



Multifunctional tapes for display applications

Bonding solutions by Lohmann.



Always transparent for you

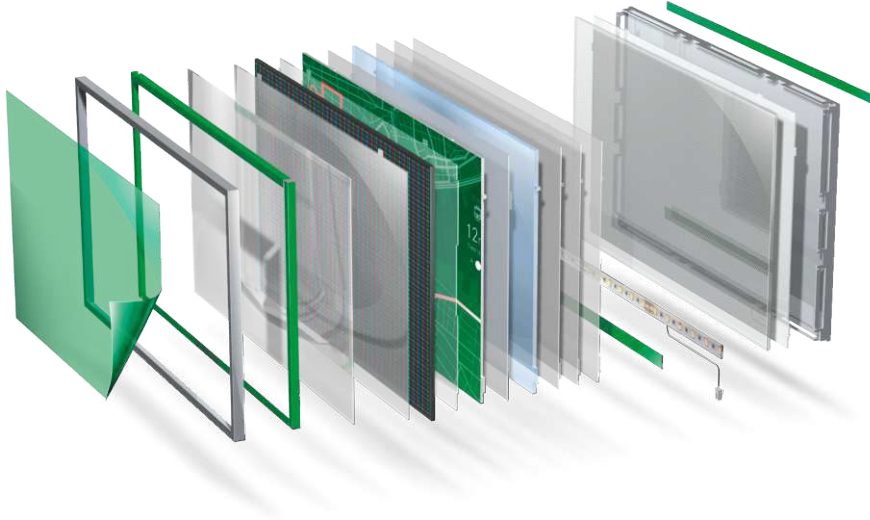
Lohmann's high-end adhesive solutions for electronics displays.

With increasing size and number of displays as well as new design concepts, flat or curved, the manufacturing process becomes more complex. Furthermore, aging requirements become more demanding. Lohmann's high-tech adhesive tapes are the solution for display manufacturers worldwide. While a reliable bonding strength is key, in addition our products provide multifunctional properties and help to decrease complexity: Our functional adhesive tapes are the solution for our customers' individual and innovative design ideas.

For example, our adhesive tapes enable transparent and ultra-thin bonds, efficient sealing or insulation. Furthermore, our tapes dissipate heat for thermal management or are electrically conductive so that for example in grounding applications soldering processes can be replaced. In applications with wireless communication Lohmann tapes can provide a built-in shielding functionality against electromagnetic interference.

Smart and safe bonding solutions for display applications

We are at your side throughout the entire duration of your projects.



Smart bonding solutions are our passion! As a globally active company with regional subsidiaries, we are your partner when it comes to high-tech bonding solutions.

From design and prototyping, through individual tests in our **Bonding Arena®** and laboratories, our application engineers assist you in finding the right product for your requirements.

Customers working with Lohmann do not only benefit from state-of-the-art tape solutions, but also from our capabilities in providing the tape in the required shape: die-cutting, laser-cutting or other means of singulation are our daily business. We call it:

The smart bonding approach!

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

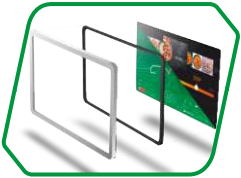
Application technology specialists support our customers in integrating our adhesive systems into the production process.

Display applications

Overview Display.

Damp & Seal

Dust & Humidity



Noise-Vibration-Harshness



Light Blocking

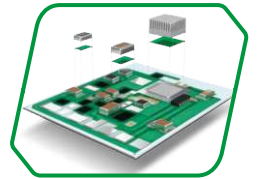


Thermal Management

Backlight LEDs



Cooling Elements

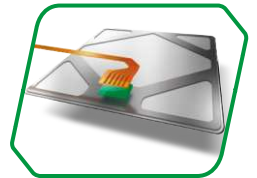


Electrical Management

EMI Shielding



Grounding



Protection

ESD Protection

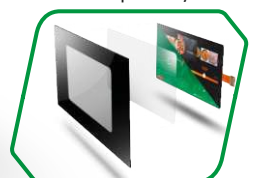


Surface Protection



Bonding

Optically Clear



Fixation



Application in detail

Damp & Seal

Dust & Humidity

Closed-cell PE foams or PU foams ensure a tight sealing against dust and humidity.

