

### **Product Portfolio**

High-End Adhesive Solutions for the Automotive Industry.



### Multi-Talented Adhesives

#### The best range to suit your needs.

Whether for passenger cars, commercial vehicles or caravans. Whether for interior or exterior use. Lohmann adhesive tapes can be used to mount numerous vehicle components and offer an unbelievable variety of functions: tolerance compensating, cushioning, removable, transparent, electrically or thermally conductive, environmentally friendly, capable of forming an airtight seal, odorless and more. And of course they can bond too — the particular solution depends on your specific needs.

#### From adhesive to die-cut part.

With each adhesive solution we never lose sight of the entire process. From adhesives production to coating, laminating and converting through to bespoke die-cut parts, which we produce in our modern die-cutting centres . With different types of materials and with excellent precision thanks to manufacturing tolerances in the  $\mu m$  range. And last but not least, we offer you application support with finger lift, mounting films, or even wipes to clean your surfaces. In short: Lohmann offers you everything from a single source.



Power train



Electronics



Interiors



Exteriors

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Mount • Bond



DuploCOLL® double-sided adhesive foam tapes offer outstanding tack and final adhesion properties for efficient mounting and durable bonding of the widest variety of add-on parts.

# Double-sided foam tapes with special adhesive for mounting on glass without activator pre-treatment $\,$

Product	Carrier	Adhesive covered side	Adhesive open side	Thickness
DuploCOLL® 92008 G	PE foam black	Special adhesive for glass (integrated activator)	Pure acrylic	0,80 mm
DuploCOLL® 92708 G	PE foam black	Special adhesive for glass (integrated activator)	Modified acrylic	0,80 mm
DuploCOLL® 92011 G	PE foam black	Special adhesive for glass (integrated activator)	Pure acrylic	1,10 mm
DuploCOLL® 92711 G	PE foam black	Special adhesive for glass (integrated activator)	Modified acrylic	1,10 mm
DuploCOLL® 92715 G	PE foam black	Special adhesive for glass (integrated activator)	Modified acrylic	1,50 mm

#### Ideal for:

- Emblems & letterings
- Add-on parts
- Sealing profiles

# Double-sided foam tapes with modified acrylic adhesive with good bonding properties on plastic materials

Product	Carrier	Adhesive covered side	Adhesive open side	Thickness
DuploCOLL® 5016 (F)	PE foam black	Modified acrylic	Modified acrylic	0,45 mm
DuploCOLL® 96608 AP	PE foam black	Modified acrylic	Modified acrylic	0,80 mm
DuploCOLL® 97711 AP	PE foam black	Modified acrylic	Modified acrylic	1,10 mm
DuploCOLL® 97715 AP	PE foam black	Modified acrylic	Modified acrylic	1,50 mm

#### Ideal for:

- Emblems & letterings
- ullet Trims
- Add-on parts
- Exterior mirrors



### Double-sided foam tapes with low emission dispersion adhesive for various mounting purposes for the vehicle interior

Product	Carrier	Adhesive covered side	Adhesive open side	Thickness
DuploCOLL® 13505 LE	PE foam white	Acrylic dispersion	Acrylic dispersion	0,50 mm
DuploCOLL® 13508 LE	PE foam black	Acrylic dispersion	Acrylic dispersion	0,80 mm

#### Ideal for:

- Decorative parts
- Panels

#### Double-sided spacer-tapes for the production of fuel cells

Product	Carrier	Adhesive		Thickness
DuploCOLL® 180 FCT	none	Pure acrylic	-	0,18 mm
DuploCOLL® 250 FCT	none	Pure acrylic	-	0,25 mm
DuploCOLL® 350 FCT	none	Pure acrylic	-	0,35 mm

#### Ideal for:

- Sealing and bonding of hydrogen fuel cells
- Bonding and sealing of metals, ceramics and high-energy plastics

#### Double-sided foam tapes with special adhesive for new generation paint

Product	Carrier	Adhesive covered side	Adhesive open side	Thickness
DuploCOLL® 91105 NP	PE foam black	High performance adhesive	High performance adhesive	0,45 mm
DuploCOLL® 91106 NP	PE foam black	High performance adhesive	High performance adhesive	0,60 mm
DuploCOLL® 91108 NP	PE foam black	High performance adhesive	High performance adhesive	0,80 mm
DuploCOLL® 91111 NP	PE foam black	High performance adhesive	High performance adhesive	1,10 mm
DuploCOLL® 91115 NP	PE foam black	High performance adhesive	High performance adhesive	1,50 mm

