

# INTERIOR & EXTERIOR BONDING SOLUTIONS 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 approved and innovative solutions for both, interior and exterior bonding, allowing our partners faster and more effective production processes, we support you to guarantee a smooth and stable supply chain to the OEM. By collaborating on advanced interior and exterior applications in an early project stage, we help our customers to enhance global projects with high performance as well as EHS-friendly products fitting your specific requirements.

# CONTENT

| 02 | About Sika   |  |  |  |  |  |  |
|----|--|--|--|--|--|--|--|
| 04 | OES Interior & Exterior Bonding Solutions Overview |  |  |  |  |  |  |
| 26 | Sika Global Innovations                            |  |  |  |  |  |  |
| 28 | Contact Information                                |  |  |  |  |  |  |
|    | TERIOR DING SOLUTIONS                              |  |  |  |  |  |  |
| 06 | More Refined Interiors Start With Sika             |  |  |  |  |  |  |
| 80 | Vacuum Lamination Bonding                          |  |  |  |  |  |  |
| 10 | Press Lamination Bonding                           |  |  |  |  |  |  |
| 12 | Leather Lamination Bonding                         |  |  |  |  |  |  |
| 14 | Flocking   |  |  |  |  |  |  |
| 15 | Assembly Bonding                                   |  |  |  |  |  |  |
|    | TERIOR<br>DING SOLUTIONS                           |  |  |  |  |  |  |
| 16 | Exterior Personalities Start With Sika             |  |  |  |  |  |  |
| 18 | Component Bonding                                  |  |  |  |  |  |  |
| 20 | Headlamp Bonding                                   |  |  |  |  |  |  |
| 22 | Roof Module Bonding                                |  |  |  |  |  |  |
| 23 | Battery Bonding                                    |  |  |  |  |  |  |
| 24 | Electronic Potting                                 |  |  |  |  |  |  |

# INTERIOR ADHESIVES

More Refined Interiors Start With Sika

#### 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.



#### Products

- SikaMelt®
- SikaSense®
- SikaTherm®

#### ASSEMBLY BONDING



PRESS LAMINATION BONDING



**FLOCKING** 



VACUUM LAMINATION BONDING



LEATHER LAMINATION BONDING



# **EXTERIOR ADHESIVES**

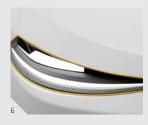
Exterior Personalities Start With Sika



#### LIGHTWEIGHT BONDING SOLUTIONS

for Exterior Components. The vehicle exterior provides consumers with more than just a first impression; it's a key aspect of the vehicle's brand and can have significant impact on their purchasing decision. But exterior design isn't just about good looks - components like sun roofs, headlights or tailgates also play an important role in aerodynamics, driver visibility and vehicle safety. Bonding those components to the exterior presents its own unique challenges: keeping weight low, meeting expectations for environmental performance and accommodating manufacturing requirements. Sikaflex®, SikaTack®, Sikasil®, SikaFast® and SikaForce® provide an efficient and proven way to bond exterior automotive parts.

#### HEADLAMP BONDING



#### BATTERY BONDING



### DIRECT GLAZING OF ROOF SYSTEMS



#### COMPONENT BONDING



#### Products

- Sikaflex®
- SikaForce®
- SikaPower®
- Sikasil®
- SikaTack®
- Sika® Aktivator
- Sika® Primer
- SikaFast®
- SikaGard®





# VACUUM LAMINATION BONDING

Safer Manufacturing: Process and Factory Friendly Solutions, High-Performance Ensured

SIKA OFFERS THE FULL RANGE of technologies for vacuum covering laminations to provide reliable interior bonding for the wide variety of substrate materials used in assemblies; PVC and TPO-foils, wood and plastics. Sika offers tailor-made chemistries for all combinations; from 1C/2C water based products - to an extensive and relevant range of PUR and reactive polyolefin hotmelts that meet challenging process and OEM specification requirements.

Vacuum covering of PP surfaces without pre-treatment is made possible with industry-leading SikaSense® and SikaMelt® polyolefin technology, which marks a NEW ERA in bonding. The latest developments include sprayable SikaSense®-4655, SikaMelt®-9186 for PP lamination and SikaMelt®-9171 IMG with low reactivation temperature, which have been introduced for In-Mould-Graining lamination.

Within the realm of the toughest material combinations, PVC film and ABS carrier combinations represent the most demanding bonds. Sika advantage: our latest developments SikaMelt®-9649 and SikaTherm®-4206 not only provide the best-performing bonding solution, they also excel in the toughest climatic test standards.

