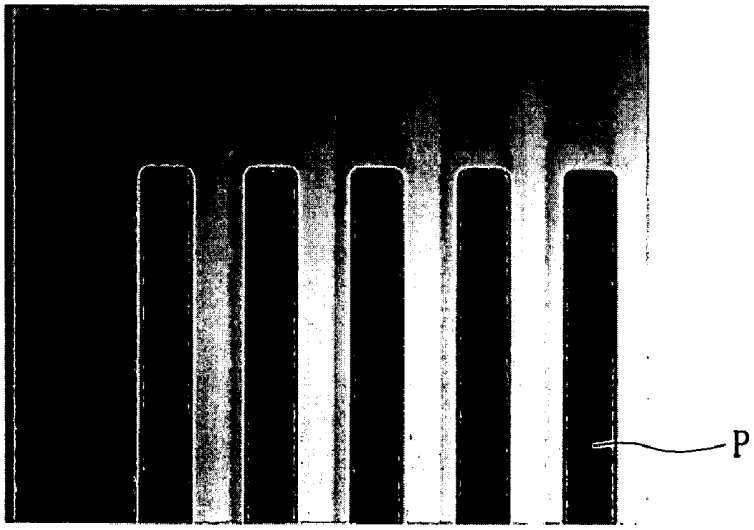


FIG. 5A

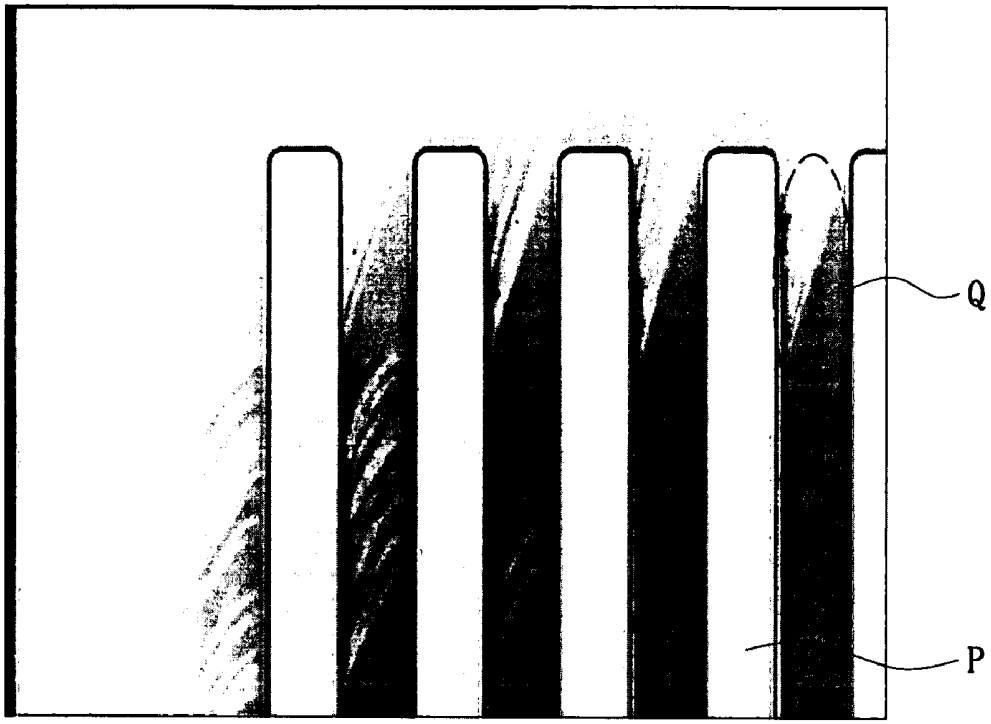
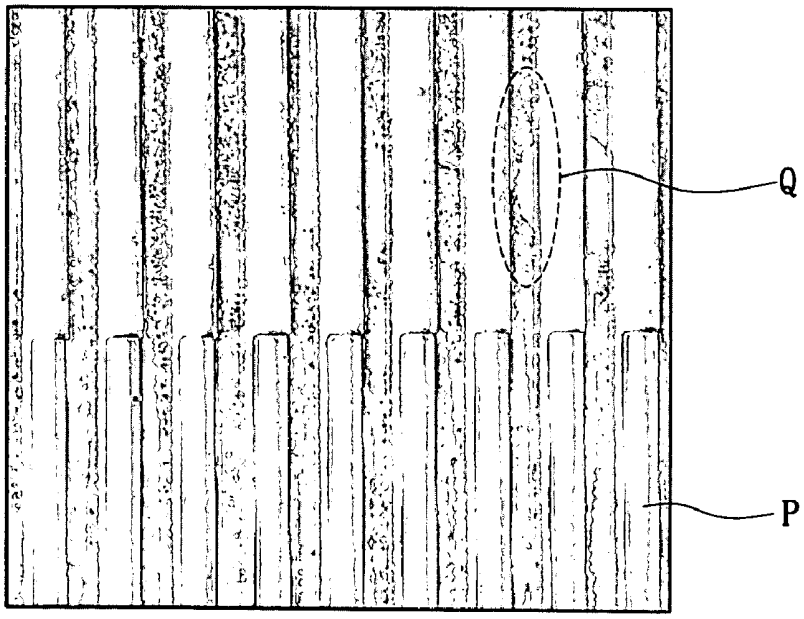