#### Ideal for:

- Emblems & letterings
- Kick plates
- Add-on parts
- Decorative parts

# $\label{lem:conventional} \begin{tabular}{ll} Double-sided tapes for self-adhesive preparation of various materials and conventional bonding purposes \end{tabular}$

Product	Carrier	Adhesive covered side	Adhesive open side	Thickness
DuploCOLL® VP 6504	PET film transparent	Modified acrylic	Modified acrylic	0,07 mm
DuploCOLL® 65046 BLK	PET film black	Modified acrylic	Modified acrylic	0,07 mm
DuploCOLL® 65047 BLK	PET film black	Modified acrylic black	Modified acrylic black	0,10 mm
DuploCOLL® 3720	Tissue paper white	Modified acrylic	Modified acrylic	0,13 mm
DuploCOLL® 3702	PET film transparent	Modified acrylic	Modified acrylic	0,13 mm
DuploCOLL® 378	PET film transparent	Modified acrylic	Modified acrylic	0,21 mm
DuploCOLL® 373	PET film white	Modified acrylic	Modified acrylic	0,33 mm

#### Ideal for:

- Design kick plates
- Exterior mirrors
- Lamination of foams, textiles and damping materials

#### High temperature and chemical resistant sealing tapes

Product	Carrier	Adhesive		Thickness
DuploCOLL® 101 HCR	none	Pure acrylic	-	0,05 mm
DuploCOLL® 102 HCR	none	Pure acrylic	-	0,10 mm
DuploCOLL® 103 HCR	none	Pure acrylic	-	0,13 mm
DuploCOLL® 15250 HCR	none	Pure acrylic	-	0,25 mm

#### Ideal for:

- Application in the electronics industry for PCB bonding
- · Bonding of glass, metal, ceramics and high-energetic plastics

#### Double and single-sided adhesives for processing highly transparent materials

Product	Carrier	Adhesive		Thickness
DuploCOLL® 20654 OC	none	Pure acrylic	-	0,05 mm
DuploCOLL® 22430 OC	PET film transparent	Pure acrylic	-	0,125 mm

#### Ideal for:

- Laminating for printed electronics
- Invisible bonding of films and glass
- Optical connection of polarization films in active and passive LCD displays

#### Damp • Seal



Adhesive damping materials with excellent properties for sealing connecting joints and mechanical fixing elements or for reducing vibrations and noises.

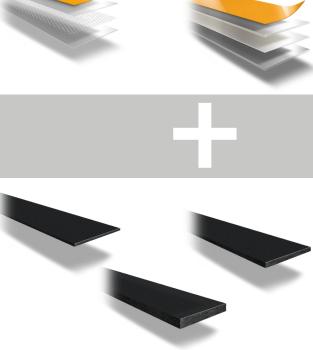
#### Single-sided adhesive damping materials

It rattles, drones, squeaks, creaks? We have countless noise reducing and damping materials, with which we can precisely equip your surface with a self-adhesive finish. Whether as a roll, spool, sheet or die-cut: we offer you a customized solution for your NVH application.



These single-sided adhesive damping materials are ideal for noise reduction and sealing of all kinds of add-on parts or for fixing cables on the headliner. They offer high adhesive strength on many plastic surfaces without pretreatment. Thanks to their dimensionally stable construction they offer a very good processability.

A sample kit (NVH box) is available for finding individual solutions. Just contact us!





