

1 Part Non-Corrosive Neutral Cure Adhesive Sealant, Coating and Potting Material (Electronic Grade)

PRODUCT DESCRIPTION

R3231 – Liquid adhesive for shallow potting and coating

This product is a neutral cure silicone sealant specifically designed to meet the physical, chemical and temperature resistant requirements of MIL-A-46146B. It features exceptional physical properties and is compatible with many sensitive substrates including copper, brass, steel, aluminium and FR4, making this an ideal option for many electronic applications where high performance is paramount. The Alkoxy cure system produces a silicone sealant with excellent adhesion to most common substrates.

R3231 is compliance with REACH and RoHS regulations. If you want a certificate, please contact us (info@abchimie.com).

FEATURES

- Meets the physical and chemical requirements of MIL A- 46146B
- Meets the requirements of UL94V1
- Contains UV trace for easy detection
- Self levelling, adhesive liquid

APPLICATION

This product is a ready for use 1 Part system. If supplied in cartridges it can be applied using either manual or pneumatic dispensing guns. It can also be applied from bulk containers using conventional drum dispensing equipment.

If using as an adhesive, it should be applied to one clean surface and the other clean surface brought into contact with it within the tack free time stated opposite. For optimum bond strength, the thickness of the sealant joint should be a minimum of 1 mm.

The sealant will cure upon exposure to atmospheric moisture, ideally between 20 to 30 °C and 40% to 70% Relative Humidity.

Time taken for cure will depend on the thickness of the joint, humidity and temperature. Joints should be left undisturbed for at least 24 hours, but preferably longer to effect sufficient depth of cure. Full cure requires 7 days.

For pneumatic dispensing of 310 ml cartridges, the recommended pressure is 2.25 to 3.45 bar (40 to 50 psi). Dispensing pressure above the recommended limits may lead to gas bypassing the piston, causing spluttering at the nozzle and poor bead quality.

PREPARATION OF THE SUBSTRACT

All surfaces to which the sealant is to be applied should be clean, dry and free from grease, dirt, and loose material. Priming of surfaces is not normally required.

CLEANING

To clean equipment or clean uncured R3231, we recommend using DRP10-2 solvent.

CURING CONDITIONS

The sealant will cure upon exposure to atmospheric moisture, ideally between 20 to 30 °C and 40% to 70% Relative Humidity.

Time taken for cure will depend on the thickness of the joint, humidity and temperature. Joints should be left undisturbed for at least 24 hours, but preferably longer to effect sufficient depth of cure. Full cure requires 7 days.

Cure type	Alkoxy
Cure profile	23 ±2°C and 50 ±5% humidity
Cure thorough to 3mm depth	72 hours
Tack free time / Skin formation at 23°C	18 min

PROPERTIES

R3231 uncured

Base	Silicone	
Appearance	Viscous liquid	
Rheology	Self level	...
Self bonding	Yes	
Viscosity mixed	40 000 cP	

R3231 cured

100% Modulus (N/mm ²)	0.43 MPa / 62 psi
Color	Translucent
Density (BS ISO 2781)	1.03 g/cm ³
Elongation at Break ISO 37	400 %
Hardness Shore A (ASTM D2240-95)	27
Linear Coefficient of Thermal Expansion	294 ppm/°C
Max Working Temp	200 °C
Min Working Temp	-62 °C
Tensile Strength (ISO 40)	1.8 N/mm ² / 261 psi
Thermal Conductivity	0.18 W/mK
Volume Coefficient of Thermal Expansion	883 ppm/°C
Youngs Modulus	.0.3 N/mm ² / 0 psi

Electrical properties

Dielectric Constant (ASTM D-150)	2.6
Dielectric Strength	457 V/mil

Dielectric Strength (ASTM D- 149)	>18 kV/mm / 0 V/mil
Dissipation Factor (ASTM D-150)	0.0031
Volume Resistivity (ASTM D-257)	2.25E+15 ohms cm

PACKAGING:

R3231

20kg
310 mL cartridges
30CC syringe
55CC syringe

Cleaner

Bulk 1 litre
Bulk 5 litres
Bulk 30 litres

REFERENCES

R3231 20KG
R3231 C310
R3231 S30
R3231 S55

DRP10-2 01 L
DRP10-2 05 L
DRP10-2 30 L

Black version is available: R3231 B

STORAGE AND SHELF LIFE:

Storage temperature: max 40°C

Shelf life: 12 months after 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.