

# Refrigerators & Freezers

So that your refrigerator leaves you cold – adhesive solutions from Lohmann.





# Your reliable partner for smart and safe bonding solutions for the Home Appliance Industry

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

As a globally active company with regional locations we see ourselves as your partner. With our international team we are always close to you. Through individual suitability tests in our Bonding Arena<sup>®</sup>, our application engineers will find the right product for your requirements. In dialogue with you, we jointly create the design of adhesive solutions. These are then produced by our specialists at our own locations – whether as die-cut parts, rolls or sheets. Your manufacturing process is the focus of attention. We would be happy to provide you with additional support in integrating our bonding solution into your process —from simple applicators to complex concepts for your production line.

Good project and quality management are a matter of course for us.

We offer the entire value chain of double-sided adhesive tape production - from a single source.



R & D of adhesive



Coating

Converting



Die-cutting





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# Home Appliances

# Overview Home Appliances applications.





# Industrial Appliances

# Overview Industrial Appliances applications.

# Cooling Cycle



# Applications in detail

### Applications – Housing

#### Venting – foaming process

These adhesive tapes are used to ventilate the housing during the foaming process. They are characterized by a high air permeability and at the same time retain the PU foam. Various designs (e.g. rolls or die-cuts) are possible based on your requirements.

#### Properties

- Good and even venting properties
- Available in many different designs and dimensions
- High initial tack on many plastics (e.g. polystyrene)

#### Reinforcement of side panels

Lohmann offers flexible and lightweight adhesive tapes for the reinforcement of body housings for standalone refrigerators, to enable a smooth and flawless surface appearance of the refrigerator side panels.

#### Properties

- Excellent sound and vibration insulation
- Good repositioning properties (short time)
- High final bonding strength
- Excellent flatness and dimensional stability

#### Vaccum insulation panel

Our thin, double-sided adhesive tapes fixate the vaccum insulation panels before foaming. They prevent the insulation panels from slipping and, simultaneously, omitt noises and vibration.

#### Properties

- High intial tack
- Good adjustement to surface structure of insulation panels
- Easy processability

#### Bumper rails for industrial appliances

Thanks to Lohmann's bonding solutions, the fixation of bumper rails is no problem. With our double-sided adhesive foam tapes fast, clean and safe mounting without slipping and curing times of the housing is possible. Further mechanical fixations are not needed.

#### Properties

- Excellent shock resistance
- High chemical resistance
- High aging resistance
- Excellent compensation of thermical expansion

#### Glass door frame for industrial appliances

A secure bonding of glass panels into the appliance door poses no problem for Lohmann's adhesive experts. Our closed-cell foam tapes ensure a secure bonding of the joining partners. The panel is also optimally protected against vibration and shock.

- Excellent shock resistance
- High chemical resistance
- High aging resistance
- Excellent compensation of thermical expansion











### Applications – Interior

#### Holders for shelfs

With our double-sided adhesive foam tapes holders for shelfs can be bonded quickly and cleanly during the production process. At the same time they compensate excellently for the thermal expansion of the joining partners. This guarantees a secure hold of the shelfs even under the most demanding conditions in continuous operation.

#### Properties

- Clean processing
- High adhesion e.g. on polystyrene
- High chemical resistance
- High aging resistance
- Excellent compensation of thermal expansion

#### Gaskets for electrical components

Lohmann offers single- or double-sided adhesive die-cut parts. These are made from closed cell foams and are available in different thicknesses. The die-cuts perfectly match your individual production process geometries. They also protect the electrical parts against moisture and dirt thus making a significant contribution to noise- and vibration damping.

#### Properties

- Good compressability
- Long-term constant restoring force
- Available in many different strengths and densities
- Suitable for manual and automatical processing

## Applications – Displays

#### **Displays**

Displays and display units are attached cleanly and securely to the outside and inside of the device with our film and closed-cell foam adhesive tapes. Die-cut parts ensure efficient processing and protect the display from moisture. We take your design and your requirements in the production process into account.

- Good compressability
- Long-term constant restoring force
- Available in many different strengths and densities
- High dimension stability
- Suitable for manual and automatical processing









# Applications – Decorative Parts

#### **Emblems**

With our thin film and foam adhesive tapes, the most filigree emblems or lettering can be easily attached even to low-energy surfaces. We adapt the design of the die-cut parts to your individual assembly process - be it manual or automatic.

#### Properties

- High adhesion on various surfaces
- Clean and precise application without slipping
- High chemical resistance towards cleaning agents

#### Decorative edge cover for built-in refrigerators

Our single-sided adhesive decorative film tapes are used to cover visible edges on appliance doors in built-in refrigerators. We adapt our products to your design and your manufacturing processes.

