Technical Data Sheet

AS1700 (1070)
1 Part neutral thixotropic adhesive sealant

Introduction

AS1700 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

- Non corrosive
- Excellent primerless adhesion to many substrates
- Excellent dielectric properties
- Low odour

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 30ºC 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 12/12/2005

Property	**Test Method**	**Value**
Uncured Product		
Colour:		**Translucent**
Appearance:		**Translucent paste**
Tack Free Time:		**10 minutes ***
3mm Cure Through:		**36 hours ***
Extrusion Rate:		**290 g / minute**
Viscosity		**mPas**

* 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	**2.43 MPa**
Elongation at Break:	BS903 Part A2	**545 %**
Youngs Modulus:		**0.54 MPa**
Modulus at 100% Strain:	BS903 Part A2	**0.61 MPa**
Tear Strength:	BS903 Part A3	**12.3 kN/m**
Hardness:	ASTM D 2240-95	**30 ° Shore A**
Specific Gravity:	BS 903 Part A1	**1.1**
Linear Shrinkage:		**1 %**
Thermal Conductivity:		**0.20 W/mK**
Coefficient of Thermal Expansion:		
Volumetric		**810 ppm / °C**
Linear		**270 ppm / °C**
Min. Service Temperature:		**-50 °C**
Max. Service Temperature:	AFS 1540B	**200 °C**

Electrical Properties

Volume Resistivity:	ASTM D-257	**2.1E+15 Ω.cm**
Dielectric Strength:	ASTM D-149	**18 kV/mm**
Dielectric Constant at 1MHz:	ASTM D-150	**3.00**
Dissipation Factor at 1MHz:	ASTM D-150	**2.5E-3**

Adhesion Testing

Overlap Shear Strength:	ASTM D 1002	kg/cm^2
Copper		**3.98**
Aluminium		**4.00**
Stainless Steel 304		**3.04**
Polycarbonate		**5.22**

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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