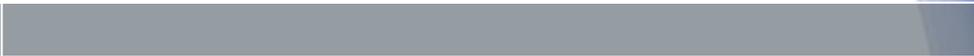
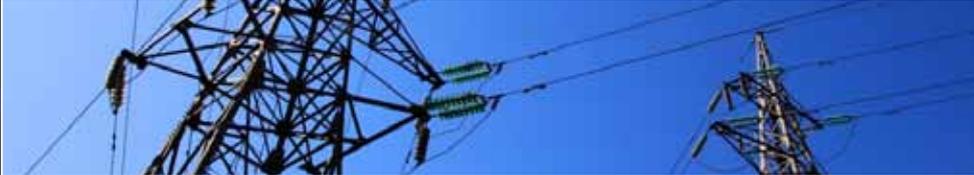


MOMENTIVE™

Silicone Elastomers
UV-Cure Silicone Rubber



A Leader in Silicones

Momentive Performance Materials Inc. is a global leader in silicones and advanced materials, delivering the science behind the solutions for a wide range of specialty performance applications.

Our rich, blended, 70+ year heritage of innovation and market firsts provides product portfolios and technical competencies that link custom technology platforms to opportunities for our customers.

Across the globe, Momentive's silicone elastomers have been shown to provide outstanding properties to rubber products. Excellent heat resistance and lower impact on the environment are offered for applications in the healthcare, consumer goods, electronics and automotive industries. Electrical properties of our products have earned widespread use of silicone rubber in the energy sector. Low viscosity allows liquid silicone rubber to be pumped and used efficiently in the injection molding process.

Momentive has pioneered many of these applications and processes, and we continue to serve our customers with leading innovations and creative ideas. We offer a comprehensive portfolio of liquid silicone rubber (LSR) and high consistency rubber (HCR) products.

You're Global, We're Global

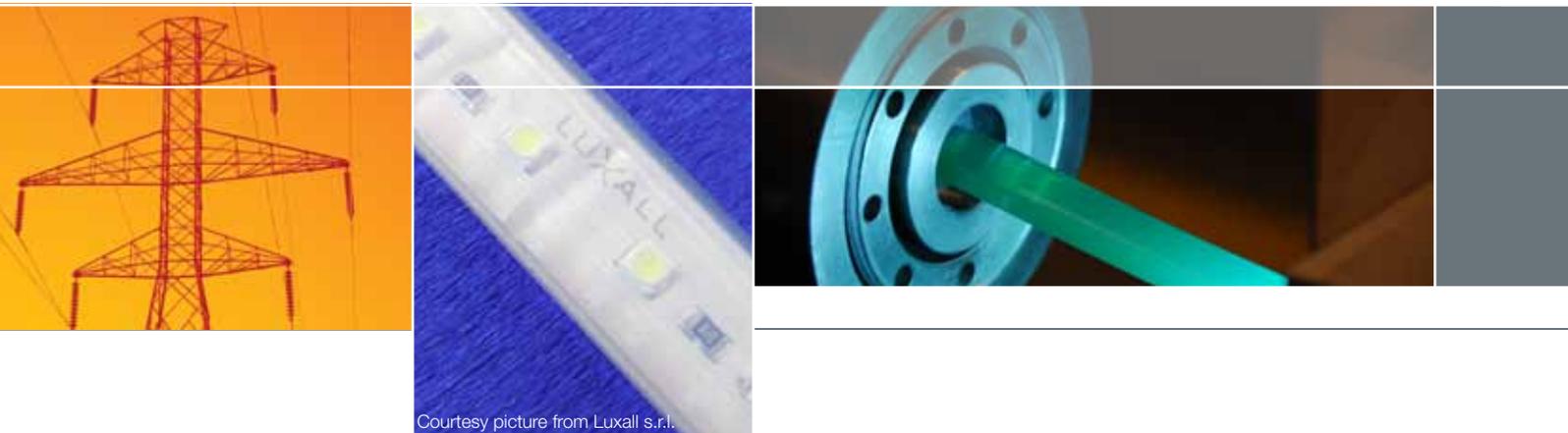
Our Silplus* HCR product line is standardized to the same high quality properties and specifications around the world, including products for extrusion, calendaring, multipurpose molding and high strength applications. Our global portfolio includes our Addisil* products and fluorosilicones including the Addisil and Silopren* UV-cure elastomers discussed in this brochure.

