

Silicone RTV EC 42

Description and Main Features

- Pourable addition curing, two component silicone that vulcanize at room temperature.

Special feature

- Excellent long term stability of the mechanical characteristics of the hardened rubber
- Durability
- Precision in reproduction

Application

Mold making (high mechanical resistance, dimensional stability and precision in reproduction)

Jewelry (high mechanical resistance, dimensional stability and precision in reproduction)

Rapid Prototyping (for small and very detailed object with very thin surface (example Turbine))

Processing

Important note: the platinum catalyst is in the component CATALYST.

Catalyst and Base components may only be used together if they have the same batch number.

INSTRUCTIONS FOR USE

Take the two bi-component products (base and catalyst) and shake before use in order to homogenize each component prior to mixing. Weigh an equal amount of catalyst and base (e.g. 100 grams of catalyst and 100 grams of base; within a 5% error range the results will not change). Please keep in mind that the exact proportions 1:1 must be respected in order to guarantee the final characteristics of the product.

Once the product is weighted in equal quantities, the base and catalyst must be inserted in a recipient and mixed thoroughly. Make sure the surfaces of the recipient are perfectly clean, free of grease and dry.

While mixing, it is important to check that no residue remains on the base and sides of the recipient. Mix energetically until the blended color is homogeneous. Once the product is thoroughly mixed, it is ready to be casted and we recommend pouring the silicone from a 30 cm height into the mould.

The working time WT (see table below), also known as "pot life", is the recommended time period for mixing/vacuuming prior to casting.

Please pay attention some Vaseline Oil could inhibit the product. Make a small test first.

The reported WT shown in the table refers to a standard temperature of 23°C. We recommend using vacuum to eliminate any air bubbles. In the event that the quantity of silicone used is less than what is required, complete the mould by adding the missing quantity of silicone within 24 hours of the hardening of the first layer of silicone.

The second layer will attach to the first one without altering the final outcome. The setting time ST (see table below) is the time it takes for the silicone to harden from the beginning of mixing of the two components. The reported ST shown in the table refers to a standard temperature of 23°C. After the ST is complete, the model can be separated from the mould. If necessary, use compressed air to facilitate this separation. Do not use any tools to force the separation of the model from the mould.

Effects of temperature on setting and working times: The working time and setting time are reduced if the temperature exceeds 23°C (e.g. if the temperature is 40°C, the working time and setting time are approximately cut in half). If the temperature is less than 23°C, the working time and setting time increase considerably.

Cured Silicone properties are guaranteed within temperatures ranging from a minimum temperature of - 40 °C to a maximum temperature of +200°C.

Silicone RTV EC 42

Chemical and Physical Properties

Typical General characteristics	Value	Inspection Method
PRODUCT DATA (UNCURED)		
COMPONENT Catalyst		
Color	Translucent	
Density of the Catalyst component (Metric System)	1,11 g/cc	
Density of the Catalyst component (USA System)	69,30 lb/ft ³	
COMPONENT Base		
Color	Translucent	
Density of the Base component (Metric System) at 23 °C (73 °F)	1,11 g/cc	
Density of the Base component (USA System) at 23 °C (73 °F)	69,30 lb/ft ³	
PRODUCT DATA (CATALYZED) Catalyst+Base		
Color	Translucent	
Viscosity of pre-catalyzation mixture	8.000 cP	BROOKFIELD
Mixing Ratio	1:1	
Density of the B+C (Metric System) at 23 °C (73 °F)	1,11 g/cc	-
Density of the B+C (USA System) at 23 °C (73 °F)	69,30 lb/ft ³	-
Working time / Pot life at 23 °C (73 °F)	12 min	BROOKFIELD
Setting time at 23 °C (73 °F)	2 hours and 30min	
Shore A hardness after 24 hours	43 shA	ASTM D2240-05 – 23°C
Tensile Strength (Metric System)	5.0 N/mm ²	ASTM D412-06a – 23°C
Tensile Strength (USA System)	730 psi	ASTM D412-06a – 23°C
Elongation at break	250 %	ASTM D412-06a – 23°C
Tear strength Die B (Metric System)	15 N/mm	ASTM D624-00 – 23°C
Tear Die B (USA System)	85 ppi	ASTM D624-00 – 23°C

These figures are only intended as a guide and should not be used in preparing specifications. Vulcanizate after 24 H at 23°C.

Safety Data Sheets

Before handling the product, read the safety data sheet and make sure to get all the information required for safe use.

Shelf Life

The "Best use before end" date of each batch is shown on the product label.

The Silicone RTV EC 42 is guarantee for a period of 18 months if stored correctly at a temperature of between 5° - 27°C (41° - 80°F).

Close the bottles after use, do not invert the caps or lids between the base and catalyst.

Storage beyond the date specified on the label does not necessary mean that the product is no longer usable. In this case, however, the properties required for the intended use must be checked out for quality assurance reasons.