FIG. 5B



DONOR FILM FOR FLAT PANEL DISPLAY AND METHOD OF FABRICATING OLED USING THE SAME

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of Korean Patent Application No. 2003-60002, filed on Aug. 28, 2003, the disclosure of which is hereby incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a donor film for a flat panel display and a method of fabricating an Organic Light Emitting Device (OLED) using the same and, more particularly, to a donor film for a flat panel display with improved adhesion with a transfer layer and a method of fabricating an OLED using the same.

[0004] 2. Description of the Related Art

[0005] In general, an Organic Light Emitting Device (hereinafter referred to as "OLED") as a flat panel display includes anodes, cathodes and organic layers interposed between the anodes and cathodes. The organic layers must include an emission layer and may further include a hole injecting layer, a hole transporting layer, an electron transporting layer and an electron injecting layer therewith. The OLED may be classified into a polymer OLED and a small molecular OLED based on a material composing the organic layer, more specifically the emission layer of the organic layer.

[0006] In implementing full color for the OLED, the emission layer must be patterned. There are methods for patterning the emission layer of the OLED. The small molecular OLED is patterned using a shadow mask and the polymer OLED is patterned by ink-jet printing or Laser Induced Thermal Imaging (hereinafter referred to as "LITI"). The LITI method has advantages of finely patterning the organic layer in a dry process. On the other hand, the ink-jet printing method patterns the organic layer in a wet process.

[0007] The method for patterning the polymer organic layer using the LITI needs at least a light source, an OLED substrate (i.e., an acceptor substrate) and a donor film. Here, the donor film includes a base film, a Light-To-Heat Conversion layer (hereinafter referred to as "LTHC") and a transfer layer comprising an organic layer. The organic layer on the acceptor substrate is patterned as follows: when the light source irradiates light to the LTHC layer of the donor film, the LTHC layer absorbs the incident light and then converts the light into heat energy. Then the heat energy transfers the organic layer of the transfer layer onto the acceptor substrate. This process is disclosed in Korean Patent Application No. 10-1998-0051844, U.S. Pat. Nos. 5,998,085, 6,214,520 and 6,114,088, which are hereby incorporated by reference.

[0008] **FIGS. 1A and 1B** are cross-sectional views for explaining a transfer mechanism in a transfer process of a typical organic layer by the LITI method.

[0009] Referring to **FIG. 1A**, an organic layer S_2 is attached to a donor substrate S_1, which is composed of a base film S_{1a} and an LTHC layer S_{1b}, with first adhesion W_{12} between the donor substrate S1 and the organic layer S_2. An acceptor substrate S_3 is disposed under the donor substrate S_1.

[0010] Referring to **FIG. 1B**, laser light is irradiated onto a first area R_1 of the base film S_{1a} except for a second area R_2. The laser light passed through the base film S_{1a} is converted into heat energy in the LTHC layer and then the heat induces a change in the first adhesion W_{12} of the first area R_1 such that the organic layer S_2 is transferred onto the acceptor substrate S_3. In the transfer process, the transfer characteristic of the organic layer S_2 depends on the first adhesion W_{12} between the donor substrate S_1 of the second area R_2 and the organic layer S_2, cohesion W_{22} within the organic layer S_2, and second adhesion W_{23} between the organic layer S_2 and the acceptor substrate S_3.

