DIELECTRIC AND ENCAPSULATING RESINS

ELECTRONIC, POWER MANAGEMENT, AUTOMOTIVE, E-MOBILITY

BUILDING TRUST

CREATING A STRONG FUTURE

Worldwide solutions in PUR and EP resins

YOUR ADDED VALUE

Reliability and Safety
Sika AG provides the strength and stability of a trusted global company. Our team of Advanced Resins experts, supported by global customer service teams, delivers consistent performance backed by a proven track record.

Quality and Innovation
We are dedicated to delivering high-quality end products without compromise. Backed by decades of expertise in the development of premium PUR and EP resins, we uphold industry-leading quality standards. Our commitment is reinforced by external certifications and strict compliance with international regulations.

Flexibility and Integrated solutions
Tailored to your unique challenges. The Advanced Resins team offers a comprehensive and integrated product portfolio that allows for customized solutions across a wide range of applications.

Professional Global Support
Wherever you are, we're with you. Our local experts provide personal, on-site support for all matters related to product processing and plant technology, ensuring smooth operations and expert guidance.

Global Availability
Thanks to our global production footprint, multiple R&D centers, and a strong international dealer network, our products are readily available – no matter where you're located.

"As a global leader in electrical potting and casting it is our aim to provide our customers with best in class innovative and tailor made solutions. Being close to our customers is not only a word for us: Worldwide production and on-site support of our experts is the basis of our success. Every day, we are looking forward to create new and better solutions together with our customers."

MORTEN MUSCHAK
Head Corporate Automotive & Industry

WE OFFER CUSTOMIZED SOLUTIONS FOR:

- Foundry model making
- Automotive industry
- Transportation industry
- Sports and leisure
- Industrial applications
- Boat and yacht building industry
- Aviation industry
- Renewable energies
- Dielectrics

ADVANCED RESINS is a dedicated business unit within Sika Industry. With over 75 years of expertise, we are a global leader in the development and supply of high-performance resins. Our portfolio includes customized solutions for the composites industry, structural adhesives, and technical casting systems for industrial filters.

Our brand, **SIKABIRESIN® RE**, developed by our Advanced Resins experts, features a comprehensive range of polyurethane and epoxy resins designed for electrical potting and casting. We offer both flexible and rigid two-component systems that ensure the protection of low- and medium-voltage electrical components. SikaBiresin® RE resins are engineered to deliver long-lasting safety and reliability for your electrical systems.

With state-of-the-art laboratories in Europe, China, and the USA, we are positioned close to our customers to provide tailored solutions that meet critical industry standards and certifications, including UL 94, UL 746, EN 45545, and AITF, for insulation materials.

CONTENT

ELECTRICAL INSULATION FOR AUTOMOTIVE INDUSTRY

Our resins play a key role in enhancing safety and durability for automotive OEMs, particularly in mechatronic sensors and systems. They contribute to improved passenger comfort, reduced CO2 emissions, and overall vehicle safety. Designed to protect embedded electronics, our resins offer reliable resistance against heat, moisture, and chemical exposure.

Drivers' assistance systems improve communication between the driver and its outside environment, as well as the ability to manage autonomous vehicle driving. In the future, electronic systems will strengthen the interaction between the driver and the automobile. For all these applications, Sika offers resin solutions to make the sensors even safer and more reliable.

EXTERNAL APPLICATION
Handle sensor, park sensor, tyre pressure monitoring sensor, latches, etc.

