Technical Data Sheet

AS1406 (ESP742)
SILCOTHERM 1 Part flowable heat cured silicone adhesive sealant

Introduction
AS1406 is a **Grey pasty liquid** which is a self-bonding silicone sealant using addition cure technology. This single part silicone will cure to a tough silicone elastomer by heating to temperatures above 100ºC.
It has a completely neutral curing system that makes it suitable for applications where non-corrosive properties and primerless adhesion are a prerequisite.

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
How to Use
AS1406 is ready to use 1-Part system. It is recommended that liquid versions be thoroughly mixed prior to use particularly thermally conductive products.

Ensure that all surfaces to be brought into contact with **AS1406** 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.

Application and Cure
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 200ºC. 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 150ºC for 1 to 2 hours.

Temperature, °C	**Max Cure Time**
100	**60** mins

Inhibition of Cure
Great care must be taken when handling and mixing all addition cured silicone elastomer systems, that all the mixing tools (vessels and spatulas) are clean and constructed in materials which do not interfere with the curing mechanism. The cure of the rubber can be inhibited by the presence of compounds of nitrogen, sulphur, phosphorus and arsenic; organotin catalysts and PVC stabilizers; epoxy resin catalysts and even contact with materials containing certain of these substances e.g. moulding clays, sulphur vulcanised rubbers, condensation cure silicone rubbers, onion and garlic.

Property	**Test Method**	**Value**
Uncured Product		
Colour		**Grey**
Appearance:		**Pasty liquid**
Viscosity*	Brookfield	**100000 mPa.s**

* measured at 23+/-2°C and 50% relative humidity

Cured Elastomer
(after 60 minutes curing at 100°C)

Tensile Strength:	BS903 Part A2	**1.0 MP**
Elongation at Break:	BS903 Part A2	**40 %**
Youngs Modulus:		**6.13 MPa**
Hardness:	ASTM D 2240-95	**72 Shore A**
Specific Gravity:	BS 903 Part A1	**3.0**
Thermal Conductivity:		**3.0 W/mK**
Coefficient of Thermal Expansion:		
Volumetric		**186 ppm / °C**
Linear		**62 ppm / °C**
Min. Service Temperature:		**-60°C**
Max. Service Temperature:	AFS 1540B	**250 °C**

Electrical Properties
Surface Resistivity

Volume Resistivity:	ASTM D-257	**4E+12 Ω.cm**
Dielectric Constant at 1 kHz:	ASTM D-150	**3.07**
Dissipation Factor at 1MHz:	ASTM D-150	**0.0072**

Flammability
Expected to be UL94 V-0 but not certified

Adhesion

Self Bonding	**Yes**

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

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

Packages ï ACC Addition silicones are supplied in a range of pack sizes please contact the sales office for details

Arrangements can be made to supply in other pack sizes.

Storage and Shelf Life ï Expected to be **9** months in original, unopened containers at <5°C

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