You're Local, We're Local

Momentive has facilities in North America, Latin America, Europe and Asia Pacific and local personnel to support your local needs. Visit us on the web at customelastomers.com. Our Application Development Centers in Asia, Europe and Americas are staffed to help customers develop LSR products to suit their application requirements.

You're Innovative, We're Innovative

Demand for distinctive products is growing, and our materials and enabling UV technologies are at the frontline of innovation. We offer a variety of silicone rubber products and extensive technical expertise to support your needs.

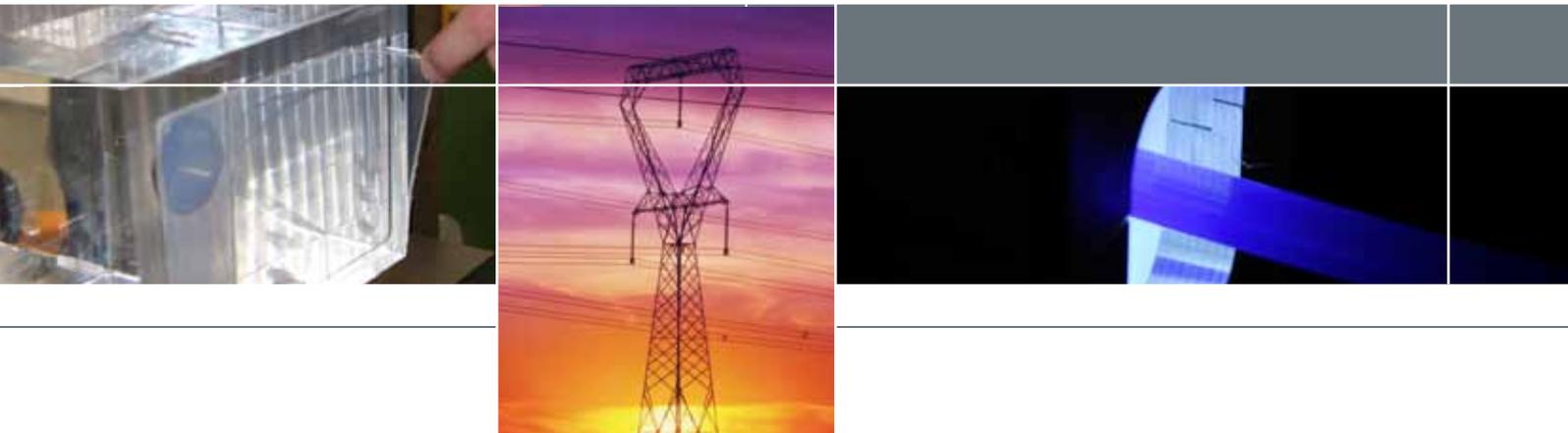


Courtesy picture from Luxall s.r.l.

*Silopren is a trademark of Bayer AG, used under license

*Addisil and Silplus are trademarks of Momentive Performance Materials Inc.

Typical Benefits of UV-Cure Silicone Rubber	4
UV lamps for Momentive's UV-Cure Silicone Rubber	4
Typical Benefits of Silopren* UV-Cure Liquid Silicone Rubber (LSR)	5
Molding with Silopren UV-Cure LSR	6
Molding with Silopren UV-Cure LSR	7
Addisil* UV-Cure Solid Silicone Rubber for Extrusion	8
UV-Cure High Consistency Rubber (HCR) for Extrusion	8
Using Color with UV-Cure Silicone Rubber	9
Application Development Centers and Technical Support	10

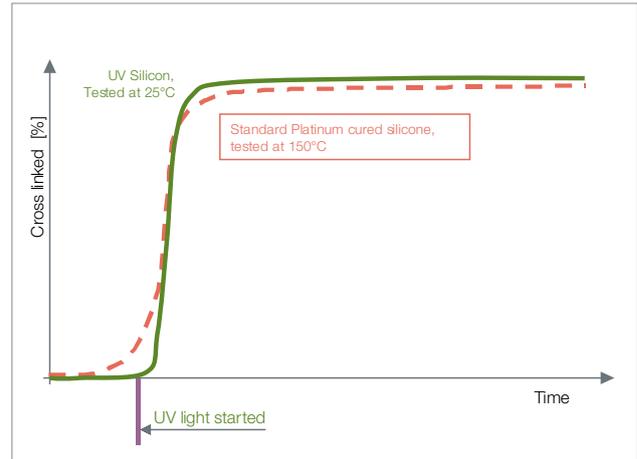


*Silopren is a trademark of Bayer AG, used under license
*Addisil is a trademark of Momentive Performance Materials Inc.