The foam tapes absorb vibration and compensate different expansion coefficients of the substrates that are joined.

Features

- High resistance to temperature, ageing, UV-radiation and weathering
- Excellent resistance to solvents and plasticizers
- Excellent converting and die-cutting properties

Products

- DuploCOLL® 54XXX DS Range
- DuploCOLL® 930 Range



Noise-Vibration-Harshness

Anti-noise and mechanical protection are getting more and more important, especially in cars and portable devices. Customized solutions with PU, PE or EPDM foams and a variety of acrylic adhesives can be created according customer requirements.

Features

- Efficient protection against abrasion
- Good adhesion on a broad variety of substrates
- Excellent die-cutting properties

Products

- DuploCOLL® 21003 FL
- DuploCOLL® 54XXX DS Range



Light Blocking

The low-transmission tapes help to minimize light scattering and ensure a high-contrast display.

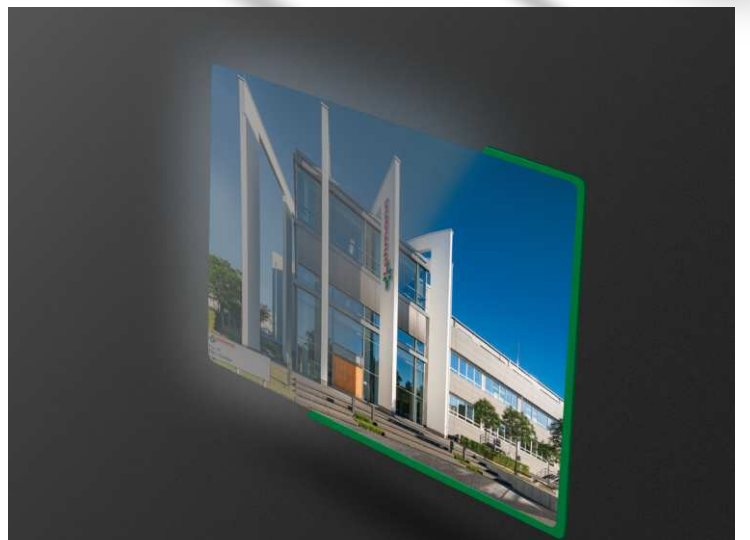
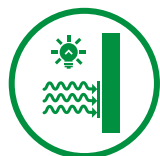
DuploCOLL® 28970 EC combines the light blocking characteristic with the EMI shielding property.

Features

- Excellent light blocking
- Outstanding converting and die-cutting properties

Products

- DuploCOLL® 28970 EC
- DuploCOLL® BLK Range



Thermal Management

Backlight LED

Thermal management is crucial for the LED's lifetime as thermal overstress can lead to early breakdowns. Thermally conductive adhesive solutions support the dissipation of heat and minimize the heat in and around the LED.

Features

- Very low outgassing
- No additional fixing materials necessary
- Free of silicones, halogen-free, flame retardant
- Thermal conductivity about 1 W/mK
- Excellent die-cutting properties

