

# AUTO GLASS REPLACEMENT SAFETY WITHOUT COMPROMISE

BUILDING TRUST



# THE LEADING BRAND FOR WINDSHIELD ADHESIVES

Sika is a Swiss-based specialty chemicals company with more than 100 years of experience. Sika is the leading manufacturer of windshield adhesives for both vehicle manufacturers as well as automotive aftermarket. Today Sika is present in over 90 countries and 1 out of 3 windshields globally is replaced using an adhesive system from Sika.

We are focused on three core values that made us the number one in the global markets: INNOVATION, SIMPLICITY AND SAFETY. Our aim is to simplify the professional application process with reliable and fast curing adhesive systems and short safe drive-away times that maximize the safety of vehicle owners and passengers.



At the time of writing, more than

**300 MILLION**

windshields have been replaced using Sika adhesives

Over

**30 MILLION**

headlights, sunroofs and spoilers are bonded with Sika adhesives annually

**1 OUT OF 3**

windshields worldwide is replaced using Sika adhesive

Local Sika presence in over

**90** countries

**50%**

of vehicles produced worldwide use Sika technology

Sika technology saves

**80 MILLION**

liters of fuel annually (240 million kg of CO<sub>2</sub>)

Sika supplies more than

**400 MILLION**

acoustic damping parts per year

# WINDSHIELD VITAL FOR YOUR SAFETY

Initially the windshield was installed in vehicles to protect occupants from wind and rain. While these are still core functions of the windshield; requirements advanced over time to allow new vehicle designs become a structural member of the vehicle's body, serve as backboard for the vehicles airbag system and with the newest models function as head up display.

## **SAFETY MATTERS**

When a windshield gets replaced, a component critically important to the safety and the welfare of the customer, the integrity of the vehicle is touched. The use of wrong products and poor workmanship has resulted in fatal accidents; our aim to reduce them to zero is a key driver of Sika's R&D efforts. At Sika we take safety seriously and continuously work on better and even more reliable solutions. This has been one of the driving forces making Sika the leading brand for windshield adhesives globally.

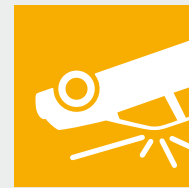
## SAFETY RELEVANT FUNCTIONS



**KEEP YOU INSIDE**  
Windshield & adhesive prevent you from ejection



**AIRBAG CAN FUNCTION AS DESIGNED**  
The windshield serves as backboard for the airbag



**PREVENTS ROOF FROM CRUSHING**  
Windshield as member of car body prevents roof crush

# WINDSHIELD STRUCTURALLY STRENGTHENS VEHICLE BODY

Over the years, the way a windshield is fitted to the vehicle body has changed from rubber trims to bonded windshields. Since the 1980s the windshield is bonded using high performance polyurethane adhesives. Over time, the requirements for adhesive have advanced, too. These days, the windshield is structurally bonded to the vehicle body, increasing cabin stiffness and crash safety.

