

## Silopren™ LIM9071ET

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### Description

LIM®9071 ET TP 3915 liquid silicone rubber is a 2-component liquid injection moulding material which offers primerless adhesion to a wide range of substrates including metals and many engineering plastics, making it an ideal material for insert moulding applications. LIM®9071 ET TP 3915 liquid silicone rubber is designed to be used in a 1:1 mix ratio and cures rapidly at moulding temperatures of 150°C - 190°C to a high tear strength, translucent silicone elastomer.

### Key Features and Benefits

- Primerless adhesion to many substrates
- Maximum adhesion immediately after de-moulding
- High temperature stability
- Excellent stability and flexibility at low temperatures
- Outstanding ageing behaviour and weathering resistance
- Good mechanical properties
- Easy pigmentable due to translucent colour

### Typical Physical Properties

<u>Typical properties of the rubber:</u>			
		A Component	B Component

Appearance			translucent	translucent
Viscosity in Pas $\gamma = 10 \text{ s}^{-1}$ at 20°C	DIN 53018		300	300
The pot-life of the mixture of the two components (closed vessel) at 20 ° C is three days. Increased temperatures reduce the pot-life.				
<u>Typical properties of the vulcanizate:</u>				
Mixing ratio of components A : B = 1 : 1. Vulcanization: 10 min. 175 ° C				
			As moulded	Postcured: 4 h at 200°C
Density	DIN 53 479 A	g/cm <sup>3</sup>	1.11	1.11
Hardness	DIN 53 505	Shore A	67	70
Tensile strength	DIN 53 504 S2	N/mm <sup>2</sup>	6.5	6.0
Elongation at break	DIN 53 504 S2	%	300	250
Tear strength	ASTM D 624 die B	N/mm	20	18
Compression set (22 h at 120°C)	DIN 53 517	%	9	8
Compression set (22 h at 175°C)	DIN 53 517	%	60	30

### Potential Applications

LIM®9071 ET TP 3915 is particularly suitable for the manufacturing of parts, where engineering plastics and elastomeric materials need to be combined in an over moulding or co-moulding process such as sealing elements, automotive connectors, membranes vibration dampening elements, etc.

### Processing Recommendations

#### Compatibility

LIM®9071 ET TP 3915 liquid silicone rubber will cure in contact with most clean and dry surfaces. However, certain materials, such as butyl and chlorinated rubber, sulfurcontaining materials, amines, and certain metal soap cured RTV silicone rubber compounds can cause cure inhibition. Cure inhibition is characterized by a lack of cure of the liquid silicone rubber at the interface between it and the insert.

Compatibility tests should be performed on all materials in contact with LIM®9071 ET TP 3915 liquid silicone rubber, including painted surfaces, to ensure adequate cure.

### **Surface Preparation**

The adhesive performance of any polymer system is highly dependent upon proper surface preparation. In order to maximize the adhesion of LIM®9071 ET TP 3915 liquid silicone rubber, and minimize the potential for cure inhibition. All parts should be as clean and dry as possible prior to the moulding of the LIM®9071 ET TP 3915 liquid silicone rubber. Particular attention should be given to these areas, which will come in direct contact with the silicone during the moulding process.

### **Bonding**

LIM®9071 ET TP 3915 liquid silicone rubber is formulated to develop adhesion to a range of substrates without the use of a primer.

### **Mould Release**

Because LIM®9071 ET TP 3915 liquid silicone rubber is formulated to offer primer less adhesion, it is necessary to use a release coating on the mould. For most applications, the use of a permanent mould coating, such as nickel-teflon, is recommended. Spray applied release agents may also be used, but should be very carefully evaluated to eliminate the potential for cure inhibition. For more information, contact Momentive Performance Materials.

### **Mixing**

LIM®9071 ET TP 3915 liquid silicone rubber is a kit-matched product. As such, work time (pot-life), cure time, and final cured properties can only be assured if the batch numbers on the A component and B component are identical and the material is mixed at a ratio of 1:1 (by weight).

### **LIM System Equipment**

Pumping and meter-mixing systems for LIM®9071 ET TP 3915 liquid silicone rubber and appropriate injection moulding machines are available from a number of manufacturers, most of whom will provide a complete integrated system (exclusive of

the mould itself). Contact Momentive Performance Materials for further information.

### Adhesion Testing Results

Substrate	Adhesion*
ABS (CYCOLAC®)	G
Aluminum	E
PBT (VALOX®)	E
Polyamide (unfilled)	G/E
Polycarbonate (LEXAN®) - untreated	U
Polycarbonate (LEXAN®) - UV treated	E
Polyphthalamide (AMODEL®)	E
PPO/Nylon (NORYL GTX®)	E
PPO/PS (NORYL®)	G
PVC	E
Steel	E

**G = Good, E = Excellent, U = Unsatisfactory**

### Patent Status

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provided by the manufacturer of such other materials.

### Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

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