

BLUESIL™ RTV 1523 A & B

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

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

Examples of applications

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

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: Accelerator BLUESIL ACC PA 39 and retarder BLUESIL RTRD PA 40.

Characteristics
1. BLUESIL RTV 1523 A&B components

<i>Properties</i>	BLUESIL RTV 1523 A	BLUESIL 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

BLUESIL RTV 1523 A..... 100 parts

BLUESIL RTV 1523 B..... 100 parts

Pot life of mixture at 23°C, hours, approx. 1.5

Time required to obtain final mechanical properties at 23 °C, hours, approx8

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Characteristics (cont')
3. Cured product
Mechanical properties:

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

- On 6 mm thick specimen:

Shore A hardness, approx. 50
(ASTM D2240)

- On 2 mm thick film:

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

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

On 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
(ASTM D 395)

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

Linear shrinkage, % approx. 0.1

Thermal properties:

Thermal conductivity, W.m⁻¹.K⁻¹ 0.42

Expansion coefficient, K⁻¹ approx. 8 x 10⁻⁴

Flammability properties:

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)

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 x 10⁻³
(AFNOR NF C 26230 and IEC 250)

Volume resistivity, ohm.cm approx. 8 x 10¹³
(AFNOR NF C 26215 and IEC 93)

BLUESIL™ RTV 1523 A & B**Processing****Remix each of the 2 components (base and catalyst) every time before using.****1. Manually***- Catalysis:*

BLUESIL RTV 1523 A&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

- 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

BLUESIL RTV 1523 A&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 BLUESIL PRIM PM 821, which requires a minimum of 30 minutes drying time at 23 °C.
3. Slowly pour the degassed **BLUESIL RTV 1523 A&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, **BLUESIL RTV 1523 A&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.

5. Repairs

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

BLUESIL™ RTV 1523 A & B**Processing (cont')****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 **BLUESIL RTV 1523 A&B**.

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

Packaging

BLUESIL RTV 1523 A&B is supplied in 25 kg containers.

Storage and shelf life

When stored in its original packaging at a temperature of between – 5°C and + 30°C **BLUESIL RTV 1523 A&B** may be stored for up to 20 months from its date of manufacture.

Comply with the storage instructions and expiry date marked on the packaging.

Beyond this date, Bluestar Silicones no longer guarantees that the product meets the sales specifications.

Safety

Please consult the Safety Data Sheets for **BLUESIL RTV 1523 A&B**.

Warning to the users

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