Pressure sensitive adhesive tapes with low emissions for the vehicle interior

# Double-sided adhesive tapes for laminating various damping materials

Product	Carrier	Adhesive covered side	Adhesive open side	Thickness
DuploCOLL® 13109 LE	Scrim	Acrylic dispersion	Acrylic dispersion	0,09 mm
DuploCOLL® 13010 LE	none	Acrylic dispersion	Acrylic dispersion	0,10 mm
DuploCOLL® 13111 LE	Scrim	Acrylic dispersion	Acrylic dispersion	0,11 mm
DuploCOLL® 13214 LE	Tissue paper white	Acrylic dispersion	Acrylic dispersion	0,15 mm

#### Ideal for:

- Lamination of foams, textiles and damping materials
- Bonding of heating elements, e.g. in seats, armrests and steering wheels

#### Tapes for cable fastening applications

#### Single-sided adhesive tapes for cable fastening applications

Product	Carrier	Adhesive covered side	Adhesive open side	Thickness
DuploCOLL® 21003 FL	Nonwoven white	Acrylic dispersion	-	0,30 mm
DuploCOLL® 52065	PU foam black	Acrylic dispersion	-	3,00 mm

#### Ideal for:

• Cable fastening on the headliner

Adhesive damping materials with excellent properties for sealing connecting joints and mechanical fixing elements or for reducing vibrations and noises.

#### Single-sided adhesive tapes with anti-creak film

Our DuploCOLL® 32xxx range offers you a portfolio of adhesive tapes, that are equipped with an abrasion resistant anti-creak film. This PE film can be combined with any tape, depending on the application. The film can be laminated over the entire surface or partially. Thus, anti-creak solutions can be realized as rolls, spools, sheets or die-cut parts in different thicknesses. The single-sided adhesive tapes are ideal for abrasion and corrosion protection as well as noise reduction.

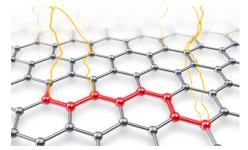




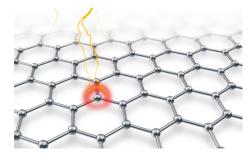


#### Functionality is paramount.

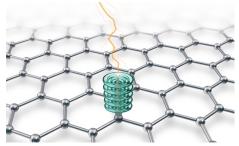
Our functional adhesive tapes in the DuploCOLL® range have additional properties beyond bonding. For the various applications in the automotive industry, which are becoming increasingly smarter, we offer four product ranges with electrically conductive, thermally conductive, electrically insulating and antistatic functions.



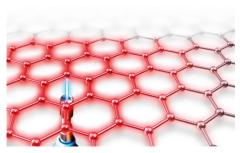
Electrically conductive: DuploCOLL® EC



Antistatic: DuploCOLL® AS



Electrically insulating: DuploCOLL® IS



Thermally conductive: DuploCOLL® TC

Details on all Duplo  ${\bf COLL}^{\otimes}$  Functional Tapes range can be found on the next two double pages.







Innovative adhesive tapes for visually and functionally perfect bonding of materials. Versatile applications due to thermally and electrically conductivity.

#### Thermally conductive adhesive tapes

Product	Carrier	Adhesive covered side	Adhesive open side	Thickness
DuploCOLL® 74125 TC	none	Pure acrylic white	-	0,14 mm
DuploCOLL® 78125 TC	none	Pure acrylic blue	-	0,14 mm
DuploCOLL® 74250 TC	none	Pure acrylic white	-	0,25 mm
DuploCOLL® 78250 TC	none	Pure acrylic blue	-	0,25 mm
DuploCOLL® 74500 TC	none	Pure acrylic white	-	0,50 mm

<sup>\*</sup>For other dimensions please contact us.

#### Electrically conductive adhesive tapes

Product	Carrier	Adhesive covered side	Adhesive open side	Thickness
DuploCOLL® 28950 EC	none	Electrically conductive acrylic	-	0,05 mm
DuploCOLL® 28930 EC	Fabric grey	Electrically conductive acrylic	Electrically conductive acrylic	0,11 mm
DuploCOLL® 28970 EC	Fabric black	Electrically conductive acrylic	-	0,12 mm
DuploCOLL® 28940 EC	Fabric grey	Electrically conductive acrylic	-	0,12 mm

#### Ideal for:

- Mounting of electronic components
- Thermal management

#### Ideal for:

- Electrical connection at low signal current levels
- Equipotential bonding
- Connection of conductive materials
- Electrostatic shielding, EMI/RFI-shielding
- Grounding







Adhesive tapes with insulating and antistatic properties for versatile use in the electronics industry.

