

AS1802 BLACK
1-Part Adhesive Sealants

Introduction

AS1802 Black 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.

These products are cured rapidly in contact with atmospheric moisture to a tough rubber that exhibits an excellent thermal conductive property of **~2.3 W/m K**.

AS1802 Black does not corrode copper or its alloys and exhibits excellent primerless adhesion to many substrates when fully cured.

Key Features

- UL94V-0 approved file no. E334038
- Non-corrosive
- Excellent adhesion
- Good spreading and tooling properties
- Low linear shrinkage
- Fast skinning
- Cure through 2 to 3mm in <24 hours
- Adhesion to most substrates improves with age until most are cohesive

Use and Cure Information

How to Use

AS1802 Black 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 AS1802 Black is to be applied should be clean, dry and free from grease, dirt, and loose material. Priming of surfaces is not normally required. If AS1802 Black 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. For optimum bond strength the thickness of the sealant joint is 1 to 2mm. Joints should be left undisturbed for at least 24 hours, but preferably longer to effect sufficient depth of cure. Full cure requires 7 days.

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Property

Uncured Product

| | | |
|---|------------|--------------|
| Colour: | | Black |
| Appearance: | | Soft Paste |
| Viscosity: | Brookfield | 350000 mPa.s |
| Tack Free Time: | | 4 minutes * |
| 3mm Cure Through: | | <8 hours * |
| * 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 | 3.90 MPa |
| Elongation at Break: | BS903 Part A2 | 103 % |
| Hardness: | ASTM D 2240-95 | 67° Shore A |
| Specific Gravity: | BS 903 Part A1 | 2.11 |
| Linear Shrinkage: | | 0.5 % |
| Thermal Conductivity: | | 2.30 W/mK |
| Coefficient of Thermal Expansion: | | |
| Volumetric | | 493 ppm / °C |
| Linear | | 164 ppm / °C |
| Min. Service Temperature: | | -50 °C |
| Max. Service Temperature: | AFS 1540B | 220 °C |

Electrical Properties

| | | |
|------------------------------|------------|--------------------------|
| Volume Resistivity: | ASTM D-257 | >1x10 ¹⁴ Ω.cm |
| Dielectric Strength: | ASTM D-149 | >20 kV/mm |
| Dielectric Constant at 1MHz: | ASTM D-150 | 4.90 |
| Dissipation Factor at 1MHz: | ASTM D-150 | 0.9x10 ⁻³ |

Adhesion Testing

| | | |
|-------------------------|-------------|--------------------|
| Overlap Shear Strength: | ASTM D 1002 | kg/cm ² |
| Copper | | 3.60 |
| Aluminium | | 7.15 |
| Stainless Steel 304 | | 2.98 |

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.

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 original, unopened containers.

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