



Product Catalog

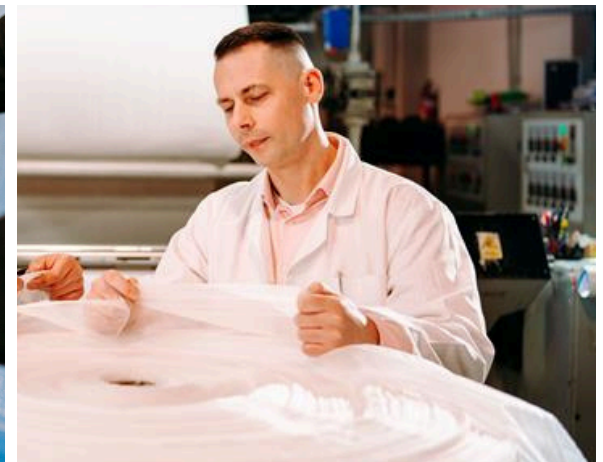
MORE THAN JUST A PACKAGING MANUFACTURER

2026

Manufacturer of bubble wrap and PE foam

Why do our clients value us?

- **Comprehensive offering:**
We provide a full range of packaging materials, tailored to meet the individual needs of our clients.
- **Own manufacturing:**
We specialize in the production of bubble wrap and polyethylene foam, ensuring the highest quality of our products and offering attractive commercial terms.
- **Flexibility in production and delivery planning:** Let's plan production and deliveries together, so you always have the right amount of materials at the critical moments.



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CATALOG PRODUCTS

BUBBLE WRAP

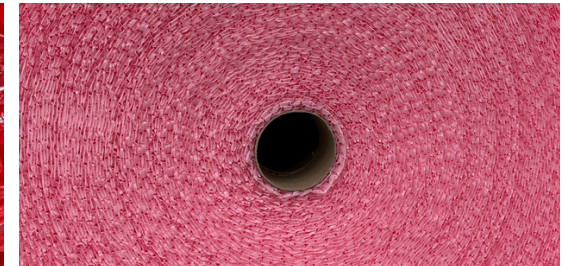
Classic Bubble Wrap Size: $\varnothing 9$ mm

Air-filled bubbles **protect products against shocks, impacts, and scratches.**

Ideal for packing small, delicate items such as electronics, glass, or ceramics.

Available in two variants:

- **Two-layer bubble wrap** - available as lightweight (B-1) and reinforced (B-2) versions.
- **Three-layer bubble wrap** - available as standard (B-3) and reinforced (B-4) versions.



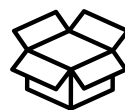
Properties of Bubble Wrap:

- Flexible
- Waterproof
- Lightweight
- Reusable
- Multi-layered
- Provides excellent shock protection

Highlights

- 100% recyclable.
- Available in various formats, lengths, and thicknesses.

Example Applications



Filling empty spaces inside packages.



Protecting goods against shocks, impacts, and moisture.

Industries served:



TECHNICAL SPECIFICATIONS

LAYERS	Two-layer (2-ply), Three-layer (3-ply)	MATERIAL	LDPE (Low-Density Polyethylene) resin
BUBBLE DIAMETER	9 mm	COLOR	Transparent or custom-colored
BUBBLE HEIGHT	3 mm	RECYCLED CONTENT	20-40%
GRAMMAGE	30-150 g/m ²	TRANSPORT	Must be transported with covered vehicles
ROLL LENGTH	50-200 meters	COMPLIANCE	Meets REACH and RoHS directives
WIDTH	0,10-2,0 meters	STORAGE	Store in dry, clean, covered spaces
FORMATS	Rolls, sheets, bags, tubing, half-tubing	RECYCLING	100% recyclable
POSSIBLE ADDITIVES	Antistatic (10^{10} Ω), slip agent, perforation, lamination	PACKAGING	Roll delivered in a protective sleeve

From Bubble Wrap - CUSTOMIZED FORMATS

Bubble wrap rolls are not always the most efficient choice when it comes to packing time or material costs.

If you are packing products of similar sizes or a few variants with comparable dimensions (without wide diversity from very small to very large items), it's worth considering ready-to-use bubble wrap formats such as bags, tubing, (sealing on two edges) and half-tubing (sealing on one side), or sheets.

Bubble Wrap Bags



As a manufacturer, we offer custom-made bubble wrap bags **with an optional adhesive strip**, eliminating the need for packing tape.

- Simply place the product inside the bag, avoiding excessive material usage that can occur when wrapping items directly from a roll.
- The bags can be easily torn off from a perforated roll or taken individually from a pack. We adjust the bag dimensions according to the thickness of the bubble wrap used.



Bubble Wrap Sheets

Bubble wrap is also available in the form of ready-to-use sheets.

This solution eliminates the need for cutting material on-site, significantly speeding up the packing process.

It also helps standardize the amount of material used for protecting products.

Available sheet dimensions:

- Width: 150 to 1250 mm
- Length: 150 to 3000 mm



Bubble Wrap Tubing

Tubing is a practical format that allows products to be easily inserted inside - both ends of the tube remain open.

It is an ideal solution for packing products with varying dimensions on one side.

- The tubing is wound onto rolls, making it easy to store and handle.
- Dimensions of the tubing are adjusted based on the thickness of the bubble wrap.



Bubble Wrap Half-Tubing

Half-tubing, sealed on one side and wound onto rolls, significantly simplifies the packing process.

Available dimensions:

- Width: 80 to 1650 mm
- Length: 25 to 100 meters



Perforated Bubble Wrap

Perforated bubble wrap on a roll allows easy tearing of sheets at pre-set lengths. This solution combines convenient storage with material savings.

Using perforated bubble wrap with a dispenser further speeds up the packing process, especially when handling larger rolls.

Available dimensions:

- Width: 100 to 1800 mm
- Length: from 250 meters upwards (customizable)

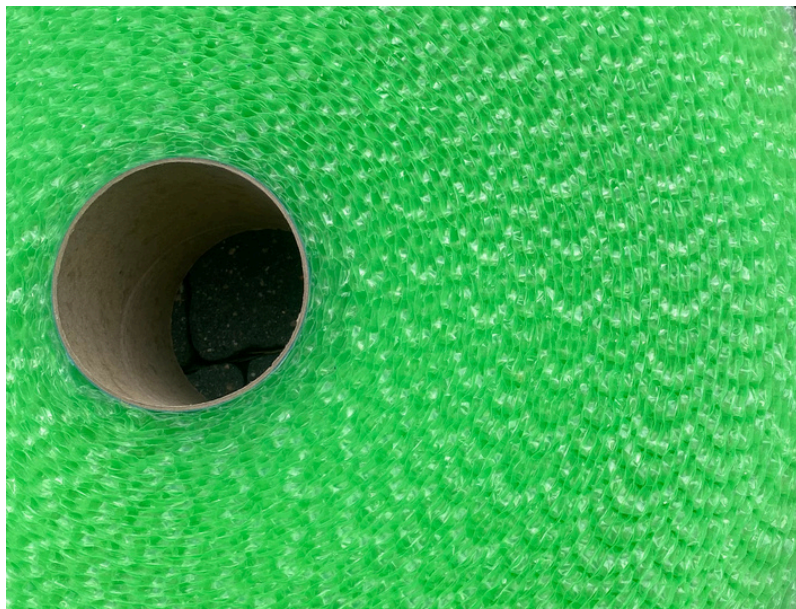
By ordering directly from the manufacturer, you can customize product dimensions to meet your specific needs. This minimizes material waste and reduces the amount of disposal required. It's a practical, eco-friendly, and cost-effective solution.

