BLUESIL RTV 3440 A-B, 3450 A-B, 3450 QC

Description

BLUESIL RTV 3440, 3450, 3450 QC A&B are two component silicone elastomers that crosslink at room temperature by polyaddition reaction. The polymerisation can be accelerated by heat. The silicone materials are delivered as two viscous liquid components, which once mixed and cured, transform into an elastic and resistant elastomer. Polymerisation occurs without production of heat.

Examples of applications

Reproduction of various kinds of 3D objects in:

- Plaster.
- Wax.
- Polyester.
- Low melting point metals.

Key benefits

- Highly accurate reproductions.
- Dimensional stability.
- Good mechanical properties combined with a high Shore A.
- Chemical and thermal resistance.
- Fast mixing and easy processing due to the low viscosity.

Typical properties

1. Characteristics of the non cured product

Properties	RTV 3440		RTV 3450		RTV 3450 QC	
	A	B	A	B	A	B
Contains	Pt	SiH	Pt	SiH	Pt	SiH
Appearance	**A:** Viscous liquid			**B:** Low viscous liquid		
Colour	Beige	Blue	Beige	Black / Trans-luscent	Beige	Black / Trans-luscent
Density *(at 23 °C, g/cm³, approx.)*	1.3	1.1	1.3	1.1	1.3	1.1
Viscosity *(at 23 °C, mPa·s, approx.)*	40000	500	40000	200	45000	500

2. Polymerisation

Properties	RTV 3440 A&B	RTV 3450 A&B	RTV 3450 QC A&B
Mixing Ratio *(A : B parts by weight)*	10 : 1	10 : 1	10 : 1
Working Time *(at 23°C, minutes, approx.)*	90	90	20
Demoulding Time *(at 23°C, hours, approx.)*	6	16	4
Mixing viscosity *(at 23°C, mPa·s, approx.)*	15000	15000	15000

3. Characteristics of the cured product

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Properties	RTV 3440 A&B	RTV 3450 A&B	RTV 3450 QC A&B
Hardness *(Shore A, DIN 53 505, approx.)*	40	50	50
Tensile strength *(DIN 53 504 specimen 3A, N/mm² approx.)*	4	5	5
Elongation *(DIN 53 504 specimen S3A, %, approx.)*	300	300	300
Tear strength *(DIN 53 515, N/mm, approx.)*	9	8	8

Remarks: Curing the silicone at elevated temperature has no influence on the final properties of **BLUESIL RTV 3440, 3450** and **3450 QC A&B**. Nevertheless, heating can alter the dimensions.

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

1. Mixing the two components

BLUESIL RTV 3440, 3450, 3450 QC A&B are mixed by weight in the above indicated ratio. The mixing can be carried out either by hand or using a low-speed electric or pneumatic mixer to minimise the introduction of air and to avoid any temperature increase.
It is also possible to use a special mixing and dispensing machine for the two silicone components. Further information is available upon request.

2. Degassing

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 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. Polymerisation

BLUESIL RTV 3440, 3450, 3450 QC A&B polymerises at 23°C. The curing may be slowed down at lower temperature and contrary accelerated by heat.

Contact with certain materials can inhibit the crosslinking. See list below:

- natural rubbers vulcanised with sulphur,
- RTV 2 silicone elastomers catalysed with metal salts, e.g. tin-compounds,
- PVC stabilised with tin salts and additives,
- epoxy resins catalysed with amines,
- some 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.

Regulation

Please consult your local ELKEM SILICONES sales office.

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Limitations	Please consult your local ELKEM SILICONES sales office.

Packaging	• BLUESIL RTV 3440 A is available in
	  ○ Pail of 25 KG (55.13 LB)
	• BLUESIL RTV 3440 B is available in
	  ○ Piece of 2.5 KG (5.51 LB)
	• BLUESIL RTV 3450 A is available in
	  ○ Drum of 200 KG (441 LB)
	  ○ Pail of 25 KG (55.13 LB)
	  ○ Tote bin of 1000 KG (2205 LB)
	• BLUESIL RTV 3450 B is available in
	  ○ Piece of 2.5 KG (5.51 LB)
	  ○ Pail of 20 KG (44.1 LB)
	• BLUESIL RTV 3450 B BLACK is available in
	  ○ Piece of 2.5 KG (5.51 LB)
	  ○ Pail of 20 KG (44.1 LB)

Storage and shelf life	When stored in its original packaging: BLUESIL RTV 3440 A may be stored at temperatures between -10°C / 14°F and 30°C / 86°F for up to 12 months from its date of manufacturing. BLUESIL RTV 3440 B may be stored at temperatures between -10°C / 14°F and 30°C / 86°F for up to 12 months from its date of manufacturing. BLUESIL RTV 3450 A may be stored at temperatures between -10°C / 14°F and 30°C / 86°F for up to 12 months from its date of manufacturing. BLUESIL RTV 3450 B may be stored at temperatures between -10°C / 14°F and 30°C / 86°F for up to 12 months from its date of manufacturing. BLUESIL RTV 3450 B BLACK may be stored at temperatures between -10°C / 14°F and 30°C / 86°F for up to 12 months from its date of manufacturing. BLUESIL RTV 3450 QC B may be stored at temperatures between -10°C / 14°F and 30°C / 86°F for up to 12 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.
Safety	Please consult the Safety Data Sheet of: BLUESIL RTV 3440 A, BLUESIL RTV 3440 B, BLUESIL RTV 3450 A, BLUESIL RTV 3450 B, BLUESIL RTV 3450 B BLACK and BLUESIL RTV 3450 QC B

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