



SIKA SEALING SOLUTIONS FOR COMMERCIAL VEHICLES ENHANCED DURABILITY AND DESIGN

BUILDING TRUST



ENHANCING VEHICLE DURABILITY AND PERFORMANCE

In the ever-evolving industry of commercial vehicle manufacturing, the quality and longevity of your products are essential. The role of sealing technology is critical in this context, providing numerous advantages that extend beyond basic functionality. Sika offers advanced sealing solutions, where durability, design, and operational efficiency come together to elevate vehicle performance standards.

Sealing technology is not just about closing gaps; it's about opening opportunities for enhanced vehicle resilience and reliability.



ENHANCED DURABILITY

Sealing technology plays a crucial role in extending the lifespan of commercial vehicles. By protecting from harsh environmental elements, sealing ensures a longer service life and better performance.



REDUCED CORROSION

Effective sealing acts as a barrier against moisture and contaminants, significantly lowering the risk of corrosion in vehicle components.



STREAMLINED DESIGN

Sealing contributes to a more refined and flush design aesthetic, allowing for smoother surfaces and cleaner lines in vehicle construction.



IMPROVED SOUND INSULATION

By dampening vibrations and reducing noise, sealing technology contributes to a quieter and more comfortable operating environment.



LOWER MAINTENANCE COSTS

Regular maintenance can be costly. Effective sealing reduces the need for frequent repairs, leading to substantial savings in maintenance expenses.

WE BELIEVE IN A COLLABORATIVE APPROACH. WE WORK ALONGSIDE OUR CLIENTS FROM THE EARLIEST STAGES OF DESIGN AND ENGINEERING, OFFERING TAILORED SOLUTIONS THAT ALIGN WITH SPECIFIC INDUSTRY REQUIREMENTS.

OUR COMMITMENT TO INNOVATION in adhesive bonding and sealing technologies is about more than just supplying products; it's about forging partnerships that drive progress and efficiency in vehicle manufacturing. Our team is equipped to provide solutions that enhance durability, reduce costs, and streamline production processes.



COMPREHENSIVE SUPPORT FOR ENGINEERING AND INTEGRATION



PARTNERSHIP FROM THE GROUND UP



TAILOR-MADE SOLUTIONS

SUSTAINABILITY

OUR COMMITMENT TO SUSTAINABILITY SHAPES THE WAY WE DEVELOP OUR SEALING SOLUTIONS, prioritizing both the performance of your vehicle and the well-being of our environment. Through innovative practices and responsible materials, we're dedicated to advancing eco-friendly advancements in the transportation industry.



PVC FREE

We envision a range of sealing solutions free from PVC, marking our commitment to reducing environmental footprints.

This future-focused approach aims to eliminate harmful emissions associated with PVC and foster cleaner, greener manufacturing processes.

It's a step towards meeting evolving environmental standards and consumer expectations for more sustainable transportation components.

LOW BAKE

Our aspiration includes the support for low-bake processes that promise to redefine energy efficiency in production.

By curing our sealants at lower temperatures, we aim to significantly cut energy use and carbon emissions, setting new benchmarks for sustainability in manufacturing. This process seeks to balance production efficiency with our responsibility to the environment.

EHS IMPACT

In our pursuit of sustainability, we place a strong emphasis on minimizing Environmental, Health, and Safety (EHS) impacts.

Our goal is to innovate sealing solutions that not only exceed performance expectations but also safeguard the health of the planet and its people. By striving for advancements that reduce hazardous substances and enhance safety, we are committed to leading the way towards a safer, healthier, and more sustainable future.



TAILORING SOLUTIONS FOR THE FUTURE

At Sika, we are at the forefront of this evolution. Our low-bake sealing solutions are designed to meet the diverse needs of the industry, ranging from low to medium and high bake requirements. By offering these innovative solutions, we enable manufacturers to not only meet current environmental standards but to set new benchmarks in sustainability.

DURABILITY

UNPARALLELED DURABILITY MEETS AESTHETIC INTEGRITY IN EVERY CLIMATE AND CONDITION

SEALING SIGNIFICANTLY BOLSTERS VEHICLE DURABILITY, by offering robust protection against diverse climatic conditions and the operational stresses that induce joint movements. This method efficiently reduces corrosion, thereby maintaining a seamless and impeccable appearance of the vehicle. Moreover, it ensures a durable bond that contributes to prolonging the vehicle's lifespan.



