Liquid silicone rubber product selection guide

EXPAND YOUR POSSIBILITIES
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Liquid silicone rubber (LSR) from Dow

Dow’s portfolio of liquid silicone rubber includes specific LSR formulations, marketed under multiple brands. Injection-molding grades, coating grades, a 3D printing grade, electrical grades and optical grades are available, as are LSR color masterbatches.

This guide provides detailed technical information on our wide range of LSRs, which even include options that meet requirements for food contact, water contact and infant care applications.

Why LSR?

LSRs offer a “magic combination” of properties, process and performance to help extend design possibilities for small parts, intricate designs, high precision and overmolding:

- Two-part; 1:1 mix ratio
- Easily mixed
- Quickly heat-cured

Key features of cured LSRs include good mechanical properties and excellent resistance to weathering, extreme temperatures and aging.

Fluoro liquid silicone rubber (F-LSR) combines excellent fuel and oil resistance with LSR processing economy.

Put us on your team

Dow can provide expert help recommending the right LSR for your application, collaborate to develop custom LSR formulations, and provide broad technical service and support.

About Dow performance silicones

Dow Performance Silicones, a business unit of Dow, delivers a portfolio of performance-enhancing solutions to serve the diverse needs of customers and industries around the world. The business uses innovative silicon-based technology to provide solutions and ingredients to customers in commercial construction and high performance building, consumer goods, silicone elastomers, and pressure sensitive industries. As a global leader in innovation and silicone technology, we are committed to bringing new and proven solutions to the market that do more for our customers and continue to improve the lives of consumers worldwide. Visit consumer.dow.com to learn more.
Addressing megatrends with LSRs for a more sustainable world

Dow is committed to delivering solutions that address world challenges as we aspire to redefine the role of business in society. With our world-leading operations performance, we address natural resource efficiency, supply chain optimization, environmental stewardship, and human health and safety. And just as important to us is delivering breakthrough innovations that enable our customers to address the needs of a rapidly changing world.

**WATER SCARCITY – SAVING WATER**

LSRs formulated to comply with food & water regulations

- Water savings
- Consistent water delivery
- Resilience & reliability

**MOBILITY –**

- Safety
- Sustained performance in harsh environments
- Reliable sealing performance
- UV stability
- Enables fuel/energy efficiency
- Helps create new engine designs

**ENERGY DEMAND – OPTIMIZING DELIVERY**

- Low energy losses
- High reliability
- Long lifetime
- Low flammability
- Watertightness for underground cables
- Supply & distribution of renewable energy
- High hydrophobicity
By working together across the value chain, we look to create shared value and accelerate the transition to a sustainable planet with solutions that deliver sustainability performance improvements to conserve resources, support more efficient manufacturing processes, and help consumers live healthier and more convenient lives.

Liquid silicone rubber is a high-performing, long-lasting material that can reliably perform in a variety of harsh environments, enabling the development of products that are safe, adaptable and more sustainable; produce less waste; and require less energy for processing. Here are just some of the many ways LSRs are contributing to everyday life in an ever-more-challenging world.

**ENABLING CONNECTIVITY & SAFETY FOR PEOPLE & VEHICLES**

- Design flexibility enabling innovation
- Long-lasting – photothermal stability
- Safety – resistance to flammability
- Environmental seal – water/dust resistance
- Lightweight

**WELL-BEING – PROTECTING PEOPLE**

- Safe, with no by-products during vulcanization
- Colorless, odorless, tasteless
- Can be sterilized for multiple uses
- Comfortable & safe for long-term skin contact
- Versatile, cost-effective & sustainable 3D printing LSR

- Long-lasting & less waste
- Transparent & lightweight
- Safer than glass

- Insulation
## General-purpose LSRs

SILASTIC™ RBL-9200 series LSR elastomers and XIAMETER™ RBL-2004 series LSR elastomers are general-purpose injection-molding materials suitable for a wide range of typical silicone rubber applications.

### Typical applications
- Consumer goods articles
- Food contact applications
- Water approved applications
- Infant care
- Consumer electronics
- Valves and diaphragms
- Grommets, seals and gaskets

### Available products
- **SILASTIC™ RBL-9200-20 LSR**
  - Unique rheology
  - Improved flowability
  - Longer pot life
  - Translucent
  - Food and water contact
  - Shore A hardness: 17
  - Shore D hardness: 930
  - Tensile strength: 6.2 MPa
  - Tear strength: 21 kN/m
  - Compression set: 59%
  - Viscosity @ 10s⁻¹: NPC

- **SILASTIC™ RBL-9200-30 LSR**
  - Shore A hardness: 30
  - Shore D hardness: 750
  - Tensile strength: 7.5 MPa
  - Tear strength: 17 kN/m
  - Compression set: 53%
  - Viscosity @ 10s⁻¹: PC

- **SILASTIC™ RBL-9200-40 LSR**
  - Shore A hardness: 40
  - Shore D hardness: 640
  - Tensile strength: 9.0 MPa
  - Tear strength: 40 kN/m
  - Compression set: 56%
  - Viscosity @ 10s⁻¹: Part A

- **SILASTIC™ RBL-9200-50 LSR**
  - Shore A hardness: 50
  - Shore D hardness: 670
  - Tensile strength: 9.0 MPa
  - Tear strength: 42 kN/m
  - Compression set: 64%
  - Viscosity @ 10s⁻¹: Part B