Trust the competence of the market leader in lamination; with global reach and global references.



#### **APPLICATIONS**

- Top roll
- Seat back
- Head rest
- Door panel
- Dash board

- No additional costs for pre-treatment even on PP
- Consistent cycle times process materials are pre-coated
- Easy application processes with 1C curing or noncuring SikaMelt® hotmelt systems
- Sustainable & Safe label-free products are available (no monomeric Isocyanates)
- 1 Top roll lamination with SikaSense®
- 2 Seat back panel laminated with SikaMelt®
- Head rest laminated with SikaTherm



#### **TECHNOLOGY OVERVIEW - VACUUM LAMINATION TECHNOLOGY**

|                    |                      |            | Kan Danasii |           |           |                        |            |                               |
|--------------------|----------------------|------------|-------------|-----------|-----------|------------------------|------------|-------------------------------|
| Product            | Technology           | PVC // ABS | PVC // NF¹  | PVC // PP | TPO // PP | TPO // NF <sup>1</sup> | TPO // ABS | Key Benefit                   |
| SikaTherm®-4206    | 2C Water-Based       | ++         | ++          | ++ 2      | + 2       | +                      | +          | PVC Specialist                |
| SikaTherm®-4250    | 2C Water-Based       | +          | +           | +         | + 2       | +                      | +          | Multipurpose Use              |
| SikaSense®-4655    | 1C-Solvent-<br>Based | -          | -           | -         | +         | +                      | -          | BTX Free                      |
| SikaMelt®-9171     | PO Hotmelt           | -          | -           | -         | +         | ++                     | -          | Pre-coating Possible          |
| SikaMelt®-9171 IMG | PO Hotmelt           | -          | -           | -         | +         | ++                     | +          | Low Activation<br>Temperature |
| SikaMelt®-9186     | R-PO Hotmelt         | -          | -           | -         | ++        | +                      | -          | High<br>Performance           |
| SikaMelt®-732      | PUR Hotmelt          | + 2        | +           | + 2       | + 2       | ++                     | ++         | H351-free                     |
| SikaMelt®-9649     | PUR Hotmelt          | ++ 2       | ++          | ++ 2      | + 2       | +                      | +          | Processing<br>Properties      |

Preferred Technology

Possible Option Not Suitable

NF - Natural fiber

Pre-treatment

# PRESS LAMINATION BONDING

Greener Vehicles: Process Friendly Technologies

**WITH FOCUS ON TEXTILE** and artificial leather surfaces for interior parts including door panel inserts, headliners, pillars, load floors and visors, press lamination Bonding processes are satisfied fully by Sika technologies.

We offer a tailor-made range of products for both general and specific demands; from 1C / 2C water based products, to all relevant PUR and reactive polyolefin hotmelts for all process temperatures. Recently introduced PUR hotmelt SikaMelt®-732 contains lower levels of residual monomer than conventional adhesives. This lower monomeric content helps to address current industry concerns in the handling of these types of products. Safer, Greener, Sustainable.

PP surfaces can be bonded without pre-treatment with SikaSense® and SikaMelt® Polyolefin technologies, establishing a new era in bonding. The latest development for spray applied adhesives is our btx-free SikaSense®-4651. New and innovative long open time SikaMelt®-9184 IS requires NO additional heat activation for lamination, while SikaTherm®-4290 remains the industry standard for headliner lamination bonding.

Continued innovation from the innovation leader, Sika.





