

CALSIL Machinery and Equipment

RTV PC 18



1. Product Description:

Calsil® RTV PC18 is a pourable bi-component RTV-2 silicone rubber, vulcanizing at room temperature with a poly-condensation process. To fulfill the requirements for various applications is possible to use these type of catalyst:

- calsil® CAT. E6 fast kinetics (6h mould release)
- calsil® CAT. PES special catalyst with high polyester resistance
- calsil® CAT. THIXO thixotropic catalyst

2. Key Properties

- It gives a perfect replica of the original item
- Highly resistant in all circumstances and thermo-stable
- high tensile strength

3. Applications

It is particularly recommended for reproduction of elastic moulds (even with lots of undercut) in the artistic foundries, decorative objects, etc. Excellent performance for reproduction in wax, plaster and resin models

4. Typical Properties (not for sales specifications, please contact us prior to writing sales specs)

Physical Properties	Units	Values		
Appearance		Viscous liquid		
Colour		White		
Odour		odorless		
Solubility		Not mixable in water, dispersible in most of solvents		
Specific gravity	g/cm ³	1.14 ± 0.02		
Viscosity	mPa.s	30000		
Curing properties with CALSIL® CAT. L / S-PE / THIXO				
		CALSIL® CAT. E6	CALSIL® CAT. PES	CALSIL® CAT. THIXO
Mix ratio		100:5	100:5	100:5
Working time	min	30 ÷ 45	60 ÷ 90	60 ÷ 90
Setting time	h	4 ÷ 6	16 ÷ 24	16 ÷ 24
Properties of the cross linked product				
		CALSIL® CAT. E6	CALSIL® CAT. PES	CALSIL® CAT. THIXO
Hardness 24h	Sh A	15 ± 2	13 ± 2	13 ± 2
Hardness 3 days	Sh A	18 ± 2	17 ± 2	17 ± 2
Elongation	%	350 ÷ 450	350 ÷ 450	350 ÷ 450
Tensile strength	MPa	2.8 ± 0.3	2.8 ± 0.3	2.8 ± 0.3
Tear strength	kN/m	17.0 ± 2.0	18.0 ± 2.0	18.0 ± 2.0
Shrinkage (after 24h)	%	<0.7	<0.7	<0.7

5. How to use

After you have homogenized the silicone rubber, weigh the required quantity, add 5% catalyst and mix by hand and by a mechanical mixer. To reduce air bubbles, we suggest a vacuum de-airing before pouring the silicone rubber, compatible with the curing times. Before casting, vacuum degassing (20-30 mm of mercury) is recommended. Release the vacuum several times.

To achieve this, the container should allow an expansion of the fluid at about 3-5 times the initial level. Avoid prolonged degassing too, so as not to volatilize certain components required for curing. Vulcanization is influenced by temperature and moisture. The best curing conditions are at 23°C and 50% relative humidity. The use of products at higher temperature to this, lower temperatures and lower relative humidity levels will increase pot life and setting time. If the amount of catalyst is increased from 5% to 6-7%, the curing will accelerate, but shrinkages will increase too. It is recommended not to use the product at temperatures lower than 20°C. In these conditions, the final product performance will be difficult to achieve. We suggest to work at temperatures less than 35-40°C to avoid big shrinkages. At 23°C and 50% relative humidity, the demoulding happens after 16-24 hours. We suggest to wait for 24H before using the moulds. The definitive properties will be reached after 3 days.

- *Use of CALSIL® CAT. THIXO:* after you have homogenized the silicone rubber, add 5% CALSIL® CAT. THIXO and mix in a suitable for 3-5 minutes. You get a very viscous mass, which can be applied in vertical. With a brush or a spatula, spread the thixotropic silicone rubber to form a layer of 5-10 mm. If necessary, repeat after 4-6 hours (before the silicone rubber is completely cured) to obtain a mould with good strength (20-40 mm).

Other recommendations:

- we recommend to clean the sample to copy from dust and dirt. If the sample is made of glass or ceramic, it's possible that the silicone rubber sticks to the model. To avoid it, we recommend to use the release agent: CALSIL® R-AG1.

6. Handling

This document does not contain safety precautions. Before handling this material, please read the Material Safety Data Sheet, check the label on the container, and conform to the safety, physical and hazard guidelines and precautions. The Material Safety Data Sheet is available from your nearest CALDIC office.

7. Storage and Shelf Life

The product, when stored under appropriate conditions, is stable and usable for 12 months. We suggest to keep the products in their original packaging, well-closed at a temperature between +7°C and +27°C, in well-aired places. Mixing it with a clean shaker before use.

8. Packaging

CALSIL® RTV PC18 is available in drum kg 200, pail kg 20 and kg. 5.

CALSIL® CAT (for every type in this tds) are available in can kg. 5, bottle kg. 1 and gr. 250

9. Restrictions

This ingredient is solely proposed in the above listed applications, in contact with skin or hair. It is not suitable to be used in medical, human injection, pharmaceutical or food applications.

10. Limited Warranty PLEASE READ CAREFULLY

- The information herein is offered in good faith. It is believed to be accurate at the time of shipment.
- It should not be used as a substitute for the customer's test, the customer bears the responsibility to ensure that the product matches the intended application is safe and achieves the desired benefits.
- The product warranty is limited to the refund value of the purchase or the replacement only when it is demonstrated that the product is out of the agreed sales specifications.
- CALSIL® is a registered trademark of CALDIC BV. All rights reserved.

For more information, please contact our nearest office:

calsil@caldic.com

www.calsilsilicones.com