OVERVIEW DIELECTRIC RESINS

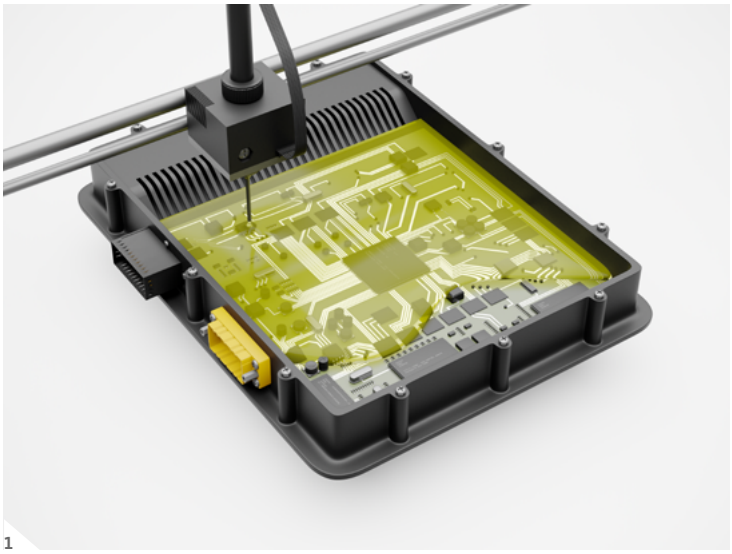
	Characteristics	Shore hardness	Mixed viscosity, at 25 °C [mPa.s]	Pot life, at 25 °C [min]	Density [g/cm³]
PU					
SikaBiresin® RE323 - RE111	Very soft, unfilled, quick setting material with very good hydrolysis resistance and low dielectric constant ► recommended for sensors	33 A	1,700	14	0.98
SikaBiresin® RE602A - RE602	Semi rigid, chemical delayed thixotropy, with good adhesion on plastic ► used on connectors	60 D	6,000	7	1.30
SikaBiresin® RE812 - RE103	Rigid, good adhesion, very short pot life for short cycle time ► dedicated for switches	80 D	5,700	2	1.38

Placed as close as possible to the engine, our insulating resins help optimize thermal management, improve energy efficiency in CO_2 order to reduce emissions, but also contribute to the acoustic comfort of the automobile.

The high thermal resistance and the very good chemical resistance to automotive fluids guarantee optimal operation of the electromechanical parts.

ENGINE COMPARTMENT
Harness, electric steering system, gear box sensor, etc.

1 Encapusulation Electrical System
2 Main Harness Encapsulation by with SikaBiresin®



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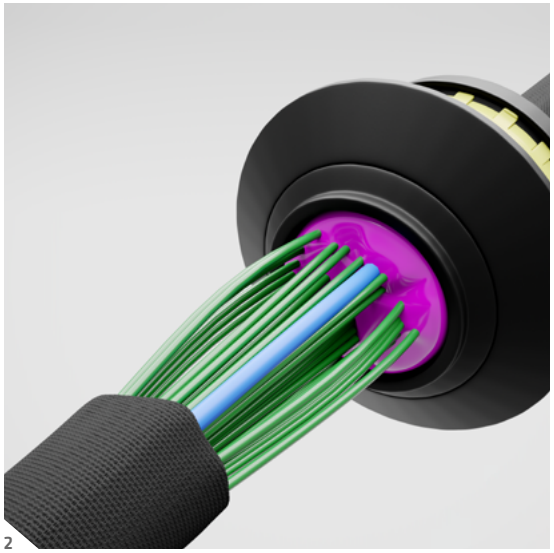

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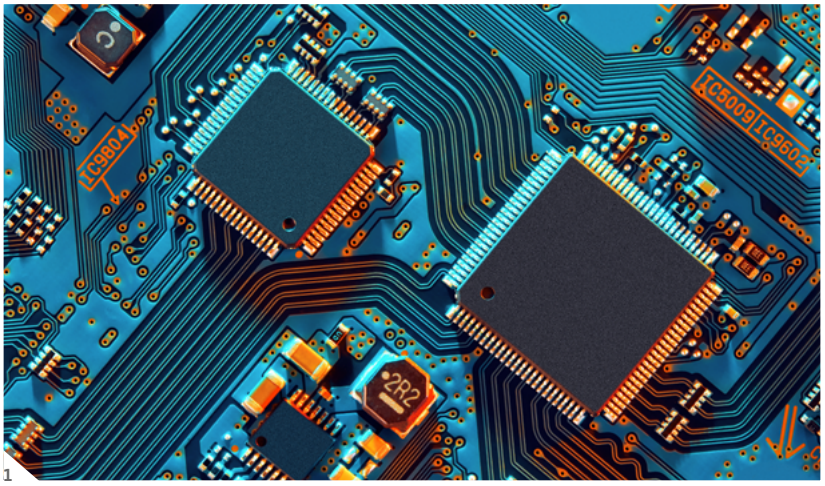
OVERVIEW DIELECTRIC RESINS

