

**LOCTITE®**  
**BONDERITE®**  
**TECHNOMELT®**  
**TEROSON®**

**WANGDEX**

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## Automotive Exterior Solutions



**Henkel**



## Customer solutions:

LIGHTWEIGHTING	MANUFACTURING PROCESS
<ul style="list-style-type: none"><li>• Plastic bonding solutions for exterior parts</li><li>• LOCTITE® adhesives and matrix resins enabling the use of composite components</li></ul>	<ul style="list-style-type: none"><li>• Fast cure, liquid applied gasket solutions</li><li>• Easy handling through use of one-part coatings and adhesives</li></ul>
COST	SUSTAINABILITY
<ul style="list-style-type: none"><li>• Low surface energy plastic bonding without pretreatment</li><li>• Multimetal pretreatments</li><li>• Low temperature plastics cleaners</li></ul>	<ul style="list-style-type: none"><li>• Low VOC coatings and adhesives</li><li>• Low temperature cure adhesives and cleaner solutions</li></ul>

Additionally, Henkel collaborates with customers from the design process through final production for a custom solutions approach. These partnerships start with component design engineering, proceed through testing and validation and culminate with customized assembly systems. Henkel is the complete source, providing an unrivaled product line-up, engineering services, application support and quality service.



## Lighting

Henkel is the leading global provider of adhesives for optimal bonding performance that can withstand high operating temperatures and harsh exterior environments.



To meet these requirements, headlamp manufacturers rely on Henkel specialty materials, design and assembly processes for a full spectrum of solutions in manufacturing, bonding and sealing headlamp assemblies.



#### HALOGEN INSERTION LAMP SOCKET

- RTV & UV/RTV silicones
- One-part UV cationic cure epoxy

#### LENS TO HOUSING BMC- (Body Molding Compound)

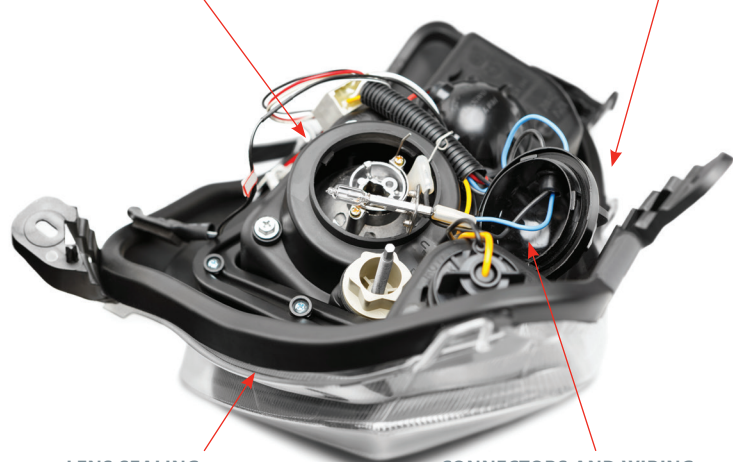
- Polypropylene, polycarbonate, nylon, etc.
- 2 K polyurethanes
- Reactive hot melt polyurethanes

#### LED MODULES

- Thermal pastes, greases
- Heat sink bonding

#### HOUSINGS

- RTV & UV/RTV silicones for seals, gaskets
- Acrylic anaerobic threadlocking



#### LENS SEALING

- Reactive hot melt polyurethanes
- 2 K polyurethanes
- 2 K silicones

#### CONNECTORS AND WIRING

- Grommets made with low-pressure molded TECHNOMELT® polyamides
- RTV & UV/RTV silicone and polyacrylate potting
- Porosity sealing of connectors
- Cyanoacrylates for bonding rubber seals to lamp assemblies

## Applications

### Automotive

- Headlamps
- Tail lamps
- Fog lamps
- Signal lights
- Center high mounted stop lights (CHMSL)

### Manufacturing and Assembly

- Lens-to-housing assembly and sealing
- Bulb potting
- Connector potting and sealing
- Close-out gasket assembly
- Heatsink bonding
- Plastic cleaners

## Solutions

### TECHNOMELT®

- High performance, reactive hot melt for headlamp-bonding applications
- Withstands and operates at higher exposure temperatures than traditional sealants and adhesives
- Able to bond to a wide range of substrates, while quickly achieving bond strength and leak-free assemblies
- 1- and 2-component adhesives that offer excellent durability and fast curing properties

