Moldsil-SP14

2 Part RTV Silicone Rubber for Shoe Sole Mold making

Product Technical data sheet

PRODUCT DESCRIPTION

Moldsil-SP14 is a *premium* grade condensation curing type Silicone RTV, recommended for mold making applications. This is a flowable grade, having high mechanical strength and cures with various catalyst options (depending on the application requirements) at room temperature to a flexible elastomer, well suited for detailed and exact reproduction of artifacts, figures, architectural items and similar objects. Moldsil-SP14 will reproduce 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.

PRODUCT FEATURES

- Fast Cure (30mins full cure)
- Low Viscosity- Easy Flow.
- Highly elastic and excellent release properties – for easy de-molding.
- Excellent chemical resistance – compatible with many molding materials (Gypsum, POP etc.)
- This grade can also be used for filling the gaps in electrical installations and cables to give protection from the water/moisture ingress.

APPLICATIONS

- This grade was specifically aimed at show sole production.
- Low volume parts- Rapid reproduction

TECHNICAL OVERVIEW

UNCURED PROPERTIES

PROPERTY	STANDARD	UNITS	VALUE
Colour			White
Viscosity Component A		mPa.s	5000
Specific Gravity	ASTM D-1475		1.07
Mixed Viscosity	ASTM D-2393	mPa.s	3000
Pot-life			
With 5% CAT-9V25B	ASTM D-2471	Min.	6
With 5% CAT-16	ASTM D-2471	Min.	60
With 5% CAT-9VE2010	ASTM D-2471	Min.	7

CURED PROPERTIES* (With 5% CAT-9VE2010)

PROPERTY	STANDARD	UNITS	VALUE
Hardness	ASTM D-2240	Shore A	10
Tensile Strength	ASTM D-412	MPa	2.0
Elongation	ASTM D- 412	%	250
Tear Strength	ASTM D-624	N/mm	10
Linear Shrinkage		%	~0.5

*Typical Properties, should not be used as specification

CATALYST OPTIONS

The choice of catalyst depends on the application method and the speed of cure needed. Moldsil-SP14 can be cured in to elastomeric products using the following cure options:

- **CAT-9V25B :Extremely fast catalyst:** Catalyst with short work life and fast demolding. Takes about 30 minutes for easy demolding .
- **CAT-16 : Medium speed Catalyst :** Catalyst with moderate work life. Takes about 16 hours at room temperature for complete curing. Useful to get stronger molds
- **CAT-9VE2010 : Rapid Catalyst** :Catalyst with short work life for high speed mold making. The use of this catalyst results in durometers 4-5 points higher than the other catalysts mentioned above. Takes about 30 minutes at room temperature for demolding.

CATALYST PROPERTIES

PROPERTY	CAT-9V25B	CAT-16	CAT-9VE2010
Colour	Blue	Transparent	Transparent
Density (g/cc)	0.95-0.97	0.95-0.97	0.97-0.99
Viscosity (mPa.s)	25	25	25
Mix Ratio (A:B)	100:5	100:5	100:5

METHOD OF USE

- **Surface Preparation**: 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.
- **Mixing of Components:** Thoroughly stir Moldsil-SP14 before addition of catalyst, as filler separation might have occurred during prolonged storage. *This is an important step to get the desired performance.* 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: 100:5). 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 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 will occur during the de-aeration process. Therefore, a large container should be used to accommodate this volume change. It should be also noted that prolonged application of vacuum will remove the volatiles from the mixture that can result in poor cure.
- This system is sensitive to temperature and humidity and therefore can influence the cure speed. The material will cure to a flexible rubber within 24 hours at room temperature and the mold can then be separated from the master. However, the final mechanical properties of the mold will be attained in one week.
- **Pouring the Mix and Curing:** The mix should be poured *as soon as possible* on to the original master to avoid air entrapment. The material will cure at a speed depending on the selection and the amount of the catalyst.

HANDLING PRECAUTIONS AND SAFETY

Moldsil-SP14 contains constituents that have been found to be safe. Hence special handing precautions except general industrial hygiene need to be followed. Catalysts (CAT-9V25B, CAT-16 and CAT-9VE2010) contain organo-tin compounds and are flammable and might cause irritation upon contact with eyes and skin. 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 Moldsil-SP14 and the catalysts (CAT-9V25B, CAT-16 and CAT-9VE2010) is 6 months from the date of manufacturing if stored below 27°C in original unopened containers.

PACKING

Moldsil-SP14 is available in following kit forms :

1. Kit of 1.050 kg (1 kg Moldsil-SP14 - Part-A + 50 grams of CAT-9V25B or CAT-16 or CAT-9VE2010)
2. Kit of 5.25 kg (5 kg Moldsil-SP14 - Part-A + 250 grams ofCAT-9V25B or CAT-16 or CAT-VE2010)
3. Kit of 21 kg (20 kg Moldsil-SP14 – Part-A +1 kg of CAT-9V25B or CAT-16 or CAT-VE2010)

LIMITATIONS

This product is neither tested nor claimed as suitable for food contact, medical or pharmaceutical applications.

Moldsil-SP14 is manufactured in India by :
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