#### **APPLICATIONS**

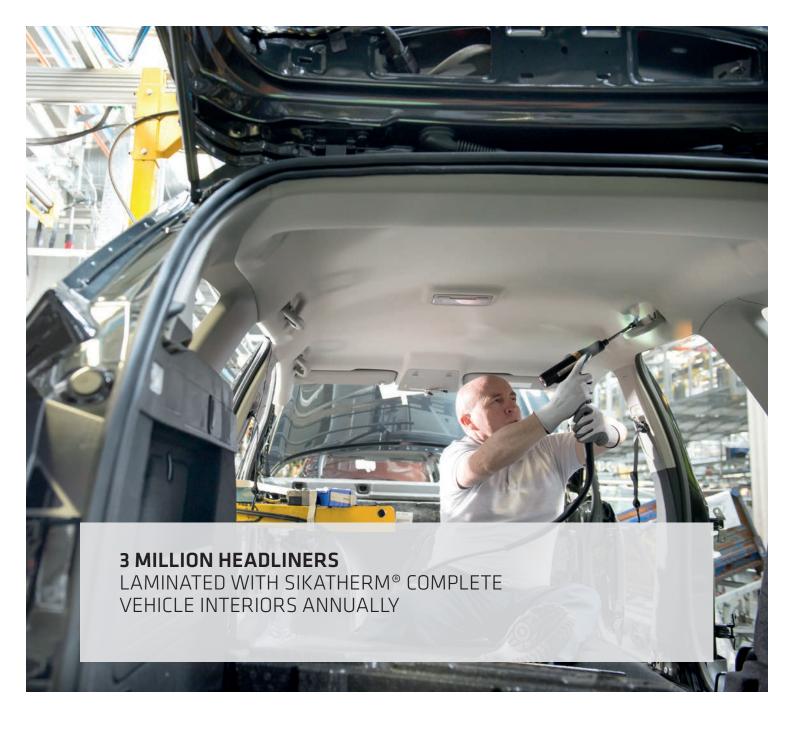
- Headliner
- Load floor
- Sun visor
- Parcel shelf
- Door panel

- No additional costs for pre-treatment; even on PP
- Consistent, repeatable cycle times, process materials are pre-coated
- Easy application processes with 1C curing or noncuring SikaMelt® hotmelt systems
- Sustainable and safe label-free products are available (NO monomeric Isocyanates)





- 1 Headliner lamination with SikaTherm®
- **2** Load floor lamination with SikaMelt®
- 3 Sun visor lamination with SikaMelt®
- 4 Hat rest lamination with SikaSense®



#### **TECHNOLOGY OVERVIEW - PRESS LAMINATION BONDING**

| Product         | Technology       | PS¹ // Textile | PS // Textile<br>with Foam Back | PS // Artificial<br>Leather | PP // Textile/<br>Textile with Foam<br>Back | Key Benefit             |
|-----------------|------------------|----------------|---------------------------------|-----------------------------|---|-------------------------|
| SikaTherm®-4120 | 1C Water-Based   | +              | +                               |                             |   | One Component           |
| SikaTherm®-4250 | 2C Water-Based   | ++             | ++                              | ++                          | +   | Multipurpose Use        |
| SikaSense®-4651 | 1C-Solvent-Based | +              | +                               | -                           | ++  | BTX Free                |
| SikaMelt®-9171  | PO Hotmelt       | -              | -                               | -                           | ++  | Pre-coating<br>Possible |
| SikaMelt®-9185  | R-PO Hotmelt     | -              | -                               | -                           | ++  | High Heat<br>Resistance |
| SikaMelt®-732   | PUR Hotmelt      | ++             | ++                              | +                           | + 2   | H351-free               |

Preferred Technology

Possible Option

Not Suitable

PS - Polar Substrate

Pre-treatment

# LEATHER LAMINATION BONDING

Stronger Bonds: Improved Heat Resistance, Lower Temperature Application

THE MARKET STANDARD FOR leather membrane bonding and processing, easy to use SikaTherm®-4250 is our multi-purpose water-based lamination adhesive, even in demanding applications, while SikaMelt®-710 is our latest innovation working to set new standards by combining faster production processing and stronger bonds. This innovation in polyurethane hotmelts represents the future for leather lamination bonding, exhibiting excellent spray properties and offering lower activation temperatures, contributing to greener processes.





