

AS1740

1 Part neutral self levelling adhesive sealant

Introduction

AS1740 is part of the AS1740 range that comprises of:
 AS1740 – Liquid adhesive for shallow potting and coating
 AS1745T – High strength translucent, adhesive paste
 AS1745G – High strength, high temperature adhesive paste

This is a specially formulated neutral cure silicone sealant specifically designed to meet the physical, chemical and temperature resistant requirements of MIL-A-46146B. It features exceptional physical properties and is compatible with many sensitive substrates including copper, brass, steel, aluminium and FR4, making this an ideal option for many electronic applications where high performance is paramount. 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

- Meets the physical and chemical requirements of MIL A-46146B
- UL94HB approval at 1.5 mm thickness file No. E334038
- Contains UV trace for easy detection
- Adhesion to many substrates

Use and Cure Information

Typical Applications

- Assembly of electrical and electronic equipment
- Sealing and bonding 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 72 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.

Property	Test Method	Value
Uncured Product		
Colour:		Translucent
Appearance:		Viscous liquid
Tack Free Time:		18 minutes *
3mm Cure Through:		72 hours *
Viscosity		40000 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	2.50 MPa
Elongation at Break:	BS903 Part A2	400 %
Hardness:	ASTM D 2240-95	27 ° Shore A
Specific Gravity:	BS 903 Part A1	1.03
Thermal Conductivity:		0.18 W/mK
Coefficient of Thermal Expansion:		
Volumetric		883 ppm / °C
Linear		294 ppm / °C
Min. Service Temperature:		-62 °C
Max. Service Temperature:	AFS 1540B	200 °C

Electrical Properties

Volume Resistivity:	ASTM D-257	2.25 E+15 Ω.cm
Dielectric Strength:	ASTM D-149	18 kV/mm
Dielectric Constant at 1MHz:	ASTM D-150	2.6
Dissipation Factor at 1MHz:	ASTM D-150	0.0019

Adhesion Testing

AS1740 will adhere to most substrates but to utilise the full potential of the product, it is recommended that Silcoset Primer is applied to substrates as detailed in the Technical Data Sheet. This will allow a strong covalent bond to form and result in an improved performance in adhesive strength.

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.

Packages – 90ml tubes, 310 ml cartridges, 20 kg pails

Storage and Shelf Life – Expected to be 18 months in 90ml tubes, 12 months in original, unopened pails and 6 months in 310 ml cartridges below 40°C.

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

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