	Characteristics	Shore hardness	Mixed viscosity, at 25 °C [mPa.s]	Pot life, at 25 °C [min]	Density [g/cm³]
PU					
SikaBiresin® RE710-RE102	Soft, low viscosity, short cure	70 A	1,750	11	1.19
SikaBiresin® RE531 - RE102	Semi rigid UL VO, UL 746 RTI 150 °C, EN 45545 approval, high temperature resistance	53 D	1,650	22	1.57
EP					
SikaBiresin® RE915	Single epoxy component low thermal coefficient expansion, high chemical resistance	91 D	60,000	19/120 °C	1.60

ELECTRONIC AND LIGHTING

When varnish protection is not sufficient, our resins protect electronic cards from severe climatic conditions to guarantee exceptional longevity. Typical applications for our resins include underwater, medical and connected devices.

1 Underwater Application
2 Coating Electronic Circuit



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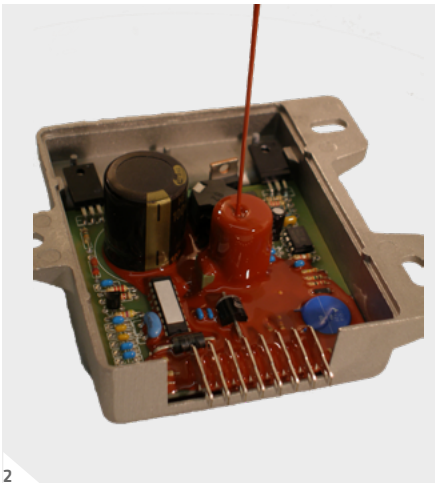

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OVERVIEW DIELECTRIC RESINS					
	Characteristics	**Shore hardness**	**Mixed viscosity, at 25 °C [mPa.s]**	**Pot life, at 25 °C [min]**	**Density [g/cm³]**
PU					
SikaBiresin® RE 451A - RE 101	Soft UL 94 VO approval designed to pass thermal shock test -40/+85 °C	45 A	2,150	50	1.28
SikaBiresin® RE 601 - RE 102	Soft UL 94VO, high thermal resistance	70 A	3,000	50	1.35
SikaBiresin® RE 461 - RE 101	Semi rigid ul VO, UL 746 RTI 150°C, EN45545 approval, multi color and reactivity easy processing	46 D	1,100	10 – 60	1.57

POWER MANAGEMENT

Between the production of electricity and the end user, manufacturers implement electrical equipment throughout the distribution chain to regulate voltage and current as well as to monitor devices.

The electricity supply of cities, industry but as well as transportation must always be guaranteed for the safety of the users. Sika's Advanced Resins team is a key supplier to manufacturers of transformers, capacitors and current and voltage sensors.