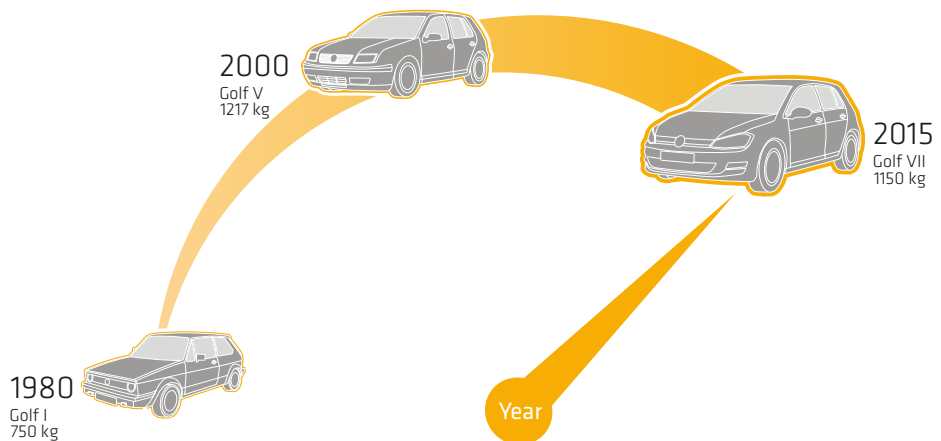
## REQUIREMENTS

- Many OEMs require the vehicle to be back to its original conditions
- Volvo, VW and others require the use of two-component adhesives or much longer waiting time than practiced by auto glass specialists
- Main area of concern is the torsional stiffness of the vehicle

## WINDSHIELD AS STRUCTURAL PART OF THE VEHICLE DESIGN

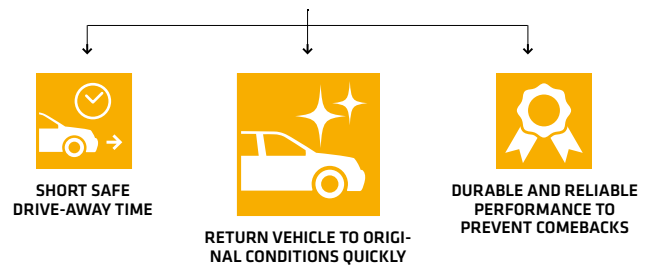
Vehicle manufacturer follow some key market trends to reduce fuel consumption and achieve higher passenger comfort without increasing vehicle weight.

Over time vehicle weight has increased with increasing demands for vehicle safety and comfort. The weight of the VW Golf has increased from about 750 kg of the first generation to more than 1200 kg. Current trend for better fuel efficiency is driving the use of light-weight materials and stronger steel in vehicle design. Bonding technology helps reinforcing the vehicle body structure and saving weight. This is visible with the Golf VII series, whose weight has gone down again to 1150 kg.



TECHNICIAN

## IMPORTANT ASPECTS FOR AN AUTO GLASS TECHNICIAN TO SELECT AN ADHESIVE



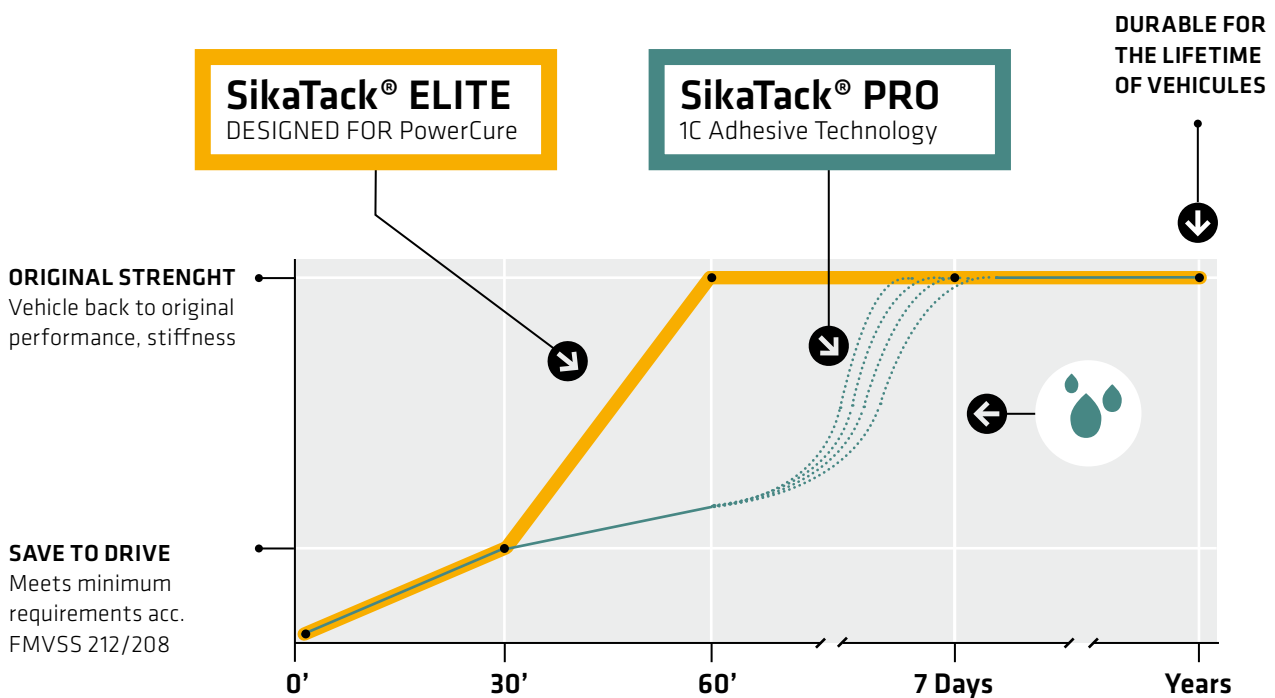
## VEHICLE DESIGN HAS CHANGED OVER THE YEARS

