

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 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 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.

The information and recommendations in this publication are to the best of our knowledge reliable. However nothing herein is to be construed as a warranty or representation. Users should make their own tests to determine the applicability of such information or the suitability of any products for their own particular purposes. Statements concerning the use of the products described herein are not to be construed as recommending the infringement of any patent and no liability for infringement arising out of any such use is to be assumed.