



Adhesive tape solutions for automotive exterior applications

Tailor-made solutions for reliable bonding on paint, plastics and glass



Bonding solutions for various automotive exterior surfaces

OEM-proven multi-talented adhesive tapes for bonding on paint, plastic and glass

With regard to demanding fixation tasks in automotive exterior, adhesive tapes offer various advantages. As a flexible alternative to screws and clips they adapt perfectly to a wide variation of designs to ensure reliable fixing. In addition, adhesive tapes fulfill many practical supplementary features, e.g. compensating tolerances, damping or water-tight sealing. Thus, vehicles are becoming lighter, virtually vibration-free, and quieter. For bonding on different surfaces, Lohmann offers corresponding OEM-proven product ranges for reliable adhesion on paint, plastic or glass that are also weather resistant. The optimal answer to the increasing customer demand in high-quality designs, bonding new materials, new manufacturing technologies and more efficient processes.

With each new adhesive solution, we have the whole process in mind. In close cooperation with OEMs and tier suppliers, your Bonding Engineers are development partners for individual bonding solutions up to serial production. We offer many years of experience in specification work and are certified according to IATF 16949. For example, our PE-foam tapes for bonding on paint surfaces fulfil the requirements of the VW TL 52018 specification and are technically proven for clear coat systems of other OEMs. Lohmann's global network of international experts and project teams support customers locally and focus on one single goal: to find the perfect adhesive solution for your application.

Your reliable partner – from high-tech tapes to process integration



From the initial idea to the final implementation into the customer's process, the Bonding Engineers are competent partners at their customers' side. From prototyping to series production: we produce customer-specific adhesive tapes and process them into die-cuts – directly from one source in various high-precision manufacturing processes (e.g. laser plotter, rotary die-cutting) and in low μm -tolerances. The Lohmann product portfolio of adhesive tape solutions is available in rolls, spools, die-cuts or sheets.

In order to meet the requirements of our customers, we offer individual as well as standardized testings of the automotive industry and OEMs, carried out in our high-tech laboratory, the Bonding Arena. This includes for example ball drop and other impact tests, ageing tests at various climate conditions as well as humidity tests. What's more, to make our customers' process even more efficient, we also offer process aids such as mounting films, handling aids or cloths for cleaning surfaces.

We offer the entire value chain of production and processing of double-sided adhesive tapes



R & D of adhesive

We tailor the properties of our adhesives to the requirements of the respective application. For example, we can adjust the adhesive strength by adding additives or meet requirements such as flame retardancy, light protection or plasticizer resistance.



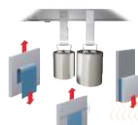
Die-cutting

With computerized die-cutting machines that are used to create high-quality, dimensionally accurate products, we respond to the increasing demands of the market.



Coating

Acrylics and rubber-based adhesives are coated onto web materials on solvent, dispersion and hotmelt systems. Reactively crosslinking adhesive systems additionally offer our customers increased mechanical or physical strength in their application.



Testing

With elaborate inspection and testing procedures in our laboratories, we ensure that our products meet the quality requirements.



Converting

We convert coated materials into rolls, spools and sheets in many dimensions according to customer requirements.



Assembly support

Application technology specialists support our customers in integrating our adhesive systems into the production process.

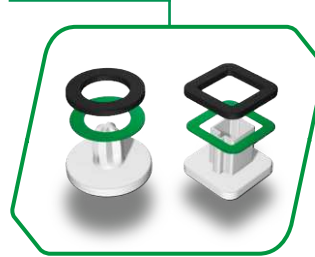
Exterior Applications

Portfolio Selection

Wing Mirrors



Sealing Rings



Water Management



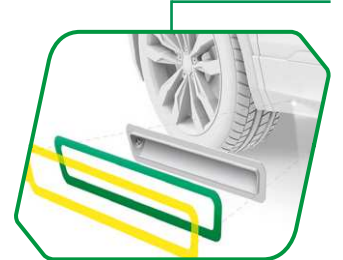
Decorative Parts



Doors



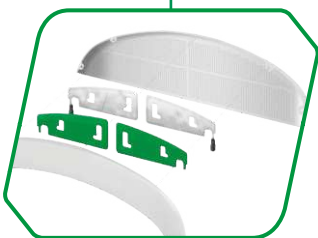
Light Carpet



Water Management



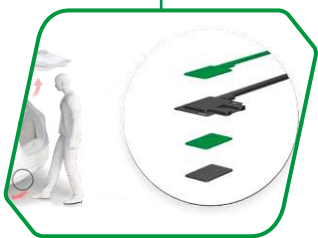
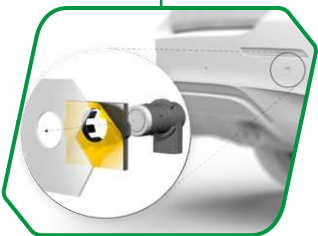
Spoiler