[0011] However, if the first adhesion W_{12} is relatively smaller, the organic layer S_2 may be easily detached from the donor substrate S1. As a result, the organic layer S_2 of the second region R_2 without the laser irradiation is transferred even though it is not intended. This problem appears more seriously in the organic layer S_2 including small molecular materials.

SUMMARY OF THE INVENTION

[0012] The present invention provides a donor film for a flat panel display improving an adhesion characteristic with a transfer layer.

[0013] The present invention separately provides a method for fabricating an OLED using the donor film for a flat panel display.

[0014] In the present invention, the donor film includes a base film, an LTHC layer on the base film, a transfer layer on the LTHC layer, and a buffer layer interposed between the LTHC layer and the transfer layer, wherein the buffer layer includes a material whose glass transition temperature (Tg) is lower than 25° C.

[0015] The material with the lower glass transition temperature than 25° C. may be a silicone polymer. In such a case, the buffer layer is formed by forming a liquid silicone polymer on the LTHC layer and then curing it by any of UV curing, room temperature curing, low temperature curing and catalytic curing. The buffer layer is preferably less than 20 μm thick. More preferably, the buffer layer is less than 5 μm thick.

[0016] The transfer layer includes at least one layer of an emitting organic layer, a hole injecting organic layer, a hole transporting organic layer, an electron transporting organic layer and an electron injecting organic layer. More preferably, the transfer layer is an emitting organic layer. Preferably, each of the organic layers includes a small molecular material. Preferably, the donor film further comprises an interlayer interposed between the LTHC layer and the buffer layer.

[0017] The present invention also discloses a method for fabricating an OLED using the donor film.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] The above and other features and advantages of the present invention will become more apparent to those of ordinary skill in the art by describing in detail exemplary embodiments thereof with reference to the attached drawings.

[0019] **FIGS. 1A and 1B** are cross-sectional views for explaining a transfer mechanism in a transfer process of a typical organic layer by LITI.

[0020] **FIG. 2** is a cross-sectional view of a donor film for a flat panel display according to the present invention.

[0021] **FIG. 3** is a cross-sectional view for showing a step for fabricating an OLED using a donor film for a flat panel display according to the present invention.

[0022] **FIGS. 4A and 4B** are views showing emission layer patterns formed on an acceptor substrate using a donor film that are fabricated through experimental examples 1 and 2, respectively.

[0023] **FIGS. 5A and 5B** are views showing emission layer patterns formed on an acceptor substrate using a donor film that are fabricated through comparison examples 1 and 2, respectively.

DETAILED DESCRIPTION OF THE INVENTION

[0024] The present invention will now be described more fully hereinafter with reference to the accompanying drawings, in which exemplary embodiments of the invention are shown. This invention may, however, be embodied in different forms and should not be construed as limited to the embodiments set forth herein. Rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. In the drawings, the thickness of layers and regions are exaggerated for clarity. Like numbers refer to like elements throughout the specification.

[0025] **FIG. 2** is a cross-sectional view of a donor film for a flat panel display. Referring to **FIG. 2**, a base film **50** is provided and an LTHC layer **55** is formed on the base film **50**.

[0026] Here, the base film **50** is composed of polymers that are transparent. Polyacryl, polyepoxy, polyethylene, polystyrene and polyester such as polyethylene terephthalate are used for the base film. Of the polymers, a polyethylene terephthalate film is mainly used for the base film **50**. The base film **50** acts as a supporting material. Thus, it should have suitable optical properties and sufficient mechanical stability. Preferably, the thickness of the base film **50** ranges from 10 to 500 μm.

[0027] The LTHC layer **55** absorbs light in the infrared-visible region of the electromagnetic spectrum and converts a portion of the light into heat. The LTHC layer **55** has an appropriate optical density and includes light absorbing materials. The LTHC layer **55** can include a metal layer or an organic polymer layer. The metal layer can include aluminum oxide or aluminum sulfate as the light absorbing material. The organic polymer layer can include carbon black, graphite or infrared dyes as the light absorbing material. Here, the metal layer is formed by vacuum evaporation, electron beam deposition or sputtering. In the exemplary embodiment, the metal layer is about 100 to 5,000 Å thick. Also, the organic layer is formed by one of typical layer coating methods such as roll, gravure, extrusion, spin and knife coating methods. In the exemplary embodiment, the organic polymer layer is about 0.1 to 10 μm thick.