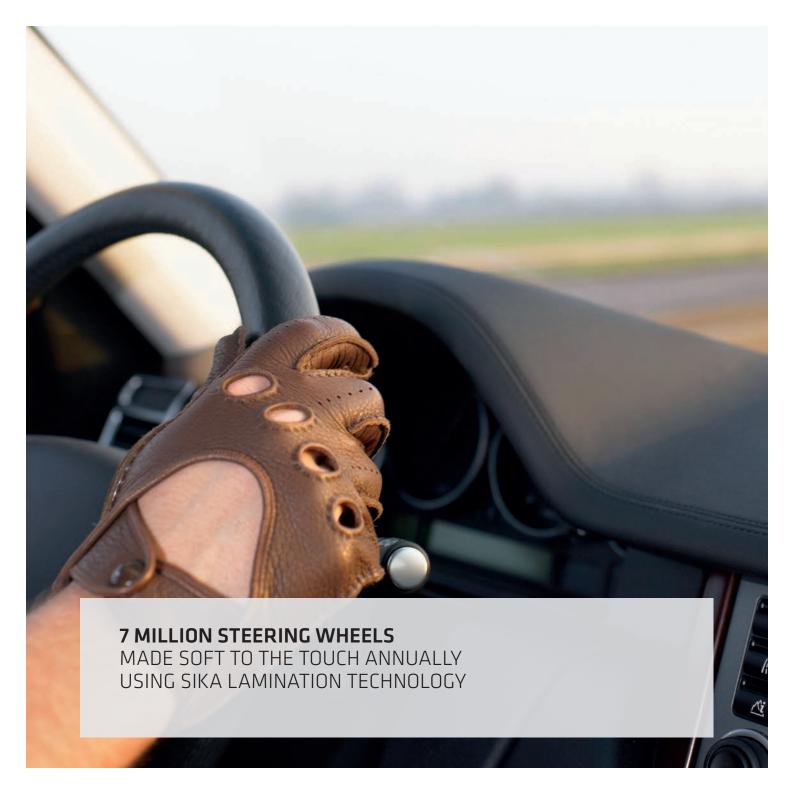


- 1 Leather wrapped dash board laminated
- with SikaSense® 2 Center console laminated with SikaTherm®
- 3 Door insert laminated with SikaMelt<sup>®</sup>

#### **APPLICATIONS**

- Leather wrapped dashboard
- Center console
- Door panel
- Steering wheel

- Excellent sprayability
- Low activation temperature - safer and greener process
- Ease of use One side application for PUR hotmelt



#### **TECHNOLOGY OVERVIEW - LEATHER LAMINATION BONDING**

| Product         | Technology     | Processing                               | Properties Dried | Part Size | Key Benefit                |
|-----------------|----------------|--|------------------|-----------|----------------------------|
| SikaTherm®-4250 | 2C Water-Based | Positioning Using<br>Hot Air Gun         | Tack Free        | Large     | Multipurpose Use           |
| SikaTherm®-4306 | 2C Water-Based | Cold Contact Bonding at Room-temperature | Tacky            | Small     | Low Lamination<br>Pressure |
| SikaMelt®-710   | PUR Hotmelt    | Automated<br>Lamination of Leather       | Tack Free        | Large     | H351-free                  |
| SikaSense®-4450 | 1C Water-Based | Manual Steering<br>Wheel Lamination      | Tacky            | Small     | Easy to Use                |

# **FLOCKING**

Simple, Single Solution: One Adhesive for All Substrates

**SIKATHERM®-4155 BL, THE MULTI-PUPOSE FLOCKING ADHESIVE** used to create high quality surfaces for a wide variety of interior design components, including glove boxes, consoles and sliding elements.

SikaTherm®-4155 BL provides excellent spray properties and good adhesion to substrates, while meeting or exceeding the latest OEM abrasion and climatic test standards.



#### **APPLICATIONS**

- Door seal
- Glove box
- Center console

- Broad adhesion range
- High UV resistance
- High abrasion resistance
- High water resistance
- Flexible substrate / textile flocking
- Good adhesion to PVC





- 1 Door seal with SikaTherm®-4155 BL
- 2 Glove box with SikaTherm®-4155 BL
- 3 Center console with SikaTherm®-4155 BL

# **ASSEMBLY BONDING**

Simplify Processes: "Multi-Purpose" Hotmelts Meet Complex Requirements

**TODAY'S AUTOMOTIVE OES MANUFACTURING PROCESSES** demand solutions for multiple applications including headliner, door and instrument panel assembly (multiple substrates), carpet bonding, decorative parts assembly and installation of water shedders to name a few. The most important requirement is to meet the customers' rising demands for fast and efficient processes, while also meeting material performance requirements. The SikaMelt® product range is ideally suited for maximum coverage. SikaMelt® reactive hotmelts can be used to bond polyolefins without the need for pre-treatments or primers, increasing throughput with reliable results.

#### TECHNOLOGY OVERVIEW - ASSEMBLY BONDING

| Product           | Technology   | ABS | PP | Metal | PA  | Natural<br>Fiber | Key Benefit                     |
|-------------------|--------------|-----|----|-------|-----|------------------|---------------------------------|
| SikaMelt®-9289    | PSA Hotmelt  | +   | +  | +     | +   | +                | Permanently Tacky               |
| SikaMelt®-9171 OT | PO Hotmelt   | +   | ++ |       |     | ++               | Polar & Non-polar<br>Substrates |
| SikaMelt®-885 IA  | R-PO Hotmelt | +   | ++ |       |     | +                | High Heat Resistance            |
| SikaMelt®-9670 FS | PUR Hotmelt  | ++  | +1 | +     | ++1 | ++               | Fast Setting                    |
| SikaMelt®-678     | PUR Hotmelt  | ++  | +1 | ++    | +   | ++               | Sprayable,<br>Long Open Time    |

