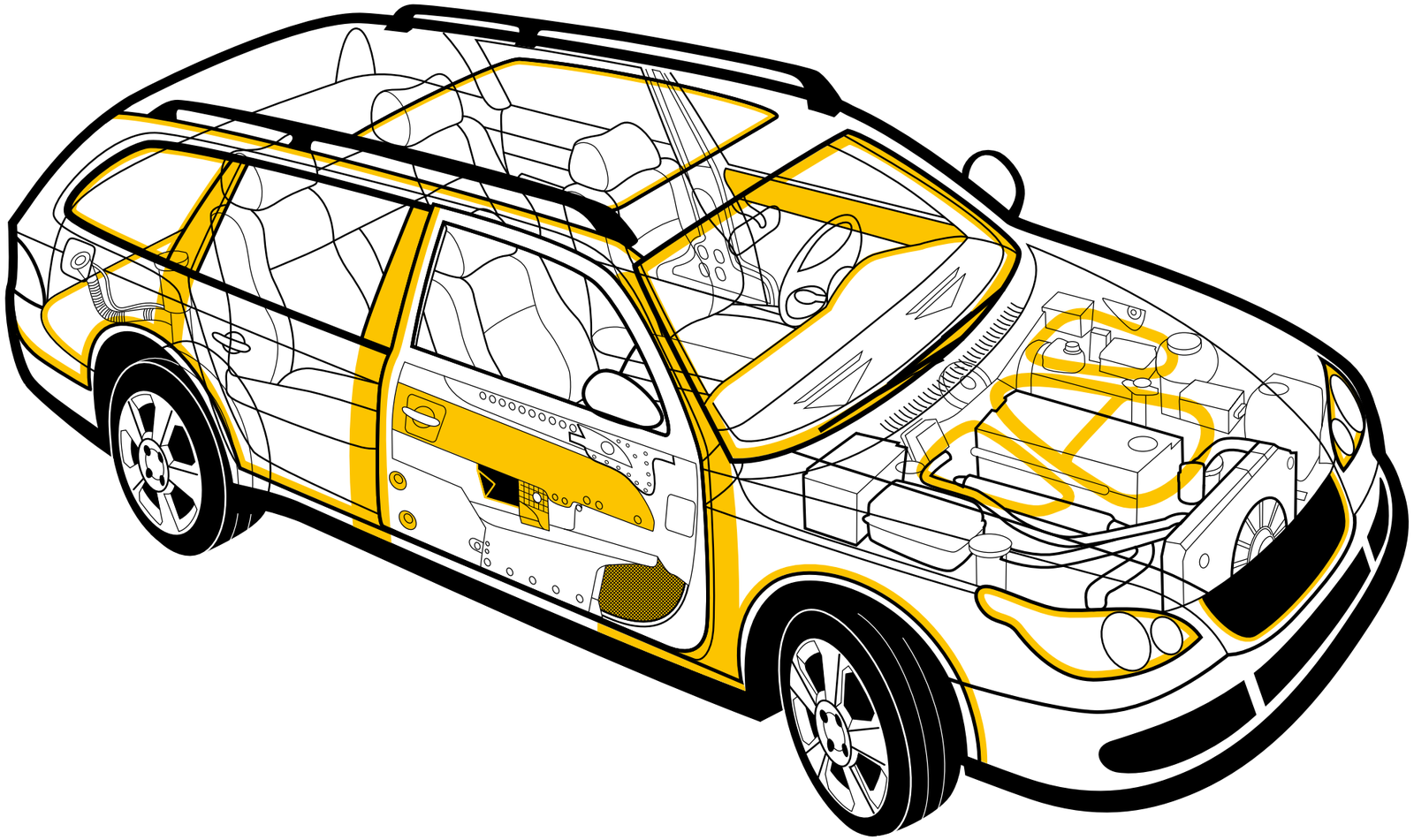
Automotive
Realizing Visions

Innovation & Consistency | since 1910

Creating Solutions
for Increased Productivity

Sika is supplier and development partner to the automotive industry. Our state-of-art technologies provide solutions for increased structural performance, added acoustic comfort and improved production processes. As a specialty company for chemical products, we concentrate on our core competencies: Bonding – Sealing – Damping – Reinforcing.

As a globally operating company, we are partner to our customers worldwide. Sika is represented with its own subsidiaries in all automobile-producing countries, thus guaranteeing a competent and fast local service.

