TECHNICAL DATA SHEET

QSil 553LV
2 part encapsulation and potting silicone

Description

This is a 2-component, silicone elastomer system specially designed for electronic potting and encapsulation applications. It offers good protection against chemicals, environmental contamination, mechanical shock, vibration and impact damage. It can be employed in areas where low flammability is a prerequisite. The cured elastomer can be repaired. The component parts have relatively low viscosities and are readily mixed either by hand or machine.

Key Features

- QSil 553LV is a kitmatched product, please use only matching components!
- 100% solids - no solvents
- Low modulus and good elongation
- UL94 V0 listed in file No. E205830

Application

Automotive potting of electronic control unit for electric vehicle battery management

Use and Cure Information

IMPORTANT:

The 'A' part of the product contains the platinum catalyst, great care should be taken when using automatic dispensing equipment. Please ensure that it is not contaminated by residual hydride containing rubber in the dispensing equipment, as curing will result. If in doubt, it's advised to thoroughly purge the equipment with a suitable hydrocarbon solvent or silicone fluid.

Mixing

Both the 'A' and 'B' parts should be well stirred to ensure the material is uniform and any settled the fillers have been remixed.

Place the required amount of 'A' and 'B' parts by weight at the mix ratio shown opposite, in a clean plastic or metal container of approximately 3 times their volume, and mix until the colour of the mixture is uniform. For best results, we recommend degassing. Degas by intermittent evacuation, the larger volume of the mixing vessel helps prevent overflow during this operation. In the case of automatic dispensing with static mixing head, the two components should be degassed before processing.
Recommended vacuum conditions are 30-50 mbar intermittently over 5-10 minutes. Cast the mixture either by gravity or pressure injection.

Property	Test Method	Value
Uncured Product		
Cure Profile		**15 mins at 150°C**
Cure Type		**Addition**
Density A	BS ISO 2781	**1.6**
Density B	BS ISO 2781	**1.6**
Mix Ratio By Weight		**1:1**
Pot Life mins at 23°C/73°F		**100 mins**
Rheology		**Liquid**
Viscosity Mixed	Brookfield	**4000 cP**
Cured Product		
Color		**Gray**
Elongation at Break	ISO 37	**240 %**
Hardness Shore A	DIN 53 505	**45**
Max Working Temp		**240 °C / 464 °F**
Min Working Temp		**-55 °C / -67 °F**
Tear Resistance (N/mm)	BS ISO 34-1	**7.81 N/mm / 45 ppi**
Tensile Strength	ISO 37	**1.72 N/mm2 / 249 psi**
Thermal Conductivity		**~0.65 W/mK**
UL File No.		**E205830**
Electrical Properties		
Comparative Tracking Index (volts)		**600 volts**
Dielectric Constant	ASTM D-150	**3.12**
Dissipation Factor	ASTM D-150	**0.003**
Volume Resistivity (Ohms cm)	ASTM D-257	**1.46E+15 ohms cm**
Storage		
Max Storage Temperature		**38 °C / 100 °F**
Shelf Life		**24 mths**

Inhibition of Cure

Great care must be taken when handling and mixing all addition cured silicone elastomer systems, ensuring 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.

Curing Conditions

The data offers a guide to the rate of cure at various temperatures, mixing of the components at temperatures between 15 and 25°C is recommended to ensure adequate pot life for degassing and handling. The pot life can be extended to several hours by chilling the components before mixing.

It is important to check the compatibility in preliminary tests if unknown substrates are used.

Health & Safety

Safety Data Sheets available on request.

Packaging

CHT Encapsulants are available in a variety packaging including bulk containers. Please contact our sales department for more information.

Revision Date	12 Feb 2024
Revision No	7
Download Date	20 Apr 2024

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