

1. Flexible circuit board structure and related constituent material names

Flex PCB are a special PCB product designs that its application can make three-dimensional shape changes during downstream assembly of flexible boards used in consumer electronics. Its substrate is flexible polyimide (PI) or polyester (PE). The aforementioned soft board is also like a hardboard, which can be obtained by plated through-holes or exterior adhesive fillings for through-hole inclusion or facade adhesion. The surface of the board can also be covered with a soft cover layer for protection and soldering purposes, or a soft solder-proof green paint can be printed on it.

2. FPC flexural failure

Due to the repeated bending and flexing action of flexible printed circuit boards during the use of electronic products, the material (plate) is broken or damaged. We call it "flexural failure".

3. Polyurethane soft material

It is a kind of "polyurethane" sheet like insulating soft material. It is attached with rolled copper foil or electroplated copper. After foiling, it can be made into the base material of flex PCB.

4. Membrane switch

Using transparent polyester film as carrier, screen printing method will be used to print silver glue (silver pastes) on thick film circuit, and then with hollowing pads, combined with protruding panel or PCB flex circuits, creating a "touch" switch or keyboard. This little "button" design is usually utilized in hand-held calculators, electronic glossaries, and remote controllers use in remarkable customer home devices.

5. Polyester films polyester sheets

Polyester sheets are referred to as PET sheets, which is a material with good electrical resistance. In the circuit board industry, the transparent protective layer on the outside of the imaging dry film and the coverlay on the outside of the flex PCB films, are utilized for the silver paste printed film circuit as the substrate. In the electronics industry, you can use them in the insulation layer of cables, tubular containers of multiple ICs transformers or coils.

6. Access hole (through-holes, open-bottom holes)

The protective cover of the soft board (cover through holes that must be punched out first), is used to fit on the surface of the flex circuit board (FPC) as a solder mask use. However, it is necessary to deliberately expose the hole ring, hole wall or square welding pads requirements for welding to facilitate the welding of parts. The well-known "access hole" indicates that the surface layer has a through-hole so that the environment will be able to "close" to the solder connections on the covering of the board layout under the surface protection layer. Some multilayer circuits

also have such exposed holes.

7. Acrylic

Acrylic is a popular name for polyacrylic resin. Most of the flexible board use its film as the next film.

8. Adhesive

Adhesive glue such as resin or coating, can make the two interfaces to finished adhesion.

9. Anchoring spurs

Anchoring spurs are on the middle plate or single panel of the force claw. In order to make the hole ring welding pad have stronger adhesion on the surface of the plate, you can add a few more fingers on the extra space outside the hole ring. To make the ring more solid, reduce the possibility of floating away from the plate surface.

10. Bandability

Bending ability is a feature of the changing flex board (for instance, the print caps of computer disk drives), and its status should strike one billion times of "bend."

11. Bonding layer

Bonding layer, normally taken as the film layer of the multi-layer board, or the strip of flex circuit board, is the adherent layer within the polyurethane (PI) and copper skin substrate.

12. Coverlay/cover coat surface protection layer, protective layer

Coverlay is the outer layer of the soft board. It is always hard to be fused with the green paint applied for the hardboard, due to the fact that it may drop off while bending. It is necessary to make use of soft "acrylic" laminated on the exterior of the flex circuits. This can also be used as a solder mask and can preserve the outer layer of the flex circuits, and improve the resistance and strength of the flexible board. The "outer membrane" is referred to as the surface protective layer or protective layer.

13. Reel to Reel (disc) linkage type

As some electronic parts and components, it can be produced by the reel (disc) retractable process, such as TAB, IC metal frame (Lead Frame). Some FPC can take the benefits of the convenience of tape reeling to complete their online automatic operations to save time and labor costs for one-piece operations.

14. Dynamic Flex

It refers to a FPC that needs to be used for continuous motion, such as the flexible board in the read-write head of a disk drive. In addition, there is a "static FPC", which refers to soft boards that have no action after being assembled properly.

15. Adhesive Film

Adhesive film refers to the dry thin film adhesive layer, which can contain reinforced fiber cloth film, or a thin layer without reinforcing material and only adhesive material, such as the adhesive layer of FPC.

16. Polyimide (PI)

It is a kind of excellent resin polymerized by Bismaleimide and Aromatic diamine. Initially, it was called the powdered resin product Kerimid 601 originated from Rhone-Poulenc, a French company. This PI sheet has great thermal resistance and an electrical shield. It is necessary for the manufacturing of automatic tape and flex circuit board. On the other hand, it is essential in the manufacturing of supercomputer motherboards and advanced military hard boards.