

# Product Information

## Mining Industry

# Silastic<sup>®</sup> 9161 Flit Plug Encapsulant Kit

## FEATURES

- Room temperature cure
- Usable at temperatures from -50°C to +250°C
- Excellent dielectric properties
- Blue colored catalyst for ease of mixing
- Highly resistant to moisture, oxidation and weathering

## BENEFITS

- Easily mixed and poured
- Easily repaired by cutting away and pouring new material
- No heating equipment needed

## COMPOSITION

- Silicone Elastomer

2-part, low viscosity silicone elastomer to be used with Silastic<sup>®</sup> N9162 Flit Plug Encapsulant Catalyst

## APPLICATIONS

- Silastic<sup>®</sup> 9161 Flit Plug Encapsulant has been formulated especially for use in Flame Proof Connecting Equipment. It can help keep dust and dirt away from connectors, effectively minimizing the risk of arcing. It has been approved for use by Department of Mines, N.S.W and Queensland (Australia) for encapsulation of bolted couplers (Flit plugs) use in mining applications

## TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Test (CTM)*	Property	Unit	Result
<b>As supplied – Silastic<sup>®</sup> 9161 Flit Plug Encapsulant Base</b>			
0176	Color		Off white
0050* D455**	Viscosity at 25°C	mPa.s	13,000
0097 D792	Relative density at 25°C		1.60
<b>As supplied – Silastic<sup>®</sup> N9162 Flit Plug Encapsulant Catalyst</b>			
0176	Color		Blue
0022 D792	Relative density at 25°C		1.01
<b>Physical properties, cured with 2% N9162 Catalyst for 24 hours at 25°C (Mixing ratio by weight)</b>			
0099 D676	Durometer hardness	Shore A	42
0137A D412	Tensile strength	MPa	3.2
0137A D412	Elongation	%	170
0159A	Tear strength	kN/m	3.6
	Linear shrinkage, 24 hours at 70°C	%	1.0
	Thermal conductivity	W/(mK)	0.37
<b>Electrical properties, cured with 2% N9162 Catalyst for 24 hours at 25°C</b>			
0114 D149	Dielectric strength	kV/mm	16.2
0112 D150	Permittivity at 1MHz		3.7
0112 D150	Dissipation factor at 1MHz		0.002
0249 D257	Volume resistivity	ohm•cm	6.9 x 10 <sup>15</sup>
DIN EN 60112	Comparative Tracking Index (CTI)		600

\*CTM: Corporate Test Method, copies of CTMs are available on request.

\*\*ASTM: American Society for Testing and Materials.

## DESCRIPTION

*Silastic* 9161 Flit Plug Encapsulant Kit is a ready to mix product. It consists of a white, low viscosity base which cures to a silicone rubber upon the addition of the catalyst which is blue, allowing a visual confirmation of mixing.

## HOW TO USE

### Substrate preparation

For best adhesion, clean and degrease application surfaces using solvents (see Handling Precautions). Remove all solvent and ensure all surfaces are dry before applying the product.

For optimum adhesion, coat surfaces with *Dow Corning*® PR 1200 Primer (see Handling Precautions).

### Mixing

The pot life of the catalysed material depends on the concentration of *Silastic* N9162 Catalyst and the temperature. The catalyst (see Handling Precautions) should be measured by weighing and can be effectively dispersed by simple hand or mechanical stirring. A clean paper cup, metal, glass or plastic container can be used for the mixing operation. Catalysed *Silastic* 9161 Flit Plug Encapsulant will normally de-air itself on standing.

### Typical pot life at 25°C

% by weight of *Silastic* N9162 Catalyst added to *Silastic* 9161 Base

%	Pot life <sup>1</sup> (minutes)
1.0	117
1.5	55
2.0	35
3.0	20
4.0	14

<sup>1</sup> Pot life is the time taken for the catalysed material to double its initial viscosity

### How to apply

Being careful to minimize air entrapment, apply the encapsulant.

For information on appropriate dispensing equipment for your

application, please contact Dow Corning.

### Heat ageing

*Silastic* 9161 Flit Plug Encapsulant exhibits excellent heat ageing characteristics at temperatures up to 250°C. In totally confined conditions, *Silastic* 9161 Flit Plug Encapsulant may depolymerize at elevated temperatures. To minimize this effect, components which must operate in total confinement at elevated temperatures should be given a step wise post cure of approximately 25°C per hour in an open container. A final cure of 4 hours at 25°C above the maximum operating temperature of the device is recommended.

*Silastic* 9161 Flit Plug Encapsulant shows less depolymerisation or reversion than most other condensation curing two-component RTV's, even without a step wise cure. No problems are experienced with normal open air heat ageing. The effect of heat ageing on *Silastic* 9161 at various temperatures is shown in Table I.

### Reducing the setting time

It is sometimes required that the elastomer should be in a handleable condition as soon as possible after using. In such cases, the setting time\* can be reduced by heat curing the catalysed elastomer. A maximum temperature of 60°C is recommended since there is no significant advantage to be gained by going above this point and there is a risk of bubbling.

\* Setting time is the time required for *Silastic* 9161 Flit Plug Encapsulant to reach a rubber like state when it can be handled.

## HANDLING PRECAUTIONS

*Silastic* N9162 Catalyst is flammable and contact with sources of ignition should be avoided. Skin and eye contact should also be avoided. Splashes should be washed first with alcohol and then soap and water.

*Dow Corning* PR 1200 Primer is flammable. Keep away from heat, sparks and open flames. Use only with adequate ventilation. Avoid prolonged breathing of vapors and prolonged or repeated skin contact.

When using solvents avoid heat, sparks and open flame. Always provide adequate ventilation. Obtain and follow handling precautions from the solvent supplier.

**PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. 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 FROM YOUR LOCAL DOW CORNING SALES REPRESENTATIVE.**

## USABLE LIFE AND STORAGE

When stored at or below 32°C in the original unopened containers, this product has a usable life of 12 months from the date of production.

*Silastic* N9162 Catalyst is very easily hydrolysed by atmospheric moisture and it is essential that it should be kept out of contact with water and water vapour. It is, therefore, important that the lid of the catalyst container is replaced immediately after use. If *Silastic* N9162 Catalyst is stored at 8°C or below, it may haze or solidify. In this event it should be warmed gently to 20°C until all the material liquifies. *Silastic* N9162 Catalyst should not be used in the non homogeneous state.

## PACKAGING INFORMATION

This product is available in different container sizes. Detailed container size information should be obtained from your nearest Dow Corning Sales Office or Dow Corning Distributor.

## **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 Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, [dowcorning.com](http://dowcorning.com) or consult your local Dow Corning representative.

## **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 Corning'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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**Table I: Typical physical properties after heat ageing at 150°C and 250°C**

	<b>Ageing period after 24 hour cure Days</b>	<b>Tensile Strength MPa</b>	<b>Elongation at break %</b>	<b>Hardness, Shore A</b>
<i>Silastic 9161, 150°C</i>	0	3.2	170	42
	7	3.6	185	44
	21	3.5	165	44
<i>Silastic 9161, 250°C</i>	0	3.2	170	42
	7	1.5	130	35
	21	1.7	125	38