MOISTURE CURING INTERIOR AND EXTERIOR SEALANTS



- ✓ Joint Tolerance Bridging
- ✓ Operational Adaptability
- ✓ Tested Durability

HEAT CURING SEALANTS



- ✓ Compatible with high temperature Powder-Coating cycles
- ✓ Designed for use in the weld-shop on oily surfaces

LONGEVITY



- ✓ Crack Resistance
- ✓ Corrosion Resistance

PROCESS ENVIRONMENT

SEALANTS PLAY A CRUCIAL ROLE AT DIFFERENT STAGES, of vehicle manufacturing, providing protection, enhancing structural integrity, and contributing to the final aesthetic of the vehicle.

SEALING IN THE WELD SHOP

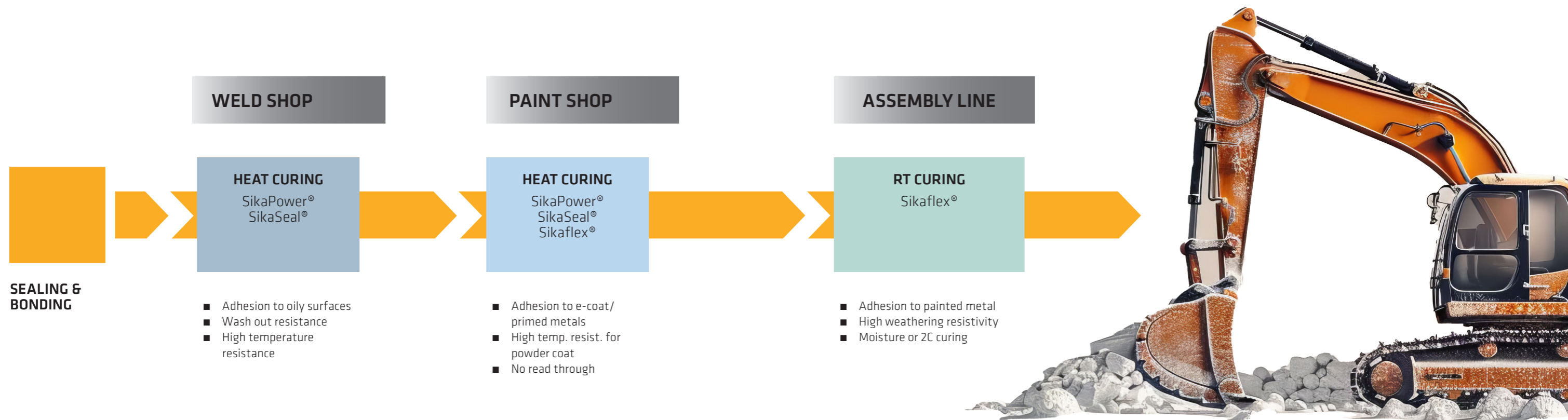
Sealants used in the welding shops are applied early in the vehicle construction phase. Their primary roles include prevention of leaks and corrosion, cover edges, and improve aesthetics.

SEALING IN THE PAINT SHOP

Paint shop sealants vary based on oven temperatures. For high-temperature powder coats, light-colored, heat-resistant sealants prevent bleed-through. Lower-temperature topcoats use process-appropriate sealants.

SEALING IN THE ASSEMBLY LINE

Assembly line sealants safeguard the vehicle's exterior, boosting both its appearance and resistance against water, dust, UV rays, and harsh weather. They're applied later in the process with unique functions tailored to assembly line needs.



ADHESIVE VERSATILITY

Sealants must effectively adhere to a wide range of metal surfaces.

EFFICIENT APPLICATION

Sealants need to work with both manual and automated application methods and have good tooling properties.

HIGH-TEMPERATURE TOLERANCE

With baking temperatures ranging from 120°C to 220°C, the sealants must resist high heat.

MATERIAL ADHESION

These sealants must strongly adhere to a diverse array of materials.

PROCESSING EFFICIENCY

They shall show good application characteristics like short cut-off strings and superior filling properties.

