

ProtoSil RTV 245

Silicone Rubber
Addition-crosslinking

altropol

Main features

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

Applications

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

Properties in the non-crosslinked state

		ProtoSil RTV 245 Comp. A	ProtoSil RTV 245 Comp. B 1 (dry surface)	ProtoSil RTV 245 Comp. B 2 (oily surface)	NEUKASIL Thixotropic Agent SN 200
Colour		colourless	colourless	colourless	colourless
Mixing ratio	p.b.w.	100	10	10	0,1 – 0,3
Density 20 °C (approx.)	g/cm ³	1.1	0.95	0.96	0.98
Viscosity 20 °C (approx.)	mPa·s	60,000	320	400	1,000

Properties of the mixture (approx. values)

Mixed viscosity	mPa·s		35,000	36,000	
Pot life (1000 g)	minutes		80	80	
Demouldable after	hours		12	12	
Shore A hardness	points	DIN 53505	40	40	
Service temperature	°C		200	200	
Tensile strength	N/mm ²	DIN 53504	5	4	
Elongation at tear	%	DIN 53504	350	300	
Resistance to tear propagation	N/mm	ASTM D 624 B	>25	>25	
Linear dimensional change	%		0.1	0.1	
Linear extension	m/(m K)		2.5•10 ⁻⁴ (0-150°C)	2.5•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	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.

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 crosslinking 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.

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When ProtoSil RTV 245 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 or NEUKADUR Release Spray P 6. For the production of multipart moulds and to avoid an adhesion of ProtoSil RTV 245 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/and-more/release-agents.html>

The vulcanization of ProtoSil RTV 245 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 2432 retarder (Quantity to be added 0.1% NEUKASIL SN 2432 retarder to ProtoSil RTV 245 is resulting to a pot life of approx. 110 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 and Comp. B1/B2. 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.

Form of delivery

ProtoSil RTV 245 Comp. A	1 kg*	5 kg	25 kg	
ProtoSil RTV 245 Comp. B 1 and B 2	0.1 kg*	0.5 kg	2.5 kg	
NEUKASIL Thixotropic Agent SN 200	0.01 kg	0.05 kg	0.5 kg	5 kg

*= minimum order quantity: 6 working packages

Storage

We recommend keeping the material in tightly closed original receptacles at temperatures of 15 - 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.

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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