Claims

1. An optical laminate comprising:

an optical film including a polarizer;

a first pressure sensitive adhesive layer disposed on a first principal surface of the optical film;

a first adherend bonded to the first pressure sensitive adhesive layer;

a second pressure sensitive adhesive layer disposed on a second principal surface of the optical film; and

a second adherend bonded to the second pressure sensitive adhesive layer, wherein

each of the first pressure sensitive adhesive layer and the second pressure sensitive adhesive layer has a light transmittance of 85% or more at a wavelength of 420 nm, and

the first pressure sensitive adhesive layer has a light transmittance of 80% or less at a wavelength of 355 nm,

wherein

the optical laminate has a through-hole that extends through at least the first pressure sensitive adhesive layer, the optical film, and the second pressure sensitive adhesive layer.

2. The optical laminate according to claim 1, wherein any one of the first adherend and the second adherend has a light transmittance of 70% or less at a wavelength of 355 nm.

3. The optical laminate according to claim 1 or 2, wherein the second adherend is an image display cell firmly adhered to the second pressure sensitive adhesive layer.

4. The optical laminate according to claim 3, wherein the image display cell is an organic EL cell.

5. The optical laminate according to claim 3 or 4, wherein the image display cell includes a polyimide film.

6. The optical laminate according to any one of claims 3 to 5, wherein the through-hole extends through the image display cell.

7. The optical laminate according to any one of claims 3 to 6, wherein the first adherend is a first release film temporarily attached on the first pressure sensitive adhesive layer

8. The optical laminate according to claim 7, wherein the through-hole extends through the first adherend.

9. The optical laminate according to claim 1 or 2, wherein

the first adherend is a first release film temporarily attached on the first pressure sensitive adhesive layer

the second adherend is a second release film temporarily attached on the second pressure sensitive adhesive layer

10. The optical laminate according to claim 9,

wherein the through-hole extends through at least one of the first release film and the second release film.

11. The optical laminate according to claim 9 or 10, wherein at least one of the first release film and the second release film has a light transmittance of 70% or less at a wavelength of 355 nm.

12. The optical laminate according to claim 9 or 10, wherein at least one of the first release film and the second release film has a light transmittance of 15 to 70% at a wavelength of 355 nm.

13. The optical laminate according to claim 9,

wherein the through-hole does not extend through any of the first release film and the second release film.

14. The optical laminate according to any one of claims 1 to 13, wherein the first pressure sensitive adhesive layer has a thickness of 30 μm or more.

15. The optical laminate according to any one of claims 1 to 14, wherein a thickness of the

second pressure sensitive adhesive layer is smaller than a thickness of the first pressure sensitive adhesive layer.

16. The optical laminate according to any one of claims 1 to 15, wherein the first pressure sensitive adhesive layer has a light transmittance of 20% or more at a wavelength of 355 nm.

17. The optical laminate according to any one of claims 1 to 16, wherein the first pressure sensitive adhesive layer has a storage elastic modulus of 0.35 MPa or less at 25°C.

18. The optical laminate according to any one of claims 1 to 17, wherein the first pressure sensitive adhesive layer is a photocurable pressure sensitive adhesive containing a photocurable compound and a photopolymerization initiator.

19. The optical laminate according to any one of claims 1 to 18, wherein a storage elastic modulus of the second pressure sensitive adhesive layer at 25°C is larger than a storage elastic modulus of the first pressure sensitive adhesive layer at 25°C.

20. The optical laminate according to any one of claims 1 to 19, wherein the second pressure sensitive adhesive layer has a light transmittance of 80% or more at a wavelength of 355 nm.

21. The optical laminate according to any one of claims 1 to 20, wherein a light transmittance of the second pressure sensitive adhesive layer at a wavelength of 355 nm is larger than a light transmittance of the first pressure sensitive adhesive layer at the wavelength of 355 nm.

22. The optical laminate according to any one of claims 1 to 21, wherein the optical film includes a resin film arranged so as to contact at least one surface of the polarizer, and the light transmittance of the resin film at a wavelength of 355 nm is 10% or less.

23. A method for producing an optical laminate, comprising forming a through-hole in a laminate by laser processing, wherein

the laminate comprising:

an optical film including a polarizer;

a first pressure sensitive adhesive layer disposed on a first principal surface of the optical film;

a first adherend bonded to the first pressure sensitive adhesive layer;

a second pressure sensitive adhesive layer disposed on a second principal surface of the optical film; and

a second adherend bonded to the second pressure sensitive adhesive layer,

the first pressure sensitive adhesive layer and the second pressure sensitive adhesive layer have a light transmittance of 85% or more at a wavelength of 420 nm,

the first pressure sensitive adhesive layer has a light transmittance of 80% or less at a wavelength of 355 nm, wherein

in formation of the through-hole, one of the principal surface is irradiated with an ultraviolet laser to form a through-hole extending through the first adherend, the first pressure sensitive adhesive layer, the optical film, the second pressure sensitive adhesive layer, and the second adherend, wherein

one of the first adherend and the second adherend that is arranged on the principal surface irradiated with the ultraviolet laser has a light transmittance of 70% or less at a wavelength of 355 nm.

24. A display device comprising:

an image display element; and

an optical element, wherein

the image display element comprising:

an optical film including a polarizer;

a first pressure sensitive adhesive layer disposed on a first principal surface of the optical film;

a transparent adherend bonded to the first pressure sensitive adhesive layer;

a second pressure sensitive adhesive layer disposed on a second principal surface of the optical film; and

an image display cell bonded to the second pressure sensitive adhesive layer,

the first pressure sensitive adhesive layer and the second pressure sensitive adhesive layer have a light transmittance of 85% or more at a wavelength of 420 nm,

the first pressure sensitive adhesive layer has a light transmittance of 80% or less at a wavelength of 355 nm, wherein

a through-hole is formed through the image display cell, the second pressure sensitive adhesive layer, the optical film and the first pressure sensitive adhesive layer,

the optical element is arranged in the through-hole or under the through-hole,

the optical element is at least one selected from the group consisting of light receiving elements and light emitting elements.

25. The display device according to claim 24, wherein the image display cell is an organic EL cell.