PRILIMINARY DATA SHEET

# ELASTOSIL® TC 850 F A/B

ELASTOSIL®

**RTV-2 Thermally Conductive Encapsulant**

ELASTOSIL® TC 850 F A/B is a rapid curing, pourable, 1:1 two-component silicone rubber encapsulant that vulcanizes at room temperature and accelerates on heat.

## Properties

- Two-part system, 1:1 mixing ratio.
- Rapid curing
- Easy to mix and pour.
- Room temperature curing but accelerates on application of heat.
- Excellent durability

### Special features

- Moderate Shore A hardness
- Good thermal conductivity (approx. 0.80 W/mK)
- No post curing required.
- Excellent reliability over a wide range of temperature
- Aids heat dissipation

# Technical data



## Properties Uncured

| Property | Condition | A | B | Method |
|---|---|---|---|---|
| Viscosity, dynamic | 25°C | 1,000 – 7,000 mPa.s | 1,000 – 7,000 mPa.s | ISO 3219 |
| Density | 25°C | 1.5 – 1.7 g/cm$^3$ | 1.5 – 1.7 g/cm$^3$ | ISO 1183-1 A |
| Color | - | white | black to gray | - |

These figures are only intended as a guide and should not be used in preparing specifications.

## Properties Catalyzed A+B

| Property | Condition | Value | Method |
|---|---|---|---|
| Pot life(1) | 25°C | 80 – 150 min | - |
| Mix ratio | - | 1 : 1 | - |
| Viscosity, dynamic | - | 1,000 – 7,000 mPa.s | ISO 3219 |
| Total curing time | 25°C<br>50°C | 24 h<br>30 min | |

[1] 25°C, time to 100,000 mPa.s

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### Properties Cured

| Property | Condition | Value | Method |
|---|---|---|---|
| Density | 25°C in water | 1.5 – 1.7 g/cm$^3$ | DIN EN ISO 1183-1 A |
| Elongation at break | - | 50 – 100 % | DIN 53504 S1 / ISO 37 |
| Tensile strength | - | > 1.0 N/mm$^2$ | DIN 53504 S1 / ISO 37 |
| Hardness Shore A | @50°C/30 min | 50 - 57 | DIN 53505 |
| Volume resistivity | - | > e$^{16}$ Ω-cm | IEC 60093 |
| Thermal conductivity | Of 2 mm sheet | 0.80 W/mK | ASTM D 5470-12 |

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All the information provided is in accordance with the present state of our knowledge. Nonetheless, we disclaim any warranty or liability whatsoever and reserve the right, at any time, to effect technical alterations. The information provided, as well as the product's fitness for an intended application, should be checked by the buyer in preliminary trials.
Contractual terms & conditions always take precedence. The disclaimer of warranty and liability also applies particularly in foreign countries with respect to third parties' rights.

## Application details

ELASTOSIL® TC 850 F A/B thermally conductive encapsulant is suitable as a potting material for:

- Encapsulants for PCB assembly
- Power modules
- Adaptors
- Inverters
- Transformers
- Ballasts
- Sensors
- Electronic control units

## Processing

**Important**

Only A & B components with the same batch number may be processed together!

- **Application methods**

Manual or automated needle dispenser.

- **Mixing and deairing**

The product is supplied for 1:1 mix ratio. Prior to use carefully mix the individual components as both of part A & B can have filler settlement in the bottom. Mixing of individual components has to be carried out till all the settled fillers mixed up uniformly.
Component A of ELASTOSIL® TC 850 F A/B contains platinum catalyst. Component B the crosslinker hydrogen. Even traces of platinum catalyst may cause gelling of the component containing the crosslinker. Therefore tools (spatula, stirrers etc) used for handling the platinum containing component or the catalyzed compound must not come into contact with this component.

- **Curing**

ELASTOSIL® TC 850 F A/B, the silicone encapsulants may be either room temperature or heat cured. Room temperature cure encapsulants may also be heat accelerated for faster cure.
The reactivity can be adjusted within wide limits by adding catalyst OL or inhibitor ViP5 to suit the processing requirements of the particular applications. Catalyst OL increases the reactivity i.e. pot life and curing time are reduced. Inhibitor ViP5 is a pot life extender and prolongs pot life and curing time.

- **Cleaning**

If removal of uncured silicone rubber from machines or dispensing equipment is necessary, white spirit or similar non-polar solvents are recommended. However, cleaning ideally should take place before the rubber is fully vulcanized. Cured silicone rubber can be removed by mechanical means, preferably in combination with a swelling agent (solvent).

- **Notes**

Examples of inhibiting contaminants are sulfur containing materials, plasticizers, urethanes, amine containing materials and organometallic compounds – especially organotin compounds. If a substrate's ability to inhibit cure is unknown, a small-scale test should be run to determine compatibility.

- **Storage**

ELASTOSIL® TC 850 F A/B has a shelf life of at least 8 months when stored between 5°C and 30°C in the originally sealed container. But shelf life can be extended based on the storage condition of the material. The 'Best use before end' date of each batch appears on the product label.

**Detailed processing instructions are given in our brochure "ROOM TEMPERATURE VULCANIZING (RTV) SILICONES - MATERIAL AND PROCESSING GUIDELINES**



**For technical, quality or product safety questions, please contact:**

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