

## AS1701

### 1 Part neutral flame retardant thixotropic adhesive sealant

#### Introduction

AS1701 is a specially formulated neutral cure silicone sealant designed for use with sensitive electronic assemblies. 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

- UL94V0 Approved
- Fast skinning
- Excellent adhesion
- Non corrosive

#### Use and Cure Information

##### Typical Applications

- Assembly of electrical and electronic equipment
- Sealing 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 24 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.

Revision date 17/12/12

#### Property

##### Uncured Product

Property	Test Method	Value
Colour:		Black
Appearance:		Black paste
Tack Free Time:		3 minutes *
3mm Cure Through:		24 hours *
Extrusion Rate:		260 g / 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	2.35 MPa
Elongation at Break:	BS903 Part A2	200 %
Youngs Modulus:		1.8 MPa
Modulus at 100% Strain:	BS903 Part A2	2.1 MPa
Tear Strength:	BS903 Part A3	19.1 kN/m
Hardness:	ASTM D 2240-95	52 ° Shore A
Specific Gravity:	BS 903 Part A1	1.28
Linear Shrinkage:		1 %
Thermal Conductivity:		0.60 W/mK
Coefficient of Thermal Expansion:		
Volumetric		690 ppm / °C
Linear		230 ppm / °C
Min. Service Temperature:		-50 °C
Max. Service Temperature:	AFS 1540B	220 °C

#### Electrical Properties

Volume Resistivity:	ASTM D-257	7.85E+15 Ω.cm
Dielectric Strength:	ASTM D-149	>18 kV/mm
Dielectric Constant at 1MHz:	ASTM D-150	2.92
Dissipation Factor at 1MHz:	ASTM D-150	1.2E-3

#### Adhesion Testing

Overlap Shear Strength:	ASTM D 1002	kg/cm <sup>2</sup>
Copper		8.67
Aluminium		7.66
Stainless Steel 304		6.04
Polycarbonate		5.93

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.

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

**Packages** – 75 ml and 310 ml cartridges and 20 kg bulk containers. Arrangements can be made to supply in alternative packaging, please contact your Regional Sales manager.

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

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