

AS1803

Characterisation

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

Technical Data

| | AS1803 | | |
|----------------------|---|--------|-------------------|
| Viscosity | Paste | | |
| | Mixture | | |
| Cure Type | Acetone | | |
| FDA | No | | CFR (21) 177.2600 |
| Max Cure at 25°C | 8 | h | |
| Rheology | Soft paste | | |
| Self-bonding | Yes | | |
| Tooling time | 4 | min | |
| Colour | White | | |
| Cured product | Elastomer after 7 days at 23 +/- 2°C and 50 +/-5% humidity | | |
| CTE Linear | 198 | ppm/°C | |
| CTE volumetric | 475 | ppm/°C | |
| Duro Shore A | 65 | | ASTM D 2240-95 |
| Working temperature | -50 to +220 | °C | AFS 1540B |
| Tensile | 2.8 | MPa | ISO 37 |
| Elongation | 94 | % | ISO 37 |
| Linear shrinkage | 1 | % | |
| SG | 2.24 | | BS ISO 2781 |
| Thermal Conductivity | 1.55 | W/m*K | |
| Flame resistance | UL94HB | | File No. E334038 |
| | Electrical Properties | | |
| Dielectric constant | 4.9 | 1kHz | ASTM D-150 |
| Dielectric Strength | 20 | kV/mm | ASTM D-149 |
| Dissipation Factor | 0.009 | 1kHz | ASTM D-150 |
| Volume resistivity | 1.00E+14 | Ω cm | ASTM D-257 |

| | Adhesion testing | | |
|----------------------------------|-------------------------|--------------------|------------|
| Lap shear aluminium | 6 | kg/cm ² | ASTM D1002 |
| Lap shear copper | 3 | kg/cm ² | ASTM D1002 |
| Lap shear stainless steel | 2.6 | kg/cm ² | ASTM D1002 |

Storability / Storage

With proper storage the product will have a shelf life of 9 months when stored at <40°C and protected from frost in a dry place, in original unopened containers.

Properties

- Good thermal conductivity
- Non-corrosive
- Fast skinning
- Low linear shrinkage

The above given values are product describing data. Please consult the 'delivery specification' for binding product specifications. Further data about product properties, toxicological, ecological data as well as data relevant to safety can be found in the safety data sheet.

Application Technique

Processing

The product is a ready to use 1 component system. If supplied in cartridges, it can be applied using either manual or pneumatic dosing guns. It can be applied from bulk containers using conventional drum dosing 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 the product as an adhesive, it should be applied to one clean surface and the other clean surface should be brought into contact within 4 minutes. For optimum bond strength, the thickness of the sealant should be at least 1 mm.

The sealant will cure on exposure to atmospheric moisture, ideally between 20 – 30°C and 40 – 70% humidity. Time taken for the curing will depend on the thickness of the applied sealant, the humidity and the temperature. Sealant 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 dosing of 310 ml cartridges, the recommended pressure is 2.25 – 3.45 bar (40 to 50 psi). Dosing pressure above the recommended limit may lead to gas bypassing the piston, causing spluttering at the nozzle and poor bead quality.

It is very important to check the compatibility in preliminary tests if unknown substances are used.

Safety

Please observe our EC safety data sheets and the safety remarks on our container labels when handling our products. The dangerous goods regulations and the accident prevention regulations of the professional associations must be particularly observed. Keep the EC safety data sheet of the applied product at hand since it provides you with useful instructions for the safe use and disposal of the product as well as actions to be taken in case of accidents.

We reserve the right to modify the product and technical leaflet.

Our department for applied technique is always at your service for further information and advice.

Our technical advice and recommendations given verbally, in writing or by trials are believed to be correct. They are neither binding with regard to possible rights of third parties nor do they exempt you from your task of examining the suitability of our products for the intended use. We cannot accept any responsibility for application and processing methods which are beyond our control.

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