OPTIMIZED CURING

Sealants should dry quickly to prevent dirt pickup, making them easier to maintain

LATEST INNOVATION

SikaPower®-320

High Performance Heat Curing Powder-coating Sealant

SikaPower®-320 is a one-component, cold-applicable, heat-curing sealant based on epoxy resin/polyurethane. It is the best choice for sealing applications directly before powder or stove enamel coating and cures with the paint in the oven.



TEMPERATURE RESISTANCE
Resists high baking temperatures



VERSATILE ADHESION
Adheres to oily/cleaned substrates



EXCELLENT DURABILITY
Survives bending test at -40 °C

SikaPower®-320 POWDER COATING SEALANT

HEAVY DUTY DURABILITY

SikaPower®-320 is not just any sealant; it's a robust solution built to withstand the most challenging conditions. Developed for industrial-grade applications, this sealant has been meticulously crafted to deliver exceptional performance in environments where ordinary sealants would falter. It's designed to endure extreme temperatures, harsh chemicals, and intense mechanical stresses that are commonplace in heavy-duty settings.

Bending test at -40 °C



MECHANICAL DATA	Unit	160 °C	180 °C	200 °C	220 °C
Tensile strength	MPa	3.6	4.4	4.7	4.8
Elongation at Break	%	236	153	121	95
Shore A		54	65	64	73
Lap Shear Strength	MPa	2.7	3.0	3.0	3.0

Lap Shear Strength (LLS)*



Reference
3.0 MPa

7 d Cataplasma
3.2 MPa

500h Salt Spray
2.0 MPa

* Applied on DC04, 0.8 mm with 3 g/m² Anticorit PL3802-395 and cured it at 40 minutes 180 °C (total time in the oven)



PREMIER SEALANT FOR HIGH-PERFORMANCE COATINGS.

Experience the pinnacle of sealing technology with SikaPower®-320, a one-component, cold-applied, heat-curing epoxy resin/polyurethane sealant. Expertly engineered for pre-coating applications, it synchronizes its curing process with paint in the oven, excelling in demanding environments and tailored for heavy-duty use across various industries.

SEALING SOLUTIONS BEFORE PAINT

SIKA PROVIDES PEACE OF MIND SEALING SOLUTIONS that integrate well into your weld shop, paint process and assembly line. With our vast experience in automotive, transportation, and industrial manufacturing, Sika's technical experts support you in solving your sealing challenge anywhere in your process chain.

YOUR PROCESS REQUIREMENTS	Sealing in the Weld or Paint Shop			Sealing in the Paint Shop or Assembly Line		
	E-Coating or Powdercoating Process [Heat Curing]			Moisture Curing [< 80°C]		
	High Temperature Powdercoating Sealant	High Temperature Powdercoating Sealant	High wash-out resistant e-coating Sealant	Brushable low bake paint sealant	Easy pumpable low bake paint sealant	Sprayable Sealant
Sika Solution^A	SikaPower®-320	SikaSeal®-330	SikaPower®-415P1	Sikaflex®-215	Sikaflex®-216	Sikaflex®-529 Evolution
Chemistry	Heat Cure Epoxy-PUR	Acrylic Plastisol	Heat Cure Epoxy	1C PUR	1C PUR	1C STP
Color	Gray	White	Black	White	Black/Grey	Black/Ochre
Application Temperature	20 - 40 °C	20 - 40 °C	15 - 35 °C	5 - 40 °C	10 - 40 °C	5 - 40 °C
Wash Out Resistance	Low-pressure washing	Low-pressure washing	After Skinning	-	-	-
Open Time	-	-	3 - 4 hrs/5 min 160 °C	20 min	30 min	15 min
Curing Speed	30 min 180 °C	25 min 200 °C	25 min 180 °C	4mm/day	4mm/day	3mm/day
Tensile Strength	4 N/mm2	3 N/mm2	2 N/mm2	1.4 N/mm2	1.5 N/mm2	2.3 N/mm2
Elongation at break	150%	300%	100%	170%	600%	150%
Heat Resistance^B	1h / 220°C	1h / 230°C	10 min / 220°C	30 min / 120°C	60 min / 140°C	1h / 140°C
Suitable for^B						
- Steel ^C	■■■	■■■	■■■	□□□	□□□	■■□
- Aluminum ^C	■■■	■■■	■■■	□□□	□□□	■■□
- Primed/E-coated Metal	■■■	■■■	■■■	■■■	■■■	■■■
- Timber	NR	NR	NR	NR	NR	■■■
- Paints	NR	NR	NR	NR	NR	■■■
- Plastics	NR	NR	NR	NR	NR	■■□
Availability	Global	Americas	Global	Global	Global	Global
Product Description	SikaPower®-320 is suitable for sealing applications of various types of metals and can be used in combination with spot welding, riveting, clinching and other mechanical joining processes. It can be applied on oily substrates.	SikaSeal®-330 is suitable for seam sealing applications of various types of metals prior paint or powder coating process. It can be applied on substrates such as e-coated metals, treaded aluminum and galvaneal.	SikaPower®-415P1 is designed for sealing of seams or joints for sheet metal assembly work and is cured with heat, e.g. in the electro-coat oven. It forms a skin for increased wash-out resistance at exposure to humidity.	Sikaflex®-215 is a brushable, non-bubbling PUR sealant. It is designed to be used on e-coated surfaces. It can be painted and withstand common industrial paint oven conditions before curing.	Sikaflex®-216 is an easy toolable, non-bubbling PUR sealant. It is designed for sealing applications of chassis and body structures prior to paint shop.	Sikaflex®-529 Evolution is a moisture curing, sprayable sealant. It can be painted over with most 1C and 2C paints.