Typical Benefits of UV-Cure Silicone Rubber

UV-cure silicone rubber belongs to a new class of rubber that offers high cure speed at low temperatures. UV light initiates crosslinking through a photochemical reaction, not heat. The rubber can be processed via injection molding with special molds or via extrusion without additional heat cure.

Our UV-cure technology offers the possibility to produce parts and combinations that were previously difficult to manufacture, since heat curing processes limit the use of temperature sensitive ingredients. And, this new technology can help save energy.

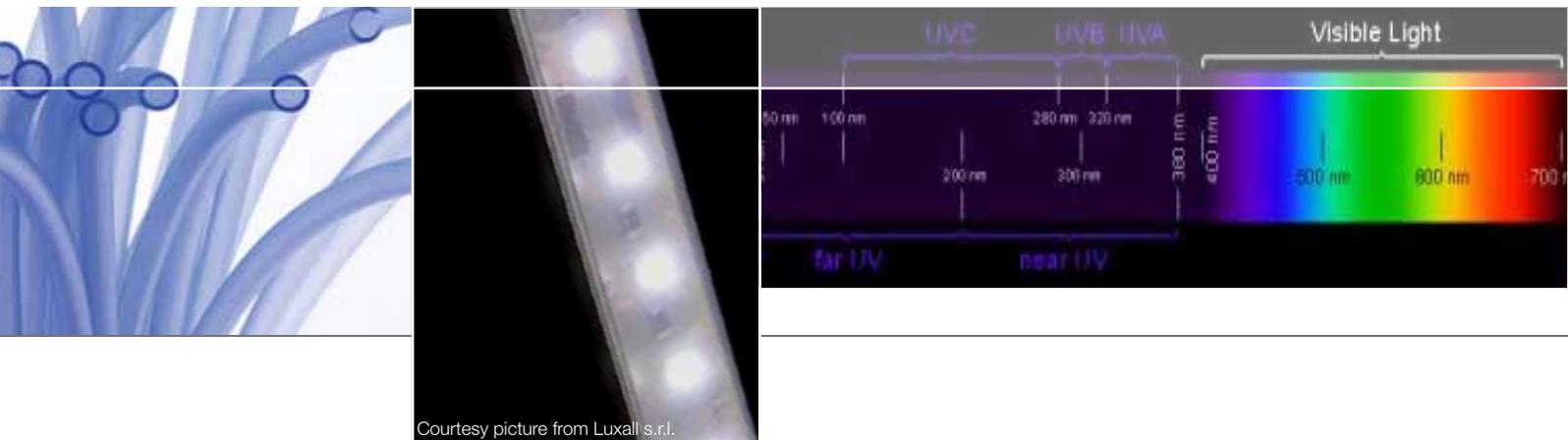


This graph compares the curing behavior of heat cured silicone rubber to UV cured silicone rubber

Note: Test data. Actual results may vary.

UV lamps for Momentive's UV-Cure Silicone Rubber

Common UV lamp systems that emit light in wavelengths of UVA (400-315nm) activate the photosensitive catalyst in Momentive's UV-cure silicone rubber. Momentive's technical experts can help you adjust for differences in the UV spectrum, IR emissions, generator position and other factors.



Courtesy picture from Luxall s.r.l.

Typical Benefits of Silopren* UV-Cure Liquid Silicone Rubber (LSR)

Silopren UV LSRs are two-component liquid silicone rubbers with a mixing ratio of 100:2.

Silopren UV LSRs can be molded quickly at low temperatures by using a typical injection molding process with UV light. Scorch performance can be controlled due to the low temperature with less shrinkage and air entrapment. Due to low cavity pressure, the clamping forces are also minimized. Our Application Development Center experts can help you design the material and the mold.

Cross sections from 5-100 mm can be easily cured in a few minutes.

It has been shown that time and energy can be saved by using Silopren UV LSRs for curing high-quality, thick-walled, molded articles such as high voltage insulators or cable accessories.

For other applications such as consumer goods and healthcare, the low temperatures in this process are excellent properties to consider for new design opportunities.

