Engineered elastomer solutions for vehicle systems design

Smart science drives component durability innovation
Design for process efficiency and performance durability

Meet trend-driven design needs for energy efficiency, greater comfort, safety and sustainability with engineered elastomers from Dow. Our selection of advanced silicone and fluorosilicone rubber elastomers can help you achieve:

- **Energy efficiency** by enabling lightweight design with proven mechanical and environmental resistance
- **Driving comfort** by reducing squeaks, rattles, and noise, vibrations and harshness (NVH)
- **Safety** by improving component durability and safety system reliability
- **Sustainability** with efficient processing and increased service life of components

Choose from a wide range of high-performance engineered elastomers to meet your requirements for efficient processing and durable performance:

- High-consistency silicone rubber (HCR)
- Liquid silicone rubber (LSR)
- Fluorosilicone rubber (FSR)
- Liquid fluorosilicone rubber (F-LSR)

Key performance advantages of these engineered elastomer technologies from Dow include:

- Excellent resistance to fuel, oil and solvents
- Wide service-temperature range from -40 to 316°C (-40 to 600°F)
- Stable electrical insulating properties when exposed to severe-duty service requirements
- Excellent mechanical strength and flexibility with durable resistance to aging, cracking, softening and compression set
- Application-matched choices in hardness, specific gravity, tensile strength, elongation, color and flow properties
- Process-matched compounds and standard

Innovate with smart science

Proven, effective engineered elastomer solutions from Dow can help you meet vehicle system design goals for innovation in process efficiency and performance durability:

**Powertrain**
- Anti-drainback oil filter valve
- Cylinder head
- Oil pan
- Air intake manifold
- Fuel delivery diaphragms
- EGR valve diaphragms
- Fuel quick-connect seals
- Turbocharger, intercooler hoses
- Radiator seals
- Engine coolant hoses
- Heater hoses
- Transmission seals
- Driveline CVJ boots
- Engine mounts, exhaust hangers

**Chassis and Brakes**
- Gaskets and seals
- Bellows, dust covers, boots

**Electrical**
- Wire harness connectors
- Coil-to-plug wire insulation
- Spark plug boots
- Ignition cable insulation
- HEV-EV charging cable insulation
- Battery connector seals

**Exterior**
- Sunroof seals
- Lighting assembly seals

**Safety**
- Airbag fabric coatings
### Application: Engineered Elastomers

#### Powertrain systems

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<tr>
<th>Application</th>
<th>Design Needs</th>
<th>Potential Solutions</th>
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<tr>
<td>Anti-drainback oil filter valve</td>
<td>Stable mechanical properties; resistance to hardening or softening over a wide range of service temperatures; oil resistance</td>
<td>SILASTIC™ Liquid Silicone Rubber 9390-70</td>
</tr>
<tr>
<td>Oil pan gasket</td>
<td>Resistance to engine oil; good resistance to compression set</td>
<td>XIAMETER™ Q4-2918 Silicone Rubber Compound</td>
</tr>
<tr>
<td>Rocker cover gasket</td>
<td>Good resistance to oil; good compression set and compression stress relaxation</td>
<td>XIAMETER™ MX 4108 Silicone Rubber</td>
</tr>
<tr>
<td>Air intake manifold gasket</td>
<td>Oil resistance; good aging in hot fuel vapors; good resistance to compression set</td>
<td>SILASTIC™ 28057-V Fluorosilicone Compound</td>
</tr>
<tr>
<td>Fuel delivery diaphragms</td>
<td>Fuel resistance and flexibility over a wide range of service temperatures</td>
<td>SILASTIC™ EFX20MHS00 Fluorosilicone Compound</td>
</tr>
<tr>
<td>Exhaust gas recirculation (EGR) valve diaphragms</td>
<td>Fuel resistance; flexibility in high service temperatures (200°C)</td>
<td>SILASTIC™ FL 40-9201 Fluorosilicone Rubber</td>
</tr>
<tr>
<td>Fuel delivery quick-connector seals</td>
<td>Fuel resistance; flexible in heat and cold; good permeation resistance; good compression set resistance and stress relaxation properties; low swell; high tear strength</td>
<td>SILASTIC™ EFX70MLC00 Silicone Rubber</td>
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#### Powertrain systems (continued)

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<tr>
<th>APPLICATION</th>
<th>DESIGN NEEDS</th>
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<tr>
<td>Turbocharger, intercooler hoses</td>
<td>Wide range of service temperatures; good fuel, oil and exhaust gas resistance; good interlayer adhesion without cracking or peeling; high mechanical strength</td>
<td>Cured-in-place gasketing (CIPG):</td>
</tr>
<tr>
<td>Radiator seals</td>
<td>Chemical resistance to coolant; low compression set; excellent bonding properties</td>
<td>SILASTIC™ RBL-6964-30P Liquid Silicone Rubber</td>
</tr>
<tr>
<td>Water coolant hoses and radiator hoses</td>
<td>Good chemical and high-temperature resistance; good processing characteristics for calendaring and extrusion</td>
<td>SILASTIC™ FL 60-9201 Fluoro Liquid Silicone Rubber</td>
</tr>
<tr>
<td>Low-pressure heater hoses</td>
<td>Good chemical and high-temperature resistance; good processing characteristics for calendaring and extrusion</td>
<td>SILASTIC™ 20161-0 BLK Silicone Rubber Black</td>
</tr>
<tr>
<td>CVJ boots</td>
<td>High fatigue life; durable flexibility over a wide range of service temperatures; chemical resistance to lubricants and contaminants</td>
<td>SILASTIC™ EFX60MLC00 Silicone Rubber</td>
</tr>
<tr>
<td>Engine mounts, exhaust hangers</td>
<td>High tear strength; withstand extreme heat and cold; stable mechanical properties</td>
<td>SILASTIC™ EFX60MHS01 HCR Compound</td>
</tr>
</tbody>
</table>

