ELASTOSIL® TC 3806 A/B

ELASTOSIL®

RTV-2 Thermally Conductive Encapsulant

ELASTOSIL® TC 3806 A/B is a pourable, 1:1 two-component thermally conductive silicone rubber encapsulant that vulcanizes at room temperature and accelerates on heat.

Properties

- Two-part system, 1:1 mixing ratio
- Easy to mix and use
- Room temperature curing but accelerates on heat
- Excellent durability

Special features

- Low viscosity
- Good flowability for fast processing and short cycle times
- Easy deairing to avoid pin holes
- High Shore A hardness (approx. 65)
- Good thermal conductivity (0.7 W/mK)
- Flame retardant, UL 94 V-0 certified
- RoHS certified
- 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, after stirring	4,000 mPa.s	4,000 mPa.s	ISO 3219
Density	-	1.60 g/cm^3	1.60 g/cm^3	ISO 1183-1 A
Color	-	white	gray to black	-

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	140 min	-
Mix ratio	-	1 : 1	A : B
Viscosity, dynamic	25°C, after stirring	4,000 mPa.s	ISO 3219
Total curing time	25°C	24 h	

[1] 25°C, time to 100,000 mPa.s

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Properties Cured

Property	Condition	Value	Method
Specific gravity	25°C in water	1.60	DIN EN ISO 1183-1 A
Elongation at break	-	100%	DIN 53504 S1 / ISO 37
Tensile strength	-	> 1 N/mm^2	DIN 53504 S1 / ISO 37
Hardness Shore A	-	65	DIN 53505
Volume resistivity	-	> e^{16} Ω-cm	IEC 60093
Thermal conductivity	-	0.7 W/mK	ASTM D 5470-12
Dielectric strength	-	27 KV/mm	IEC 60250
Flame Classification	-	V-0	UL 94

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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 3806 A/B thermally conductive encapsulant is suitable as a potting material for:

- LED drivers
- 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 dispense

- **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 3806 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.

The two components should be thoroughly mixed at a 1 : 1 ratio by weight. To eliminate avoid pin holes in the cured rubber, the A/B mix can be deaerated by mechanical shaker. For processing ELASTOSIL® TC 3806 A/B in industrial scale, the use of automatic mixing and dispensing equipment is recommended.

- **Surface preparation**

In applications requiring adhesion, priming will be required for many of the silicone encapsulants. For best results, the primer should be applied in a very thin, uniform coating and then wiped off after application. After application, it should be thoroughly cured prior to application of the silicone elastomer. Additional instructions for primer usage are available in the information sheets specific to the individual primers.

- **Curing**

Thoroughly mixed ELASTOSIL® TC 3806 AB may be poured/dispensed directly into the container in which it is to be cured. Care should be taken to minimize air entrapment. When practical, pouring/dispensing should be done under vacuum, particularly if the component being potted or encapsulated has many small voids. If this technique cannot be used, the unit should be evacuated after the silicone encapsulant has been poured/dispensed.

ELASTOSIL® TC 3806 AB, the silicone encapsulants may be either room temperature (25 °C/77 °F) or heat cured. Room temperature cure encapsulants may also be heat accelerated for faster cure.

Temperature (°C)	Curing time
25	24 hr
50	40 min
70	30 min
100	15 min

The reactivity of ELASTOSIL® TC 3806 AB can be adjusted within wide limits by adding Pt catalyst or inhibitor to suit the processing requirements of the particular applications. Catalyst increases the reactivity i.e. pot life and curing time are reduced. Inhibitor 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.

Packaging and storage

- **Storage**

The 'Best use before end' date of each batch is shown on the product label.

Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

- **Packing**

Available pack sizes for ELASTOSIL® TC 3806 A/B is as follow:

EL TC 3806 A IN is available in 25 Kg DRUM PE & 1 Kg TIN ST
EL TC 3806 B IN is available in 25 Kg DRUM PE & 1 Kg TIN ST

Safety notes

Components A and B of the addition-curing grade ELASTOSIL® TC 3806 A/B contain only constituents that over many years have proved to be neither toxic nor aggressive. Special handling precautions are therefore not required, i.e., only the general industrial hygiene regulations apply.

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be printed via WACKER web site http://www.wacker.com.

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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