	UV Electro 235-2	UV Electro 225-1	UV LSR 2030	UV LSR 2060
Typical Property	High Voltage, 3,5 kV	High Voltage, low viscosity	Standard, low duro	Standard, high duro
Viscosity base [Pa*s] @ 10s ⁻¹	120	70	500	990
Viscosity cat [Pa*s] @10s ⁻¹	10	10	10	10
Properties of the Vulcanizate ¹				
Hardness [Shore A]	35	25	27	57
Density [g/cm ³]	1,09	1,07	1,09	1,15
Tensile Strength [MPa]	4,6	4,5	5,3	11,0
Elongation at Break [%]	520	580	690	440
Tear [N/mm]	15	9	11	35

¹Mixing ratio of components Base : Catalyst = 100 : 2.

Laboratory Vulcanization Conditions: applied to UV light for 2 min at an intensity of 1 kW Power (Fe doted Hg bulb) and distance of 15 cm

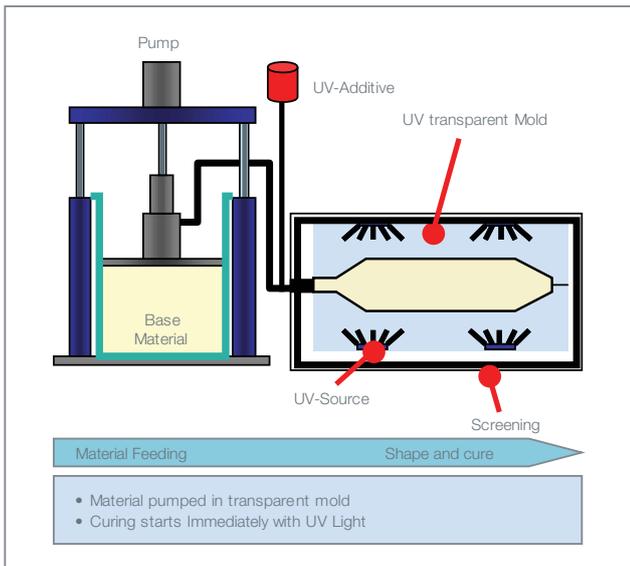
Typical data are average data and are not to be used as or to develop specifications.

Customized versions are available on request, please ask our technical experts (see pg.10).



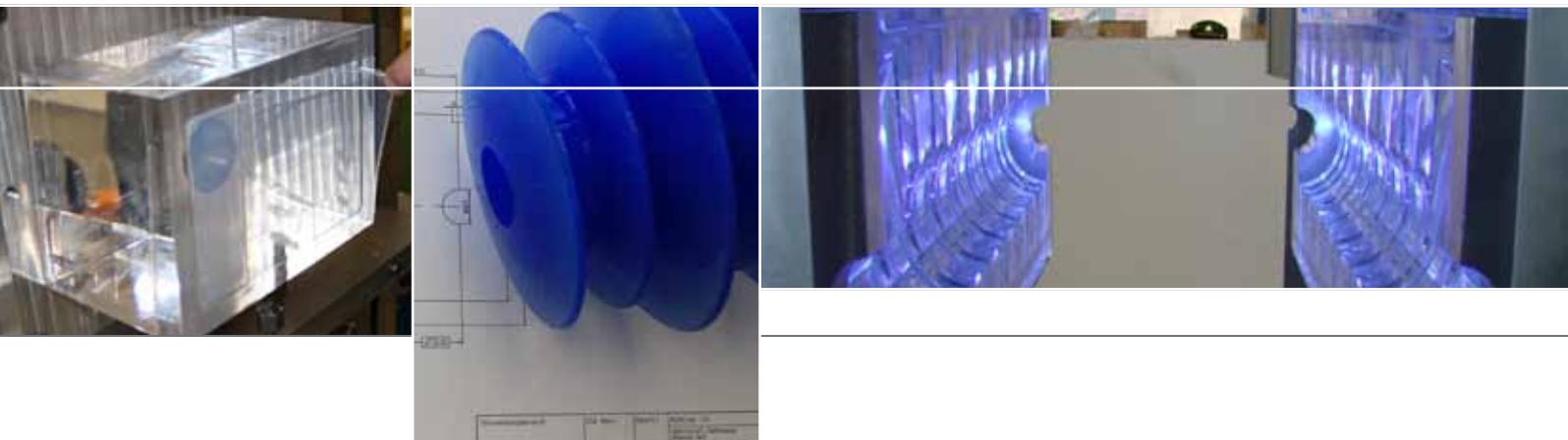
*Silopren is a trademark of Bayer AG, used under license

Molding with Silopren* UV-Cure Liquid Silicone Rubber (LSR)



With UV-cure LSR technology, the process has been shown to be more efficient, as filling can be accomplished at ambient temperature. There is virtually no risk of generating scorch. When filling is complete, the UV light is activated, travels through UV transparent cavity inserts, and starts the very fast curing reaction. Even a large article (up to 100mm cross-section) will cure in several minutes.

