

## 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

- Room temperature cure or mild heat acceleration at 60°C
- 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.

### Disclaimer: -

The information and recommendations in this publication are to the best of our knowledge reliable. However, nothing herein is to be construed as a warranty or representation. Users should make their own tests to determine the applicability of such information or the suitability of any products for their own particular purposes. Statements concerning the use of the products described herein are not to be construed as recommending the infringement of any patent and no liability for infringement arising out of any such use is to be assumed.

### BRUSHING

Ensure the coating has been shaken thoroughly. The coating should be used at room temperature (above 16°C) 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

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a coating thickness of 150 - 200 microns can be achieved which is touch dry in 16 minutes at 25°C and 55% humidity.

### 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

## Technical Data Sheet

### 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
<b>Uncured Product</b> (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
<i>Pensky Martin (closed cup)</i>		
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](http://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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