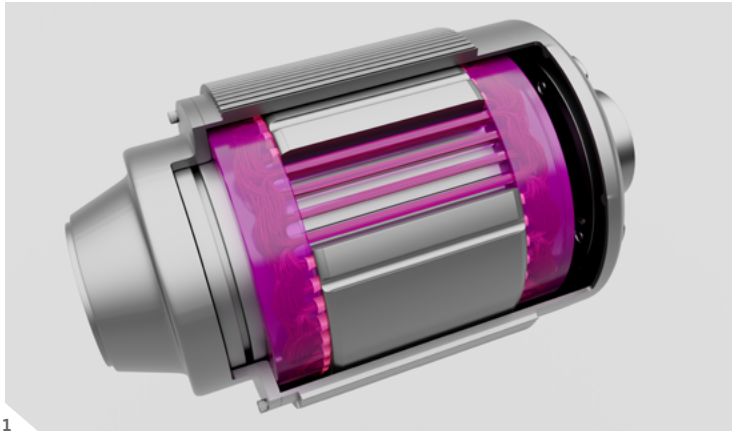
Dielectric Measurement Test

OVERVIEW DIELECTRIC RESINS

	Characteristics	Shore hardness	Mixed viscosity, at 25 °C [mPa.s]	Pot life, at 25 °C [min]	Density [g/cm³]
PU					
SikaBiresin® RE 830 - RE 103	Rigid with good thermal conductivity and crack resistance ► recommended for CTVT transformer	83 D	1,200	30	1.41
SikaBiresin® RE 651 - RE 102	UL 94 V0 1,5 mm ► recommended for capacitor and transformer	70 D	1,900	30	1.56
SikaBiresin® RE 885 - RE 103	Rigid, high TG and thermal resistance	88 D	1,900	30	1.53
EP					
SikaBiresin® RE 891 - RE 203	Rigid epoxy, long pot life, UL 94 V0, high thermal and chemical resistance	89 D	3,000	200	1.49

E-MOBILITY

The accelerated growth of New Electric Vehicles is driven by both consumer and manufacturer demand for improved environmental performance with enhanced quality, safety and security features. Heat transfer solutions have become a key technical challenge for electric and hybrid vehicle manufacturers. Sika's Advanced Resins team can offer electrical protection and insulation solutions as well as thermal transfer along the current path from the connector, on board charger, battery and electric motor as well as the electronic control unit and management.



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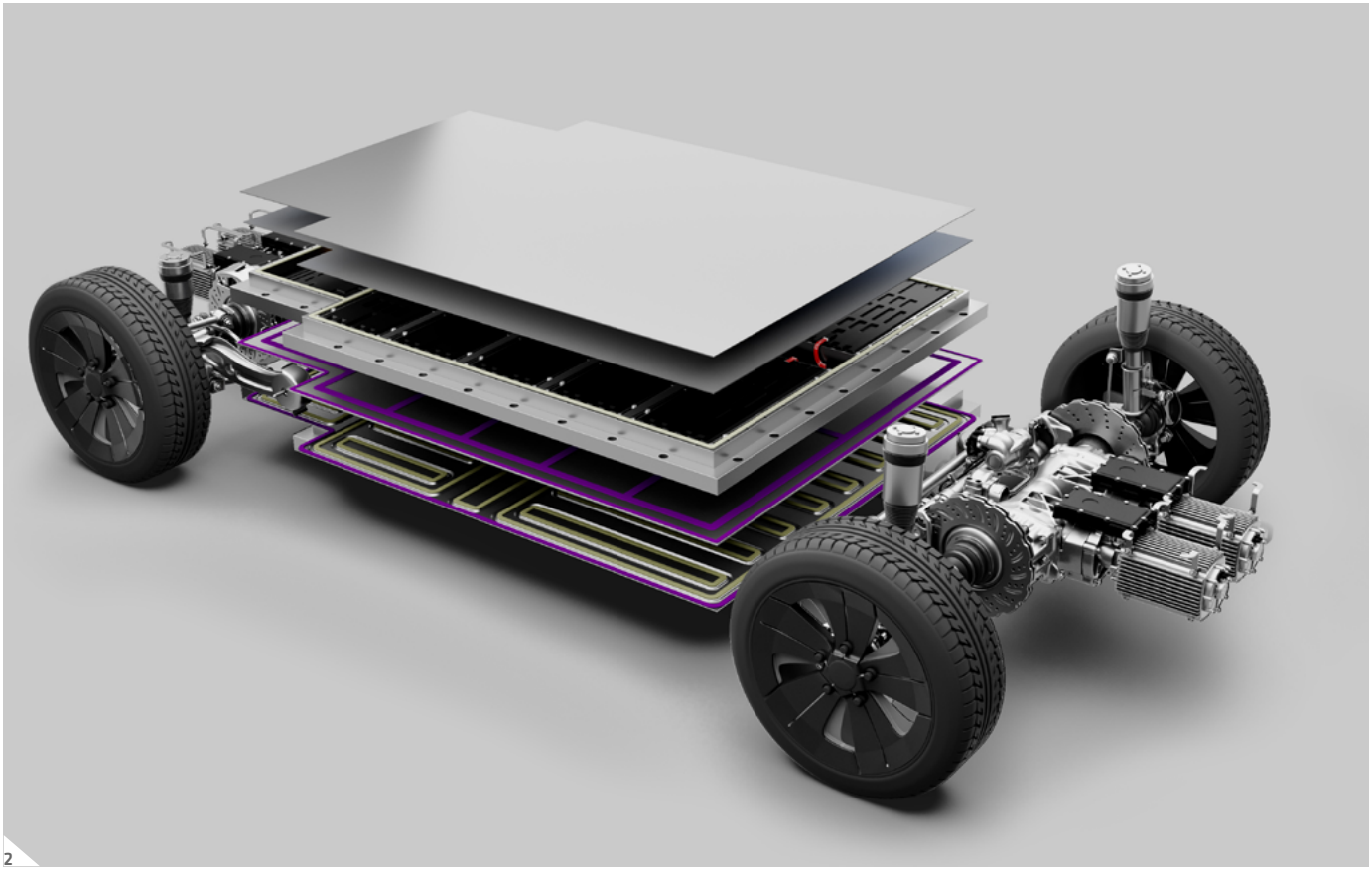