Standard LSR for injection molding can be cured at 180 – 200°C for fast cycle times. For large parts, when filling molds with LSR, the cure temperatures must be reduced to fill the molds completely and to eliminate air entrapment in the molded part. Dependent on the total shot volume, the mold temperature, while filling, may be reduced to 80°C. The scorch time of the LSR is prolonged so flow lines and air entrapment can be minimized. When filling is completed the temperature can be increased to 95 – 120°C for faster cure. However, the required reduction of temperature leads to longer production cycles.



*Silopren is a trademark of Bayer AG, used under license

*Addisil is a trademark of Momentive Performance Materials Inc.

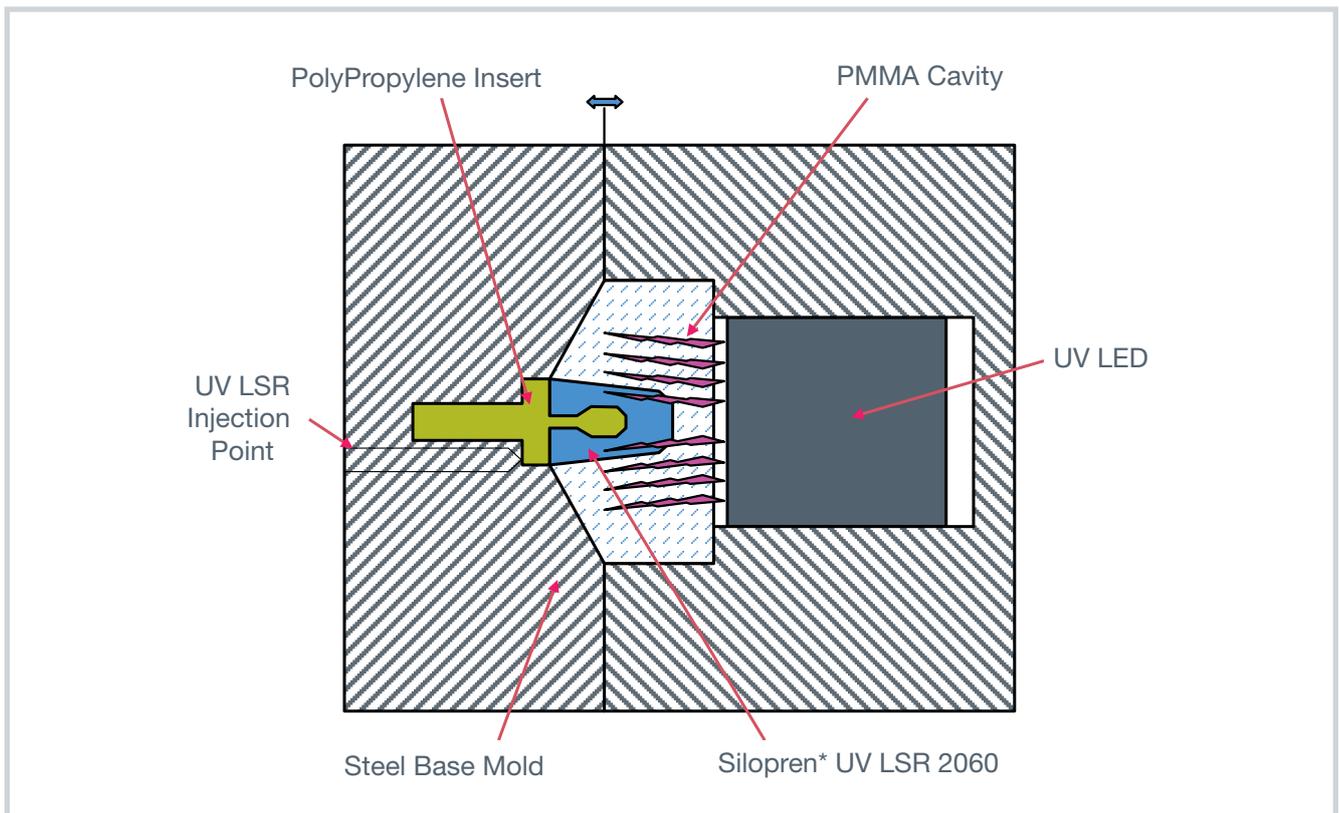
Molding with Silopren* UV-Cure Liquid Silicone Rubber (LSR)

