

HIGH TRANSPARENT CONDUCTIVE PHASE-DIFFERENCE ADHESIVE FILM

BACKGROUND OF THE INVENTION

Field of Invention

5 The present utility model relates to a high transparent conductive phase-difference adhesive film, and more particularly, to a structure provides transparency and electrostatic discharge (ESD) protection. With a scratch-resistant, stain-proof conductive phase difference film on which a transparent conductive adhesive layer is coated, the adhesive film may provide enduring transparency for an object to which the adhesive film is attached
10 so that the object may look clear through the adhesive film for a long while. The adhesive film may be fabricated in a process free from ESD. After fabrication, the high transparent conductive phase-difference adhesive film may be directly applied to objects without replacing any protective adhesive films, thereby saving the cost of purchasing the protective adhesive films.

15 Related Art

Common adhesive films are widely applied to office appliances or video products due to the properties of high transparency and damage resistance.

As shown in FIGs. 1 and 2, a conventional adhesive film D is formed by coating a layer of adhesive B between a release film R and a plastic film P. After the release film R
20 is stripped off, the adhesive film D with the plastic film P is attached to an object for protection of the object. In order to save space, the common adhesive film D is stored in rolls as shown in FIG. 3.

Although the common adhesive film is transparent, however, different refraction of an incident light may occur due to non-uniform thickness of the adhesive film, which may
25 deteriorate the clarity of the object when viewed from the adhesive film. Therefore, it may be difficult for the common adhesive films to be applied to a quality inspection process before shipment in a production line.

SUMMARY OF THE INVENTION

In order to solve the problems in prior art, "a high transparent conductive phase-difference adhesive film" is devised, one side of the phase-difference adhesive film is coated with a transparent conductive adhesive and the other side is coated with a scratch-resistant stain-proof conductive layer so as to provide ESD protection and transparency while detaching and attaching the adhesive film.

To achieve the above objects, the present utility model may provide but is not limited to the following technical means. The technical means of the present utility model is directed to a conductive release film and a scratch-resistant stain-proof conductive phase-difference film coated with a transparent conductive adhesive layer, characterized in that one side of the phase-difference film is coated with the transparent conductive adhesive layer, and the other side is coated with a scratch-resistant stain-proof conductive layer. In addition, the conductive release film, which is directed a plastic thin film having one side coated with a release agent and the other side coated with a conductive agent. The release film is a necessary accessory for facilitating use of the scratch-resistant stain-proof conductive phase-difference film coated with the transparent conductive adhesive layer in rolls and pieces, and moreover can be applied to various products. Molecular chains of the phase-difference film form a forward angle in a mechanical direction and a coated scratch-resistant stain-proof conductive layer can provide higher transparency of optical products. The transparent conductive adhesive layer of the present utility model may provide ESD protection and substantially protect the object during the process of repetitiously detaching and attaching, such that the object still remains transparent after application and manufacturing processes without replacing new protective adhesive films.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will become more fully understood from the detailed description given herein below for illustration only for, and thus are not limitative of the present invention, and wherein:

FIG. 1 is a schematic diagram illustrating a conventional adhesive film;

FIG. 2 is a cross-sectional view of a part of FIG. 1;

FIG. 3 shows the storage state of an adhesive film;

FIG. 4 shows the use state of the conventional adhesive film;

FIG. 5 is a cross-sectional view of JBSC of the adhesive film according to the present
5 utility model;

FIG. 6 is a cross-sectional view of SCS of the present utility model; and

FIG. 7 is a cross-sectional view of JBS of the present utility model.

DETAILED DESCRIPTION OF THE INVENTION

Referring to FIG. 5, which shows a cross-sectional view of a high transparent
10 conductive phase-difference adhesive film according to the preset utility model. FIG. 5
clearly shows that the adhesive film of the present utility model includes a conductive
release film SCS, a phase-difference film J having one side coated with a transparent
conductive adhesive layer BS and the other side coated with a scratch-resistant stain-proof
conductive layer JS. The conductive release film SCS, which is directed to a plastic film
15 having one side first coated with a conductive agent S1 and then coated with a release agent
C, and the other side coated with the conductive agent S1. The conductive
scratch-resistant stain-proof phase difference film JBS is directed to a phase-difference film
J having one side coated with the scratch-resistant stain-proof conductive layer JS, and the
other side coated with the transparent conductive adhesive layer BS. The present utility
20 model includes the conductive release film SCS, as shown in FIG. 6, and the conductive
scratch-resistant stain-proof phase difference film JBS, as shown in FIG. 7.

The high transparent conductive phase-difference adhesive film, which has the
transparent conductive adhesive layer BS, is free from ESD while being repetitiously
attached or detached. Moreover, the scratch-resistant stain-proof conductive
25 phase-difference film coated with the transparent conductive adhesive layer keep the object
transparent.

List of Reference numerals

- J Phase-difference film
- JS Scratch-resistant stain-proof conductive layer
- S1 Conductive agent
- 5 P Plastic thin film
- R Common release film
- BS Transparent conductive adhesive layer
- B Common adhesive layer
- C Release agent
- 10 SCS Conductive release film
- JBS Conductive scratch-resistant stain-proof phase difference film
- JBSC Scratch-resistant stain-proof conductive phase-difference film coated with a transparent conductive adhesive layer
- F Static electricity
- 15 D Common adhesive film

CLAIMS

What is claimed is:

1. A high transparent conductive phase-difference adhesive film comprising:
a phase-difference film; and
5 a transparent conductive adhesive layer;
characterized in that the transparent conductive locates at one side of the phase-difference film.
2. The phase-difference adhesive film of claim 1, characterized in that a scratch-resistant stain-proof conductive layer, the scratch-resistant stain-proof conductive
10 layer locates at the other side of the phase difference film, which is opposite to the side where the transparent conductive adhesive layer locates.
3. The high transparent conductive phase-difference adhesive film of claim 1 or 2, characterized in that further comprising a release film, wherein the release film comprises a plastic film and a release layer.

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