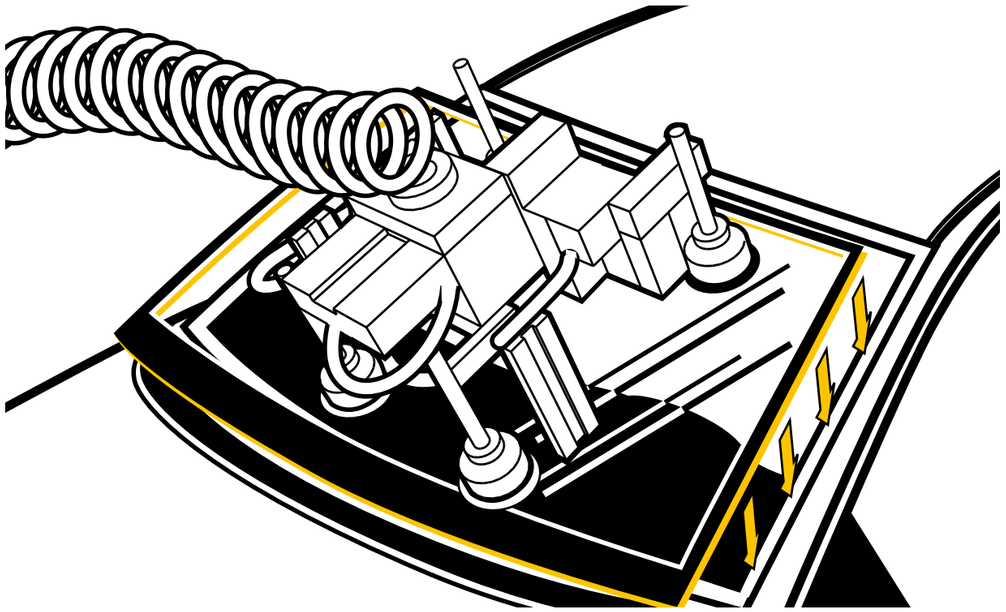


Content

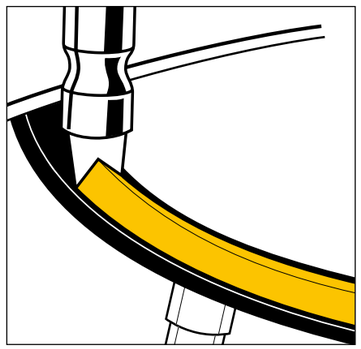
Direct Glazing

For over 20 years, Sika has been providing OEM assembly lines with adhesive and sealant solutions for sealing, bonding and direct glazing. Primerless, manual and automated pre-treatment options are available to fit the needs of a variety of OEM application processes in order to create significant cost savings and process simplification.

Sika offers pre-treatment technologies focused on eco-friendly solutions, which result in a solvent-free direct glazing process. Our solutions create process simplification and cost efficiency from the initial design through to the entire bonding process. Sikaflex® and SikaTack® provide a durable and long-lasting bond starting from the OEM assembly line all the way to automotive glass replacements in the aftermarket.