<sup>++</sup> Preferred technology + Possible option ¹Pre-treatment



- 1 Decorative trim parts assembled by using SikaMelt® PUR
- 2 Water shedder assembly bonding with SikaMelt® PSA

#### **APPLICATIONS**

- Decorative trim parts
- Water shedder



- Special range for short cycle times ensures efficient processes
- Products meet odor and fogging requirements
- Proven and cost effective solutions
- Excellent heat and aging resistance





# COMPONENT BONDING

Lighter Vehicles: Bonding Solutions for Multi-Material Mix

THE RIGHT TECHNOLOGY for any application, any combination. Lightweight bonding has become a common part of vehicle manufacturing processes, but joining materials with different properties (like thermal elongation or polarity) presents significant challenges. Sika offers a proven portfolio of bonding solutions which provide excellent adhesion to a broad range of substrates all over the vehicle exterior: spoilers, fenders, hang-on parts including doors and hoods, covers, and even complete tailgates. SikaForce® (flexible) 2C PU adhesives, 1C Sikaflex® Booster technology and SikaMelt® hotmelts are specifically designed for lightweight bonding of mixed materials – metals, composites, woods and plastics like PP, PBT, ABS and PC, as well as different blends. All three Sika technologies work well when pre-treatments like plasma, corona or flame are utilized. SikaPower® Structural Adhesives are OEM-approved products for body-in-white applications, and repair products are offered to maintain OEM vehicle integrity during the repair process. Advantage – Sika.







- 1 Tailgates bonded with SikaForce®
- 2 Spoilers assembled with SikaMelt®
   3 Body-in-white parts with SikaPower®

#### **APPLICATIONS**

- Tailgates
- Spoilers
- Body-in-white parts

- Cost reduction faster handling time (accelerated adhesive, fast adhesion build-up): shorter line, less storage time and space
- Low modulus no readthrough marks (even in winter conditions)
- Products cure independently of environmental conditions
- No pre-treatment (primer) needed



#### **TECHNOLOGY OVERVIEW - ELASTIC BONDING**

|                                  | Property   |           |   |                            |         |  |  |  |
|----------------------------------|------------|-----------|---|----------------------------|---------|--|--|--|
| Product                          | Technology | G-modulus | Key Benefit                                       | Application<br>Temperature | Shore A |  |  |  |
| SikaForce®-7570 HP               | 2C PU      | Medium    | Wide Adhesion Range                               | RT                         | 60      |  |  |  |
| SikaForce®-820                   | 2C PU      | Medium    | Minimized Risk of<br>Stress-cracking              | RT                         | 65      |  |  |  |
| Sikaflex®-270<br>+ Booster AC-30 | 1C PU      | Medium    | Fast Curing and<br>Adhesion Build Up              | RT - 40°C                  | 55      |  |  |  |
| Sikaflex®-274<br>+ Booster 20 W  | 1C PU      | Low       | Highly Flexible<br>with Fast Adhesion<br>Build Up | RT - 40°C                  | 45      |  |  |  |

#### **TECHNOLOGY OVERVIEW - STRUCTURAL BONDING**

|                 | Property   |                                  |                     |                            |                   |  |  |  |
|-----------------|------------|----------------------------------|---------------------|----------------------------|-------------------|--|--|--|
| Product         | Technology | Suitable Substrates              | Key Benefit         | Application<br>Temperature | Curing Conditions |  |  |  |
| SikaForce®-7777 | 2C PU      | Aluminum e-coated                | Wide Adhesion Range | RT                         | RT                |  |  |  |
| SikaForce®-7888 | 2C PU      | Materials, Plastic<br>Substrates | Wide Adhesion Range | RT                         | RT                |  |  |  |
| SikaMelt®-676   | 1C PUR HM  | Plastic Substrates               | Cost Efficiency     | 140°C                      | RT + Moisture     |  |  |  |
| SikaPower®-497  | 1C Epoxy   | Aluminum, Steel,<br>Composites   | Crash Resistant     | RT                         | 180°C             |  |  |  |

# HEADLAMP BONDING

Safe, Bright and Reliable Solutions

A FULL-RANGE APPROACH that meets the highest technical requirements. As headlamps have grown increasingly complex in design, so have the technologies required to bond and seal them. Sika has been providing adhesives for headlights since the mid 90's, when the lens changed from inorganic glass to PC (polycarbonate). Since that time, headlights have increased significantly in size and become an important part of vehicle styling. Our product range includes several proven technologies for headlight bonding, that offer excellent adhesion to the PC lens, its coatings, and the PP and PBT housings used in today's advanced designs. From a process perspective, our Sikaflex®, SikaForce® and SikaMelt® PU adhesives allow required post-bond leakage testing to be done in a very short time. Their high strength and elastic properties make them an excellent choice for bonding PC and PP. Our new, third generation of Sikaflex® PU warmmelts are the result of a process of continuous development in headlight bonding.