Products

- DuploCOLL® TC Range



Cooling Elements

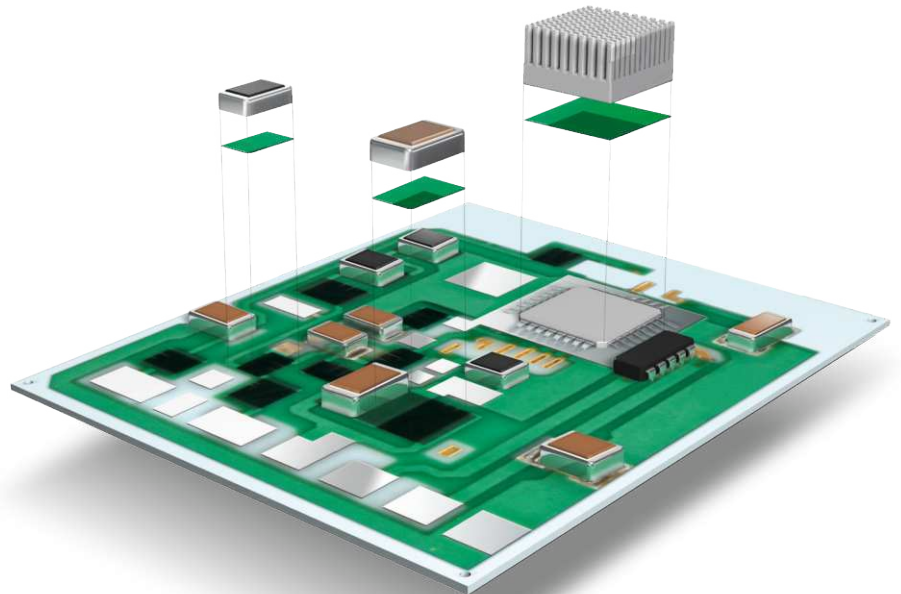
For an efficient thermal management that prevents malfunctions caused by thermal overstress and helps cooling or heating of electronic devices, a sufficient connection of the cooling element is necessary. Thermally conductive adhesive tapes are able to build up a contact to both substrates in the full area.

Features

- Very low outgassing
- No additional fixing materials necessary
- Free of silicones, halogen-free, flame retardant
- Thermal conductivity range 1 W/mK
- Excellent die-cutting properties

Products

- DuploCOLL® TC Range



Electrical Management

Grounding

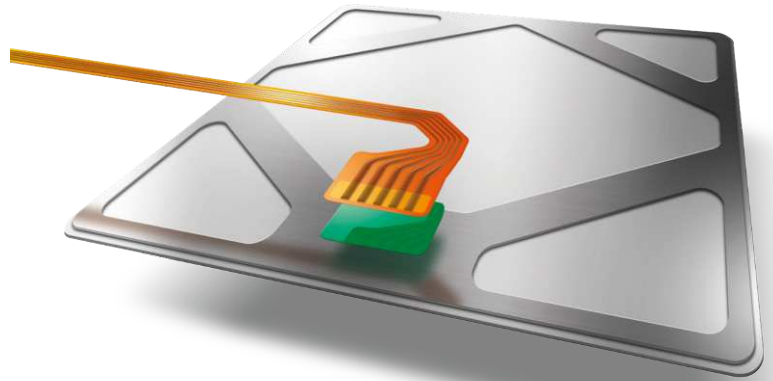
Due to its electrically conductive properties, grounding is enabled by the tape, while additional connection by wires or solder processes can be avoided.

Features

- Connect low current circuits
- Isotropic or anisotropic conductive
- Easy to die-cut and apply

Products

- DuploCOLL® EC Range



EMI Shielding

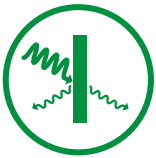
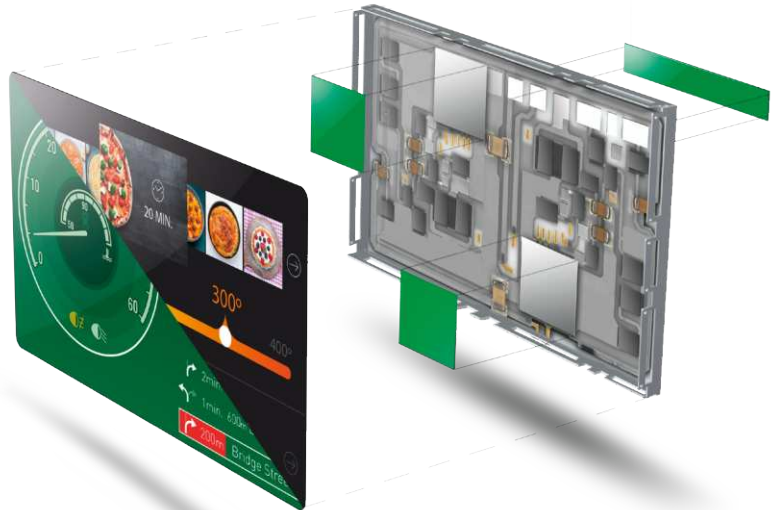
Electromagnetic waves can create voltage or electricity in circuits. This can cause disturbance, reduced performance or even lead to malfunction of an electronic component. EMI shielding tapes are used to cover sensitive components and block electromagnetic waves.

