

Rubber Removable Conformal Coating

PRODUCT DESCRIPTION

NVR95 is a transparent single component designed to protect printed circuit boards subjected to harsh environments. It is a fast drying coating and has excellent flexibility due to its synthetic rubber resin and its no CMR solvents. NVR95 is a removable coating.

NVR95 may be applied by dipping, brushing, spraying machine and of course selective coating machine which is the ideal way to apply (DS85).

NVR95 is compliance with REACH and ROHS regulations.

FEATURES

- Excellent adhesion in harsh weather conditions,
- Very soft conformal coating, no stress on component
- Fluorescent UV to control of the layer of conformal coating deposit,
- Operating temperature range -65°C to + 150°C,
- Can be soldered through without fear of highly toxic gases being produced,
- Excellent thermal stability,
- Very low moisture vapor permeability
- Low viscosity for select coat machine (used with film coater, spray and jetter applicators).

APPLICATION

NVR95 can be sprayed, dipped or brushed. The thickness of the coating depends on the method of application. Workshop temperatures of less than 16°C or relative humidities in excess of 75% are unsuitable for the application of NVR95.

NVR95 contains a UV trace which allows inspection of the PCB after coating to ensure complete and even coverage. The stonger the reflected light, the thicker the coating layer is.

Before coating, PCBAs should be clean, dry and without moisture. The CI, being composite materials, absorb moisture. It is important to remove it before coating. A passage in oven for 3 to 4 hours at 60°C is generally sufficient. After a soldering process, PCBAs can be coat immediately. If there is an intermediate storage up to 48 hours you will have to dry PCBAs.

Cleaning before coating

PCBs must be free of moisture and perfectly clean (no dust, grease, wax...). Adhesion of the coatings is depending. All traces of flux are eliminated because they can become corrosive and create malfunction of the circuit.

NVR95 can be applied on uncleaned PCBAs. A cross cut test may be done to check the good adhesion on the PCBAs.

Cleaning will increase adhesion on the substrate. ABchimie manufactures a range of 100% Ozone Friendly cleaning products in both the hydrocarbon solvent and aqueous fields. All products produce results within the Military specification (<1.56mg NaCl/cm²). Please contact ABchimie for further information.

Dipping

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.

Thinner DVN should be used to keep the NVR95 coating at a suitable viscosity for dipping. DVN is added periodically as the solvent evaporates. The viscosity should be checked using a viscosimeter or "flow cup".

The board assemblies should be immersed in the NVR95 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.

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

NVR95 will be touch dry after 20 minutes at room temperature and does not require a thermal cure. The full properties of NVR95 will be obtained after a 24 hours at room temperature.

Immediate adhesion can be accelerated by the use of a thermal cure of 3 hours at 80°C. However solvents must be evaporated before heating.

TYPICAL PROPERTIES

Liquid NVR95

Colour:	Translucent liquid
Non-volatile content:	13%
Viscosity @ 25°C (ASTM D4212):	85cSt (Version DS85)
Specific Gravity @ 20°C:	0.8
Drying Time:	<30 min. touch dry 24 hours optimum properties

Cured NVR95 Coating

Colour:	Transparent (blue reflection)
Dielectric withstanding voltage	> 1500V (MIL-I-46058C)
Temperature Range:	-65°C to +150°C
Glass Transition Temperature (Tg)	-50°C
SIR test (IPC CC 830, 85%HR 85°C)	10 ¹⁰ Ω

NVR95 is in compliance with REACH and RoHS regulations. A certificate may be sent on request (info@abchimie.com).

PACKAGING:

NVR95 DS85

1 liter
5 liters

REFERENCES

NVR95 DS85 01L
NVR95 DS85 05L

DVN (Thinner)

1 liter
5 liters

DVN 01L
DVN 05L

Cleaner

Bulk 5 litres

SND 05 L

STORAGE AND SHELF LIFE:

Storage temperature: 5 to 30°C

A temporary lower temperature during few days (transport) doesn't distort varnish properties.

Shelf life: 12 months after the date of manufacturing

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.