[0028] Then, an interlayer **60** may be formed on the LTHC layer **55**. The interlayer **60** prevents the transfer layer that will be formed in the following process from contaminated by the light absorbing material, such as carbon black included in the LTHC layer **55**. The interlayer **60** may be formed of acrylic resin or alkyd resin. The interlayer **60** is formed through a well-known coating process such as solvent coating, etc. and a curing process such as an ultraviolet curing process. Preferably, the interlayer **60** is formed in the range of 1 to 2 μm thick.

[0029] Then, a buffer layer **65** is formed on the LTHC layer **55** or on the interlayer **60**. Namely, a donor substrate **70** can be a portion including the LTHC layer **55** and the buffer layer **65** stacked in such order on the base film **50**, or can be a portion including the LTHC layer **55**, the interlayer **60** and the buffer layer **65** stacked in such order on the base film **50**. Subsequently, a transfer layer **75** is formed on the donor substrate **70**, that is, the buffer layer **65**. This completes a donor film **80**.

[0030] The buffer layer **65** improves adhesion between the donor substrate **70** and the transfer layer **75**, that is, the first adhesion W_{12} of **FIG. 1**. Namely, referring to **FIG. 1**, the improved adhesion prevents the transfer layer **75** from being easily detached from the donor substrate **70** during the transfer process. This reduces pattern defects of undesired transfer of portion onto the acceptor substrate. Consequently, in the present invention, the introduction of the buffer layer **65** can improve the transfer characteristic of the transfer layer **75**. Also, the buffer layer **65** buffers acceptor substrate during the transfer process, thereby minimizing patterning defects.

[0031] Preferably, the buffer layer **65** includes a material whose glass transition temperature (Tg) is lower than 25° C. Generally, under the glass transition temperature (Tg), a polymer material is in a glass state since micro Brown motion of molecules is frozen. But, over the glass transition temperature (Tg), a polymer material has high adhesive strength since its flexibility or elasticity is higher. Therefore, typically, in the transfer process of the LITI performed over 25° C., the buffer layer **65** having the material whose glass transition temperature is lower than 25° C. can improve adhesion between the donor substrate **70** and the transfer layer **75**, that is, the first adhesion W_{12} of **FIG. 1**.

[0032] More preferably, the buffer layer **65** is formed using a silicone polymer. The silicone polymer has a Siloxane (Si—O) bond therein, high heat resistance and chemical stability, and the glass transition temperature lower than 25° C. The buffer layer **65** using the silicone polymer is formed by coating a liquid silicone polymer on the LTHC layer **55** or the interlayer **60** and then curing it. Here, the curing process is done by ultraviolet curing, room temperature curing, low temperature curing, or catalyzer curing.

[0033] Preferably, the buffer layer **65** is formed by one of spin coating, roll coating, dip-coating, gravure coating, deposition, etc. Preferably, the buffer layer **65** is less than 20

μm thick. More preferably, it is less than 5 μm thick. Preferably, the buffer layer **65** is formed to be less than 20 μm thick, if a portion to be transferred is even in the acceptor substrate to which the transfer layer **75** is transferred from the donor substrate **70**. But if the portion to be transferred is not even but recessed, even edges of the recessed portion to be transferred must adhere closely to the donor film to prevent patterning defects. Therefore, preferably, the buffer layer **65** must be less than 5 μm thick.

[**0034**] The transfer layer **75** can be at least one of the layers among an emitting organic layer, a hole injecting organic layer, a hole transporting organic layer, an electron transporting organic layer and an electron injecting organic layer. Preferably, each of the organic layers is an organic layer including a small molecular material. The small molecular material may be a monomolecular material or an oligomer. Preferably, the oligomer has a molecular weight lower than 1000. Because, in general, the organic layer including a small molecular material shows poor adhesion property (W_{12} of **FIG. 1**), introduction of the buffer layer **65** can largely improve the transfer characteristics. Meanwhile, there are some small molecular materials with relatively low thermal stability. If the transfer layer **75** includes the small molecular material with relatively low thermal stability, the heat generated in the LTHC layer **55** may damage them. But the buffer layer **65** can control the heat and thereby protect the transfer layer **75** from heat damage.