To cover the full range of headlamp bonding adhesives, Sika also offers 1C and 2C Sikasil® silicones with excellent heat resistance (a critical requirement for fog lamps).







#### **APPLICATIONS**

- Headlamp
- Fog lamp

- Reduction of waste long workability
- Fast processing specially designed material and good pumpability
- Immediate initial strength at room temperature allows for rapid post-bond leakage testing
- Excellent heat resistance

<sup>1</sup> Headlamp bonded with Sikaflex<sup>®</sup>2 Fog lamp bonded with Sikasil<sup>®</sup>



#### **TECHNOLOGY OVERVIEW - HEADLAMP BONDING**

|                    | Property    |   |                 |                            |  |  |  |  |
|--------------------|-------------|---|-----------------|----------------------------|--|--|--|--|
| Product            | Technology  | Key Benefit   | Heat Resistance | Application<br>Temperature | Approximate<br>Time to Leakage<br>Test |  |  |  |
| SikaMelt®-700      | PUR HM      | Fast and Simple<br>Processing                                     | Very Good       | 140°C                      | 5 min. <sup>1</sup>                    |  |  |  |
| Sikaflex®-630 HD-2 | 1C PU       | High cost Efficiency<br>Combined with<br>Very Good Performance    | Very Good       | 95°C                       | 1 – 10 min. <sup>1</sup>               |  |  |  |
| Sikasil®AS-785     | 2C Silicone | High UV- and<br>Temperature<br>Resistance                         | Excellent       | RT                         | 20 min. <sup>1</sup>                   |  |  |  |
| Sikasil®AS-70      | 1C Silicone | Simple Processing   | Excellent       | RT                         | -                                      |  |  |  |
| SikaForce®-400     | 2C PU       | High Cost Efficiency<br>Combined<br>with Excellent<br>Performance | Very Good       | RT                         | 5 - 10 min. ¹                          |  |  |  |

<sup>&</sup>lt;sup>1</sup> Depends on Pressure and Design

# ROOF MODULE BONDING

Simplified Processes: Make it Fast and Simple

TODAY'S FAST-PACED AUTOMOTIVE manufacturing processes demand that roof systems be bonded and transported to final assembly in a short time. This makes a high-strength bond during the initial curing process (known as green strength) essential for sunroof and panoramic assemblies to ensure the reliability and efficiency of the bonded system. Our product range includes a variety of polyurethane technologies that allow for fast handling AND durable joining. While more and more assemblies are designed with weight reduction goals, substrate bonding becomes more challenging; parts made from plastics and hybrids are more susceptible to marking. Our approved exterior solutions help to avoid bondline readthrough on thin and sensitive plastic parts. Advantage-Sika.

Further, Sika pre-treatment systems help to ensure highly consistent and reliable bonds in the final assembly, while also offering easy application techniques. New Sika® Primer®-207 is not only a universal one-step primer, but is also UV-detectable which enables the detection of pre-treatment for inline quality control. Sika pre-treatment agents help to ensure highly reproducible and safe processes. New Sika® Primer®-207 is a universal one-step primer.





