



Sikaflex[®]
SILANE TERMINATED POLYMER
TECHNOLOGY

BUILDING TRUST



PERFORMANCE, VERSATILITY, SUSTAINABILITY, EASE OF USE

WHENEVER AN ELASTIC BONDING OR SEALING IS NEEDED, Sika offers a wide range of solutions suitable for the whole assembly process while satisfying the most demanding market requirements. Bonded joints have to meet severe specifications to demonstrate performances in shear, peel and fatigue, achieving reliable and long-term results. Sikaflex® Silane Terminated Polymer (STP) sealants and adhesives are based on a patented technology developed by Sika. Here, raw materials, processes and products have been carefully selected to advance the working properties and capabilities of the end product. Thanks to this technology, versatile product performances and curing systems are feasible to offer best suited solutions to meet customer requirements. Sika has also ensured that this technology and product range complies or even surpasses the most severe and demanding Environment, Health and Safety requirements. The combination of this attributes and the adhesion friendly behavior makes it a very user friendly and reliable solution.

PERFORMANCE	<ul style="list-style-type: none"> ■ Robust and secure adhesion with minimal substrate preparation ■ Ageing and weathering resistant for long lasting interior and exterior joints ■ Highly durable and mold resistant solutions
VERSATILITY	<ul style="list-style-type: none"> ■ Wide range of mechanical performances from sealing to high strength assembly applications ■ Different curing systems available; one-component, accelerated one-component and two-component ■ Diverse products in the range with additional specific features
SUSTAINABILITY	<ul style="list-style-type: none"> ■ Meet or even surpass highest EHS standards ■ Free of isocyanate, solvent, silicones and PVC; even products without phthalate and tin available ■ Non-hazardous, low emission and odor, less need for chemical agents
EASE OF USE	<ul style="list-style-type: none"> ■ Primerless adhesion to most substrates commonly used in industry ■ Outstanding application properties like short cut-off string and smooth tooling ■ Easy, fast and clean application thanks to one-component systems

SUSTAINABILITY AND EHS PERFORMANCE

The Sikaflex® Silane Terminated Polymer Technology is overall highly sustainable as it combines proven durability and performance together with complying with most severe EHS standards. Thanks to its high performance in adhesion spectrum, solvents for pretreatment are reduced as well, which further reduces the footprint over the whole system.

The whole technology is non-hazardous, free of isocyanate, solvents and PVC and shows lowest emissions. The sustainability logo marks the best-in-class EHS products, and even exceed the common high level and most severe EHS standards to set a new benchmark, as they are even phthalate and tin free on top. It clearly follows the Sika way of More Value Less Impact and makes it a great solution where low emission and EHS friendlier technologies are demanded.



CORE PRODUCT RANGE

SIKA OFFERS A UNIQUELY WIDE RANGE OF PRODUCTS AND SYSTEMS WITHIN THE STP TECHNOLOGY PORTFOLIO. Here only the core product range is outlined but more products for specific or specialized applications are available as well. Below the most relevant features and facts about the core product range can be found. For more detailed information please consult the latest Product Data Sheets or contact your local Sika representative.