CATALOG PRODUCTS

SELF-ADHESIVE BUBBLE WRAP

Self-adhesive bubble wrap combines the cushioning protection of classic bubbles with the convenience of secure fixing. Once applied, it stays in place and does not require additional wrapping or taping, which significantly speeds up the packing process.

The thin adhesive layer leaves no residue and **can have different adhesion strengths**, adjusted for delicate or more demanding surfaces. As a result, the bubbles effectively absorb shocks while the product remains precisely in position throughout transport.



Properties of self-adhesive bubble wrap

- Protection against contamination
- Durability
- Adhesion
- Water barrier
- Thermal insulation

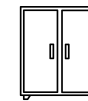
Highlights

- PE film, 75 microns.
- Adjustable adhesive strength.
- Three-layer structure.
- Compliant with strict EU standards.
- 100% recyclable.

Example Applications



For protecting housings, screens, and sensitive components against shocks.



Protection of lacquered fronts, delicate edges, and countertops against scratches.

Industries served



CATALOG PRODUCTS

BUBBLE MAILERS

Bubble mailers are lightweight, durable, and waterproof packaging solutions that protect the product without increasing the shipment volume. Made from **multilayer MDPE/LDPE film with a thickness of 75 µm and three-layer bubble wrap**, they provide resistance to tearing, moisture, and intensive logistics processes, while remaining fully recyclable.

A practical adhesive strip allows for quick sealing, and the perforation makes opening easy for the end customer.

They are an effective alternative to paper envelopes, which easily absorb water and tend to tear during sorting.



Properties of bubble mailers

- Durable
- Waterproof
- Lightweight
- Resistant to abrasion and scratching
- Multilayer
- Cushioning
- Protection against dirt and dust

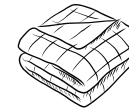
Highlights

- Various formats tailored to different needs.
- No empty spaces inside the shipment.
- Space-saving in warehouse storage.
- Fast sealing without the need for tape or scissors.
- Single-material structure for recycling.

Example Applications



Protection of books and documents against moisture.

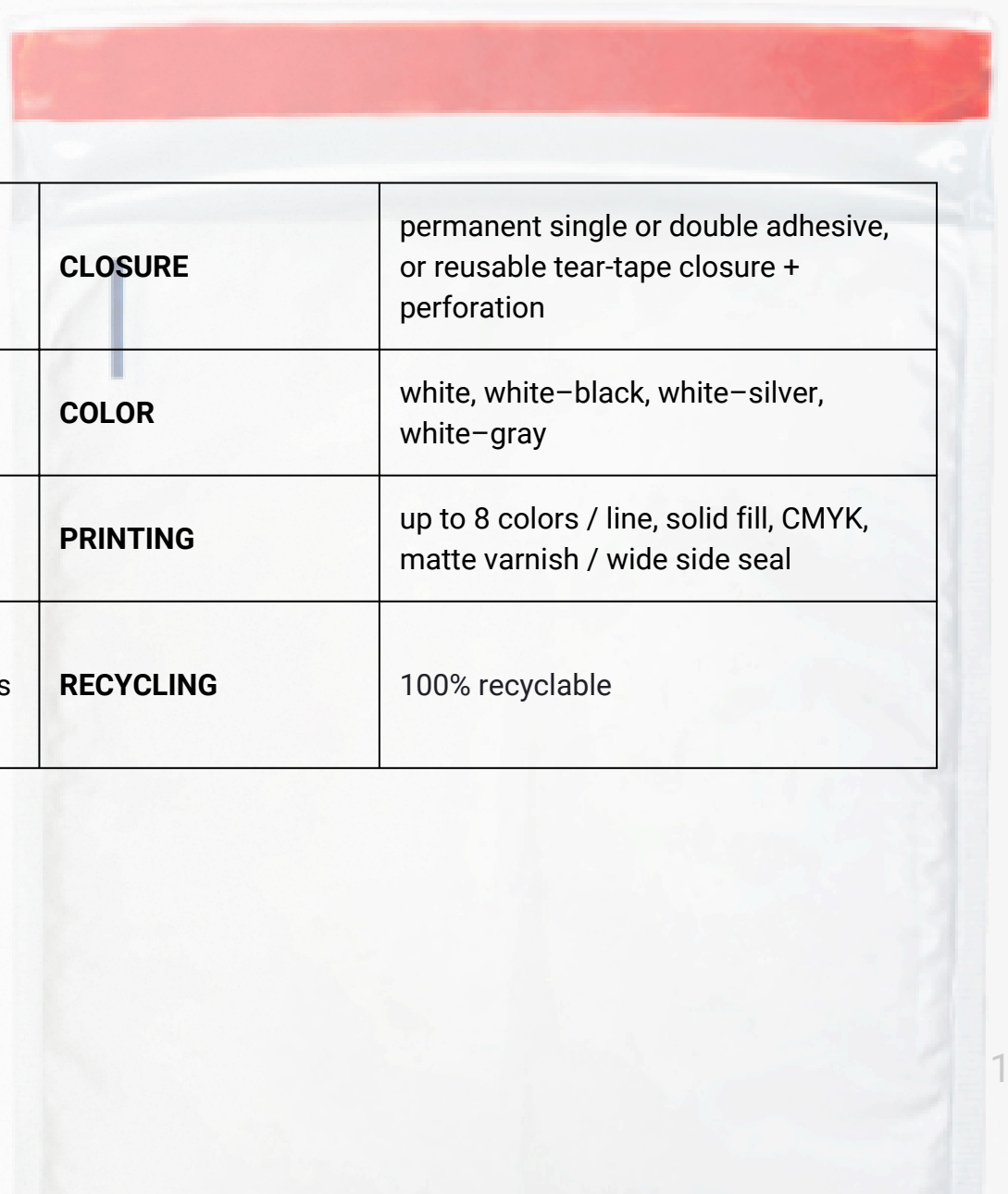


Protection of textiles, clothing, and accessories.

Industries served



TECHNICAL SPECIFICATIONS



MATERIAL	multilayer MDPE / LDPE film, 75 µm	CLOSURE	permanent single or double adhesive, or reusable tear-tape closure + perforation
LAYERS	three-layer bubble wrap	COLOR	white, white-black, white-silver, white-gray
FORMAT	various formats, tailored to customer requirements	PRINTING	up to 8 colors / line, solid fill, CMYK, matte varnish / wide side seal
ADDITIONAL OPTIONS	possibility of packing envelopes into smaller bundles with the customer's label	RECYCLING	100% recyclable

CATALOG PRODUCTS

FILL&WRAP

Large-Bubble Wrap ø30 mm

Fill&Wrap bubble wrap with large 30 mm bubbles is **perfect for filling voids in packages** and protecting large, lightweight items during transport.

Thanks to the bigger air pockets, **it provides excellent cushioning while using less material.**

It is **lightweight, helping to minimize shipping weight**, while offering reliable protection against crushing, drops, moisture, abrasion, and dust.

It also performs well as a thermal insulator in various industrial applications.



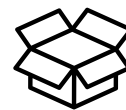
Properties of FILL&WRAP Bubble Wrap

- Flexible ■ Waterproof ■ Lightweight ■ Reusable
- Efficiently fills empty spaces ■ Provides excellent shock protection

Highlights

- Available in various widths and lengths.
- Option for perforation.
- Custom color options available.
- Digital printing available.
- Fully recyclable.

