

SEMICOSIL[®] 914

Room Temperature Curing Silicone Rubber (RTV-2)

SEMICOSIL[®] 914 is a shear-thinning, addition-curing, 2-part silicone rubber that cures to a soft silicone gel when mixed with ELASTOSIL[®] CAT PT, ELASTOSIL[®] CAT PT-F or ELASTOSIL[®] CAT UV.

Properties

- two-part, 10 : 1 mixing ratio
- shear-thinning
- fast curing at room temperature with ELASTOSIL[®] CAT PT-F
- long pot life at room temperature with ELASTOSIL[®] CAT PT
- extremely fast curing with ELASTOSIL[®] CAT UV
- low hardness
- excellent mechanical damping properties
- inherent tackiness

Technical data

Properties Uncured

Property	Condition	Value	Method
Color	-	translucent	-
Density	23.0 °C	0.99 g/cm ³	DIN EN ISO 2811-2
Viscosity, dynamic	25 °C 100 1/s	3000 mPa·s	DIN 53019
Viscosity, dynamic	25 °C 0.5 1/s	55000 mPa·s	DIN 53019

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

Properties Catalyzed A+B

mixing ratio (SEMICOSIL® 914 : catalyst) = 10:1

Property	Condition	Value	Method
Viscosity, dynamic	25 °C 0.5 1/s	42000 mPa·s	DIN 53019
Viscosity, dynamic	25 °C 100 1/s	2600 mPa·s	DIN 53019
Pot Life catalyzed with ELASTOSIL® CAT PT	23 °C	60 min	-
Pot Life catalyzed with ELASTOSIL® CAT PT-F	23 °C	5 min	-
Pot Life catalyzed with ELASTOSIL® CAT UV ⁽¹⁾	23 °C	170 s	-
Pot Life catalyzed with ELASTOSIL® CAT UV ⁽²⁾	25 °C	200 s	-
Pot Life catalyzed with ELASTOSIL® CAT UV ⁽³⁾	23 °C	≥ 3 d	-
Gel time catalyzed with ELASTOSIL® CAT PT	23 °C	4 h	-
Gel time catalyzed with ELASTOSIL® CAT PT-F	23 °C	15 min	-
Gel time catalyzed with ELASTOSIL® CAT UV ⁽⁴⁾	120 °C	≥ 500 s	DIN 16945
Gel time catalyzed with ELASTOSIL® CAT UV ⁽⁵⁾	23 °C	≤ 60 s	-

¹UV dose: 1.5 J/cm²; 250-350 nm

²UV dose: 1.5 J/cm²; 250-350 nm; until 300.000 mPas

³without UV-irradiation

⁴without UV-irradiation

⁵UV dose: 1.5 J/cm²; 250-350 nm

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Properties Cured

catalyzed with ELASTOSIL® CAT UV; cured at 150°C for 30 min. after initial UV-irradiation

Property	Condition	Value	Method
Color	-	translucent	-
Density	23.0 °C	0.98 g/cm ³	DIN EN ISO 1183-1 A
Penetration ⁽¹⁾	-	60 1/10mm	DIN ISO 2137

¹9.38 g hollow cone; 5 sec.

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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.

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

Application details

encapsulation and sealing of electronic components for the automotive and power electronics industries

Processing

surface preparation

All surfaces must be clean and free of contaminants that will inhibit the cure of SEMICOSIL® 914.

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.

mixing

SEMICOSIL® 914 contains the crosslinker, ELASTOSIL® CAT PT, PT-F and CAT UV contain the catalyst. Even traces of the platinum catalyst may cause gelling of the component containing the crosslinker. Therefore tools (spatula, stirrers, etc.) used for handling the catalyst-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

The system SEMICOSIL® 914 / ELASTOSIL® CAT UV (10:1) is activated by direct UV irradiation. UV irradiation should use emissions in the wavelength range between 250 and 350 nm.

Typically D-bulbs (Fe-doped Hg-light sources) using ozone-free quartz should be used and are commercially available. H-bulbs with emissions below 250 nm are not recommended.

Curing time of the UV-active system SEMICOSIL® 914 / ELASTOSIL® CAT UV (10:1) is highly dependent both on the intensity and dose of the UV-light and the spectral intensity distribution. The curing is also dependent on the layer thickness, the optical properties of the substrate and temperature. Increase of the temperature will fasten curing reaction. SEMICOSIL® 914 / ELASTOSIL® CAT UV (10:1) will only cure in directly irradiated areas.

Curing of SEMICOSIL® 914 catalyzed with ELASTOSIL® CAT PT or ELASTOSIL® CAT PT-F (10:1) is possible at ambient temperature (ca. 23°C) and is promoted by elevated temperature. For fast cure a vented oven can be used.

Oven temperature 100°C	Curing time 2 mm
Catalyst PT	30 min
Catalyst PT-F	10 min
Catalyst UV #	2 min

UV dose 1.5 J/cm², 250-350nm

Packaging and storage

Storage

SEMICOSIL® 914 should be stored dry and cool in the tightly closed original container.

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, SEMICOSIL® 914 contains neither toxic nor aggressive substances which might require special handling precautions. General industrial hygiene regulations should be observed. Detailed safety information is contained in each Material Safety Data Sheet, which can be obtained from our sales offices.

QR Code SEMICOSIL® 914



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

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