Modern cars are built out of a range of different materials and different grades of steel. Sika has been pioneering some concepts and provides solutions for body reinforcement. Stiffening the vehicle body has multiple effects like better overall dynamics, improved crash resistance and increased vehicle occupant safety. Modern vehicles take reinforcement effects of windshields and other components into account so that engineers can reduce metal thickness or utilize different lower weight materials. Often the weight gains are reinvested into additional vehicle comfort.

# ADHESIVE TECHNOLOGIES FOR WINDSHIELD REPLACEMENT

For most windshield replacements moisture-curing one-component adhesives are used. These systems are easy to use and allow quickly reaching the minimum safety requirements to put the vehicle back into operation. After the safe drive-away time has passed, the one-component adhesive remains soft inside for about a week, during this period the vehicle body stiffness is compromised.

Car manufacturers apply higher standards and either utilize two-component adhesives, which cure from the inside or they require longer waiting time to reach their safety requirements. Such adhesives are even used on the production line, as only a fully cured adhesive ensures the vehicle is in final shape when it goes through quality control. Sika's PowerCure technology allows reaching original vehicle body stiffness quickly and at excellent comfort for the installer.



# CURED TO OEM LEVEL

Sika's PowerCure adhesives allow a car to be lifted by its windshield in as little as 60 minutes. This is what we understand practically by adhesives which are cured to OEM level.





# BENEFITS OF POWERCURE ADHESIVES

PowerCure adhesives are curing almost independently of the climate from the inside of the bead. They are cured to the level specified by vehicle manufacturers and reinforce the car body structure to the original level within just minutes, whereas one-component products can require up to weeks depending on the climate.

Body reinforcement is one of the key reasons why some vehicle manufacturers require their service centers to use accelerated or two-component adhesives. There are further benefits going along with the use of PowerCure adhesives:

## CURED TO OEM LEVEL SPECIFICATION

Sika's PowerCure technology allows reaching the performance required by car manufacturers within minutes, it basically allows short waiting time without any compromise in safety and quality. At Sika we call reaching this performance "Cured to OEM Level".



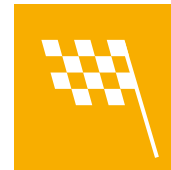
You could even lift a vehicle by its windshield just 60 minutes after installation.



Comebacks can be repaired instantly without risk of soiling car interiors or long waiting time for vehicle owner



Vehicle is returned to its original shape within minutes



Vehicle can be used without any special restrictions like speed limits, bumpy roads, car testing or curb side parking