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1 e-Motor
2 Battery Packt

Because our customers are constantly looking for innovative solutions to provide more efficient, reliable and safer electric vehicles, we have recently developed a 2-component epoxy resins for the e-Motor Stator encapsulation. This product not only enhances motor performance and facilitates design flexibility, but also enables weight reduction and improves manufacturing efficiency by reducing cycle times. Our solutions also include multiple dielectric potting chemistries for controllers and on board chargers, as well as harnesses and connectors.

With our full range of SikaBiresin® RE products we are able to tackle all major challenges such as:

1. Active cooling of high voltage power electronic systems such as OBC (on board charger) and low stress on sensitive component.
2. Provide high mechanical and electrical protection as well as crack resistance on e-Motors especially after thermal cycling -45 °C / +180 °C.
3. Deliver durable and safer performance with outstanding heat, chemical and fire resistance.

OVERVIEW DIELECTRIC RESINS

	Characteristics	Shore hardness	Mixed viscosity, at 25 °C [mPa.s]	Pot life, at 25 °C [min]	Thermal conductivity [W/m.K]
PU					
SikaBiresin® RE 461 - RE 101	Semi-rigid, liquid, thermal conductivity , high thermal resistance, UL94V0, RTI150°C ► recommended for battery cell potting	46 D	1,100	10 - 50	0.7
SikaBiresin® RE 786 - RE 102	High thermal conductive material for power electronic application	65 A	5,000	45	1.0
EP					
SikaBiresin® RE 896 - RE 896	Hot cure epoxy with high crack resistance for e-Motor impregnation	90 D	600/70 °C	60	1.0

MOVING INDUSTRIES FORWARD

COMBINING GLOBAL REACH WITH LOCAL EXPERTISE

WHO WE ARE

Sika is a specialty chemicals company with a globally leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing, and protection in the building sector and industrial manufacturing. Sika has subsidiaries in 102 countries around the world and, in over 400 factories, produces innovative technologies for customers worldwide. In doing so, it plays a crucial role in enabling the transformation of the construction and transportation sector toward greater environmental compatibility. With more than 34,000 employees, the company generated sales of CHF 11.76 billion in 2024.

Our most current General Sales Conditions shall apply.
Please consult the Data Sheet prior to any use and processing.

FOR MORE INFORMATION:
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