Example Applications



Filling empty spaces to secure contents.



Protecting items during e-commerce shipping.

Industries served



TECHNICAL SPECIFICATIONS

GOOG TO KNOW

The air bubbles are never filled to 100% to better adapt to the shape of the protected items and to prevent bursting under pressure.



LAYERS	Two-layer (2-ply) or three-layer (3-ply)	MATERIAL	LDPE (Low-Density Polyethylene) resin
BUBBLE DIAMETER	30 mm	COLOR	Transparent or custom-colored
BUBBLE HEIGHT	6,5 mm	RECYCLED CONTENT	20%
GRAMMAGE	60-150 g/m ²	TRANSPORT	Must be transported with covered vehicles
ROLL LENGTH	25-100 meters	COMPLIANCE	Meets REACH and RoHS directives
WIDTH	0,2-1,8 meters	STORAGE	Store in dry, clean, covered spaces
FORMATS	Rolls, sheets	RECYCLING	100% recyclable
POSSIBLE ADDITIVES	Antistatic (10^{10} Ω), slip agent, perforation, lamination	PACKAGING	Rolls delivered in protective sleeves

CATALOG PRODUCTS

POLYETHYLENE FOAM

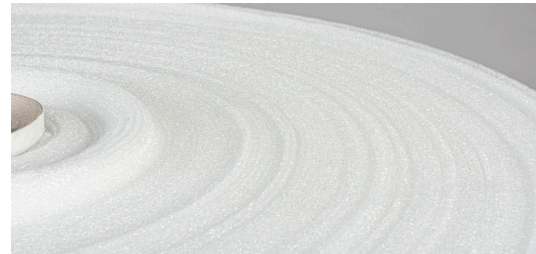
Polyethylene foam protects wrapped products from mechanical damage, moisture, and dirt.

It is commonly used to safeguard delicate and fragile items that are prone to scratches and breakage.

PE foam is thinner than bubble wrap, allowing more material to fit on a single roll, which helps reduce shipping costs.

Mac-Graf also offers innovative protective and insulation products, such as **PE SONG foam** (where SONG stands for "low-density foam" - lightweight, flexible, and impact-resistant).

SONG foam is available in sheets, rolls, laminates, and multi-layer materials, cut to size.



Properties of PE Foam

- Lightweight
- Waterproof
- Resilient
- Flexible
- Durable
- Odorless
- Sound-absorbing
- Thermal insulating
- Resistant to abrasion, mold, and moisture

Highlights

- Available on request.
- Various widths, lengths, thicknesses, and formats.
- 100% recyclable.
- Custom coloring available upon request.

Example Applications



Packing sanitary ceramics.



Thermal and acoustic insulation in construction. Used as an underlay for flooring panels and concrete screeds.

Industries served



TECHNICAL SPECIFICATIONS

DENSITY	10-20 kg/m ³ (SONG)	RECYCLING	100% recyclable
THICKNESS	0,8-20 mm	COLOR	Natural PE / Custom colors available
GRAMMAGE	30-150 g/m ²	MATERIAL	LDPE (Low-Density Polyethylene) resin
ROLL WIDTH	0.05-2.0 meters	RECYCLED CONTENT	60%
ROLL LENGTH	25-100 meters	TRANSPORT	Must be transported with covered vehicles
FORMATS	Rolls, sheets, bags	STORAGE	Store in dry, clean, covered, and ventilated spaces
POSSIBLE ADDITIVES	Antistatic (<10 ¹⁰ Ω), perforation, lamination	COMPLIANCE	Meets REACH and RoHS directives

Polyethylene Foam – CUSTOMIZED FORMATS

PE foam rolls are not always the most convenient or cost-effective solution.

If you are packing products of similar sizes or just a few size variants, ready-to-use formats such as **sheets or bags can significantly speed up the packing process and reduce material consumption.**

EXPANSION JOINT STRIPS



In large construction projects and long structures such as production halls, warehouses, and multi-story buildings, the use of expansion joint strips is essential for evenly distributing stress forces.

Expansion joints allow the structure to move freely in response to external factors, reducing the risk of surface deformation and cracking.

This helps buildings maintain long-term stability, which is particularly important in challenging climatic conditions.

When used in flooring, expansion joint strips also provide acoustic and thermal insulation.

They prevent the transmission of vibrations and noise between different parts of the structure – an important feature in both residential and commercial buildings.



SHEETS

A convenient solution for packing and separating products and pallets. Available in various dimensions, allowing customization to meet specific customer requirements. Standard parameters include widths from 150 to 1250 mm, and thicknesses and lengths ranging from 150 to 3000 mm. The sheets protect goods against mechanical damage, moisture, and dirt.



BAGS

PE foam bags speed up the packing process and reduce packaging material consumption. They are ideal for protecting delicate items during transport by providing cushioning and shock absorption. Available dimensions: bag height from 150 to 850 mm and bag opening from 100 to 1200 mm.



PERFORATED PE FOAM

Perforated PE foam is an innovative solution that allows easy tearing of material at regular intervals.

This makes the packing process faster, more efficient, and **helps standardize material usage**. Instead of cutting, the worker simply tears off a pre-defined piece along the perforation line, helping to control the amount of material used.

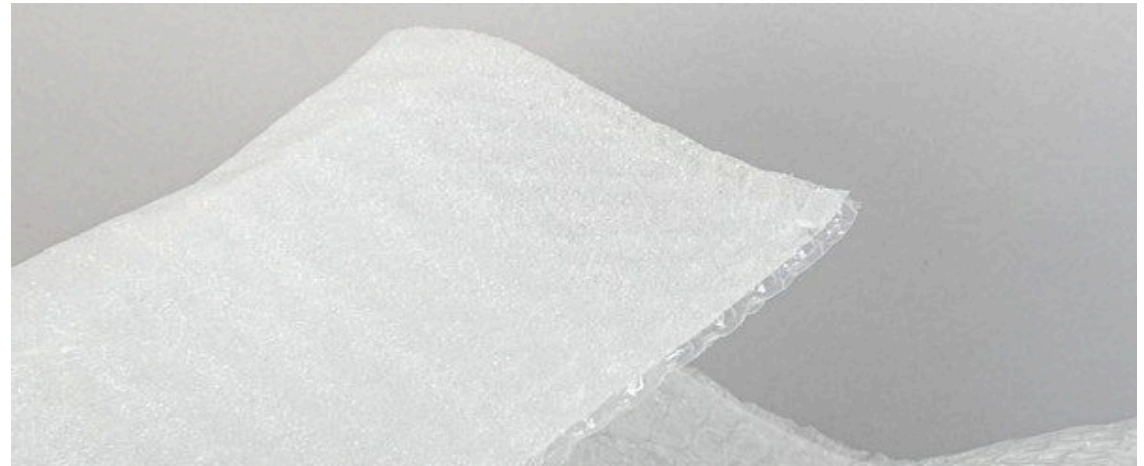
By ordering directly from the manufacturer, you can customize product dimensions to your specific needs. This minimizes material waste and reduces the amount of waste requiring disposal. It's a practical, eco-friendly, and cost-effective solution.

CATALOG PRODUCTS

PE FOAM LAMINATE

SONG laminated foam **combines PE foam with polyethylene film, HDPE film, or bubble wrap to ensure maximum protection.** Many of our customers choose laminates as an alternative to cardboard and stretch film, as it significantly optimizes the packing process. The thin laminate layer prevents bubbles from leaving marks, for example, on upholstery or laminated surfaces. Thanks to the foam layer, the bubbles in the bubble wrap are more resistant to bursting.

