

RHODORSIL® RTV 141 A and B

Description **RHODORSIL RTV 141 A and B** is a two component, polyaddition reaction, room temperature curing silicone elastomer. Curing can be accelerated by heating.

After mixing the two components **RHODORSIL RTV 141 A and B** forms a relatively low viscosity, colorless liquid which transforms into an elastic and transparent material once cured. The reaction does not give off any heat.

Advantages

- TRANSPARENCY, good optical transmission.
- GOOD POURABILITY, for easy filling.
- Possibility of adding fillers.
- Good reversion resistance in confined spaces

Applications

- Coating or potting protection of electronic components and electrotechnical equipment.
- Opto-electronic links.
- Insulation of light sensitive cells.
- Sheathing of step index optic fibers.

Characteristics **1. Components of RHODORSIL RTV 141 A and B**

Properties	RHODORSIL RTV 141 A	RHODORSIL RTV 141 B
Physical state.....	Slightly viscous liquid	Slightly viscous liquid
Appearance (1)	Clear or slightly cloudy	Clear or slightly cloudy
Color.....	Colorless	Colorless
Specific gravity at 25°C, approx.....	1.02	1.02
Viscosity at 25°C, mPa.s, approx.....	3500	650

2 Mixing the two components

RHODORSIL RTV 141 A..... 100 parts

RHODORSIL RTV 141 B..... 10 parts

Viscosity of RTV 141A and B mixture 25°C, mPa.s, ap px.....4000

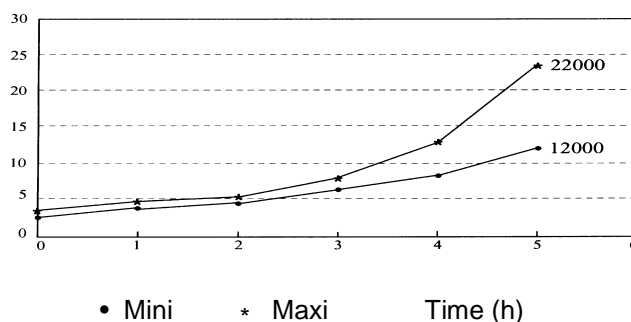
Pot life of the catalysed mixture at 25°C, approx.. 4 h

Gellnorm at 50°C, approx..... 40 min

RHODORSIL® RTV 141 A and B

RTV 141 Change in viscosity

Viscosity Pa.s



Time after which the elastomer (or the object)
can be handled at 25°C, approx.....24 to 48 h

3. Cured compound

3.1 Mechanical properties

Measured after curing 1 hour at 150°C.

3.1.1 On 6 mm thick specimen

Shore A hardness, points, approx..... 50
(Standard ASTM D 2240)

3.1.2 On 2 mm thick film

Tensile strength, MPa, approx..... 6.0
(Standard AFNOR NF T 46002)

Elongation at break, %, approx..... 120
(Standard AFNOR NF T 46002)

3.2 Physical properties

Linear shrinkage, %, approx..... 1.2

Refractive index, n^{25} approx..... 1.406

Volume expansion coefficient, K^{-1} , approx..... $9.9 \cdot 10^{-4}$

Thermal conductivity, W(m.K), approx..... 0,16

Brittle point, °C, approx..... - 70
(Standard ASTM D 746)

Peak thermal withstand, °C, approx..... + 200

Comment :

Curing at room temperature gives low linear shrinkage (0.4%), however it stops the cured compound from reaching its optimum mechanical properties.

RHODORSIL® RTV 141 A and B*3.3 Dielectric properties*

Dielectric strength, kV/mm, approx..... 20
(Standards AFNOR NF C 26225 et CEI 243)

Dielectric constant at 1 kHz, approx.....2.7
(Standards AFNOR C 26 230 et CEI 250)

Dielectric dissipation factor at 1 kHz, approx..... 1.10^{-3}
(Standards AFNOR NF C 26 230 et CEI 250)

Volume resistivity, $\Omega \cdot \text{cm}$, approx..... 1.10^{15}
(Standards AFNOR NF C 26215 et CEI 93)

Comment: *the above values cannot be used for specifications. To write such a document please consult us.*

Processing

Remix each of the two components (base + catalyst) before each use.

1. Mixing the two components

Add 10 parts of **RHODORSIL RTV 141 B** to 100 parts of **RHODORSIL RTV 141 A**.

The two components are thoroughly mixed using an electrical or pneumatic mixer, on a low speed setting so as to limit the inclusion of air in the mixture. A dispensing machine can also be used.

2. Degasing

After mixing parts A and B, it is preferable to degas the products to eliminate the air bubbles that would be visible in the finished part and which would reduce the mechanical and dielectrical properties.