Car safety sensors can be calibrated instantly and permanently



Tested for reliability and durability



Insurance and subcontracting work is done meeting all OEM standards





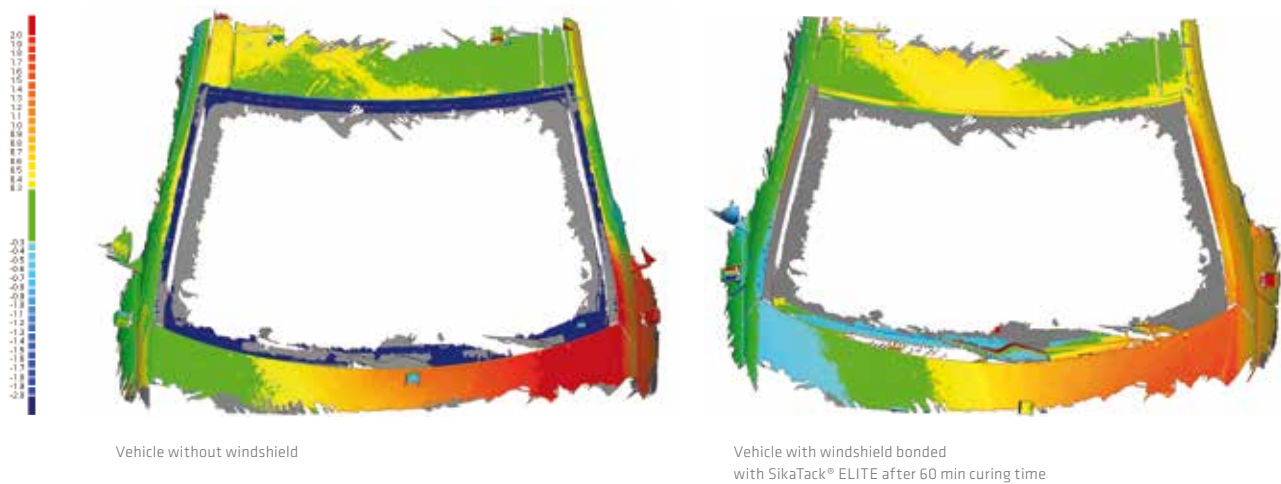
# STIFF AS NEW IN JUST 60 MINUTES

The development of body stiffness on a vehicle was tested with the Dynamic Test Center in Switzerland. The target was to understand how long a PowerCure adhesive requires to restore a vehicle to original conditions. It was intended to measure vehicle body deformation at the maximum axle deformation.