Direct glazing solutions for modern manufacturing



Excellent application properties with Sikaflex®

Direct Glazing

OEM approved repair solutions with SikaTack®

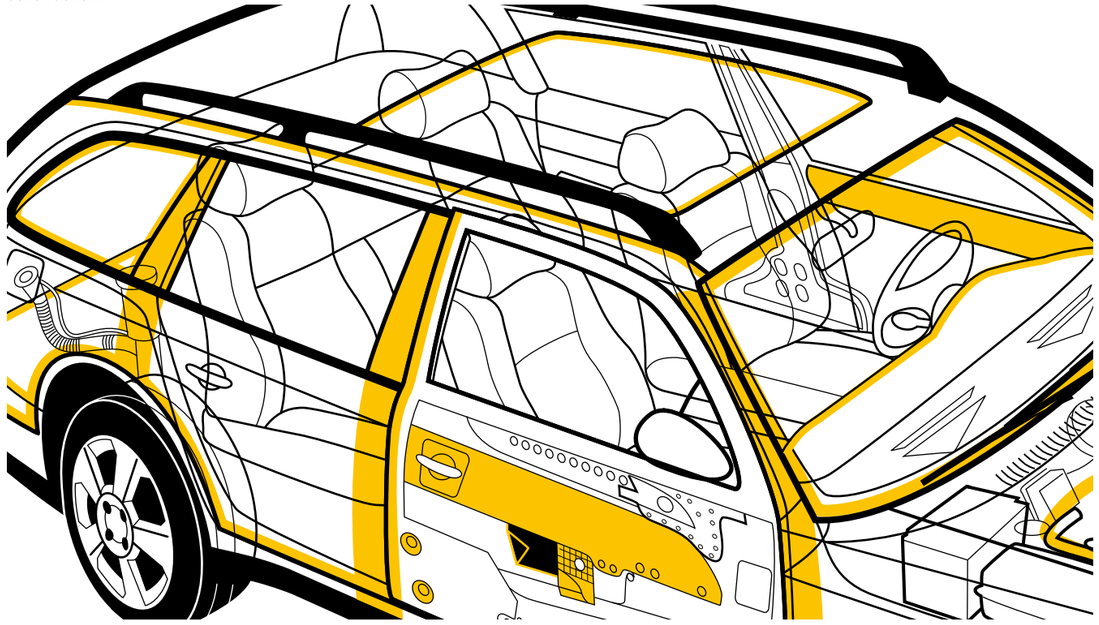
Technological Benefits

- Accelerated with booster
- Primerless to glass
- Primerless to paint
- Low-conductivity
- High initial green strength

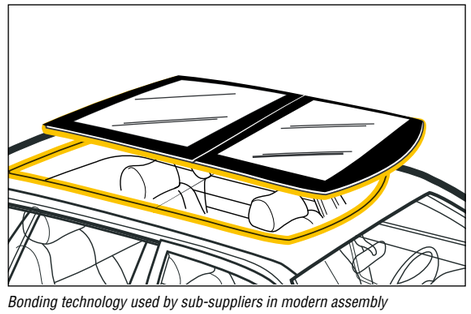
Exterior Bonding

The environment is sometimes as temperamental as a car. To survive under the harshest conditions, all necessary requirements for strength, elasticity and high-performance must be met, even on difficult substrates such as carbon fiber substrates or PBT.

The Sika product range for external applications in the automotive industry is an integrated system. SikaForce®, SikaFast®, Sikaflex® and SikaTack® Plus provide the ultimate solution for external applications such as spoilers, trunk lids, roof systems, headlamps and air-ducts. In addition to the structural bonding of components, Sika technologies can also be used in seam sealing and hybrid construction.



Modern roof systems are bonded using Sikaflex® and SikaForce®



Bonding technology used by sub-suppliers in modern assembly

Exterior Bonding

Bonding and sealing of headlamp with Sikaflex®

Bonding of front grill with SikaForce®

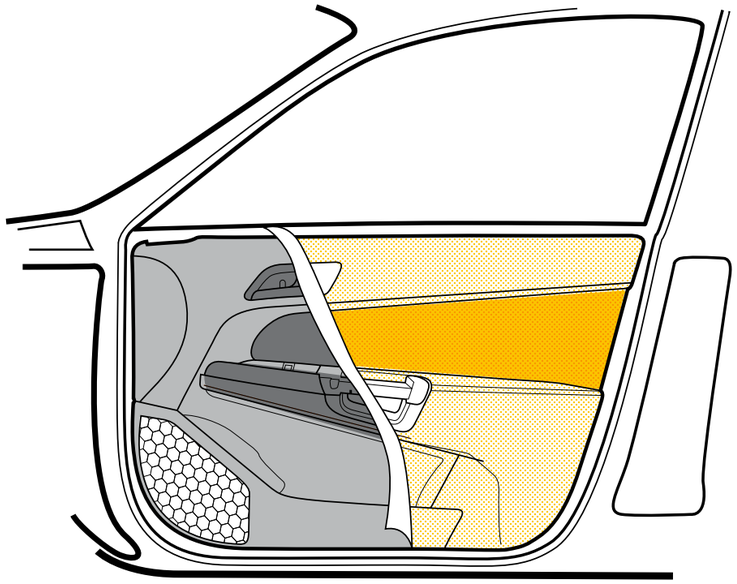
Technological Benefits

- Wide range of properties from flexible to high-performance
- Wide bonding range to plastics, metal and glass
- Open time adjustable from seconds to hours
- Weather- and age-resistant

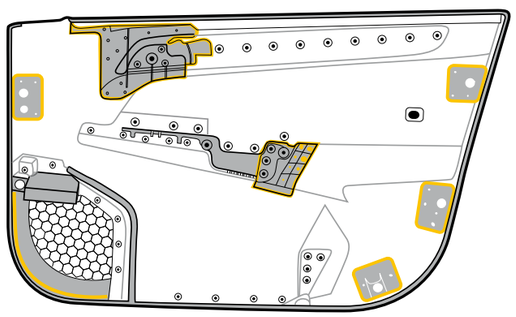
Interior Bonding

With the world changing fast, so have the needs of automotive manufacturers. In the lamination and assembly of interior bonding applications, technologies which reduce cycle times and fulfill all strength, heat resistance and emission value requirements while remaining cost-effective and environmentally sound, provide the industry with not only simplified production processes but additional solutions.