[**0035**] General materials used for the organic layer can be adopted to fabricate the emitting organic layer, the hole injection organic layer, the hole transporting organic layer, the electron transporting organic layer and the electron injecting organic layer. Preferably, the emitting organic layer is fabricated with a small molecular material such as Alq3 (host)/DCJTB (fluorescent dopant), Alq3(host)/DCM(fluorescent dopant) and CBP(host)/PtOEP (phosphorescent organic-metal complex), or a polymer such as a PFO-based polymer and a PPV-based polymer as a red light emitting material. Also, it is fabricated with a small molecular material such as Alq3, Alq3 (host)/C545t (dopant) and CBP (host)/IrPPy (phosphorescent organic-metal complex), or a polymer such as the PFO-based polymer and the PPV-based polymer as a green light emitting material. Further it is fabricated with a small molecular material such as DPVBi, spiro-DPVBi, spiro-6P, distyrylbenzene (DSB) and distyrylarylene (DSA), or a polymer such as the PFO-based polymer and the PPV-based polymer as a blue light emitting material. The hole injecting organic layer can use a small molecular material such as CuPc, TNATA, TCTA and TDAPB, or a polymer such as PANI and PEDOT. The hole transporting organic layer can use a small molecular material such as an arylamine-based small molecular material, a hydrazone-based small molecular material, a stilbene-based small molecular material and a starburst-based small molecular material, for example, NPB, TPD, s-TAD, MTADATA, etc., or a polymer such as a carbazole-based polymer, an arylamine-based polymer, a perylene-based polymer and a pyrrol-based polymer, for example, PVK, etc. The electron transporting organic layer can be fabricated with a polymer such as PBD, TAZ and spiro-PBD, or a small molecular material such as Alq3, BAlq and SAlq. Also, the electron injecting organic layer is fabricated with a small molecular material such as Alq3, Ga complex and PBD, or a polymer such as an oxadiazole-based polymer.

[**0036**] The transfer layer **75** is formed by a general coating process such as extrusion coating, spin coating, knife coating, vacuum deposition, CVD, etc., to a thickness ranging from 100 to 50,000 Å.

[**0037**] **FIG. 3** is a cross-sectional view for explaining a method of fabricating an OLED using the donor film according to the present invention.

[**0038**] Referring to **FIG. 3**, an acceptor substrate **100** has a pixel electrode **200** formed thereon. Meanwhile, the donor film **80** is fabricated by depositing the LTHC layer **55**, the buffer layer **65** and the transfer layer **75** on the base film **50** in order. The interlayer **60** may be further deposited on the LTHC layer **55** before forming the buffer layer **65**. The donor film **80** is fabricated as described above.

[**0039**] Then, the donor film **80** is disposed with a predetermined distance from the acceptor substrate **100** so that the transfer layer **75** of the donor film **80** faces the acceptor substrate **100**, and laser light **300** is irradiated on a predetermined region of the donor film **80**. Then the transfer layer **75** irradiated by the laser light **300** is transferred onto the pixel electrode **200**, thereby forming an organic layer pattern **250** on the pixel electrode **200**.

[**0040**] The organic layer pattern **250** may include at least one layer selected from a group of an emission organic layer, a hole injecting organic layer, a hole transporting organic layer, an electron transporting organic layer and an electron injection organic layer. Preferably, each of the organic layers includes a small molecular material.

[**0041**] The pixel electrode **200** may be an anode. The hole injection organic layer and/or hole transporting organic layer are formed on the pixel electrode **200** by LITI process, spin coating or vacuum deposition. And then the organic layer pattern **250**, i.e., an emission layer, is formed on the hole transporting organic layer by using the donor film **80**. After forming the emission layer, the electron transporting organic layer and/or electron injection organic layer can be formed on the emission layer using the LITI process, vacuum deposition or spin coating. Subsequently, a common electrode (not shown) as a cathode is formed on the electron transporting layer, thereby fabricating the OLED.

[**0042**] Hereinafter, preferred examples are given to better understand the present invention. However, the following examples do not limit the scope of the invention.

