

## TECHSIL® RTV12A & B/C

Techsil RTV12 is a 2-component room temperature vulcanising silicone rubber system that is employed as an encapsulant for sensitive electrical and electronic assemblies.

It is cured by the addition of A and either B or C parts to produce a moderately hard silicone rubber, which offers good protection against chemicals and environmental contamination, shock and vibration.

The component parts have relatively low viscosities and are readily mixed in a simple 20:1 ratio.

### Key Features

- Optically Clear (When mixed with Techsil RTV12C)
- Good adhesion with use of a primer
- Low Viscosity
- Good deep section cure

### Applications

Techsil RTV12 is recommended for potting, embedding and encapsulating delicate electrical and electronic equipment; sealing and caulking.

### Use and Cure Information

#### Mixing

The A and B or C parts of the rubber must be mixed thoroughly with to produce a uniformly cured product. Mixing can be carried out mechanically or by hand, but care should be taken to avoid trapping air in the mixture since this can cause voids in the cured rubber.

#### De-aeration

For applications where such voids are undesirable the mixture should be de-aerated under reduced pressure before use. The time and pressure required for de-aeration depends on the quantity of the liquid being used. As a guide, 150g of base liquid can be de-aerated in 5-10 minutes at a pressure of 5-10 mm of mercury. Containers should be only two-thirds full to prevent overflow during the initial stages of de-aeration.

#### Curing

The curing process begins, without exotherm, immediately the liquid and curing agent are mixed together. Ambient temperature and humidity conditions are considered to be 15 to 30°C and 50 to 70% Relative Humidity. This material can also be vulcanised at elevated temperatures (up to 70°C) to increase the cure speed.

**Cure Time @ 25°C      16hrs**

### Uncured product

Property	Test Method	Value
Colour A Part		Transparent
Colour B Part		Blue
Colour C Part		Transparent
Viscosity A Part	Brookfield	1400 mPa.s
Viscosity B Part	Brookfield	15 mPa.s
Viscosity C Part	Brookfield	15 mPa.s
Catalysed viscosity	Brookfield	1100 mPa.s
Pot Life		120 minutes*
Specific Gravity 'A' Part		1.0
Specific Gravity 'B' Part		0.85
Specific Gravity 'C' Part		0.85

\* measured at 23+/-2°C and 65% relative humidity

### Contact Details

Techsil Ltd  
Unit 34, Bidavon Industrial Estate, Waterloo Road, Bidford on Avon, Warwickshire, B50 4JN  
Tel: +44(0)1789 773232 Fax: +44(0)1789 774239 Email: sales@techsil.co.uk Web: www.techsil.co.uk

**Cured Elastomer**

(After 7 days cure at 23+/-2°C and 50% relative humidity)

Property	Test Method	Value
Colour when mixed with 'B' part		Blue
Colour when mixed with 'C' part		Transparent
Hardness	ASTM D 2240-95	19 Shore A
Specific Gravity	BS 903 Part A1	0.99
Linear Shrinkage		1 %
Thermal Conductivity		0.18 W/m
Coefficient of Thermal Expansion		
Volumetric		900 ppm / °C
Linear		300 ppm / °C
Min. Service Temperature		-55°C
Max. Service Temperature	AMB-035	220°C

**Electrical Properties**

Property	Test Method	Value
<b>Surface Resistivity</b>		
Volume Resistivity	ASTM D-257	1.0E+13 Ω.cm
Dielectric Strength	ASTM D-149	>17kV/mm
Dielectric Constant at 1 kHz	ASTM D-150	3.00

**Flammability**

**UL94 V-0 Rated** No

**Adhesion**

Techsil RTV12 silicone rubber compounds may require the use of a primer to bond to a non-silicone surface. A laboratory test is recommended to confirm adhesion prior to production use. Thoroughly clean the substrate with a non-oily solvent such as naphtha or methyl ethyl ketone (MEK) and let dry. Then apply a uniform, thin film of Primer and allow drying for 30 to 60 minutes before dispensing the silicone.

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

**Health & Safety**

Material Safety Data Sheets available on request.

**DISCLAIMER**

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy themselves as to the suitability of such information for their particular use.

**Contact Details**

Techsil Ltd  
Unit 34, Bidavon Industrial Estate, Waterloo Road, Bidford on Avon, Warwickshire, B50 4JN  
Tel: +44(0)1789 773232 Fax: +44(0)1789 774239 Email: sales@techsil.co.uk Web: www.techsil.co.uk