KEY FEATURES OVERVIEW

	SEALANT	ADHESIVE SEALANT	ASSEMBLY ADHESIVE
	Sikaflex®-515 Fast skinning multipurpose sealant <ul style="list-style-type: none"> ■ Excellent workability ■ Broad adhesion range 	Sikaflex®-521 UV Multipurpose adhesive sealant <ul style="list-style-type: none"> ■ Broad adhesion range ■ Good weathering resistance ■ Can be sanded 	Sikaflex®-552 AT Proven assembly adhesive <ul style="list-style-type: none"> ■ Capable of withstanding high dynamic stresses ■ High elasticity ■ Broad adhesion range ■ Excellent workability
ADVANCED PERFORMANCES AND FEATURES		Sikaflex®-522 High weathering, ageing and mold resistance <ul style="list-style-type: none"> ■ High color stability under UV ■ Broad adhesion range ■ Suitable for ventilation and incidental food contact ■ Meets highest EHS standards and EC1^{PLUS} classification 	Sikaflex®-551 Highest weathering and ageing resistance <ul style="list-style-type: none"> ■ High mold and fungus resistance ■ Suitable for ventilation and incidental food contact ■ Surpasses highest EHS standards (tin free) 
		Sikaflex®-508 Compatible with polystyrene boards and bituminous materials <ul style="list-style-type: none"> ■ Very broad adhesion range ■ Excellent workability ■ Meets highest EHS standards 	Sikaflex®-545 High initial grab adhesive <ul style="list-style-type: none"> ■ Excellent workability ■ Broad adhesion range ■ Meets EC1 classification ■ Meets highest EHS standards
TWO-COMPONENT		Sikaflex®-950 Adhesive sealant for large surface bonding <ul style="list-style-type: none"> ■ Excellent pumpability ■ Low assembly forces yet good non-sag properties ■ Broad adhesion range ■ Meets EC1^{PLUS} classification ■ Meets highest EHS standards 	Sikaflex®-953 L15 / L30 Fast curing assembly adhesive <ul style="list-style-type: none"> ■ Broad adhesion range ■ Can be sanded ■ Good pumpability over long distances ■ Good gap filling capabilities ■ Two curing speeds available

CORE PRODUCT RANGE

KEY TECHNICAL FACTS OVERVIEW

The Silane Terminated Polymer products serve as best solutions for very diverse applications due to the versatility of performance. This page provides an overview about the key technical facts of the core products range.

MECHANICAL FEATURES	Sikaflex®-515	Sikaflex®-508	Sikaflex®-521 UV	Sikaflex®-522
Cure mechanism	1-component	1-component	1-component	1-component
Color	White, light grey, black	Black, white	White, grey, black	White, light grey
Skin Time (1C products) Open Time (2C products) (min)	25	50	30	30
Non-sag properties	Fair	Good	Good	Good
Tear propagation resistance (MPa)	5	4	5.5	7.5
Tensile strength (MPa)	1.1	1.5	1.8	1.8
Elongation at break (%)	300	250	400	400
Shore A-hardness	25	35	40	40
Service temperature (°C) Short term	-50 to +90 120	-50 to +80	-50 to +90 150	-50 to +90 150

APPLICATION FEATURES

Sealing applications	●●	●●	●●	●●
Bonding applications	-	●	●	●
Weathering resistance	●	●	●	●●
Mold and fungus resistance	-	-	-	●●
Overpaintability	●	●	●	●
Fast fixation / handling	-	-	-	-
Sealing / bonding of XPS and EPS	-	●●	-	-
Large gap filling	-	-	-	-

ADHESION PERFORMANCE

Metals and alloys	●●	●●	●●	●●
Glass	●●	●●	●●	●●
Plastics and FRP	●●	●	●	●
Paints and coatings	●●	●●	●●	●

- Not suited
● Suited
●● Best suited

Please consult most current Sika Product Data Sheets or your local Sika contact prior to any use. To achieve better adhesion with critical substrates or applications, please refer to the Pretreatment Chart for Silane Terminated Polymers.

Sikaflex®-950	Sikaflex®-545	Sikaflex®-552 AT	Sikaflex®-551	Sikaflex®-953 L15/L30
2-component 1:1 mix ratio	1-component	1-component	1-component	2-component 10:1 mix ratio
Grey	White	White, black	White	White
35	15	30	35	15 / 30
Fair	Excellent	Good	Good	Fair
5.5	7	15	14	10
2.0	2.5	3	2.2	2.5
500	400	600	500	450
35	45	50	45	50
-50 to +80	-50 to +80	-40 to +90 160	-50 to +90	-45 to +90 160

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SOLUTIONS FOR DIVERSE MARKETS

Sika with its 17'000 employees in more than 90 countries is active in multiple industry markets with its core competences in sealing, bonding, damping, reinforcing and protecting. So is the Sika Silane Terminated Polymer technology. It proves as well suited solution in multiple market segments and applications day by day.