Converting options: **bags and sheets** made from laminated material.



Properties of Laminated Foam

- Lightweight
- Waterproof
- Resilient
- Flexible
- Durable
- Sound-absorbing
- Thermal insulating
- Resistant to abrasion

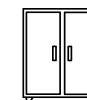
Highlights

- Available in various widths, lengths, and thicknesses.
- Practical perforation available on request.
- Option to add printed pictograms
- 100% recyclable.
- Custom coloring available.

Example Applications



Protection of mirrors, paintings, tiles, fittings, and glass.



Separating lacquered fronts. Wrapping upholstered furniture.

Industries served



TECHNICAL SPECIFICATIONS

ROLL LENGTH	50-100 meters	RECYCLING	100% recyclable
THICKNESS	Depending on the thickness of the materials used: <ul style="list-style-type: none"> • bubble wrap: 28-150 g/m² (±3%) • foam: 0.8-5 mm (±3%) 	POSSIBLE ADDITIVES	Slip agent / Antistatic (resistance <math><10^{10}</math> Ω), perforation option
ROLL WIDTH	0,1-1,8 meters	MATERIAL	LDPE (Low-Density Polyethylene) resin
COLOR	Natural PE foam / Transparent film / Custom-colored available	RECYCLED CONTENT	20-40%
COMPLIANCE	Meets REACH and RoHS directives	TRANSPORT	Must be transported with covered vehicles
STORAGE	Store in dry, clean, covered, and ventilated areas		

CATALOG PRODUCTS

FITTINGS AND INSERTS

MADE FROM PE/XPE FOAM

PE/EPE/XPE foam inserts are a reliable way to stabilize products inside packaging and reduce the risk of damage during transport. They are made to measure, allowing precise adaptation to the shape of the item and enhancing the overall aesthetics of the packaging. Lightweight and flexible, the foam is resistant to compression and returns to its original shape. Used as stabilizing inserts, spacers, and separators, it minimizes vibrations and keeps the product securely in place. The option to choose density, color, and additional features (LDPE, PET, nonwoven fabric, adhesive, antistatic properties) makes it possible to tailor the material to specific product requirements and logistics processes.



Properties of PE/EPE/XPE foam inserts

- Lightweight
- Waterproof
- Flexible
- Durable
- Vibration-dampening
- High strength
- Aesthetic
- Reusable
- Do not shed dust or leave marks

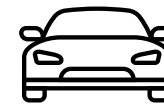
Highlights

- For products with a high level of complexity.
- Milled, cut, heat-sealed, and bonded.
- Do not increase shipment weight.
- Possibility to add layers of LDPE or PET film, nonwoven fabric, as well as antistatic or adhesive layers.
- Manufactured to order, tailored to specific requirements.

Example Applications



Protection of cameras, computers, printers, and phones.



Protective inserts for automotive parts.

Industries served



TECHNICAL SPECIFICATIONS

COLOR	white, black, green, blue, red – depending on product specification and requirements	DIMENSIONS	depend on the selected material type and its density – defined individually with the customer
DENSITY	tailored to customer needs	OPTIONAL LAYERS	LDPE film layer, PET film layer, adhesive layer, nonwoven fabric layer, antistatic layer
STANDARDS	compliant with all requirements arising from the REACH and RoHS directives		

CATALOG PRODUCTS

PE FOIL

Polyethylene foil is one of the essential materials used across various industries.

Its primary function is to wrap and protect loads of different sizes and shapes.

Thanks to its versatile properties, PE film is widely used, for example, for wrapping palletized goods or beverage multipacks.

We offer PE foil in two variants:

- **standard PE foil,**
- **shrinkable PE foil.**



Properties of PE Foil

- Transparent
- Allows bundling products into multipacks
- Shrinkable
- Tear-resistant
- Durable
- Lightweight

Highlights

- Available in various widths, thicknesses, and lengths.
- 100% recyclable.
- Custom coloring available.

Example Applications

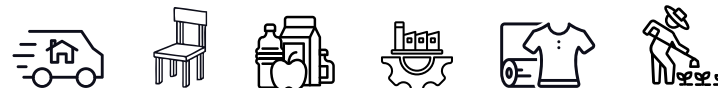


Surface protection during renovation works.



Production of garbage bags.

Industries served



TECHNICAL SPECIFICATIONS

FORMATS	Rolls, sheets, bags, tubing, half-tubing	RECYCLING	100% recyclable
THICKNESS	20–150 microns	COLOR	Transparent / milky white / custom colors available
TRANSPORT	Must be transported with covered vehicles	STORAGE	Store in dry, clean, and covered areas
MATERIAL	LDPE (Low-Density Polyethylene) resin	WIDTH	120-2500 mm

PE FOIL - CUSTOMIZED FORMATS



SHEETS

Sheets are a convenient format of PE foil that not only speed up the packing process but also enhance the aesthetics of the packaging thanks to evenly cut edges.



BAGS

PE foil bags accelerate the packing process and help reduce the consumption of packaging material.



TAPE

PE foil in tape format, rolled onto a spool, is ideal for packing larger products.



TUBING/SLEEVE

PE foil tubing is a practical solution that speeds up packing, reduces material usage, and improves work comfort.

CATALOG PRODUCTS

STRETCH FILM

Widely used for wrapping palletized loads, stretch film is one of the essential materials in the transport, freight, and logistics sectors. It is a cost-effective and efficient solution designed to stabilize and protect cargo during transportation and storage. Tightly wrapping the load with stretch film provides protection against moisture, dirt, and weather conditions.

We offer stretch film in two variants:

- **hand stretch film,**
- **machine stretch film.**

Available in various thicknesses, lengths, and stretch levels, tailored to customer needs.



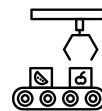
Properties of stretch film

- Easy to apply
- Self-adhesive
- Flexible
- Durable
- Stretchable
- Resistant to abrasion, damage, moisture, and low temperatures

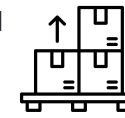
Highlights

- Available in various colors.
- Adapts to irregular shapes.
- Clings to itself, creating a tight and stable wrap.

Example Applications



Wrapping industrial and food products.



Securing pallets during transport and storage.

Industries served



TECHNICAL SPECIFICATIONS

STRETCHABILITY (MACHINE STRETCH FILM)	150-300%	RECYCLING	100% recyclable
THICKNESS	7-30 μm	TYPES	Hand stretch, machine stretch, mini stretch, power, and super power
ROLL WIDTH	100-500 mm	STORAGE	Store in dry, clean, and covered areas
COLOR	Hand stretch: transparent, white, blue, black. Machine stretch: transparent, black.	TRANSPORT	Must be transported with covered vehicles

TYPES OF STRETCH FILM IN OUR OFFER



- **Hand stretch film:** designed for manual wrapping of small and medium-sized loads. Typically sold in bulk packages of 6 rolls.
- **Machine stretch film:** intended for pallet wrapping with automatic and semi-automatic wrapping machines. Ideal for high-frequency industrial use.
- **Mini stretch film:** perfect for smaller packages and non-standard applications with various stretch levels. Available in two roll widths - 10 cm and 25 cm. Compatible with dispensers for easier application.
- **Power and super power stretch film:** Features pre-stretching technology, which allows for greater material savings. Recommended for industries with high pallet turnover.



