

ACC15 Silicone Conformal Coating

Introduction

This is a fast curing, low viscosity, low volatile, 1-component, condensation curing silicone coating. The uncured product can be applied by pouring, spraying or brushing and is readily cured to a tough, transparent rubber. It can be used to coat printed circuit boards to prevent ingress of water and environmental contaminants.

Key Features

- Room temperature cure or mild heat acceleration at 60°C
- Low viscosity
- 100% solids
- Fluorescent UV aid for production QA checks

Use and Cure Information

APPLICATION

The bulk product may be poured or brushed onto the circuit. The product contains an UV trace to allow inspection of the board after coating to ensure complete and even coverage. Boards should be thoroughly cleaned before coating for best adhesion / performance. Coating over no clean fluxes is possible so long as other surface contaminants are not present.

CLEANING

The boards should be thoroughly cleaned before coating. This is required to ensure that satisfactory adhesion to the substrate is possible. Some flux residues must be removed, as they become corrosive if left on the PCB.

DIP COATING

This is not recommended for large scale production, small baths of <5 litres are suitable but the coating must not be exposed to the atmosphere for longer than the tack free time stated in this document, during any coating campaign and must be returned to the original container and sealed. Please note that continual use of the coating by this method will reduce the life of the product and may result in poor coating quality.

BRUSHING

Ensure the coating has been shaken or mixed thoroughly (refit the cap after mixing) and stood for 2 hours to allow bubbles to separate. The coating should be used at ambient temperatures of >16°C. Using a good quality brush, apply the product gently to achieve a good coating and not to disturb wiring. The board should be left to cure at 16 - 60°C with a relative humidity of >40%.

SPRAYING

Dispensing platforms include:

Nordson SL940: Applicator SC300 monofilament spray, 0.71mm low cavity.

50 to 90 mm/second and 40 psi pressure.

Without dilution a coating thickness of 400 – 500 microns can be achieved which is touch dry in 12 minutes at 25°C and 55% humidity.

Using applicator SC300 swirl coat, 0.61mm low cavity.

80 – 120 mm/second and 25 psi.

At the maximum recommended dilution ratio of: 50 parts ACC15 to 50 parts ACC34, a coating thickness of 150 - 200 microns can be achieved which is touch dry in 16 minutes at 25°C and 55% humidity.

PVA Delta 6:Applicator FCS300 ES

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CURING TIMES / CONDITIONS

For brushing and manual spraying the film will be touch dry after 12 minutes at 23°C / 60% humidity and can be handled after 25 minutes. Curing can be accelerated by using an oven at 60°C for 12 minutes.

DOUBLE COATING

Whilst this should not normally be required, a second coating may be applied after the first coating is cured to ensure the two coats bond

Property

Uncured product

% Solids	100 %
Airless Spray Thinner Ratio	1:1
Appearance	Pale yellow liquid
Colour	Translucent
Cure Type	Condensation
Max Cure Hrs @ 25 °C	0.67 hrs
Pot Life mins	12 mins
Rheology	Liquid
Self Bonding	Yes
Silicone Yes/No	Yes
Solvented	No
UV Trace	Yes
Viscosity A-Part mPas	1180 mPas

Test Method

Value

Cured product

Duro Shore A	ASTM D 2240-95	18
Humidity Resistance		Excellent
Max Working Temp +°C	AFS_1540B	200 °C
Min Working Temp - °C		55 °C
Mould Resistance		Excellent
SG	BS ISO 2781	1.02
Solvent Resistance		Excellent
After 7 days cure at 23°+/-2°C and 50+/-5% humidity		
UL 94V-0		No
Storage		
Max storage temperature °C		32 °C
Min storage temperature °C		5 °C
Shelf life		12 mths
Electrical properties		
Dielectric Constant @ 1kHz	ASTM D-150	2.6
Dielectric Strength kV/mm	ASTM D-149	18.5 kV/mm
Dissipation Factor @ 1kHz	ASTM D-150	0.001
Surface Resistivity ohms	ASTM D-257	8.59E+15 ohms
Volume Resistivity ohms cm	ASTM D-257	1.8810E+15 ohms cm

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together.

Health and Safety

Safety Data Sheets available on request.

Packaging

ACC Coatings are available in a variety of packaging and sizes. Please contact our sales department for more information.

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