HOME APPLIANCES

AIR AND VENTILATION

WINDOWS

PRE-FABRICATED BUILDING ELEMENTS

RENEWABLE ENERGIES

INDUSTRIAL EQUIPMENT

METAL AND FURNITURE

FOOD STORAGE AND COOLING

TRANSPORTATION

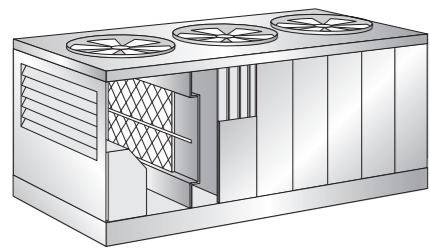
AUTOMOTIVE AFTERMARKET

MARINE



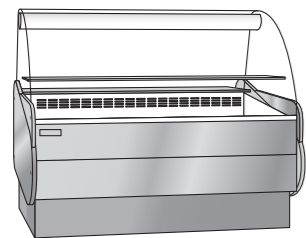
FIELDS OF APPLICATION

THANKS TO THEIR VERSATILE MECHANICAL AND APPLICATION PERFORMANCES, the Sikaflex® Silane Terminate Polymer adhesives and sealants are used for a wide variety of interior and exterior applications throughout the different industry sectors. Sika's broad product portfolio enables to have the right product for every application in typical markets like transportation, appliances, industrial equipment or building elements. Below you find an extract of potential applications and best suited products. For more detailed information please refer to the market and application related documentation.



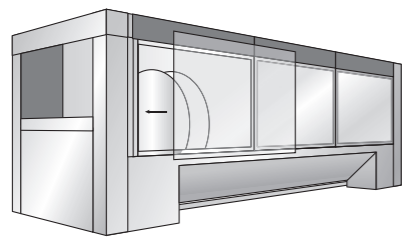
AIR AND VENTILATION

Many elastic bonding and sealing joints for frame and body are required in this industry with respective qualification. For sealing applications **Sikaflex®-522** and **Sikaflex®-551** for bonding are well suited. For fast fixation the **Sikaflex®-545** and for faster processing or larger joints **Sikaflex®-953** or **Sikaflex®-950** might be used.



FOOD STORAGE AND COOLING

Elastic structural bonding and sealing of organic glass on metal frame can be achieved with **Sikaflex®-552 AT**. For mold resistant joints either **Sikaflex®-551** or **Sikaflex®-522** with indirect food contact approval are best suited.



EQUIPMENT HOUSING

Constructions of equipment housings are diverse but most require elastic bonded and sealed joints. For sealing applications **Sikaflex®-515** and **Sikaflex®-552 AT** for bonding are well suited. For fast fixation **Sikaflex®-545** and for faster processing **Sikaflex®-953** is the best solution.



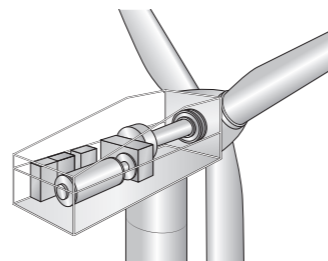
METAL AND FURNITURE WORKSHOPS

Stiffener assembly to metal body or mirror bonding with proven **Sikaflex®-552 AT** or for fast handling with **Sikaflex®-545**. Sealing operations can be performed with **Sikaflex®-515**. The products show excellent adhesion on most metals and powder coats with minimal pretreatment.



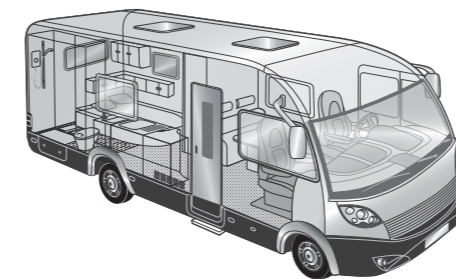
BUILDING OF AUTOMATS

In construction of diverse automats, many elastic bonding and sealing joints are required. For sealing applications **Sikaflex®-522** and **Sikaflex®-551** for bonding are well suited. For fast fixation **Sikaflex®-545** and for faster processing **Sikaflex®-953** can be used.



