

## 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**

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.

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 or mixed thoroughly (refit the cap after mixing) and stood for 2 hours to allow bubbles to separate. 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**

Using a Nordson SC-300 swirl coat at 50 mm/second and 40 psi the ACC15 can be used undiluted to achieve a coating thickness of 400 microns which is touch dry in 11 minutes and fully cured in 20 minutes at 25°C and 55% humidity

Using a Nordson SC-300 swirl coat at 80 mm/second and 80 psi the maximum recommended dilution ratio is:

50 parts ACC15  
50 parts ACC34 or ACC34UV

A coating thickness of 200 microns can be achieved which is touch dry in 16 minutes and fully cured in 40 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

### **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 together.



## Technical Data Sheet

Property	Test Method	Value
<b>Uncured Product</b> (Tested at 25°C / 55 +/- 5% Humidity)		
Colour:		Translucent pale yellow Liquid
Appearance		
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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