Product Datasheet

Silflex™ SP6250 A/B

Thermally Conductive (RTV) Silicone Potting System

Typical Properties

(Not for specification purposes. All tests run at 25°C unless otherwise noted)

Resin / A-side Properties:

Appearance	Visual	Red
Specific Gravity	ASTM-D-1475	2.21 g/cm^3
Viscosity	ASTM-D-2393	28,500 cP
Flash Point, PMCC		252°C (486°F)

Hardener/ B-side Properties:

Appearance	Visual	Off White
Specific Gravity	ASTM-D-1475	2.21 g/cm^3
Viscosity	ASTM-D-2393	22,500 cP
Flash Point, PMCC		252°C (486°F)

Mix Ratio:

Parts by weight (volume)		100A : 100B
Viscosity	ASTM-D-2393	25,000 cps
Pot life, 100 gm		75 minutes

Recommended Cure Schedules:

3-7 days @ 25°C **or** 2-4 hours @ 65°C **or** 30-60 minutes @ 100°C

Please note: any cure schedule selected for use should be confirmed through testing as being appropriate for your particular processing methods and for your intended application.

Appearance	Visual	Orange-Red
Specific Gravity	ASTM-D-1475	2.21 g/cm^3
Shore Hardness	ASTM D-2240	70A
Linear Shrinkage	ASTM D 792	< 0.002
Tensile Strength	ASTM D-638	525 psi
Tensile Elongation	ASTM-D-638	< 50 %
Glass Transition Temp (Tg)	Perkin Elmer Appl. #20	< -50 °C
Coefficient of thermal Expansion (per °C)	ASTM-D-381	17.5 x 10^{-5}in. /in. / °C
Water Absorption, 24 hours	ASTM E-570	Negligible
Thermal Conductivity	ASTM-D-2214	1.1 1/mK
Volume resistivity	ASTM D- 257	<1 x 10^{15} Ω-cm
Surface resistivity	ASTM D- 257	1.3 x 10^{14} Ω-cm^2
Dielectric strength	ASTM D-149	500 Volts/mil
Dielectric constant,	ASTMD- 150	
60 Hz		2.03
1 MHZ		2.37
Dissipation factor,	ASTM D- 150	
60 Hz		0.007
1 KHz		0.003

SILFLEX™ SP6250 A/B is a two-component highly filled, room temperature vulcanizing (RTV) silicone potting system which when cured yields a high thermally conductive elastomer operational to temperatures up to 260°C. This product has a convenient one-to-one mix ratio by weight or volume and can be cured under room or elevated temperature conditions. Unlike other RTV silicone systems, Silflex™ SP6250 A/B evolves no by-products during cure could cause corrosion of sensitive components. Also, because there is no evolution of by-products, this system can be cured in thick sections or in closed molds without problems of reversion. This system is recommended for the potting and encapsulation of transformers, power supplies, relays and other heat generating devices in applications where the rapid transfer of heat is required.

Suggested Applications:

This system has been formulated for potting and encapsulating applications requiring high-thermal conductivity, high-temperature performance and flexibility. Typical applications include: relays, power supplies and transformers.

Benefits:

- High thermal conductivity
- Reversion resistant
- Convenient ratio

Storage Guidelines:

Store this material in a clean, dry environment in its tightly closed original container. These products are not considered temperature sensitive, but should ideally be stored at temperatures between 18-30°C(64-86°F). Under these conditions the products will have a minimum shelf-life of 12 months from the date of shipment

Processing Guidelines:

Complete cleaning of the components and substrates is important to insure long term performance of the embedment material and/or the electrical/electronic assembly. Surface contamination such as moisture, salt, oils and dust can cause electrical failure, corrosion or poor adhesion in an embedded part.

This Silflex™ product is sensitive to cure inhibition by various contaminants. It is especially recommended that contact with butyl and chlorinated rubbers, amines, and sulfur and tin containing compounds be avoided. Lack of cure of the Silflex™ material at the surface of the substrates indicates cure inhibition. Questionable substrates should be evaluated for compatibility before application of this material.

Mixing: Filled systems may exhibit some filler settlement during shipping or storage. To unsure a homogenous mixture, it is recommended that the contents of be thoroughly mixed prior to use. Power mixing is preferred.

Weigh Part A and Part B in the recommended ratio as accurately as possible into a clean mixing container. Always use weighing equipment having accuracy in proportion to the amounts being weighed.

Blend by hand for 2-3 minutes using a kneading motion. Scrape the bottom and the sides of the mixing container carefully and frequently to produce a uniform mixture. Follow with power mixing, if possible, for an additional 2-3 minutes. Avoid excessive power mixing speeds which could entrap large amounts of air or cause overheating of the mixture resulting in shorter working life.

De-airing: Entrapped air introduced during the mixing operation can be removed through vacuum de-airing. While not always necessary, vacuum de-airing is recommended to insure a void-free casting or coating. Vacuum de-air at 2mm mercury for 3-10 minutes.

Application: Pour material into mold or cavity or transfer to dispensing equipment. In general, Silflex™ materials exhibit outstanding release properties and will not adhere by themselves to most substrates. If adhesion to substrates is required, apply a coating of Primax SF onto the desired clean, dry substrates and allow to dry for 30-60 minutes at room temperature before potting with the Silflex™ material.

Handling Precautions:

Mandatory and recommended industrial hygiene procedures should be followed whenever these products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

Personal Hygiene:

SILFLEX™ SP6250 A

CAUTION! May cause eye irritation. Prolonged or repeated skin contact may cause irritation, and may cause skin reaction. Harmful if inhaled, if swallowed. Avoid contact with eyes, skin, or clothing. Wear eye protection and impervious gloves when handling. Wash thoroughly after handling. Avoid breathing vapor or mist. Keep containers closed when not in use. Use only with adequate ventilation. Do not take internally.

SILFLEX™ SP6250 B

CAUTION! May cause eye irritation. Prolonged or repeated skin contact may cause irritation, and may cause skin reaction. Harmful if inhaled, if swallowed. Avoid contact with eyes, skin, or clothing. Wear eye protection and impervious gloves when handling. Wash thoroughly after handling. Avoid breathing vapor or mist. Keep containers closed when not in use. Use only with adequate ventilation. Do not take internally.

First Aid

In case of contact:

Skin - Wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Discard contaminated shoes and other articles made of leather

Eyes - Flush eyes with plenty of water for 15 minutes and get prompt medical attention.

Inhalation - Remove person to fresh air

Ingestion - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person

Disclaimer:

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