

## Conformal Coating Viscosity Control

### Controlling Variables

There are numerous factors which directly affect the conformal coating processes to greater or lesser degrees. Those which have major impacts irrespective of the substrate / PCB and assemblies include choice of coating material and method of application. Whether conformal coating boards by dip, spray or brush methods the **Viscosity** and **Temperature** of the coating are critical factors.

The consistency of the resultant conformal coating thickness, quality of finish and some physical properties can all be dependant on the viscosity of the material which varies with temperature.

Material manufacturers state the viscosity range on their data sheets and usually recommend a dilution ratio with appropriate thinners deemed most suitable for the specific application method.

A quick, easy and cost effective way of controlling the final viscosity of any coating blend is using a measuring cylinder to accurately dilute the material and a flow cup to determine the resultant viscosity of the blend.



**Zahn Cups** have a fixed volume with accurately machined hole and by immersing the cup in the mixed and settled solution the efflux time in seconds - measured from initial withdrawal to the first interruption in flow - can be related with temperature and subsequently converted to actual viscosity.

Zahn Cups and other methods of viscosity measurement can usually be supplied by SCH as full kits incorporating the specific Zahn Cup to meet your exact requirement, a thermometer, a stopwatch and a calibration certificate together with user instructions and conversion charts.

Our technical expertise is constantly available should you have concerns regarding issues with coating performance, or any other problems involving conformal coatings, application and equipment for current or future projects.