WIND ENERGY

Nacelle and machine parts in wind turbines require long lasting and weathering resistant joints. **Sikaflex®-521 UV** and **Sikaflex®-953** have proven track record but **Sikaflex®-522** and **Sikaflex®-551** are well suited, too.



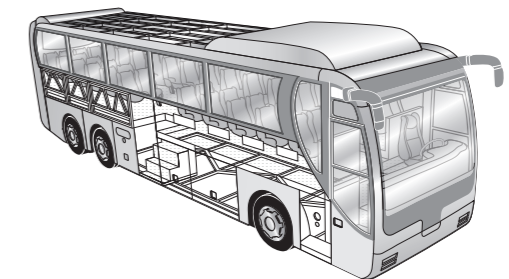
CARAVAN AND MOTORHOME

Elastic Sealing and bonding are common operations in the manufacturing of Caravan and Motorhome. **Sikaflex®-522** for sealing and **Sikaflex®-552 AT** or **Sikaflex®-953** for assembly bonding support smooth and easy processes.



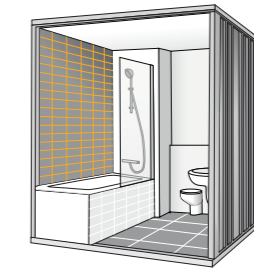
AGRICULTURAL AND CONSTRUCTION EQUIPMENT

Elastic sealing with **Sikaflex®-522** or bonding with **Sikaflex®-552 AT** as well as the use of the Booster technology well fits this industry.



BUS AND COACH

Sika provides easy to use high-performance flexible one- and two-component **Sikaflex® STP** adhesives. In addition the **Booster technology** will accelerate the curing speed for shorter cycle times.



PRE-FABRICATED BUILDING ELEMENTS

The constructions of pre-fabricated building elements are diverse and with manifold sealing and bonding operations. **Sikaflex®-950** or **Sikaflex®-953** can serve as fast curing sealants and adhesives. Best solution for high mold resistance is **Sikaflex®-522** and fast fixation **Sikaflex®-545**.



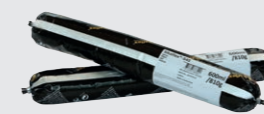
PACKAGING AND APPLICATION TOOLS

SIKA OFFERS SEALING AND BONDING SYSTEMS IN DIFFERENT PACK SIZES DEPENDING ON PRODUCT AND APPLICATION REQUIREMENTS. Several types of packaging exist: cartridges, unipacks, pails or drums. The choice of the right dispensing equipment depends on the frequency, volume and the type of application. Manual are best suited for on-site and smaller applications. Pneumatic dispensers are particularly suitable to create precise and regular beads and when using higher viscosity adhesives. Furthermore in cases when sensitive operations need to be realized with a simple manual dispenser, especially if continuous and long joints must be formed. Pumping and dosing equipment serve best in higher volumes and output as well as automation is required. Sika's application experts and system engineers can provide support in selecting the suitable solution to meet the specific requirements.

