RTV 3428 A + B

Technical Data Sheet: The SCS-RTV 3428 A&B is a two component silicone elastomer which cures at room temperature by a polyaddition reaction. This reaction can be accelerated by heat.

Examples of applications:

- Production of flexible moulds with excellent details reproduction, me chanical resistance and duration.
- Production of thermal expansion formers for composite materials (the aeronauticindustry, boat-building, etc.).
- Production of moulds intended for moulding objects in chocolate, sugar, marzipan and for producing decorative sugar, pieces of bakery, biscuits and confectionery products.

Advantages:

- PART B: different colours available (see characteristics).
- Easy processing and curing.
- Outstanding tensile and tear strength.
- Low linear shrinkage (when crosslinked at room temperature).

Characteistics:

1. Characteristics of the non cured product

Properties	SCS-RTV 3428 A	SCS-RTV 3428 B
Appearance	Viscous liquid	Viscous liquid
Color	Colorless	pink, white, colorless
Density (23°C, g/cm³)	1,1	1,1
Viscosity (23°C, MPa.s)	25 000	8 000

2. Polymerization

mixing ratio	100 parts A	10 parts B

Properties	SCS-RTV 3428 A & B
Pot life (23°C, hours)	1
Demoulding time (23 °C, hours)	16

Note: heat-accelerated crosslinking does not affect the properties of SCS-RTV 3428 A&B. However, dimensional changes do occur that should be kept into account.

3. Characteristics of the cross linked product

Measured after curing 24 hours at 23°C

Properties	SCS-RTV 3428 A&B
Shore-A-Hardness (6 mm thick specimen)	28
Tensile strength at break (MPa, approx.)	7.5

Properties	SCS-RTV 3428 A&B
Elongation at break (%, approx.)	600
Tear strength (kN/m, approx.)	20
Linear shrinkage (%, 7 days/23°C)	0,1

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

1. Mixing of the two components:
Add 100 parts of SCS-RTV 3428 A to 10 parts of SCS-RTV 3428 B. The two components may be intimately mixed either by hand or using a low-speed electric or pneumatic mixer to minimize the intro duction of air into the mixture.
The viscosity of SCS-RTV 3428 A&B can be reduced by using FLD 47V50, added up to 10% with respect to SCS-RTV 3428 A. This will improve flowing of the mixed product without causing significant changes of the mechanical properties of the elastomer.
Under no circumstances should this process can be applied for food moulding. In that case, the product must be used in its original formulation without any dilution, whatever it is.

2. Degassing:
After mixing base and catalyst, it is recommended to eliminate entrapped air. If the mixing is done with the help of a machine and a static mixer, both parts are degassed before mixing.
SCS-RTV 3428 A&B is degassed under a vacuum of 30 to 50 mbar. The degassing of the mixed product or of the two separated parts occurs under a vacuum of 30 to 50mbar. 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.
Remark: release the vacuum several times improves the degassing. For easier degassing only fill a recipient to 1/3 of its height. The product can be casted by gravity or under pressure.

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 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). 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

In case of doubts, it is recommended to test the substrate by applying a small quantity of the mixed silicone on a restricted area. Take note that cross contaminations due to improperly cleaned tools or devices is the most frequent cause of inhibition.

Use of SCS-RTV 3428 A+B for the production of moulds for direct contact with food preparations:

Purely for information purposes, migration tests have been carried out on prototype moulds in accordance with this directive. The results obtained showed that:

1. In the special case of moulding of fat based products such as chocolate, the contact time between the mould and the melted foodstuff must be minimised: e.g. the duration of contact between the mould and the melted fatty product should not exceed 2 hours and the mould temperature should not exceed 40 °C.
2. In the case of other foodstuff, the moulds may be used without any particular precautions in terms of duration of contact and temperature, whilst remaining within the temperature range compatible with the heat stability of silicone elastomers.

Note: In order to comply with the above mentioned directives, **SCS-RTV 3428 A + 3428 B** ALL COLORS must be mixed in the recommended ratio (A:B 10:1 w/w).
In food contact application context, under no circumstances should the product be diluted with silicone oil.