

SEMICOSIL[®] 949 UV A



Room Temperature Curing Silicone Rubber (RTV-2)

SEMICOSIL[®] 949 UV A is a pourable, addition-curing, 2-part silicone rubber of low viscosity that cures extremely fast after activation by UV light exposure to a soft silicone elastomer.

Properties

- two-part, 10 : 1 mixing ratio
- low viscosity
- extremely fast curing at room temperature (after UV-activation)
- low hardness (Shore 00)
- offers process control option by UV-light (contains UV-tracer)

Technical data

Properties Uncured

Property	Condition	A	B	Method
Color	-	clear	clear	-
Density	23.0 °C	0.97 g/cm ³	0.97 g/cm ³	DIN EN ISO 2811-2
Viscosity, dynamic	25.0 °C	150.0 mPa·s	1000.0 mPa·s	DIN EN ISO 3219
Platinum catalyst in component ⁽¹⁾	-	-	B	-

¹UV active organometallic catalyst

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

Catalyzed

Property	Condition	Value	Method
Viscosity, dynamic	25 °C	200.0 mPa·s	DIN EN ISO 3219
Mix ratio	-	10 : 1 pbw	-
Pot Life ⁽¹⁾	23 °C	≥ 1 d	-

¹if mixed and stored in the dark

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Properties Cured

Property	Condition	Value	Method
Color	-	clear	-
Density	23.0 °C	0.97 g/cm ³	DIN EN ISO 1183-1 A
Shore 00 ⁽¹⁾	23 °C	40	ASTM D 2240

¹10 sec 140 mW/cm² followed by 30 min 150°C

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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 and conditions always take precedence. This disclaimer of warranty and liability also applies particularly in foreign countries with respect to third parties' rights.

Applications

- Automotive Electronics
- Connector Encapsulation

- Electronic Control Unit (ECU)
- Electronics
- Encapsulation
- Power Control Unit (PCU)
- Power Electronics

Application details

- UV active encapsulant
- Sealing of connectors (injection-molded thermoplastics + pins)
- Allows short cycle times by fast solidification of silicone

Processing

Surface Preparation

Surface preparation

All surfaces must be clean and free of contaminants that will inhibit the cure of SEMICOSIL® 949 UV A/B. 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.

Handling & Mixing

Handling

The A-component contains an UV-tracer that is dispersed in the silicone. The UV-tracer may be subject to a limited sedimentation. In order to guarantee homogenous product performance (curing time, UV-tracability) it is recommended to homogenize the A-side prior to application by stirring.

Mixing

Component B of SEMICOSIL® 949 UV A/B contains the platinum catalyst, component A the crosslinker. Even traces of the 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 10 : 1 ratio by weight or volume.

To eliminate any air introduced during dispensing or trapped under components or devices a vacuum encapsulation is recommended.

Curing

Curing

For the curing an UV lamp (Fe-lamp, D-bulb) with an emission between 250 and 350 nm can be used. It is recommended not to use lamp systems that emit light with a wavelength below 250 nm.

Curing time of SEMICOSIL® 949 UV A/B is highly dependent on UV-activation.

Significant differences in curing time are obtained for curing different layer thicknesses and for using different substrate materials. Typical values are given below.

UV-activation (140 mW/cm ²)	Curing time at 25°C (2 mm)
5 s	2 min
10 s	1 min
20 s	cured after 40 s UV

UV-activation Time (sec) Curing time (140 mW/cm²) at 25°C (2mm)

5 sec 2 min

10 sec 1 min

20 sec 40 sec

Use of UV-LEDs

A cure with UV-LEDs is basically possible, however only under certain specific conditions:

- 365 nm emission
- High-Power UV-LED
- Minimization of distance Silicone surface to LED
- Layer thickness < 5 mm (depth of light penetration smaller compared to cure with discharge lamps)
- Matching of area to be irradiated to UV-LED emission array

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.

Safety notes

According to the latest findings addition curing SEMICOSIL® 949 UV A silicone rubber contains neither toxic nor corrosive substances which might require special handling precautions. General hygiene regulations should be observed. 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>.

QR Code SEMICOSIL® 949 UV A



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

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