- **SILASTIC™ RBL-9200-60 LSR**
  - Shore A hardness: 60
  - Shore D hardness: 440
  - Tensile strength: 9.5 MPa
  - Tear strength: 48 kN/m
  - Compression set: 55%
  - Viscosity @ 10s⁻¹: NPC

- **SILASTIC™ RBL-9200-65 LSR**
  - Shore A hardness: 65
  - Shore D hardness: 410
  - Tensile strength: 9.8 MPa
  - Tear strength: 39 kN/m
  - Compression set: 51%
  - Viscosity @ 10s⁻¹: PC

- **SILASTIC™ RBL-9200-70 LSR**
  - Shore A hardness: 70
  - Shore D hardness: 370
  - Tensile strength: 9.6 MPa
  - Tear strength: 21 kN/m
  - Compression set: 50%
  - Viscosity @ 10s⁻¹: Part A

- **SILASTIC™ RBL-9200-75 LSR**
  - Shore A hardness: 75
  - Shore D hardness: –
  - Tensile strength: –
  - Tear strength: –
  - Compression set: –
  - Viscosity @ 10s⁻¹: Part B

- **XIAMETER™ RBL-2004-20 LSR**
  - Low compression set (non-post-cured)
  - Translucent
  - Shore A hardness: 20
  - Shore D hardness: 900
  - Tensile strength: 6.5 MPa
  - Tear strength: 24 kN/m
  - Compression set: 24%
  - Viscosity @ 10s⁻¹: Part A

- **XIAMETER™ RBL-2004-30 LSR**
  - Shore A hardness: 30
  - Shore D hardness: 650
  - Tensile strength: 8.3 MPa
  - Tear strength: 16 kN/m
  - Compression set: 16%
  - Viscosity @ 10s⁻¹: Part A

- **XIAMETER™ RBL-2004-40 LSR**
  - Shore A hardness: 40
  - Shore D hardness: 740
  - Tensile strength: 9.5 MPa
  - Tear strength: 35 kN/m
  - Compression set: 16%
  - Viscosity @ 10s⁻¹: Part B

- **XIAMETER™ RBL-2004-45 LSR**
  - Shore A hardness: 45
  - Shore D hardness: 740
  - Tensile strength: 9.5 MPa
  - Tear strength: 38 kN/m
  - Compression set: 19%
  - Viscosity @ 10s⁻¹: Part B

- **XIAMETER™ RBL-2004-50 LSR**
  - Shore A hardness: 50
  - Shore D hardness: 680
  - Tensile strength: 10.0 MPa
  - Tear strength: 43 kN/m
  - Compression set: 19%
  - Viscosity @ 10s⁻¹: Part B

- **XIAMETER™ RBL-2004-60 LSR**
  - Shore A hardness: 60
  - Shore D hardness: 500
  - Tensile strength: 10.0 MPa
  - Tear strength: 50 kN/m
  - Compression set: 25%
  - Viscosity @ 10s⁻¹: Part B

- **XIAMETER™ RBL-2004-65 LSR**
  - Shore A hardness: 63
  - Shore D hardness: 450
  - Tensile strength: 9.5 MPa
  - Tear strength: 48 kN/m
  - Compression set: 28%
  - Viscosity @ 10s⁻¹: Part B

- **XIAMETER™ RBL-2004-70 LSR**
  - Shore A hardness: 67
  - Shore D hardness: 420
  - Tensile strength: 9.5 MPa
  - Tear strength: 42 kN/m
  - Compression set: 15%
  - Viscosity @ 10s⁻¹: Part B

- **XIAMETER™ RBL-2004-75 LSR**
  - Shore A hardness: 73
  - Shore D hardness: –
  - Tensile strength: 8.9 MPa
  - Tear strength: –
  - Compression set: 16%
  - Viscosity @ 10s⁻¹: Part B

### Regulatory compliance

#### Available products

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<th>Drinking water</th>
<th>Infant care</th>
</tr>
</thead>
<tbody>
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<td>FDA(5)</td>
<td></td>
</tr>
<tr>
<td>KTW</td>
<td>WRAS(7)</td>
<td>W270(8)</td>
</tr>
<tr>
<td>Cold water:</td>
<td>KTW</td>
<td></td>
</tr>
<tr>
<td>23°C(2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warm water:</td>
<td>KTW</td>
<td></td>
</tr>
<tr>
<td>60°C(3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hot water:</td>
<td>KTW</td>
<td></td>
</tr>
<tr>
<td>85°C(3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fittings</td>
<td>Sealing</td>
<td></td>
</tr>
<tr>
<td>Sealing</td>
<td>Fittings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sealing</td>
<td></td>
</tr>
</tbody>
</table>

### Footnotes

- NPC 10 min @ 120°C. (2)10 min @ 175°C. (3)10 min @ 175°C + 4 hr @ 200°C.

### Regulatory compliance

- Use of “–” indicates data not available and/or not applicable.
- ASTM: American Society for Testing and Materials. Materials were tested according to Dow Corporate Test Methods (CTMs), which in most cases are similar to the ASTM standard(s) listed. Copies of CTMs are available upon request.

