Shin-Etsu

Shin-Etsu silicone

Silicones for Wind Power Applications

(For North and South America)

Silicones for Wind Power Applications

Wind power is an unlimited source of natural, clean energy, and wind farms are sprouting up all over the world. Wind turbine systems are used in tough environments, making high reliability a must. Silicones are advanced functional materials that are designed for use in a variety of applications.

Blades & Tower sections

- Durability improvement for composite materials
- High weatherability coatings
- Adhesion & sealing

Generators & auxiliary systems

- Heat dissipation for generator components
- Lubrication of rotating machinery and other parts
- Adhesion, sealing & coating
- Electrical insulation, protection & covering of connection cables

Transformers

- Transformer oil

■Silicone products (representative) used in wind power applications: Product types & features

	Application example	Product category	Product name	Features
Blades & tower section	Improving strength of propeller. Improving durability of propeller	Silane coupling agent, alkoxy oligomer	KBM-403	For FRP
			X-41-1053	
	Resin for exterior paint for tower High weatherability coatings		KC-89S, KR-500	Additive for acrylic paints & urethane paints
			KR-9218, KR-213	
			X-41-1053	
	Adhesion & sealing of tower components, internal and external	Sealant	SEALANT-N	General purpose
			SEALANT-72	For plastics
			SEALANT-FC-127	Rapid-cure sealing (for construction at factory). Can also be used for temporary fixation of machinery.
Generators & auxiliary systems	Lubrication	Grease	G-3W-0 Series	Low-temp. lubrication (-60 °C to 180 °C)
			G-40 Series	High-temp. lubrication (-30 °C to 200 °C)
			G-420	High-temp. lubrication (-30 °C to 250 °C)
	Thermal interface materials	Fluid compound (grease)	G-747	General purpose. Thermal conductivity: 0.9W/m·k
			G-775	Less pump-out, and oil separation. Thermal conductivity: 3.6W/m·k
			G-777	High-temperature resistant. Thermal conductivity: 3.1W/m·k
		One-component RTV rubber	KE-3493	Condensation cure tpye. Thermal conductivity: 1.6W/m·k
			KE-1867	Addition cure type. Thermal conductivity: 2.2W/m·k
	For electrical insulation, protection & covering	Heat-shrinkable rubber tubing	ST-DG Series	When heated, tubing shrinks to about 1/2 its original inner diameter. This rubber tubing is designed for electrical insulation, protection & covering, and offers excellent heat and cold resistance, electrical properties, and flame resistance.
	For adhesion, sealing & coating of electric and electronic components	One-component RTV rubber (Condensation cure type)	KE-4895	Low viscosity, reduced low-molecular-weight siloxane
			KE-4896	Medium viscosity, reduced low-molecular-weight siloxane
			KE-3490	Paste consistency, reduced low-molecular-weight siloxane, UL94 V-0 certified
	General purpose adhesion, sealing & coating	One-component RTV rubber (Condensation cure type)	KE-45	Paste consistency
			KE-445	Low viscosity
Transformer oil	For electrical insulation	Fluid	DM-FLUID-20cs	Designed for use in transformers, this insulating oil is highly safe and offers excellent fire-resistance and electrical properties. (Meets JIS-C-2320, revised June 2010)
			DM-FLUID-50cs	

*Shin-Etsu customers have used our silicone materials to develop products including high-electrical-resistance stone (paving stone for electrical substations) and fire-resistant cables (ECO cable). If you have an interest in these or other related products, please contact Shin-Etsu so we can tell you more about them and their manufacturers.

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Naoetsu Plant	ISO 9001 (JCQA-0018)	ISO 14001 (JCQA-E-0064)
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