EXPERIMENTAL EXAMPLE 1

[**0043**] A base film composed of polyethylene terephthalate with a thickness of 100 μm is prepared. An LTHC layer including carbon black as a light absorbing material is formed with a thickness of 4 μm on the base film. After that, an acrylic resin as an interlayer is formed with a thickness of 1 μm on the LTHC layer. A liquid silicone polymer, 2577 (Dow Corning Corporation), is coated with a thickness of 1 μm on the interlayer by spin coating. The coated 2577 (Dow Corning Corporation) is dried at 25° C. for 10 minutes, heat treated at 80° C. for 10 minutes, and left at 25° C. for more than 6 hours, thereby forming the buffer layer. Here, the liquid silicone polymer 2577 (Dow Corning Corporation) is a polymer cured at 25° C. by reacting with moisture. Further its curing time is more shortened if it is heat treated at 80° C. CBP (Sigma Aldrich) including IrPPy (Sigma Alrich) of 7 wt. % is deposited on the entire surface of the buffer layer

by using vacuum deposition to form a transfer layer, thereby fabricating a donor film. Here, the IrPPy-doped CBP is a green light emitting material as one of the electroluminescent small molecular materials.

EXPERIMENTAL EXAMPLE 2

[0044] A liquid silicone polymer UVHC3000 (General Electric Corporation) is coated with a thickness of 1 μm on an interlayer by spin coating. The coated UVHC3000 (General Electric Corporation) is dried at 25° C. for 10 minutes, heat treated at 80° C. for 10 minutes and cured by using a UV lamp (maximum wavelength of 254 nm) for 15 minutes, thereby forming the buffer layer. Except for the step of forming the buffer layer, other processes for fabricating the donor film are the same as the Experimental Example 1.

COMPARISON EXAMPLE 1

[0045] A UV-cured sealant **68** (Norland Corporation) with a glass transition temperature of higher than 25° C. (about 100° C.) is coated with a thickness of 5 μm on the interlayer. The coated UV-cured sealant **68** is heat treated at 80° C. for 10 minutes and cured by using a UV lamp (maximum wavelength of 254 nm) for 15 minutes, thereby forming the buffer layer. Except for the step of forming the buffer layer, other processes for fabricating the donor film are the same as the Experimental Example 1.

COMPARISON EXAMPLE 2

[0046] A base film composed of polyethylene terephthalate with a thickness of 100 μm is prepared. An LTHC layer including carbon black as a light absorbing material is formed with a thickness of 4 μm on the base film. After that, an acrylic resin as an interlayer is formed with a thickness of 1 μm on the LTHC layer. CBP (Sigma Aldrich) including IrPPy (Sigma Alrich) of 7 wt. % is deposited on the entire surface of the interlayer by using vacuum deposition to form a transfer layer, thereby fabricating a donor film.

[0047] Meanwhile, acceptor substrates on which pixel electrodes are formed are respectively prepared. After that, each of the donor films fabricated through the experimental examples 1 and 2 and the comparison examples 1 and 2 is disposed on the each of the acceptor substrates. Then the transfer layer is transferred onto the acceptor substrate by the LITI process, thereby forming the emission layer pattern on each of the acceptor substrates.

[0048] **FIGS. 4A and 4B** are views showing an emission layer patterns formed on the acceptor substrate using the donor film which is fabricated through the experimental examples 1 and 2, respectively. **FIGS. 5A and 5B** are views showing the emission layer patterns formed on the acceptor substrate using the donor film which is fabricated through the comparison example 1 and 2, respectively.

[0049] Referring to **FIGS. 5A and 5B**, there are an emission layer pattern P and a defect pattern Q having a portion which should not be transferred from the transfer layer on the substrate. However, **FIGS. 4A and 4B** show an emission layer pattern P, but no defect pattern, which can result from employing the buffer layer within the donor film to improve the adhesion between the transfer layer and the donor substrate.

[0050] As disclosed above, the donor film for a flat panel display according to the present invention interposes the buffer layer between the LTHC layer of the donor substrate and the transfer layer, thereby improving the adhesion between the transfer layer and the donor substrate. Therefore, the organic layer pattern formed on the substrate by transferring the transfer layer using the donor film according to the present invention does not include any defect.

[0051] This invention may be embodied in different forms and should not be construed as limited to the embodiments set forth herein. Rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. In the drawings, the thickness of layers and regions are exaggerated for clarity. Like numbers refer to like elements throughout the specification.

What is claimed is:

1. A donor film for a flat panel display, comprising:

a base film;

a Light-To-Heat Conversion layer disposed on the base film;

a transfer layer disposed on the Light-To-Heat Conversion layer; and

a buffer layer interposed between the Light-To-Heat Conversion layer and the transfer layer, wherein the buffer layer includes a material whose glass transition temperature (Tg) is lower than 25° c.

