

Silopren™ LSR 3366/50

Liquid Silicone Rubber

Description

Silopren LSR 3366/50 is a two-component liquid silicone rubber for injection moulding processes. Silopren LSR 3366/50 shows an excellent aging resistance after long term exposure to high temperatures and retains very good compression set also without post-curing under these conditions.

This material is an excellent candidate to consider for the manufacture of elastomeric articles requiring self-lubricating properties. The self-lubricating effect is achieved by a fluid which exudes out of the vulcanizate over an extended period of time. It typically starts between a few hours and one day after vulcanization.

Key Features and Typical Benefits

Vulcanizates consisting of Silopren LSR 3366/50 liquid silicone rubber are typically distinguished by the following properties:

- ultra-low long-term compression set without post-cure
- self-lubricating properties
- low viscosity
- fast cure
- very high thermal stability
- possible to color

Typical Physical Properties

| | | A-component | B-component |
|------------|--|-------------|-------------|
| Appearance | | White | Whitish |

| | | | |
|--|-----------|-----|-----|
| Fluid content | | 3% | 3% |
| Viscosity, Pa·s $\dot{\gamma} = 10 \text{ s}^{-1}$ at 20°C | DIN 53018 | 350 | 220 |
| The pot-life of the mixture of the two components (closed vessel) at 20°C is three days. Increased temperatures reduce the pot-life. | | | |
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|--|------------------------------|-------------------|------|
| <u>Typical properties of the vulcanizate:</u> | | | |
| Mixing ratio of components A : B = 1 : 1. Vulcanization: 10 min at 175°C | | | |
| Density | DIN 53 479 A | g/cm ³ | 1.13 |
| Hardness | DIN 53 505 | Shore A | 52 |
| Tensile strength | DIN 53 504 S2 | N/mm ² | 8.6 |
| Modulus 100% | DIN 53 504 S2 | N/mm ² | 2.2 |
| Modulus 200% | DIN 53 504 S2 | N/mm ² | 3.9 |
| Modulus 300% | DIN 53 504 S2 | N/mm ² | 5.6 |
| Elongation at break | DIN 53 504 S2 | % | 450 |
| Tear strength | ASTM D 624 die B | N/mm | 40 |
| Compression set | DIN 53 517 (22 h at 175°C) | % | 11 |
| Compression set | DIN 53 517 (168 h at 175°C) | % | 18 |
| Compression set | DIN 53 517 (1008 h at 175°C) | % | 31 |
| | | | |

Typical properties are average data and are not to be used as or to develop specifications.

Potential Applications

Because of the outstanding properties, Silopren LSR 3366/50 liquid silicone rubber is an excellent candidate to consider for use in wire harness applications for the following elastomeric articles:

- single wire seals
- peripheral / radial seals

Processing Considerations

Ready-to-use mixtures (of the components A and B) are typically fed directly to the injection-molding machine from the original drums by means of a metering and mixing unit. The mixture, consisting of the two components in the ratio 1:1, is injected into the heated mold. At mold temperatures of 170-230 °C, the addition-curable silicone rubber usually cures within a few seconds. The curing process does not generate splitting products. High curing speed and easy demolding can help enable fully automated production of large numbers of articles in short cycle times. Silopren LSR 3366/50 liquid silicone rubber contains 3 % of a special silicone fluid, which migrates to the surface of the molded part over time and provides a self-lubricating effect. This process, however, is affected by several factors, which are specific for each part and depend upon:

- ratio of volume to surface area
- type and concentration of pigment added
- storage time and temperature during storage

Silopren LSR 3366/50 liquid silicone rubber should only be used for the production of technical articles. For further information please contact Momentive Performance Materials Inc.

Packaging

Silopren LSR 3366/50 liquid silicone rubber is available in 2x20kg pail kits and 2x200kg drum kits.

Compliance

Silopren LSR 3366/50 liquid silicone rubber is not compositionally compliant with 21 CFR §177.2600.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

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.

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

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