### Food contact

- Formulated to meet BfR XV recommendation.
- Formulated to meet FDA 21 CFR 177.2600.
- Certified according to KTW Guidelines.
- Water Regulations Advisory Scheme approved product.
- Approved according to DVGW Technical Standard W270.

### Infant care

- Materials have been assessed according to: Commission Directive 93/11/EEC of March 15th, 1993 concerning the release of the N-nitrosamines and N-nitrosatable substances from elastomer or rubber teats and soothers; FDA guideline 7117.11 Volatile N-Nitrosamines in Rubber Baby Bottle Nipples - action levels; 21 CFR 177.2600. U.S. Food and Drug Administration (FDA) regulation for rubber articles intended for repeated food contact; Bundesinstitut fuer Risikobewertung (BfR) Recommendation XV on silicone for food contact both Volatile Matter and Extraction Tests.

It remains the customer’s responsibility to ensure Dow products are suitable for customer’s intended use and comply with all laws and regulations applicable to such use. Please contact Dow to confirm that the material produced in your area meets the local regulations.

### LEGEND

- Use of “–” indicates data not available and/or not applicable.
- ASTM: American Society for Testing and Materials. Materials were tested according to Dow Corporate Test Methods (CTMs), which in most cases are similar to the ASTM standard(s) listed. Copies of CTMs are available upon request.
# INJECTION-MOLDING GRADES

## Non-post cure (NPC) LSRs

SILASTIC™ NPC 9300 series LSRs are low-volatility, high-strength silicone elastomers formulated to meet the requirements of food and infant care regulated applications without the need for post-cure.

<table>
<thead>
<tr>
<th>Typical applications</th>
<th>Available products</th>
<th>Key features</th>
<th>Cure</th>
<th>Shore A hardness ASTM D2240</th>
<th>Elongation, % ASTM D412</th>
<th>Tensile strength, MPa ASTM D412</th>
<th>Tear strength, kN/m ASTM D624</th>
<th>Specific gravity ASTM D792</th>
<th>Viscosity @ 10s⁻¹, Pa·s CTM 1094</th>
<th>Food contact</th>
<th>Infant care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant care (soothers, teats)</td>
<td>SILASTIC™ NPC 9300-40 LSR</td>
<td>• Low volatile content</td>
<td>40</td>
<td>560</td>
<td>8.8</td>
<td>34</td>
<td>1.11</td>
<td>190</td>
<td>0.25</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Food contact (cookware, valves, diaphragms)</td>
<td>SILASTIC™ NPC 9300-50 LSR</td>
<td>• Eliminates post-cure operations</td>
<td>50</td>
<td>500</td>
<td>8.9</td>
<td>45</td>
<td>1.11</td>
<td>190</td>
<td>0.25</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>General consumer articles</td>
<td>SILASTIC™ NPC 9300-70 LSR</td>
<td>• Enables streamlined processes and part design flexibility</td>
<td>67</td>
<td>320</td>
<td>9.6</td>
<td>27</td>
<td>1.12</td>
<td>220</td>
<td>0.25</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>SILASTIC™ NPC 9310-50 LSR</td>
<td>• High strength</td>
<td>50</td>
<td>500</td>
<td>9.5</td>
<td>41</td>
<td>1.10</td>
<td>190</td>
<td>0.25</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

*(1)*Only applicable for SILASTIC™ NPC 9310-50 LSR.

**Food contact:** *(2)*Formulated to meet BfR XV recommendation. *(3)*Formulated to meet FDA 21 CFR 177.2600.

**Infant care:** *(4)*Materials have been assessed according to: Commission Directive 93/11/EEC of March 15th, 1993 concerning the release of the N-nitrosamines and N-nitrosatable substances from elastomer or rubber teats and soothers; FDA guideline 7117.11 Volatile N-Nitrosamines in Rubber Baby Bottle Nipples - action levels; 21 CFR 177.2600. U.S. Food and Drug Administration (FDA) regulation for rubber articles intended for repeated food contact. Bundesinstitut fuer Risikobewertung (BfR) Recommendation XV on silicone for food contact both Volatile Matter and Extraction Tests. It remains the customer’s responsibility to ensure Dow products are suitable for customer’s intended use and comply with all laws and regulations applicable to such use. Please contact Dow to confirm that the material produced in your area meets the local regulations.

## Low-temperature cure (LTC) LSRs

SILASTIC™ LTC 9400 series LSRs are low-temperature-curing, high-strength elastomers that enable fast temperature curing in a wide temperature range.