Features

- Isotropic conductive
- Bonds to low surface energy materials
- Excellent shielding properties against electromagnetic waves
- Easy to die-cut and apply

Products

- DuploCOLL® 28970 EC
- DuploCOLL® 28940 EC



Protection

ESD Protection

Whenever touch displays are used, protection against electrostatic discharge is necessary. Pressure-sensitive tapes with ESD protection avoid electrostatic discharge.

Features

- Due to antistatic adhesive electrostatic discharge is avoided
- Removable without residues

Products

- DuploCOLL® 31430 AS



Surface Protection

This product range offers temporary mechanical protection of sensitive surfaces during storage, production, processing and transport.

Features

- Protection of sensitive surfaces
- Removable without residues

Products

- DuploCOLL® 600XX Range



Bonding

Optically Clear

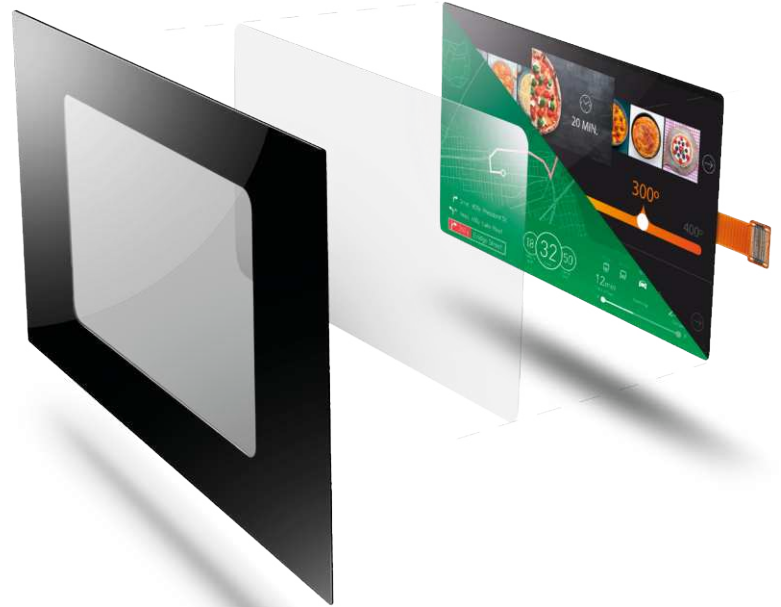
Displays with or without touch sensors are bonded reliably and without air bubbles directly to the full surface of the front panel using our optically clear transfer adhesive tapes. This enables higher optical quality as well as a dust-free screen.

Features

- Highly transparent
- Acid-free
- Suitable for polycarbonate and PMMA
- Suitable for die-cutting

Products

- DuploCOLL® OC Range



Fixation

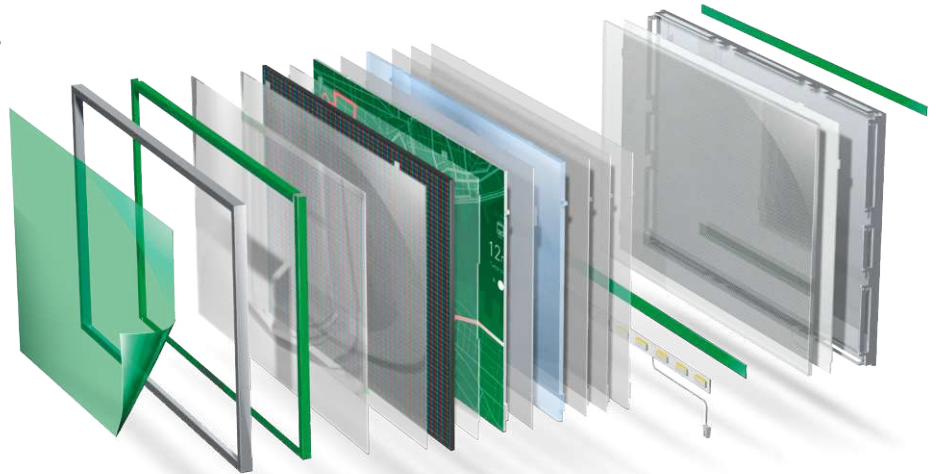
A wide variety of double-sided adhesive tapes with different constructions can be offered, for example for bonding of decorative parts or mounting of different display components.