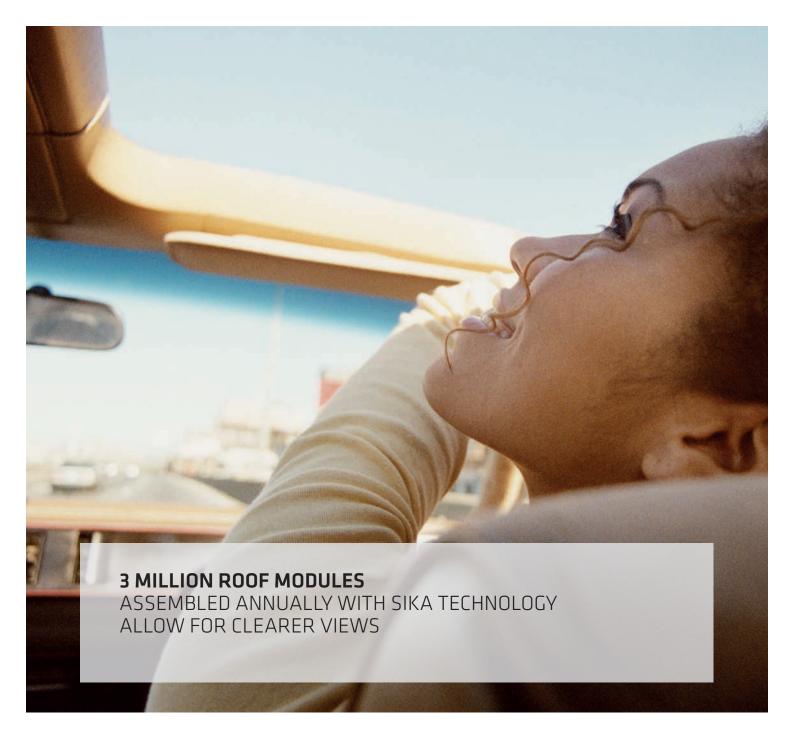


- 1 Panorama Roof Module bonded with Sikaflex®
- 2 Sun Roof bonded with SikaForce®
- 3 Glass Bonding bonded with Sikaflex®

#### **APPLICATIONS**

- Panorama Roof Module
- Sun Roof
- Glass Bonding

- Cost reduction faster handling time, increased throughput
- Well-suited to just-in-time production
- Boosted Sika products cure independently of the environmental conditions
- Bubble-free innovative iCure® technology.



#### **TECHNOLOGY OVERVIEW - ROOF MODULE BONDING**

| Don't at                               |            | Voca Dana 614 |                   |              |           |                         |                    |   |
|--|------------|---------------|-------------------|--------------|-----------|-------------------------|--------------------|---|
| Product                                | Technology | Fast Curing   | Green<br>Strength | Initial Grip | G-Modulus | Tack-free<br>Time [min] | Open Time<br>[min] | Key Benefit                                       |
| Sikaflex®-250 PC                       | 1C PU      | No            | Good              | Excellent    | Medium    | 10                      | 10                 | High Initial Grip                                 |
| Sikaflex®-270 +<br>Sika® Booster AC-30 | 1C PU      | Yes           | Excellent         | Very Good    | Medium    | 30                      | 3                  | Fast Curing and<br>Adhesion Build Up              |
| Sikaflex®-271 +<br>Sika® Booster-20 W  | 1C PU      | Yes           | Excellent         | Very Good    | High      | 20                      | 5                  | Reinforcing Elastic                               |
| Sikaflex®-274 +<br>Sika® Booster-20 W  | 1C PU      | Yes           | Excellent         | Very Good    | Low       | 30                      | 5                  | Highly Flexible<br>with Fast Adhesion<br>Build Up |
| SikaForce®-820                         | 2C PU      | Yes           | Excellent         | Good         | Low       | -                       | 4                  | Minimized Risk of<br>Stress-cracking              |

# LIGHTWEIGHT BONDING

Mixed-Material Bonding for Lighter Vehicles

**WEIGHT REDUCTION IS A KEY GOAL** in new vehicle development. To achieve it, engineers are using non-traditional materials such as aluminum, magnesium and carbon fiber-reinforced plastics and thinner, lighter gauge metal panels. These materials create unique challenges in vehicle assembly processes and introduce unwanted effects on durability, vehicle dynamics and crash performance.

Sika's unique structural adhesives (SikaPower®, MBX®-technology and Sikaflex® UHM) and our engineering prowess in understanding  $\Delta/\alpha$  (different coefficients of mixed material expansion), enable mixed-material bonding of lighter materials including aluminum and carbon fiber-reinforced plastic, with traditional and high-strength steel.



