Product Datasheet

SP&S Specialty Polymers and Services

Silflex® 316A/B

MULTIPURPOSE ROOM TEMP CURING SILICONE ENCAPSULANT

Silflex® 316A/B is a two part, 1:1 mix ratio silicone encapulant that is a low cost, multipurpose system for many potting & encapsulation application. The cured polymer provides excellent mechanical and electrical properties, good thermal conductivity and is flame retardant per UL 94V0. This system will cure at room temperature with little or no exotherm and low shrinkage or it can be cured rapidly with the use of heat.

For hard-to-bond material or where cure inhibit could occur our Primax S and SF primers are suggested to improve adhesion and prevent cure inhibition. Many custom variations of the Silflex 316 system are available to meet your requirements including higher or lower viscosities and faster gel-times. Please contact us to discuss your application a custom variant might be desirable for your application.

SUGGESTED APPLICATIONS:

- Power supplies, connectors, sensors, relays & control units.
- Transformers, amplifiers, & high voltage resistors
- Applications requiring deep section curing, UL 94V0 flame retardance and/or thermal conductivity

HANDLING PROPERTIES	VALUE	TEST METHOD
Silflex 316A		
Visual Appearance	Gray flowable liquid	
Density	1.57 g/cm³	ASTM E-201
Viscosity, Part A, @ 25ºC	4,000 cps	ASTM D-2393
Flash Point	>200°C	ASTM D-92
Silflex 316B		
Visual Appearance	Gray flowable liquid	
Density	1.57 g/cm³	ASTM E-201
Viscosity, Part A, @ 25ºC	4,000 cps	ASTM D-2393
Flash Point	>200°C	ASTM D-92
Pot life @ 25C, 150 g mass:	30 minutes	
Shelf-life:	18 months from Date of Shipment at 25ºC	
Cure Schedules:	24 hours @ 25ºC or 10 minutes @ 100ºC or 5 minutes @ 150ºC	
Shore A Durometer	60A	
Thermal Conductivity	0.58 W/mK	
Coefficient of Thermal Expansion (CTE)	240 ppm/C	
Dielectric Strength	530 V/mil	
Dielectric Constant @ 100 Hz / @ 100 kHz	3.30 / 3.20	
Dissipitation Factor @ 100 Hz / @ 100 kHz	0.01 / 0.0002	
Volume Resistivity @ 25C	1.2 x 10^{15} ohm-cm	

PROCESSING AND APPLICATION INSTRUCTIONS :

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 may be sensitive to cure inhibition by various contaminants. It is especially recommended that contact with butyl and chlorinated rubbers, amines, 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 ensure a homogenous mixture, it is recommended that the contents of be thoroughly mixed prior to use. 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.

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 29mm mercury for 3-5 minutes.

Application: Pour material into mold or cavity or transfer to dispensing equipment. If high 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.

PACKAGING AVAILABLE:

This product is available in a wide range of package sizes including pint, quart, & gallon kits.

Please call use with any special packaging requests or for information on custom kitting.

STORAGE GUIDELINES:

Store these materials in a clean, cool and dry environment in their tightly closed original containers. Protect from extended exposure to temperatures below 15ºC (59ºF). Crystallization may occur if the material is exposed to cold for extend periods. If this occurs, heat the entire container for 4 hours at 70ºC to re-liquefy the material. Allow to cool to ambient temperature prior to using. Also protect the Sil-flex 104A&B from exposure to moisture or high humidity. Tightly re-seal containers after use. If the recommended storage

conditions are observed the products will have a minimum shelf-life of 12 months from the date of shipment.

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 316A & B

CAUTION! May cause eye & skin irritation. Prolonged or repeated skin contact or inhalation of vapors may cause allergic skin or respiratory reactions. Harmful if inhaled or 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 – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather.

Eyes – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention.

Inhalation - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

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

DISCLAIMER:

IMPORTANT: The following supercedes Buyer's documents. **SELLER / MANUFACTURER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE**. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller / Manufacturer be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict liability, tort or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results presented are based on controlled or laboratory work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended

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