Emblems & Letterings



Bumpers



Decorative Parts



Additional Applications



High-tech adhesive solutions with multiple benefits

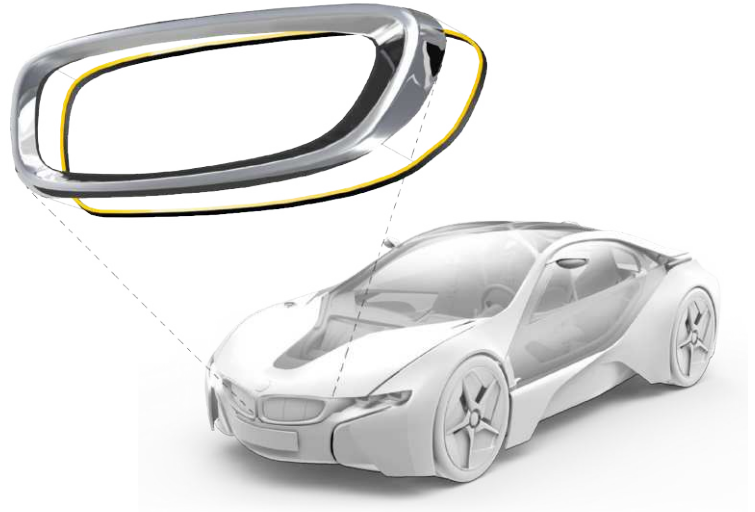
Decorative Parts

Front-Grill Trim Parts

Single-sided foam tapes for sealing small and medium-sized decorative elements offer excellent and long-term adhesive strength on plastic and painted surfaces. The PE-foam carrier compensates for uneven surfaces of the joining partners as well as for longitudinal expansion. All tapes are available in narrow widths on spools for bonding filigree trim parts. In addition, the DuploCOLL® DS range offers various laminations of numerous tapes and foam materials (PE, PU, EPDM) with different densities. Thus, customized single-sided adhesive sealing tapes are realized, for example to eliminate wind noise.

Your benefits

- Excellent sealing function
- Black PE-foam carrier makes application nearly invisible
- Customized lamination of different foam materials and adhesive-tapes
- Tape available on rolls, spools or as customizable die-cuts



Window Trim Parts

The tapes from the DuploCOLL® AP range permanently bond window trim parts and other design elements made of different materials such as aluminum, chrome-plated or painted plastic. The black PE-foam carrier compensates for uneven surfaces of the joining partners as well as for longitudinal expansion. In addition, the tapes eliminate disruptive noises while driving.

Your benefits

- Excellent sealing function
- High initial adhesion (tack) for efficient mounting
- Tapes meet the requirements of the common climate change tests in the automotive industry
- Tape available on rolls, spools or as customizable die-cuts



Wing Mirrors

Lohmann offers a portfolio of different adhesive tapes for the increasing number of components in modern wing mirrors. For example, to reliably join the mirror glass to the housing, the Lohmann tape adapts to the thermoformed mirror cap and thus realizes a full-surface bonding. Additionally, heating elements as well as warning lights are integrated directly in the mirror by using functional adhesive tapes, for example light opaque tapes.

Your benefits

- Excellent adhesion to various component substrates
- Tapes meet the requirements for shatter protection
- No interaction between adhesive tape and heating system or mirror backside
- Good sealing properties against moisture
- Multifunctional tapes available to support various mirror functions (electrically or thermally insulating)
- Tape available on rolls or as customizable die-cuts

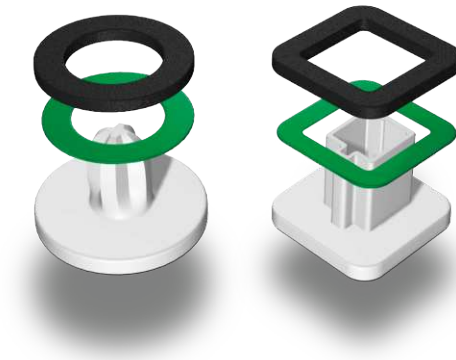


Sealing Rings

To prevent corrosion caused by water or other fluids penetrating into mounting holes in the vehicle body, individual die-cut parts made of PU, PE or EPDM foam tapes seal against moisture while suppressing disruptive noise. The DuploCOLL® DS range offers various laminations of numerous tapes and foam materials (PE, PU, EPDM) with different densities and thus provides individual damping and sealing possibilities.

