Two-component Room-temperature Addition-cure RTV Silicone Rubbers Non-adhesive Thermal Interface Materials SDP Series

SDP-1030-A/B, SDP-2060-A/B, SDP-3540-A/B, SDP-5040-A/B

1 Features

1) Thermal interface materials that cure at room temperature when the two components are mixed.
2) The materials will hold shape even before curing, which makes "three-dimensional" application possible.
3) When applied, the materials have a grease-like consistency and get into the nooks and crannies of the substrate surface, which translates to lower contact thermal resistance. And because the material cures in that shape, there is no danger of oil bleeding or pumping-out.
4) The materials have low hardness after curing, which means less stress on components.
5) The materials can be reworked because they do not adhere to substrates.
6) Owing to the addition reaction, curing time is shortened by heating.
7) Different products have thermal conductivity values of 1.0 W/m·K, 2.0 W/m·K, 3.5 W/m·K, and 5.0 W/m·K.

2 Application examples

For conducting heat away from automotive electrical & electronic units, power units, LED lighting modules, communications modules, and other places with adequate clearance.

3 General properties

Parameter \ Product name			SDP-1030-A/B	SDP-2060-A/B	SDP-3540-A/B	SDP-5040-A/B
Before curing	Appearance		A:White / B:Pale blue	A:White / B:Pale blue	A:White / B:Gray	A:Grayish white / B:Pink
	Viscosity at 25°C	Pa·s	A:102 / B:55	A:99 / B:71	A:103 / B:72	A:181 / B:162
	Mix ratio		100:100			
	Mixed viscosity at 25°C	Pa·s	74	81	89	169
	Tack-free time	h	6	6	6	6
	Specific gravity at 25°C		A/B:2.45	A/B:2.87	A:3.08 / B:3.07	A:3.25 / B:3.26
Standard curing conditions			25°C×24 h			
After curing	Hardness	Shore 00	32	57	44	42
		Asker C	10	25	17	16
	Tensile strength	MPa	0.3	0.3	0.1	0.1
	Elongation at break	%	480	70	40	30
	Dielectric breakdown strength	kV/mm	19	18	20	21
	Volume resistivity	TΩ·cm	2.3	2.5	1.8	3.1
	Thermal conductivity	W/m·K	1.1	2.3	3.5	5.1

(Not specified values)

4 Instructions for use

Each product comes as separate A and B components that must be mixed together in 1:1 ratio to initiate the curing reaction.
The curing reaction proceeds at room temperature, so the work should be done as quickly as possible. Be sure to use a specialized dispenser.
Before work begins, clean all containers and tools to be used so they are free of dirt, water, oil, etc.

1) Stirring before mixing
Fillers may sink to the bottom of containers. Be sure to stir up the components thoroughly prior to use.

2) Measuring
Measure out components A and B.

3) Mixing, stirring, degassing
Mix components A and B together, stir well, and vacuum degas.

4) Application
After stirring and degassing, apply as quickly as possible.

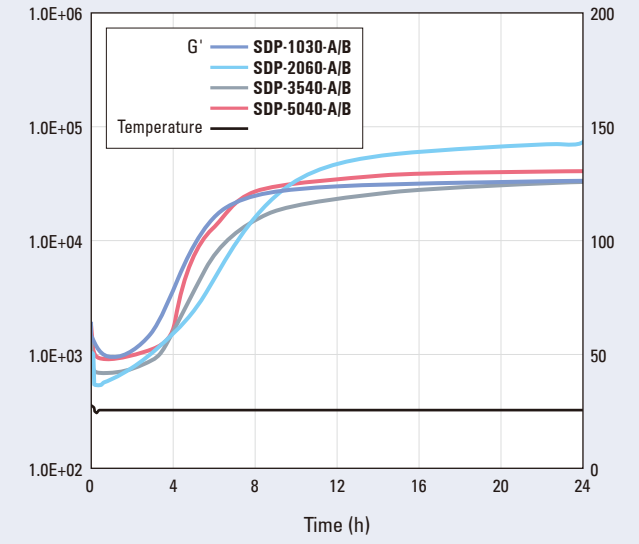
5) Storage
Seal the product tightly for storage. After use, clean containers and tools used for mixing and stirring (with solvent, etc.).