CORELESS STRETCH FILM

Coreless stretch film eliminates the problem of disposing of cardboard cores. For companies with high material usage, cores can become a significant logistical and cost challenge. More and more of our clients are choosing this solution as it is more eco-friendly while offering the same level of product protection as traditional core-based stretch film.

Specifications

- Thickness: 12-30 μm
- Width: 500 \pm 5 mm
- Recycling: 100% recyclable
- Types: Available in hand and machine versions

Benefits of using coreless stretch film:

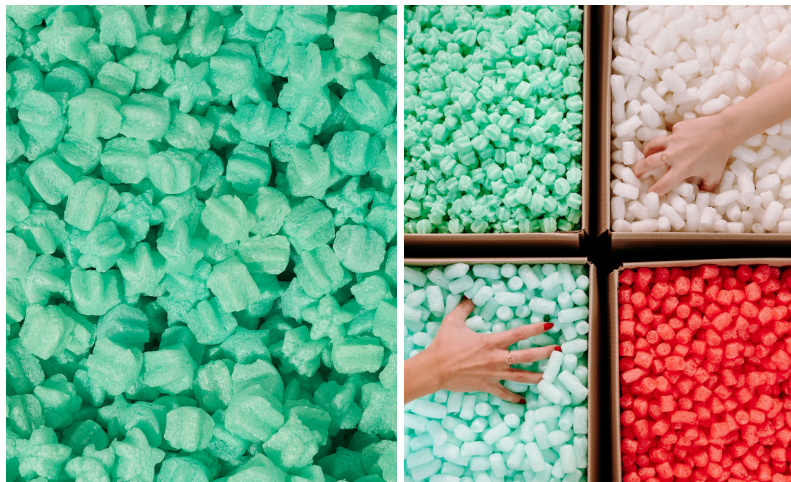
You pay only for the film – no cardboard core waste, no need for storage and disposal of cardboard cores, reduced environmental fees, strong, economical, and versatile protection for your products.

CATALOG PRODUCTS

PROTECTIVE PACKAGING FILLERS

Skropak - Packaging Peanuts

Biodegradable packing peanuts - a **water-soluble packaging filler**. Skropak is a modern, biodegradable void fill material made from corn starch, designed to protect products during transportation and storage. Its lightweight structure and distinctive "peanut" shape ensure effective shock absorption and stabilize the contents of packages. Thanks to its natural composition, it is 100% environmentally friendly. The Skropak we offer has been tested and certified by the Laboratory of Innovative Materials and Environmental Monitoring.



Properties of Packaging Peanuts

- Biodegradable
- Lightweight
- Eco-friendly
- Aesthetic appearance
- Adapts to the shape of the product
- Provides effective shock absorption

Highlights

- Safe for users and products, including food items.
- Versatile.
- Easy disposal - can be dissolved in water or composted, does not contaminate groundwater.

Example Applications



Protects bottles, jars, and other delicate packaging.



Ideal for luxury and premium packaging.

Industries served



TECHNICAL SPECIFICATIONS

MATERIAL	Biodegradable corn starch	STANDARDS	PN-EN 13432:2002 ASTM D6400-12
VOLUME	200/400 liters	PACKAGING	Packed in bags
THICKNESS	7-30 μm	SHAPE	peanuts / nuggets, stars, hearts, cubes
COLOR	white, green, pink, blue, black, orange, yellow	FEATURES	Water-soluble

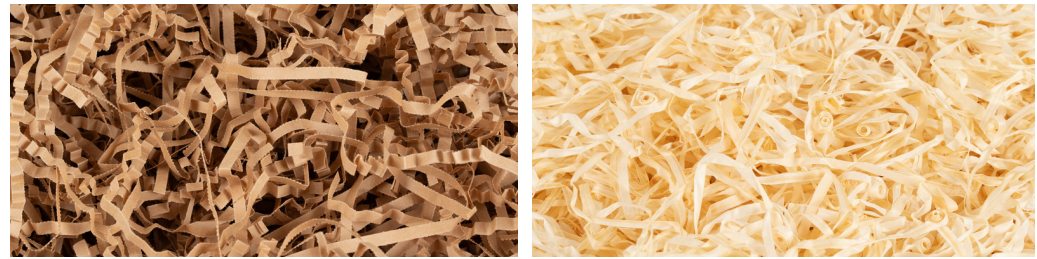
PROTECTIVE PACKAGING FILLERS

Wood Wool and Shredded Paper Filler

Wood wool and SizzlePak are eco-friendly, natural void fill materials that combine protective functionality with aesthetic appeal.

Made from high-quality materials, they are perfect for securing and decorating products in shipments, gift sets, and premium packaging.

Both types of packaging fillers are environmentally friendly and offer excellent cushioning properties for protecting goods during transportation. Mainly designed for ecommerce.



Properties

- Eco-friendly
- Lightweight
- Shock-absorbing
- Natural material
- Aesthetic appearance

Highlights

- Biodegradable and recyclable.
- Visually appealing, adding an elegant touch to packaging.
- Suitable for various industries and applications - from decorative use to shipment protection.

Example Applications



For gift sets and hampers.



Decorative packaging for products such as wine, olive oil, preserves - used in shop displays and exhibitions.

Industries served



TECHNICAL SPECIFICATIONS

PARAMETER	WOOD WOOL	SHREDED PAPER FILLER
MATERIAL	100% natural wood	100% paper
COLOR	Natural, light (colored options available)	Wide range of colors (white, brown, pastel, and vivid shades)
SHAPE	Thin, flexible fibers	Springy, spiral shreds
SCENT	Neutral, delicate wood scent	Neutral
WEIGHT	Very lightweight	Lightweight, does not add extra shipping weight
AVAILABLE PACKAGING	1 kg, 5 kg	1 kg, 5 kg
CERTIFICATION	Eco-friendly and biodegradable product	Biodegradable and recyclable product

PROTECTIVE PACKAGING FILLERS

Boxfill - Paper Filler

Boxfill is a professional, classic paper void fill designed for companies that want to secure their products in an eco-friendly and efficient way.

Made from recycled paper with a resilient structure, it provides effective protection for goods during transportation and storage while reducing environmental impact.

It is particularly popular in the e-commerce, logistics, and manufacturing sectors.



Properties

■ Natural ■ Eco-friendly ■ Resilient ■ Lightweight ■ Biodegradable

Highlights

- Suitable for use in bulk, export, and retail packaging.
- Lightweight - does not significantly increase the overall weight of the package.
- 100% biodegradable.
- Reduces carbon footprint and meets the ecological requirements of business partners.

Example Applications

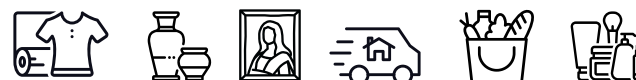


Protection of goods in bulk and retail packaging.



Securing products for export in compliance with ecological requirements.

Industries served



CATALOG PRODUCTS

CORRUGATED CARDBOARD

Corrugated cardboard is a material widely used in the transport, logistics, and construction industries. It is highly durable, created by pressing multiple layers of paper pulp into a fluted structure. Depending on the number of layers - two, three, or five - it offers varying levels of stiffness and mechanical strength.

Thanks to its flexibility, it adapts to the shapes of protected products while providing excellent protection. Made from recycled paper, it is eco-friendly and fully recyclable, supporting sustainable development initiatives.



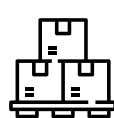
Properties of Corrugated Cardboard

- Lightweight ■ Flexible ■ Resistant to compression ■ Biodegradable
- Natural ■ Fully recyclable ■ Easy to process

Highlights

- Can be cut, rolled, and adapted to specific needs.
- Lightweight, helping reduce transport and storage costs.
- Suitable for multiple reuse.

