

AS1803

SILCOTHERM 1 Part RTV silicone adhesive sealant paste non corrosive

Introduction

This is a non-corrosive, neutral cure, 1-part, RTV (Room Temperature Vulcanising) silicone adhesive sealant. It is one in a range of Acetone cure products which are solvent free. It exhibits excellent primerless adhesion to many substrates and cures rapidly at room temperature when in contact with atmospheric moisture to form a tough rubber. This product will not corrode copper or its alloys and is suitable for use with electronic components.

Key Features

- Good thermal conductivity
- Non-corrosive
- Fast skinning
- Low linear shrinkage

Use and Cure Information

This product is a ready for use 1 Part system. If supplied in cartridges it can be applied using either manual or pneumatic dispensing guns. It can also be applied from bulk containers using conventional drum dispensing equipment.

All surfaces to which the sealant is to be applied should be clean, dry and free from grease, dirt, and loose material. Priming of surfaces is not normally required. If using as an adhesive, it should be applied to one clean surface and the other clean surface brought into contact with it within the tack free time stated opposite. For optimum bond strength, the thickness of the sealant joint should be a minimum of 1 mm.

The sealant will cure upon exposure to atmospheric moisture, ideally between 20 to 30 °C and 40% to 70% Relative Humidity. Time taken for cure will depend on the thickness of the joint, humidity and temperature. Joints should be left undisturbed for at least 24 hours, but preferably longer to effect sufficient depth of cure. Full cure requires 7 days.

"For pneumatic dispensing of 310 ml cartridges, the recommended pressure is 2.25 to 3.45 bar (40 to 50 psi). Dispensing pressure above the recommended limits may lead to gas bypassing the piston, causing spluttering at the nozzle and poor bead quality"

Health and Safety

Safety Data Sheets available on request.

Packaging

ACC Adhesives are available in a variety of packaging including cartridges and bulk containers. Please contact our sales department for more information.

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Property

Uncured product

Property	Test Method	Value
Appearance		White soft paste
Cure Type		Acetone
FDA	CFR (21) 177.2600	No
Max Cure Hrs @ 25 °C		8 hrs
Rheology		Self Level
Self Bonding		Yes
Tack Free Time mins		4 mins
Viscosity A-Part mPas	Brookfield	350000 mPas

Cured product

CTE Linear ppm/°C		198 ppm/°C
CTE Volumetric ppm/°C		475 ppm/°C
Colour		White
Duro Shore A	ASTM D 2240-95	65
Elongation %	ISO 37	94 %
Linear Shrinkage %		0.5 %
Max Working Temp +°C	AFS_1540B	220 °C
Min Working Temp - °C		-50 °C
SG	BS ISO 2781	2.24
Tensile MPa	ISO 37	2.8 MPa
After 7 days cure at 23° +/- 2°C and 50 +/- 5% humidity		
Thermal Conductivity W/mK		1.55 W/mK
UL 94V-0		No

Storage

Max storage temperature °C	40 °C
Shelf life	9 mths

Electrical properties

Dielectric Constant @ 1kHz	ASTM D-150	4.9
Dielectric Strength kV/mm	ASTM D-149	20 kV/mm
Dissipation Factor @ 1kHz	ASTM D-150	0.009
Volume Resistivity ohms cm	ASTM D-257	1E+14 ohms cm

Adhesion testing

Lap Shear Aluminium kg/cm ²	ASTM D1002	6 kg/cm ²
Lap Shear Copper kg/cm ²	ASTM D1002	3 kg/cm ²
Lap Shear Stainless Steel 304 kg/cm ²	ASTM D1002	2.6 kg/cm ²

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