

SEMICOSIL[®] 988/1K



1-part heat-curing silicone rubber

SEMICOSIL[®] 988/1K is a non-slump, thermally curable, addition curing one-part silicone rubber.

Properties

- Ready-to-use, one-part silicone
- Thixotropic
- Low-stress sealing adhesive
- Medium Hardness
- Primerless adhesion
- Rapid heat cure

Technical data

Properties Uncured

Property	Condition	Value	Method
Viscosity, dynamic (D = 0.5 1/s)	25.0 °C	450000.0 mPa·s	DIN 53019
Viscosity, dynamic (D = 25 1/s)	25.0 °C	30000.0 mPa·s	DIN 53019
Color	-	transparent	-
Density	23.0 °C	1.1 g/cm ³	DIN EN ISO 1183-1 A
Kick-off temperature	-	140 °C	-

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

Properties Cured

Property	Condition	Value	Method
Hardness Shore A ⁽¹⁾	-	35	ISO 7619-1
Tensile strength ⁽²⁾	-	4.5 N/mm ²	ISO 37 - S2 (2 mm film)
Elongation at break ⁽³⁾	-	350 %	ISO 37 - S2 (2 mm film)
Color	-	transparent	-
Density	23.0 °C	1.1 g/cm ³	DIN EN ISO 1183-1 A
Dielectric strength	-	23.0 kV/mm	IEC 243
Modulus at 100 % elongation	100.0 %	0.5 N/mm ²	ISO 37
Volume resistivity	-	10 ¹⁵ Ohmcm	-

¹Cured at 150°C / 30min

²from pressed sheet 165°C / 15 min

³from pressed sheet 165°C / 15 min

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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.

SEMICOSIL® electronics applications

Application details

- General purpose adhesive for the electronics industry

- FIPG and CIPG applications
- Chip bonding (SEMICOSIL® 988 1K trans 30 ml cartridge)

Processing

General

SEMICOSIL® 988 1K trans shows good primerless adhesion to many substrates.

We recommend running preliminary tests to optimize conditions for the particular application.

Comprehensive processing instructions are given in our leaflet „ Room Temperature Vulcanizing (RTV) Silicones (Materials and Processing Guidelines)“ which can be downloaded from WACKER Chemie AG website.

Surface Considerations

All equipment and surfaces must be clean and free of contaminants that will prevent adhesion and/or inhibit the cure of SEMICOSIL® 988/1K

Separation layers on bonding substrated may be formed from residues of previous processes, from migrating additives or unintended contaminations. Examples of separating molecules among others can be processing fluids or deforming agents that are not able to built chemical links to reactive and accessible anchor groups of the substrate surface or to the silicone elastomer.

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 or built up adhesion is unknown, a small scale test should be run to determine compatibility.

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Safeguarding of reproducible and suitable surface quality is recommended. State of the art methods include in-line surface pretreatments like plasma processes or laser pretreatment.

Dispensing

Because of the high thixotropy (shear thinning effect) SEMICOSIL® 988/1K can be dispensed easily with all state-of-the-art dispensing equipments.

Since silicones dissolve notable amounts of air, an in-line degassing is recommended.

Curing

SEMICOSIL® 988 1K works best when cured at 125 °C or more.

Curing time should be adapted to the size and heat sink properties of the components and parts.

The term "curing" time describes the time needed for solidification of the material.

For typical substrates adhesion built-up is accomplished within this time, which can be observed by cohesive failure upon adhesion test.

However, depending on the surface quality of the bonding surfaces, time to adhesion might differ from given curing profiles.

In the interest of robust processing it is highly recommended that for selected curing temperatures & times aging tests on specific customers parts are carried out to safeguard the process.

Temperature	Curing time, thickness 1 cm
100 °C	6 h
130 °C	1 h
150 °C	10 min

Chip Bonding

For chip bonding applications SEMICOSIL® 988/1K is delivered in 30 ml cartridges.

Material typically is free of visual and macroscopic air inclusions. As silicones dissolve significant volumes of air for sensitive applications an in-line degassing may be considered. Entrapment of air by processing conditions has to be avoided.

Pressure-time dispensing equipment exposing directly air-pressure to the piston of the cartridge may result in entrapment or saturation of air into the silicone. Preferentially, volume-time dispensing with mechanical movement of the cartridge piston can be used.

SEMICOSIL® 988/1K 30 ml cartridges are delivered at ≤ 15°C, should be stored under +8°C, preferentially between +2 and +8 °C and typically should be warmed to room temperature in the closed 30 ml cartridge prior to processing. At room temperature cartridge content should be processed within 10 days.

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. Material should be stored between +5 and +25°C in Hobbock. 30 ml cartridges of SEMICOSIL® 988/1K should be stored below 8 °C in the tightly closed original container.

Safety notes

According to the latest findings, the addition-curing silicone rubber SEMICOSIL® 988/1K contains neither toxic or corrosive substances which would require special handling precautions. 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® 988/1K



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

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