A Always consult the most current local Product Datasheet. Check with your local Sika company about product availability or alternative solutions.
B Suitability needs to be checked for each project. Thermal expansion of components, corrosion resistance, process requirements and adhesion are critical parameters for product selection. **C** Metals need appropriate corrosion protection measures. **D** Heat resistance related to the painting process.

PURFORM®
Pure Performance



MORE PERFORMANCE. LESS EXPOSURE.

Engineered to remove diisocyanate monomer content, Sikaflex® Purform® adhesives and sealants deliver all the benefits of industry-leading polyurethanes, with less than 0.1% monomeric diisocyanate for better health protection and occupational safety. Purform® is the foundation for a new generation of pure polyurethane solutions for sealing, bonding, and protection.

LATEST INNOVATION Sikaflex®-621

All-in-one Adhesive Sealant with a Wide Primerless Adhesion Range

Sikaflex®-621 is a primerless all-in-one adhesive sealant for industrial manufacturing. It complies with demanding emission standards and can be used for interior and exterior sealing & bonding applications and painted with typical industrial painting systems.



EASY APPLICATION
Wide primer-free adhesion range



GOOD WEATHERING PERFORMANCE
Less Discoloration

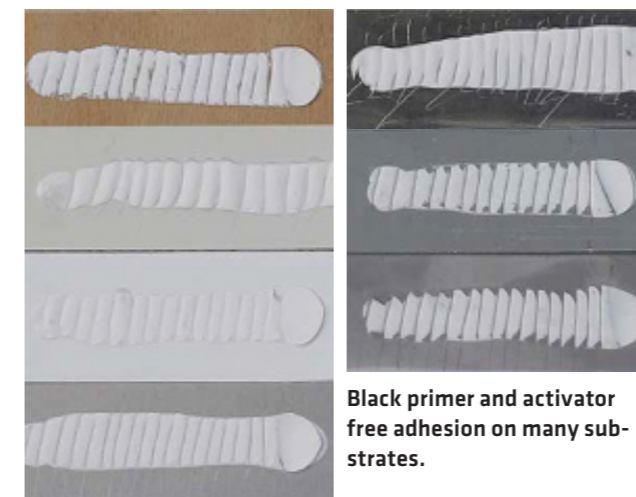


LOW EXPOSURE AND EMISSIONS
Low NCO content, No odor

Sikaflex®-621 THE PERFORMING ALLROUNDER THE BEST JUST BECAME UNMATCHED

Sikaflex®-621 is more than a simple adhesive sealant; it's a comprehensive bonding solution that excels in the most demanding industrial environments. Formulated for a broad spectrum of applications, Sikaflex®-621 is engineered to deliver superior performance without the need for a primer. It stands up to rigorous emission standards with ease and versatility, making it ideal for both internal and external sealing and bonding applications.

