

# TECHNICAL DATA SHEET



**PRODUCT NAME**

**R3231**

**DATE AUG.12**

## **1 Part neutral self levelling adhesive sealant**

R3231 – Liquid adhesive for shallow potting and coating

This is a specially formulated neutral cure silicone sealant specifically designed to meet the physical, chemical and temperature resistant . 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.

It is described as an Alkoxy 1-part room temperature vulcanising (RTV) silicone sealant. The Alkoxy cure system produces a silicone sealant with excellent adhesion to most common substrates

### **Key Features**

- Meets the physical and chemical requirements of MIL A- 46146B
- Meets the requirements of UL94V1
- Contains UV trace for easy detection
- Adhesion to many substrates

### **Use and Cure Information *Typical Applications***

- Assembly of electrical and electronic equipment
- Sealing and bonding of corrosion sensitive devices
- Shallow encapsulation of small circuits and connectors

### ***Application and Cure***

After removal of the package seal the product is ready for use. It can be applied manually or using a pneumatic caulking gun.

Following exposure to atmospheric moisture the product begins to cure to a resilient, durable silicone elastomer. Full cure will depend on the relative humidity and ambient temperature. At 20 to 30°C and 40 to 70% Relative Humidity a 3mm section will normally cure in less than 72 hours.

The volatile by-products of the curing mechanism are relatively inoffensive alcohols. (See Health and Safety Data)

Full bond strength and physical properties will be achieved in 7 days. Cure time depends on the thickness of sealant applied and the area exposed to the atmosphere.

It is recommended that a minimum thickness of 1 mm is achieved between parts to obtain best adhesion to substrates.

<b>Property</b>	<b>Test Method</b>	<b>Value</b>
<b><i>Uncured Product</i></b>		
Colour:		<b>Translucent</b>
Appearance:		<b>Viscous liquid</b>
Tack Free Time:		<b>18 minutes *</b>
3mm Cure Through:		<b>72 hours *</b>
<b>Viscosity</b>		<b>40000 mPas</b>
* measured at 23+/-2°C and 65% relative humidity.		

### ***Cured Elastomer***

***(after 7 days cure at 23+/-2°C and 65% relative humidity)***

Tensile Strength:	BS903 Part A	<b>22.50 MPa</b>
Elongation at Break :	BS903 Part A	<b>2400 %</b>
Hardness:	ASTM D 2240-95	<b>27 ° Shore A</b>
Specific Gravity:	BS 903 Part A1	<b>1.03</b>
Thermal Conductivity:		<b>0.18 W/mK</b>
Coefficient of Thermal Expansion:		
Volumetric		<b>883 ppm / °C</b>
Linear		<b>294 ppm / °C</b>
Min. Service Temperature:		<b>-62 °C</b>
Max. Service Temperature:	AFS 1540B	<b>200 °C</b>

### **Electrical Properties**

Volume Resistivity:	ASTM D-257	<b>2.25 E+15 Ω.cm</b>
Dielectric Strength:	ASTM D-149	<b>18 kV/mm</b>
Dielectric Constant at 1MHz:	ASTM D-150	<b>2.6</b>
Dissipation Factor at 1M Hz:	ASTM D-1500	<b>0.0019</b>

### **Adhesion Testing**

R3231 will adhere to most substrates but to utilise the full potential of the product, it is recommended that Momentives Primer is applied to substrates as detailed in the Technical Data Sheet. This will allow a strong covalent bond to form and result in an improved performance in adhesive strength.

Customers are advised to carry out their own tests on clean, degreased substrates to ensure satisfactory adhesion is achieved

All values are typical and should not be accepted as a specification. **Packages** – 310 ml cartridges, 20 kg pails, 55ml serynges

**Storage and Shelf Life** – Expected to be **12** months in original, unopened containers below 40 °C.

**Health and Safety** – Material Safety Data Sheets available on request.

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