

AS1803 1-Part neutral thermally conductive adhesive Sealants

Introduction

AS1803 is a non-corrosive, 1-part, room temperature vulcanising (RTV) silicone rubber.

It is one of a new family of products called acetone cure sealants that are solvent free.

It exhibits excellent primerless adhesion to many substrates.

The product cures rapidly in contact with atmospheric moisture to a tough rubber.

AS1803 does not corrode copper or its alloys and exhibits excellent primerless adhesion when fully cured.

Key Features

- Good thermal conductivity
- Non-corrosive
- Fast skinning
- Low linear shrinkage
- Will meet the requirements of UL94V0

Use and Cure Information

How to Use

AS1803 is ready for use. If supplied in cartridges it can be applied using either manual or pneumatic dispensers.

It can also be applied from bulk containers using conventional drum dispensing equipment.

Application and Cure

All surfaces to which AS1803 is to be applied should be clean, dry and free from grease, dirt, and loose material.

Priming of surfaces is not normally required.

If AS1803 is being employed as an adhesive, it should be applied to one clean surface and the other clean surface brought into contact with it within 15 to 20 seconds.

For optimum bond strength the thickness of the sealant joint is 1 to 2mm.

Joints should be left undisturbed for at least 24 hours, but preferably longer to effect sufficient depth of cure. Full cure requires 7 days.

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

Packages - 75 ml, 310 ml cartridges and 25 kg pails.
Arrangements can be made to supply in alternative bulk containers.

Storage and Shelf Life – Expected to be 9 months in 310 ml cartridges and 12 months in 25kg pails and bulk containers

Property

Test Method

Value

Uncured Product

Colour:		White
Appearance:		Soft Paste
Tack Free Time:		4 minutes *
3mm Cure Through:		<8 hours *
Viscosity:	Brookfield	350000 mPa.s

* 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	2.8 MPa
Elongation at Break:	BS903 Part A2	94 %
Hardness:	ASTM D 2240-95	65° Shore A
Specific Gravity:	BS 903 Part A1	2.24
Linear Shrinkage:		0.5 %
Thermal Conductivity:		1.55 W/mK
Coefficient of Thermal Expansion:		
Volumetric		475 ppm / °C
Linear		198 ppm / °C
Min. Service Temperature:		-50 °C
Max. Service Temperature:	AFS 1540B	220 °C

Electrical Properties

Volume Resistivity:	ASTM D-257	>1x10 ¹⁴ Ω.cm
Dielectric Strength:	ASTM D-149	>20 kV/mm
Dielectric Constant at 1MHz:	ASTM D-150	4.90
Dissipation Factor at 1MHz:	ASTM D-150	0.9x10 ⁻³
Comparative Tracking Index (CTI)		
Expected to be >600 volts (PLC 0)		

Adhesion Testing

Overlap Shear Strength:	ASTM D 1002	kg/cm ²
Copper		3.00
Aluminium		6.00
Stainless Steel 304		2.60

Customers are advised to carry out their own tests on clean, degreased substrates to ensure satisfactory adhesion is achieved

Stress cracking can appear on some grades of polycarbonate. Customers are advised to carry out initial testing to ensure product compatibility.

All values are typical and should not be accepted as a specification.

Revision Date: 01/09/2015

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