<table>
<thead>
<tr>
<th>Typical applications</th>
<th>Available products</th>
<th>Key features</th>
<th>Cure</th>
<th>Shore A hardness ASTM D2240</th>
<th>Elongation, % ASTM D412</th>
<th>Tensile strength, MPa ASTM D412</th>
<th>Tear strength, kN/m ASTM D624</th>
<th>Specific gravity ASTM D792</th>
<th>Viscosity @ 10s⁻¹, Pa·s CTM 1094</th>
<th>Food contact</th>
<th>BfR1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-molding of low-melting plastics</td>
<td>SILASTIC™ LTC 9400-40 LSR</td>
<td>• Low-temperature curing</td>
<td>(a)</td>
<td>40</td>
<td>510</td>
<td>9.7</td>
<td>30</td>
<td>1.11</td>
<td>180</td>
<td>170</td>
<td>✓</td>
</tr>
<tr>
<td>Overmolding of the most sensitive components</td>
<td>SILASTIC™ LTC 9400-50 LSR</td>
<td>• Fast deep-section cure at standard elevated temperatures</td>
<td>(a)</td>
<td>50</td>
<td>460</td>
<td>8.9</td>
<td>40</td>
<td>1.11</td>
<td>160</td>
<td>160</td>
<td>✓</td>
</tr>
<tr>
<td>Consumer goods articles</td>
<td>SILASTIC™ LTC 9402-50 LSR</td>
<td>• Oil-filled: 2 wt % Oil-filled</td>
<td>(a)</td>
<td>50</td>
<td>450</td>
<td>8.9</td>
<td>40</td>
<td>1.11</td>
<td>200</td>
<td>185</td>
<td>✓</td>
</tr>
</tbody>
</table>

*(1)*Only applicable for SILASTIC™ NPC 9310-50 LSR.

**Food conditions** denote parameters used to test rubber properties and do not reflect actual cure time in the injection-molding process.

NPC 10 min @ 120°C. *(2)*Formulated to meet BfR XV recommendation.
## INJECTION-MOLDING GRADES

### Low density LSR

SILASTIC™ 9250-40 liquid silicone rubber features low viscosity for optimum processing and high resilience for optimum performance.

<table>
<thead>
<tr>
<th>Typical applications</th>
<th>Available products</th>
<th>Key features</th>
<th>Cure</th>
<th>Shore A hardness</th>
<th>Oil content, wt %</th>
<th>Elongation, %</th>
<th>Tensile strength, MPa</th>
<th>Tear strength, kN/m</th>
<th>Specific Gravity</th>
<th>ASTM D395</th>
<th>Viscosity @ 10s¹, Pas</th>
<th>Food contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Food dosing valves</td>
<td>• Electrical connections</td>
<td>• Weatherpack seals</td>
<td><strong>SILASTIC™ 9250-40 LSR</strong></td>
<td>(5)</td>
<td>39</td>
<td>590</td>
<td>3.4</td>
<td>6</td>
<td>0.97</td>
<td>11, 15, 22</td>
<td>210</td>
<td>190</td>
</tr>
</tbody>
</table>

Cure conditions denote parameters used to test rubber properties and do not reflect actual cure time in the injection-molding process.

(1) 10 min @ 120°C.

(2) 10 min @ 175°C + 4 hr @ 200°C. Food contact: (3) Formulated to meet BfR XV recommendation. (4) Formulated to meet FDA 21 CFR 177.2600.

### Oil-bleeding LSRs

A selection of oil-filled, self-lubricating LSRs is available as SILASTIC™ 920x-yy series LSRs and SILASTIC™ CV 920x-yy Series LSRs. For both, x = oil content and yy = durometer hardness. The two series of LSRs offer a choice of standard and controlled-volatility grades.

<table>
<thead>
<tr>
<th>Typical applications</th>
<th>Available products</th>
<th>Key features</th>
<th>Cure</th>
<th>Shore A hardness</th>
<th>Oil content, wt %</th>
<th>Elongation, %</th>
<th>Tensile strength, MPa</th>
<th>Tear strength, kN/m</th>
<th>Specific Gravity</th>
<th>ASTM D395</th>
<th>Viscosity @ 10s¹, Pas</th>
<th>Food contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Automotive connector seals</td>
<td>• Electrical connections</td>
<td>• Weatherpack seals</td>
<td><strong>SILASTIC™ 9202-30 LSR</strong></td>
<td>(5)</td>
<td>30</td>
<td>570</td>
<td>5.9</td>
<td>17</td>
<td>1.11</td>
<td>16</td>
<td>185</td>
<td>155</td>
</tr>
<tr>
<td><strong>SILASTIC™ 9201-50 LSR</strong></td>
<td><strong>SILASTIC™ 9202-50 LSR</strong></td>
<td><strong>SILASTIC™ 9202-30 LSR</strong></td>
<td>(5)</td>
<td>50</td>
<td>400</td>
<td>7.2</td>
<td>40</td>
<td>1.12</td>
<td>21</td>
<td>180</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td><strong>SILASTIC™ 9202-50 LSR</strong></td>
<td><strong>SILASTIC™ 9202-50 LSR</strong></td>
<td><strong>SILASTIC™ 9202-50 LSR</strong></td>
<td>(5)</td>
<td>50</td>
<td>390</td>
<td>6.7</td>
<td>44</td>
<td>1.12</td>
<td>24</td>
<td>185</td>
<td>150</td>
<td></td>
</tr>
</tbody>
</table>

Cure conditions denote parameters used to test rubber properties and do not reflect actual cure time in the injection-molding process.

(1) 10 min @ 120°C. (2) 10 min @ 175°C. (3) Compression set after 70 hr @ 150°C. (4) JIS 6249 (Japanese Industrial Standard).

### Oil-resistant LSRs

SILASTIC™ 9390 series LSRs provide good oil resistance in an off-white, injection-molding-grade elastomer for a range of air- and fluid-sealing applications.