TYPICAL PACK SIZES OF Sikaflex® SOLUTIONS



300 ml cartridge for 1-component products



400/600 ml unipacks for 1-component products



Dual- / side-by-side cartridge for 2-part products



195 liter drums and 23 liter pail



Manual dispenser for 300ml cartridges



Pneumatic dispenser for unipacks



Electronic dispenser for unipacks



Manual dispenser for unipacks

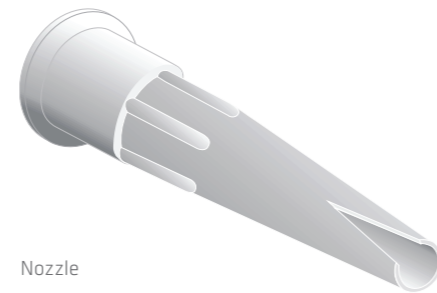
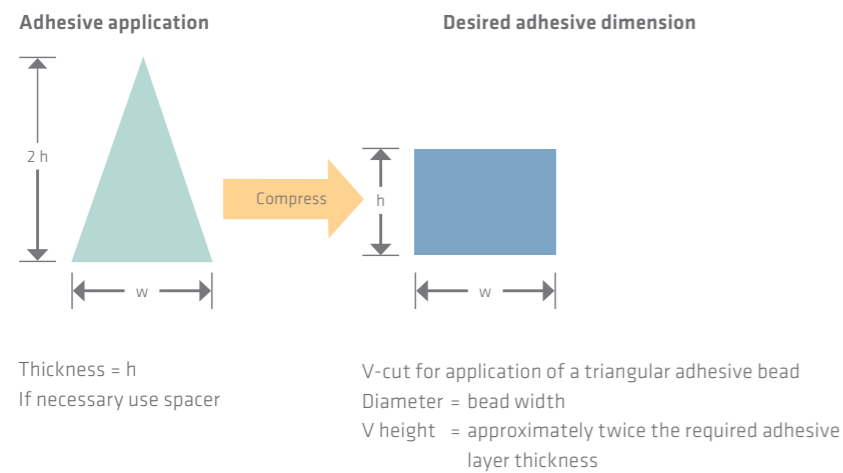


Pneumatic dispenser for dual- / side-by-side cartridges correct mixer must be used

APPLICATION TIPS

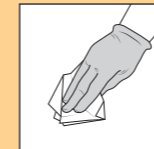
NOZZLE GEOMETRY

Leaks and stress in the components and other problems can be eliminated by proper preparation before bonding. Cutting the adhesive nozzle correctly reduces potential sources of errors. This allows the adhesive to be applied with the right dimensions and perform properly. For bonding applications the adhesive should preferably be applied to the joint in the form of a triangular bead. This ensures optimal wetting of the material by the adhesive. It also prevents gaps in the adhesive bead, insufficient compensation for the tolerances of the joined parts, and an excessively thin layer which could result in water entry. With plastics, an adhesive layer that is too thin can lead to stress cracks. With a flush bond on a flange, the height of the nozzle cut should correspond to the height of the flange. The surfaces of the joined parts are brought even by pressing (see sketches). For single-component moisture curing adhesives, the bonded joint should be no wider than 20 mm due to the longer curing time.



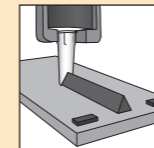
APPLICATION TIPS

PROCEDURE

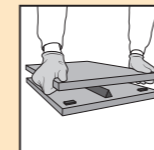


Bonding and sealing surfaces must be clean, dry and free of oil and grease. If necessary, sand bonding surfaces with a scouring pad and remove the dust. Remove heavy soiling with Sika® Remover-208 or Sika® Cleaner P. See the treatment Chart or Additional Product Information Sheet for more information.

BONDING

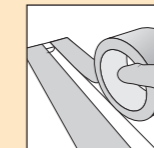


When using non-sag products, apply the adhesive as a triangular bead. Cut the nozzle according to the printed scale and hold the gun perpendicular while applying. With two-component products, use the recommended static mixer and apply the adhesive in dots or as a bead. Observe the minimum layer thickness and use spacers as needed.

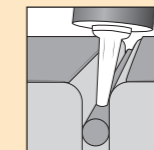


Position and press both plates so that they adhere to one another. If necessary, fix the component and leave it to polymerize. Respect skin and open time on assembly, and handling time for further processing.

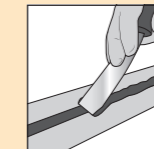
SEALING



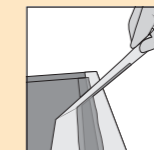
Tape the joint with masking tape even to the surface. If required, limit the joint space with a PE-foam using a wooden rounded spatula.



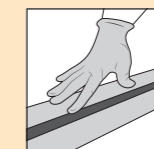
Fill up the space with Sikaflex®. Apply it from the bottom. Avoid air entrapment.



Remove excess Sikaflex® with a flexible spatula.



Remove masking tape immediately after this operation.



Tool surface with Sika® Tooling Agent N. All tooling and finishing must be carried out within the skin time of the sealant.



Use a scraper and Sika® Remover-208 to remove any excess uncured adhesive. Other cleaners may interfere with the curing process.