✻ Twin cartridges (50 mL) can be provided for purposes of evaluation. With these cartridges, the product can simply be ejected to apply.

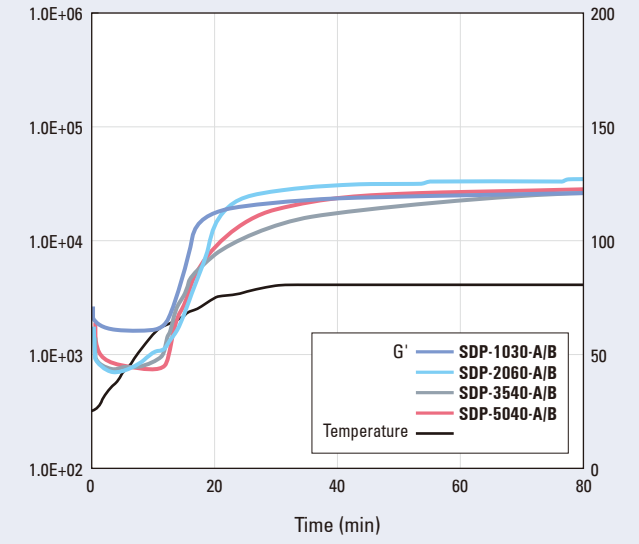
5 Curability

SDP-1030-A/B | SDP-2060-A/B | SDP-3540-A/B | SDP-5040-A/B

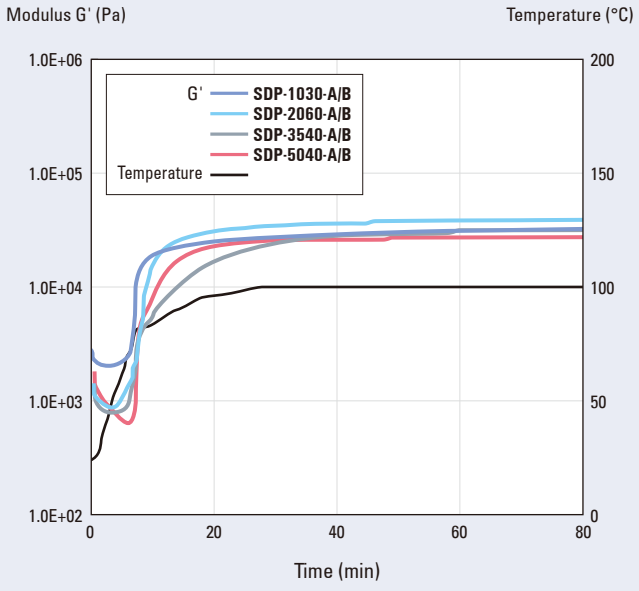
Cure temperature:25°C



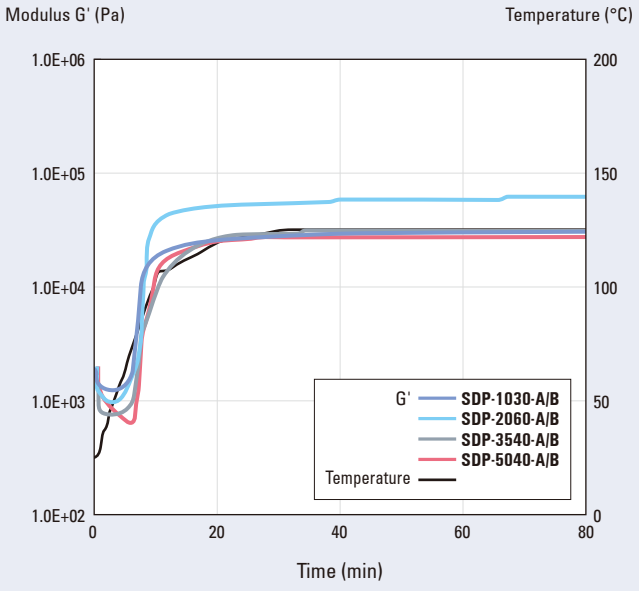
Cure temperature:80°C



Cure temperature:100°C



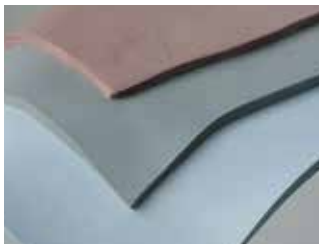
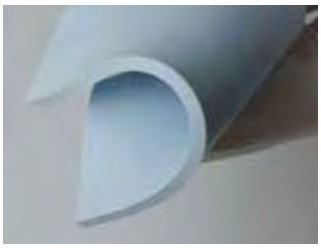
Cure temperature:125°C



6 Consistency

1) Before curing:
Grease-like material that easily fills voids on substrate surface.


2) After curing: Material cures to form a flexible sheet.

7 Handling precautions

1) Store in a dry and cool place (1°C to 30°C, out of direct sunlight) with good ventilation. Keep away from heat and flame. If products are stored for too long, the product can not be used due to settling or cohesion of the filler. It is best to use up the products shortly after purchasing.
2) Please note that in some cases, the RTV silicone rubber may not cure or adhere properly if it comes in contact with flux. Thus it is recommended to clean the flux when applying the products on the location in contact with flux. Please conduct preliminary tests before use, even though certain kinds of flux may not cause negative effects.
3) Addition-cure RTV silicone rubber products may not cure properly if they are contaminated by or come in contact with certain cure-inhibiting substances (e.g. sulfur, phosphorus, nitrogen compounds, water, organometallic salts).
4) Addition-cure RTV silicone rubber products should not be used in high humidity conditions, as this can result in curing problems or poor adhesion.