With its capacity to integrate smoothly with prevalent industrial painting systems, Sikaflex®-621 is the sealant of choice where performance and adaptability to painting processes are paramount. Designed to meet the needs of today's manufacturing, it confronts extreme conditions, diverse materials, and environmental factors, ensuring enduring bonds and seals in every application.



Black primer and activator free adhesion on many substrates.

Sikaflex®-621 is certified in accordance to:

- EN45545-2 R1/R7 HL3 fire standard
- ISEGA Certificate 60342 U 23 for food contact
- Meets DIN EN ISO 846 clean room hygiene

ADHESIVE/SEALANT SOLUTIONS AFTER PAINT

SIKA DELIVERS SEALING SOLUTIONS THAT SEAMLESSLY BLEND INTO your welding shop, painting process, and assembly line operations, offering confidence in every step. Leveraging our extensive expertise in the automotive, transportation, and industrial manufacturing sectors, Sika's team of technical specialists is dedicated to addressing your sealing challenges.

YOUR PROCESS REQUIREMENTS

Sealing in the Paint Shop or Assembly Line
Moisture Curing
Exposed - Exterior Use

	Isocyanate-free Multi-purpose Sealant	Sealing and Bonding Industry Standard	Performing Allrounder	High Weathering Performance	Low Emission and Mold Resistant	All-in-One Solution
Sika Solution^A	Sikaflex [®] -501/502	Sikaflex [®] -221	Sikaflex [®] -621	Sikaflex [®] -521 UV	Sikaflex [®] -522	Sikaflex [®] -268
Chemistry	1C STP	1C PUR	1C Purform	1C STP	1C STP	1C PUR
Color	Black/White	Black/Gray/White	Black/Gray/White	Black/Gray/White	Black	Black
Application Temperature	5 - 40 °C	5 - 40 °C	5 - 40 °C	5 - 40 °C	5 - 40 °C	5 - 40 °C
Open Time	15 min	45 min	35 min	30 min	20 min	40 min
Curing Speed	3mm/day	4mm/day	4mm/day	3 mm/day	3 mm/day	4mm/day
Tensile Strength	1 N/mm ²	1.8 N/mm ²	1.5 N/mm ²	1.8 N/mm ²	1.8 N/mm ²	6 N/mm ²
Elongation at break	200%	500%	600%	400 %	400%	500%
Heat Resistance^B	1h / 120°C	1h / 140°C	1h / 140°C	1h / 140°C	1h / 150°C	1h / 140°C
Suitable for^B						
- Steel ^C	■■■	■□□	■■■	■■■	■■■	■□□
- Aluminum ^C	■■■	■□□	■■■	■■■	■■■	■□□
- Primed/E-coated Metal	■■■	■■■	■■■	■■■	■■■	■■■
- Timber	■□□	■□□	■■■	■□□	■□□	■□□
- Paints	■■■	■■■	■■■	■■■	■■■	■■■
- Plastics	■□□	■□□	■□□	■□□	■□□	■□□
- Glass	■□□	■□□	■□□	■□□	■□□	■■■
Availability	LATAM/India	Global	Global	Global	Europe	Global
Product Description	Sikaflex [®] -501 and Sikaflex [®] -502 are universal sealant for interior and exterior applications	Sikaflex [®] -221 is a multi-purpose adhesive / sealant that bonds well to a wide variety of substrates like metals, metal primers and paint coatings (2-component systems), ceramic materials and plastics.	Sikaflex [®] -621 adheres well to a wide variety of substrates. It is ideally used for sealing and simple bonding applications. This all-in-one product is suitable for internal and external sealing applications.	Sikaflex [®] -521 UV is a weathering-resistant Silane Terminated Polymer (STP) adhesive / sealant that bonds well to a wide variety of bonding surfaces. This multi-purpose product is suitable for internal and external sealing applications.	Sikaflex [®] -522 is a low emission Silane Terminated Polymer (STP) sealant/adhesive. It has a high weathering and mold resistance. Sikaflex [®] -522 meets highest EHS standards.	Sikaflex [®] -268 is an assembly & glazing adhesive and sealant applications with acceleration option. It exhibits excellent tooling and application properties. With its superior resistance to a wide range of cleaning agents combined with outstanding weathering resistance, it can be used for exterior joints.