Your benefits

- Excellent sealing properties for connecting joints and mechanical fixing elements against moisture
- Effective noise reduction
- Protection from scratches
- Compensation of different component tolerances
- Die-cut parts in various shapes are available as individual sets on sheets for an efficient mounting processes



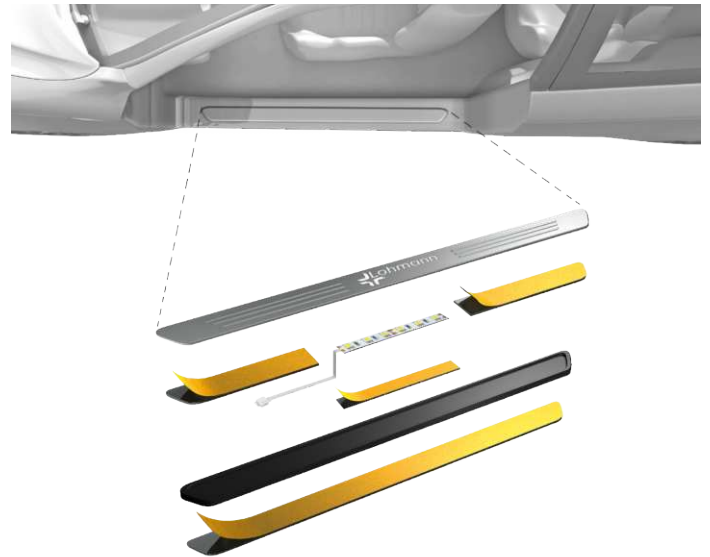
Doors

Kick Plates

Kick-plates are mounted reliably and permanently with Lohmann's double-sided adhesive tapes. Whether plastic, aluminum or with additional filigree illumination components, Lohmann offers the right solution for your application. Depending on the material used, processing is possible without pre-treatment. Thanks to the customized thicknesses, our foam adhesive tapes can be used for a wide variety of material combinations.

Your benefits

- Excellent processability thanks to dimensionally stable construction
- Black PE-foam carrier makes application nearly invisible
- Compensates for unevenness (gap dimension) due to the flexible foam carrier

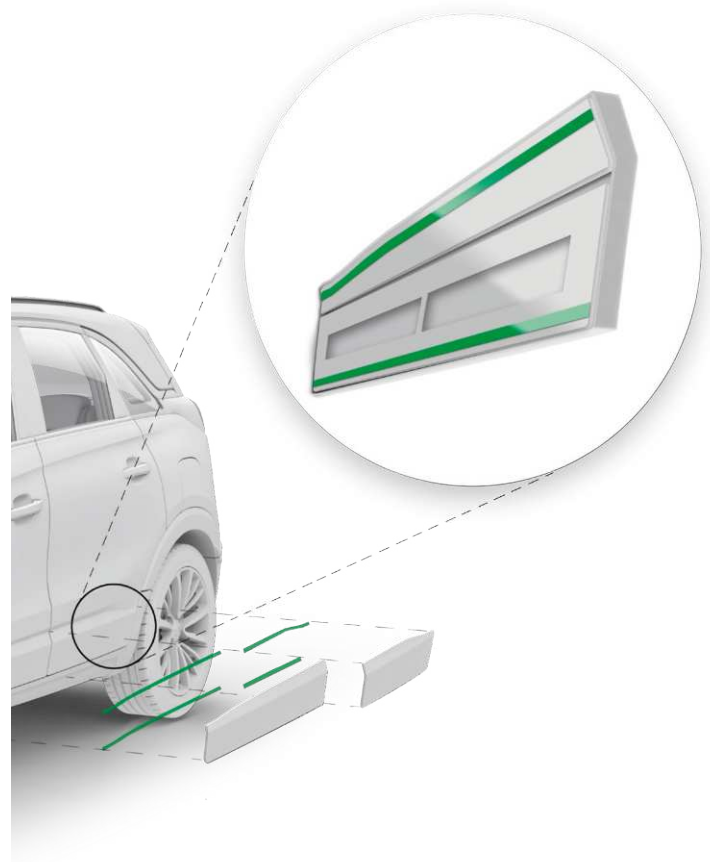


Door Cladding

To seal the door cladding, the double-sided adhesive tapes of the DuploCOLL® AP range do not only have a sealing function that prevents water ingress and thus rust. At the same time, the adhesive tapes reduce disturbing driving noise to a minimum. The closed-cell PE-foam carrier compensates for longitudinal expansion of the joining partners.

