AUTOMOTIVE
BETTER VEHICLES
START WITH SIKA
LIGHTER | STRONGER | SAFER | QUIETER | GREENER
YOU NEED TO FIND WAYS TO MAKE YOUR NEXT VEHICLE LIGHTER, STRONGER, SAFER, QUIETER OR GREENER.

SO WHERE DO YOU START?
Start with a trusted partner that can deliver global innovation on a localized scale, wherever and whenever it’s needed. Start with a commitment to continuous improvement, and the knowledge that it takes years to become an overnight success. Start with a collaborative approach that can bring together great minds without knocking heads. Start with pioneering innovation that clears a path for the vehicles of the future no matter what form they take.

START WITH SIKA.
With a full suite of bonding, damping, sealing and reinforcing solutions, Sika is a key strategic partner for both OEMs and component suppliers. By collaborating on advanced development projects and engaging early in program development, we help customers optimize designs, identify cost savings and reduce complexity.
SUPPORTING CUSTOMERS ON A TRULY GLOBAL SCALE

As a true partner to the global automotive community, our manufacturing facilities, research and development centers, and partner cooperation footprints are well positioned to support customers throughout the world. Strategic regional placement allows Sika to deliver greater cost savings and shorter lead times for our products, and accelerated development and implementation of new technologies, which benefits existing and new customers alike.

As the global automotive industry continues to evolve, we continue to enhance our global capabilities to better support our customers.

MORE THAN 50% OF ALL VEHICLES PRODUCED WORLDWIDE UTILIZE SIKA PRODUCTS AND TECHNOLOGIES.

OUR PRODUCT PORTFOLIO INCLUDES solutions for bonding, sealing, damping and reinforcing for vehicle body-in-white, body structure, interior and exterior components. As the industry evolves, we are ready, offering application expertise to New Energy Vehicle components including: advanced body structure, lightweighting, battery, array and pack assembly, sealing and structural bonding, crash safety and intumescent coatings. Sika’s wide-ranging solution set gives us the ability to support customers in multiple areas of their manufacturing processes, and provides insight into their broader challenges.

We consistently apply those insights to our R&D efforts and the result is a stream of product and process innovations that help our customers build lighter, stronger, safer, quieter and greener vehicles.
OUR WORLDWIDE NETWORK of 20 Technology and Development Centers throughout the Americas, Europe and Asia includes a dedicated staff of more than 950 R&D team members. Through the collaborative nature of Sika’s product creation process, our R&D teams work closely with Sika’s extensive engineering, technical service and manufacturing teams. This approach accelerates the transition from innovations in the laboratory to products in the vehicle. Overall, the creative use and deployment of our R&D resources contributes substantially to products and technologies, which helps our customers make better vehicles.

BETTER VEHICLES START WITH SIKA Innovation

LIGHTER WEIGHT
We have a full range of products that enable our customers to make their vehicles lighter. For example, we were the first to engineer body shop adhesives (SikaPower®), that enable mixed-material bonding of lighter materials such as aluminum, carbon fiber reinforced plastic, as well as traditional and high strength steel.

STRONGER AND SAFER
We were the pioneer in vehicle body reinforcements with our SikaStructure® and SikaReinforcer® products, that not only help stiffen the vehicle for better overall dynamics but also improve crash performance and increase vehicle occupant safety.

QUIETER
We provide solutions that make vehicles quieter; SikaBaffle® seals noise pathways while SikaDamp® reduces body panel vibration that contributes to audible noise in the vehicle. Both products are engineered for best-in-class weight-to-performance ratio. Used together, or separately, our industry leading acoustics solutions improve vehicle occupant comfort.

GREENER
We were the first to develop glass bonding pre-treatment systems which, when in use, contain and release fewer volatile organic compounds – a more environmentally friendly approach that easily outperforms the industry’s previous generation of products.

VALUE-ADDED INNOVATION
We continuously develop new, cost-effective solutions, that allow our customers to use less material, where possible, or reduce complexity in their manufacturing process. SikaPower® structural adhesives, for example, allow the reduction of welds in vehicle body sections, while strengthening overall crash durability. Anticipating megatrends we also offer a full range of solutions for assembly of e-mobility components and vehicles.

SEVEN-STAGE PROCESS
TO ENSURE THAT NEW AND PATENTED PRODUCTS ARE BROUGHT TO MARKET AT AN ACCELERATED PACE, OUR TEAMS FOLLOW A SEVEN-STAGE PRODUCT CREATION PROCESS FOR PRODUCT DEVELOPMENT.