2. The donor film according to claim 1, wherein the material with the lower glass transition temperature than 25° C. is a silicone polymer.

3. The donor film according to claim 2, wherein the buffer layer is formed as a liquid silicone polymer is formed on the Light-To-Heat Conversion layer and then the formed liquid silicone polymer is cured by one process selected from a group of UV curing, room temperature curing, low temperature curing and catalytic curing.

4. The donor film according to claim 1, wherein the buffer layer is less than 20 μm thick.

5. The donor film according to claim 4, wherein the buffer layer is less than 5 μm thick.

6. The donor film according to claim 1, the transfer layer includes at least one layer selected from a group of an emitting organic layer, a hole injecting organic layer, a hole transporting organic layer, an electron transporting organic layer and an electron injecting organic layer.

7. The donor film according to claim 6, the transfer layer is an emitting organic layer.

8. The donor film according to claim 6, wherein each of the organic layers includes a small molecular material.

9. The donor film according to claim 1, further comprising an interlayer interposed between the Light-To-Heat Conversion layer and the buffer layer.

10. A method for fabricating an Organic Light Emitting Device, comprising:

forming an acceptor substrate with a pixel electrode;

arranging a donor film over the acceptor substrate, wherein the donor film includes a Light-To-Heat Conversion layer, a buffer layer and a transfer layer on a base film; and

irradiating a predetermined area of the base film with a laser beam to transfer.

11. The method according to claim 10, wherein the buffer layer includes a material whose glass transition temperature (Tg) is lower than 25° C.

12. The method according to claim 11, wherein the buffer layer includes a silicone polymer.

13. The method according to claim 10, wherein the transfer layer includes at least one layer selected from a group of an emitting organic layer, a hole injecting organic layer, a hole transporting organic layer, an electron transporting organic layer and an electron injecting organic layer.

14. A method for fabricating a donor film, comprising;

forming a light-to-heat-conversion (LTHC) layer on a base film;

forming a buffer layer on the LTHC layer; and

forming a transfer layer on the LTHC layer.

15. The method according to claim 14, wherein the LTHC layer includes a metal layer or an organic polymer layer, and

wherein the metal layer is formed by vacuum evaporation, electron beam deposition or sputtering and the organic layer is formed by a roll coating method, a gravure coating method, an extrusion coating method, a spin coating method, and a knife coating method.

16. The method according to claim 14, wherein the buffer layer includes a material whose glass transition temperature (Tg) is lower than 25° C.

17. The method according to claim 14, further comprising:

forming an interlayer between the LTHC and the buffer layer.

* * * * *

专利名称(译)	用于平板显示器的供体膜和使用其制造OLED的方法		
公开(公告)号	US20050048295A1	公开(公告)日	2005-03-03
申请号	US10/829992	申请日	2004-04-23
申请(专利权)人(译)	三星SDI CO.，LTD.		
当前申请(专利权)人(译)	三星DISPLAY CO.，LTD.		
[标]发明人	KIM MU HYUN CHIN BYUNG DOO SUH MIN CHUI YANG NAM CHOUL LEE SEONG TAEK		
发明人	KIM, MU-HYUN CHIN, BYUNG-DOO SUH, MIN-CHUI YANG, NAM-CHOUL LEE, SEONG-TAEK		
IPC分类号	H05B33/10 B32B7/02 B32B25/20 C09K11/06 H01L51/50 H01L51/56 H05B33/12 H05B33/14 H05B33/22		
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摘要(译)

用于平板显示器的供体膜和使用其制造有机发光器件的方法。用于平板显示器的供体膜具有基膜，设置在基膜上的光热转换层，设置在光 - 热转换层上的转移层，以及插入在光 - 膜之间的缓冲层。热转换层和转移层，其中缓冲层包括玻璃化转变温度（Tg）低于25℃的材料。用于平板显示器的供体膜介于光 - 热之间的缓冲层供体基底和转移层的转换层，从而改善转移层和供体基底之间的粘附性。因此，通过使用供体膜转移转移层而在受体基板上形成的有机层图案不包括任何缺陷。

FIG. 1A

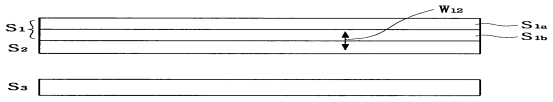

FIG. 1B