Example Applications



Protection and separation of products on pallets.



Surface protection during renovation and construction works (e.g., floors, walls, furniture); also used as acoustic and thermal insulation under panels.

Industries served



TECHNICAL SPECIFICATIONS

MATERIAL	Recycled, eco-friendly paper
COLOR	Natural brown
FORM	Sheets, rolls, cut-to-size sheets, dividers
BASIS WEIGHT	175 g to 190 g
ROLL LENGTH	10 m to 150 m
WIDTH	20 cm to 160 cm
CERTIFICATE	Eco-friendly product, compliant with recycling requirements
STRUCTURE	2-ply - roll, 3-5-ply - sheets

Example Products Made of

CORRUGATED CARDBOARD

This product is available in four forms: cardboard sheets, cut-to-size pieces, dividers, and corrugated cardboard rolls.

Dividers and sheets are available in several variants: 2-ply, 3-ply, and 5-ply.

The corrugated rolls are 2-ply, with roll widths ranging from 20 cm to 160 cm.



ROLL

Distinguished by its high tear resistance. It can be used as protective, cushioning, or covering material, and even as an underlay for floor coverings.



3-PLY CORRUGATED SHEET

Used in construction as a protective layer and as an acoustic and thermal insulator, separating the concrete screed from panel or tile flooring.

5-PLY CORRUGATED SHEET

A rigid divider available in various thicknesses and flute types:

BC - thickness from 6 to 7 mm

BE - thickness from 3.7 to 5 mm



CATALOG PRODUCTS

CARDBOARD BOXES

A fundamental element of every logistics chain, widely used in factories, warehouses, and offices. Made from multiple layers of compressed paper pulp, they protect contents against mechanical damage, dirt, and moisture. Thanks to a variety of sizes and thicknesses, cardboard boxes **can be adapted to almost any type of load - from small items to heavy industrial goods.**

Produced from recycled materials, they can be recycled again after use. Additionally, used boxes can serve as dividers, pads, or void fill inside shipments, further enhancing their functionality.



Properties of Cardboard Boxes

- Multi-layered
- Lightweight
- Eco-friendly
- Biodegradable
- Fully recyclable
- Easy to fold and store

Highlights

- The multi-layered structure provides high resistance to pressure and impacts.
- Suitable for repeated use in packaging processes, including cutting and reusing individual sections.

Example Applications



Packaging for spare parts, tools, and equipment.



Packing of retail shipments and food products.

Industries served



TECHNICAL SPECIFICATIONS

MATERIAL	High-grammage recycled paper
TYPES	All FEFCO standards
LAYERS	3-ply, 5-ply
COLOR	Natural brown, white, or custom colors; option for custom printing
FORM	Flat sheets, folded boxes
CERTIFICATION	Product compliant with ecological and recycling standards

CATALOG PRODUCTS

CARDBOARD CORNER GUARDS

Made from solid board, our cardboard edge protectors are a versatile tool for securing loads during transport and storage. Their primary function is to protect the edges of goods from mechanical damage, deformation, and the pressure of strapping bands.

Additionally, they help stabilize palletized loads, preventing movement and minimizing the risk of product loss for both sender and receiver. Thanks to their lightweight design, cardboard edge protectors do not significantly add to the overall weight of the shipment, making them a practical and cost-effective packaging solution.



MATERIAL	Solid board	THICKNESS	2-6 mm
COLOR	Natural	WIDTH	30-100 mm
LENGTH	50-6000 mm	CERTIFICATION	Compliant with recycling standards



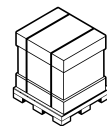
Properties of Cardboard Corner Guards

■ Eco-friendly ■ Lightweight ■ Durable ■ Easy to use

Highlights

- They do not significantly increase transport costs or shipment weight.
- Fully recyclable.
- Easy to cut to size, allowing adaptation to various load dimensions.
- Protect corners and edges from deformation.

Example Applications



Protection of pallet load edges against the clamping force of strapping bands.



Protection of loads requiring precise packaging, such as household appliances, furniture, or metal products.

Industries served



CATALOG PRODUCTS

HONEYCOMB PAPER

Notched Paper 3D Mesh - honeycomb-structured, slit paper is a modern packaging solution that combines aesthetics, functionality, and environmental responsibility. Made from 100% durable Kraft paper, it provides excellent protection for products during transport and storage.

Thanks to the special notches that create a three-dimensional mesh, the paper easily conforms to the shape of protected items, eliminating the need for additional packaging materials - or even scissors.



MATERIAL	KRAFT paper	GRAMMAGE	70 g/m ²
COLOR	natural brown	LENGTH	Up to 250 meters
WIDTH	20/30 cm	RECYCLING	100% recyclable



Properties of Honeycomb Paper

■ Eco-friendly ■ Lightweight ■ Flexible ■ Made from paper

Highlights:

- Made entirely from Kraft paper - fully recyclable.
- Does not require adhesive tape - the paper sticks to itself.
- The natural color and unique honeycomb pattern give shipments an attractive, eye-catching look.

Example Applications



Protecting goods such as cosmetics, jewelry, accessories, and books.



Safeguarding products during transportation and storage. Wrapping irregularly shaped items for shipment.

Industries served



CATALOG PRODUCTS

PACKING PAPER

Packing paper made from recycled materials combines durability, flexibility, and an eco-friendly character. It is perfect for filling parcels and wrapping products, including those with irregular shapes. Available in sheets and rolls with various grammages, it adapts easily to a wide range of logistics and production needs. After use, it is fully recyclable.

Our range includes grey Kraft paper, bleached (sulphate) paper, and paraffin-coated paper, which provides additional protection against dirt, scratches, and minor moisture exposure.



MATERIAL	KRAFT paper	GRAMMAGE	70 g/m ²
COLOR	natural brown	LENGTH	Up to 250 meters
WIDTH	20/30 cm	RECYCLING	100% recyclable



Properties of Packing Paper

- Lightweight
- Flexible
- Durable
- Made from recycled paper
- Resistant to dirt and light moisture

Highlights:

- Fully biodegradable.
- Conforms to irregular shapes.
- Can be used as filling material or as a liner.
- Available not only in rolls but also in sheets.
- Lightweight, compact, and easy to store.

Example Applications



Shelf liners, pallet layers, interleaving sheets between product layers.



Aesthetic packaging of orders, especially in line with ecological and minimalist principles.

Industries served

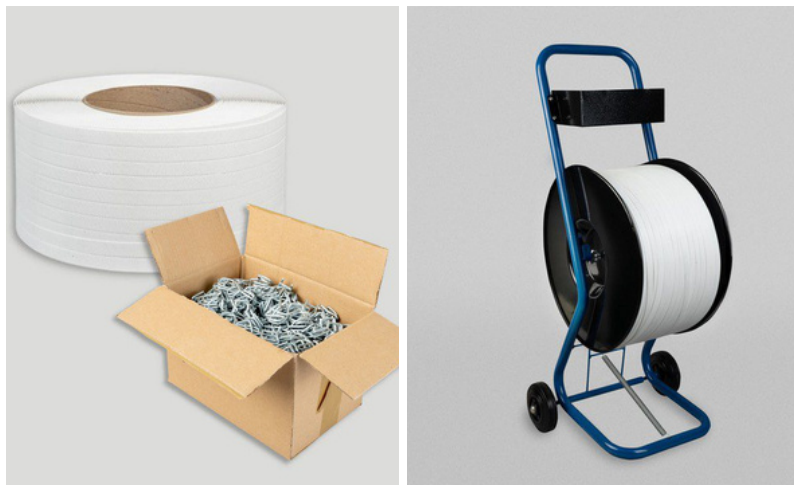


CATALOG PRODUCTS

BANDING TAPES

Banding tapes are an essential component in the transport, logistics, and warehousing industries. Used to stabilize palletized loads, bundle packages, and secure cartons, they ensure the safety of goods during road, rail, sea, and air transport.