#### Electrically insulating adhesive tapes

Product	Carrier	Adhesive covered side	Adhesive open side	Thickness
DuploCOLL® 31300 IS	Polyimide film amber/brown	Silicone adhesive transp.	-	0,07 mm
DuploCOLL® 31320 IS	PET film transparent	Silicone adhesive black	-	0,08 mm
DuploCOLL® 31330 IS	Polyimide film dark brown	Silicone adhesive transp.	-	0,09 mm
DuploCOLL® 31310 IS	Glass cloth white	Silicone adhesive transp.	-	0,18 mm

#### Ideal for:

- Electrical insulation
- Surface protection
- Heat barrier
- Reflow soldering
- Masking tape in the manufacture of printed circuit boards

#### Antistatic protection films

Product	Carrier	Adhesive Function		Thickness	
DuploCOLL® 31400 AS	Polyimide film amber/brown	Silicone		Surface protection	0,06 mm
DuploCOLL® 31430 AS	PET film transparent	Antistatic acrylic		ESD protection	0,06 mm

#### Ideal for:

- Surface protection
- Antistatic finish of LCD- and TFT-displays, LED/OLED, lights
- Dust protection





Adhesive tapes, electrically and thermally insulating, for versatile use in the electronics industry.

#### Single and double-sided adhesive tapes with film carrier

Product	Carrier	Adhesive covered side	Adhesive open side	Thickness
DuploCOLL® 3611.2	PET film transparent	Pure acrylic	Pure acrylic	0,10 mm
DuploCOLL® 3605.2	PET film transparent	Pure acrylic	Pure acrylic	0,11 mm
DuploCOLL® 361.2	PET film transparent	Pure acrylic	Pure acrylic	0,15 mm

#### Ideal for:

- Mounting of electronics components
- Electrical insulation between electrical/ electronic components

#### Double-sided adhesive foam tapes

Product	Carrier	Adhesive covered side Adhesive open side		Thickness
DuploCOLL® 38220 BLK	PE foam black	Modified acrylic	Modified acrylic	0,20 mm
DuploCOLL® 38225 BLK	PE foam black	Modified acrylic	Modified acrylic	0,25 mm
DuploCOLL® 9042	PE foam black	Pure acrylic	Pure acrylic	0,30 mm
DuploCOLL® 930	PE foam black	Pure acrylic	Pure acrylic	0,95 mm
DuploCOLL® 931	PE foam black	Pure acrylic	Pure acrylic	1,33 mm
DuploCOLL® 935 F	PE foam black	Pure acrylic	Pure acrylic	2,00 mm

#### Ideal for:

- Mounting and sealing of electronic components
- Protection against dust and moisture

#### Protect • Insulate



Adhesive tapes developed specially for protecting and shielding against harmful external influences. Excellent resistance to dirt, dust and moisture.

#### Protection films

Product	Carrier	Adhesive	Thickness
DuploCOLL® 60001	PE film transparent	Pure acrylic	0,05 mm
DuploCOLL® 60005	PE film blue	Pure acrylic	0,05 mm
DuploCOLL® 60006	PE film transparent	Pure acrylic	0,07 mm
DuploCOLL® 60024	PE film blue	Pure acrylic	0,07 mm

#### Ideal for:

- Surface protection of polished metal surfaces
- Surface protection of plastic housings and components made of PVC, PMMA or polycarbonate
- Dust protection

#### **UL** certification

The UL certification required for the North American market certifies that the Lohmann portfolio has excellent product properties. Many of our products have been registered according to UL 969 and UL 746. For details, please refer to UL File PGGU2.MH15429 or UL File QOQW2.E309165.

#### **Further certifications**

Tried and tested quality is at the very heart of our corporate policy. Please find an overview of all certifications at www.lohmann-tapes.com/certificates.

### DuploTEC® SBF Structural Bonding Films

# Innovative bonding techniques with epoxy and polyurethane.

DuploTEC® SBF (Structural Bonding Films) is the innovative response by Lohmann to increased demands for adhesive solutions as an alternative to conventional bonding technologies such as welding, rivets, screws, or liquid adhesive. Dimensionally precise, pre-applicable, and resilient: DuploTEC® SBF combines the performance of structural adhesion with the simple handling of a pressure-sensitive adhesive film and can therefore be processed quickly and cleanly.



Details on all DuploTEC® products on the next double page.



#### Polyurethane film

High performance polyurethane adhesive system.

