

AS1405 One Part Thixotropic heat cure sealant

Introduction

AS1405 is a thixotropic paste 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 curing**
- **High thermal conductivity**
- **Non slumping paste**
- **Adhesive to many substrates**

Use and Cure Information

How to Use

AS1405 is ready to use 1-Part system.

Ensure that all surfaces to be brought into contact with **AS1405** 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.

Temperature, °C Max Cure Time

| | |
|-----|---------|
| 100 | 30 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: | | Thixotropic |
| Paste | | |
| Viscosity: | Brookfield | 760000 mPa.s |
| * measured at 23+/-2°C | | |
| Cured Elastomer | | |
| (3 mm thick test sheet after 15 minutes curing at 150°C) | | |
| Tensile Strength: | BS903 Part A2 | 1.50 MPa |
| Elongation at Break: | BS903 Part A2 | 80 % |
| Hardness: | ASTM D 2240-95 | 56 Shore A |
| Specific Gravity: | BS 903 Part A1 | 2.12 |
| Thermal Conductivity: | Lees Disk | 3.89 W/mK |
| Coefficient of Thermal Expansion: | | |
| Volumetric | | 372 ppm / °C |
| Linear | | 124 ppm / °C |
| Min. Service Temperature: | | -50 °C |
| Max. Service Temperature: | AFS 1540B | 210 °C |

Electrical Properties

| | | |
|---------------------|------------|---------------------|
| Volume Resistivity: | ASTM D-257 | 4.6E+12 Ω.cm |
|---------------------|------------|---------------------|

Adhesion

Self Bonding

Yes

AS1405 will bond to most substrates but it is advised to perform small scale trials 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 – 310ml - ACC Addition cure silicones are supplied in a range of pack sizes please contact your Regional Sales Manager for details.

Storage and Shelf Life – 6 months when stored at -5°C to 10°C in original unopened containers

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