

AS1421
Thermally Conductive one part addition cure

Introduction

AS1421 is a 1-component, addition-cure, silicone, adhesive, paste system. It cures at elevated temperature to a hard silicone rubber with excellent dielectric and thermal conductive properties. AS1421 is recommended for the encapsulation of electronic assemblies for which thermal conductivity is a prerequisite. It is completely neutral and will not cause corrosion of electrodes and other metal parts.

Key Features

- UL94V0 approved File No. E334038
- Adhesion and 3 mm cure through at 125°C after only 10 minutes
- Thermally conductive
- Shelf life = 12 months at <5°C

Use and Cure Information

How to Use

AS1421 is normally supplied in 310ml cartridges or 25 kg pails but other types of packages will be considered. Ensure that the contents of the pail are mixed to a uniform consistency before each dispensing application campaign.

AS1421 is a readily extruded paste that can be applied using manual or pneumatic cartridge guns.

Ensure that all surfaces to be brought into contact with AS1421 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. Thicker beads or sections require the use of an air circulating oven, infra red heating source or induction heating source.

The table shown below offers a guide to the curing conditions observed for 20g to 50g of AS1421 in 5 to 10mm sections. All times are based on the actual time in an air-circulating oven at the stated temperature.

<u>Temperature, °C</u>	<u>Maximum cure time</u>
100	16 mins
125	10 mins

Property

Test Method

Value

Uncured Product

Colour:		Grey
Appearance:		Grey paste.
Viscosity:	Brookfield	140000 mPa.s

Cured Elastomer

(after 60 minutes at 125°C on a 3 mm test sheet)

Tensile Strength:	BS903 Part A2	2.20 MPa
Elongation at Break:	BS903 Part A2	105 %
Shore A :	ASTM D 2240-95	56
Specific Gravity:	BS 903 Part A1	2.18
Thermal Conductivity:		2.10 W/mK
Coefficient of Thermal Expansion:		
Volumetric Linear		586 ppm / °C
		195 ppm / °C
Min. Service Temperature:		-50 °C
Max. Service Temperature:	AFS 1540B	210 °C

Electrical Properties

Volume Resistivity:	ASTM D-257	3.5E+13 Ω.cm
Dielectric Strength:	ASTM D-149	>18 kV/mm

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 – 310 ml cartridges and 25 kg pails, arrangements can be made to supply in other containers. Please discuss with your Regional Sales Manager.

Storage and Shelf Life - Expected to be 12 months at <5°C in original, unopened containers

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