

TECHNICAL DATA SHEET



VTA BA

DATE April 2013

ACRYLIC REMOVABLE COATING

PRODUCT DESCRIPTION

VTA BA Conformal Coating is a non toxic, flexible transparent acrylic coating for the protection of electronic circuitry formulated to meet the highest resistance requirements. VTA BA is designed to be removed with ABchimie SND .

FEATURES

- * Excellent adhesion under all climatic conditions.
- * Fluoresces under UV light as an aid to inspection.
- * Wide temperature range -60°C to +150°C.
- * Can be soldered through without fear of highly toxic gases being produced (contains no isocyanates).
- * Resistant to mould growth.
- * Can be totally removed with ABchimie SND.
- * Compatible with other high specification acrylic coatings.
- * Excellent Dielectric properties.
- * **Meets IPC-CC-830 and MIL-I-46058C.**

APPLICATION

VTA BA can be sprayed, dipped or brushed. The thickness of the coating depends on the method of application, but a dip coater normally deposits a film thickness of about 25 microns (single coat). Workshop temperatures of less than 16°C or relative humidities in excess of 75% are unsuitable for the application of VTA BA.

All PCBs, being composite materials, absorb moisture. If this is not removed, the conformal coating may not protect to its fullest extent. Pre-drying, or better still, vacuum desiccation, will remove most of the moisture.

VTA BA contains a UV trace which allows inspection of the PCB after coating to ensure complete and even coverage. The stronger the reflected light, the thicker the coating layer is.

Before coating PCBs must be clean, dry and without moisture.

The CI being humidity sensor, it is important to remove it before coating. A passage in oven for 1 to 2 hours at 60 ° C is generally sufficient.

Cleaning

Boards should be thoroughly cleaned before coating. This is required to ensure that satisfactory adhesion to the substrate is possible. Also all flux residues must be removed as they become corrosive if left on the PCB. ABchimie manufacture a range of 100% Ozone Friendly cleaning products in both the hydrocarbon solvent and aqueous fields. All products produce results within the Military specification (<1.54mg NaCl/cm²). Please contact ABchimie for further information.

Dip Coating

Ensure that the coating material in the container has been agitated thoroughly and has been allowed to stand for at least 2 hours for all the air bubbles to disperse.

Acrylic Thinners (DVA BA) should be used to keep the VTA BA coating at a suitable viscosity for dipping. DVA BA is added periodically as the solvent evaporates. The viscosity should be checked using a viscosity meter or "flow cup" (Zahn 2).

The board assemblies should be immersed in the VTA BA dipping tank in the vertical position, or at an angle as close to the vertical as possible. Connectors should not be immersed in the liquid unless they are very carefully masked.

ABchimie Peelable Coating Mask (LDM) is ideal for this application.

Leave submerged for about 1 minute until the air bubbles have dispersed. The board or boards should then be withdrawn VERY SLOWLY (5 to 20 cm/mn) so that an even film covers the surface. After withdrawing, the boards should be left to drain over the tank until the majority of residual coating has left the surface.

After the draining operation is complete, the boards should be placed in an air-circulating drying cabinet and left to dry.

Spraying

Bulk VTA BA needs to be thinned with DVA BA R before spraying. The optimum viscosity to give coating quality and thickness depends on the spray equipment and conditions but a starting point could be 1 parts coating to 1 part thinners. If bulk coating material has been agitated, allow to stand until air bubbles have dispersed.

VTA BA is suitable both for use in manual spray guns and computer controlled airless spray equipment that only coats the required areas of the PCB, eliminating the need for masking.

The nozzle of the spray gun requires to be selected to give an even spray to suit the prevailing viscosity of the coating material.

To ensure penetration of the coating beneath the components and in confined spaces, spray the assembly from all directions to give an even coating.

After spraying, the boards should be placed in an air-circulating drying cabinet and left to dry.

Brushing

Ensure that the coating material has been agitated thoroughly and has been allowed to settle for at least 2 hours. The coating should be kept at ambient temperature. Gently apply the coating with a good quality brush (silk) so as not to leave brush marks and so that the components and wiring are not disturbed.

When the brushing operation is complete the boards should be placed in an air-circulating drying cabinet and left to dry.

Drying Times and Curing Conditions

VTA BA will be touch dry after 15 - 20 minutes at room temperature and does not require a thermal cure. The full properties of VTA BA will be obtained after a 24 hours at room temperature. This can be accelerated by the use of a thermal cure of 2 hours at 60°C. Heat operation will increase adhesion.

Double Coating

Two coats of VTA BA are not usually required. However if two coats are required, the second coating should be applied after the first coating is dry. This will ensure that the two coats will bond satisfactorily.

TYPICAL PROPERTIES

Liquid VTA BA

Colour: Pale coloured liquid

Non-volatile content: 29-30% (Bulk)

Viscosity @ 20°C: 245-300 cSt (Bulk)

Specific Gravity @ 20°C: 0.93

Flash Point: 25°C

Drying Time: <15 min. touch dry

24 hours optimum properties

Date by use: one year after the date of manufacturing

Cured VTA BA Coating

Colour:	Transparent
Dielectric Strength:	50 kV/mm
Electrical Resistivity:	1 x 10 ¹⁴ Ohms/cm
Temperature Range:	-65°C to +150°C
Flammability:	Self-extinguishing
Dissipation Factor @ 1MHz @ 25°C:	0.01
Résistance d'isolement (Ω)	10 ¹² (MIL-I-46058C)
VRT	-25°C +25°C, 100 cycles, palier 15Mn, 5°C/Mn
Thermal chocki	-25°C +50°C, 50 cycles, 15Mn/15Mn
Dielectric withstanding voltage	> 1500V (MIL-I-46058C)
SIR test15H	20°C-80°C, 90%RH, sous tension
Moisture resistance (déi water)	10-80°C, 95%RH +-4%, 90 jours

PACKAGING

VTA BA Conformal Coating

400ml Aerosol (100% Ozone Friendly)

5 Litre Bulk

VTA BA 400

VTA BA 05L

Acrylic Thinners

5 Litre

5 Litre

DVA BA 05L

DVA BA R 05L

Removal Solvent

SND (100% Ozone Friendly, Flammable)

400ml Aerosol

5 Litre Bulk

25 Litre Bulk

SND400B

SND05L

SND25L

All information is given in good faith but without warranty. Properties are given as a guide only and should not be taken as a specification.

ABchimie cannot be held responsible for the performance of its products within any application determined by the customer, who must satisfy themselves as to the suitability of the product.

Toutes ces informations sont données en toute bonne foi mais sans garantie. Chaque application étant différente, il est vivement conseillé d'effectuer des tests préalables. Les spécifications concernant les propriétés sont données à titre indicatif et non comme étant spécifiques.