Thanks to a variety of materials - polypropylene, polyester, and steel - banding tapes can be tailored to meet diverse requirements. Their high strength, flexibility, and resistance to damage make them ideal for use in harsh weather conditions as well as for long-term storage of loads.



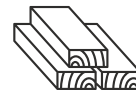
Properties of Banding Tapes

- Flexible ■ Durable ■ Resilient ■ Suitable for manual or machine application
- Resistant to mechanical damage and weather conditions

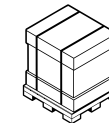
Highlights

- Variety of materials and widths available (PP, PET, and steel strapping).
- Resistant to abrasion, moisture, corrosion, and chemical exposure.
- High load and shock resistance.
- 100% recyclable (PP, PET, PE).
- Color options: white, black, green (for PP, PET, and PE straps).

Example Applications

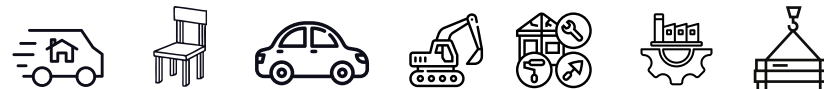


Securing ceramic and construction products.



Strapping parcels and cartons. Stabilizing loads on pallets and in containers.

Industries served



TYPES OF BANDING TAPES



PP TAPE (Polypropylene)

- Designed for securing light loads.
- Resistant to moisture and abrasion.
- Easy to use – can be fastened manually with buckles or with automatic machines.



PET TAPE (Polyester)

- High tear resistance combined with flexibility.
- An excellent alternative to steel strapping.
- Resistant to chemicals and UV radiation.



PE TAPE (Polyethylene)

- Lightweight and economical, ideal for smaller loads.
- Easy to handle.

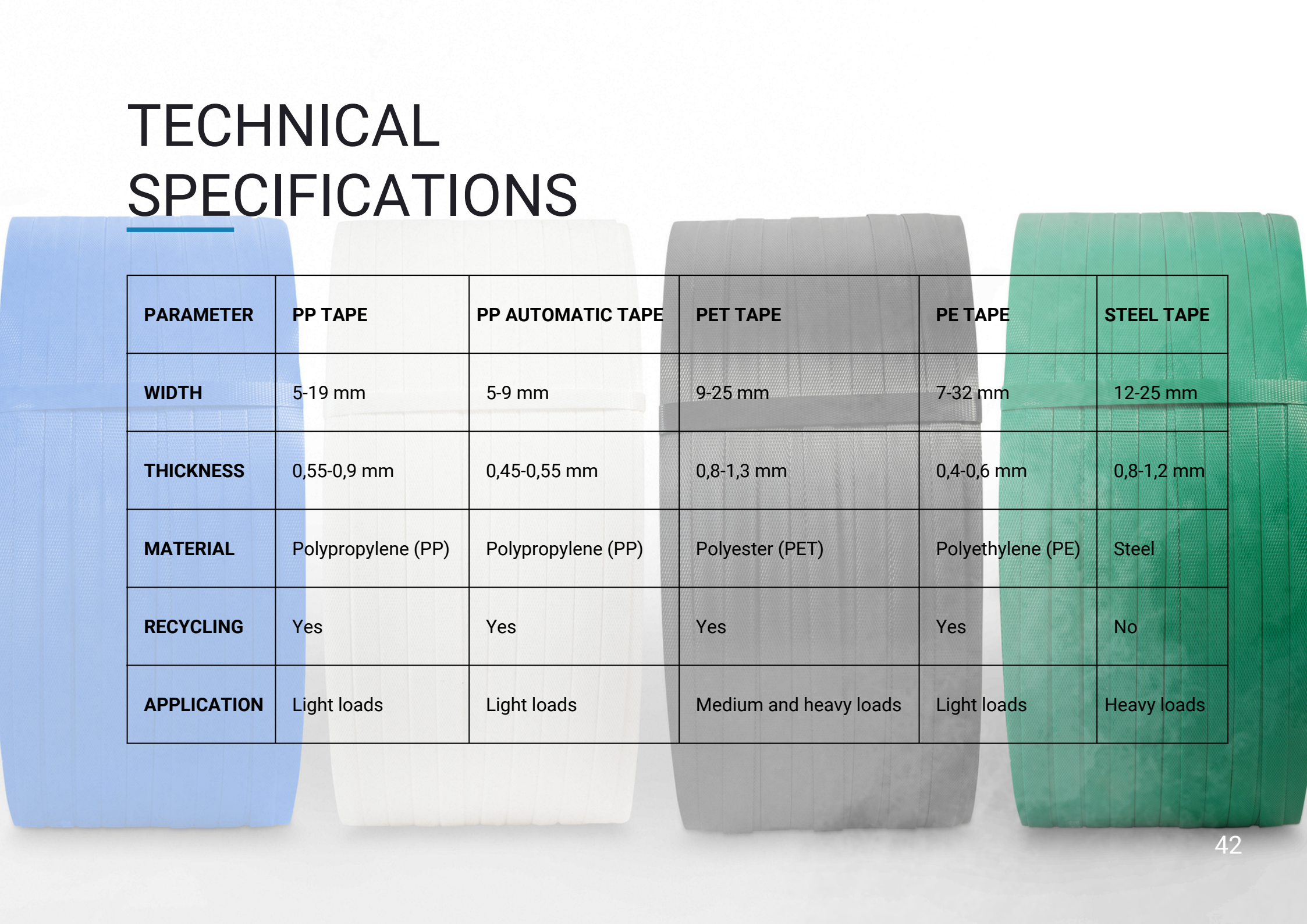


STEEL TAPE

- The highest tear strength.
- Ideal for heavy industrial and oversized loads.
- Widely used in the construction, metal, and paper industries.

In addition to strapping tapes, we also offer **stand for banding tapes, wire and metal buckles**, as well as **tensioners** to facilitate and speed up the strapping process.

TECHNICAL SPECIFICATIONS



PARAMETER	PP TAPE	PP AUTOMATIC TAPE	PET TAPE	PE TAPE	STEEL TAPE
WIDTH	5-19 mm	5-9 mm	9-25 mm	7-32 mm	12-25 mm
THICKNESS	0,55-0,9 mm	0,45-0,55 mm	0,8-1,3 mm	0,4-0,6 mm	0,8-1,2 mm
MATERIAL	Polypropylene (PP)	Polypropylene (PP)	Polyester (PET)	Polyethylene (PE)	Steel
RECYCLING	Yes	Yes	Yes	Yes	No
APPLICATION	Light loads	Light loads	Medium and heavy loads	Light loads	Heavy loads

PP TAPE

SELECTION BASED ON LOAD WEIGHT

WIDTH (MM)	THICKNESS (MM)	BREAKING LOAD (KG)
05	0,45	62
06	0,50	82
06	0,55	92
09	0,55	106
12	0,55	117
12	0,60	120
12	0,70	178

WIDTH (MM)	THICKNESS (MM)	BREAKING LOAD (KG)
12	0,80	210
14	0,50	157
15	0,60	210
15	0,80	270
16	0,60	220
16	0,80	285
19	0,90	400

CATALOG PRODUCTS

TENSIONERS FOR PP AND PET TAPES

Tensioners for PP and PET straps are functional tools designed for securing palletized loads and protecting goods during transport. They are available in manual, semi-automatic, and battery-powered versions, allowing you to match the tool to the type of strap and the intensity of work.

