

## AS1821

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

#### Description

This is a non-corrosive, neutral cure, 1-part, RTV (Room Temperature Vulcanising) silicone adhesive sealant. It is one in a range of Acetone cure products which are solvent free. It exhibits excellent primerless adhesion to many substrates and cures rapidly at room temperature when in contact with atmospheric moisture to form a tough rubber. This product will not corrode copper or its alloys and is suitable for use with electronic components.

#### Key Features

- Fast room temperature cure
- Non corrosive
- Low linear shrinkage
- Self levelling

#### Application

Applications include shallow potting of electrical connectors in automotive

#### Use and Cure Information

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.

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. 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"

#### Health & Safety

##### Health and Safety

Safety Data Sheets available on request.

#### Packaging

CHT Adhesives are available in a variety of packaging including cartridges and bulk containers. Please contact our sales department for more information.

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

Stress cracking can appear on some grades of polycarbonate and poly(methyl methacrylate). Users are advised to carry out initial testing to ensure product compatibility.

#### Property

##### Uncured Product

|  |            |                               |
|--|------------|-------------------------------|
| Appearance                                   |            | Viscous liquid                |
| Cure Profile                                 |            | 23+/-2°C and 50+/-5% humidity |
| Cure Through to 3 mm Depth                   |            | 24 hr                         |
| Cure Type                                    |            | Acetone                       |
| Rheology                                     |            | Flowable                      |
| Self Bonding                                 |            | Yes                           |
| Tack Free Time / Skin Formation at 23°C/73°F |            | 10 min                        |
| Viscosity Mixed                              | Brookfield | 20000 cP                      |

##### Cured Product

|  |                |                      |
|--|----------------|----------------------|
| 7 days at 23+/-2°C and 50+/-5% humidity          |                |                      |
| 100% Modulus (N/mm2)                             |                | 0.5 MPa / 73 psi     |
| Color  |                | Black                |
| Density  | BS ISO 2781    | 1.07 g/cm3           |
| Elongation at Break                              | ISO 37         | 200 %                |
| Hardness Shore A                                 | ASTM D 2240-95 | 27                   |
| Linear Coefficient of Thermal Expansion (ppm/°C) |                | 302 ppm/°C           |
| Max Working Temp                                 |                | 220 °C / 428 °F      |
| Min Working Temp                                 |                | -50 °C / -58 °F      |
| Tear Resistance (N/mm)                           | BS ISO 34-1    | 3 N/mm / 17 ppi      |
| Tensile Strength                                 | ISO 37         | 0.85 N/mm2 / 123 psi |
| Thermal Conductivity                             |                | 0.2 W/mK             |
| Volume Coefficient of Thermal Expansion (ppm/°C) |                | 906 ppm/°C           |
| Youngs Modulus (N/mm2)                           |                | 0.4 N/mm2 / 58 psi   |

##### Electrical Properties

|                              |            |                        |
|------------------------------|------------|------------------------|
| Dielectric Constant          | ASTM D-150 | 2.88                   |
| Dielectric Strength (V/mil)  |            | >508 V/mil             |
| Dielectric Strength kV/mm    | ASTM D-149 | 23.5 kV/mm / 597 V/mil |
| Dissipation Factor           | ASTM D-150 | 0.005                  |
| Volume Resistivity (Ohms cm) | ASTM D-257 | 5.4E+15 ohms cm        |

##### Adhesion Testing

|  |            |                        |
|--|------------|------------------------|
| Lap Shear Aluminium kg/cm <sup>2</sup>           | ASTM D1002 | 5.9 kg/cm <sup>2</sup> |
| Lap Shear Copper kg/cm <sup>2</sup>              | ASTM D1002 | 6.5 kg/cm <sup>2</sup> |
| Lap Shear Stainless Steel 304 kg/cm <sup>2</sup> | ASTM D1002 | 3.5 kg/cm <sup>2</sup> |

##### Storage

|                         |                |
|-------------------------|----------------|
| Max Storage Temperature | 40 °C / 104 °F |
| Shelf Life              | 12 mths        |

|               |             |
|---------------|-------------|
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| Revision No   | 1           |
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