5) Please avoid contaminations or contact with heat, acids bases, and certain organometallic compounds to prevent polymerization, gelation and a very small quantity of hydrogen gas generation. Therefore, seal container tightly and store in a cool, dark place.
6) Be sure to clean the substrate to remove dirt, grime, moisture and oil from the surface.
7) When using products, be sure to mix, stir and deaerate thoroughly. If these steps are not done properly, it may adversely affect the properties of the rubber.

8 Safety and hygiene

1) When handling the product, be sure to wear protective glasses and protective vinyl gloves. In case of skin contact, wipe off immediately with a dry cloth and then wash thoroughly with soap and water.
2) Uncured RTV silicone rubber may irritate skin and mucous membranes. Take care to avoid eye contact or prolonged contact with the skin. In case of accidental eye contact, immediately flush with water for at least 15 minutes and then seek medical attention. Contact lens wearers must take special care when using RTV silicone rubber: if uncured RTV silicone rubber enters the eye, the contact lens may become stuck to the eye.
3) When handling the products, be sure to provide adequate ventilation.
4) Keep out of the reach of children.
5) Be sure to read the Safety Data Sheets (SDS) for these products before use. SDS are available from the Shin-Etsu Sales Department.

9 Packaging

50 cc (twin cartridges) ✻ Only for samples
900 g (cartridges)
1 kg (round cans)
20 kg (JP cans)

ShinEtsu
http://www.shinetsusilicone-global.com/

Shin-Etsu Chemical Co., Ltd.
6-1, Ohtemachi 2-chome, Chiyoda-ku,
Tokyo, Japan

Silicone Division, Sales and Marketing Department Ⅳ
Phone : +81-(0)3-3246-5152 Fax : +81-(0)3-3246-5361