Platinsil 40RC

Rapid Cure Silicone Rubber for Industrial Prototyping

Product Technical data sheet

PRODUCT DESCRIPTION

Platinsil 40RC is a ***rapid cure*** grade addition curing type two component Silicone RTV, designed for prototyping and mold making applications. This is a flowable grade, when mixed with Part B cures at room temperature to a high strength flexible elastomer. **Platinsil 40RC** will reproduce honestly the finest detail of the master and is suitable for a variety of art related and industrial applications such as mold making for reproducing prototypes, furniture, architectural items and sculptures and jewellry designs. This grade can also be used for electrical sleeve coating.

.

PRODUCT FEATURES

- Flowable type high strength silicone rubber curing at room temperature – Excellent detail reproduction
- Good mechanical properties - leading to long mold service life
- Highly elastic and excellent release properties – for easy de-molding.
- Excellent chemical resistance – compatible with most molding materials with long service life

SPECIAL CHARACTRISTICS

- Low viscosity - Good Flow
- Excellent mold release
- Room Temperature cure or accelerate with heat
- Low shrinkage (low temperature cure)
- Good transparency and mechanical properties

APPLICATIONS

- Prototype Mold making for electric and electronic industry such as home appliances, television, mobile phones, copying machines etc.
- Prototypes for developing new designs for automotive applications such as lamp housings, radiator grills, fenders, bumpers etc.
- Fast reproduction of Jewellery items.
- Potting and encapsulation of electronic components
- Molds made of Platinsil 40RC can be used to cast a variety of reproduction materials such as polyester resins, polyurethanes low melt metal alloys, epoxies, wax, gypsum, clay, concrete …..
- Electrical Sleeve coating and Flexible Technical fabric coating.

TECHNICAL OVERVIEW

UNCURED PROPERTIES

PROPERTY	STANDARD	UNITS	VALUE
Colour Part A Part B			 Translucent Transparent
Viscosity Part A Part B		m.Pa.s	 50000 2000
Mixing Ratio A: B		W:W	10:1
Work-life (23°C)		min.	20
Demold time (23°C)	ASTM D-2471	min.	~ 140

CURED PROPERTIES* (72 hours@ 23°C)

PROPERTY	STANDARD	UNITS	VALUE
Hardness	ASTM D-2240RC	Shore A	40
Specific Gravity (23°C)	ASTM D-1475		1.09
Tensile Strength	ASTM D-412	MPa	6.5
Elongation	ASTM D-412	%	400
Tear Strength	ASTM D-624	N/mm	22
Linear Shrinkage		(%)	<0.1

*Typical Properties, should not be used as specification

INSTRUCTIONS FOR USE

- **Surface Preparation**: For prototyping or reproduction the master surface should be clean, free of loose materials and dust particles. With porous substrates use a suitable release agent such as petroleum jelly or soap solution. Contact with certain materials such as sulfur containing rubbers (natural rubber) chlorinated rubbers, Tin cured silicone RTVs, should be avoided as these materials can cause cure inhibition.

- **Mixing of Components:** Thoroughly stir Platinsil 40RC before use. Select a container for mixing which is 4-5 times larger than the total material to be mixed. Weigh the A and B components in the desired ratio (ex: 100:10). Stir vigorously for several minutes scraping the sides and the bottom of the container to produce a homogeneous mix. Hand or mechanical (power) mixing can be used but do not mix for an extended period of time to avoid entrapping large amounts of air or causing over heating resulting in shorter work life.

- **De-aeration :** It is recommended that entrapped air be removed under vacuum (about 20 mm of mercury) to eliminate voids in the final product. This process will make the mixture to expand and then collapse. A volume increase of about 4-5 times occur will during the de-aeration. Therefore, a large container should be used to accommodate this volume change. De-aeration is usually continued for about 2 minutes after frothing ceases.

- **Pouring the Mix and Curing:** The mix should be poured *as soon as possible* on to the original master to avoid air entrapment This system is sensitive to temperature and therefore can influence the cure speed. However, the material will cure to a flexible rubber within 6-8 hours at room temperature.

HANDLING PRECAUTIONS AND SAFETY

Platinsil 40RC contains constituents that have been found to be neither toxic nor aggressive and are safe for use. Hence special handing precautions except general industrial hygiene need to be followed. Adequate protective measures are recommended. Refer to Material Safety Data Sheet (MSDS) for safe use of the product

USABLE LIFE AND STORAGE

The shelf life of Platinsil 40RC and the catalyst is 6 months from the date of manufacturing if stored below 27^{o} C in original unopened containers. Store the material in a cool place out of direct sunlight. Keep the material out of the reach of children.

PACKING

Platinsil 40RC is available in following kit forms :

- Kit of 5.50 kg (5 kg Platinsil 40RC Part A + 500 gram of Platinsil 40RC Part B)
  4 such kits (22 kg) packed in a cardboard box
- Kit of 1.10 kg (1 kg Platinsil 40RC Part A + 100 grams of Platinsil 40RC Part B)
  10 such kits (11 kg) packed in a cardboard box

LIMITATIONS

It is the responsibility of the user to determine the suitability of this product for the intended application.
The contents of this data sheet are subjected to change without notice.

Platinsil 40RC is manufactured in India by :
Performance Polymers
B-88, 3rd Cross 3rd Main, Opp. ESI Sub-Regional Office
DDUTT, Industrial Suburb, 2nd Stage,
Yeshwantpur, Bangalore 560 022,
Phone: +91-8023379779
e-mail: ceo@performancepolymers.in
web: www.moldsil.com