

ProtoSil RTV 240

Silicone Rubber
addition-crosslinking

altropol

Main features

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

Applications

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

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

		ProtoSil RTV 240 A	ProtoSil RTV 240 B1	ProtoSil RTV 240 B2	NEUKASIL SN 200
Colour		colourless	colourless	colourless	colourless
Density 20 °C	g/cm ³	1.10	0.95	0.96	0.98
Viscosity 20°C	mPas	110,000	1,200	8,000	1,000

Properties of the mixture (approx. values)

Mixing ratio	p.b.w.	100	10	10	0.1 – 0.3
Mixed viscosity	mPas		55,000	60,000	
Pot life	(1000g) minutes		80	80	
Tack-free	(RT) hours		12	12	
Hardness	Shore A		42	38	
Service temperature	°C		200	200	
Tensile strength	N/mm ²		6.0	5.0	
Elongation at break	%		400	420	
Resistance to tear propagation	N/mm ²		23	26	
Linear shrinkage	%		0,1	0.1	
Linear extension	m/(m K)		$2.5 \cdot 10^{-4}$ (0-150°C)	$2.5 \cdot 10^{-4}$ (0-150°C)	
Resistivity	Ω cm		10^{15}	10^{15}	
Dielectric strength	KV/mm		22	22	
Dielectric constant	ε r		3.0	3.0	
Dissipation factor	δ 60 Hz		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 increase in volume by 3 to 4 times of its original volume under formation of bubbles. The degassing 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, use clean and dry vessels only. Also see that the surface of the object to be cast is dry and free from impurities. 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 combinations and sulphurous combinations. Under unfavourable circumstances, even surfaces having been in contact with the mentioned substances as well as certain modelling materials may lead to disturbances of the vulcanization.

When ProtoSil RTV 240 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 N or NEUKADUR Release Spray P 6. For the production of multipart moulds and to avoid an adhesion of ProtoSil RTV 240 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.

The vulcanization of ProtoSil RTV 240 begins after the addition of the crosslinkers, and there are no cleavage products produced at all. At 20 – 25°C, the vulcanization is finished to a large extent 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 prolonger NEUKASIL SN 2432.

Thixotropic adjustment

By addition of the component NEUKASIL 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 – 0.3% of NEUKASIL SN 200 to the mixture of ProtoSil 240 and crosslinker. The thixotropic effect will already set in after a short while.

Form of delivery

ProtoSil RTV 240 Comp. A	1*; 5 ; 25 and 200 kg
ProtoSil RTV 240 Comp. B1 and B2	0.1*; 0.5 ; 2.5 and 20 kg
NEUKASIL SN 200	0.01; 0.05 ; 0.1 ; 0.15 ; 0.2 ; and 0.5 kg

*= minimum order quantity: 6 working packages

Storage

The material should be kept in tightly closed original receptacles at temperatures of 15 - 25 °C. When duly stored, the materials can be used within the shelf life indicated on the labels.

Measure of precaution

Users should make use of the current safety data sheets, which contain physical, ecological, toxicological and other data relating to safety, to inform themselves 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 you from the duty to check by yourselves 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. State: 2012-04-23