

Fastwel™ Products with COATED Option

Protective coating is a thin protective polymeric film (25 – 75 µm thick) applied on an assembled electronic module or PCB. It is mainly intended for protection of electronics operating in rugged environments, exposed to moisture, aggressive chemicals, salt mist, vibration, and risk of fungous organics buildup.

For high quality protection of its products against various environmental impacts Fastwel employs the HumiSeal® 1A33 urethane protective coating.*

Main Specifications of the Coating

Service Life:	Not less than 20 years
Coating Thickness:	25 µm to 75 µm
Dielectric Breakdown Voltage:	Not less than 7500 V
Insulation Resistance:	Not less than 200×10^{12} ohms (200T)
Continuous Use Operating Range:	-65°C to +125°C

- Polyurethane (PU) coatings provide excellent chemical stability, good moisture protection, dielectric and temperature characteristics.
- This coating is certified to conform to Military and UL American standards. In addition, PU coatings comply with the requirements of IEC-1086 and IPC-CC-830B industry standards accepted by most aerospace companies in the United States and European Union.

* Note: Fastwel retains the right to use protective coating having similar characteristics of another brand or from other manufacturers.

Deposition of the coating includes the following steps:

- 1 Surface Preparation**

Equipment in use: the SMT 1000-LD washer from «Aqueous Technologies»; ECOCELL 55 oven from «BMT»; WAFE PLUS antistatic illuminator with Luxo optics; VS8 visual inspection system. The products are washed and dried. The areas where the coating should not be applied are masked using up-to-date materials. A moisture protective sealant is used to protect the components and areas of a module, where the conformal coating application is undesirable, for example, contacts of press-and-fit connectors, BGA microchips contacts.
- 2 Preparation Quality Inspection**

Equipment in use: WAFE PLUS antistatic illuminator with Luxo optics; VS8 visual inspection system.
- 3 Protective Coating Deposition**

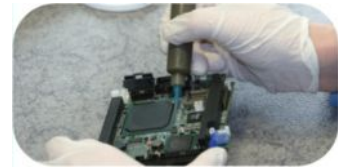
Depending on the module type, the coating is applied by spraying or brushing.
- 4 Polymerization of the Coating (Drying)**

Equipment in use: ECOCELL 55 oven from «BMT»
- 5 Coating Quality Inspection**

Equipment in use: WAFE PLUS antistatic illuminator with Luxo optics; VS8 visual inspection system; UV lamp.
- 6 Functional Testing According to Approved Procedure**

Products with “COATED” option undergo mandatory functional testing before and after the coating application procedure.
- 7 Coating Quality Inspection After Testing**

The products are tested for compliance with the requirements of IPC-A-610D international standard – “Acceptability of Electronic Assemblies” – and with requirements of design documentation. Equipment in use: WAFE PLUS antistatic illuminator with Luxo optics; VS8 visual inspection system; UV lamp.



Protective coating is a proven and efficient way to increase the stability of electronic modules against all types of surface shortings caused by various environmental impacts, such as dewfall, salt mist, ingress of metallic particles.

Fastwel products with protective coating have proved themselves to be a good advantage among the customers from different branches of industry, transport, and defense.