Features

- Customizable film or foam carrier
- Different thicknesses available
- Excellent converting and die-cutting properties

Products

- DuploCOLL® 9042
- DuploCOLL® 38220 BLK
- DuploCOLL® 36XX Range
- DuploCOLL® 930 Range
- DuploCOLL® 3702
- DuploCOLL® 5016



Multifunctional tapes

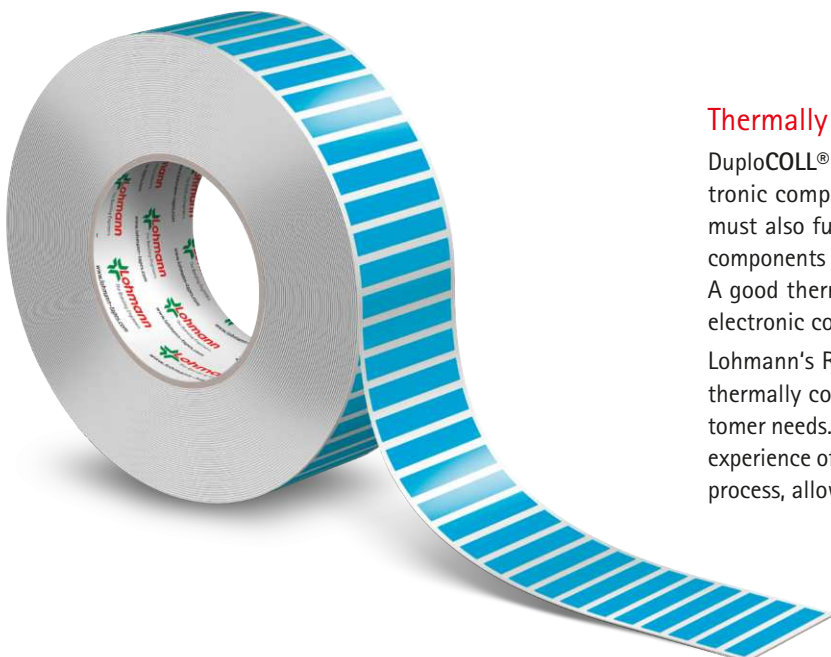
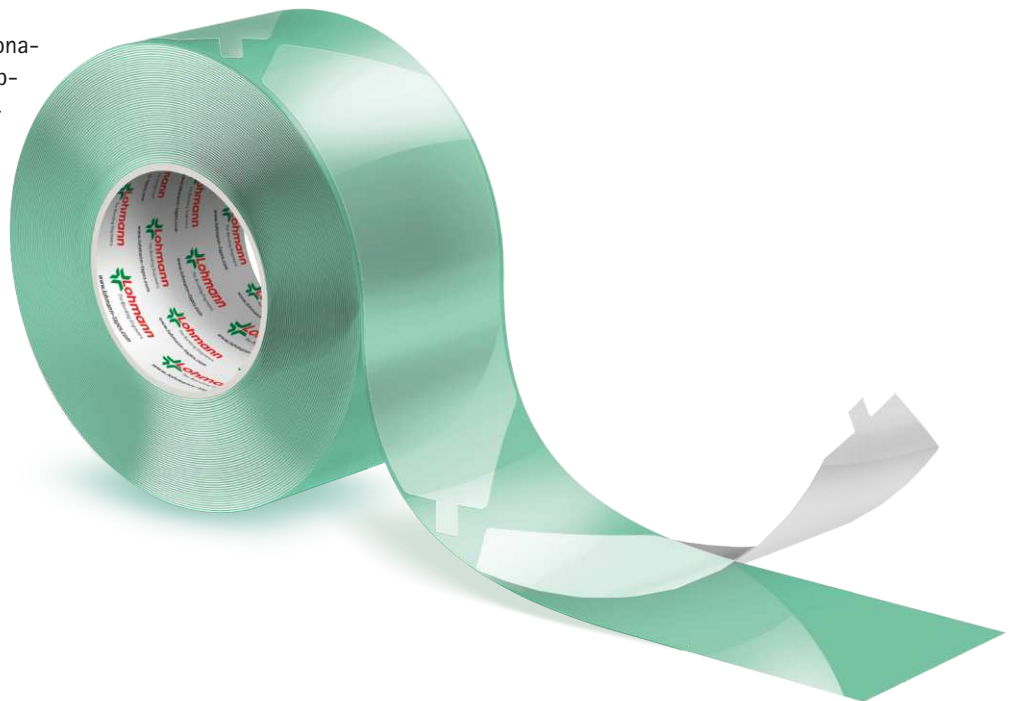
Developments in the sector of electronics are driven mainly by digitalization and miniaturization. Electronic components become physically smaller and provide more functionalities at an increased speed. This leads potentially to more generated heat and a higher risk of interfering signals.

