

EGel3100 Thermally Conductive Silicone Gel

Introduction

EGel3100 is one of a family of soft, adherent silicone elastomeric gel designed for the encapsulation and protection of electronics components. It is a medium viscosity, 2-component system that is readily mixed in a 1:1 ratio. It is used to provide protection from vibration, thermal or mechanical shock. It has excellent thermal conductivity, dielectric properties and also gives excellent protection from water and many environmental contaminants.

Key Features

- Excellent thermal conductivity
- Low hardness, 45 shore 00
- 1 to 1 mixing by weight or volume
- Heat accelerated curing

Use and Cure Information

How to Use

EGel3100 is supplied in several pack sizes and consists of kits containing equal quantities of Parts 'A' and 'B'. Containers should always be kept sealed when not in use, and all mixing equipment must be clean and free from contaminants such as organo-tin, -sulphur, -nitrogen compounds which can poison the catalyst and prevent proper cure.

Application and Cure

Each of the EGel3100 component parts should be mixed before use. To use, each component should be mixed in the recommended one-to-one ratio (by volume or weight). This can be done readily either by hand or using a powered mixer, avoiding excessive aeration. The curing process begins as soon as the components are mixed and the working or pot life of the mixed system is dependent on the ambient temperature conditions.
Note: Chilling the separate component parts, before and after mixing, will extend the pot life, but not indefinitely.

Adhesion

Fully cured EGel3100 exhibits good adhesion to most substrates such as:
Aluminium, stainless steel, ABS, polycarbonate, PCB boards, Nylon 6,6

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
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Uncured Product

Colour:		Grey
Appearance:		Viscous liquid
Viscosity A Part:	Brookfield	26000 mPa.s
Viscosity B Part:	Brookfield	32000 mPa.s
Catalysed viscosity:	Brookfield	29000 mPa.s
Pot Life:		60 minutes *
SG 'A'Part:		2.03
SG 'B'Part:		2.03

* measured at 23+/-2°C and 65% relative humidity

Cured Elastomer

(after 7 days cure at 23+/-2°C and 65% relative humidity)

Shore 00:		45
Thermal Conductivity:		1.55 W/mK
Min. Service Temperature:		-50 °C
Max. Service Temperature:	AFS 1540B	200 °C

Electrical Properties

Volume Resistivity:	ASTM D-257	1E+14Ω.cm
Dielectric Strength:	ASTM D-149	>18 kV/mm

Curing Time

Temperature °C	Time
25	8 hrs
100	30 mins

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

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

Packages –

EGel3100 is normally packed in 2kg and 40kg kits

Storage and Shelf Life – Expected to be 12 months in original, unopened containers below 40°C.

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