COPSIL 40

The COPSIL 40 is a technical silicone elastomer with high mechanical properties. It can be used in contact with the skin as it complies with the ISO 10993-5 standard.

COPSIL 40 is made of a two components system (resin & hardener) to be mixed in equal parts. It crosslinks at room temperature by polyaddition reaction thanks to a platinum complex based catalyst. The polymerization can be accelerated by heat.

Easy to use thanks to a satisfying fluidity and its simple ratio mix, it is aimed to the manufacture of medium hardness parts (40 Shore A).

Mixing of the components

The weighing of the components must be done in the same container, one after another. The mixing ratio must be respected as precisely as possible.

This system can be implemented either manually, or with a mechanical mixer at low speed (less than 300 rpm) to avoid the incorporation of air bubbles. It is then advised to degas the mix thanks to a vacuum pump.

A two-component casting machine must be used in accordance with the ratio mix.

Casting and reactivity

The crosslinking reaction for polyaddition silicones catalyzed with platinum complex can be inhibited by contact with certain materials, i.e. products with natural rubber vulcanized with Sulphur (DO NOT use latex gloves, only vinyl gloves), from chlorine, from certain synthetic rubbers, from certain polycondensation silicones catalyzed with tin salts, from certain plasticizers, from amines used as hardener in epoxy resins, plastiline, etc... This list is not exhaustive, and we always advise a trial run.

The mechanical characteristics of the COPSIL 40 are stable after 24 hours. These times can be considerably reduced by placing the mold in an oven. The temperature not to be exceeded is 135°C.

Characteristics of the polymerized product

Hardness Shore A: approx. 40

Maximum elongation in %:
- on unnotched rings: approx. 300
- on notched rings: approx. 250

Maximum resistance in N/mm^2:
- on unnotched rings: approx. 2.3
- on notched rings: approx. 1.9

Characteristics of the liquid product

Aspect:
Transparent, lightly translucent for both the resin and the hardener.

Density:
Approx. 1 for the two components.

Viscosity at 20°C in mPa.s:
- NORMAL resin: Approx. 90 000
- NORMAL hardener: Approx. 15 000
- NORMAL blend: Approx. 45 000

- FAST resin: Approx. 50 000
- FAST hardener: Approx. 60 000
- FAST blend: Approx. 55 000

Mixing ratio in weight:

Resin	100 parts
Hardener	100 parts

TIME	NORMAL	FAST
Working time at 20°C	20 min	9 min

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Demolding time at 20°C	12 h	3 h	

Packaging

The COPSIL 40 is available in 500 g pots, as well as in 5 kg and 25 kg buckets and in 2x200mL cartridges. Here are their references:

PACKAGING	REFERENCE
500 g	T-40TN R01 resin and T-40TN D01 hardener
5 kg	T-40TN R05 resin and T-40TN D05 hardener
25 kg	T-40TN R25 resin and T-40TN D25 hardener
500 g	T-40TR R01 resin and T-40TR D01 hardener
5 kg	T-40TR R05 resin and T-40TR D05 hardener
25 kg	T-40TR R25 resin and T-40TR D25 hardener
2x200 mL	T-40TR C400

Storage, handling and safety

In its original packaging, the silicone elastomer COPSIL 40 is guaranteed 12 months if both components are stored away from light, humidity, well closed and at a room temperature below 30°C.

Rather use these products as soon as they are open. Usual health and safety conditions must be applied during the handling of the COPSIL 40. To do so, please read carefully our H&S Data Sheet, as well as the information given on the product's label.

Information contained in this document is supplied in good faith and based on our current knowledge. It is for indication and not formal constraint, in particular if this product is not used according to the applications expressed in this technical index card. A preliminary test will always be advised to be sure that the product corresponds to the customer's requirements.

The user of this product undertakes to respect the current legislation for the elimination of waste.

Customs' code

COPSIL 40 resin & hardener	39100000

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