



- TECHNICAL DATA SHEET -

**DOLPHON C(a)-1114**  
(BASE A 100: BASE B 13)

**DESCRIPTION**

Flame retardant, two packages, filled halogen-free epoxy resin homologated UL94 V0 file E317428. It can be used for casting and impregnating coils, transformers and electronic assemblies.

The resin C(a)-1114 Base A is available in different colors: black (CB-1114 Base A), not colored (CN-1114 Base A), yellow (CY-1114 Base A), blue (CX-1114 Base A), red (CR-1114 Base A).

The hardener C(a)-1114 Base B is available in the versions: Transparent (CC-1114 Base B) and blue (CX-1114 Base B).

It has the following outstanding features:

- Good electrical properties.
- Low shrinkage when curing.
- Tough, flexible film with excellent resistance to thermal shocks.
- Good water resistance.
- Flame retardant properties: homologation UL94V0 (4mm thick layer) file E317428.
- Suitable for application up to class H
- Included in the Class F UL Insulating System, DV-155J Tab. IX, file E317429.
- Good heat dissipation.

**CHARACTERISTICS**

**Physical properties**

Specifications	Resin C(a)-1114 Base A	Hardener C(a)-1114 Base B	MIXED
Viscosity Brookfield, 25°C	6000-10000 mPa.s	80-150 mPa.s	1000-3000 mPa.s
Specific Gravity at 25°C (g/L)	1630±30	1000±30	1530±30
Tensile strength, (ASTM D-638), MPa			42-52
Flexural strength, (ASTM D-790), MPa			63-73
Thermal Conductivity W/mK			0,70-0,90
Water absorption, % (ASTM D-570)			0,2-0,3
Hardness, Shore "D"			80-90
Shrinkage			0,3 %
Thermal cycles (OLIPHANT method)			10 cycles -45/+180°C
TG (Glass Transition Temperature), ASTM E1356			40-55°C
Glow-wire ignition temperature, GWIT (EN 60695-2-13)			900°C / 3,0
Glow-wire flammability index, GWFI (EN 60695-2-12)			960°C / 3,0



## Electrical properties

Dielectric Strength, IEC-243, KV/cm	200-230
Surface resistivity (ohms)	$8,1 \times 10^{13}$
Volume resistivity (ohms/cm)	$9,0 \times 10^{14}$
Comparative Tracking Index (IEC 60112), V	CTI 600

## APPLICATION

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### Processing

1. Preheat units to 110-120°C for 3 hours in order to remove moisture.
2. When a fast curing process is desired, together with a lower viscosity of the system, it's possible to preheat the resin C(a)-1114 Base A up to 35-45°C. In case a small sedimentation occurs, mix the resin thoroughly before using it.
3. Mix resin and hardener according to the mixing ratio 100 + 13 parts by weight, 22 parts by volume.
4. Cast the units under 5-10 mbar vacuum, this operation improves the mixture homogeneity and enhances the dielectric features of the casting.
- 5.

### Curing

The system cures at room temperature and achieves the final properties in a time that depends on the external temperature, normally 24 hours are enough.

Hardener	Mix ratio by weight	Mix ratio by volume	Gel time 25°C (100 gr.)
<b>C(a)-1114 Base B</b>	100:13	100:22	80-110 min.

(\*) The operating temperature is a result of our Laboratory experience, but the users are responsible for the effective thermal resistance of the devices to protect according to their type and size.

**NOTE:** This process can be accelerated by baking at low temperatures, for instance a post curing process at 70°C will complete the polymerization in 3 hours.

### Handling

Avoid any contact with skin and eyes, protection with safety gloves and goggles are recommended. For further information, see the corresponding Safety Data Sheets.



## Storage

Store in cool place. Protect the resin and the hardener from excessive moisture. The shelf life of the resin C(a)-1114 Base A is 12 months at 25°C; the shelf life of the hardener C(a)-1114 Base B is 12 months at 25°C.

Warning: All the information and application instructions concerning this product are based on technical specifications that we consider reliable, and are provided by way of example, according to our application experience. They do not establish any guarantee but only represent a starting point subject to alterations, according to the application and the kind of material to be treated. Before the product's use the utilizer must determine the suitability for the intended use undertaking all risks and responsibility for whatever may happen in connection with the application. The producer and/or seller will not be considered responsible for any accident, loss or damage (immediate or consequent) originating from the use and/or the inability to use the concerned product. Albesiano Sisa Vernici srl reserves the right to change or modify at any time and without any notice the technical specifications of the product described in this data sheet.

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