Technical Data Sheet

DOWSIL™ SE 9120 Clear Sealant

Highly flowable, fast tack-free, controlled volatility sealant

Features & Benefits

- Fast tack free RT cure
- Low viscosity
- Controlled silicone volatility
- No added solvents
- No mixing required
- RT cure, no ovens required
- Faster in-line processing at RT with option for heat acceleration
- Good flow, fill or self-leveling after dispensing
- Reduced potential for silicone volatiles
- Easily reworkable

Composition

- One-part, translucent
- Polydimethylsiloxane sealant

Application Method

- Needle dispensing
- Automated or manual

Applications

- LCD module assembly
- Hybrid IC and PCB coating
- Encapsulation of electrical devices

Typical Properties

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

Property	Unit	Result
Viscosity	cP	8125
	mPa-sec	8125
	Pa-sec	8.1
Fluidity	in	2.6
	mm	66.1
NVC (Non Volatile Content)	%	95.9
Skin Over Time at 25°C	minutes	9

Typical Properties (Cont.)

Property	Unit	Result
Specific Gravity (Cured)		1.03
Tensile Strength	psi	215
	MPa	1.5
	kg/cm^2	15
Elongation	%	375
Durometer Shore A (JIS[1])		24
Dielectric Strength (JIS K 6249)	Volts/mil	575
	kV/mm	23
Volume Resistivity (JIS K 6249)	ohm*cm	7.0E15
Dielectric Constant at 1MHz (JIS K 6249)		2.7
Dissipation Factor at 1MHz (JIS K 6249)		0.0004
Content of Low Molecular Siloxane (D4-D10)	ppm	55

1. JIS: Japanese Industrial Standard

Description

Dow one-part moisture cure sealants are generally cured at room temperature and in an environment of 30 to 80 percent relative humidity eliminating the need for curing ovens and the associated costs of energy and capital. Greater than 90 percent of full physical properties should be attained within 24 to 72 hours and varies according to product. Faster manufacturing throughput can be achieved since the sealant and component can be handled in much shorter times of about 10 to 120 minutes, depending on the sealant selected and the amount applied. These sealants are not typically used in highly confined spaces or where a deep section cure is required as they generally cure from the exposed surface inward at a rate of 0.25 inch per seven days. Cure progresses from the outer exposed surface and is dependent on the moisture in the air. Working time is generally a few minutes to an hour for these products until a surface skin begins to form. Mild heat below 60°C (140°F) may be used to increase through-put by accelerating the cure. Dow silicone sealants retain their original physical and electrical properties over a broad range of operating conditions which enhance the reliability of and service life of electronic devices. The stable chemistry and versatile processing options of these sealants offer benefits for a variety of electronics needs from increasing component safety and reliability, reducing total cost or increasing the performance envelope of devices or modules. Underwriters Laboratory (UL) 94 recognition is based on minimum thickness requirements. Please consult the UL Online Certifications Directory for the most accurate certification information.

Packaging Information

RTV Sealants are typically packaged in 100 ml syringes and 330 ml cartridges, 1 kg tubs and pails (18–25 kg). In general, Dow sealants are supplied in nominal 0.45, 3.6, 18 and 200 kg (1, 8, 40 and 440 lb) containers, net weight. Not all products may be available in all packages and some additional packages, such as a bladder packs or tubes, may be available for certain package sizes.

Usable Life and Storage

For best results, Dow RTV sealants should be stored at or below the storage temperature listed on the product label. Special precautions must be taken to prevent moisture from contacting these materials. Containers should be kept tightly closed with head or air space minimized. Partially filled containers should be purged with dry air or other gases, such as nitrogen. Shelf life is indicated by the “Use Before” date found on the product label.

Preparing Surfaces

All surfaces should be thoroughly cleaned and/or degreased with Dow OS Fluids, naphtha, mineral spirits, methyl ethyl ketone (MEK) or other suitable solvent. Solvents such as acetone or isopropyl alcohol (IPA) do not tend to remove oils well, and any oils remaining on the surface may interfere with adhesion. Light surface abrasion is recommended whenever possible, because it promotes good cleaning and increases the surface area for bonding. A final surface wipe with acetone or IPA is also useful. Some cleaning techniques may provide better results than others; users should determine the best techniques for their particular applications.

Useful Temperature Ranges

For most uses, silicone elastomers should be operational over a temperature range of -45 to 200°C (-49 to 392°F) for long periods of time. However, at both the low- and high temperature ends of the spectrum, behavior of the materials and performance in particular applications can become more complex and require additional considerations. For low-temperature performance, thermal cycling to conditions such as -55°C (-67°F) may be possible, but performance should be verified for your parts or assemblies. Factors that may influence performance are configuration and stress sensitivity of components, cooling rates and hold times, and prior temperature history. At the high-temperature end, the durability of the cured silicone elastomer is time and temperature dependent. As expected, the higher the temperature, the shorter the time the material will remain useable.

Solvent Exposure

When liquid or vapor solvent or fuel exposure can occur in an application, the silicone sealant discussed in this brochure is intended only to survive splash or intermittent exposures. It is not suited for continuous solvent or fuel exposure. Testing should be done to confirm performance of the sealants under these conditions.

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 CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

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, consumer.dow.com or consult your local Dow representative.

Limitations

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

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LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow's sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

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