

## AS1420 (1074)

### 1 Part heat cured thermally conductive adhesive

#### Introduction

**AS1420** is a **Grey viscous 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 100°C.

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

- **Fast elevated temperature cure**
- **Excellent thermal conductivity**
- **Non corrosive**
- **Tough protective rubber**

#### Use and Cure Information

##### How to Use

**AS1420** 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 **AS1420** 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 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.

Oven temperature, °C	Time minutes
100	30

**Storage and Shelf Life** – Expected to be 6 months in original, unopened containers at temperatures below 15°C.

Revision Date: 22/12/2005

#### Property

#### Test Method

#### Value

##### Uncured Product

Colour:

Appearance:

Extrusion Rate:

**Viscosity**

##### Cured Elastomer

*(3 mm thick test sheet, after 15 minutes at 150°C)*

Tensile Strength:

Elongation at Break:

Youngs Modulus:

Modulus at 100% Strain:

Tear Strength:

Hardness:

Specific Gravity:

Linear Shrinkage:

Thermal Conductivity:

Coefficient of Thermal

Expansion:

Volumetric

Linear

Min. Service Temperature:

Max. Service Temperature: AFS 1540B

**Grey  
Grey viscous liquid  
g/minute  
43000 mPas**

**3.10 MPa**

**70 %**

**MPa**

**MPa**

**kN/m**

**67 ° Shore A**

**2.06**

**2.00 %**

**1.38 W/mK**

**562 ppm / °C**

**187 ppm / °C**

**-50 °C**

**260 °C**

#### Electrical Properties

Volume Resistivity:

Surface Resistivity:

Dielectric Strength:

ASTM D-257

ASTM D-257

ASTM D-149

**7.7E+15 Ω.cm**

**1.3E+15 ohms**

**22.5 kV/mm**

#### Adhesion Testing

Overlap Shear Strength:

Copper

Aluminium

Stainless Steel 304

Polycarbonate

ASTM D 1002

**kg/cm<sup>2</sup>**

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.

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

**Packages** – 310 ml cartridges for paste versions and 1kg and 20kg containers for flowable products. Arrangements can be made to supply in bulk containers.