- Solvent-free dry adhesive film
- Latent reactive, with structural adhesive properties
- Cures in seconds at low curing temperatures
- · Individual and highly precise bonding geometries
- Still elastic and flexible after curing
- High heat and chemical resistance
- Pre-applicable to joining partners at low heat (< curing temperature)



#### Epoxy-Tape

Thermosetting Epoxy-Tape.

- Adhesive tape with high instant adhesion
- Reactive adhesive tapes with flexible properties up to high-strength or structural adhesive bonds
- Easy to apply like adhesive tape
- Ability to withstand the highest static and dynamic forces
- Extreme resistance to aging and chemicals
- · High temperature resistant

### Structural bonding options

DuploTEC® SBF 05

DuploTEC® SBF combines the performance of structural bonding with the ease of use of a pressure sensitive adhesive. The different strengths of the available technologies allow a suitable selection for your application.

You can find more information about our Epoxy-Tape solutions at www.epoxy-tape.com.

	Epoxy-Tapes		Polyurethane films		
Technology	Ероху		Polyurethane	Polyurethane	
Adhesive	LomaCOLL® TS 83		LomaCOLL® TS 42	LomaCOLL® TS 43	
Initial adhesion	Moderate initial adhesion		Dry film	Dry film	
Curing temperature	≥ 130 °C		≥ 70 °C	≥ 100 °C	
Color non-crosslinked	translucent		translucent	translucent	
Color crosslinked	translucent		transparent	translucent	
Available thicknesses	35–100 μm		15-100 μm	15-200 μm	
Especially suitable for	Metal/PEEK		PC/PET/PVC	Textiles/PC/CFK	
Carrier	no		no	no yes	
Product line	DuploTEC® 104xx SBF		DuploTEC® 120xx SBF	DuploTEC® 68x SBF DuploTEC® 69x SBF	

<sup>\*</sup>For other dimensions please contact us.

### Smart Bonding Approach

# 06

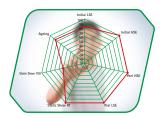
#### We advise and support you. From the outset.

Lohmann stays by your side as a competent partner — from the moment the first concept is born through to its integration in your process and beyond. Anywhere in the world and at any time. That's what we mean by our smart bonding approach.



#### Application

Our bonding engineers analyze your requirements and find the right technical approach for your application.



#### Product choice

Choose the product that is right for your application from more than 600 standard products. And if you have very precise requirements, we will develop a custom solution to suit you.



#### Tools

We support you with countless tools and detail engineering for an efficient production process. From dispensing aids and proven cutting equipment to pick & place solutions, we are always ready to assist.



#### Service

Even during the production phase, we remain a constant and reliable partner. We provide services such as a full supply chain right through to traceability of the delivery and processed materials.

### Sustainability

#### Connections with a future: sustainability at Lohmann.

We create connections with a future – for the sake of the environment. Because for us sustainability is not only a matter close to our hearts, but also a clear corporate strategy.

We are always one step ahead — and continuously optimize our carbon footprint to protect the environment and conserve resources. This includes not only the development of ever new raw materials and materials with new performance, but also the development of solvent-free adhesive solutions. Our certified, low-emission products offer the greatest possible protection where it is most important: in the mobility and medical sectors and in your home, in safe and durable bonding from roof to floor.

Lohmann's latest innovation is up to 100% solvent-free: with our TwinMelt® process technology, we save resources and emissions in our production chain. In figures: 3,500 t CO2 — which corresponds to a CO2 storage of 7,000 trees.

Are you ready for sustainable and future-proof value creation and smart processes? Learn more about TwinMelt®: www.lohmann-tapes.com/twinmelt-en



### Space for Innovation

#### The Bonding Arena®

There's plenty of room for new ideas in 300 m². In the Bonding Arena®, our experts develop surprising and convincing solutions. Because here they have to think ahead. And to take a closer look. The highest possible openness in combination with the latest and most modern technology provides a working environment in which innovation can be lived — and bonded. The innovations in the Bonding Arena® are many and varied. For example, there are significantly more options for the DuploTEC® SBF systems. All other bonding solutions from Lohmann will also be made tangible and tested on a wide variety of workstations. Here it is possible to try out immediately which solution could be the right one for our customers. This means that the Smart Bonding Approach is also applied in the Bonding Arena®.





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.

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