

AS1406 SILCOTHERM 1 Part flowable heat cured silicone adhesive sealant

Introduction

This is a heat cured, non-corrosive, neutral cure, 1-part, silicone adhesive sealant. It is one in a range of Addition cure products which are solvent free. It exhibits primerless adhesion to many substrates when cured at temperatures above 100°C. It cures to form a very tough resilient silicone elastomer. This product will not corrode copper or its alloys and is suitable for use with electronic components.

Key Features

- Thermally conductive
- Adhesion and 8mm cure through at 100°C after 60 minutes
- Flame resistant
- Shelf life =>9 months at 5°C

Use and Cure Information

This product is a ready to use 1-Part system. It is recommended that liquid versions be thoroughly mixed prior to use, particularly thermally conductive products which are supplied in tubs or pails. Ensure that all surfaces of the substrate are clean and degreased. The work area should be free of contaminants such as organic compounds of sulphur, phosphorus, nitrogen and tin, which act as catalyst poisons.

The rate of cure will depend on how long it takes for the sealant to reach the required curing temperature. Small beads of 1 to 2mm diameter, used as formed-in-place gaskets, can be cured quickly with hot air guns e.g. paint stripper types. With larger sections of sealant or when using as an encapsulant, cure times will increase and the use of an oven will be needed. Increasing the temperature will reduce cure times and maximum cure temperature should not exceed 200°C. All times are based on the actual time in an air-circulating oven at the stated temperature. Note: Improved adhesion is achieved by post cure at 120 to 150°C for 1 to 2 hours.

"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 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		Grey pasty liquid
Cure Type		Addition
FDA	CFR (21) 177.2600	No
Max Cure Mins @ 100 °C		60 mins
Rheology		Flowable
Self Bonding		Yes
Viscosity A-Part mPas	Brookfield	100000 mPas
Viscosity Mixed mPas	Brookfield	100000 mPas

Cured product

After 1 hour at 125°C

CTE Linear ppm/°C		62 ppm/°C
CTE Volumetric ppm/°C		186 ppm/°C
Colour		Grey
Duro Shore A	ASTM D 2240-95	72
Elongation %	ISO 37	40 %
Max Working Temp +°C	AFS_1540B	250 °C
Min Working Temp - °C		-60 °C
Modulus Youngs MPa		6.13 MPa
SG	BS ISO 2781	3
Tensile MPa	ISO 37	1 MPa
Thermal Conductivity W/mK		3 W/mK
Volatile Content ppm		<900 ppm

Storage

Max storage temperature °C	5 °C
Min storage temperature °C	-5 °C
Shelf life	9 mths

Electrical properties

Dielectric Constant @ 1kHz	ASTM D-150	3.07
Dissipation Factor @ 1kHz	ASTM D-150	0.0072
Volume Resistivity ohms cm	ASTM D-257	4E+12 ohms cm

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