



Production process of Self-adhesive film/Laminated film

1. Attention for producing Self-adhesive film/Laminated film:

- 1.1. Producing according the order, the size cut according to the drawings, if factory have any problem about the drawings or order, contact with our colleagues, and confirm again about the order. To avoid happening something unnecessary.(Need to confirm: Self-adhesive film or Laminated film, Cut from long side or short side, 1 or 2 Film material can make in different width, to avoid waste the material
- 1.2. Confirm the film quality before cut it, For example, any white or black dot in the film, Usually the black dot was caused by dust, white dot was caused by folding. Pls contact with leader or salesmen if have any other problem.

2. Production process of Self-adhesive film/Laminated film

2.1 Cut the film

- 1.Regulating the corner before cut the film, for correct right-angle and size.
- 2.Use the high precision measurement to measure the size and mark in “> <”. The mark is for cutting more accurate film.
- 3.Need to keep the whole side of film smoothly with any white edge or rough edge (White edge was caused by ITO, and rough edge was caused by the no edge blades)
4. Use measurement to measure the corner of the film to recheck the cutting size its accurate or not (Usually the error of two corners cant more then 3mm)
5. Stick the sticker after finish cutting the film, information of the sticker: self-adhesive film or adhesive film, size, etc.(Every film the size its different, information of the sticker also is different, suggest to buy a sticker printer by yourself.
6. The sticker need to stick on self-adhesive side

2.2 Cut electrode

- 1.Self-adhesive film its more difficult then non adhesive film to cut, because high hardness of one side of the film.
2. Recheck long or short side to connect after get the film, and check the surface have any white or black dot, broken or any fold or no
3. Keep straight line when cut the electrode, suggest using the knife to cut lightly when cut electrode, avoid scratch it ITO film.



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4. An electrode position(positive)and an electrode (negative plate)are cut from the back of the film,, and if the electrodes are cut on the same side, the current leads to a short circuit. When cutting a 1M film, the

Length of two sides is 40 cm, and the length of the middle is 20 cm, cut 1.8 m wide film, 80cm in both sides,40 cm in the middle, so on. In the case of short-side connecting, the middle electrode can be less.

Usually one blade, after cutting nearly 10 films, need to change it, because need to keep the blades sharp.

6.In order to make the electrodes more beautiful, radian finish will be more beautiful。

7.Both side need to cut the place of the electrodes when two sides connect the electrodes, on the same side of the opposite direction is t positive plate or negative plate. Note: width is within 2.5M of the single-side electrode, the width is longer then 2.5M , electrode should be in two sides.

2.3 Rub out two layers of ITO interior liquid crystal mixture

1. After the electrode is cut out , cover the rubber block with a dust-free cloth and wipe it with alcohol . Wipe with a light wipe, use up to 5 minutes, cant wipe too clean, because the ITO conductive layer is too clean will lead to the case of non-electrification.

2.4 Brush sliver paste

1. After the alcohol has evaporated, print the silver paste (silver's electrical conductivity was good) print the silver paste is done with a screen electrode (not only to save the silver paste, but also to increase the efficiency, and to ensure that the silver paste is evenly attached to the electrode position) The silver paste must be 1-1.5 mm away from inside of the electrode. If the silver paste and inside of the electrode was too closed, will be short-circuit when power on.

2.5 Dry out silver paste

1. Use blower to dry out the silver paste, If the blower is used to dry it, the time taken by the blower is shorter than that of the left and the right side of the blower. Blower oblique blow 3-5 minutes, in order to save effort on the blower on the film, because the temperature of the work of the electric wind itself is very high , will spoil the film。

2.6 Stick the copper foil

1.After blowing and dry out the silver paste, and stick the copper foil, if the silver paste is not dry, the copper foil will cause opacity after the film is charge and transparent for some time. Note: The width of copper foil kept at 0.35 cm



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will be reasonable.

2. The copper foil must be completely attached to the silver paste and the copper foil should be aligned along the edge of the electrode.
3. If its production of self-adhesive film, two small copper foils are needed on both positive and negative copper foils. Note: Adhesive film is no need .
4. Use a scraper to scrape the pasted copper foil, and pasted copper foil must not have a warped edge.

2.7 Solder the electrode wire

1. Distinguish between black and red wires when welding wires, make sure which side of black wire welding ,which side of red wire welding, especially the double side electrode, make sure that the smoothness of the solder joint is even enough, or the hump will hurt the film when you roll the film.
2. If the film is self-adhesive, two small copper foils (electrified electrodes) are required to be soldered, since the solder points are on the self-adhesive side, the self-adhesive film is not easy to apply.
3. Adhesive film, a layer of high moisture resistance is required on both sides of the film. The protective film attached is leveled with a flexible scraper, which prevents water and fog from sticking to the copper foil by the action of high moisture resistance adhesive.
4. The soldering iron must not stay on the film material for a long time, the soldering iron can't touch the film material, the solder can't be dropped on the membrane materials, so as not to burn the film material.

2.8 Testing

1. Electrify test on the prepared film, at the same time in the transparent state again observed on the film are whether there are black spots, top wound, crease.
2. In the case of power on, one hand touching a single-side electrode means that if the copper foil feels hot or no, if its feeling hot for the copper foil, it means somewhere in the film was short-circuit and requires immediate power cut for inspection

2.9 Roll up the film

1. When electrode connect in two sides, must fry them with masking tape, one side electrode is arranged in parallel with the edge of the film (Masking tape cant fold so as not to hurt the film) and then rolling it.
2. Need to insure the two sides flatness of the film when roll up it. And then must use masking glue to bond the rolled film's electrodes .Try our best to avoid goring the electrode.



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3. After wrapping, the protective film must be wrapped and then covered with 3-5 mm thick EPE-foam. Try our best to protect the film.
4. Roll the film from the largest width and then roll the film slightly wider. A film shorter than 1.4M can be roll up to 20 sheets; 1.4 to 1.8 M can roll up to 15pcs..
5. The volume of the film can't be too tight or too loose.

3.0 Packing

1. First, need to check how many pieces films, how big the size, next need to confirm the size of the CTN box, paper tube, and need how many packing, electric source and glass glue. Parts must be packing completely, avoid less any parts after customer receive the goods.
2. Put eye pads for the rolled film in the both sides, and put the film in the CTN box. If two sides have any gap, need to use the EPE-foam to fill in it, avoid any moving when deliver it .
3. Need to put a sticker in the outer CTN box (Information of sticker: customer name, film size, adhesive or self-adhesive etc). And the parts of same order need to put together, wait for delivery.
4. For some customers who are not in a hurry to get goods, the production can be delay or the film can be finished and then laid flat. The film will be rolled up and shipped on the day or the day before the deliver, and the customer must be remained to flatten the film immediately after receive it. Because will be possible to maximize the amount of time rolled up the film, resulting gored the film.