SiSiB® SR8040 Solid Silicone Resin

INTRODUCTION

There are three main types of silicone resins: pure phenyl polysiloxanes, pure methyl polysiloxanes, and mixed phenyl/methyl polysiloxanes. These resins have excellent heat resistance, with phenyl being the most thermally stable organic substituent. In highly pigmented coatings, phenyl silicone resins can withstand temperatures up to 650°C and show excellent compatibility with organic resins.

Methyl is the second most stable organic substituent and can withstand temperatures up to 200°C in low pigment systems. Formulations with high methyl group content silicone resins provide improved hardness, water resistance, and non-stick properties. Methyl silicone resins are particularly suitable for heat resistant aluminum coatings, with temperatures up to 650°C.

SiSiB® SR8040 is a solvent-free, pure-methyl silicone resin that blends seamlessly with organic resins. It delivers exceptionally high hardness, superior mechanical resilience, and excellent chemical and weather resistance. Its high SiO_2 content also produces far less smoke during initial heating compared with resins containing higher levels of organic substituents.

EFFECTS

- Excellent thermal stability across a wide temperature range
- Low coefficient of thermal expansion in molded plastics
- Outstanding aging resistance and abrasion resistance
- High SiO_2 content with minimal smoke generation
- High binding strength at low dosage in high-temperature sintering
- Forms a dense, highly insulating layer after sintering
- Soluble for formulation of solvent-based air-drying coatings

PHYSICAL PROPERTIES

Appearance	Solid granule
Color	Colorless to yellowish
Substituent Type	Pure methyl
Heating Loss (350°C/4h, %)	Max.5
Softening Point (°C)	60-90
Solid Content (180°C/1h, %)	Min.99

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Gel Time (200°C, min)	10-60

APPLICATIONS

SiSiB® SR8040 is a pure methyl silicone resin that is easily soluble in organic solvents and quickly gels upon heating to form a low smoke, high ash network structure with excellent thermal stability, weatherability and electrical insulation.

SiSiB® SR8040 can be used as a powder coating binder/co-binder, an impregnant for porous substrates or a tack-free prepreg matrix in a wide range of applications from high temperature electrical appliances and exhaust pipe coatings to insulating composites for aerospace and electrical applications.

PACKING

SiSiB® SR8040 is available in 20Kg or 50Kg fiber drum.

HANDLING

This document does not contain the product safety information required for safe use. Before handling, please refer to the product and safety data sheets, as well as container labels, for information on safe usage, physical hazards, and health risks. Safety Data Sheet is available on the website, from the distributor, or by contacting SiSiB customer service.

STORAGE

SiSiB® SR8040 can crosslink or self-condense in the presence of moisture, making it essential to avoid moisture exposure before final application.

SiSiB® SR8040 Silicone Resin has a shelf life of 12 months from the date of manufacture when stored in its original, unopened containers at or below 25°C (77°F). After opening, containers should be tightly sealed to prevent contamination and moisture from entering the product.

NOTE

All information in the leaflet is based on our present knowledge and experience. We reserve the right to make any changes according to technological progress or further developments. Performance of the product described herein should be verified by testing.

We specifically disclaim any other express or implied warranty of fitness for a particular purpose or merchantability.

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We disclaim liability for any incidental or consequential damages.