AT SIKA, WE BELIEVE that a truly innovative company is one that starts with a culture within which a passion for innovation and creativity thrive. An innovative company should also take a customer-focused view; one that anticipates customer needs with a thorough understanding of key market trends.
**OUR VERSATILE STRUCTURAL INSERT** technologies reinforce car body structures while delivering a variety of process and performance benefits, including improved acoustics. Three-dimensional parts are designed with a SikaStructure® carrier and then secured using either a thermal epoxy foam (SikaReinforcer®) or an adhesive (SikaPower®). Our extensive reinforcement product range also includes structural tapes, stiffener pads and bulk applied solutions for selective panel stiffening. Together, these technologies help create lighter weight, high-performance structures, and enable the creation of a new generation of car body concepts.

**MORE THAN 20% WEIGHT REDUCTION** IN THE CAR BODY CAN BE ACHIEVED WHEN SIKA’S PROPRIETARY HIGH STRENGTH BONDING SOLUTIONS ARE USED IN CONJUNCTION WITH LIGHTWEIGHT MATERIALS AND THINNER MATERIAL CONSTRUCTION.

**KEY PRODUCTS**

1. **SikaReinforcer®** - Adding strength, not complexity
2. **SikaStructure®** - Lightweight crash or stiffening performance
3. **SikaPower®** - High-strength bonding for structural applications
4. **Sikamid®** - Multi-purpose raw material for highly engineered injection-molded parts
Quieter Rides: Weighing Up the Options

NOISE, VIBRATION AND HARSHNESS (NVH) complaints are among the most common concerns cited in new vehicle quality studies, but addressing them by simply adding weight often creates new engineering challenges. Our Acoustic Systems utilize lightweight pre-shaped, molded, extruded and die cut parts within the primary body structure. By sealing the vehicle body cavities, common noise transmission paths are efficiently blocked. We also utilize laser vibrometer analysis to identify body panel vibrations (which can lead to audible noise) and significantly reduce them by using strategically placed dampers.

In sum, our portfolio of solutions in expanding baffle products including bulk applied, and our bitumen monolayer, dual layer, magnetic, elastomeric CLD and ultra-lightweight dampers are unmatched in the industry. The combined acoustic system helps prevent noise from reaching the passenger compartment, all without adding significant weight to the vehicle.

KEY PRODUCTS

1. SikaBaffle®: An impressive body of sealing options
2. SikaDamp®: Exceptional cost/weight-to-performance
3. SikaSeal®: An impressive body of sealing options
4. Sikamid®: Multi-purpose, high performance raw material for injection-molded parts
SAFETY AND SUSTAINABILITY have become key considerations in vehicle design and manufacturing. Performance, economic and legislative targets have all driven the need for bonding solutions that can improve stiffness, crash durability and fatigue performance, all while focusing on continued weight reduction. Sustainability contributions include the ability to reduce or eliminate spot welds, and a contribution to reduced utility costs in the assembly process. Sika provides a wide range of innovative and proven adhesives for crash durable, semi-crash, structural, hem-flange, anti-flutter, mastic and general sealing applications. Innovation continuously addresses emerging needs in the Body Shop. Our newest introductions include SikaSeal® Universal Weld Sealer and SikaPower® MBX, formulated specifically to address the growing requirements of mixed material bonding.

KEY PRODUCTS

1. SikaPower® - High-strength bonding for structural applications
2. SikaSeal® - An impressive body of sealing options

IMPACT TEST RESULTS:
A. Spot welded
B. Spot welded + SikaPower® crash resistant structural adhesive

>25 MILLION VEHICLES
Each year, our Body Shop Adhesives help make over 25 million vehicles stronger and safer.
FOR ASSEMBLY LINE PROCESSES – both robotic and manual – we provide high-performance bonding solutions for direct glazing and component bonding, as well as body sealing. As the World leader in PUR adhesive systems; innovation keeps our products ahead of the material curve. We also offer innovative elastic bonding solutions for mixed-material joining and metal panel stiffening.

>300,000 L REDUCTION IN VOC’S
OUR INNOVATIVE PRE-TREATMENT SYSTEMS FOR DIRECT GLAZING HELP TO ELIMINATE MORE THAN 300,000 LITERS OF VOC’S ANNUALLY FROM THE MANUFACTURING PROCESS.

**ASSEMBLY LINE ADHESIVES**

Simplified Processes: Making it Simple and Sustainable

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<tr>
<th>KEY PRODUCTS</th>
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<tr>
<td><strong>1</strong></td>
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<tr>
<td>Sikaflex®</td>
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<tr>
<td>High-performance primerless PUR adhesives</td>
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**EXTERIOR ADHESIVES**

Safer Vehicles: Enhancing Safety, Stiffness and Design Flexibility

**EXTERIOR DESIGN** isn’t just about good looks – components like sun roofs, headlamps, spoilers and tailgates also play an important role in functionality, aerodynamics, driver visibility and vehicle safety. Assembly and bonding of those components to the exterior, presents its own unique challenges. Our exterior bonding technologies provide an efficient and proven way to bond exterior automotive parts, while keeping weight low, meeting expectations for environmental performance and accommodating manufacturing requirements.