### BONDERITE®

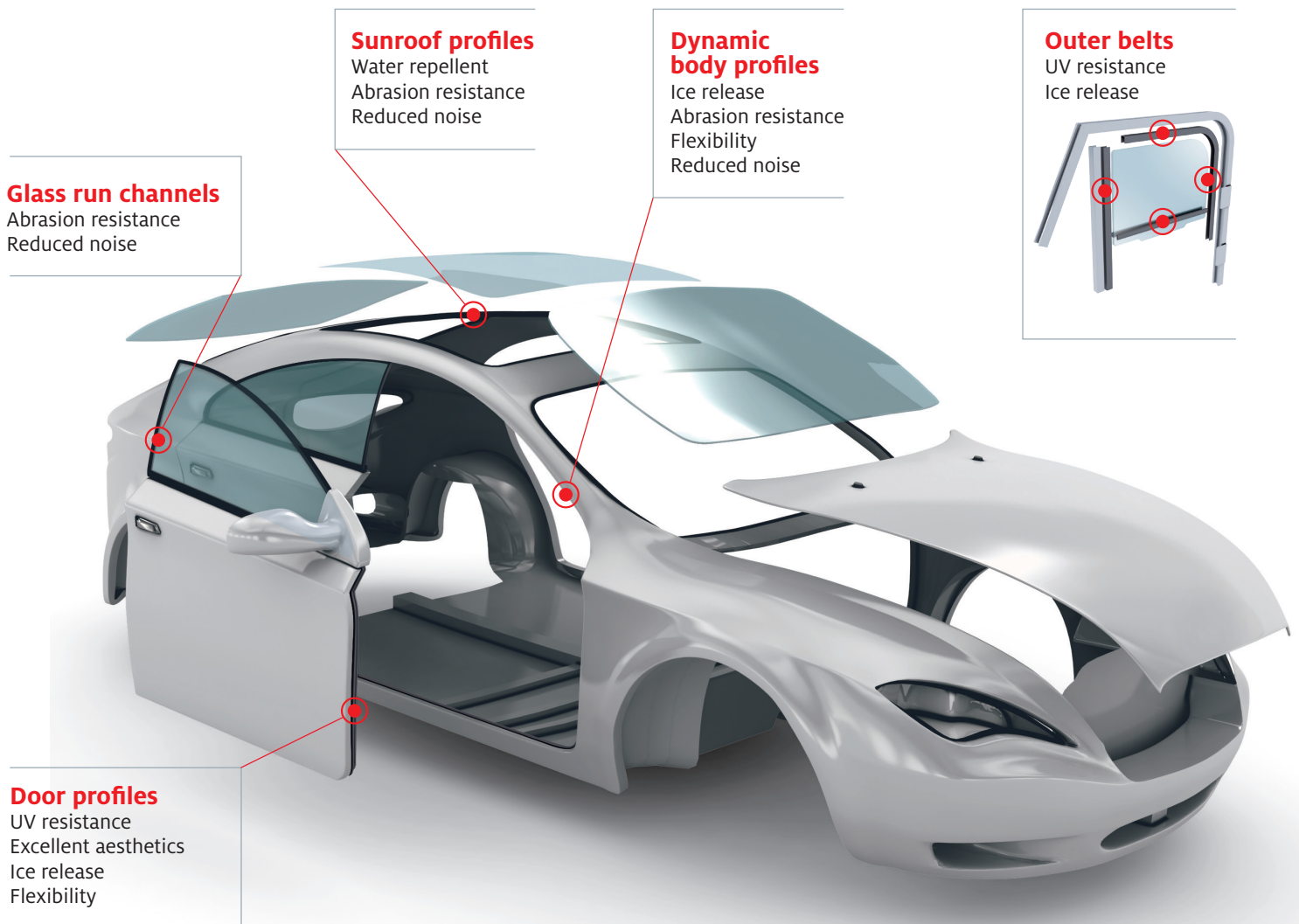
- Plastic cleaners

### LOCTITE®

- Liquid applied gasket solutions for cost-effective options versus conventional gaskets
- One-component potting solutions for bulbs and connectors
- Thermal interface and phase change materials for heat management

# Weatherstripping

Henkel's new generation of slip coatings for weather-strip applications offer numerous benefits. The one-component coatings are fast and easy to apply, provide improved adhesion and reduce waste and noise.