Sika has developed several hot-melt and solvent- and water-based technologies to create strong adhesion to various substrates. SikaMelt®, SikaTherm® and SikaSense® technologies are used in the lamination and bonding of a variety of interior applications such as retainers, door panels, carpet, trims, dashboards, headliners and consoles, in addition to several more.



Comprehensive technology for lamination and assembly bonding of car interior



Hot-melt technology used in bonding of clips and retainers

Interior Bonding

SikaMelt® technology used in the bonding of load floors

SikaMelt® offers customers a variety of solutions. Classic hot-melt technology were developed to provide the initial green strength without any pre-treatment.

Customized solutions for high-volume production

Technological Benefits

- Low application weights
- Low reactivation temperatures
- High-strength, heat-resistant bonds
- Low-fogging and emission values
- Dry cleaning resistant
- Weather- and age-resistant
- Fast-tack development
- Strong bond to PP plastic components

Interior Bonding

SikaTherm® water-based adhesives offer high-performance, one- and two-part polyurethane dispersions, which may be applied by dispensing equipment or by hand. Meeting the highest aging standards, SikaTherm® has established itself both in pressure and vacuum lamination, suitable also for leather.

Innovative technologies to meet the highest standards and specifications

Technological Benefits

- One- and two-sided adhesive application
- Low reactivation temperatures
- High-strength, heat-resistant bonds
- Low-fogging and emission values
- Short flash-off times
- Weather- and age-resistant
- Fast-tack development
- Strong bonds to a wide range of materials

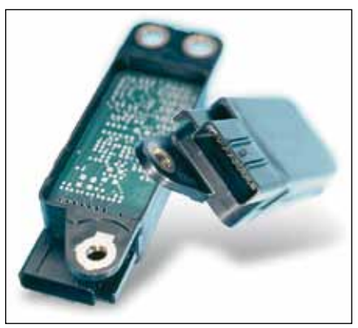
Bonding of decorative parts using SikaMelt®, SikaTherm® and SikaSense®

Interior Bonding

SikaSense® is a traditional solvent-based adhesive known for high-performance pressure-sensitive adhesive dispersions used for automobile tapes and sound damping solutions.

Electronic Potting

Tailor-made two-component SikaForce® products are especially suitable for electronic potting and sealing applications. SikaForce® technology meets exceptionally high demands in the adhesion to PBT and PA 6.6, as well as the ageing performance for components such as airbag control units, engine control units and side airbag release relays.



Electronic potting with SikaForce®

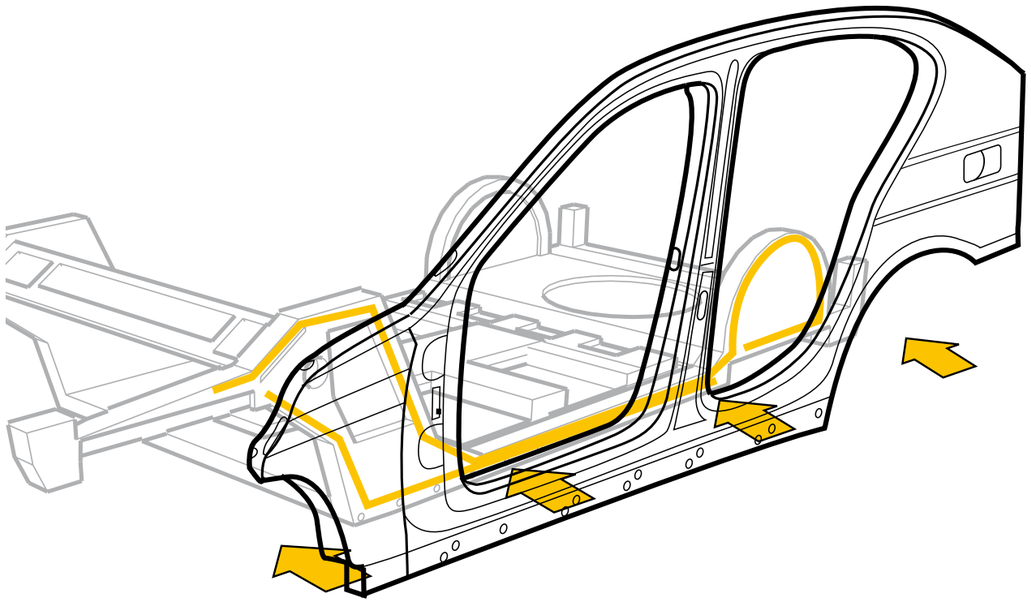
Technological Benefits

- Excellent heat and ageing resistance
- Flexible
- Strong bond
- Wide bonding range to plastics, metals and glass
- Open-time adjustability from seconds to hours

