GE Silicones

Insulating Varnishes

Materials & Applications

GE Silicones

Silicone Insulating Varnishes

Applications

There are various types and grades of silicone varnishes developed for applications requiring extreme performance reliability. They include:

- **Coating varnish** used in combination with glass cloth, mica, asbestos.
- **Dipping and impregnating varnish** for transformers, coils, rotating equipment.
- **Saturating and bonding varnish** for motor, transformer and coil windings.
- **Laminating resin** for glass fabric and mica.

Silicone resins are used in the manufacture of high temperature resistant insulation components such as electrical tapes, mica composite insulation and laminates.

As a result of the unique properties of all silicone insulation, the resins are ideal for electrical and electronic equipment designed for operation at continuous or intermittent high temperatures, or where moisture or corrosive atmospheres are encountered.

- **Aircraft transformers**
- **AC motor stator coils**
- **AC and DC armature and field coils**

Selector Guide

Application	SR17M	SR32	SR165	SR224	SR323	M120XB
Glass-Based Products:						
- Glass Cloth Sleeving Braid, Roving, Served Wire	X	X	X	X		X
Mica-, Glass- and Asbestos-Based Products:						
- Binder Resin for Flexible Tape	X	X	X	X		
- Binder Resin for Laminating Rigid Parts					X	
- Saturant for Papers	X	X		X		
Insulating, Impregnating and Protecting:						
- Dry-Type Transformers 180 to 200°C (356 to 392°F)	X	X		X		
- Random-Wound Stators	X	X				X
- Form-Wound Coils	X	X				X
- Topcoat for Moisture Resistance						X
- Rotating Equipment	X					
- General Purpose Varnish		X				
- Printed Circuit Boards for Missile Equipment						X

Refer to the Selector Guide that indicates major applications where silicone insulating varnishes and resins are being utilized. Specific data sheets outlining the known properties of silicone varnishes may be obtained from the GE Silicones web site — www.gesilicones.com.

General Electric Company offers a broad range of silicone varnishes and resins for improving performance in many electrical and electronic applications. Although functions of some of the products listed may seem similar, they are not identical. They should, therefore, not be considered interchangeable.

Applications noted are suggestions only and should not be construed as recommendations. Samples of all silicone resins are available for testing and determination of their utility in specific applications.

Features	Benefits
• Heat resistance — long term service at 250°C (482°F)	• High power output — high ambient temperatures
• Electrical properties sustained for extended periods	• Long, reliable service life
• Mechanical properties — providing rigidity, bondability, vibration protection	• Can withstand frequent equipment shut-down and start-up
• Radiation resistance — minimal effects by gamm radiation to 10°r	• For use as an electrical motor insulator in nuclear power plants
• Arc and corona resistance — much greater than organic materials	• High moisture resistance — able to withstand severe overloads
• UV and ozone resistance	• No loss of electrical insulation capabilities

Silicone Electrical Insulating Varnishes

Property	SR17M	SR32	SR165	SR224	SR323	Baysilone M120XB
	Silicone electrical insulating/impregnating varnish for use in applications requiring resistance to extreme heat or cold.	Silicone electrical insulating varnish useful where flexible insulation with exceptional heat resistance is required.	High solids, 86% silicone resin content. Low molecular weight for fast impregnating and wetting of mica paper and fabrics. High difunctionality makes it a very flexible silicone varnish.	Silicone varnish for use in fabrication of composite insulation with mica products, polyester film-type materials, glass polyester fiber cloth and others.	High pressure laminating silicone resin for use in combination with glass cloth and similar materials in manufacturing laminates like flat sheets, tubes and rod that can be machined for final form.	Electrical insulating varnish for use in bonding mica and other laminated substrates that do not require flexibility. Also used for protecting printed circuit boards and electrical equipment components.
Bodied	Y	Y	N	Y	N	Y
T/D Ratio	Moderate	Low	Low	Low	High	High
Phenyls	Y	Y	Y	Y	Y	N
% Solids	50	60	86	60	60	50
Specific Gravity @ 25°C (77°F)	1.00	1.04	1.09	1.04	1.08	1.02
Density, lbs/gal	8.3	8.7	9.1	8.7	9.0	8.4
Solvent	Xylene	Toluene	VM&P Naphtha	Toluene	Toluene	Xylene/n-Butanol
Flash Point, Pensky-Martens	27°C (80°F)	7°C (45°F)	11°C (52°F)	4.4°C (40°F)	4.4°C (40°F)	28°C (82°F)
Viscosity	135 to 190	210 to 300	300 to 1,200	175 to 275	80 to 150	40 to 60
Hardness	50	30	10	30	95	90

To Find Out More...

Customer Service

800.332.3390

- Order entry/status
- Pricing/availability
- Samples • MSDS

Company & Product Info

www.gesilicones.com
Product Data sheets

Customer Assistance

800.255.8886
GES.Help@gep.ge.com

- Technical assistance/inquiries
- Application review
- Product recommendations
- Sales support

Customer Specifications

800.525.7149

- Specification inquiries
- Specification reviews

Product Literature

LJ Fulfillment Services
Phone 518.436.1085
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Email lpem@aol.com

- Stocking orders for literature
- Product line selector guides
- Industry brochures & catalogs

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