Technical Datasheet

Silicone SR 6

Product Type	**Addition Cure Silicone**
Base	**SR 6 Base**
Catalyst	**SR 6 Catalyst**
Colour	Blue

Applications

- Flexible Parts
- Casting Moulds for RIM
- Casting Moulds for Vacuum Casting
- High Temperature Applications
- Art Casting
- Flexible Gaskets

Properties

- Room Temperature Cure
- High Hardness
- Good Dimensional Stability

Processing Data

Product		**Silicone SR 6 Mixture**	**Silicone SR 6 Base**	**Silicone SR 6 Catalyst**
Colour		Blue	Beige	Blue
Mixing Ratio	**P.B.W**		**100**	**10**
Viscosity at 25^{0}C	mPas	90,000	130,000	300
Pot Life 23^{0}C	Min.	60	-	-
Curing Time 23^{0}C	Hrs.	16	-	-
Linear Shrinkage	%	< 0.1		

Physical Data

Properties	Test Method	Unit	Silicone SR 15 Mixture
Elongation at Break	ISO 37	%	250
Tensile Strength	ISO 37	MPa	4.53.6
Tear Resistance	ISO 34	N/mm	16
Shore Hardness	DIN 53505	Shore A	59

After cure for 7 days at 23^{0}C

All values are typical and not a specification

Sales Units (Packages)

Units	Base	SR 6 Base	20.0 kg
	Catalyst	SR 6 Catalyst	2.0 kg

Processing Instructions

Substrate Preparation

The surface of the original should be clean and free of loose material. If necessary, and in particular with porous substrates, use a suitable release agent such as petroleum jelly or soap solution

Mixing

Weigh 100 parts of Silicone SR 6 Base and 10 parts of Silicone SR 6 catalyst/curing agent in a clean container, then mix together until the curing agent is completely dispersed in the base. Hand or mechanical mixing can be used, but do not mix for an extended period of time or allow the temperature to exceed 35°C (95°F). Mix sufficiently small quantities to ensure thorough mixing of base and curing agent.

It is strongly recommended that entrapped air be removed in a vacuum chamber, allowing the mix to completely expand and then collapse. After a further 1-2 minutes under vacuum, the mix should be inspected and can be used if free of air bubbles. A volume increase of 3-5 times will occur on vacuum de-airing the mixture, so a suitably large container should be chosen.

Note: If no vacuum de-airing equipment is available, air entrapment can be minimized by mixing a small quantity of base and curing agent, then using a brush, painting the original with a 1-2mm layer. Leave at room temperature until the surface is bubble free and the layer has begun to cure. Mix a further quantity of base and curing agent and proceed as follows to produce a final mould.

Pouring the Mixture and Curing

Pour the mixed base and curing agent as soon as possible onto the original, avoiding air entrapment. The catalysed material will cure to a flexible rubber within 12 hours at room temperature (22-24°C/ 71.6-75.2°F) and the mould can then be removed. If the working temperature is significantly lower, the cure time will be longer. Heat accelerating the cure is possible, but this will produce some apparent shrinkage of the mould due to differences in volume contraction on cooling between the silicone rubber and the original. The higher the curing temperature, the greater the likely differences in dimensions.

Additional Information

Inhibition of Cure

All addition-cured silicone elastomers are susceptible to cure inhibition

when in contact with certain materials and chemicals. Inhibition has occurred if the elastomer is only partially cured after 12 hours, or has a sticky surface in contact with another material. Amines and Sulphur containing materials are strong inhibitors, as are organo tin salts used in condensation cure silicone elastomers. It is strongly recommended that mixing containers, mould construction materials, originals and release agents be checked for any inhibition effect before use.

Use at High Temperatures
Moulds produced from Silicone SR 6 have a long life at elevated temperatures. However, continuous use above 200°C (392°F) will result in loss of elasticity over a period of time. Use above 250°C (482°F) is not recommended.

Resistance to Casting Materials
The chemical resistance of fully cured Silicone SR 6 is excellent, and similar to all addition-cure silicone elastomers. It should be noted however that ultimately, resins and other aggressive casting materials will attack silicone moulds, changing physical properties, surface release and possibly mould dimensions. Moulds should be checked periodically during long production runs.

Note: Silicone SR 6 is an industrial product and must not be used in food moulding, dental and human skin moulding applications. It is neither tested nor represented as suitable for medical or pharmaceutical uses.

In General

Silicone SR 6 is a two-component material consisting of Silicone SR 6 base, which when mixed with Silicone SR 6 catalyst standard or catalyst oil bleed, cures at room temperature by an addition reaction. A range of materials can be cast into the cured silicone moulds: polyurethane and other reactive resins are the materials typically used.

Storing

When stored at or below 30°C (86°F) in the original unopened containers Silicone SR 6 Base & Silicone SR 6 catalyst curing agents have a usable life of 12 months from the date of production.

Partly used containers must always be closed and materials should be used as soon as possible.

Safety Measure

Please follow the precaution instructions of the Government Safety Organisation of the chemical industry when working with this material. Please follow safety advice.

Waste Disposal

According to arrangement with local authorities cured material can be disposed as domestic or commercial waste. Non-cured products are waste which is subject to inspection and has to be disposed accordingly. In case of further questions please do not hesitate to contact our Department for Product Safety.