In addition, Henkel's comprehensive portfolio of weather-strip solutions optimizes production, purchasing and warehousing. The range includes primers, smooth and structured coatings, low activation temperature cross-linkers and bonding agents. Many products are one-component, water-based, VOC-free and UV traceable.

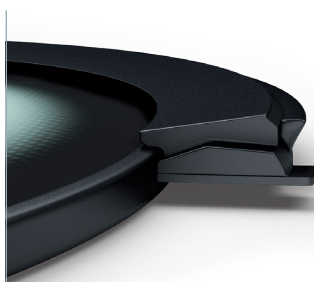




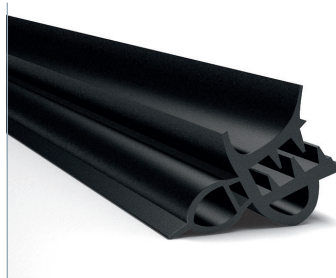
## Special Applications Range



Henkel provides one-component, solvent- and water-based, flock adhesives that already contain the necessary catalyst. They ensure excellent results with a wide variety of substrates (EPDM, TPV).



Henkel's high performance, temperature-activated, one-component, water-based bonding agents for TPV and TPE are compatible with glass primers.



Henkel sealers are notable for their superior water-repellent properties. They ensure a tight seal between the profile and the car body.



Henkel's solutions for corrosion protection offer flawless adhesion on various types of rubber. All products cure quickly with an activator.

### Applications

- Door and body seals
- Inner belts
- Sunroof seals
- Encapsulated glass
- Trunk/lift gate seals
- Roof rails

### Solutions

- LOCTITE® resin-bonded coatings are designed to suppress squeak and itch, and provide dry film lubrication and ice release properties
- LOCTITE® one-component flocking adhesives to reduce noise and provide durable flock performance
- Flock treatments to enhance ice release performance
- LOCTITE® high wear-resistant, glass run coatings for long durability and performance
- LOCTITE® primers for EPDM and TPV seals, including water- and solvent-based solutions
- LOCTITE® coating cross-linkers allowing weeks long pot life and low temperature cure

## Fascia and Closures

Henkel offers structural and elastic adhesives for mixed substrate bonding, as well as matrix resins for composites. These innovative technologies are designed to enable lightweight designs.



### Applications

- Lift gates and tailgates
- Composite panels and components
- Composite pickup truck boxes
- Metal-to-composite bonding of striker and latch components

### Solutions

- LOCTITE® MAX series, fast-curing, polyurethane-composite, matrix resin reinforces components, while saving mass compared to traditional methods
- TECHNOMELT® hot melt adhesives for bonding thermoplastic polyolefins like PP, PE, LDPE and HDPE and substrates to itself and to metal
- Corrosion protection with cost-effective, BONDERITE® metal pretreatments

#### Lightweighting Technologies:

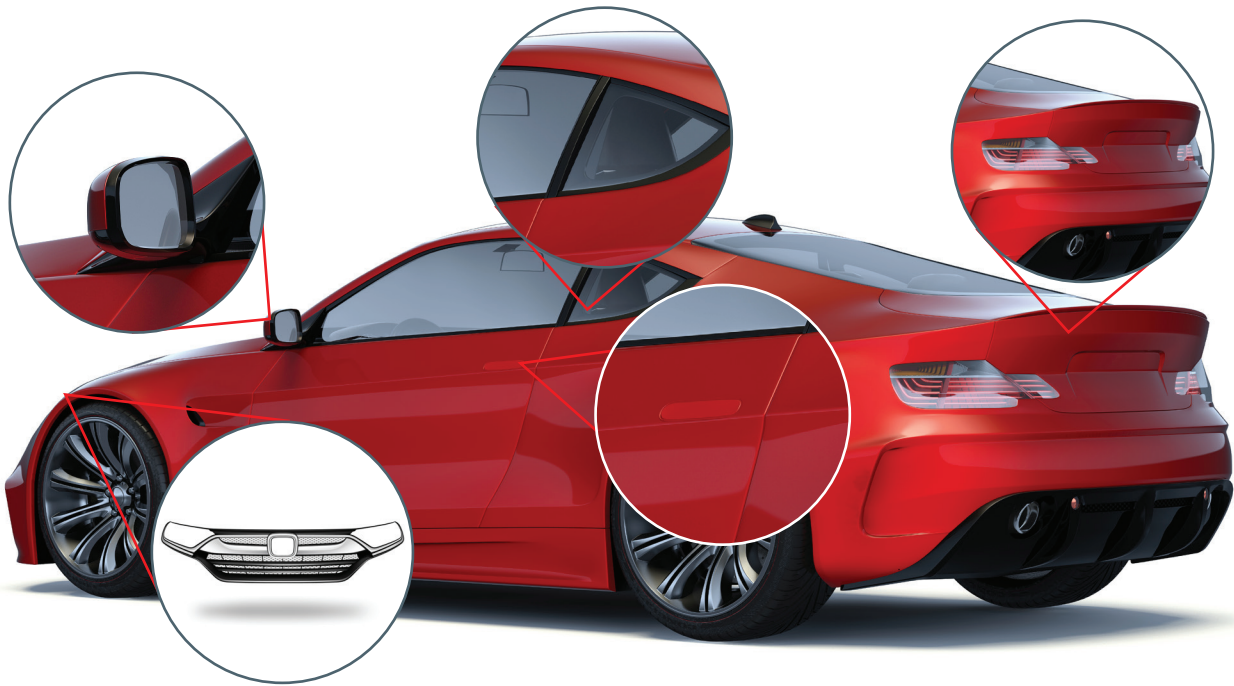
- LOCTITE® MAX 2 resins for composites
- LOCTITE® and TEROSON® adhesives to bond composite-to-composite, composite-to-metal and plastic-to-plastic assemblies.



