

## AS1805 (1088R)

### 1 Part Neutral cure high temperature thixotropic adhesive sealant

#### Introduction

AS1805 is a non-corrosive, 1-part, room temperature vulcanising (RTV) silicone rubber. It is one of a new family of products called acetone cure sealants that are solvent free. It exhibits excellent primerless adhesion to many substrates. The product is cured rapidly in contact with atmospheric moisture to a tough rubber. AS1805 does not corrode copper or its alloys and exhibits excellent primerless adhesion when fully cured.

#### Key Features

- Very good temperature resistance to 300°C
- Excellent adhesion to many substrates
- Fast skinning
- Solvent free

#### How to use

AS1805 is ready for use. If supplied in cartridges it can be applied using either manual or pneumatic dispensers. It can also be applied from bulk containers using conventional drum dispensing equipment.

#### Application and Cure

All surfaces to which AS1805 is to be applied should be clean, dry and free from grease, dirt, and loose material. Priming of surfaces is not normally required. If AS1805 is being employed as an adhesive, it should be applied to one clean surface and the other clean surface brought into contact with it within 15 to 20 seconds. The recommended thickness of the sealant joint is 1 to 2mm for optimum bond strength. Joints should be left undisturbed for at least 24 hours, but preferably longer to effect sufficient depth of cure. Full cure requires 7 days.

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

**Packages** - 310 ml cartridges. Arrangements can be made to supply in bulk containers

**Storage and Shelf Life** – Expected to be 12 months in cartridges and 9 months in bulk, unopened containers.

#### Property

##### Uncured Product

|   |                   |
|---|-------------------|
| Colour:   | Red               |
| Appearance:                                       | Thixotropic Paste |
| Tack Free Time:                                   | 4 minutes *       |
| 3mm Cure Through:                                 | 8 hours *         |
| Extrusion Rate:                                   | 180g / minute     |
| * 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 A2  | 1.7 MPa      |
| Elongation at Break:              | BS903 Part A2  | 270 %        |
| Hardness:                         | ASTM D 2240-05 | 50° Shore A  |
| Specific Gravity:                 | BS 903 Part A1 | 1.10         |
| Linear Shrinkage:                 |                | 0.5 %        |
| Thermal Conductivity:             |                | 0.20 W/mK    |
| Coefficient of Thermal Expansion: |                |              |
| Volumetric                        |                | 884 ppm / °C |
| Linear                            |                | 295 ppm / °C |
| Min. Service Temperature:         |                | -50 °C       |
| Max. Service Temperature:         | AFS 1540B      | 300 °C       |

#### Electrical Properties

|                              |            |                           |
|------------------------------|------------|---------------------------|
| Volume Resistivity:          | ASTM D-257 | 3.5x10 <sup>15</sup> Ω.cm |
| Dielectric Strength:         | ASTM D-149 | 21 kV/mm                  |
| Dielectric Constant at 1MHz: | ASTM D-150 | 3.05                      |
| Dissipation Factor at 1MHz:  | ASTM D-150 | 1.2x10 <sup>-3</sup>      |

#### Adhesion Testing

|                         |             |                    |
|-------------------------|-------------|--------------------|
| Overlap Shear Strength: | ASTM D 1002 | kg/cm <sup>2</sup> |
| Copper                  |             | 2.80               |
| Aluminium               |             | 3.74               |
| Stainless Steel 304     |             | 3.12               |
| Polycarbonate           |             |                    |

Customers 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. Customers are advised to carry out initial testing to ensure product compatibility.

All values are typical and should not be accepted as a specification.

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