

# ProtoSil RTV 245 NEW

Preliminary datasheet

Addition-crosslinking



improved  
transparency

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## Main features

- Shore hardness A 40
- very good flow properties
- shrinkage-free vulcanization at room temperature
- can be made thixotropic
- high resistance to initial tearing and tear propagation
- very high transparency

## Applications

- production of elastic moulds
- particularly for prototypes
- excellent resistance to vacuum casting resins

## Properties in the non-crosslinked state (approx. values)

		ProtoSil RTV 245 NEW Comp. A	ProtoSil RTV 245 NEW Comp. B 1 (dry surface)	ProtoSil RTV 245 NEW Comp. B 2 (oily)
Colour		colourless	colourless	colourless
Mixing ratio	p.b.w.	100	10	10
Density (20 °C)	g/cm <sup>3</sup>	1.10	0.95	0.95
Viscosity (20 °C)	mPa·s	60,000	300	8,600

## Properties of the mixture (approx. values)

Mixed viscosity	mPa·s		35,000	50,000
Pot life (1000 g)	minutes		60	60
Demouldable after	hours (at RT)*		24	24
Demouldable after	hours (at 70°C)*		1	1
Hardness (1 hour, 70 °C)	Shore A	DIN 53505	41	40
Hardness (24 hours, RT)	Shore A	DIN 53505	40	39
Service temperature, short-term	°C		200	200

\*The vulcanization is temperature-dependent and is accelerated considerably by heat supply. It also depends on the layer thickness.

RT = room temperature

## Mechanical values of the cured product (approx. values)

Tensile strength	MPa	DIN 53504	5	4
Elongation at tear	%	DIN 53504	350	300
Resistance to tear propagation	N/mm	ASTM D 624 B	>25	20
Linear dimensional change	%		0.1	0.1
Linear expansion	m/(m K)		$2.5 \cdot 10^{-4}$ (0-150°C)	$2.5 \cdot 10^{-4}$ (0-150°C)
Resistivity	Ω cm	DIN 53482	$10^{15}$	$10^{15}$
Dielectric strength	KV/mm	DIN 53454	22	22
Dielectric constant	ε r	DIN 53483	3.0	3.0
Dissipation factor	tan δ 60 Hz	DIN 53483	0.008	0.008

## How to process the material

See that as little air as possible gets into the compound while stirring. To obtain a bubble-free vulcanized material, we recommend evacuating the crosslinker-containing formulation before continuing the processing.

When the vacuum is created, the mixture may expand by 3 - 4 times of its original volume under formation of bubbles. The process is finished when the bubbles have collapsed and the formulation has reobtained its original volume. Carefully pour the prepared material over the object to be cast.

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Whenever working with addition-crosslinking silicone rubbers, take care that the vessels used are clean and dry. Furthermore, the surface of the object to be cast should be dry and free from dirt. Certain substances may inhibit or decelerate the vulcanization of addition-crosslinking silicone rubbers. Such substances are among other things condensation-crosslinking silicones, organic rubbers, plasticizers, amines, heavy-metal compounds and sulphurous substances. Under unfavourable circumstances, it may happen that also surfaces having been in contact with the mentioned substances lead to vulcanization faults. The same applies to certain modelling materials.

When ProtoSil RTV 245 NEW is used as mould making material (production of negatives), there is no release agent required for demoulding. Should there still arise any problems, we recommend our NEUKADUR Release Agent SE NEW or NEUKADUR Release Spray P 6. For the production of multipart moulds and to avoid an adhesion of ProtoSil RTV 245 NEW to itself, use the same release agents. Treat the surface of the part already vulcanized with release agent, then cast the second part of the mould.

For release agents, please visit our homepage under <http://www.altropol.de/en/produkte/weitere-produkte/trennmittel>

The vulcanization of ProtoSil RTV 245 NEW begins after addition of the crosslinkers, and there are no cleavage products produced at all. At 20 to 25 °C, the vulcanization is to a large extent finished after 24 hours. The vulcanization speed is temperature-dependent and can be accelerated considerably by heat supply. Pot life and vulcanization time can however also be extended individually by means of the pot life retarder NEUKASIL SN 2884 (Quantity to be added 0.2% NEUKASIL SN 2884 to ProtoSil RTV 245 NEW is resulting to a pot life of approx. 90 - 100 minutes).

However, the vulcanization time can also be shortened individually with the accelerator NEUKASIL SN 2998 (Quantity to be added 0.3% NEUKASIL SN 2998 to ProtoSil RTV 245 NEW results in a pot life of approx. 45 minutes).

### **Thixotropic adjustment**

By addition of the component NEUKASIL Thixotropic Agent SN 200, the silicone rubber can be made thixotropic for special applications, i. e. the compound is then no longer liquid and castable, but brushable to pasty. For this, add approx. 0.1 to 0.3 % of NEUKASIL Thixotropic Agent SN 200 to the already mixed compound of ProtoSil RTV 245 NEW with Comp. B1. The thixotropic effect already occurs after a short period of time.

ProtoSil RTV is the designation for „Room Temperature Vulcanizing“ 2-component silicone rubber systems of ALTROPOL KUNSTSTOFF GmbH.

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### Form of delivery

ProtoSil RTV 245 NEW Comp. A	1 kg*	5 kg	25 kg	200 kg
ProtoSil RTV 245 NEW Comp. B 1	0.1 kg*	0.5 kg	2.5 kg	20 kg
ProtoSil RTV 245 NEW Comp. B 2	0.1 kg*	0.5 kg	2.5 kg	20 kg
NEUKASIL Thixotropic Agent SN 200	0.01 kg	0.05 kg	0.5 kg	5 kg
NEUKASIL Retarder SN 2884	0.05 kg	0.25 kg	1.25 kg	
NEUKASIL Accelerator SN 2998	0.05 kg	0.25 kg	1.25 kg	

\*= minimum order quantity: 6 working packages

### Storage

We recommend keeping the material in tightly closed original receptacles at temperatures of 20 - 25 °C. When duly stored, the material can be used within the shelf life indicated on the labels (the first 2 digits of the batch number indicate the week, the 3rd digit indicates the year).

### Measure of precaution

With the aid of the current safety data sheets, which contain physical, ecological, toxicological and other data relating to safety, the user can inform himself on the safe handling and storage of the products.

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Our technical service - in words, in writing or by trials - is given according to the current state of our knowledge. It does however not relieve the customer / user from the duty to check by himself if the products supplied by us are suitable for the intended processes and purposes. Application, use and processing of the products take place beyond our control possibilities and lie therefore exclusively in the area of responsibility of the processor. Any existing property rights of third parties are to be considered. We guarantee the perfect quality of our products in accordance with our general terms and conditions of business. When handling our products you have to observe the legal rules and the rules for the industrial hygiene. As for the rest, we refer to the corresponding safety data sheets.

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