

Silopren™ UV LSR 2030 and UV LSR 2060 Liquid Silicone Rubbers

Product Description

Silopren UV LSR 2030 and UV LSR 2060 liquid silicone rubbers belong to a new family of UV curing materials that can offer the benefit of high cure speed at low temperature in injection molding processes.

The processing of Silopren UV LSR 2030 and UV LSR 2060 liquid silicone rubbers is typically distinguished by:

- cure on demand
- very fast curing by UV light at low temperature
- low clamping forces due to low cavity pressure
- transparent mold materials

Key Features and Typical Benefits

Silopren UV LSR 2030 and UV LSR 2060 vulcanizates have comparable properties with conventional LSR materials

- excellent thermal stability
- high stability and flexibility at low temperatures
- good rubber-like properties
- long service life at dynamic stress
- high stability to ozone and ultraviolet light
- excellent dielectric behavior over a wide range of temperatures
- not readily combustible, does not melt or drip

Potential Applications

- Kitchen utensils
- Infant care products
- Lighting
- Displays
- Portable electronic devices
- Advanced aesthetics
- Orthopedics/prosthetics
- Pharmaceutical closures
- Instrument grips
- Valves
- Respiratory/anesthesia
- Medical equipment keypads
- Dental/surgical devices
- Two-component applications

Typical Physical Properties

| | UV LSR 2030 | UV LSR 2060 |
|--|---------------------------|---------------------------|
| Appearance | Colorless, translucent | Colorless, translucent |
| Viscosity base [Pa*s] at 10 ^{s-1} | 450 | 1000 |
| Viscosity cat [Pa*s] at 10 ^{s-1} | 10 | 10 |
| Properties of the Vulcanizate Mixing ratio of components Base: Catalyst 100:2 Laboratory Vulcanization Conditions: exposure to UV light for 2 min at an intensity of 60 mW/cm ² UV-A† | | |
| Hardness [Shore A] | 28 | 28 |
| Density [g/cm ³] | 1,090 | 1,142 |
| Tensile Strength [MPa] | 6,5 | 12,5 |
| Elongation at Break [%] | 700 | 450 |
| Tear [N/mm] | 10 | 20 |
| Properties of the Vulcanizate With additional post curing 4 h at 200°C | | |
| Hardness [Shore A] | 29 | 59 |
| Density [g/cm ³] | 1,091 | 1,147 |
| Tensile Strength [MPa] | 9 | 11,5 |
| Elongation at Break [%] | 700 | 400 |
| Tear [N/mm] | 10 | 20 |

† The laboratory vulcanization conditions do not reflect the exposure to UV light during the processing; this time is only recommended for the static curing of slabs with UV light.

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

Regulatory Compliance

- The ingredients are listed in the BfR recommendation XV "Silicones". (1)
- These elastomers are compositionally compliant with 21 CFR 177.2600 - Rubber articles intended for repeated use and have been found, through testing of a representative sample, to meet the extractives limitations in 21 CFR 177.2600 (e and/or f). (2)
- A representative sample of an analogous grade to UV LSR 2030 und UV LSR 2060 has passed USP Class VI (United States Pharmacopeia 32, National Formulary 27, 2009. <88> Biological Reactivity Test, In Vivo tests) and ISO 10993 (Parts: 5, 6, 10, and 11) tests using Good Laboratory Practices (GLP). (3)

(1) Producer of the final article needs to test and confirm that the final product meets the analytical requirements and extraction/migration limits of BfR XV.

(2) It is the responsibility of the user to determine that the final product complies with the extractive limitations and other requirements of 21 CFR 177.2600 under their specific manufacturing procedures.

(3) Please contact the Momentive Performance Materials Product Regulatory Group for details.

Packaging

Silopren UV LSR 2030 and UV LSR 2060 liquid silicone rubbers are available as Drumkit (180 kg base and 3.6 kg catalyst) or Pailkit (15 kg base and 0.3 kg catalyst). Catalyst must not be exposed to light.

General Considerations for Use

Ready-to-use mixtures (of the components Base and Catalyst) are fed directly into the injection molding machine from the original containers by means of a metering and mixing unit. The container for the Catalyst-component must be protected from light. The mixture, consisting of the two components in the ratio 100:2, is injected into the mold. At room temperature the silicone rubber vulcanizes by exposure to UV light, without any dissociation products, within a short time.

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 application(s).

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

EMEA- Europe, Middle East, Africa & India

Europe
+390510924300
Direct number

India, Middle East & Africa
+ 91 44 71212207
Direct number*

*All Middle Eastern
countries, Africa, India,
Pakistan, Bangladesh, Sri
Lanka.

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
Direct number

**South East Asia, Australia & New
Zealand**
+60 3 9206 1543
Direct number*

*South East Asia countries (Malaysia,

Singapore, Thailand, Indonesia,
Vietnam, Philippines, Cambodia,
Myanmar / other countries located in
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260 Hudson River Road Waterford,
NY 12188 USA
momentive.com

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