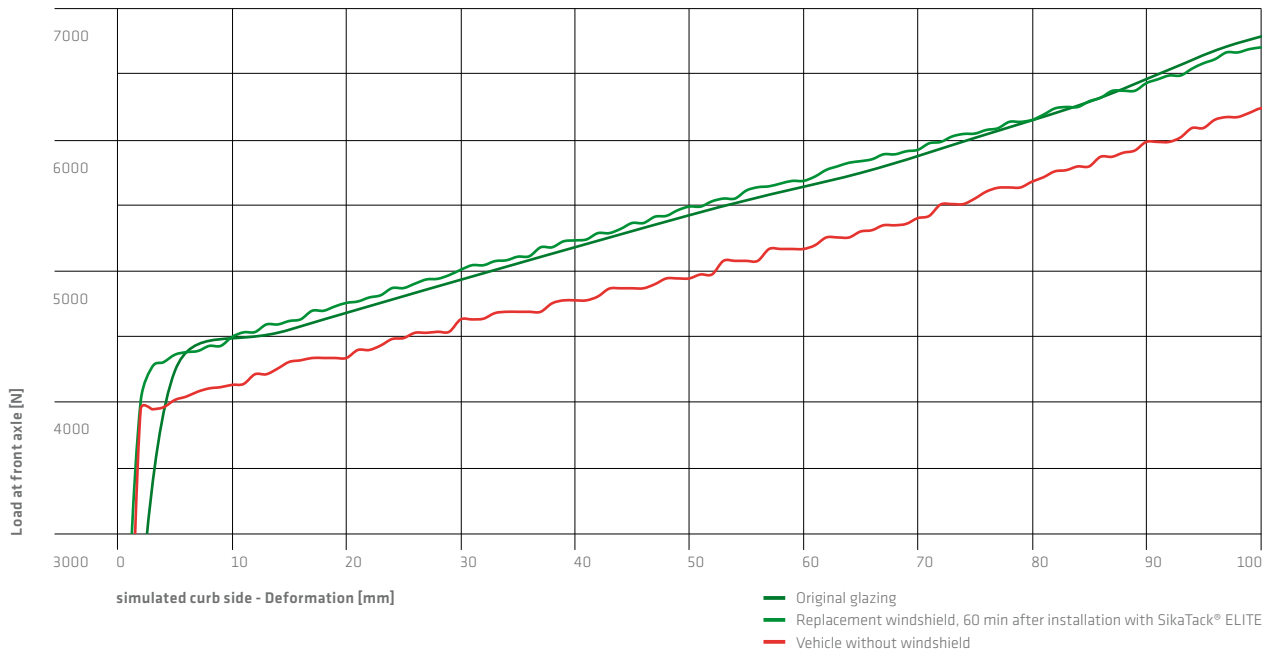
## TEST CONDITIONS

A Mercedes C-Class (2011) with original windshield was used for the test. The vehicle was chosen as Mercedes is using high modulus adhesives from Sika in the OEM production. The vehicle was fixed at three wheels and deformation was applied to the front wheel on the left side. A deformation of up to 150 mm was applied to simulate body deformation on e.g. curb side parking. The stiffening effect of the original glazing after the installation of SikaTack® ELITE was measured in reference to the vehicle without windshield.

**TORSIONAL STIFFNESS WITH SikaTack® ELITE IS BACK TO ORIGINAL LEVEL WITHIN JUST 60 MINUTES AFTER INSTALLATION.**



Rigidity of car body with wheels fixed



# WHY PowerCure FOR WINDSHIELD REPLACEMENT

## WHY PowerCure ADHESIVES FOR WINDSHIELD REPLACEMENT?

Having your windshield installed with PowerCure adhesives ensures your car was returned to its original shape without compromising its safety or quality. Installers using PowerCure from Sika, are well trained and utilize approved techniques to replace windshields.

With PowerCure adhesives from Sika, your vehicle is returned to its original conditions meeting all relevant safety standards within minutes. **We keep it safe and simple.**

## ADDITIONAL VALUE OF SikaTack® ELITE TO OFFER OUT- STANDING SERVICE AT BEST QUALITY

- Best service for fleets and rental cars: no limitations in using the vehicle
- With SikaTack® ELITE opening hours can be extended by one more job a day
- Customer may prefer to wait for the installation to complete, allowing a drive-thru type of business
- Enriched offer with other service elements to allow speedy service



Comebacks can be repaired instantly without risk of soiling car interiors or long waiting time for vehicle owner



Vehicle can be used without any special restrictions like speed limits, bumpy roads, car testing or curb side parking