- LOCTITE® and TEROSON® polyolfin adhesives, are low VOC, providing safer working, and faster cure speeds
- BONDERITE® low-temperature, plastic cleaners
- Dry film lubricants for lock, striker and latch components
- TEROSON® and LOCTITE® SMC adhesives for structural and elastic bonding applications for boxes and panels
- LOCTITE UK series, specifically designed for lightweight multi-substrate liftgates, closures and trim such as Al, GRPP, CRPP and TPO. Optimized open time and green strength to reduce processing time and provide a high strength bonded solution.

## Exterior Trim Components

Henkel's full range of adhesives and sealing compounds enable fit and function for a variety of exterior trim component assemblies.



### Applications

- Handles
- Mirror assemblies
- Pillar garnish and appliques
- Spoilers
- Grilles

### Solutions

- LOCTITE® liquid-applied gaskets are a cost effective alternative to peel-and-stick foam for pillar appliques, door handles and mirror assemblies
- BONDERITE® low-temperature, plastic cleaners to prep surfaces prior to chrome or paint
- LOCTITE® adhesives for bonding mirrors, assemblies and other trim components
- TECHNOMELT® hot melt adhesives for bonding thermoplastic polyolefins like PP, PE, LDPE and HDPE and substrates to itself and to metal



## Roof Systems

From stamping, to metal pretreatment to adhesives and sealing, Henkel offers complete solutions from manufacturing to final roof system assembly.



### Applications

- Sun roof
- Roof modules

### Solutions

- Sealer
- Antiflutter
- Weather-strip coatings
- Plastic bonding
- Surface treatments
- Stamping lubricants
- PVC-to-glass adhesives
- PVC-to-metal adhesives
- Rubber bonding technology
- Mastics

## Windscreen and Glass Components

Henkel has a complete range of adhesives to ensure cost-effective assembly of windscreen and glass components.



### Applications

- Glass bonding
- Clip and bracket bonding
- Plastic components bonding

### Solutions

- Henkel TECHNOMELT® and TEROSON® range of glass bonding and sealing solutions provide excellent gap bridging and long-term stability
- Primers and adhesives for a wide range of glass bonding applications; suitable for large areas and heavy screens
- Glass encapsulation with one-component bonding agents, high-positioning tack enables fast manufacturing
- PVC-to-glass adhesives; primerless adhesion on paint
- PVC-to-metal adhesives

Henkel is the leader in the development of adhesive, sealant and surface technologies for automotive exterior component applications. We are dedicated to providing our customers innovative solutions that contribute to environmental sustainability, reduce vehicle mass and save costs.

## Innovative exterior solutions supported by engineering expertise for:

- Adhesives and sealants for lighting
- Coatings and adhesives for weatherstrip sealing
- Composite matrix resin for carbon and glass fiber composites
- Structural and elastic bonding solutions for metal and plastic components
- Sustainable metal pretreatments for corrosion protection of metal parts
- Primers and adhesives for glass bonding





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