Product Datasheet

SP&S Specialty Polymers and Services

Silflex® 360A/B

HIGH RESISTANT, SHORE A 55 SILICONE ELASTOMER

Silflex® 360A/B is a silicone elastomer that has a pourable viscosity and is self-leveling and that cures at room temperature. The cured silicone rubber provides excellent electrical and physical properties and retains its elasticity over a temperature range from -115°C (-175°F) up to 260°C (500°F) for continuous exposure. For brief periods, the cured rubber can be exposed to temperatures as high as 316°C (600°F) without degrading. The Silflex® 360A/B system can be used as an encapsulant, sealant, adhesive, or for casting flexible parts such as gaskets.

For adhesive applications, cleaning and priming the surface to be bonded is suggested for the best bond strength. Our Primax S and SF primers are suggested to improve adhesion to most materials.

SUGGESTED APPLICATIONS:

- Potting and Encapsulation of Electrical Assemblies
- Casting Thermal Insulation and molding flexible parts
- High temperature sealing and bonding

HANDLING PROPERTIES	VALUE	TEST METHOD
Silflex 360A		
Visual Appearance	Red flowable liquid	
Density	1.42 g/cm³	ASTM E-201
Viscosity, Part A, @ 25ºC	24,000 cps	ASTM D-2393
Silflex 360B		
Visual Appearance	Clear, light yellow	
Density	1.04 g/cm³	ASTM E-201
Viscosity, Part A, @ 25ºC	<100 cps	ASTM D-2393

Mix Ratio 100A: 0.5B (see notes below on alternate levels)
Gel time @ 25C, 100 g mass: 60 minutes
Shelf-life: 12 months from Date of Shipment at 4ºC, 3 months at up to 27ºC
Cure Schedules: 24 - 48 hours @ 25ºC or 2-3 hours @ 90ºC

PHYSICAL & ELECTRICAL PROPERTIES	VALUE
Shore A Durometer	50A - 60A
Tensile Strength	500 psi
Tensile Elongation	130%
Tear Strength	20 ppi
Thermal Conductivity	0.26 W/mK

Coefficient of Thermal Expansion (CTE)	220 ppm/C
Dielectric Strength	550 V/mil
Dielectric Constant @ 1 kHz	3.9
Dissipitation Factor @ 1 kHz	0.02
Volume Resistivity @ 25C	2 x 10^{14} ohm-cm

PROCESSING AND APPLICATION INSTRUCTIONS :

Mixing – Begin by selecting a mixing container that is at least 4 – 5 times larger in volume than the quantity of material that will be mixed, so that the container will have the room available to allow for vacuum de-gassing of the mixed material. Place the mixing container on the scale and tare (zero) the scale, then weigh in the desired quantity of the Silflex 360A. Then add the desired quantity of the catalyst, Silflex 360B. Mix vigorously with a clean stainless steel spatula or wooden stirring stick. Scrape the sides and bottom of the container repeatedly to ensure complete mixing. The total mixing time should preferably be about 2 minutes to ensure complete blending.

Vacuum De-airing - Once the material is thoroughly mixed, it should preferably be vacuum de-gassed to ensure a bubble free cured rubber. A vacuum level in excess of 29 inches of mercury is preferred for best results. In general, you want to see the mixed material foam up and then collapse back down to close to its original volume. Once this has occurred, de-airing for just 1-2 minutes further is generally all that is necessary. Please note that for some application, such as electrical encapsulation, it is possible to entrap some air when pouring the Silflex 360A/B into the parts being potted. If this occurs, then vacuum de-gassing the parts after filling may be necessary.

Alternate Catalyst levels – It is possible to slow the reaction speed by reducing the level of catalyst used. The standard level of the Silflex 360B catalyst is 0.5 parts by weight per 100 parts by weight of the 360A, which will give a standard 1 hour gel time and a cure time of about 24 – 48 hours at room temperature. The catalyst level may be reduced to as low as 0.1 parts by weight 360B per 100 parts by weight 360A and a full cure will still occur, but the gel time and full cure time will be extended. At 0.1% by weight of the 360B per 100 parts of the 360A a full cure time of 7 days at room temperature may be required. It is also possible to increase the catalyst level to shorten the work-life and cure time. If this is of interest please contact us to get recommendations on levels to consider for your applications.

Alternate Catalysts – for specialty applications such as those requiring deep section curing (ex/ potting in thicknesses > 1 inch), for fast curing in small volumes, and for automatic meter mixing applications, alternate catalysts are available. Please contact us with the details of your application if an alternate catalyst might be desirable for your applications. Curing – the standard catalyst, Silflex 360B is not designed deep section

Application: Pour material into mold or cavity or transfer to dispensing equipment for application. If high adhesion to substrates is required, apply a coating of Primax S or Primax

SF onto the 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. For longest shelf-life stored at 4ºC C (40ºF), at this temperature a shelf-life of 12 months will apply. The material can also be stored at up to 27ºC (80ºF), but the shelf-life will be only 3 months from date of shipment at this temperature.

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 360A&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:

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