

BLUESIL RTV 3120 A & B; BLUESIL RTV 3128 A&B

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Technical Data Sheet n° 1595-V4 – 2019/11/12

Description The **BLUESIL RTV 3120 A&B** and **BLUESIL RTV 3128 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.
 - Good mechanical properties.
 - Excellent heat stability.
 - Adjustable hardness by diluting with silicone oils.

Typical properties

1. Characteristics of the non cured product

Properties	RTV 3120		RTV 3128	
	A (Pt)	B (base)	A (base)	B (Pt)
Aspect	Viscous fluid			
Viscosity (At 23°C, mPa.s, ISO 3219, approx.)	40.000	30.000	25.000	8.000
Color	Colorless	Colorless	Colorless	Red
Specific gravity (g/cm ³ , approx.)	1.1	1.1	1.1	1.1

2. Polymerization

BLUESIL RTV 3120 A&B polymerizes with a 1:1 mixing ratio of the two components for **BLUESIL RTV 3128 A&B** the mixing ratio is 10:1.

Properties	RTV 3120 A&B	RTV 3128 A&B
Mixing ratio	A : B = 1 : 1	A : B = 10 : 1
Color	Colorless	Red
Pot life (At 23°C, minutes)	10	60
Demolding Time (At 23°C, hours)	2	16

Remark: Higher temperatures reduce pot life, lower temperatures prolong pot life.

If curing is accelerated by heat the properties of the **BLUESIL RTV 3120 A&B** and **BLUESIL RTV 3128 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 3120 A&B	RTV 3128 A&B
Hardness (Shore A)	20	28

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Tensile strength at break (MPa)	Distributed By Freeman Manufacturing & Supply Co. www.freemansupply.com 800-321-8511 		7.5	
	Elongation at break (%)	400		600
	Tear strength (kN/m)	15		20
	Linear shrinkag (%)	< 0.1		< 0.1

4. Printing on objects with food contact

In the case that a silicone RTV-2 is needed to produce pads for the print on materials that come in direct contact with food preparations, Elkem Silicones offers the dedicated grade BLUESIL RTV 3428 A&B White, whose properties are very similar to **BLUESIL RTV 3128 A&B**.

For more information about the general use of BLUESIL RTV 3428 A&B White and the FDA approval, please refer to its TDS.

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

Mix the two product parts **BLUESIL RTV A** and **BLUESIL RTV B** according to following mix ratios:

Mixing ratio:	RTV 3120 A&B	RTV 3128 A&B
	A : B = 1 : 1	A : B = 10 : 1

The two components may be intimately mixed either by hand or by means of a lowspeed electric or pneumatic mixer to minimize the introduction of air into the mixture.

2. Degassing

After mixing **BLUESIL RTV 3120 A&B**, it is recommended to eliminate entrapped air. If the mixing is done with the help of a machine both parts are degassed before mixing.

The **BLUESIL RTV 3120 A&B** and **BLUESIL RTV 3128 A&B** are degassed under a vacuum of 30 to 50 mbar. Under vacuum, the product expands 3 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.

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

3. Cross linking

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 cure the elastomer at maximum temperature of 60°C, higher temperatures will cause higher shrinkage.

At 23°C, the moulds can be demoulded after the time indicated as "demolding time" (see § 2.Polymerization).In order to achieve the best possible performance levels from the moulds, 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

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- Sulphur containing clays

If doubts exist it's recommended 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.

4. Processing aids

4.1 Adhesion promoters ("primers")

In order to achieve adhesion of **BLUESIL RTV 3120 A&B** and **BLUESIL RTV 3128 A&B** on the pad support, it is recommended to prime the support with an adhesion promoter. Bluestar Silicones recommends the use of primer PM 820 and primer PM 811 A&B according to the instructions below.

	PRIMER PM 820	PRIMER 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/m ²)	
Use guideline	<ol style="list-style-type: none"> 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 Sheets of the Primers.

4.2 Pot-life accelerator / retardant

Should it be desired to change the polymerization time of **BLUESIL RTV 3120 A&B** and **BLUESIL RTV 3128 A&B**, following additives allow a customization by increasing the pot-life (retarder PA 40) or by shortening it (accelerator PA 39). Information on their use is shown in the table below.

	ACCELERATOR PA 39	RETARDANT PA 40
Usage level	0.1 ÷ 3 %	0.1 ÷ 5 %
Use	Mix PA 39 into Pt catalyst part	Mix PA 40 into base part

4.3 Oil dilution

The hardness of **BLUESIL RTV 3120 A&B** and **BLUESIL RTV 3128 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 BLUESIL FLD 47 V 50, that can be added to the **BLUESIL RTV 3120 A&B** and **BLUESIL RTV 3128 A&B**.

Regulation Please consult your local ELKEM SILICONES sales office.

Limitations Please consult your local ELKEM SILICONES sales office.

- Packaging**
- BLUESIL RTV 3120 A is available in
 - Drum of 200 KG (441 LB)
 - BLUESIL RTV 3120 B is available in
 - Drum of 200 KG (441 LB)
 - BLUESIL RTV 3128 A is available in
 - Drum of 20 KG (44.1 LB)
 - BLUESIL RTV 3128 B PINK is available in
 - Piece of 2 KG (4.41 LB)

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Storage and shelf life

When stored in its original packaging:

BLUESIL RTV 3120 A may be stored at a temperature below 40°C / 104°F for up to 12 months from its date of manufacturing.

BLUESIL RTV 3120 B may be stored at a temperature below 40°C / 104°F for up to 12 months from its date of manufacturing.

BLUESIL RTV 3128 A may be stored at temperatures between -5°C / 23°F and 30°C / 86°F for up to 20 months from its date of manufacturing.

BLUESIL RTV 3128 B PINK may be stored for up to 20 months from its date of manufacturing.

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.

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Safety

Please consult the Safety Data Sheet of:

BLUESIL RTV 3120 A, BLUESIL RTV 3120 B, BLUESIL RTV 3128 A and BLUESIL RTV 3128 B PINK

Visit our website www.silicones.elkem.com

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