BLUESIL RTV 3130, 3131, 3131 SC, 3132 A&B

Silicones | Delivering your potential

Technical Data Sheet n° 2243-V7 – 2020/01/21

Description

The **BLUESIL RTV 3130 A&B, RTV 3131 A&B, RTV 3131 A&B SC** and **RTV 3132 A&B** are two component silicone elastomers which cure at room temperature by a polyaddition reaction. This reaction can be accelerated by heat.

Examples of applications

These products are specifically formulated for the production of printing pads.

Key benefits

- High purity products particularly designed for printing pads production.
- Outstanding mechanical properties.
- Excellent solvent resistance.
- Adjustable hardness by diluting with silicone oils.
- Antistatic properties for **BLUESIL RTV 3132 A&B.**
- Possibility to choose between longer **(BLUESIL RTV 3130 A&B and 3131 SC)** or shorter working time **(BLUESIL RTV 3131).**
- Customizable pads color with **BLUESIL RTV 3131 or BLUESIL RTV 3131 SC.**

Typical properties

1. Characteristics of the non cured product

Properties	**RTV 3130**		**RTV 3131**		**RTV 3131 SC**		**RTV 3132**	
	A (base)	B (Pt)	A (base)	B (Pt)	A (base)	B (Pt)	A (base)	B (Pt)
Aspect	Viscous fluids							
Viscosity *(At 23°C, mPa.s, ISO 3219, approx.)*	25 000	15 000	25 000	15 000	25 000	15 000	30 000	4 000
Color	Colorless	Dark red	Colorless	Colorless	Colorless	Colorless	Colorless	Blue
Specific gravity *(g/cm3, approx.)*	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1

2. Polymerization

BLUESIL RTV 3130 A&B, RTV 3131 A&B, RTV 3131 A&B SC and **RTV 3132 A&B** polymerize with a mixing ratio of 10:1.

Properties	**RTV 3130 A&B**	**RTV 3131 A&B**	**RTV 3131 SC A&B**	**RTV 3132 A&B**
Mixing ratio	A : B = 10 : 1			
Color	Dark red	Colorless	Colorless	Blue

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Pot life *(At 23°C, minutes)*	6		60	15
Demolding Time *(At 23°C, hours)*	5	1	5	2

Remark: Higher temperatures reduce pot life, lower temperatures prolong pot life. If curing is accelerated by heat the properties of the **BLUESIL RTV 3130 A&B, BLUESIL RTV 3131 A&B, BLUESIL RTV 3131 SC A&B** and **BLUESIL RTV 3132 A&B** are not modified. However dimensional changes may occur during post curing at high temperatures of which it must be taken into account.

3. Characteristics of the cross linked product

Measured after curing 24 hours at 23°C

Properties	RTV 3130 A&B	RTV 3131/ RTV 3131 SC A&B	RTV 3132 A&B
Hardness *(Shore A, approx.)*	30	30	32
Tensile strength at break *(MPa, approx.)*	6.5	6.5	6.5
Elongation at break *(%, approx.)*	500	500	450
Tear strength *(KN/m, approx.)*	21	21	20
Linear shrinkage *(%)*	< 0.1	< 0.1	< 0.1
Antistatic behavior	No	No	Yes

Please note: The typical properties are not intended for use in preparing specifications. Please contact our local Sales Department for assistance in writing specifications.

Instruction of use

Remix each of the two components (parts A and B) every time before using.

1. Mixing of the two components

For each product, mix the two parts **BLUESIL RTV A** and **BLUESIL RTV B** according to the mix ratio A : B = 10 : 1.
In the case of **BLUESIL RTV 3131 A&B** and **RTV 3132 A&B,** because of their short working time it is recommended to mix and dispense the product by means of a static mixer, after degassing the two parts separately (see § 2. Degassing below).
For **BLUESIL RTV 3130 A&B,** and **BLUESIL RTV 3130 SC A&B,**the two components may be intimately mixed either by hand or by means of a low-speed electric or pneumatic mixer to minimize the introduction of air into the mixture.

2. Degassing

After mixing of A- and B- part of any of the four grades, it is recommended to eliminate entrapped air: if the mixing is done with the help of a machine and a static mixer, like recommended for **BLUESIL RTV 3131 A&B and RTV 3132 A&B,** both parts are degassed before mixing. When A- and B- part are manually mixed, like for **BLUESIL RTV 3130 A&B** or **RTV 3131 SC A&B**, the degassing of the mixed product occurs under a vacuum of 30 to 50 mbar. Under vacuum, the product expands 3 to 4 times its initial volume and forms bubbles on its surface. These bubbles will disappear gradually and the mixture will sink back down to its initial volume

within 5 minutes. Release the [illegible]ration a few minutes later. The same applies also for the degassing

Remark: release the vacuum several times improves the degassing. For easier degassing only fill a recipient to 1/3 of its height.

3. Crosslinking

The best curing conditions are at 23°C. When using the products at higher temperatures, the pot life is shorter and the setting rate faster. As opposed to this, lower temperatures increase the pot life and decrease the setting rate.
Room temperature curing assures the lowest possible shrinkage, if accelerated cure is desired, mild heat should be preferred. To minimize shrinkage the elastomer should be cured at maximum temperature of 60°C, higher temperatures might cause higher shrinkage.
At 23°C, the cured silicone can be demoulded after the time indicated as "demolding time" (see §2.Polymerization, pag.1). In order to achieve the best possible performance levels from the pads, it is preferable to wait for 24 hours before using them.
Be aware that contact with certain materials can inhibit the curing of this RTV:

- Natural rubbers vulcanized with sulphur
- Polycondensation RTV catalysed with metal salts
- PVC stabilizing agents
- Amine cured epoxies
- Sulphur containing clays.

