

Q-Gel 331 Tough silicone gel

Introduction

QGel331 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.

QGel331 is the toughest gel in this group of products.

It is used to provide protection from vibration, thermal or mechanical shock. It also has excellent dielectric properties and also gives excellent protection from water and many environmental contaminants.

Key Features

- Low viscosity
- Tougher gel than standard range
- Simple 1:1 ratio mix
- Excellent pot life and curing characteristics
- Excellent adhesion to many substrates
- Flexible down to -55°C
- Suitable up to +200°C
- Ideal for harsh environments in the automotive electronics manufacturing area
- Enhanced flame resistance compared to the QGel330

Use and Cure Information

How to Use

QGel331 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 **QGel331** 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 Q-Gel 331 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

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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 Blue Liquid
A part:		
B part		
Appearance:		1:1
Mix Ratio:		
Viscosity		
Part A:	Brookfield	750 mPa.s
Part B:	Brookfield	750 mPa.s
Mixed	Brookfield	750 mPa.s
Pot Life:		45min *
*Measured at 23+/-2°C		
Cured Properties		
(after 1 hour cure at 100°C)		
Penetration	durometer Shore 00	38
Specific Gravity:	BS 903 Part A1	0.97
Min. Service Temperature:		-55 °C
Max. Service Temperature:		200 °C
Electrical Properties		
Volume Resistivity:	ASTM D-257	1.5 E+14 Ω.cm
Dielectric Strength:	ASTM D-149	>18.5 kV/mm
Flame Resistance Properties		
Internal testing has shown that Q-Gel 331 Meets the requirements of UL94 HB at 3mm thickness.		
Curing Time		
<i>Temperature °C</i>	<i>Time</i>	
150	30 minutes	
80	60 mins	
70	70 mins	
60	90 mins	
Cure of a 25mm diameter / 25mm thick slab		
Health and Safety		
Material safety data sheets are available on request		
Packages		
QGels are normally in 2kg, 10kg and 40kg kits. Please contact your regional sales manager for alternative packing		
Storage and Shelf Life		
Expected to be 12 months in original unopened containers below 30°C		
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