SEMICOSIL® 950 UV B

Room Temperature Curing Silicone Rubber (RTV-2)

SEMICOSIL® 950 UV B is used in combination with SEMICOSIL® 949 UV A as a sprayable, 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

- UV-active and shadow curing catalyst
- to be used as SEMICOSIL® 949 UV A / SEMICOSIL® 950 UV B in 10 : 1 mixing ratio
- low viscosity
- extremely fast curing at room temperature (after UV-activation)
- shadow curing at room temperature
- low hardness (Shore 00)
- applied mixture offers process control option by UV light (contains UV-tracer)

Technical data

Properties Uncured

Property	Condition	A	B	Method
Color[1]	-	clear-brownish translucent	clear - yellowish	-
Density	23.0 °C	0.97 g/cm³	-	DIN EN ISO 2811-2
Viscosity, dynamic[2]	-	150 mPa·s	1000 mPa·s	ISO 3219

[1]A: SEA: SEMICOSIL® 949 UV A; B: SEMICOSIL® 950 UV B
[2]A: SEMICOSIL® 949 UV A; B: SEMICOSIL® 950 UV B

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

Properties Catalyzed A+B

Property	Condition	Value	Method
Viscosity, dynamic Mix[1]	23.0 °C	200 mPa·s	DIN EN ISO 3219
Platinum catalyst in component[2]	-	B	-
Mix ratio[3]	-	10 : 1	A : B

[1]Mix SEMICOSIL 949® UV A / SEMICOSIL 950® UV B 10:1
[2]Organometallic Catalyst
[3]SEMICOSIL® 949 UV A: SEMICOSIL® 950 UV B

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Catalyzed

Property	Condition	Value	Method
Pot life[1]	-	approx. 10 min	-
Gel time after UV irradiation[2]	-	0 - 6 min	-
Gel time non irradiated 35°C[3]	-	4 - 40 min	-
Gel time non irradiated, 70°C[4]	-	1 - 8 min	-

[1]at 23 °C not exposed to UV-light
[2]140 mW/cm² / 10 sec; manual reactivity in Al beaker
[3]Measured in Gel Timer (Saur)
[4]Measured in Gel Timer (Saur)

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Properties Cured

Property	Condition	Value	Method
Color	-	clear - brownish translucent	-
Density	23.0 °C	0.97 g/cm^3	DIN EN ISO 1183-1
Hardness Shore 00[(1)]	23 °C	40.0	ASTM 2240 / Type 00

[1]Curing Conditions: 10 sec / 140 mW/cm2 followed by 30 min 150°C; measured@23°C

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Applications

- Automotive Electronics
- Connector Encapsulation
- Electronics
- Measurement & Control, Sensor Technology
- Potting & Encapsulation
- Power Control Unit (PCU)
- Power Electronics

Application details

SEMICOSIL® 950 UV B is designed to be used in combination with SEMICOSIL ® 949 UV A . To ensure homogenity component A must be stirred thoroughly before processing.

Surface preparation All surfaces must be clean and free of contaminants that will inhibit the cure of the 10 : 1 mixture of SEMICOSIL® 949 UV A / SEMICOSIL® 950 UV 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 The A-component contains an UV-tracer that is dispersed in the silicone. In order to guarantee homogenous product performance (curing time, UV-tracability) it is recommended to homgenize the A-side prior to application by stirring.

Mixing
SEMICOSIL® 950 UV 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. SEMICOSIL ® 949 UV A should be thoroughly mixed with SEMICOSIL® 950 UV B 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 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 / SEMICOSIL® 950 UV B (10 : 1) 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.

- connector potting

- conformal coating for printed circuit boards

- encapsulation of electronic components

Processing

Surface Preparation

All surfaces must be clean and free of contaminants that will inhibit the cure of the 10:1 mixture of SEMICOSIL® 949 UV A / SEMICOSIL® 950 UV 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 SEMICOSIL® 949 UV A component contains an UV-tracer that is dispersed in the silicone. In order to guarantee homogenous product performance (curing time, UV-tracability) it is recommended to homgenize the A-side prior to application by stirring.
Mixing
SEMICOSIL® 950 UV 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.
SEMICOSIL® 949 UV A should be thoroughly mixed with SEMICOSIL® 950 UV B 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

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. An high power UV-LED may also be used (365 nm) for applications allowing minimum distance to the light source. As light penetration depth is reduced 365 nm in UV-LED in comparison with discharge lamp pretests are recommendable to check feasibility for specific application.
Curing time of SEMICOSIL® 949 UV A / SEMICOSIL® 950 UV B (10:1) 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.
Without UV-activation SEMICOSIL® 949 UV A / SEMICOSIL® 950 UV B cures at room temperature within 36 h, at 70°C within 20 min.

UV-activation (140 mW/cm²)	Curing time at 25°C (2 mm)
10 s	1 min
20 s	cured after 20 s UV

Packaging and storage

Storage

General recommendations SEMICOSIL® 950 UV B should be stored in the original light-tight container. After exposure to daylight or UV-light the material should be immediately processed and not stored any longer. 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 silicone rubber SEMICOSIL® 950 UV B contains neither toxic nor aggressive substances which would require special handling precautions. General industrial 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® 950 UV B

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

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