

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

## High performance Pad Printing range

**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.

- Advantages**
- 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**
  - Possibility to choose between longer (**BLUESIL RTV 3130 and 3131 SC**) or shorter working time (**BLUESIL RTV 3131**)
  - Customizable pads color with **BLUESIL RTV 3131** or **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)
<b>Aspect</b>	viscous fluid							
<b>Viscosity</b> (At 23°C, mPa.s, ISO 3219, approx.)	25.000	15.000	25.000	15.000	25.000	15.000	30.000	4.000
<b>Color</b>	colorless	dark red	colorless	colorless	colorless	colorless	colorless	blue
<b>Specific gravity</b> (g/cm³, approx.)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1

**BLUESIL™ RTV 3130, 3131, 3131 SC, 3132 A&B****Typical properties**  
(cont')**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.

<i>Properties</i>	RTV 3130 A&B	RTV 3131 A&B	RTV 3131 SC A&B	RTV 3132 A&B
<b>Mixing ratio</b>	A : B = 10 : 1			
<b>Color</b>	Dark red	Colorless	Colorless	Blue
<b>Pot life</b> (At 23°C, minutes)	60	10	60	15
<b>Demolding Time</b> (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

<i>Properties</i>	RTV 3130 A&B	RTV 3131 RTV 3131 SC A&B	RTV 3132 A&B
<b>Hardness</b> (Shore A)	30	30	32
<b>Tensile strength at break</b> (MPa)	6.5	6.5	6.5
<b>Elongation at break</b> (%)	500	500	450
<b>Tear strength</b> (KN/m)	21	21	20
<b>Linear shrinkage</b> (%)	< 0.1	< 0.1	< 0.1
<b>Antistatic behavior</b>	no	no	YES

**Processing**

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 **RTV 3131 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.

**BLUESIL™ RTV 3130, 3131, 3131 SC, 3132 A&B****Processing (cont')****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 vacuum and repeat the operation a few minutes later.

The same applies also for the degassing of the two separated parts.

**Remark:** *release the vacuum several times improves the degassing. For easier degassing fill a recipient only 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:

- Sulphur and its derivatives (e.g. sulphur containing clays; natural rubbers vulcanized with sulphur)
- Ammonia and amines (e.g. amine cured epoxies, epoxy curing agents)
- Chlorides
- Polycondensation RTV catalysed with metal salts
- PVC stabilizing agents
- Silver salts

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 **BLUESIL PRIM PM 820** according to the instructions next page.

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

## Processing (cont')

	BLUESIL PRIM PM 820
<b>Substrate</b>	Metal (steel, aluminum), plastic (polyester), reinforced resins, wood
<b>Pot-life A+B</b>	n.a. (monocomponent)
<b>Usage level</b>	Very thin layer (30÷60 g/m <sup>2</sup> )
<b>Use guideline</b>	<ol style="list-style-type: none"> <li>1. Application of PM 820</li> <li>2. Wait 30 minutes</li> <li>3. Application of RTV-2 Silicone</li> </ol>
<b>Application by</b>	Spray, brush, cloth

For more detailed information, please refer to the Technical Data Sheet of the primers.

With some specific grades of Aluminium and Resin substrates, this solution can be not sufficient. In these cases, Bluestar Silicones recommends the use of both BLUESIL PRIM PM 820 and BLUESIL PRIM PM 811 A&B according to the following instructions

	BLUESIL PRIM PM 820	BLUESIL PRIM PM 811 A&B
<b>Substrate</b>	Metal (steel, aluminum), plastic (polyester), reinforced resins, wood	
<b>Pot-life A+B</b>	n.a. (monocomponent)	> 3 days
<b>Usage level</b>	Very thin layer (30÷60 g/m <sup>2</sup> )	
<b>Use guideline</b>	<ol style="list-style-type: none"> <li>1. Application of PM 820</li> <li>2. Wait 30 minutes</li> <li>3. Application of PM 811</li> <li>4. Wait 30 minutes up to 7 days</li> <li>5. Application of RTV-2 Silicone</li> </ol>	
<b>Application by</b>	Spray, brush, cloth	

For more detailed information, please refer to the Technical Data Sheet of the primers.

As alternative, the cured pads can be glued to all substrates. In these cases, Bluestar Silicones recommend the use of CAF 530. (For more detailed information please refer to the Technical Data Sheet of CAF 530).

