

EE QSil 12

Self-bonding Encapsulant

Introduction

EE QSil 12 is a 2-component, low viscosity silicone rubber system that cures under ambient temperature and humidity conditions to a clear, self-bonding, soft, pliable rubber.

EE QSil 12A is an almost clear low viscosity liquid and QSil 12C is a clear, low viscosity, mineral spirit based catalyst.

EE QSil 12 has been specially formulated to provide the following properties:

- Low viscosity base
- Readily mixed by hand or machine
- Rapid degassing
- Good pot life
- High flow around complex assemblies
- Excellent deep section cure
- Reparable with fresh rubber
- High transparency even in deep section
- Primerless adhesion to many substrates
- Good protection against shock and vibration
- Good dielectric properties

Use and Cure Information

Both EE QSil 12A and 12C are uniform, non-separating liquids, but it is recommended that 12C is shaken before use to ensure homogeneity.

EE QSil 12A and 12C are mixed in a ratio of 100:5 by weight. It is recommended that users adhere to the correct ratio of base to catalyst. Reduced catalyst concentration can adversely affect the cured rubber properties.

Mixing

Always use clean tools for mixing operations. Small lots of up to 1kg are readily mixed by hand. Relatively low power mechanical mixers can be used for larger quantities, but one should take care to avoid excessive aeration and excessive stirrer speeds. The latter can cause overheating, resulting in a shorter pot life.

Deaeration / Degassing

This is readily achieved by intermittent evacuation at 20 to 40 mbar. If vacuum degassing is to be done, allowance must be made for expansion of the catalysed rubber by using a mixing vessel of approximately 3 times the rubber volume. Automatic ratio metering equipment employing efficient static mixers is often more convenient for large filling and encapsulation operations.

General Characteristics

Uncured Product

	Part 12A	Part 12C
Appearance	Sl. hazy liquid	Clear liquid
Colour	Colourless	Colourless
Specific Gravity	1.00	0.84
Carrier	None	Mineral spirit
Mix ratio		100:5

Typical Curing Properties

Time (minutes)	Viscosity, mPa.s
5 to 10	1100 to 1300
25 to 35	2800 to 3500
55 to 75	>100,000 to Gel
Hardness after 3 days	18 to 20 Shore A

Electrical Properties

Dielectric Strength, kV/mm	>17
Volume Resistivity, Ω.cm	1.0 x 10 ¹⁵

Adhesion

Good primerless adhesion has been observed on substrates such as stainless steel, aluminium, ABS, polystyrene and most plastics used in PCB and electronics assemblies

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

Health and Safety

Please refer to the individual product Material Safety Data Sheets for information on the safe handling and disposal of products mentioned in this Technical literature.

Packages

EE QSil 12 is supplied in kit form containing Parts A and C in the correct weight ratio.

Storage and Shelf Life

If stored in the original unopened containers at temperatures between 5 and 25°C EE QSil 12 has a shelf life of 6 months.

Although EE Sil 12C is not classified as flammable, it does contain a combustible solvent and should be stored away from potential sources of ignition.