Your benefits

- Excellent sealing properties
- Additional fastening of already mechanically fixed plastic components to prevent rattling noises
- Efficient manufacturing processes with reduced down-time due to high length of spools (> 1000 m depending on spool and tape thickness)
- Spools with a single extended liner allow for reduced cycle-times



Doors

Strike Plates

Stresses on the bolt hook by opening and closing doors are transferred to the painted car body. In order not to damage the vehicle paint and thus prevent corrosion, Lohmann's single-sided adhesive tape forms a protective layer between the back of the component and the vehicle body.

Your benefits

- Excellent sealing against water
- Corrosion protection
- Tapes are available on rolls or as customizable die-cuts



Door Handle

Lohmann's double-sided adhesive tapes offer reliable bonding of the individual components within the door handle and enable that e.g. sensors for keyless entry fit into the limited space. Additionally, our multifunctional tape ranges can be used for electrically conductive, insulation or shielding requirements and thus replace further components.

Your benefits

- Space-saving fixation within the door handle as opposed to mechanical fastening
- Multifunctional tapes (electrically conductive or shielding) reduce number of components needed
- Tapes are available on rolls or as customizable die-cuts with low tolerances



Light Carpet

The pressure-sensitive adhesive tapes from the Lohmann portfolio allow reliable and permanent bonding of lighting solutions, such as light carpet elements. The black PE-foam tapes realize an invisible fixation of the lighting component to the vehicle body while additionally offering excellent sealing properties.

Your benefits

- Excellent adhesion to car body and plastic components
- Tapes meet the requirements of the common climate change tests in the automotive industry
- Efficient processing thanks to liner with fingerlift

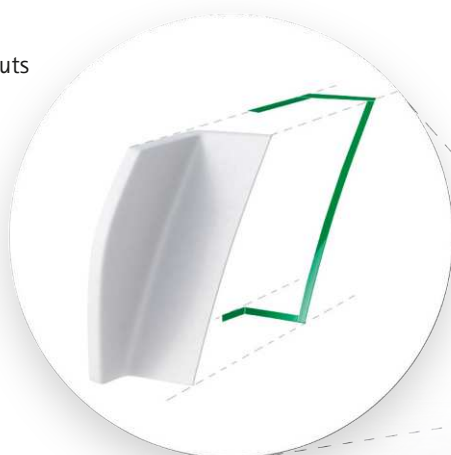


Water Management Elements

Lohmann provides double-sided adhesive tapes for intelligent water management solutions to prevent water from entering the interior and to protect the vehicle body from corrosion. The closed-cell PE-foam carrier compensates for longitudinal expansion of the joining partners and offers excellent sealing properties. The tapes in the portfolio meet the requirements of the common climate change tests of the automotive industry.

Your benefits

- Excellent sealing function against water and moisture
- Good adhesion on various plastic surfaces
- High initial adhesion (tack) for efficient mounting
- Flexible PE-foam carrier enables adjustment of component tolerances
- Tape available on rolls, spools, sheets or as customizable die-cuts



Spoiler

Sealing

In addition to reliable fixing of the spoiler to the rear of the vehicle, Lohmann adhesive tapes enable sealing against the rear window or the third brake light thanks to their smooth closed-cell foam carrier. Single-sided adhesive foams from our DuploCOLL® DS range are additionally available for noise reduction and rattle protection. These tapes are provided in various foam/adhesive combinations with different thicknesses and foam densities and offer very good processability due to their dimensionally stable design. Furthermore the Lohmann adhesive-tape portfolio offers solutions to reliably bond for example TPE seals to the spoiler.

Your benefits

- Efficient manufacturing with reduced down-time due to high length of spools (> 1000 m depending on spool and tape thickness)
- Excellent sealing function
- High adhesive strength on many plastic surfaces without pretreatment
- Damping of disturbing noises
- Tape available as rolls, spools or customized die-cuts



Antenna

Customized laminates, such as aluminum-adhesive tape combinations, enable the integration of antenna functions. Among other functions, these tapes are electrically conductive. This way, the spoiler not only serves to improve aerodynamics but also carries additional components to support connectivity and increase safety. Additionally, Lohmann multifunctional tapes offer EMI shielding properties to block disturbing electromagnetic waves.