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YOUR TRUSTED PARTNER IN TRANSPORTATION VEHICLE MANUFACTURING.

IN THE COMPLEX WORLD OF TRANSPORTATION VEHICLE MANUFACTURING, there is one partner you can rely on to improve design and production through innovation structural adhesive, sealant and coating solutions.

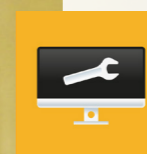
Whatever your business strategy, Sika dedicates a wealth of local resources and global expertise to support your business in every phase from design and serial production to refurbishment and aftermarket repair.

WE ARE ...

- **A TECHNOLOGY LEADER**, with more than 40 years' experience in structural adhesive, sealant and coating solutions.
- **RESPONSIVE & RELIABLE**, with dedicated technical and commercial resources in every major market.
- **INNOVATIVE**, by focusing on strategic, customer-focused innovation with a wealth of technical, lab and testing resources available for engineering of new designs and manufacturing processes.
- **A DEVELOPMENT PARTNER**, who supports development from concept and prototype development to serial production and vehicle refurbishment.

MOVING TRANSPORTATION VEHICLE MANUFACTURING FORWARD

Together, we're not just keeping pace; we're setting the speed. We are moving transportation vehicle manufacturing forward.



Technical documentation to support design and simulation



Project-specific surface material and durability testing



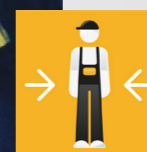
Support implementation and validation on the right equipment for efficient processes



Providing tailored customer application trainings



Production line audits



Individual customer support

ADHESIVE BONDING THE NEXT STEP TO MOVE AWAY FROM MECHANICAL FIXATION

FACING DAILY CHALLENGES, METAL FABRICATORS TURN TO ADHESIVE BONDING

Metal fabricators encounter substantial challenges every day. In response, many are increasingly considering adhesive bonding for their assemblies. This shift is driven by a shortage of skilled labor, evolving market demands, and a rising perception of quality in finished goods. Integrating adhesive bonding into your weld shop can have lasting positive effects, including: Enhanced durability, improved aesthetics, better corrosion protection and ultimately, overall cost reduction.

Take the next step. Transition from traditional welding and sealing to bonding for a superior manufacturing process.

CUSTOMER CHALLENGES

Lack of trained welders

It is becoming increasingly difficult to find skilled and trained welders who can do the job.

Limitations in multi-material design

Welding a multi-material mix is not possible. Lightweight designs mostly require adhesive bonding.

Overall processing times and costs

High market demands require a faster throughput to produce more goods.

Long-term durability

In highly dynamic environments weld lines tend to crack shortening service life of vehicles.

"WE HELP YOU CREATE INSTANT TIME AND COST SAVINGS. OUR WELD-SHOP SOLUTIONS PROVIDE IMPROVEMENTS ALONG THE ENTIRE VALUE CHAIN."



TRAINED WORKFORCE

Adhesive bonding helps overcome welder shortages.



MULTI-MATERIAL BONDING

Adhesive bonding allow for the joining of dissimilar materials.



HIGHER THROUGHPUT

Increase your output by incorporating adhesive bonding.



LONG-TERM DURABILITY

Adhesives outperform mechanical fasteners due to better load distribution.

NOTE DOWN YOUR SEALING AND BONDING IDEAS HERE

GLOBAL BUT LOCAL PARTNERSHIP



CONTACT US FOR MORE INFORMATION



www.sika.com/transportation

Sika AG, Switzerland, is a globally active specialty chemicals company. Sika supplies the building and construction industry as well as manufacturing industries (automotive, bus, truck, rail, solar and wind power plants, facades). Sika is a leader in processing materials used in sealing, bonding, damping, reinforcing and protecting loadbearing structures. Sika's product lines feature high quality concrete admixtures, specialty mortars, sealants and adhesives, damping and reinforcing materials, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.



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



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BUILDING TRUST

