

Intek Adhesives Ltd

RTV Silicones to Bond, Seal, Insulate & Weatherproof



SilGel FC



Introduction

SilGel FC is soft, adherent, clear silicone elastomeric gel with excellent electrical properties 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 and easily flows between complex assemblies.

SilGel FC is used to provide protection from vibration, thermal or mechanical shock and has excellent dielectric properties giving outstanding protection from moisture, dust and many environmental contaminants.

Key Features

- Low viscosity
- Fast 2 hour room temperature cure
- Simple 1:1 ratio mix
- Outstanding electrical insulation properties
- Excellent adhesion to many substrates
- Flexible down to -55°C
- Suitable up to +200°C

Use and Cure Information

How to Use

SilGel FC 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, and nitrogen compounds which can poison the catalyst and prevent proper cure.

Application and Cure

Each of the SilGel FC component parts 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 SilGel FC exhibits good adhesion to most substrates such as:

Aluminium, stainless steel, ABS, polycarbonate, PCB boards, Nylon 6,6

Whilst all reasonable care is taken in compiling technical data on the company's products, all recommendations or suggestions regarding the use of such products are made without guarantee since the conditions of use are beyond the control of the company. It is the customer's responsibility to satisfy himself that each product is fit for the purpose for which he intends to use it, and that the actual conditions of use are suitable

Property

Uncured Product

Colour:		Transparent
Appearance:		Liquid
Mix Ratio:		1:1
Viscosity		
Part A:	Brookfield	1000 mPa.s
Part B:	Brookfield	3000 mPa.s
Mixed	Brookfield	2000 mPa.s
Pot Life:		15 minutes *
* measured at 23+/-2°C and 65% relative humidity.		

Cured Properties

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

Penetration 19.5g Cone:	7 mm
Penetration 40g Cone	10.2 mm
Volatile Content:	0.09 %
Specific Gravity:	0.97
Min. Service Temperature:	-55 °C
Max. Service Temperature:	200 °C

Electrical Properties

Volume Resistivity:	ASTM D-257	$2.1 \times 10^{15} \Omega \cdot \text{cm}$
Dielectric Strength:	ASTM D-149	>18 kV/mm

Curing Time

Temperature °C	Time	Penetration (mmx10 ⁻¹) (40g cone)
150	30 minutes	105
25	30 minutes	285
25	90 minutes	158
25	150 minutes	105
25	24 hours	102

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

Health and Safety - Detailed advice for the safe handling and disposal of SilGel FC is given in the individual product Material Safety Data Sheets, available on request.

Packages - SilGel FC is supplied in 2kg, 40kg and 400 kg kits containing equal quantities of Parts 'A' and 'B'

Storage and Shelf Life - SilGel FC should be stored in its original unopened containers at temperatures below 30°C. Under these conditions each part will remain useful for a period of 12

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