

# ELASTOSIL® N 199

RTV-1 Silicone Sealant / Adhesive

## Characteristics

ELASTOSIL® N 199 is a non-slump RTV-1 silicone rubber that cures at room temperature on contact with moisture in the air.

## Special characteristics

- Ready-to-use, one-part system
- Non-slump
- Medium hardness
- High flexibility
- Excellent adhesion

## Application

- General-purpose adhesive for the electronics industry
- FIPG and CIPG applications

## Processing

ELASTOSIL® N 199 is a one-part room temperature vulcanizing sealant that cures to a flexible silicone rubber on exposure to water vapor in the air. During the curing process a small amount of an oxime is released. The crosslinking starts at all places where the paste comes into contact with atmospheric moisture and proceeds from the outer to the inner parts of the silicone. After about 30 minutes a skin of cured material is formed at the surface. After formation of a sufficiently thick skin, glued parts may be handled without destruction.

For the crosslinking to take place, water vapor from the air is necessary. For this reason the curing rate strongly depends on the atmospheric humidity in the surrounding. The higher the atmospheric moisture the faster the material will be cured fully. The temperature has a great influence on the curing rate as well. The higher the temperature the faster the material will be fully cured.

## Product data (uncured)

Property	Test method	Unit	Value
Color			Transparent
Density at 23 °C		[g/cm <sup>3</sup> ]	1.04
Extrusion rate, 3-mm nozzle, pressure 0.21 N/mm <sup>2</sup> , 23 °C		[g/10s]	13
Skin-forming time at 23 °C / 50 % RH		[min]	30
Curing time at 23 °C / 50 % RH		[h/mm]	24

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

## Product data (cured)

Property	Test method	Unit	Value
Color			Transparent
Density at 23 °C, in water	ISO 2781	[g/cm <sup>3</sup> ]	1.06
Hardness Shore A	ISO 868		35
Elongation at break	ISO 37	[%]	450
Tensile strength	ISO 37	[N/mm <sup>2</sup> ]	4.0
Tear resistance	ASTM D 624 B	[N/mm]	7.0
Dielectric strength	IEC 243	[kV/mm]	22
Volume resistivity	DIN IEC 93	[Ω cm]	10 <sup>16</sup>
Tracking resistance	IEC 112	[CTI]	> 600

2 mm, 14 d storage at 23 °C / 50 % RH.

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If removing of silicone rubber from machines or dispensing equipment is necessary, white spirit is recommended as a solvent. However, cleaning should take place before the rubber is fully cured. Afterwards only the use of mechanical forces in combination with a swelling solvent or the use of high temperatures of approximately 100 °C will help to remove sealant residues.

ELASTOSIL® N 199 shows good primerless adhesion to many substrates. We recommend running preliminary tests to optimize conditions for the particular application.

Comprehensive instructions are given in our leaflet "ELASTOSIL® RTV-1 Silicone Rubber."

### Storage

ELASTOSIL® N 199 has a shelf life of at least 9 months when stored between 5 °C and 25 °C in the originally sealed container. The 'Best use before end' date of each batch appears 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 information

During vulcanization of ELASTOSIL® N 199 a total of 4 % by weight of an oxime is released. These vapours should not be inhaled for long periods or in high concentration. Work areas should therefore be well ventilated. Contact of unvulcanized silicone rubber with eyes and mucous membranes must be avoided as this causes irritation. However, if it happens, rinse thoroughly with water.

Detailed safety information is contained in each Material Safety Data Sheet, which can be obtained from our sales offices.

The data presented in this leaflet are in accordance with the present state of our knowledge, but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this leaflet should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The recommendations do not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the products for a particular purpose.

The management system has been certified according to DIN EN ISO 9001 and DIN EN ISO 14001. The Business Unit Elastomers of the Division Silicones is ISO/TS 16949 certified.

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Version 3.00 from 13-02-04 replaces Version 2.00 from 26-08-03

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