<table>
<thead>
<tr>
<th>Typical applications</th>
<th>Available products</th>
<th>Key features</th>
<th>Cure</th>
<th>Shore A hardness</th>
<th>Oil content, wt %</th>
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<th>Tensile strength, MPa</th>
<th>Tear strength, kN/m</th>
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<th>ASTM D395</th>
<th>Oil immersion (70 hr @ 150°C), % variation</th>
<th>ASTM D471</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Oil-resistant applications</td>
<td>• Seals, O-rings, diaphragms</td>
<td><strong>SILASTIC™ 9390-50 LSR</strong></td>
<td>(5)</td>
<td>50</td>
<td>460</td>
<td>6.2</td>
<td>15</td>
<td>1.37</td>
<td>130</td>
<td>13</td>
<td>4</td>
<td>35</td>
</tr>
<tr>
<td><strong>SILASTIC™ 9390-70 LSR</strong></td>
<td><strong>SILASTIC™ 9390-70 LSR</strong></td>
<td><strong>SILASTIC™ 9390-70 LSR</strong></td>
<td>(5)</td>
<td>68</td>
<td>240</td>
<td>8.0</td>
<td>16</td>
<td>1.47</td>
<td>60</td>
<td>20</td>
<td>5</td>
<td>32</td>
</tr>
</tbody>
</table>

Cure conditions denote parameters used to test rubber properties and do not reflect actual cure time in the injection-molding process.

(1) 10 min @ 120°C. (2) 10 min @ 175°C. MIL: U.S. Military Specification.
### Fluoro liquid silicone rubbers (F-LSRs)

SILASTIC™ brand F-LSRs are designed for use in harsh environments involving fuel, oil or aggressive fluids. With xx = durometer hardness, these F-LSRs are available as the fully (100%) fluorinated SILASTIC™ FL-xx-9201 series. These F-LSRs combine the fluid resistance of fluorosilicone rubber with the processing ease of liquid silicone rubber using standard injection-molding equipment.

<table>
<thead>
<tr>
<th>Typical applications</th>
<th>Available products</th>
<th>Key features</th>
<th>Cure conditions</th>
<th>Fluid resistance (168 hr), volume swell % ASTM D471</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Solvent-resistant and chemically resistant parts</td>
<td>SILASTIC™ FL 30-9201 F-LSR</td>
<td>• Fully (100%) fluorinated</td>
<td>10 min @ 120°C</td>
<td></td>
</tr>
<tr>
<td>• Gaskets and membranes for demanding sealing applications</td>
<td>SILASTIC™ FL 40-9201 F-LSR</td>
<td>• Excellent resistance to fuels and oils</td>
<td>10 min @ 120°C + 4 hr @ 200°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SILASTIC™ FL 60-9201 F-LSR</td>
<td>• Retain elasticity at low temperatures (Tg -68°C)</td>
<td>10 min @ 175°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Light yellow</td>
<td>10 min @ 175°C + 4 hr @ 200°C</td>
<td></td>
</tr>
</tbody>
</table>

### Fluid resistance

<table>
<thead>
<tr>
<th>Available products</th>
<th>Fluid resistance (168 hr), volume swell % ASTM D471</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IRM 903 150°C</td>
</tr>
<tr>
<td>SILASTIC™ FL 30-9201 F-LSR</td>
<td>3</td>
</tr>
<tr>
<td>SILASTIC™ FL 40-9201 F-LSR</td>
<td>2</td>
</tr>
<tr>
<td>SILASTIC™ FL 60-9201 F-LSR</td>
<td>2</td>
</tr>
</tbody>
</table>

Cure conditions denote parameters used to test rubber properties and do not reflect actual cure time in the injection-molding process.

1. 10 min @ 120°C.
2. 10 min @ 120°C + 4 hr @ 200°C.
3. 10 min @ 175°C.
4. 10 min @ 175°C + 4 hr @ 200°C.

---

**Fluid resistance**

- **IRM 903 150°C**
- **RME Biodiesel 49°C**
- **Ref F Diesel 40°C**
- **Ref C 60°C**
- **FAM B 60°C**
- **Dexron III 125°C**
**LSRs for airbag coating & sealing**

LSRs for airbag coating applications include a selection of low- to medium-viscosity products designed for use on flat-fabric (cut-and-sewn) and one-piece-woven (OPW) airbag designs. An engineered SILASTIC™ seam sealant is available for use on cut-and-sewn airbags.

<table>
<thead>
<tr>
<th>Typical applications</th>
<th>Available products</th>
<th>Key features</th>
<th>Part A</th>
<th>Part B</th>
</tr>
</thead>
</table>
| Flat fabric          | SILASTIC™ LCF 3600 Coating | • Unprimed adhesion to polyamide and polyester fabric  
                      • Low coefficient of friction  
                      • Excellent flame-extinguishing | (1) | 45 180 3.8 5.5 1.07 30 7.5 |
|                      | SILASTIC™ LCF 4630 Coating | • Low stiffness  
                      • Excellent adhesion to polyamide and polyester fabric | (1) | 27 660 5.0 8.1 1.06 45 43 |
| Seam sealant         | SILASTIC™ SE 6777 LSR US | • Excellent adhesion to silicone coated fabric  
                      • Mechanical resistance  
                      • High elongation  
                      • Room temperature cure | (3) | 14 1,300 4.8 – 1.21 250 260 |
| One-piece woven (OPW) | SILASTIC™ LCF 3760 Coating | • Very high elongation; low elastic modulus  
                      • Unprimed adhesion to polyamide and polyester fabric  
                      • Low coat weights | (3) | 9 1,450 5.7 12.0 1.05 170 200 |
|                      | SILASTIC™ DY-35-3115 | • Unprimed adhesion to polyamide and polyester fabric | (3) | 25 940 6.0 13.0 – 200 330 |
|                      | SILASTIC™ 3715 Topcoat | • Low coefficient of friction; prevents blocking | – | – – – – 200 – |