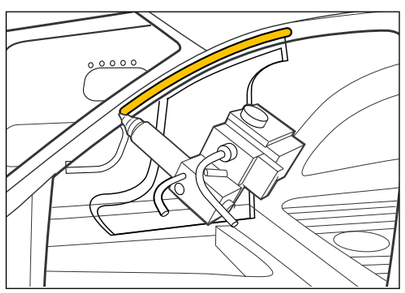
Structural Bonding & Sealing

The need for speed has never been greater than in today's world. This is also true for the car manufacturers. Structural bonding is easy to combine with other joining techniques. Flexibility, durability and a reduction in spot welding points are just a few of the benefits achieved by using structural bonding and sealing technology.

SikaPower® adhesives and sealants are heat-curing products based on one- and two-component PUR-epoxy hybrid technology. This technology covers a wide range of body-in-white sealants and adhesives including anti-flutter, hem flange and structural applications, extending to crash-resistant spot-weld applications.



Increased vehicle stiffness through structural bonding with SikaPower®



Superior automated application properties

Structural Bonding & Sealing

Enhanced manufacturing processes using SikaPower®

Anti-flutter bonding and sealing using SikaPower® 2C

Technological Benefits

- Adhesion to various oiled metals without pre-treatment
- Excellent ageing and long-term durability
- Superb wash-out resistance
- Low-bake curing to improve object temperature variations
- Solvent- and PVC-free
- 1- and 2C products

Structural Reinforcement

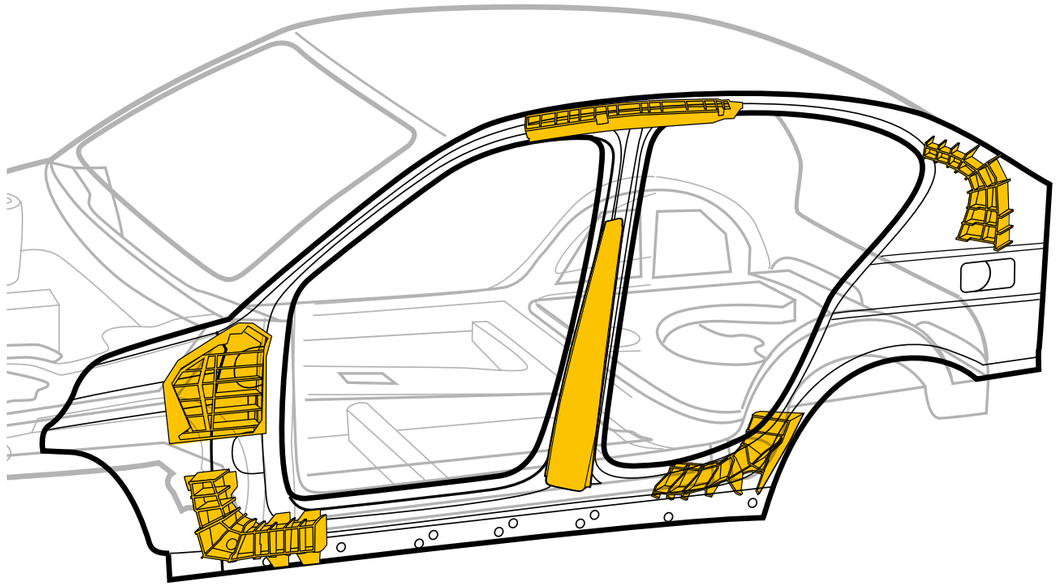
During the last few years customer requirements for vehicle safety in the automotive industry have continuously increased. Therefore the employment of additional structural measures to reinforce the vehicle body structure have become essential. These structural reinforcements embrace measurements which optimize crash performance, increase torsion stiffness and reduce noise and vibration in the automotive industry.