These technical challenges continually require new bonding solutions that offer more than just joining components. They are responsible for smooth thermal or electrical management or serve other functions, such as sealing, damping, electromagnetic shielding or light-blocking. Lohmann's multifunctional adhesive tapes are optimized to be customized as die-cut solutions to fit perfectly into your process.

Antistatic: DuploCOLL® AS

Antistatic films help to protect TFT and LCD modules as well as optically bonded touch displays against dust, scratches and electrostatic discharge.

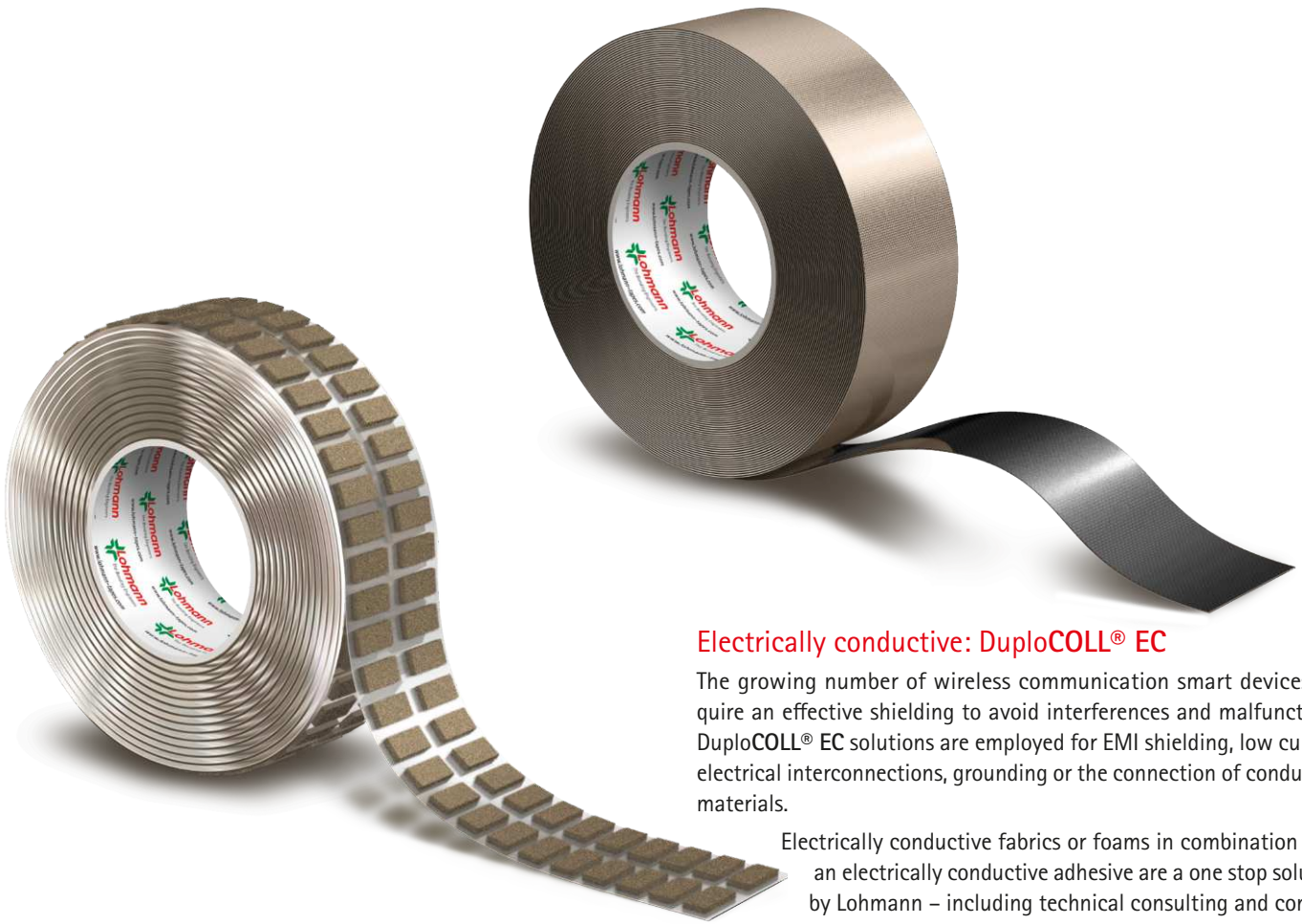
DuploCOLL® AS tapes ensure smart functionalities in the car interior and prevent disruptions, e.g. in touch sensors or other automotive electronics such as autonomous driving assistants or automatized temperature controls.



Thermally conductive: DuploCOLL® TC

DuploCOLL® TC tapes enable an efficient heat transfer between electronic components. In most cases, these functional adhesive tapes must also fulfill other tasks, such as tolerance compensation of the components to be joined or it is used as a seal against dust or moisture. A good thermal management contributes to a long life-time of the electronic component.

Lohmann's R&D department has developed a range of silicone-free, thermally conductive tapes whose thickness can be adjusted to customer needs. The competence in die-cutting the adhesive tape and the experience of our application engineers in creating the best application process, allow for a short supply chain to meet your needs.



Electrically conductive: DuploCOLL® EC