**30 MILLION HEADLAMPS**

BONDED WITH SIKA ADHESIVE TECHNOLOGIES LIGHT THE WAY FOR 15 MILLION VEHICLES ANNUALLY

**KEY PRODUCTS**

1. *Sikaflex®* High-performance primerless PUR adhesives - glass & component bonding
2. *SikaForce®* Multi-purpose 2-K polyurethane-based adhesives - spoilers, tailgates & trim
3. *Sikasil®* Silicone-based adhesives for demanding bonding and sealing applications - headlamps
4. *SikaMelt®* Multi-purpose hotmelt adhesives - headlamps & spoilers
A FLEXIBLE MANUFACTURING CONCEPT can create almost unlimited options for the consumer, particularly in the world of interior trims. Interior bonding is a vital part of this vision, but the increasing mix of challenging material combinations must be accommodated. Our technologies for lamination, flocking and assembly allow designers to create attractive, soft feel surfaces while still meeting the process and technical application requirements. These low-emission products (including a family of classification-free products) allow for easy application, short cycle times, and enable bonding to the most difficult substrates like polyethylene, polypropylene and polyamide 66.
FINDING MORE ENERGY-EFFICIENT and environmentally friendly paint systems is a critical challenge for automotive manufacturers. We offer a wide range of paint shop sealers to meet the cost, performance and environmental targets of our customers. Superior acoustic performance, lightweight and compatibility with modern paint systems are key drivers for our dedicated R&D Team. Through a strategic investment in the most efficient modern production equipment, we have been able to meet, and more often exceed, the automotive industry’s highest standards.

>25% OF ALL VEHICLES PRODUCED IN SOUTH AMERICA USE SIKA PAINT SHOP SEALERS FOR BETTER ACOUSTIC PERFORMANCE AND CORROSION PROTECTION.

PAINT SHOP SEALANTS
Better Processes: Meeting the Need for Efficiency and Flexibility

KEY PRODUCTS

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<tr>
<td>1</td>
<td>SikaSeal®</td>
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<td>2</td>
<td>Sikaflex®</td>
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CHARGE YOUR AMBITION; SOLUTIONS FOR BATTERY SYSTEMS
Tailored Products for Improved Performance and Maximized Occupant Safety

CHARGE YOUR AMBITION WITH SIKA. As an industry leading specialty chemical group with over 100 years of extensive knowledge in bonding, sealing, damping, reinforcing and protecting, our Global Business rapidly understands challenges of New Energy Vehicles and transfers benefits of the extensive Sika group R&D efforts throughout our global network into this demanding market arena.

With more than three decades of Bonding and Sealing experience in the Automotive Industry, Sika leverages a pole position to tackle the new challenges of battery housing assembly, featuring products with especially outstanding adhesion on plain metals and chemical resistance to glycols and transmission fluids. Using our long term experience in dielectric potting, we have taken the path to develop thermal interface materials for battery systems including silicone-free thermal conductive adhesives and gap fillers providing the best performance for optimum heat transfer in battery packs and modules. Our dielectric products are also found in grommets and connectors, controllers and relays as well as serving to encapsulate high performance electric drive motors. Furthermore, our intumescent coatings aid to actively delay fire spread in battery system enclosures to global regulations.

MORE THAN 50% OF VEHICLES PRODUCED ANNUALLY CONTAIN SIKA PRODUCTS, INCLUDING THE NEWEST EV PLATFORMS. OUR DEEP RANGE OF PRODUCTS FOR NEV AND NEV COMPONENT ASSEMBLY ENABLES KEY ARCHITECTURE CHALLENGES IN THE ACCELERATING TREND OF ELECTRIC POWERTRAINS. ANTICIPATING CUSTOMER EXPECTATIONS; WHAT ELSE WOULD YOU EXPECT FROM THE INDUSTRY LEADER.

APPLICATIONS
1. Fire Protective Coating
2. Thermal Conductive Adhesive
3. Structural Bonding Systems
4. Thermal Interface Gap Filler
5. Bonding & Sealing Solutions