SikaReinforcer® is a thermally expandable light weight structural epoxy reinforcement based technology. SikaReinforcer® is cohesively molded to its 3D SikaStructure® to support cavities for vehicle stiffness improvement (Safety; Durability; and NVH).

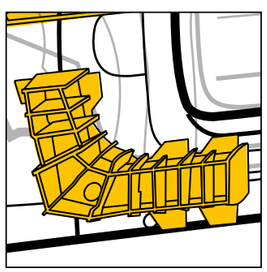
SikaStructure® is a plastic, steel, or hybrid 3D engineered composite design used in conjunction with SikaReinforcer®.
The molded combination of SikaReinforcer® and SikaStructure® is designed to increase stiffness and structural integrity. This engineered, lightweight solution offers potential replacement to high strength steel and other substrates.

The molded, customized SikaReinforcer®/SikaStructure® part can be robotically or manually inserted into vehicle cavities such as:

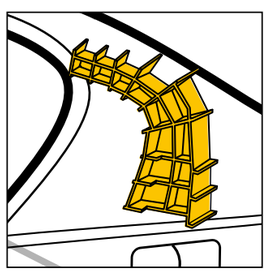
- A, B, C, and D Pillars
- Frame rails
- Beams
- Doors



Reinforcement solutions used in strengthening of the car body structure



Structural Stiffness



Customized design solutions

Structural Reinforcement

Structural Localized Stiffness

Technology Benefits

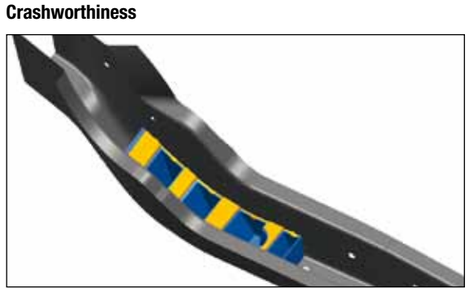
- Global body bending and torsional stiffness improvement
- Beams or components bending and torsional stiffness improvement
- Improved fatigue behaviour

NVH Noise, Vibration and Harshness

Technology Benefits

- Reduces vibration and as consequence noise reduction
- Local impedance and body frequency response improvement

Crashworthiness



Technology Benefits

- Pillar, rail, beam and cross member stiffness improvement (Front/Side/Rear Impact and Roof Crush)
- Energy and load transfer

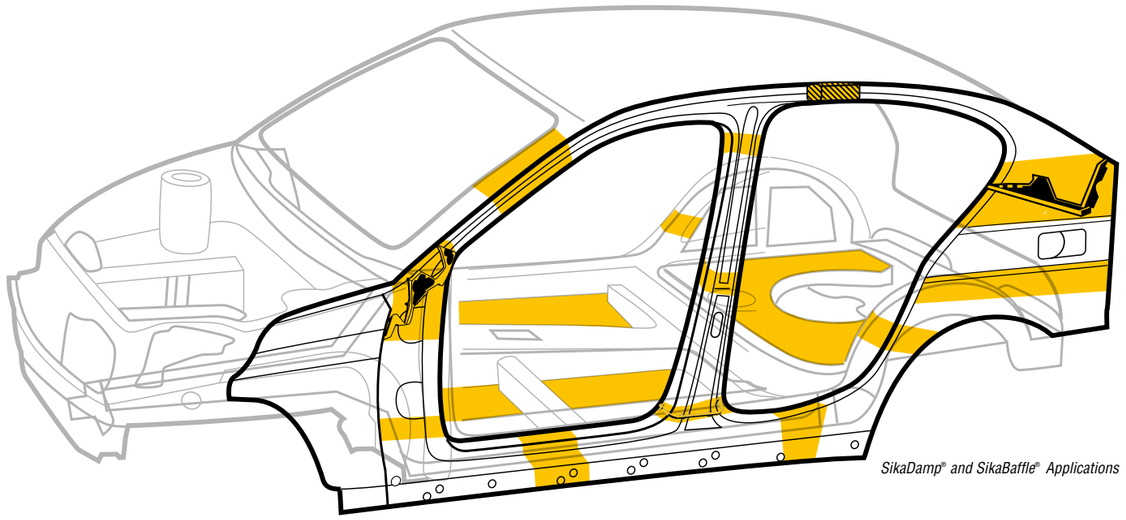
Sound Damping

The interior noise in a car is of significant importance in today's highly competitive world market. Our technical expertise and acoustic experience allow us to produce and supply our customers with innovative, high-performance products to reduce interior noise.