#### Properties

- Adaptable colors and surface structures
- Good abrasion resitance and color fastness
- High tensile and tear strength
- High process safety during handling

#### Decorative glass cover

With our closed-cell foam adhesive tapes a quick, clean and safe installation of glass fronts is possible. Without slipping and curing times. An additional mechanical fixation is not necessary. We draw from our many years of know-how as one of the market leaders in the field of mirror bonding in the furniture industry. Our foam tapes are available on rolls, spools or die-cut parts.

- High adhesion on many finishings and surfaces
- UL-certified
- Excellent automatic processability
- Available in different strenghts and thicknesses







### Applications - Cooling Cycle Components

#### Aluminum wrap-around insulation

An additional thermal insulation of the refrigerator interior housing is achieved by wrapping it with aluminum adhesive tapes. Our one-sided adhesive products support you in the optimization of the energy efficiency of your equipment.

#### Properties

- Easily unwindable rolls
- Good processability
- High adherence on plastics (e.g. polystyrene)

#### **Evaporator panels**

With our double-sided non-woven adhesive tapes, evaporators are bonded to the entire surface of the refrigerator interior housing. This prevents PU foam from infiltrating the construction during the foaming process and enables an ideal heat exchange between evaporator and inner housing.

#### Properties

- High initial tack on plastics (polystyrene) and metals
- Moisture resistance
- Good processing of rolls

#### Skin-condenser insulation

Our thick, very soft double-sided foam tapes are used to fix the vacuum insulation panels to the side walls of freestanding refrigerators before foaming. They prevent the insulation boards from slipping and at the same time actively contribute to noise and vibration insulation. To optimize the energy efficiency of your appliances, the foam adhesive tape fits perfectly to the contours of the skin-condenser.

- Soft and lightweight adhesive foam tape to cover tubes and cables of inner side walls of refrigerators
- Adapts very well to structured and rough surfaces
- Sound, noise and vibration insulation
- Excellent thermal insulating properties
- High initial tack for fixation of tubes and vacuum isolation panels







# Applications – Cooling Cycle Components

#### Tube fixation

The tubes are bonded tightly to the inner housing of the refrigerator with our one-sided adhesive aluminum tapes. Thereby an optimal temperature transfer is achieved. A special PET coating reinforces the aluminum and prevents it from tearing during processing.

#### Properties

- High stability trough PET coating
- Excellent adherence on plastics and metal
- Very good processability, also in automated processes
- Excellent adaptability to different geometries

#### Gaskets

Single- or double-sided adhesive die-cut parts made of closed-cell foams in various thicknesses which are designed for your specific processing and geometries. They seal the air manholes and contribute to thermal insulation.

#### Properties

- Good compressability
- Long-term constant restoring force
- Available in many strenghts and densities
- Suitable for manual and automatical processes





### Additonal applications

#### **Transport fixation**

Our single-sided, residue-free removable adhesive tapes for an ideal bonding of glass bottoms, containers and small parts during transport. Even doors are secured in the best possible way so that they cannot open uncontrollably.

#### Labels

Our single-sided adhesive film tapes are the ideal carrier for the printing of permanent or removable labels.

- Can be removed residue-free
- Printable film
- Color fastness and high opacity





# Some like it cold

### Lohmann's high-end adhesive solutions for electronics in home appliances.

Hardly any other industry is developing so rapidly and confronting manufacturers with such complex and diverse requirements as the consumer goods and electronics industry. In addition to size, shape and performance, design plays an increasingly important role. Moreover, appliances are becoming increasingly "intelligent"; large LCD and TFT screens can also be found in ovens, refrigerators and other household appliances. This is where Lohmann comes into play. Our innovative adhesive bonds are the solution for the individual and innovative design ideas of our customers. Our products are true multi-talents that combine a wide range of functions.

For example, our high-end adhesive tapes enable transparent and ultra-thin bonds, efficient seals and insulation possibilities.

We also have the right products for thermal and electrically conductive applications.

#### But we're not just cool:

The Bonding Engineers are also well equipped to meet other requirements in the household appliance industry. Learn more about our bonding solutions in the areas of "Cook & Dish", "Laundry" and "Human User Interface" and visit our microsite: <a href="https://www.electronics-tapes.com/en">https://www.electronics-tapes.com/en</a>



#### The search is over:

In the Product-Navigator on our homepage you can inform yourself about our portfolio of established and permanently available standard products. Simply filter our "Lohmann classics" by adhesive, liner and desired function and find the perfect product for your application. https://www.lohmann-tapes.com/product-navigator



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