



Technical Data Sheet

SILASTIC™ SA 9942-50 Liquid Silicone Rubber

50 Shore A hardness, self-lubricating, self-adhesive, 1 to 1 mix Liquid Silicone Rubber (LSR) designed for 2-component liquid injection molding

Features & Benefits

- Unprimed instant adhesion to thermoplastic substrates, eg. PBT, Polyamide
- Self-lubricating
- Fast curing for short cycle times
- Excellent process performance in a wide temperature range
- Excellent shelf life stability

Applications

- SILASTIC™ SA 9942-50 Liquid Silicone Rubber is an opaque, self-adhesive LSR, formulated to provide unprimed adhesion to thermoplastic substrates such as PBT and polyamide
- This product can be used in a wide range of automotive and industrial applications, including but not limited to LSR-thermoplastic composite parts

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Test ¹	Property	Unit	Result
ASTM D2240	Hardness ²	Shore A	50
	Phenyl Oil Content	wt %	2
ASTM D412	Elongation ²	%	520
ASTM D412	Tensile strength ²	MPa	6.9
ASTM D624 B	Tear strength ²	kN/m	40
DIN EN ISO 22631 ³	Adhesion peel strength PBT GF20	N/mm	4.9
	Adhesion peel strength PA6 GF30	N/mm	5.7
	Adhesion peel strength PA66 GF30	N/mm	5.5
CTM 1094	Viscosity (10s ⁻¹)		
	Part A	Pa·s	230
	Part B	Pa·s	230

1. ASTM: American Society for Testing and Materials. Materials were tested according to Dow Corporate Test Methods (CTM), which in most cases are similar to the ASTM standard(s) listed above. Copies for CTMs are available on request.
DIN: Deutsche Industrie Norm
2. Cure Condition: 10 min at 120°C, no post-cure.
3. 90° floating roller peel test in reference to DIN EN ISO 22631. LSR sample thickness 3 mm. Sample width 25mm. Peeling speed: 100 mm/min. Cure conditions: 5min 150°C, no postcure. PBT GF20: Ultradur B 4300 G4; PA6 GF30: Ultramid B3EG6; PA66 GF30: Ultramid A3EG6.

Typical Properties

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Test	Property	Unit	Result
ASTM D395	Compression set ^{4,5} (125°C/22hrs)	%	31
ASTM D395	Compression set ^{4,5} (150°C/22hrs)	%	37

4. Cure Condition: 10 min at 175°C, no post-cure.
5. Tested according to method B, type 2 (6 mm).

Description

SILASTIC™ SA 9942-50 Liquid Silicone Rubber is a self-adhesive, self-lubricating, injection-molding elastomer, developed to provide unprimed adhesion to thermoplastic substrates such as PBT and polyamide. It enables excellent process performance and short cycle times due to fast curing rates and improved rheology.

Due to the variety of existing plastic grades it is recommended to validate adhesion to the targeted thermoplastic type prior to injection molding.

How to Use

Mixing and De-airing

The A and B components are supplied strained and de-aired to be used as lot matched kits. Mix parts A and B in a 1:1 ratio. Meter mix equipment which pumps, meters and mixes the two components without incorporation of air is strongly recommended for production. If air bubbles are entrapped during mixing the mixture must be thoroughly de-gassed under vacuum.

Pot Life

When Parts A and B are mixed the mixture will remain useable for 72 hours at 25°C (77°F).

Cleaning

The uncured silicone can readily be removed by most hydrocarbon solvents. Polar solvents, such as ketones and alcohols are not suitable.

Curing

SILASTIC™ SA 9942-50 Liquid Silicone Rubber cures readily over a wide range of temperatures. The cure time depends on the thickness and the cure temperature used. Cure can be inhibited by contact with certain materials such as amines, sulfur and organotin complexes.

Pigmentation

This is normally carried out during mixing and dispensing of the two components. XIAMETER™ Color Master Batches are recommended with normal addition levels of 2 to 4% based on total volume.

Handling Precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life and Storage

When stored at or below 35°C (95°F) in the original unopened containers, this product has a usable life of minimum 12 months from the date of production.

Packaging Information

This product is supplied in lot matched pail and drum kits.

Limitations

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

Health and Environmental Information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, dow.com or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products — from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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