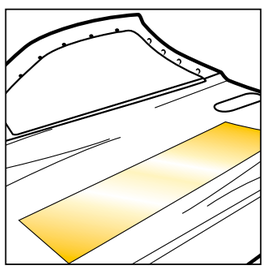
Sika Acoustic System (SikaBaffle®, and SikaDamp®) is a heat reactive, pre-shape molded, extruded and designed die cut part. The full Acoustic System package (thermoplastic and elastomeric products) is optimized to reduce noise propagation through primary body structure from entering into the passenger compartment. The Acoustic System is designed to seal the vehicle body cavities (SikaBaffle®) and to damp (SikaDamp®) the vibration of the body panels resulting in a driving and riding comfort.

The SikaBaffle® is a 3D thermoplastic (molded) or elastomeric (extruded) part designed to seal a body cavity to provide significant increase in vehicle acoustic performance. SikaBaffle® products are developed with various volumetric expansions to seal body cavities to meet OEMs design parameters. It is inserted in the assembly of body structure and expands during electro deposited (E-Coat) oven to seal the body cavity. The high degree of expansion and the three-dimensional design of SikaBaffle® products allow sealing of complex design cavities.

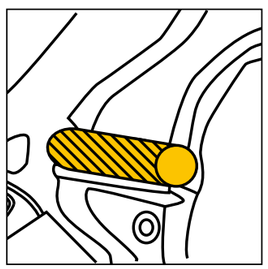
SikaDamp® is a non-curing, lightweight, elastomeric constrained layer damper, SikaDamp®, it is co-extruded with either aluminum foil or a glass cloth carrier for ease of application and production processes.



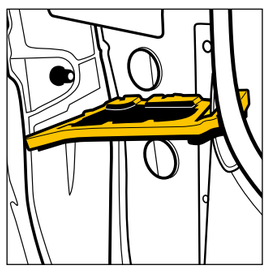
SikaDamp® and SikaBaffle® Applications



Vibration Damping of Body



Sound Insulation of Body Cavities (Extruded Parts)



Patented design solutions

Sound Damping

Molded Parts

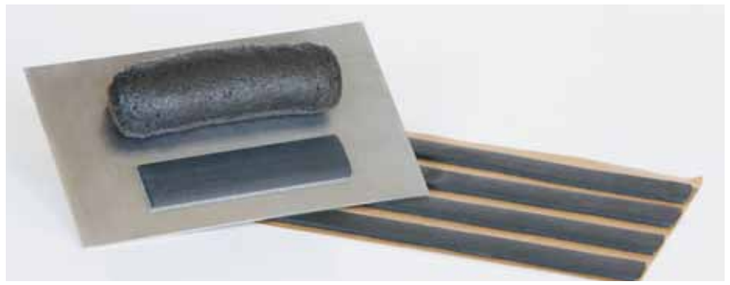
Sealing the body cavities contributes to the blocking of the exterior noise from entering into the vehicle compartment resulting in a much quieter ride. The molded SikaBaffle® parts can be robotically or manually inserted into vehicle cavities such as A, B, C, and D pillars.

Technology Benefits

- Lightweight solutions
- Complete sealing of the designed cavity
- Provides insulation to water, moisture and dust
- Superior acoustic performance
- Flexible design options through injection molding

Extruded Parts

The extruded SikaBaffle® Acoustic System products are designed to effectively seal these cavities of the vehicle, to block and damp the exterior noise.
The extruded SikaBaffle® parts can be robotically or manually installed into vehicle cavities such as A, B, C, and D pillars.

