

Product

PMcoat AC 110-20 is a transparent conformal coating, based on established acrylic chemistry. It is designed for air driven spray applications, but it could also use for brush and cross cut nozzle applications.

PMcoat AC 110-20 meets the latest requirements of electronics, e.g. low pin corrosion, fast curing at ambient temperatures or oven cure conditions.

PMcoat AC 110-20 is lead-free, has no aromatic compounds and satisfies the requirements of ROHS directive.

The varnish features superior performance in thermal and dielectric properties which are maintained when subjected to environmental stress.

Application

Coating of electronics:

- PCB's subject aggressive environment
 - automotive or marine navigation
 - Industrial
 - Hybrids
- SMD devices
- Discrete components

Main Properties

- Temperature resistance of 130°C
- Self-extinguishing according to UL 94 V0
- Superior dielectric properties
- High volume resistivity including humid conditions
- Resists moisture and dust contamination
- Withstand weak acids + alkalis
- Excellent adhesion to most surfaces
- All performance properties in very thin films
- ROHS compliant
- Eminently suitable for inspection under UV-light
- Easy to rework

Resistance to Harsh Conditions

Electronic components, covered with Polycoat 110-20, provide maximum resistance against contaminants such as moisture, dust and many chemicals. It withstands weak acids, fuels, oils, glycols and many other fluids used in automotive and marine industry.

The coating retains good adhesion due to the included solvents, but remains flexible to withstand distortion of the PCB after drying.

PCB's, covered with PMcoat AC 110-20, can survive temperature shock and temperature cycling tests for more than 200 cycles (e.g. 40 to 125°C, IPC Test 2.6.7.1 Class 2).

Processing

PMcoat AC 110-20 is optimized for mass production with automatic and semi-automatic applications.

It is ready to use, usually no diluting is needed. The coating minimizes risk of blocking the nozzle by slight reduce of evaporation of solvent parts.

It could also be used for dipping, brushing and crosscut- nozzle coating, if the viscosity is suited to the PCB or electronic component. Thinner PMsolve 5000 is required for dilution.

PMcoat AC 110-20 is a flammable liquid; good ventilation is important in all processing areas.

In order to achieve satisfactory wetting and fault-free adhesion with PMcoat AC 110-20, it is important to ensure compatibility with applied solder resist, paste and flux.

A cleaning process can optimize adhesion (e.g. plasma treatment or conventional washing of the PCB's).

Curing

Batch curing:

Ambient Temperature, for 90 Minutes
Accelerated cure at 80°C in 0.25 h depend on airflow & ventilation.

Continuous oven curing:

Very short cure times of about 10 min can be achieved with correct temperature profile in a well-regulated in-line oven. Caution is needed to limit the rate of temperature increase to avoid bubbles creation. Guidance on curing profiles is available on request.

Re-work + Cleaning

If a component needs to be replaced on a PCB, it is possible to solder though the coating. Better was to remove the coating by PMsolve 5000 or similar solvents. Brush away residues and cover with new

PMcoat AC 110-20. Thinner PMsolve 5000 is recommended for storage cups of automatic coating equipment and cleaning of equipment.

Typical data

Viscosity, FlowTime, DIN/EN/ISO 2431, Cup 4mm, 23°C	50 ± 10 s
Non-volatile content, ISO 3251, 1,5g, 1h, 110°C	19 ± 2 %
Density, DIN 51757 23°C	0,90 ± 0,01 g/cm ³
Minimum Shelf life ambient Temperature	12 months
Curing time 23°C, dust dry	0,42 ± 0,05 h
Touch dry	1,0 ± 0,1 h
Cured	2,0 ± 1 h
80°C cured	0,25 ± 0,05 h
Mandrel Bend test, IEC 60464-2/IPC TM650 2.4.5.1, 3mm 0,06 mm Film	>180°
Cross Hatch Test, DIN 53151/IPC TM650 2.4.1.6	GT 0-1
Permittivity, IEC 60250, 23°C 10KHz	2,7
Dielectric Dissipation Factor, IEC 60250, 23°C 10KHz	0,014
Dielectric Strength, IEC 60464 part 2/IPC TM 650 2.5.6.1B; 23°C	>153 kV/mm
after 23 h water immersion, 23°C	>118 kV/mm
Volumen Resistivity, IEC 60464 part 2/IPC TM 650 2.5.17, 23°C	5x10 ¹⁵ Ohmxcn
after 23 h water immersion, 23°C	5x10 ¹⁵ Ohmxcn
Tracking resistance, IEC 60112	600 CTI
Water absorption, ISO 62, 23°C 24h	4,5 mg
Self-Extinguishing according to UL 94, on 1,5 mm FR4 substrate	V 0

The information supplied on this data sheet complies with our current level of knowledge and believe, but is intended as information given without obligio, also with respect to any protective rights by third parties. It does not relieve you from your own responsibility to check the products for their suitability to the purposes and processes intended. The application, usage and processing of the products are beyond our reasonable control and will completely fall into your scope of responsibility. Should there nevertheless be a case of liability from our side, this will be limited to any danger to the value of merchandise delivery by us. Naturally, we assume responsibility for the unobjectionable quality of or products, as defined in our General Terms and conditions.