Since our launch of the first self-bonding LSR, 2 component (2C) injection molding processes using this material have been established in a number of applications in the automotive, consumer goods, medical and industrial industries. The technology, which uses heat to cure the silicone, requires a high temperature (120°C and higher) for short and efficient cycle times. Therefore, one of the limiting factors in selecting the polymer for the second component was its temperature stability. Nylon, polyester and other comparable plastic polymers have been used for this process, but inserts made from polyolefins or other standard thermoplastics were not a viable choice for the 2C process with LSR.

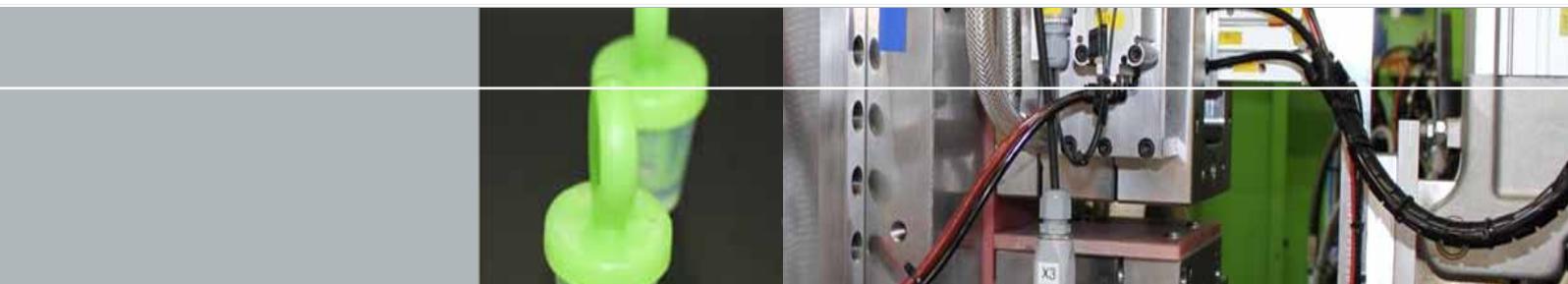
However, increasing numbers of designers are seeking to combine the unique properties of silicone elastomers with standard plastics or temperature sensitive materials and applications such as electronics. Momentive's new UV LSR technology is an excellent candidate to consider for resolving the 2C thermal stability issue.

To give an example of the manner in which UV-cure can enable the 2C process, a wine bottle plug was designed with a polypropylene (PP) insert molded in a standard PP injection molding process. After cooling, the PP insert was demolded by a robotic handling system and positioned in the UV LSR cavity.

The UV LSR was then cured via an integrated UV light LED systems for 20 seconds in a 30 – 40°C (warm) tool.



Note: Test results. Actual results may vary.



*Silopren is a trademark of Bayer AG, used under license

Addisil* UV-Cure Solid Silicone Rubber for Extrusion

Addisil UV EX silicone rubber is a new family of UV-cure materials that offers high cure speed at room temperature using extrusion. Addisil UV EX silicone rubber is two-component, with a mixing ratio of 100:0.5 (Rubber Base: Catalyst).

Addisil UV EX silicone rubber can be extruded with standard silicone rubber extruders and cured with UV light, as mentioned in UV lamps for Momentive's UV-Cure Silicone Rubber (see pg.4). Cure on demand with UV light and at low temperature results in high dimensional stability for the parts. Less air entrapment (compared to heat cure materials) is generally typical for UV-cured silicone rubber. Representative samples of several Addisil UV-curing products have been tested for compliance with USP Class VI, ISO 10993 (parts 6, 10 and 11) and FDA extractables. Please contact the Product Stewardship and Regulatory group for details.