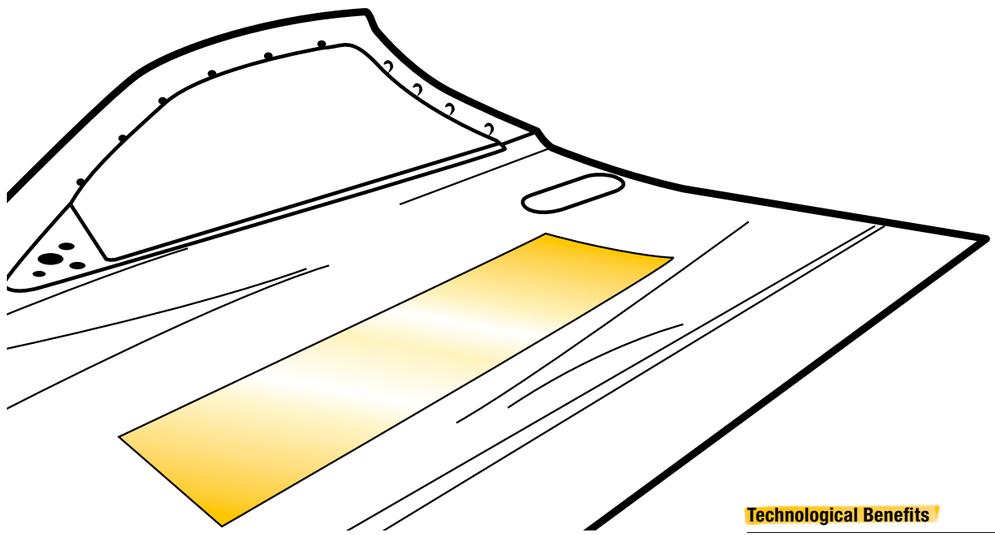


Technology Benefits

- Lightweight solutions
- Complete sealing of the designed cavity
- Provides insulation to water, moisture and dust
- Superior acoustic performance
- Unlimited profile options
- High and very high expansion
- No or low tooling cost

Vibration Damping of Body

SikaDamp® products are non-curing, lightweight elastomeric, constrained layer pre-shaped based technology. SikaDamp® technology is used to damp the vibration of body panels such as Door, Hood, Roof, Wheel house, or trunk areas. SikaDamp® products are typically with an aluminum foil constraint layer, or co-extruded with a glass cloth for applications and production processes.



Technological Benefits

- Elastomeric mastic material to reduce body panel vibration
- Improves body stiffness
- Improves structural noise (i.e. door slam)
- Co-extruded with an aluminum foil or a woven cloth for ease of application
- Can be applied in body, paint, or final assembly

Focusing on the Customer

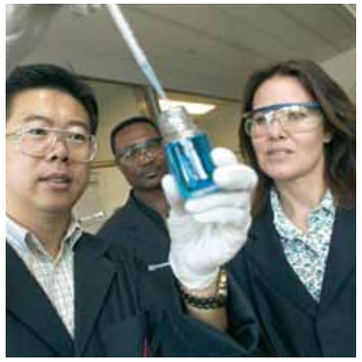
Sika develops system solutions in close cooperation with its customers in the automotive industry. To us, this means not only developing high-performance quality products but also assuring their functionality at each stage of the complete modular production process. Specialists in R&D, System Engineering and Application Technology as well as in the Acoustic Test Center concentrate on devising client-oriented system solutions.

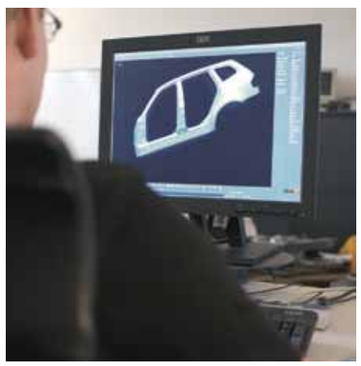
Technology Centers
Our technology centers are focused on the development of new products. This puts us in a position to actively promote technological progress in the automotive industry and to develop competent approaches for our customers.

CAD/CAE Supported Development
We concentrate on CAD/CAE supported development of structurally reinforcing process material. From providing precision prototypes to developing highly functional injection molded system solutions, our development engineers stay involved in client projects from the research stage to serial production.

System Engineering
Application technology is a key success factor in using adhesives and sealants. Our System Engineering Competence Center focuses on this important task and develops application parameters and systems aiming at holistic solutions for our clients. This includes pumping and application systems as well as automated robot equipment specifically designed to meet individual customer needs.

Acoustic Test Center
In our Acoustic Test Center in the USA (Madison Heights, MI) we test our products for acoustic performance. Equipped with a Chassis Dynamometer, a wind-testing rig and an E-coat oven suitable for entire vehicles, we are able to stimulate realistic test conditions.





Sika
Worldwide

Sika is a globally active company supplying the specialty chemicals markets. It is a leader in processing materials used in sealing, bonding, damping, reinforcing and protecting load-bearing structures in construction (buildings and infrastructure construction) and in industry (vehicle, building component and equipment production).

Sika's product lines feature high-quality concrete admixtures, specialty mortars, sealants and adhesives, damping and reinforcing materials, structural strengthening systems, industrial flooring and membranes. Subsidiaries in more than 70 countries worldwide and approximately 12,900 employees link customers directly to Sika.

Responsible Care

Certified Quality System ISO 9001/EN 29001 since 1986

Certified Management System ISO 14001 since 1997

www.sika.com

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06/2010