Degasing is generally carried out with a vacuum of 30 to 50 mbar releasing the vacuum several times during the operation. This product is particularly long to degas.

A recipient with a high diameter/height ratio is better suited to quick degasing; however the height must be sufficient to contain the swelling of the elastomer under vacuum conditions.

3. Pouring the mixture

RHODORSIL RTV 141 is poured slowly and regularly.

In the case of a high thickness coating operation, the casting must be made at the lowest point in the volume to be filled; this avoids forming and including air bubbles in the volume.

It should not be filled totally to allow expansion of the RTV at service temperatures.

4. Curing

At 23°C, demoulding of **RHODORSIL RTV 141 A and B** is possible after approximately 24 to 48 hours at room temperature. Heat helps to accelerate curing.

Recommended curing temperature :

4 hours at 60°C

or 2 hours at 100°C

or 1 hour at 150°C

Comment : *Certain materials that the RTV may be in contact with when curing could inhibit the reaction:*

- Sulphur-containing cured natural and synthetic rubber compounds
- RTV's catalysed with metal salts
- PVC stabilized with tin salts
- Epoxydes catalysed with amines

RHODORSIL® RTV 141 A and B

If in doubt, it is recommended to carry out a test beforehand.

*It is also recommended to keep special degassing equipment for this type of RTV. Indeed, degassing of other products in the same container could pollute the latter and be detrimental to the curing of **RHODORSIL RTV 141 A and B**.*

5. Adhesion

Adhesion is achieved on most materials using PRIMER PMB 821 (after degreasing beforehand with a solvent), applied by immersion or with a brush, then dried for 30 minutes at approx. 25°C. For optimum adhesion, the RTV must be poured within the following four hours. Excess primer deteriorates the adhesion level. When PRIMER PMB 821 does not give sufficient results, another primer can be recommended, please consult us.

Specific case of repair work :

An object coated in **RHODORSIL RTV 141** can be repaired: after cutting, simply make up the volume of elastomer with more, new **RHODORSIL RTV 141** which has strong self adhesion without the need for a primer.

Repair of **RHODORSIL RTV 141** is invisible in the transparent bulk; however, the incision should be made at the last minute to avoid any soiling of the surfaces before the new product is poured in.

Make sure that packaging is hermetically closed again each time it is used.

Packaging

RHODORSIL RTV 141 A and B are delivered in kits of :

- 1 kg of part A + 0.100 kg of part B
- 5 kg of part A + 0.500 kg of part B

RHODORSIL RTV 141 A is also available in 25 and 200 kg packs and the corresponding 2.5 and 20 kg packs of **RHODORSIL RTV 141 B**.

Storage and shelf life

When stored in its original unopened packaging, at a temperature of between -5°C and + 30°C, **RHODORSIL RTV 141 A and B** may be stored for up to 24 months, from the date of manufacture clearly marked on the packaging.

Beyond this date, Bluestar Silicones no longer guarantees the conformity of the products with the sales specifications.

Safety

Consult the Safety Data Sheet for **RHODORSIL RTV 141 A and B**.

RHODORSIL® RTV 141 A and B

Visit our website www.bluestarsilicones.com

 EUROPE <i>Bluestar Silicones France</i> 21 Avenue Georges Pompidou F69486 Lyon Cedex 03 FRANCE Tel. (33) 4 72 13 19 00 Fax (33) 4 72 13 19 88	 NORTH AMERICA <i>Bluestar Silicones USA</i> Two Tower Center Boulevard Suite 1601 East Brunswick, NJ 08816-1100 United States Tel. (1) 732 227 2060 Fax (1) 732 249 7000	 LATIN AMERICA <i>Bluestar Silicones Brasil Ltda.</i> Av. Maria Coelho Aguiar, 215, Bloco G - 1º Andar 05804-902 - São Paulo - SP - Brasil Tel. (55)-11-37477887	 ASIA PACIFIC <i>Bluestar Silicones Hong Kong</i> Trading Co., Ltd. 29/ F, 88 Hing Fat Street Causeway Bay - Hong Kong Tel. (852) 3106 8200 Fax (852) 2979 0241
--	--	---	---

Warning to the users

The information contained in this document is given in good faith based on our current knowledge. It is only an indication and is in no way binding, particularly as regards infringement of or prejudice to third party rights through the use of our products. BLUESTAR SILICONES guarantees that its products comply with its sales specifications. This information must on no account be used as a substitute for necessary prior tests which alone can ensure that a product is suitable for given use. Users are responsible for ensuring compliance with local legislation and for obtaining the necessary certifications and authorisations. Users are requested to check that they are in possession of the latest version of this document and BLUESTAR SILICONES is at their disposal to supply any additional information.