FD503-TG60S

Low-Viscosity Silicone Potting Compound

A low-viscosity, two-part addition-cure silicone for potting and protection of battery and power modules. It cures at room temperature or with heat, without producing cure by-products. The product data lists a UL 94 V-0 rating.

Uncured properties

Property	Value	Method / reference
Appearance	A: grey liquid; B: white liquid	Q/GZJTHG42-2022
Viscosity, parts A and B	600-1,200 mPa·s	GB/T 2794
Mix ratio, A:B	1:1 by weight (see notes)	Not specified
Mixed viscosity	600-1,200 mPa·s	GB/T 2794
Working time	30-60 min	Q/GZJTHG42-2022
Cure time	2-5 h	GB/T 531*

Cured properties

Property	Value	Method / reference
Hardness	Shore A 25-35	GB/T 531
Dielectric strength	≥15 kV/mm	GB/T 1695
Volume resistivity	≥1.0 × 10^{12} Ω·cm	GB/T 1692
Density	1.30 ± 0.03 g/cm^3	GB/T 533
Flammability rating	V-0 (see notes)	UL 94

Test conditions. Uncured properties: 25°C and 55% relative humidity. Mechanical and electrical properties: fully cured specimens.

Data notes. The mixing instructions specify 1:1 by weight. The original table labels the ratio as weight/volume; a volume ratio has not been verified. No thermal conductivity value is specified. The V-0 entry has no stated specimen thickness or report number; confirm suitability for the intended design.

* Cure-time method references are retained as printed in the original data. They do not define a validated cure-time test. Viscosity is expressed in mPa·s (1 mPa·s = 1 cP).

Application and processing

Applications and substrate compatibility

Battery and power modules requiring potting, electrical insulation and protection. Suitable substrates listed in the product data include PC, PP, ABS, PVC and metals. Check compatibility with the actual assembly before use.

Operating temperature range: -40°C to +200°C. Minimum poured thickness: 0.5 mm.

Processing

1. Pre-mix. Stir parts A and B thoroughly in their separate containers. Mechanical stirring is recommended. Use separate tools for each part to prevent cross-contamination.

2. Mix. Weigh parts A and B at a ratio of 1:1 and mix until uniform.

3. Degas. Vacuum-degas the mixture for 1-3 minutes.

4. Dispense. Pour promptly into the assembly before the mixture thickens and loses flow.

5. Cure. Room-temperature or heated cure is possible. Higher temperatures accelerate cure. The table lists a cure time of 2-5 hours without specifying a cure temperature.

Cure inhibition

Contact with the following materials may inhibit cure. Check compatibility with the intended substrates and residues before use.

- Release agents and detergents.
- Certain plasticizers in insulating plastics, wire and cable insulation, and grommets.
- Materials containing nitrogen, phosphorus, sulfur or halogens, including natural rubber and neoprene.
- Soldering flux residues, including rosin.
- Organometallic compounds containing lead, tin or mercury, and condensation-cure silicones.
- Amine-containing materials, including polyurethane and epoxy systems.

Packaging and storage

Packaging: 10 kg, 20 kg or 25 kg per component, supplied in drums for parts A and B.
Shelf life: 12 months at 0-35°C in tightly sealed containers in a dry place. Separation may occur during storage; stir each part thoroughly before use. Use mixed material promptly. Use material beyond its shelf life only after checking and confirming it is suitable for use.

Handling and application guidance

Do not ingest. Avoid eye contact. Obtain the current Safety Data Sheet for handling and transport information. Evaluate the product under the intended application and processing conditions before production use. Performance may vary with use conditions. Contact DBSilco at sales@dbsilco.com for pricing and orders.

RoHS compliance is stated in the original product data. Obtain current supporting documentation for your application.