

Know ...



... How!

SEMSIL - **The silicone rubber compound customised to your needs**

In St. Ouen l'Aumone Biesterfeld Spezialchemie GmbH has built up an own competence center for the compounding of silicone elastomers throughout Europe. With this compounding facility in our group we are consistently strengthening our competence in the silicone elastomer business. It enables us to meet customers' requirements even more specifically and to provide our customers with custom-made silicone compounds for high value applications:

- Small and medium batch size production for high consistency rubber (HCR) and fluorosilicone rubber (FSR) compounds
- Ability to develop custom-made HCR and FSR compounds to meet customers needs
- Sample production
- Short lead times
- Technical support

Biesterfeld Spezialchemie helps you to grow

The topics of the Performance Products - News Nr. 1:

- SEMSIL
- Dow Corning
- Dow Corning
- Competence center for the compounding of silicone elastomers throughout Europe
- Silastic® and XIAMETER® LSR and F-LSR
- Silastic® FSR



Performance Products - News

DOW CORNING

Silastic® and XIAMETER® LSR and F-LSR

Characteristics:

Silastic® and XIAMETER® liquid silicone rubber (LSR) was pioneered by Dow Corning and introduced to the rubber fabrication marketplace in the late 1970s. More recently, Dow Corning has introduced a new LSR that is fluorinated: Silastic® F-LSR. This new rubber is a true LSR but with the performance properties of an FSR. This means it can withstand the extreme temperature conditions and aggressive solvent environments of modern automotive and aerospace engines.

Today, the processing and product advantages of Silastic® and XIAMETER® LSRs are exploited in many existing and new applications. A broad product line is available both for general applications and for specific requirements. Moreover, many new applications are rapidly emerging to take advantage of the new Silastic® F-LSRs.

Key Elements:

Silastic® and XIAMETER® LSRs and F-LSRs are liquids with viscosities that vary from easily pourable to paste. These two-component materials are mostly

used in a 1:1 ratio and consist of polysiloxane polymers or copolymers, which are vulcanized by polyaddition. In addition, F-LSRs are fluorinated.

Benefits:

Easier Processing

- No cure decomposition products (unlike peroxides)
- Long pot life at room temperature, yet very fast vulcanization above 150°C
- F-LSRs are easier to mix and to process than high consistency FSRs
- Easy to pigment, providing end product flexibility
- Silastic® F-LSRs can be overmolded onto plastics that have a lower melting temperature
- Lower injection pressure
- Longer pot life when mixed

Faster Cycle Times

- Silastic® and XIAMETER® LSRs and F-LSRs are fully compounded, ready to process
- Just two components, mixed 1:1
- Automated injection molding process similar to thermoplastic injection molding
- Easy demolding with good hot tear
- Rapid curing at elevated temperatures
- Flashless molding with tight part size tolerance control
- Post-curing frequently not needed
- Higher injection speed

Better End-Products

- Good direct bonding to specific insert components
- Superior clarity, as well as low odor and neutral taste
- Silastic® and XIAMETER® LSRs are usable over a wide temperature range from -60°C to +180°C for continuous use; F-LSRs are usable from -82°C to +180°C for continuous use
- Good elastic properties
- Very good UV and ozone resistance, as well as atmospheric aging stability
- Low moisture pick-up
- Silastic® and XIAMETER® LSRs are resistant to many solvents
- Silastic® F-LSRs are resistant at extreme temperatures to fuels, oils and other aggressive fluids
- Good dielectric properties over a wide temperature range

Performance Products - News

DOW CORNING

Silastic® and XIAMETER® LSR and F-LSR

Applications:

Silastic® and XIAMETER® LSRs are widely used in injection molding, fabric coating, dipping and extrusion coating processes. Application areas are

numerous, including the automotive, aerospace, appliance, business machine, electrical and consumer industries.

Silastic®F-LSR

Due to their FSR-like performance characteristics, Silastic® F-LSRs can be used in injection molding to produce parts that must withstand fuels and oils at extreme temperatures – for example, rubber seals, gaskets, diaphragms and other parts within modern

engines. Because Silastic® F-LSRs are true liquid rubbers, they offer faster, easier production cycles than manufacturing techniques that use FSR, HNBR, Urethane, GFKM or AEM rubbers. They also offer a more precise manufacture.

Extrusion and Flat Textile Coating

LSRs are very suited to these processes for reasons of:

- Solvent-free with low and versatile viscosity
- Easy mixing and pigmentation
- Rapid processing compared to solvent dispersions



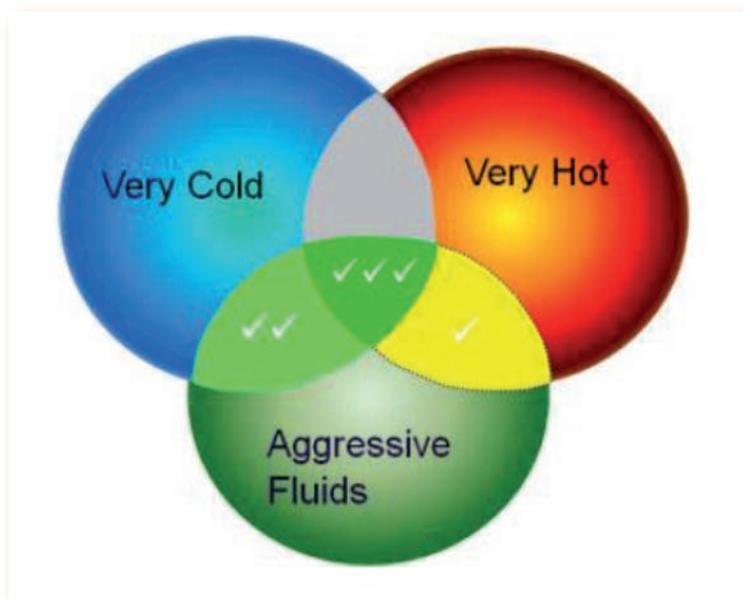
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DOW CORNING

Silastic® FSR - Fluorosilicones for demanding applications

For more than 50 years, fluorosilicone elastomers have been used in demanding applications where fuel resistance, low-temperature performance and high-temperature performance are required. Beginning with their use in the aerospace industry and followed by their expansion into automotive applications, fluorosilicone polymers have always been considered a premium, high-priced product.

Recognizing the financial realities of today's automotive markets, Dow Corning has tapped into its extensive knowledge of fluorosilicone chemistry and compounding expertise to create a new family of high-value, specific compounds. These have a good balance of fuel and oil resistance and mechanical properties over a wide range of temperatures.



Now, for EXTREME applications FSR is THE right solution for you.



Biesterfeld Spezialchemie - Your Bridge to Chemical Specialties in Europe

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