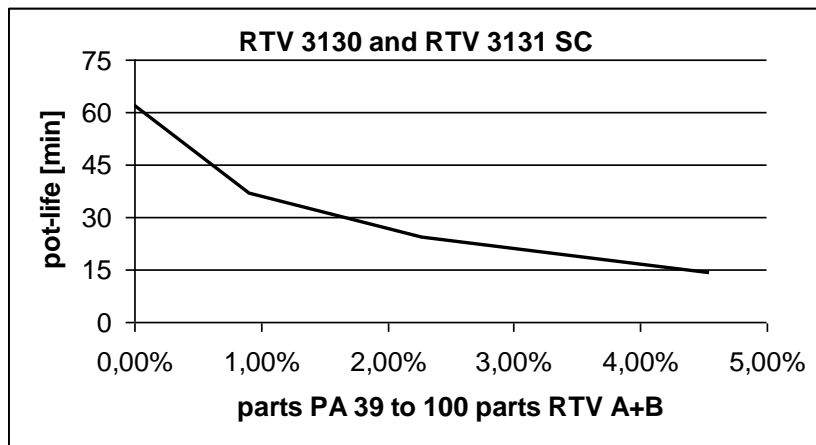
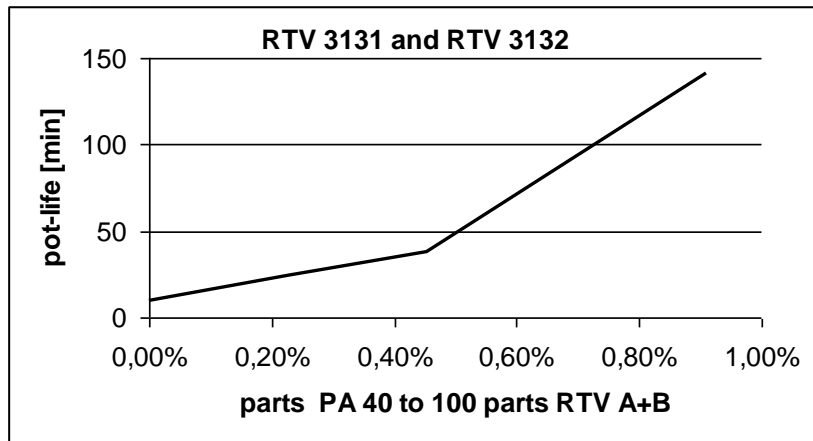
# BLUESIL™ RTV 3130, 3131, 3131 SC, 3132 A&B

**Processing (cont')** 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.

	<b>BLUESIL ACC PA 39</b>	<b>BLUESIL RTRD PA 40</b>
<b>Usage level</b>	0.1 ÷ 5 %	0.1 ÷ 1 %
<b>Use</b>	mix PA39 into <u>Pt catalyst</u> part	mix PA40 into <u>base</u> part
<b>Suggested for</b>	<b>RTV 3130, RTV 3131 SC</b>	<b>RTV 3131, RTV 3132</b>

As an indication, the effects of the two additives on the pot-life are shown in the graphs below:

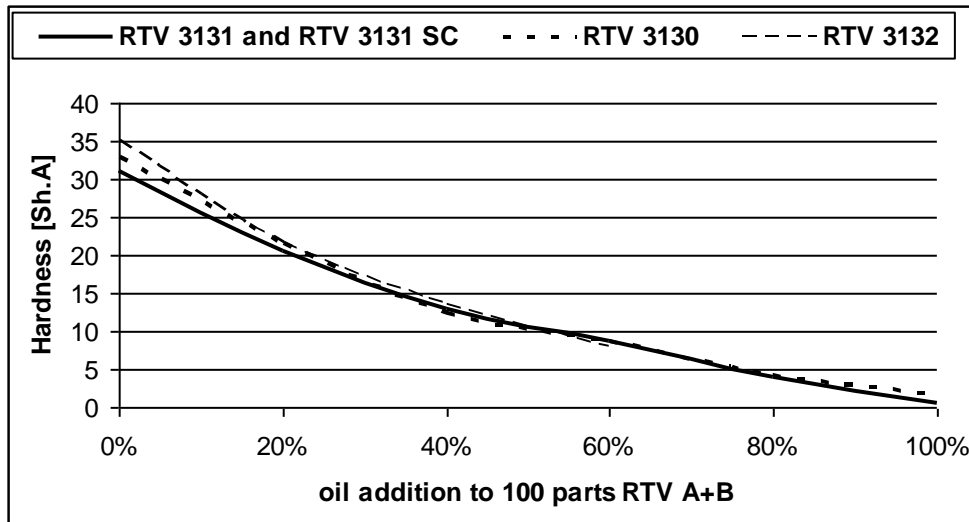


For more detailed information, please refer to the technical datasheet of the single additives.

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

**Processing (cont')** 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 as schematically shown in the graph below.



**Packaging**

**BLUESIL RTV 3130 A&B**, **BLUESIL RTV 3131 A&B**, **BLUESIL RTV 3131 SC A&B** and **BLUESIL RTV 3132 A&B** are delivered in 25 Kg pails (A part) and 2.5 Kg pails (B part).

**Storage and shelf life**

When stored in their original packaging at a temperature of between  $-5^{\circ}\text{C}$  and  $+30^{\circ}\text{C}$ , **BLUESIL RTV 3130 A&B**, **BLUESIL RTV 3131 A&B** and **BLUESIL RTV 3131 SC A&B** may be stored for up to 12 months from their date of manufacture.

When stored in its original packaging at a temperature of between  $-5^{\circ}\text{C}$  and  $+30^{\circ}\text{C}$ , **BLUESIL RTV 3132 A&B** may be stored for up to 6 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 of **BLUESIL RTV 3130 A&B**, **BLUESIL RTV 3131 A&B**, **BLUESIL RTV 3131 SC A&B** and **BLUESIL RTV 3132 A&B**.

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

Visit our website [www.bluestarsilicones.com](http://www.bluestarsilicones.com)

## EUROPE

*Bluestar Silicones France*  
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

*Bluestar Silicones USA*  
2 Tower Center Boulevard  
Suite 1601  
East Brunswick, NJ 08816-1100  
United States  
Tel. (1) 732 227-2060  
Fax. (1) 732 249-7000

## LATIN AMERICA

*Bluestar Silicones Brazil Ltda.*  
Av. Duquesa de Goiás, 716  
2º andar  
05680-002 Sao Paulo  
Brazil  
Tel. (55) 11 4380-6900

## ASIA PACIFIC

*Bluestar Silicones Hong Kong*  
Trading Co. Ltd  
29th Floor, 88 Hing Fat Street  
Causeway Bay  
Hong Kong  
Tel. (852) 3106 8200  
Fax (852) 2979 0241

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