#### **TECHNOLOGY OVERVIEW - LIGHTWEIGHT BONDING**

| Product                      | Property   |                                   |   |                   |                           |  |  |  |
|------------------------------|------------|-----------------------------------|---|-------------------|---------------------------|--|--|--|
| Product                      | Technology | Suitable Substrates               | Key Benefit                               | Curing Conditions | Material Properties       |  |  |  |
| Sikaflex® + Sika®<br>Booster | 1C PU      | Glass, Plastics                   | High Elasticity                           | RT                | Flexible                  |  |  |  |
| SikaForce®                   | 2C PU      | Composites, Painted<br>Substrates | Broad Adhesion<br>Range                   | RT                | Semi-Structural           |  |  |  |
| SikaPower®                   | 1C EP      | Metals, Composites                | Mixed Bonding in the<br>Body Shop         | ca. 180°C         | Semi-Crash-Resist-<br>ant |  |  |  |
| Sikaflex® UHM                | 1C PU      | Metals, Composites                | Structural Bonding of<br>Mixed Substrates | RT                | Structural                |  |  |  |

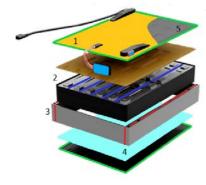
# INNOVATIVE SOLUTIONS FOR BATTERY SYSTEMS

Specific designs for Improved Performance and maximized Passengers 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 developing market arena.

With more than 3 decades of Bonding & Sealing experience in the Industry, Sika Automotive 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, as well as intumescent coatings which aid to actively delay fire spread in battery system enclosures to regulations.





#### **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 CONTRUCTION AND ASSEMBLY

| Product         | Properties          |   |  |  |  |  |
|-----------------|---------------------|---|--|--|--|--|
| Product         | Application         | Key Benefits  |  |  |  |  |
| SikaGard®       | Fire Protection     | Stop fire spread / Heat Insulation / Adhesion to metals & plastics  |  |  |  |  |
| SikaForce®-TC   | Cells/Packs Bonding | Thermal Conductive / Fast Curing / Adhesion to metals               |  |  |  |  |
| SikaForce®      | Structural Bonding  | Adhesion to Metals / Glycol resistant / High strength / Fast curing |  |  |  |  |
| SikaBiresin®-TC | Thermal Interface   | High Thermal Conductivity / Easy process / Easy maintenance         |  |  |  |  |
| SikaFlex®       | Bonding/Sealing     | Adhesion to metals & plastics / Fast Curing / Flexible              |  |  |  |  |

# INNOVATION, IT STARTS WITH PASSION

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. Advantage Sika!



#### LIGHTER

We have a full range of products which enable our customers to make their vehicles lighter. For example, we were the first to engineer body shop adhesives (SikaPower®), which 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 exterior parts bonding with our Sikaflex® + Sika® Booster and SikaForce® products, which not only help stiffen the vehicle for better overall dynamics but also improve crash performance and increase vehicle occupant safety.



#### OUIFTER

We provide solutions that make vehicles quieter; SikaBaffle® seals noise pathways, while SikaDamp® reduces the 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 establish water-based pre-treatments and polyurethane hotmelts with low monomeric isocyanate content and reactive polyolefin hotmelts free of classification to the interior automotive market – 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, which allow our customers to use less material 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.

### START WITH SIKA

MORE THAN

# 50% OF ALL VEHICLES

USE SIKA PRODUCTS AND TECHNOLOGIES

# 30 MILLION VEHICLES

PRODUCED ANNUALLY WORLDWIDE CONTAIN SIKA LAMINATION ADHESIVES

### **25 MILLION PLUS**

VEHICLES MADE STRONGER AND SAFER EACH YEAR WITH OUR BODY SHOP ADHESIVES

MORE THAN

### 300,000 LITERS

OF VOCS WERE REDUCED THROUGH THE USE OF SIKA'S PRIMERLESS TO GLASS WATER-BASED PRE-TREATMENT SYSTEMS

# 30% WEIGHT REDUCTION

IN THE CAR BODY CAN BE ACHIEVED WHEN SIKA® PROPRIETARY HIGH-STRENGTH BONDING SOLUTIONS ARE USED IN CONJUNCTION WITH LIGHTWEIGHT MATERIALS AND THINNER MATERIAL CONSTRUCTION

MORE THAN

### 70 MILLION

CAR WINDOWS ARE BONDED DURING ASSEMBLY USING SIKAFLEX®

SIKA HAS

# 20,000+ EMPLOYEES IN OVER

**100 COUNTRIES** 

MORE THAN

### 700 MILLION

PARTS BASED ON OUR SIKABAFFLE®, SIKADAMP® AND SIKAREINFORCER® TECHNOLOGIES ARE SUPPLIED ANNUALLY TO THE GLOBAL AUTOMOTIVE INDUSTRY

MORE THAN

30%

INTERIOR NOISE
REDUCTION IN VEHICLES
THANKS TO SIKA'S
ACOUSTIC SOLUTIONS





# START WITH SIKA THROUGH ANY OF THE CONTACT POINTS BELOW:

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Please consult the most current local Product Data Sheet prior to any use











