

Silopren™ LIM9071ET

Silopren* LIM9071ET

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 ³ | 1.11 | 1.11 |
| Hardness | DIN 53 505 | Shore A | 67 | 70 |
| Tensile strength | DIN 53 504 S2 | N/mm ² | 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

여기에 포함된 어떠한 내용도 관련 특허가 없음을 의미하거나 특허 소유자의 허가 없이 특허에서 다루는 발명을 실행하기 위한 허가, 유도 또는 권고를 구성하는 것으로 해석되어서는 안됩니다.

Product Safety, Handling and Storage

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information

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.

Contact Information

Email

commercial.services@momentive.com

Telephone

Americas

+1 800 295 2392

Toll free*

+704 805 6946

Direct Number

*All American countries

Latin America

Brazil

+55 11 4534 9650

Direct Number

Mexico

+52 55 2169 7670

Direct Number

EMEAI- Europe, Middle East, Africa & India

Europe

+390510924300

Direct number

India, Middle East & Africa

+ 91 44 71212207

Direct number*

*All Middle Eastern countries, Africa, India,

ASIA PACIFIC

China

800 820 0202

Toll free

+86 21 3860 4892

Direct number

Japan

+81 3 5544 3111

Direct number

Korea

+82 2 6201 4600

For literature and technical assistance, visit our website at: www.momentive.com

DISCLAIMER:

THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY “SUPPLIER”), ARE SOLD SUBJECT TO SUPPLIER’S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR

OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING ITS PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. EXCEPT AS PROVIDED IN SUPPLIER'S STANDARD CONDITIONS OF SALE, SUPPLIER AND ITS REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN. Each user bears full responsibility for making its own determination as to the suitability of Supplier's materials, services, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Supplier's products, materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Supplier's standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Supplier. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Supplier covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.

*LIM™는 Momentive Performance Materials Inc.의 상표입니다.

The use of the "™" symbol designates registered or unregistered trademarks of Momentive Performance Materials Inc. or its affiliated companies. Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.