

SLE5300 and SLE5500

Silicone Liquid Elastomer

Product Description

SLE5300 and SLE5500 are two-component silicone liquid elastomers, which can be cured rapidly at elevated temperatures, especially in thin films. Both products are supplied with curing agent in matched kits, which are designed for use at a convenient 10:1 ratio by weight. SLE5300 and SLE5500 are white in color, which facilitates pigmentation. These products differ principally in consistency, SLE5300 having a viscosity of 16,000 mPa·s and SLE5500 having a viscosity of 100,000 mPa·s. Intermediate consistencies may be achieved by blending the two materials.

Key Performance Properties

Product Features	Potential Benefits
Contains no solvents	Avoids hazards associated with solvents No solvent disposal procedure required Low manufacturing costs
Rapid cure time	Coating thickness from 0.03 - 0.75 mm Single pass coating Fast production rate Short cycle times High capacity
Pourable consistency	Can use existing coating and extrusion equipment Low equipment wear Ability to coat delicate fabric substrates
White colour	Easy to pigment

Applications

SLE5300 and SLE5500 are suggested for coating fiberglass and other industrial and structural fabrics and sleeving. Typical applications include belting, tape, insulation, electrical sleeving and protective blankets for use at elevated temperatures.

Typical Properties Data

TYPICAL UNCURED PROPERTIES

		SLE5300A	SLE5300B	SLE5500A	SLE5500B
Colour		White	Clear	White	Clear
Viscosity	mPa·s	26 000	1 200	200 000	1 200
Specific Gravity	g/cm ³	1.17	0.97	1.17	0.97
Silicone Content	%	100	100	100	100
Shelf Life		6 months	6 months	6 months	6 months



Typical Properties Data

**TYPICAL UNCURED PROPERTIES WITH CURING AGENT ADDED
(10 Parts A: 1 Part B by Wt.)**

		SLE5300	SLE5500
Colour		White	White
Consistency		Smooth, Pourable	Smooth, Pourable
Viscosity	mPa·s	16,000	100,000
Specific Gravity	g/cm ³	1.16	1.17
Work Time @ 25 °C	hours	48	48

TYPICAL CURED PROPERTIES

Cured 1 Hr. @ 150 °C

		SLE5300	SLE5500
Hardness	Shore A	33	27
Dielectric Strength (0.44mm thick)	kV/mm	38	32
Dielectric Constant @ 10 ³ Hz		3.0	2.9
Dissipation factor @ 10 ³ Hz		0.002	0.002
Volume Resistivity	ohm·cm	1 x 10 ¹⁵	1 x 10 ¹⁵
Useful Temperature Range		-60 to 200	-60 to 230

Specifications

Typical Product Data values should not be used as specifications. Assistance and recommendations are available by contacting Momentive performance materials Technical Service RTV1 and RTV2.

Instruction for use

SLE5300 and SLE5500 contain no solvents. Therefore, cure can be accomplished rapidly in a single step. Typical curing conditions for thin films (0.03 - 0.75mm) on coated fabrics are 1 - 2 minutes at 200 °C. Standard equipment for coating or supported extrusion may be used with little or no modification.

Compatibility

SLE5300 and SLE5500 silicone liquid elastomers will cure when applied to clean dry surfaces, which have been properly prepared. However, certain materials, such as butyl and chlorinated rubber, sulfur-containing materials, amines, and certain metal soap-cured RTV silicone rubber compounds, can cause cure inhibition. Cure inhibition is characterized by a gummy appearance of the silicone at the interface between it and the substrate. It is recommended that a sample patch test be performed with the SLE product to determine if a barrier coating or other inhibition-preventing measures are necessary before applying the liquid silicone elastomer.

Mixing

Since setting of filler occurs during storage, SLE5300A base compound should be thoroughly stirred before mixing with SLE5300B curing agent. Select a mixing container 4 - 5 times larger than the volume of silicone liquid elastomer to be used. Weight out ten parts of the A component and one part of the B component. Since the SLE products are kit-matched, work timer or pot life, cure time, and final properties of the B component from the same kit. With clean tools, thoroughly mix the A and B components together, scraping the sides and bottom of the container carefully to produce a homogeneous mixture. When using power mixers, take care not to entrap large amounts of air cause overheating of the mixture, resulting in short pot life.

Deaeration

Air entrapped during mixing should be removed to eliminate voids in the cured product. Expose the mixed materials to a vacuum of 10-20mbar. The material will expand, crest, and recede to about the original level as the bubbles break. Degassing designed to meter, mix, deaerate, and dispense two-component silicone rubber products will add convenience to continuous or large volume operations.

Curing

Thin coatings of SLE5300 or SLE5500 (0.05 - 0.13 mm) applied to fabric substrates by dipping, spreading, knifing or extrusion can be cured sufficiently in one minute at 200 °C to permit handling. Thicker coating will decrease the rate of heat transfer and therefore will require a somewhat longer curing timer or a higher curing temperature (230 °C maximum).

Bonding

SLE5300 and SLE5500 silicone liquid elastomers will frequently penetrate the weave of a fabric substrate and will thereby be held in place. Where the weave is very tight or the substrate is not permeable, a primer may be required to achieve a suitable bond. In such cases apply a uniform thin film (0.01 - 0.02 mm) of Momentive performance materials SS4155 or SS4120 silicone primer to the clean, dry surface and allow the primer to dry for one hour. Finally, apply freshly catalyzed SLE5300 or SLE5500 to the primed surface and cure as suggested. For more details on priming and adhesion please refer to Momentive performance materials data sheet on RTV primer. S4155 and SS4120 silicone primers contain flammable solvents. When any solvent is used, proper safety precautions must be observed. All solvents must be considered toxic and must be used only in well ventilated areas. Exposure to high vapour concentration must be avoided. When flammable solvents are used, storage and use must be in areas away from heat, sparks, open flames, or other sources of ignition.

Handling and Safety

SLE5300B and SLE5500B curing agents can generate flammable gas upon contact with acidic, basic or oxidizing materials. Avoid such contact. Material Safety Data Sheets are available upon request from Momentive performance materials Silicone Technical Service RTV1/RTV2. Similar information for solvents and other chemicals used with our products may be obtained from your suppliers.



MOMENTIVE
performance materials

SLE5300 and SLE5500

**Storage &
Warranty Period**

The warranted shelf life will be indicated by the "use before date" on the associated documents with a minimum of 4 months when stored in the original unopened containers below 25 °C.

Availability

The SLE5300A is available in 4,5 kg and 181 kg drums.

The SLE5300B is available in 18 kg drums.

The SLE5500A is available in 181 kg drums.

The SLE5500B is available in 18 kg drums.



PRINCIPAL LOCATIONS – Regional Information

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	• UA, Silanes, Resins, and Specialties	T 800.334.4674	F 304.746.1623
	• RTV Products-Elastomers	T 800.332.3390	F 304.746.1623
	• Sealants and Adhesives & Construction	T 877.943.7325	F 304.746.1654
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