Technical Data Sheet

# 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. The single part silicone will cure to a tough silicone elastomer by heating to temperatures above 100°C.
AS1420 has a completely neutral curing system that makes it suitable for applications where non-corrosive properties and primerless adhesion are 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.
The table shown below offers a guide to the curing conditions observed for 20g to 50g of AS1400 in 5 to 10mm sections. 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.

| Oven temperature, °C | Time, minutes |
|---|---|
| 100 | 20 to 30 |
| 120 | 15 to 20 |
| 150 | 10 to 15 |
| 175 | 1 to 5 |

| Property | Test Method | Value |
|---|---|---|
| ***Uncured Product*** | | |
| Colour: | | Grey |
| Appearance: | | Viscous liquid. |
| Viscosity: | Brookfield | 43000 mPa.s |
| ***Cured Elastomer*** | | |
| ***(after 60 minutes at 120°C on a 3 mm test sheet)*** | | |
| Tensile Strength: | BS903 Part A2 | 3.10 MPa |
| Elongation at Break: | BS903 Part A2 | 70 % |
| Hardness: | ASTM D 2240-95 | 67° Shore A |
| Specific Gravity: | BS 903 Part A1 | 2.06 |
| Linear Shrinkage: | | 2.00 % |
| Thermal Conductivity: | | 1.38 W/mK |
| Coefficient of Thermal Expansion: | | |
| Volumetric | | 562 ppm / °C |
| Linear | | 187 ppm / °C |
| Min. Service Temperature: | | -50 °C |
| Max. Service Temperature: | AFS 1540B | 260 °C |

### Electrical Properties

| | | |
|---|---|---|
| Volume Resistivity: | ASTM D-257 | 7.7E +15 Ω.cm |
| Surface Resistivity: | ASTM D-257 | 1.3E+15 Ω |
| Dielectric Strength: | ASTM D-149 | 22.5 kV/mm |
| Dielectric Constant at 50Hz: | ASTM D-150 | 6.00 |

### Adhesion

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 –**1 kg containers. Arrangements can be made to supply in bulk containers.

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

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