The growing number of wireless communication smart devices require an effective shielding to avoid interferences and malfunctions. DuploCOLL® EC solutions are employed for EMI shielding, low current electrical interconnections, grounding or the connection of conductive materials.

Electrically conductive fabrics or foams in combination with an electrically conductive adhesive are a one stop solution by Lohmann – including technical consulting and converting for your production process.



Electrically insulating: DuploCOLL® IS

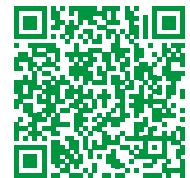
We provide a broad portfolio of electrically insulating foam and filmic tapes. At the same time these tapes offer damping and sealing properties and therefore protection during the life-time of the electronic devices. Specialized tapes are suitable as heat barrier either in the production process or in the final application.

The DuploCOLL® IS range is designed for applications where a high heat resistance in combination with electrical insulation is requested.

Learn more about bonding applications in electronics:

The Bonding Engineers are also well equipped to meet other requirements in the electronics industry. Learn more about our functional bonding solutions for electronics and visit our microsite:

<https://www.lohmann-tapes.com/electronics>



Large product portfolio available:

The product navigator on our website offers you an initial overview of our extensive product portfolio. Use the filter options: Filter for example by adhesive, carrier or function and find the right product for your application.

<https://www.lohmann-tapes.com/product-navigator>

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