Cure conditions denote parameters used to test rubber properties and do not reflect actual cure time in the coating process.

(1) 3 min @ 196°C. (2) 24 hr @ 25°C. (3) 10 min @ 120°C.
# LSRs for sleeving applications & general-purpose coating

LSRs for sleeving applications provide a range of elastomers suitable for electrical and thermal protection of wires and cables. These LSRs are available in low to medium viscosities to meet a wide range of processing requirements.

<table>
<thead>
<tr>
<th>Typical applications</th>
<th>Available products</th>
<th>Key features</th>
<th>Cure conditions</th>
<th>Shore A hardness</th>
<th>Elongation, %</th>
<th>Tensile strength, MPa</th>
<th>Tear strength, kN/m</th>
<th>Specific gravity</th>
<th>Viscosity @ 10s⁻¹ Pa.s</th>
<th>Part A</th>
<th>Part B</th>
<th>BfR(3)</th>
<th>FDA(4)</th>
<th>Food contact</th>
</tr>
</thead>
</table>
| Fabric coating       | XIAMETER™ RBL-9050-30P LSR | • Very low viscosity  
• Unprimed adhesion to glass  
• Suitable for dip coating  
• Transparent  
• Two part; 10:1 mix ratio | (1) 10 min @ 120°C | 47 | 150 | 6.4 | 2.5 | 1.03 | 3 | |
| Electrical wire sleeving | XIAMETER™ RBL-9050-50P LSR | | (1) 10 min @ 120°C | 48 | 160 | 7.5 | 3.8 | 1.03 | 5 | |
| Fabric coating       | SILASTIC™ RBL-9252-150P LSR | • Good clarity  
• Unprimed adhesion to glass  
• Formulated to meet BfR XV and FDA 21 CFR 177.2600  
• Translucent  
• Two part; 10:1 or 1:1 mix ratio | (1) 10 min @ 120°C | 37 | 340 | 4.4 | 5.0 | 1.07 | 15 | ✓ |
| Electrical wire sleeving | SILASTIC™ RBL-9252-250P LSR | | (1) 10 min @ 120°C | 33 | 450 | 5.0 | 7.0 | 1.09 | 25 | ✓ |
| Suitable for food contact | SILASTIC™ RBL-9252-500P LSR | | (1) 10 min @ 120°C | 36 | 480 | 6.0 | 10.0 | 1.11 | 55 | ✓ |
| Suitable for food contact | SILASTIC™ RBL-9252-900P LSR | | (1) 10 min @ 120°C | 38 | 520 | 6.6 | 15.0 | 1.12 | 100 | ✓ |
| Insulation wrap      | SILASTIC™ LSR 9151-200P | • Good flame retardancy  
• Off-white  
• Two part; 10:1 mix ratio | (1) 10 min @ 120°C | 40 | 200 | 1.3 | 1.26 | 25 | |
| Protective clothing  | SILASTIC™ LSR 9451-1000P | | (1) 10 min @ 120°C | 30 | 310 | 1.0 | 1.23 | 85 | |
| Electrical wire sleeving | SILASTIC™ 590 EU LSR | • Good flame resistance  
• UL listed (V0) | (1) 10 min @ 120°C | 35 | 570 | 7.0 | 11.0 | 1.23 | 80 | 90 | |

Cure conditions denote parameters used to test rubber properties and do not reflect actual cure time in the coating process.

1) 10 min @ 120°C. 2) 5 min @ 171°C. 3) Formulated to meet BfR XV recommendation. 4) Formulated to meet FDA 21 CFR 177.2600.
LSRs for 3D printing

SILASTIC™ 3D 3335 Liquid Silicone Rubber is a 1:1 mix LSR designed for Liquid Additive Manufacturing (LAM) 3D printing. It combines the performance benefits of silicone rubber with the design and processing advantages of additive manufacturing. The material is very transparent, which is ideal for applications where clarity and transparency are vital attributes. Compatible color packs and precision dosing equipment also give designers the ability to 3D-print this high-performing LSR in a range of standard colors.