Addisil Product	UV 50 EX	UV 60 EX	UV 70 EX
Typical Properties of the Vulcanizate ¹			
Hardness [Shore A]	54	64	68
Density [g/cm ³]	1,13	1,17	1,19
Tensile Strength [MPa]	10,8	11,0	11,0
Elongation at Break [%]	550	450	470
Modul 100 % [MPa]	1,5	2,4	2,5
Tear [N/mm]	31	39	39

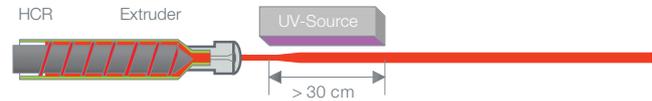
¹Mixing ratio of components Base : Catalyst = 100:0.5. Laboratory vulcanization conditions: applied to UV light for 2 min at an intensity of 1 kW Power (Fe doted Hg bulb) and distance of 15 cm. Post cured 4h at 200°

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

UV-Cure High Consistency Rubber (HCR) for Extrusion



Material extruded through die over thermal shock heater in heating tunnel

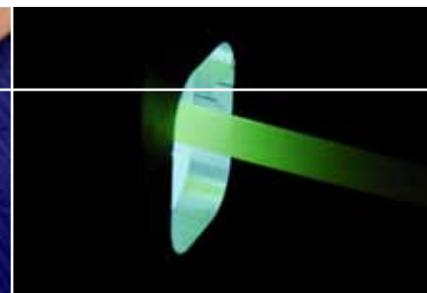
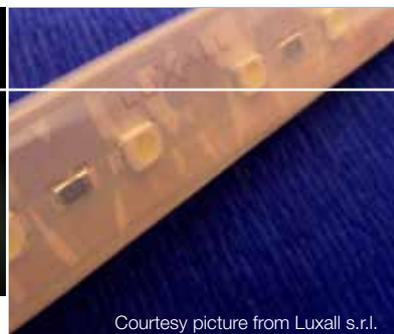
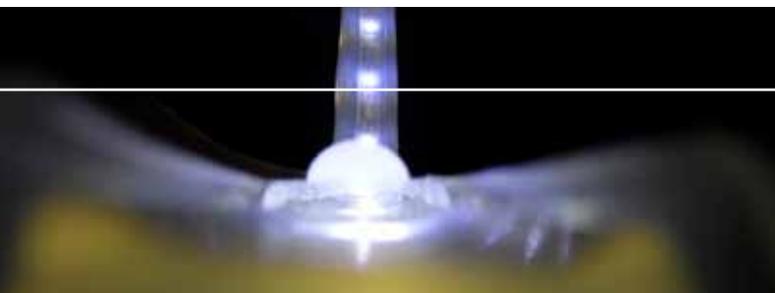


Silplus* UV-Cure HCR

- Fast** Command cure at room temperature
 - low tolerances and thick profiles
- New** Combinations with low temperature materials
- Efficient** Lower energy consumption potential
 - no heating of material required
 - better temperature control of clean room conditions
 - addition cure technology

Silplus UV-curable silicone rubber can be extruded with standard extruders and cured using UV light. As with the molding process, no heat is required.

With Momentive's UV-curable HCR, or Addisil* UV EX products, manufacturers can increase throughput and reduce manufacturing costs as the UV extrusion curing process uses much less space and equipment than the thermal curing process and may lower energy costs. This UV-curing technology has been demonstrated to cure cross sections >25mm without micro bubbles at atmospheric pressure.



Courtesy picture from Luxall s.r.l.

*Addisil and Silplus are trademarks of Momentive Performance Materials Inc.

Using Color with UV-Cure Silicone Rubber



These standard colors are available for UV-cure silicone rubber.

Generally, the cure time is extended compared to transparent silicone rubber. Please contact our technical experts for more information.



