

EGel3005 (ESP491) Low viscosity silicone gel

Introduction

EGel3005 is one of a family of soft, adherent, clear silicone elastomeric gels designed for the encapsulation and protection of electronics components. It is a low 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 dielectric properties and also gives excellent protection from water and many environmental contaminants

Key Features

- **Simple 1 to 1 mix ratio**
- **Very low viscosity**
- **Soft but resilient gel**
- **Fast curing**
- **Flexible down to -55°C**

Use and Cure Information

How to Use

EGel3005 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 **EGel3005** component parts should be mixed in the recommended one-to-one ratio (by volume or weight). Automatic dispensing equipment is advised due to the short pot life and fast curing time at room temperature.

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 **EGel3005** 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
----------	-------------	-------

Uncured Product

Colour:		Transparent
Appearance:		Transparent liquid
Viscosity A Part:	Brookfield	630 mPa.s
Viscosity B Part:	Brookfield	630 mPa.s
Catalysed viscosity:	Brookfield	630mPa.s
Pot Life:		4 minutes *
SG 'A'Part		0.97
SG 'B'Part		0.97

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

Cured Elastomer

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

Penetration (Cone Weight):		19.5/6.5mm
Specific Gravity:	BS 903 Part A1	0.97
Min. Service Temperature:		-55°C
Max. Service Temperature:	AFS 1540B	200 °C
CTE Volumetric		930 ppm/C
CTE Linear		310 ppm/C

Electrical Properties

Volume Resistivity:	ASTM D-257	2.0E+15 Ω.cm
Dielectric Strength:	ASTM D-149	>18.5 kV/mm

Curing Time

Temperature °C	Time
25	<15 minutes
100	<10 minutes

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

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

Packages –

EGels are normally packed in 2kg, 10kg and 40kg kits, please contact your Regional Sales Manager for alternative packaging

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

Revision Date: 13/12/2012

The information and recommendations in this publication are to the best of our knowledge reliable. However nothing herein is to be construed as a warranty or representation. Users should make their own tests to determine the applicability of such information or the suitability of any products for their own particular purposes. Statements concerning the use of the products described herein are not to be construed as recommending the infringement of any patent and no liability for infringement arising out of any such use is to be assumed.