TECHNOLOGY OVERVIEW – SOLUTIONS FOR BATTERY SYSTEMS CONSTRUCTION AND ASSEMBLY

<table>
<thead>
<tr>
<th>Product</th>
<th>Properties</th>
<th>Application</th>
<th>Key Benefits</th>
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<tbody>
<tr>
<td>SikaGard®</td>
<td>Fire Protection</td>
<td>Stop Flame Propagation / Heat Insulation / Adhesion to Metals &amp; Plastics</td>
<td></td>
</tr>
<tr>
<td>SikaForce®-TC</td>
<td>Cells/Packs Bonding</td>
<td>Thermal Conductive / Fast Curing / Adhesion to Metals</td>
<td></td>
</tr>
<tr>
<td>SikaForce®</td>
<td>Structural Bonding</td>
<td>Adhesion to Metals / Glycol resistant / High strength / Fast Curing</td>
<td></td>
</tr>
<tr>
<td>SikaBiresin®-TC</td>
<td>Thermal Interface</td>
<td>High Thermal Conductivity / Easy Process / Easy Maintenance</td>
<td></td>
</tr>
<tr>
<td>SikaFlex®</td>
<td>Bonding/Sealing</td>
<td>Adhesion to Metals &amp; Plastics / Fast Curing / Flexible</td>
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AS A TRUE PARTNER to the global automotive community, our manufacturing facilities, research and development centers, and cooperative manufacturing footprints are well positioned to support customers all over the world. Strategic regional placement allows us to deliver greater cost savings and shorter lead times for our products, and accelerated development and implementation of new technologies, which benefits existing and new customers alike.

AS THE GLOBAL AUTOMOTIVE INDUSTRY CONTINUES TO EVOLVE, WE CONTINUE TO ENHANCE OUR WORLDWIDE CAPABILITIES TO BETTER SUPPORT OUR CUSTOMERS AND HELP THEM MEET THEIR VEHICLE MATERIAL DESIGN CHALLENGES.
GLOBAL CAPABILITIES
Supporting Our Commitment to Innovation and Our Customers

WITH A SKILLED STAFF of engineers and scientists, who are among the most innovative in the industry, we’re able to deliver a stream of proven new materials and process improvements to our OEM and OES customers.

VALIDATION AND TECHNICAL SUPPORT
Our Technical Services team is focused on validating Sika materials to the processes, substrates and specifications required by OEM customers.

SYSTEMS ENGINEERING
Our Systems Engineering experts work to ensure our bulk adhesive and sealant products can be seamlessly integrated into our customers’ production processes.

PART CREATION, VALIDATION AND TESTING
Our extensive team of experienced engineers are focused on creating part designs for SikaBaffle® and SikaReinforcer® solutions, with the goal of delivering an optimal mix of function, weight and cost.

MATERIAL DEVELOPMENT
Our Materials team carries out extensive testing of products and characterization of polymeric and inorganic compounds to ensure we have a full understanding of the products we design.

SURFACE CHARACTERIZATION
Our state-of-the-art surface characterization labs allow us to study the surfaces of a wide variety of materials and substrates to determine the best ways to bond and seal them.

TOOLDING AND COMPOSITES
Our Advanced Resins group develops solid and liquid plastics (based on epoxy and polyurethane chemistry) for use in model, mold, tool and prototype (up to series production) applications, while also offering a wide range of dielectric products in multiple chemistries.

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ABOUT SIKA
Building Trust Since 1910

SIKA AUTOMOTIVE is a wholly owned subsidiary of Sika AG, which develops and manufactures specialty chemical products serving construction and industrial markets, including transportation, marine and automotive. In 2018, Sika AG generated annual sales of approximately US $7.27 billion (CHF 7.09 billion), and has over 20,000 employees with operations in more than 100 countries.

SIKA HAS PROVIDED WATERPROOFING SOLUTIONS FOR MORE THAN 100 YEARS
THE FIRST PRODUCT, SIKA®-1, IS STILL ON THE MARKET

SIKA’S CLEANROOM FLOORING SYSTEMS RELEASE 1,000 TIMES LESS EMISSIONS THAN STANDARD LOW VOC SYSTEMS

EVERY YEAR SIKA SUPPLIES ENOUGH ROOF MEMBRANES TO COVER THE WHOLE OF MANHATTAN

IN OVER 100 COUNTRIES, MORE THAN 10,000 ROOFING CONTRACTORS ARE TRAINED AND CERTIFIED BY SIKA

USING SIKA’S LONG-LASTING WINDOW INSTALLATION SEALANTS, MORE THAN 1 MILLION WINDOW FRAMES ARE SEALED EACH YEAR, HELPING TO SAVE MORE THAN 10,000 TANKER LOADS OF HEATING OIL OVER THEIR COMPLETE LIFETIME

WITH 100 AWARDS IN 18 YEARS, SIKA IS THE COMPANY WITH THE MOST CONCRETE REPAIR PROJECTS AWARDED WORLDWIDE

THANKS TO SIKA’S RANGE OF WATER REDUCERS OVER 25 BILLION LITERS OF WATER ARE SAVED ANNUALLY IN CONCRETE PRODUCTION
GLOBAL REACH BUT LOCAL PARTNERSHIP

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

www.sikaautomotive.com