<table>
<thead>
<tr>
<th>Typical applications</th>
<th>Available product</th>
<th>Key features</th>
<th>Cure</th>
<th>Shore A hardness ASTMD2240</th>
<th>Elongation, % ASTM D412</th>
<th>Tensile strength, MPa ASTM D412</th>
<th>Tear strength, kN/m ASTM D624</th>
<th>Specific gravity ASTM D792</th>
<th>Viscosity @10s⁻¹, Pa.s CTM 0050</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Preparation of silicone rubber prototypes with properties that are comparable to injection-molded components</td>
<td>SILASTIC™ 3D 3335 LSR</td>
<td>• Low viscosity • Unique rheology • High clarity (water clear) • Allows part design flexibility • Enables achievement of mechanical properties closely matching those of molded LSR • Direct transfer into high-volume injection-molding processes • High-performance silicone elastomer parts – customized and/or new designs</td>
<td>III</td>
<td>50</td>
<td>480</td>
<td>9.5</td>
<td>45</td>
<td>1.12</td>
<td>158</td>
</tr>
</tbody>
</table>

*1Cure conditions: 3D printed – IR heat cured. *2Test specimen printed in dimensions specified by referred ASTM method.
# Electrical-grade LSRs

Electrical-grade LSRs provide a selection of specialty elastomers for power transmission and distribution applications.

<table>
<thead>
<tr>
<th>Typical applications</th>
<th>Available products</th>
<th>Key features</th>
</tr>
</thead>
</table>
| • Hollow-core insulators | SILASTIC™ HV 1541-10P LSR | • Very low viscosity  
• Suitable for casting  
• Room temperature cure  
• Excellent tracking resistance  
• Two part; 9:1 mix ratio  
• Gray |
|                      |                   | (1) 34 420 5.3 14 1.10 7 7 1.00E+15 1A4.5 |
| • Hollow-core insulators  
• Rod insulators  
• Arrestors  
• Cable accessories | SILASTIC™ HV 1551-55P LSR | • Low viscosity  
• Suitable for low-pressure molding  
• Excellent tracking resistance  
• High tear strength  
• Clear and gray |
|                      |                   | 42 470 6.8 31 1.09 60 65 1.00E+15 1A4.5 |
| • Hollow-core insulators  
• Solid-core insulators | SILASTIC™ HV 1551-95P LSR | • Medium viscosity  
• Excellent tracking resistance  
• High elongation  
• Clear and gray |
|                      |                   | 44 620 8.0 31 1.08 100 90 1.00E+15 1A4.5 |
| • High-voltage cable accessories  
• Terminations  
• Cold shrink | SILASTIC™ HV 1510-40 LSR | • Low viscosity  
• Suitable for low-pressure molding  
• Excellent tracking resistance  
• Excellent processing  
• Fast vulcanization  
• Blue gray |
|                      |                   | (2) 32 450 6.0 23 1.13 20 20 1.00E+15 1A4.5 |
| • Medium-voltage cable accessories  
• Terminations  
• Cold shrink | SILASTIC™ HV 1518-40 LSR | • Low volume resistivity  
• Suitable for injection molding  
• Good tracking resistance  
• High elongation  
• Gray |
|                      |                   | (3) 38 880 10.4 34 1.13 260 260 5.00E+14 1A3.5 |
| • Cold shrink  
• Electrical stress-control devices  
• Electrically conductive moldings | SILASTIC™ HV 1523-30 LSR | • Low volume resistivity  
• Suitable for injection molding  
• High elongation  
• Black |
|                      |                   | (4) 36 660 6.0 30 1.04 380 420 8.00E+01 – |

Cure conditions denote parameters used to test rubber properties and do not reflect actual cure time in the molding process.  
(1) 10 min @ 120°C + 2 hr @ 120°C.  
(2) 10 min @ 120°C.  
(3) 20 min @ 105°C.  
(4) 10 min @ 120°C + 4 hr @ 200°C.  
**OPTICAL GRADES**

Moldable optical silicones

New-generation LED lighting concepts with silicone optical resins from Dow help increase design freedom and energy efficiency from high-performance buildings to outdoor-area illumination to advanced automotive styling. Compared to organic options, these specialty silicone liquid resins can maintain outstanding optical properties without yellowing with age under high temperatures.