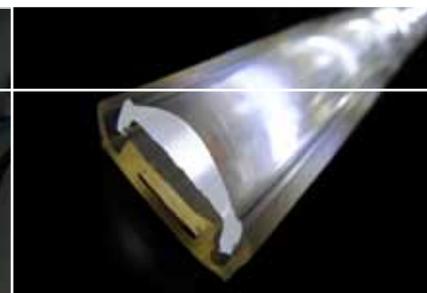
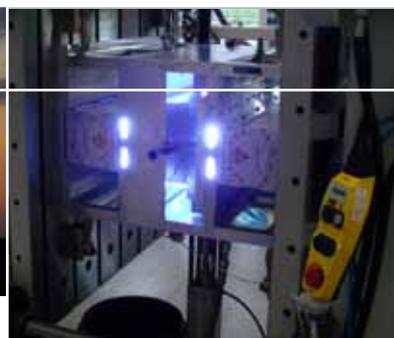
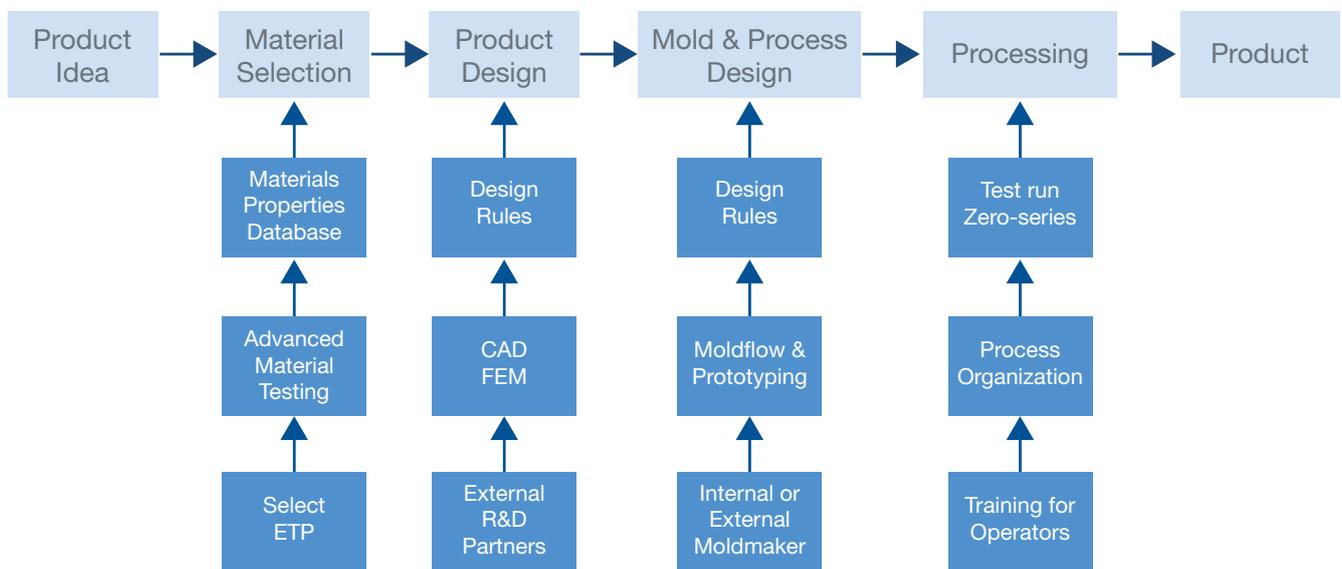
Courtesy picture from Luxall s.r.l.

Application Development Centers and Technical Support

Our Application Development Centers offer support globally. We are experts in process modeling, prototyping, productivity analysis and troubleshooting.

We offer technical support for UV-cure technology, especially in the high voltage industry.

Our support can start at the beginning of your project, but at any stage, the right support and our global expertise can be brought to bear on material selection, product design, mold and process set up and prototypes. And we can continue to support your needs after your full-scale production begins.



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 Material Safety Data Sheet (MSDS) 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. MSDS 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.

Customer Service Centers

Worldwide

4information@momentive.com

+1 614 986 2495 / T +1 800 295 2392

North America

Silicones

T +1 800 332 3390

Consumer Sealants/

Construction Sealants and Adhesives

T +1 877 943 7325

Latin America

South America

T +55 11 4534 9650

Mexico and Central America

T +52 55 2169 7670

Europe, Middle East, Africa and India

T +00 800 4321 1000 / +40 21 3111848

Pacific

China

T +800 820 0202 / +86 21 3860 4892

Japan

T +0120 975 400 / +81 276 20 6182

Korea

T +82 2 6201 4600

Malaysia

T +60 3 9206 1532

DISCLAIMER:

THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY "SUPPLIER"), ARE SOLD SUBJECT TO SUPPLIER'S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING ITS PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. EXCEPT AS PROVIDED IN SUPPLIER'S STANDARD CONDITIONS OF SALE, SUPPLIER AND ITS REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN. Each user bears full responsibility for making its own determination as to the suitability of Supplier's materials, services, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Supplier's products, materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Supplier's standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Supplier. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Supplier covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.

*Silopren is a trademark of Bayer AG, used under license.

*Addisil and Silplus are trademarks of Momentive Performance Materials Inc.

Photo courtesy of Luxall s.r.l.

Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.



260 Hudson River Road
Waterford, NY 12188 USA
momentive.com