ELASTOSIL® N9189

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Moisture Curing Silicone Rubber (RTV-1)

ELASTOSIL® N9189 is a non-slump, one-part silicone rubber for sealing and bonding applications. When exposed to air moisture it cures at room temperature to yield a permanently flexible silicone rubber with good heat resistance and slight electrical conductivity.

Fully vulcanized ELASTOSIL® N9189 shows long-term stability against weathering, moisture and UV radiation. The silicone elastomer may continously be exposed to constantly changing climatic conditions, sunlight and temperature as high as 200 °C (392 °F) without damage.

Properties

Uncured:
- Non-slumping, but strongly shear-thinning
- Soft-pasty consistency

Cured:
- Medium hardness Shore A
- No inhibition effect on platinum-catalyzed silicones
- Designed for electrically conductive bonding
- Excellent adhesion to many substrates
- Recommended service temperature from -45 °C to +200 °C

Specific features

- Alkoxy-cure
- Electrically conductive
- Heat resistant
- Non-slump
- Self-adhesive
- Shear thinning
- Tin-free catalysis

Technical data

Properties Uncured

Property	Condition	Value	Method
Skin formation time	-	5 - 15 min	-
Colour	-	black	-
Curing speed	23 °C | 50 % r.h	1 - 1.5 mm/d	-
Density	23 °C	1.034 g/cm^3	ISO 1183-1 A
Viscosity, dynamic	25 °C | 0.1 1/S	8500000 mPa·s	DIN EN ISO 3219
Viscosity, dynamic	25 °C | 500 1/S	40000 mPa·s	DIN EN ISO 3219

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

Properties Cured

Curing Conditions: 14 days at 23 °C and 50 % rel. humidity, 2 mm sheet, no post-curing

Property	Condition	Value	Method
Color	-	Black	-
Density (in water)	23 °C	1.05 g/cm^3	DIN EN ISO 1183-1 A
Hardness Shore A	-	45	DIN ISO 48-4
Tensile strength	-	2.8 N/mm^2	ISO 37 type 1
Elongation at break	-	330 %	ISO 37 type 1
Tear strength	-	7.8 N/mm	ASTM D 624 B
Volume resistivity	-	10 Ohmcm	IEC 62631-3-1
Thermal conductivity	-	0.35 W/m.K	DIN 52612

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Applications

- Appliances Industry
- Automotive Electronics
- Bonding & Sealing

- E-Mobility
- Electrical Components
- Formed-In-Place-Gaskets (Wet Type)
- Heating & Cooling
- Machine Building
- Railway Industry

Application details

- Electrically conductive glue for industrial applications
- Typical fields of application: electrical industry, appliances, automotive, electronics, railway.

Processing

ELASTOSIL® N 9189 is a is a ready-to-use, one-part silicone rubber which starts curing when exposed to air moisture. Typical curing characteristics are given in the table "Properties Uncured".

As RTV-1 silicones require humidity for curing, free access of air moisture to the silicone rubber is essential. Additionally, the vulcanization time of ELASTOSIL® N 9189 can be greatly reduced by increasing the level of air's relative humidity. Please note that, unlike the initial skin formation, the total curing rate of RTV-1 silicones is limited by moisture's diffusion speed in silicone rubber.

Increasing the curing temperature has just a minor effect both on the skin formation time and on the curing speed. ELASTOSIL® N 9189 therefore is vulcanized typically at room temperature.

After completion of the vulcanization the silicone elastomer may continuously be exposed to constantly changing climatic conditions, sunlight and high temperature without damage. Cured ELASTOSIL® N 9189 usually shows good primerless adhesion to many substrates, e.g. glass, ceramics, metals, plastics, varnishes and powder coatings.

Detailed information about the processing of RTV-1 silicones is given in our brochure “ROOM TEMPERATURE VULCANIZING (RTV) SILICONES - MATERIAL AND PROCESSING GUIDELINES”. We recommend running preliminary tests to optimize conditions for the particular application.

Removal:
If removal of the silicone from machines or dispensing equipment is necessary, white spirit or similar nonpolar solvents are recommended. However, cleaning ideally should take place before the silicone rubber is fully vulcanized. Cured silicone needs to be rubbed off or removed mechanically, if necessary in combination with a swelling agent (solvent) or a chemical silicone remover.

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

While curing ELASTOSIL® N9189 releases a total of approx. 3 wt.% alcohol. These vapors should not be inhaled for long periods or in high concentrations. Hence ventilation of the work place is recommended.

Contact of the uncured silicone rubber with eyes and mucous membranes must be avoided as this can cause irritation. If, despite all protective measures, uncured silicone rubber comes into contact with the skin or eyes, irrigate the affected area immediately with copious amounts of water for several minutes. If the irritation continues, seek medical advice.

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 ELASTOSIL® N9189

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

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