

## AS1701 (1073B)

### 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

- UL approved, file number E205830 (<http://database.ul.com>)
- 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.

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

#### Electrical Properties

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

#### Adhesion Testing

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

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, 20 kg and 200 kg bulk containers.

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

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