

High Functional Black coverlay

FPC & WPC Application



Technical Data Sheet

Description

- High Functional Black coverlay is a composite of double layer (Insulation & Adhesive) structure containing no PI film.

Currently, Needs for thinner FPC are increasing in the Mobile industry.

This film has the advantage which is much thinner than the conventional type (Cover-lay on FPC).

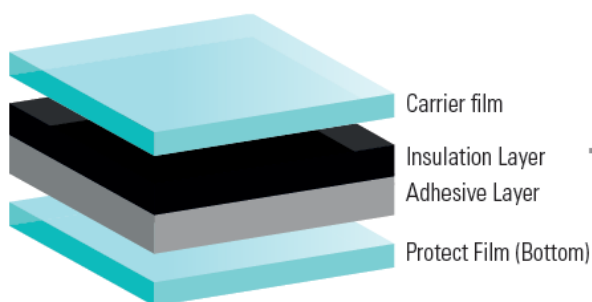
So in this reason, we developed high Flex, High Functional Insulation Film for meet customer requirements.

High Functional Black coverlay can be used to encapsulate etched details in flexible and rigid-flex multi-layer constructions for environmental protection and electrical insulation.

Main Features

- * Total thickness of **10um** (Minimum)
- * Excellent **high-gap filling** performance (Max 2Oz)
- * Excellent **heat-resisting & Chemical-resisting** performance
- * Excellent **Spring back** performance
- * **Prevent the leaking of patterning information**

Structure



< Fig 1. High Functional Black coverlay Construction >

| Model | Adhesive | Insulation | IPC |
|-----------|----------|------------|----------------|
| | Mil (μm) | Mil (μm) | Certification* |
| BT-010-P0 | 5 | 5 | - |
| BT-012-P0 | 5 | 7 | - |
| BT-015-P0 | 8 | 7 | - |

Processing

Press conditions for High Functional Black coverlay are typically in the following ranges;

1. cut out wanted size
2. pre-fixing on the substrate (150~160 °C)
3. Strip the protect film
4. Thermal pressing*

*Pressing condition

- Hot press : 150~160 °C, 30~45kgf/cm², 60min

※ Find the best process condition with your machines.

Storage Warning

- Store it in low temperature & humidity (temp.: 5±3 °C / humidity: 40±10%) away from direct sunshine.
- Allow the refrigerated film with plastic wrap to stand at room temperature before using it. (By doing this, you can avoid deterioration from Dew condensation.
- Avoid treating products with bare hands. Put on the clean gloves while handling the products.
- Be careful not to drop the roll and keep it away from a shock.

Using Warning

- Avoid treating products with bare hands during operation.
- During thermal processing, be careful not to contact the hot press machine.
- Please be careful not getting foreign substances on the adhesive layer, when pre-fixing Process.

Transportation

- Products are to be kept at low temperature & humidity (temp.: 5±3 °C / humidity: 40±10%) during transport.
(Refrigerated courier service)

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Properties

| Properties | | Unit | Test Condition | Test Result | Test Method |
|---------------------------------|-----------------|--------|--|--|---------------|
| thickness | | μm | Standard ± 2 | BT-010-P0 : 10 BT-012-P0 : 12 BT-015-P0 : 15 | InkTec Method |
| Peel strength | | kgf/cm | 180D, 50mm/min width 10mm Cu foil shiny side | ≥0.7 | |
| | | | 180D, 50mm/min width 10mm Stiffener | ≥0.7 | |
| Heat Resistance | Solder floating | - | 290℃ 10sec floating | None bubble or De-lami | |
| Step filling | | oz | Average 2.0 (It changes depending on the thickness) | None crack | |
| Resin-flow | | μm | After hot press | ≤100 | |
| Chemical Resistance | IPA | - | After 60℃ 10min dipping, 3M Tape pull test | None bubble or De-lami | |
| | 2M NaOH | | | | |
| | 2M HCl | | | | |
| Dimension stability | | % | MD/TD | < 0.05% | |
| Surface Resistance (at ambient) | | Ω/□ | - | > 10 ¹² | |

*Note: This value is measured value, only for reference.