If doubts exist it is recommendable to run a quick test with a small quantity of material in order to assess compatibility. Take duly note that cross contamination due to not well cleaned tools or devices is frequently the main cause of inhibition. The best way is to use only dedicated gear when processing polyaddition RTVs and not to exchange drum covers.

4. Processing aids

4.1 Adhesion promoters ("primers")
In order to achieve adhesion of **BLUESIL RTV 3130 A&B, RTV 3131 A&B, RTV 3131 SC A&B** or **RTV 3132 A&B** on the pad support, it is recommended to prime the support with an adhesion promoter. Bluestar Silicones recommends the use of both primers BLUESIL PRIM PM 820 and BLUESIL PRIM PM 811 A&B according to the instructions next page.

	BLUESIL PRIM PM 820	**BLUESIL PRIM PM 811 A&B**
Substrate	Metal (steel, aluminum), plastic (polyester), reinforced resins	
Pot-life A+B	N.a. (monocomponent)	> 3 days
Usage level	Very thin layer (30÷60 g/m2)	
Use guideline	1. Application of PM 820 2. Wait 30 minutes 3. Application of PM 811 4. Wait 30 minutes up to 7 days 5. Application of RTV-2 Silicone	
Application by	Spray, brush, cloth	

For more detailed information, please refer to the Technical Data Sheet of the primers.
4.2 Crosslinking accelerator / retardant
Should it be desired to change the polymerization time of **BLUESIL RTV 3130 A&B, BLUESIL RTV 3131 A&B, BLUESIL RTV 3131 SC A&B** and **BLUESIL RTV 3132 A&B** products, following additives allow a customization by increasing the pot-life (Retarder BLUESIL RTRD PA 40) or by shortening it (Accelerator BLUESIL ACC PA 39). Information on their use are shown in the table below.

	BLUESIL ACC PA 39	**BLUESIL RTRD PA 40**
Usage level	0.1 ÷ 5 %	0.1 ÷ 1 %

Use		part	Mix PA40 into base part
Suggested for	**RTV 3130, RTV 3131 SC**		**RTV 3131, RTV 3132**

4.3 Oil dilution
The hardness of **BLUESIL RTV 3130 A&B, RTV 3131 A&B, RTV 3131 SC A&B** and **RTV 3132 A&B** can be adjusted by means of a non reactive silicone oil, that plasticizing the silicone network lowers the material hardness. Bluestar Silicones offers the low viscosity silicone oil BLUESIL FLD 47V50, that can be added to the **BLUESIL RTV A&B** products.

Regulation

Please consult your local ELKEM SILICONES sales office.

Limitations

Please consult your local ELKEM SILICONES sales office.

Packaging

- BLUESIL RTV 3130 A is available in
  - Drum of 25 KG (55.13 LB)
  - Drum of 200 KG (441 LB)
- BLUESIL RTV 3130 B is available in
  - Piece of 2.5 KG (5.51 LB)
  - Drum of 200 KG (441 LB)
  - Pail of 20 KG (44.1 LB)
- BLUESIL RTV 3131 A is available in
  - Drum of 25 KG (55.13 LB)
  - Drum of 200 KG (441 LB)
- BLUESIL RTV 3131 A SC is available in
  - Drum of 25 KG (55.13 LB)
  - Drum of 200 KG (441 LB)
- BLUESIL RTV 3131 B is available in
  - Piece of 2.5 KG (5.51 LB)
  - Pail of 20 KG (44.1 LB)
- BLUESIL RTV 3131 B SC is available in
  - Carton of 12.5 KG (27.56 LB)
  - Pail of 20 KG (44.1 LB)
- BLUESIL RTV 3132 A is available in
  - Drum of 25 KG (55.13 LB)
  - Drum of 200 KG (441 LB)
- BLUESIL RTV 3132 B is available in
  - Pail of 2.5 KG (5.51 LB)
  - Drum of 20 KG (44.1 LB)

Storage and shelf life

When stored in its original packaging:

BLUESIL RTV 3130 A may be stored at a temperature below 40°C / 104°F for up to 12 months from its date of manufacturing.
BLUESIL RTV 3130 B may be stored at a temperature below 40°C / 104°F for up to 12 months from its date of manufacturing.
BLUESIL RTV 3131 A may be stored at a temperature below 40°C / 104°F for up to 12 months from its date of manufacturing.
BLUESIL RTV 3131 A SC may be stored at a temperature below 40°C / 104°F for up to 12 months from its date of manufacturing.
BLUESIL RTV 3131 B may be stored at a temperature below 40°C / 104°F for up to 12 months from its date of manufacturing.
BLUESIL RTV 3131 B SC may be stored at a temperature below 40°C / 104°F for up to 12 months from its date of manufacturing.
BLUESIL RTV 3132 A may be stored at a temperature below 40°C / 104°F for up to 6 months from its date of manufacturing.

BLUESIL RTV 3130, 3131, 3131 SC, 3132 A&B

	BLUESIL RTV 3132 B may be sv 40°C / 104°F for up to 6 months from its date of manufacturir Comply with the storage instructions and expiration date marked on the packaging. Beyond this date, Elkem Silicones no longer guarantees that the product meets the sales specifications.
Safety	Please consult the Safety Data Sheet of: BLUESIL RTV 3130 A, BLUESIL RTV 3130 B, BLUESIL RTV 3131 A, BLUESIL RTV 3131 A SC, BLUESIL RTV 3131 B, BLUESIL RTV 3131 B SC, BLUESIL RTV 3132 A and BLUESIL RTV 3132 B

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