Your benefits

- Noise reduction due to damping properties
- Multifunctional aluminum-adhesive tapes, i.e. for electrical conductivity or EMI shielding
- Tapes are available on rolls or as customizable die-cuts



Emblems & Letterings

On Paint / Plastics

The DuploCOLL® NP range has been developed for excellent adhesion to common paint systems. Thanks to very good die-cutting properties due to their dimensional stability, individual designs even with smallest details can be realized. The tapes offer a constant performance due to outstanding weather resistance. The black PE-foam tapes compensate for different thermal expansions of the substrates better than hard, foamed systems like acrylic foam tapes while offering less weight and non-adhesive edges.

Your benefits

- High-performance adhesive especially developed for permanent bonding on all common clear coat systems
- Tapes meet the requirements of the common OEM specifications
- Excellent sealing properties
- Black PE-foam carrier makes application nearly invisible
- Excellent die-cutting properties for lowest tolerances



On Glass

Equipped with Lohmann's double-sided tapes, decorative elements as well as emblems and letterings are directly bonded on glass. The PE-foam tapes of the DuploCOLL® G range contain an activator that is already implemented into the special adhesive. Therefore, the additional pre-treatment with an activator and thus required humidity control in automotive production is no longer necessary. The soft foam structure enables an optimum wetting of the glass surface and thus realizes ideal final strength as well as rapid and effective bonding.

Your benefits

- No additional activator with long flash-off times necessary
- Compared to an activator pre-treatment, no occupational safety measures are required
- Excellent die-cutting properties for lowest tolerances
- Flexible PE-foam carrier enables adjustment of component tolerances
- Spools with a single extended liner allow for reduced cycle-times



Bumpers

PDC Sensors

Lohmann's double-sided PE-foam tapes realize a permanent bond between the sensor bracket and the plastic bumper. The DuploCOLL® AP range offers reliable joints of various plastic blends, e.g. PP/EPDM or compounds such as filled or fiber-reinforced plastics. The closed-cell PE-foam carrier compensates for vibrations as well as forces in the z-dimension.

Your benefits

- High final adhesion for permanent bonding
- Tape portfolio meets the requirements of the common climate change tests in the automotive industry
- Excellent sealing against moisture
- Specially developed for bonding to low-energy surfaces
- Tape available on rolls or as customizable die-cuts

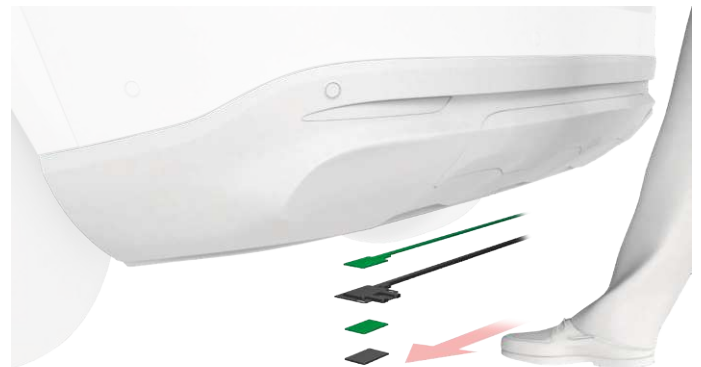


Foot Sensors

Lohmann offers ageing and weather resistant adhesive-tapes for bonding foot sensors or other applications that are exceptionally exposed. For mounting on plastic surfaces, the DuploCOLL® AP range offers outstanding adhesion while the DuploCOLL® NP range is especially developed for painted surfaces. The closed-cell PE-foam carrier compensates for vibrations as well as for forces in the z-dimension.

Your benefits

- High final adhesion for permanent bonding
- Tape portfolio meets the requirements of the common climate change tests in the automotive industry
- Excellent sealing against moisture
- Specially developed for bonding to low-energy surfaces
- Tape available on rolls or as customizable die-cuts



Additional Applications

Cleaning Cloth

Apart from innovative bonding solutions, Lohmann also offers processing materials such as a cleaning cloth. Prior to the bonding or painting process, it can be used fully automatic for cleaning the surfaces. Due to the reinforcement film the product cannot be overstretched.

