

EE Q-Sil 553 Thermally Conductive Silicone Potting Compound

Introduction

EE QSil 553 is 2-component, addition-cure, silicone elastomer system. It has been specially designed for electronic assembly potting applications. The fully cured elastomer offers good protection against shock, vibration and environmental contamination.

Key Features

- Simple 1:1 mix ratio
- Two colours assist mixing
- Moderately low viscosity
- Long pot life
- Fast cure at elevated temperature
- Thermally conductive rubber
- Non-corrosive
- Easily repaired

Use and Cure Information

Always use clean tools when mixing EE QSil 553. If degassing is required, it is recommended that the mixing vessel have a capacity of at least 3 times that of the product.

Avoid contact with organic compounds of sulphur, phosphorus, nitrogen and tin which behave as catalyst poisons.

Mixing

Using clean tools, mix each component separately to ensure homogeneity. Combine equal weights or volumes of EE QSil 553 Parts A and B in a suitable clean mixing vessel until a uniform mix is obtained. Scrape down the walls part way through the mixing stage and avoid excessive aeration and heat build up. Once mixed the material will have a working life of approximately 120 minutes.

Degassing

This can be done quickly in a vacuum chamber using intermittent evacuation at 20 to 40 mbar, taking care to avoid vessel overflow. After releasing the vacuum, allow the mixture to stand for a few minutes before use.

General Characteristics

Uncured Product

	Part A	Part B
Appearance	Moderately viscous liquids	
Colour	Beige	Black
Viscosity, mPa.s	5,000	3,500
Specific Gravity	1.60	1.60
Mix Ratio	1:1 by weight or volume	
Pot life, minutes	120-180 (to 25,000mPa.s)	

Cured Elastomer

(Based on 2mm sheets press cured at 150°C for 7 minutes)

Tensile Strength, MPa	1.20
Elongation at Break, %	175
100% Modulus, MPa	0.60
Hardness, IRHD	32
Thermal Conductivity, W/m.K	0.68

Flammability

UL94 *	
3.0mm	V-0
1.0mm	V-1

Electrical Properties

Dielectric Strength, kV/mm	>18
Volume Resistivity, Ω.cm	3.8 x 10 ¹⁵

Adhesion

EE QSil 553 exhibits reasonable adhesion to most materials used in electronic assemblies.

Customers are advised to carry out their own tests on clean, degreased substrates to ensure satisfactory adhesion is achieved

Health and Safety

Detailed advice for the safe handling and disposal of EE QSil 553 is given in the individual component Material Safety Data Sheets, available on request

Packages

EE QSil 553 is supplied in kits containing equal weights of Parts A and B.

Storage and Shelf Life

When stored at 5 to 25°C in their original unopened containers, the components of EE QSil 553 have shelf lives of 12 months.