**Technical Data Sheet 1.3 – Nov/2010**
**Cancels and replaces 1.2**

# Bluesil ™ RTV3040 RANGE

## Prototyping

**Description**

**Bluesil ™** RTV 3040 range is a two component silicone elastomer crosslinking at room temperature by a polyaddition reaction. The polymerization can be accelerated by heat (max.150℃).

The silicone components are delivered as liquids, which once mixed and cured, transform into a transparent, elastic and resistant material. Polymerization occurs without formation of heat.

**Examples of applications**

**Bluesil ™** RTV 3040 range is a fluid moulding silicone designed for casting polyester, polyurethane, epoxy resins as well polyurethane foams.

**Advantages**

- Easy curing: **Bluesil ™** RTV 3040 range polymerizes at room temperature (23℃).
- The curing characteristics are independent of the thickness of the parts.
- Exceptional mechanical properties
- Fast mixing(10:1) and easy processing due to the low viscosity
- Outstanding transparency
- Accurate reproduction of details

**Characteristics**

**1. Characteristics of the non cured product**

| ***Properties*** | **RTV 3040A/B** | | **RTV 3040A/3041B** | | **RTV 3040A/B LPL** | |
|---|---|---|---|---|---|---|
| | **A** | **B** | **A** | **B** | **A** | **B** |
| ***Appearance*** | Viscous liquid | Liquid | Viscous liquid | Liquid | Viscous liquid | Liquid |
| ***Colour*** | Transparent | Translucent | Transparent | Translucent | Transparent | Translucent |
| ***Viscosity*** *(at 23°, mPa•s, approx.)* | 55,000 | 4,000 | 55,000 | 500 | 55,000 | 500 |
| ***Specific gravity*** *($g/cm^3$, approx. )* | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 |

# Bluesil ™ RTV3040 RANGE

## 2. Polymerization

| Properties | RTV 3040A/B | | RTV 3040A/3041B | | RTV 3040A/B LPL | |
|---|---|---|---|---|---|---|
| | A | B | A | B | A | B LPL |
| ***Proportion(A:B)*** | 100:10 | | | | | |
| ***Mixing viscosity*** *(at 23°, mPa•s, approx.)* | 40,000 | | 35,000 | | 40,000 | |
| ***Max working time*** *(at 23℃, minutes)* | 30 | | 120 | | 200 | |
| ***Demoulding time*** *(at 23℃, hours, approx.)* | <24 | | 30 | | 30 | |

## 3. Characteristics of the cured product（curing conditions:80℃,1 hour）

| *Properties* | RTV 3040A/B | RTV 3040A/3041B | RTV 3040A/B LPL |
|---|---|---|---|
| ***Shore A Hardness*** *(Points, after 24h, approx.)* | 34 | 42 | 42 |
| ***Tensile Strength*** *(MPa, after 24h, approx.)* | 5.7 | 5.9 | 5.9 |
| ***Elongation at break*** *(%)* | 330 | 250 | 250 |
| ***Tear Strength*** *(N/mm)* | 22 | 24 | 22 |

**Remark**

- By adding an additive, it is possible to modulate the pot life of mixture of product. The increasing of pot of life is done with Bluesil ™ ADDITIVE PA40
- Curing the silicone at elevated temperature has no significant influence on the properties of **Bluesil ™** RTV 3040 range. Nevertheless it has to be mentioned that heating can cause an alteration of the dimensions.

**Processing**

1. Mixing the two components

**Bluesil ™** RTV 3040 range is mixed by weight in a fixed ratio given above.

The two components may be thoroughly mixed either by hand or using a low-speed electric or pneumatic mixer to minimize the introduction of air and to avoid any temperature increase.

Note: It is also possible to use a special mixing and dispensing machine for the two silicone components. Further information is available upon request.

2. Moulding

The mixture should be degassed preferably at 30 to 50 mbar to eliminate any entrapped air. If a dispensing machine is used, the two components are degassed separately prior to mixing. The silicone mixture expands to 3 to 4 times of its initial volume and bubbles rise to the surface .The bubbles progressively disappear and the mixture returns to its initial volume after 5 to 10 minutes. Wait a few minutes to complete the degassing and then flash the vacuum. The silicone is ready for pouring, either by gravity or under low pressure.

Note: Flashing the vacuum once or twice accelerates the degassing. It is recommended to use a container with a high diameter/height ratio (3 to 4 times of the initial volume)

3. Polymerization

The curing may be slowed down at lower temperature and contrary accelerated by applying heat.

Note: in general contact with certain materials can inhibit the crosslinking of RTV.

See list below:

- Natural rubbers vulcanized with sulphur
- RTV elastomer catalyzed with metal salts, e.g. tin compounds
- PVC stabilized with tin salts and additives
- Epoxy catalyzed with amines
- Certain organic solvents, e.g. Ketones, alcohols, ether etc.

***In case of doubts, it is recommended to test the substrate by applying a small quantity of the mixed silicone on a restricted area.***

**Packaging**

RTV 3040 A is delivered in10kg(plastic) and 20kg(metal), RTV 3040 B series are delivered in 1kg and 2 kg containers. If needed special containers are available on request.

**Storage and shelf life**

When stored in its original unopened packaging, at a temperature below 30℃, the **RTV3040 RANGE** may be stored for up to 12 months from the date of manufacture clearly 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 Sheet of ***EXACT NAME*** in **RTV3040 RANGE** respectively.

# Bluesil ™ RTV3040 RANGE

Visit our website 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. Maria Coelho Aguiar, 215*
*Bloco G – 1°andar*
*05804-902-Sao Paulo – SP- Brazil*
*Tel. (55) 11 37477887*

**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*