Your benefits

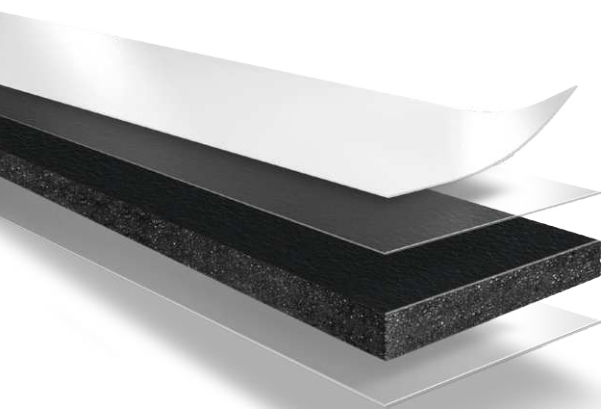
- Dimensional stability
- Lint-free
- Efficient, fully automatic surface cleaning process
- Material available as rolls or spools



Product ranges for bonding on various surfaces

For efficient mounting and reliable, permanent bonding of various add-on parts on different surfaces – such as various clear coat systems of many OEMs, glass or plastic – Lohmann offers multiple product ranges of double-sided PE-foam tapes. Equipped with these PE-foam carriers, our tapes are excellently suited for compensating different tolerances

of components, especially in terms of different thermal coefficients of the substrates. Within the application, the adhesive tapes are almost invisible, thanks to their black coloring. They are available as rolls, spools, sheets or die-cuts, depending on the individual requirements. Thanks to their dimensionally stable design, the adhesive tapes are easy to process.



The Lohmann product portfolio of high-tech adhesive tapes is available as rolls, spools, sheets and as customizable die-cuts.

DuploCOLL® NP Range

The double-sided PE-foam tapes are an OEM-proven alternative to acrylic foam tapes. The PE carrier foam compensates for component tolerances better than hard, foamed systems. With similar adhesive strength, Lohmann's solution offers a lightweight alternative with up to four times less weight. The tapes of the DuploCOLL® NP (NP = new paints) range are equipped with a high-performance adhesive which is suitable for permanent bonding on modern clear coat systems. Plastic exterior components can easily be bonded on coatings with medium and high surface energies. The NP adhesive also offers an excellent adhesion to standard plastics used in add-on parts.

DuploCOLL® AP Range

The DuploCOLL® AP (AP = advanced plastics) range is employed for permanent bonds of elastomer/plastic as well as plastic/plastic combinations with low-energy surfaces. A modified acrylic adhesive offers excellent initial and final adhesion properties on various plastic blends, e.g. PP/EPDM or compounds such as filled or fiber-reinforced plastics. The closed-cell PE-foam carrier allows for compensation of different thermal expansion coefficients of the substrates and thus has excellent sealing properties.

DuploCOLL® G Range

The double-sided foam adhesive tapes of the DuploCOLL® G (G = glass) range contain an activator that is already implemented into the special adhesive on the side of the tape that is attached to the glass surface. Thus, an additional pre-treatment with an activator is no longer necessary. Strong and permanent adhesive bonds can be realized with reduced complexity in the manufacturing process. On the other side of the tape, a pure acrylic adhesive or modified acrylic adhesive ensures an outstanding final strength. The test results for dynamic roll peel strength on glass confirm that the adhesive bonds are temperature, weather and moisture resistant while achieving the same consistently high level of performance compared to room temperature. Powerful statement: the adhesion to the substrates is excellent as a foam split occurs.

DuploCOLL® DS Range

Lohmann's DuploCOLL® DS (DS = damping & sealing) range is composed of single-sided adhesive damping materials. These tapes are provided in various combinations of foam materials (PE, PU, EPDM) and adhesives and offer very good processability due to their dimensionally stable design. They reduce vibrations and noise, for example wind and rattling noises, and seal add-on parts of any kind. Thus, a reliable anti-corrosion and abrasion protection is being supported. Thanks to the foam carrier, the adhesive tapes of the DuploCOLL® DS range offer excellent sealing properties. A high adhesion can be achieved without pretreatment on many plastic surfaces.

The best bonding solution is the one that meets the precise needs of your application. And how do we find it? By advising and supporting you from the initial idea right through to its intergration in your process. Our philosophy in three words: **smart bonding approach.**

Interested in finding out more on bonding solutions for the automotive industry?

Please visit our website or get in contact with us:

www.lohmann-tapes.com

transportation@lohmann-tapes.com

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