Insurance and subcontracting work is done meeting all OEM standards



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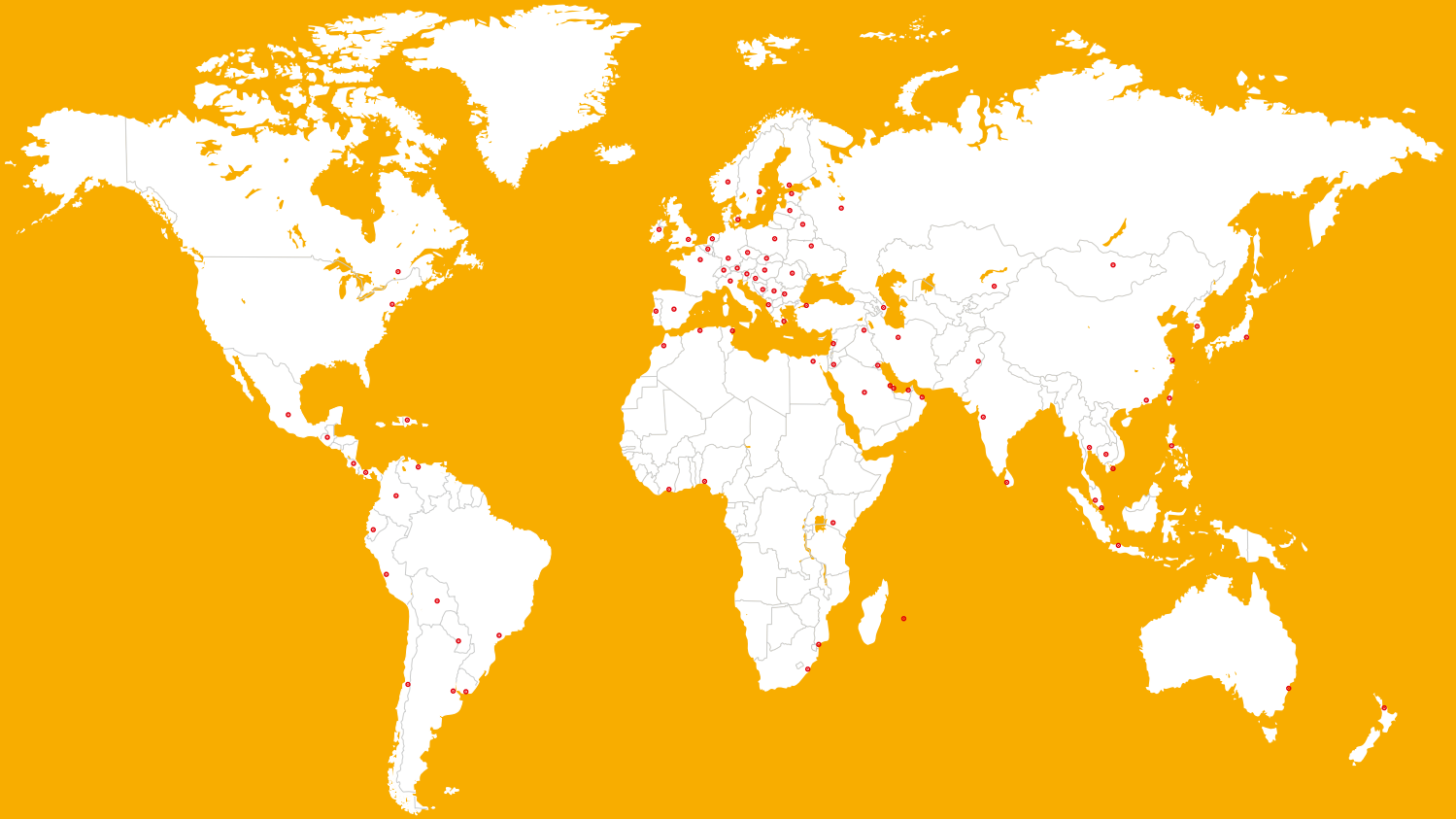
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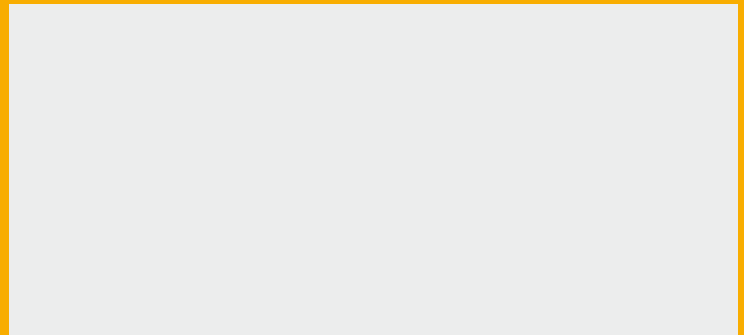


# GLOBAL BUT LOCAL PARTNERSHIP



## WHO WE ARE

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 highquality concrete admixtures, specialty mortars, sealants and adhesives, damping and reinforcing materials, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.



## FOR MORE INFORMATION

[www.sika.com/aftermarket](http://www.sika.com/aftermarket)  
[www.sika.com/powercure](http://www.sika.com/powercure)

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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