

RHODORSIL® RTV 1523 A and B

Description **RHODORSIL RTV 1523 A and B** is a two-component silicone elastomer which cures at room temperature by a polyaddition reaction. The curing can be accelerated by heating.

RHODORSIL RTV 1523 A and B is supplied in the form of a viscous liquid which is transformed, after mixing parts A and B and then curing, into a strong, elastic material.

- Advantages**
- Outstanding flame resistance.
 - Dissipation of calories (encapsulation).
 - Low viscosity (easily refilled).
 - Advantageous mixing ratios (1/1).
 - unaffected by inaccurate dosage.
 - usable in two-component machines.
 - Fast curing time.
 - Additives range: RHODORSIL ACCELERATOR PA 39 and RHODORSIL RETARDER PA 40.

- Examples of applications**
- Coating and encapsulation in electro-technical and electronics applications.
 - Thermal and fire protection in the aerospace, nuclear and building industries.

Characteristics **1. RHODORSIL RTV 1523 A and B components**

	RHODORSIL RTV 1523 A	RHODORSIL RTV 1523 B
Appearance.....	viscous liquid	viscous liquid
Colour.....	black	whitish
Specific gravity at 23 °C, approx.....	1.31	1.45
Viscosity at 23 °C, mPa.s, approx.....	3000 – 6000 (1)	2000 – 6000 (1)

(1) as measured on a Brookfield RTV viscometer using needle N°4, speed 10 rpm

2. Mixing the two components

- RHODORSIL RTV 1523 A**..... 100 parts
RHODORSIL RTV 1523 B..... 100 parts
- Pot life of mixture at 23°C, approx. 1.5 hr
 Time required to obtain final mechanical properties at 23 °C, approx..... 8 hr

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3. Cured product

3.1. Mechanical properties

(Measurements taken after 8 hours curing at 23 °C)

3.1.1. 6 mm thick specimen:

Shore A hardness, approx. 50
(ASTM D2240)

3.1.2. 2 mm thick film:

Tensile strength, MPa, approx. 2.5
(AFNOR NF T 46002)

Elongation at break, % approx..... 150
(AFNOR NF T 46002)

3.1.3. 30 mm thick specimen:

(Cured for 1 h at 80 °C then for 1 h at 150 °C)

Compression set at 25 %
after 70 h at 150 °C, % approx. 8
(ASTL D 395)

After postcuring for 12 h at 200 °C..... 2

3.1.4. Linear shrinkage, % approx. 0.1

3.2. Thermal properties

Thermal conductivity, $W.m^{-1}.K^{-1}$ 0.42

Expansion coefficient, K^{-1} approx. 8×10^{-4}

3.3. Flammability properties

Self-extinguishability, 3.4 mm thick..... 94V-0
(see Underwriters Laboratory's File ≠ 96648, yellow card available)

Limit oxygen index, % approx. 40
(AFNOR NF T 51-071)

Flame rating, 6 mm thick.....M₂
(AFNOR NF F 51-072)

Smoke rating..... FO
(AFNOR NF F 16-101, P.V. of SNPE N° 92-332)

3.4. Dielectric properties

Dielectric strength, kV/mm approx..... 18
(AFNOR NF C 26225 and IEC 243)

Dielectric constant at 1 kHz approx. 3.2
(AFNOR NF C 26230 and IEC 250)

Dielectric dissipation factor at 1 kHz approx. 5×10^{-3}
(AFNOR NF C 26230 and IEC 250)

Volume resistivity, ohm.cm approx. 8×10^{13}
(AFNOR NF C 26215 and IEC 93)

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Processing

Remix each of the 2 components (base and catalyst) every time before using.

1. Manually

1.1. Catalysis

RHODORSIL RTV 1523 A and B should be mixed thoroughly in proportions of 100:100 by weight, by hand or with an electric stirrer rotating at low speed, to prevent the entrapment of air into the mix

1.2. Dilution

It may be necessary to reduce the viscosity of **RHODORSIL RTV 1523 A and B** for certain purposes. This can be done by adding up to 10 % of RHODORSIL THINNER FOR RTV 2030 before catalysis. With quantities of more than 10%, there is a risk of substantially impairing the properties of the finished article.

1.3. Degassing

The mixture of the two components should be degassed to remove air bubbles which would reduce the mechanical and dielectric properties.

Degassing is generally performed in a vacuum of 30 to 50 mbars for about ten minutes, releasing the vacuum twice in the chamber.

Degassing will be quicker in a container with a large diameter to height ratio.

2. Mixing machine

Equipment consisting of two metering pumps enables the control of volumetric flow rates of parts A and B which are thoroughly mixed when they go through a dynamic mixing head or a static mixer.

3. Preparing of materials and pouring

RHODORSIL RTV 1523 A and B can be poured on to metals, glass, laminates or moulded articles containing organic resins or silicones, or on all other materials.

The following procedure is recommended:

1. Clean the surfaces and remove grease with the appropriate solvent. Silicone elastomer surfaces should first be roughened, if possible, by rubbing with sandpaper.
2. Apply a bonding primer to all surfaces except silicones, with a rag or a brush. The most commonly used is PRIMER PMB 821, which requires a minimum of 30 minutes drying time at 23 °C.
3. Slowly pour the degassed **RHODORSIL RTV 1523 A and B** mixture at the lowest point of the volume to be filled, to prevent the formation and entrapment of air bubbles.

The container should not be filled completely, to allow the RTV to expand at working temperatures.

4. Curing

At a temperature of 23 °C, **RHODORSIL RTV 1523 A and B** cures in approximately 8 hours.

Curing can be accelerated by external heat, and the higher the temperature the faster curing will be. For example, at 150 °C the product cures in about 5 minutes.

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5. Repairs

An object encapsulated with **RHODORSIL RTV 1523 A and B** can be repaired simply by cutting away the RTV and replacing the missing elastomer with new **RHODORSIL RTV 1523 A and B**, which adheres very strongly to itself with no need for a primer.

6. Remarks

Curing of the RTV may be inhibited by contact with certain materials

- Natural or synthetic rubbers vulcanised with sulphur derivatives.
- RTV catalysed with metallic salts.
- PVC stabilised with tin salts.
- Epoxies catalysed with amines.

In case of doubt, a test should be made by pouring the mixture of the two components on to a small area of the object. It is also advisable to keep degassing apparatus exclusively for this type of RTV, as use with other substances might contaminate it and affect curing of **RHODORSIL RTV 1523 A and B**.

Ensure that the packaging is hermetically sealed again each time it is used.

Packaging

RHODORSIL RTV 1523 A and B is supplied in 25 kg containers.

Storage and shelf life

When stored in their original, unopened, packaging at a temperature of between – 5 °C and + 30 °C,

- **RHODORSIL RTV 1523 A and B** may be stored for up to 20 months from the date of manufacture marked clearly on the packaging.

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

Safety

Refer to the Safety Data Sheet for **RHODORSIL RTV 1523 A and B**.

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