<table>
<thead>
<tr>
<th>Typical applications</th>
<th>Available products</th>
<th>Key features</th>
<th>Shore A hardness (ASTM D2240)</th>
<th>Elongation, % (ASTM D412)</th>
<th>Tensile strength, MPa (ASTM D412)</th>
<th>Transmission (3.2 mm thickness), %</th>
<th>Refractive index (633 nm), 6.8</th>
<th>Volume resistivity, ohm.cm</th>
<th>Agency listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Optical components</td>
<td>DOWSIL™ MS-0002 Moldable Silicone</td>
<td>• Fast curing • Translucent</td>
<td>65</td>
<td>270</td>
<td>9.0</td>
<td>Transmission: 75% @ 450 nm 89% @ 760 nm</td>
<td>–</td>
<td>–</td>
<td>UL 94 UL 746</td>
</tr>
<tr>
<td>• Primary or secondary lenses, light pipes, light guides, and other optic devices</td>
<td>DOWSIL™ MS-1002 Moldable Silicone</td>
<td>• Lighter than glass • Good mold flow; excellent feature reproduction • Optically clear</td>
<td>72</td>
<td>80</td>
<td>11.2</td>
<td>Transmission: 89% @ 380 nm 91% @ 450 nm 94% @ 760 nm</td>
<td>1.41</td>
<td>1.00E+18</td>
<td>• UL 94 • UL 746A • UL 746C(f1)</td>
</tr>
<tr>
<td></td>
<td>DOWSIL™ MS-1003 Moldable Silicone</td>
<td></td>
<td>51</td>
<td>325</td>
<td>5.5</td>
<td>Transmission: 91% @ 380 nm 92% @ 450 nm 93% @ 760 nm</td>
<td>1.41</td>
<td>1.00E+16</td>
<td>• UL 94 • UL 746A • UL 746C(f1)</td>
</tr>
<tr>
<td>• Secondary optics such as lens clusters, light guides, light pipes and free-form collimators</td>
<td>DOWSIL™ MS-4007 Moldable Silicone</td>
<td>• High light transmittance with low light attenuation coefficient • Lighter than glass • Excellent surface feature replication • Optically clear</td>
<td>70</td>
<td>100</td>
<td>11.7</td>
<td>Transmission: 91% @ 380 nm 93% @ 450 nm 94% @ 760 nm</td>
<td>1.41</td>
<td>1.00E+14</td>
<td>• UL 94 • UL 746 • UL 746C(f1)</td>
</tr>
<tr>
<td>• Secondary optics, lens clusters, light pipes, light guides and free-forms collimators</td>
<td>DOWSIL™ MS-4002 Moldable Silicone</td>
<td>• High light transmittance with low light attenuation coefficient • Lighter than glass • Excellent surface feature replication • Smooth surface feeling • Optically clear</td>
<td>84</td>
<td>60</td>
<td>11.7</td>
<td>Transmission: 89% @ 380 nm 92% @ 450 nm 93% @ 760 nm</td>
<td>1.42</td>
<td>1.00E+14</td>
<td>• UL 94 • UL 746A • UL 746C(f1)</td>
</tr>
<tr>
<td>• LED lamp and luminaire applications</td>
<td>DOWSIL™ MS-4022 Moldable Silicone</td>
<td>• High light transmittance with low attenuation coefficient • High thermal stability • Smooth, low-tack plasticlike surface • Optically clear</td>
<td>85</td>
<td>52</td>
<td>11.0</td>
<td>Transmission: 87% @ 380 nm 90% @ 450 nm 93% @ 760 nm</td>
<td>1.42</td>
<td>1.00E+16</td>
<td>• UL 94 • UL 746A • UL 746C(f1)</td>
</tr>
<tr>
<td>• White reflector in lighting applications</td>
<td>DOWSIL™ MS-2002 Moldable Silicone</td>
<td>• High reflectance • High-temperature stability • UV aging resistance • White reflecting</td>
<td>84</td>
<td>65</td>
<td>8.6</td>
<td>Reflectance: 97% @ 450 nm 98% @ 555 nm 99% @ 630 nm</td>
<td>NA</td>
<td>3.00E+15</td>
<td>• UL 94 • UL 746A • UL 746C(f1)</td>
</tr>
</tbody>
</table>

All values indicated above for cured materials are after 1 hr post-curing at 150°C.
**LSR color masterbatches**

LSR color masterbatches consist of heat-stable, cadmium-free coloring pigments dispersed in crosslinkable fluid. The XIAMETER™ brand options from Dow are specifically designed and formulated for addition to LSRs using dedicated metered mixing equipment. All are translucent LSR with 2% color masterbatch.

<table>
<thead>
<tr>
<th>Available products</th>
<th>Description</th>
<th>Appearance[1]</th>
</tr>
</thead>
<tbody>
<tr>
<td>XIAMETER™ RBL-9105 White Color Masterbatch</td>
<td>Provides shade similar to RAL 9010</td>
<td><img src="image" alt="White" /></td>
</tr>
<tr>
<td>XIAMETER™ RBL-9105 Green Color Masterbatch</td>
<td>Provides shade similar to RAL 6025</td>
<td><img src="image" alt="Green" /></td>
</tr>
<tr>
<td>XIAMETER™ RBL-9105 Red Color Masterbatch</td>
<td>Provides shade similar to RAL 2002</td>
<td><img src="image" alt="Red" /></td>
</tr>
<tr>
<td>XIAMETER™ RBL-9105 Gray Color Masterbatch</td>
<td>Provides shade similar to RAL 7031</td>
<td><img src="image" alt="Gray" /></td>
</tr>
<tr>
<td>XIAMETER™ RBL-9105 Blue Color Masterbatch</td>
<td>Provides shade similar to RAL 5019</td>
<td><img src="image" alt="Blue" /></td>
</tr>
<tr>
<td>XIAMETER™ RBL-9105 Black Color Masterbatch</td>
<td>Provides shade similar to RAL 9011</td>
<td><img src="image" alt="Black" /></td>
</tr>
<tr>
<td>XIAMETER™ RBL-9105 Red Iron Oxide Color Masterbatch</td>
<td>Provides shade similar to RAL 3013</td>
<td><img src="image" alt="Red Oxide" /></td>
</tr>
</tbody>
</table>

[1]The color swatches shown here are computer-generated and are not necessarily a precise representation of the actual masterbatch colors. The RAL color reference index is the only specification to which we refer.
Learn more

Dow has manufacturing, warehousing, customer service, and science and technology resources strategically located worldwide to meet your needs for high-performance LSRs. Rely on our materials innovation, application expertise, broad technical services, and global supply capabilities with local support.

For more information about our LSR materials and capabilities, visit www.dow.com/elastomers.

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