Technical Data Sheet

ACC15
Silicone Conformal Coating

INTRODUCTION
ACC15 is a low viscosity, 1-component, condensation curing silicone coating. The uncured product can be applied by pouring 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
- UL listed file number E493561
- Room temperature cure or mild heat acceleration at 60ºC
- Low viscosity
- 100% solids
- Fluorescent UV aid for production QA checks
- Excellent adhesion to many substrates
- Low odour
- RoHS compliant

APPLICATION
The bulk product may be poured or brushed onto the circuit. Pouring or brushing will give a film thickness of 100 to 1000 microns. 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. ACC manufacture a range of 100% Ozone Friendly cleaning products - both solvent and water based. All clean to military standards (please contact ACC for further information).

DIP COATING
This is not recommended for large scale production, small baths of < 5 litres are suitable but the ACC15 must not be exposed to the atmosphere for > 10 minutes during any coating campaign and must be returned to the original container and sealed. Please note that continual use of ACC15 by this method will reduce the life of the product and may result in poor coating quality.

BRUSHING
Ensure the coating has been shaken thoroughly. The coating should be used at room temperature (above 16C) using a good quality brush apply the product gently such as to achieve a good coating and not to disturb wiring. The board should be left to cure at 16 to 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
50 parts ACC34 or ACC34UV
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

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.

At the maximum recommended dilution ratio of:
50 parts ACC15
50 parts ACC34 or ACC34UV

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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). The full properties of the coating will be obtained after 24 hours at room temperature –curing can be accelerated by using an oven at 60°C

DOUBLE COATING

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

Property	Test Method	Value
Uncured Product		
(Tested at 25°C / 55 +/- 5% Humidity)		
Colour:		**Translucent pale yellow**
Appearance		**Liquid**
Viscosity, mPa.s:	Brookfield	**1180 mPa.s**
Tack free time	AMB 001	**12 minutes**
Cure to 1 mm		**40 minutes**
Cured Elastomer		
After 7 days at 25°C / 55 +/- 5% Humidity on a 3 mm thick test sheet.		
Hardness, Shore A	ASTM D 2240-95	**18**
Density (25°C, g/ml)	ASTM D70	**1.02**
Flash Point	ASTM D93	**>150°C**
Pensky Martin (closed cup)		
Solids Content		**100%**
Min Service Temp		**-55°C**
Max Service Temp		**200°C**
Coefficient of thermal expansion:		
Volumetric, ppm/°C		**930**
Linear, ppm/°C		**310**

Electrical Properties:

Volume Resistivity (Ω.cm)	ASTM D-257	1.88E+15
Surface Resistivity: (Ω)	ASTM D-257	8.59E+14
Dielectric Strength: (kV/mm)	ASTM D-149	18.5

STORAGE / SHELF LIFE

When stored in original closed containers at 5 to 32°C the shelf life is expected to be 12

HEALTH AND SAFETY

Material Safety Data Sheets are available at www.acc-silicones.com or upon request from the ACC Silicones sales office

PACKAGING

ACC15 is available in 1, 5, 18 and 20 kg non-returnable packages

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