#### Self-adhesive compounds

**Intermediate layer:**
- SILASTIC™ HCR 70-1030-NP Silicone Rubber
- XIAMETER™ HCC 70-1030-NP Silicone Rubber

**Liner:**
- SILASTIC™ FCE 50-4948 SA Silicone Rubber
- SILASTIC™ FCC 55-1047-FX Fluorosilicone Rubber

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**NOTE:** These silicone and fluorosilicone engineered elastomers are proven, effective solutions for vehicle systems design innovation. Contact your Dow representative for product options to meet specialized requirements.
## APPLICATION DESIGN NEEDS POTENTIAL SOLUTIONS

### Chassis and Brake systems

| Bellows, dust covers, boots, gaskets, seals | Good mechanical properties; tear strength; weatherability | XIAMETER™ EP680MHG01 Silicone Rubber | SILASTIC™ HCM 1102 HCR Compound |

### Electrical systems

| Wire harness connector seal | Watertight protection; heat and fluid resistance; easy assembly with self-lubricating properties; high mechanical strength; easy processing | SILASTIC™ 9204-20 Liquid Silicone Rubber | SILASTIC™ 9202-30 Liquid Silicone Rubber | SILASTIC™ 9204-50 Liquid Silicone Rubber | SILASTIC™ WS 190-60-01 Silicone Rubber | XIAMETER™ 23010-V Silicone Rubber | XIAMETER™ 23023-V Silicone Rubber | XIAMETER™ 23077-V Silicone Rubber |

| Spark plug boots | Electrical insulation for high voltages; high service temperatures | XIAMETER™ RBL-9280-60E Liquid Silicone Rubber | XIAMETER™ 23004-V Silicone Rubber | XIAMETER™ 23005-V Silicone Rubber |

| Ignition cable insulation | Electrical insulation for high voltages; high service temperatures | XIAMETER™ 23004-V Silicone Rubber |

| Hybrid and electric vehicle charging cable insulation | Reliable electrical insulation; high mechanical strength and flexibility; low flammability; weatherability | SILASTIC™ RBC 7100-60 Compound | XIAMETER™ RBB-3100-70 Base |

| HEV/EV battery connector seals | Watertight protection; heat and fluid resistance; easy assembly with self-lubricating properties; high mechanical strength; easy processing | SILASTIC™ 9204-20 Liquid Silicone Rubber | SILASTIC™ 9202-30 Liquid Silicone Rubber | SILASTIC™ 9201-50 Liquid Silicone Rubber | SILASTIC™ WS 190-60-01 Silicone Rubber | XIAMETER™ 23010-V Silicone Rubber | XIAMETER™ 23023-V Silicone Rubber | XIAMETER™ 23077-V Silicone Rubber |

### Exterior systems

| Lighting assembly seals | Good heat resistance; watertight protection; easy assembly; good mechanical strength | SILASTIC™ 9204-20 Liquid Silicone Rubber | SILASTIC™ 9202-30 Liquid Silicone Rubber | SILASTIC™ 9204-50 Liquid Silicone Rubber | XIAMETER™ RBL-9280-60E Liquid Silicone Rubber |

### Safety systems

| Airbag fabric coatings | High performance at lower coating weights; high thermal resistivity; excellent adhesion to PET and PA; foldability; flexibility | SILASTIC™ LCF 3600 Coating | SILASTIC™ LCF 4303 Liquid Silicone Rubber | SILASTIC™ 3715 Curing Agent |

### COATINGS

- Flat Fabric: SILASTIC™ LCF 3600 Coating
- One-piece woven (OPW): SILASTIC™ LCF 3760 Liquid Silicone Rubber | SILASTIC™ 3715 Curing Agent |

### SEAM SEALANT

- SILASTIC™ SE 6777 Kit

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Enhance your vehicle systems design sustainability with silicone and fluorosilicone engineered elastomers from Dow. These advanced elastomer technologies can be custom-formulated for specified performance characteristics, regulatory standards and specialized process requirements. They are proven, effective solutions that can resist degradation from alternative fuels, synthetic oils and aggressive fluids; withstand increased operating temperatures; help reduce material consumption in lighter-weight vehicles; and aid local production of global vehicle platforms.

In addition to the silicone and fluorosilicone rubber featured in this selection guide, Dow also offers more smart science for vehicle system design innovation with our DOWSIL™ and XIAMETER™ adhesives and sealants.

Learn more: contact us
To learn more about how our engineered elastomers can help meet challenging design needs in automotive and transportation applications, contact your Dow Technical Representative, visit consumer.dow.com.