Thanks to their durable construction and easy operation, these tensioners ensure quick and reliable load securing.



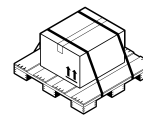
Properties

- Simple, intuitive, and robust design in manual models
- Electronic tension control in battery-powered versions
- Compatible with PP and PET straps in various widths

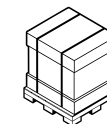
Highlights

- Wide range of models: manual (with buckles) and battery-powered (vibration weld).
- Strap width range from 9 mm to 25 mm.

Example Applications

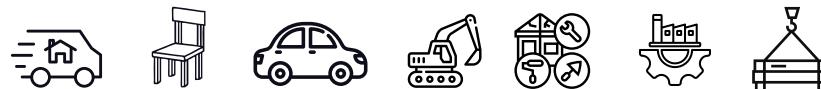


Securing parcels to prevent movement during transport.



Stabilizing goods during storage
Bundling and securing shipments of various sizes.

Industries served



TECHNICAL SPECIFICATIONS

PARAMETER	MANUAL TENSIONER (PP)	MANUAL TENSIONER (PET)	BATTERY-POWERED TENSIONER (PP)	BATTERY-POWERED TENSIONER (PET)
APPLICATION	Light loads	Medium and heavy loads	Light loads	Medium and heavy loads
STRAP TYPE	PP	PET	PP	PET
SEALING TYPE	Wire/metal seal	Wire/metal seal	Vibration weld	Vibration weld
STRAP WIDTH RANG	9-19 mm	9-25 mm	9 -19 mm	9-25 mm
TENSION ADJUSTMENT	Manual	Manual	Electronic	Electronic
POWER SUPPLY	Not required	Not required	Battery-powered	Battery-powered
DEVICE WEIGHT	Light	Light	Medium	Medium
JOINT STRENGTH	Medium	High	High	High
TYPICAL USE	Palletizing, bundling parcels	Securing heavy pallets	Palletizing, bundling parcels	Securing heavy pallets



CATALOG PRODUCTS

SELF-ADHESIVE TAPES

Self-adhesive tapes are a universal and indispensable tool in logistics, warehousing, construction, e-commerce, and office environments. Thanks to a variety of **adhesives (solvent, acrylic, hot-melt)** and a wide range of colors and sizes, they perform well in both manual and automatic packaging systems.

Our range includes everything from packaging tapes to double-sided, masking, warning, repair, and paper tapes.

We offer tapes tailored to meet even the most demanding business needs. Their properties depend on the specific type of product.



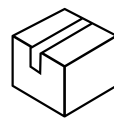
Properties of Self-Adhesive Tapes

- Durable
- Resistant to moisture, dirt, and changing weather conditions
- Flexible and resilient
- Easy to use
- Withstand extreme temperatures

Highlights

- Available in various sizes, colors, and adhesive types.
- Suitable for manual application or with dispensers.
- Provides strong bonding and secure packaging.
- Option for custom printing (e.g., logos or messages).

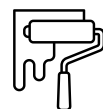
Example Applications



Secure packaging of parcels, protection against moisture and dirt.



Marking hazardous areas, traffic routes, or package contents (warning tapes)



Masking surfaces during painting works (painter's tapes).



Repairing pipes, sealing, and joining installation components (duct tapes).

TYPES OF SELF-ADHESIVE TAPES

PACKING TAPES



- Designed for securing cartons and packages.
- Available with custom prints, serving also as a branding tool.



MASKING TAPES

- Perfect for renovation and painting works, easy to remove without damaging surfaces.



PAPER TAPES

- An eco-friendly solution.
- Made from durable, coated Kraft paper and coated with rubber adhesive.
- Available with custom printing, also serving as a branding tool.

DOUBLE-SIDED TAPES



- Enable permanent bonding of elements, e.g., in logistics or decorative applications.



WARNING TAPES

- Used for marking hazardous areas and communication routes, as well as for indicating package contents.



REPAIR TAPES

- Durable, waterproof, and flexible; used for minor repairs as well as for fastening, sealing, closing, and packaging.

We are an official tesa® distributor, which is why our range also includes tapes from this brand. Tesa® tapes are available in many carrier and adhesive variants, making them easy to match to both manual and automated packaging processes, including high-throughput warehouses.



TECHNICAL SPECIFICATIONS

GOOD TO KNOW

The application of a tape depends on its type and the adhesive it is based on. Adhesion to the surface is influenced by the temperature at the packing area, the temperature during storage and transport, as well as the weight of the load.

ADHESIVE TYPE	Solvent, acrylic, hot-melt
WIDTH	25-72 mm
ROLL LENGTH	44-990 y (40-905 m)
COLOR OPTIONS	Transparent, tan, other colors available upon request
TAPE TYPES	Packing, masking, double-sided, duct, warning, paper, painter's
PRINT	Custom logo or messaging available
RESISTANCE	Moisture, dirt, temperature fluctuations

Stretch Wrapping Machine

SIAT ONE WRAP

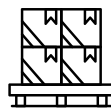
SIAT OneWrap is a modern semi-automatic pallet wrapping machine designed for efficient and secure stretch film wrapping of loads. The machine features an intuitive control panel that allows programming of up to 10 different wrapping cycles, enabling precise customization to suit various types of loads. With a variety of head types available (M, FM, EM, SM, LP), OneWrap offers flexibility in setting film parameters, including film stretch capability (SM – 90% / LP – 240%) and tension control.



Features

- Interchangeable film carriage options (e.g., LP, SM, EM) to match specific packaging needs.
- 5 wrapping modes: automatic and manual – including options such as auto up only, auto up & down, auto up with top sheet pause, auto up & down with top sheet pause, and fully manual.
- High configurability for various types of stretch film and netting.
- Compliant with EU safety standards for industrial machinery.

Example Applications



Palletizing goods in warehouses and logistics centers.



Wrapping products that require protection from moisture, dirt, and mechanical damage.



Securing loads for road, rail, sea, and air transport.



Automating packaging processes in manufacturing facilities.

TECHNICAL SPECIFICATIONS

LOAD CAPACITY	2,4 tony
DIMENSIONS	250 cm x 150 cm x 250 cm
TURNTABLE DIAMETER	1500 mm / 1650 mm
FILM STRETCH CAPABILITY	90% (SM) – 240% (LP)
HEAD TYPES	M, FM, EM, SM, LP
OPERATING MODES	5 modes (automatic and manual)
ADDITIONAL OPTIONS	Net film wrapping head. Integrated weighing system. INOX stainless steel version. Extended access ramp.
COMPLIANCE	CE, REACH

Highlights

- **Intuitive Control Panel:**
 - Program up to 10 wrapping cycles with fully customizable settings. Large, easy-to-read display for user-friendly operation.
- **Efficiency & Cost Savings:**
 - Equipped with a pre-stretch system that reduces film usage and lowers packaging costs. Automatic load height detection and independent speed settings for carriage and turntable enhance process control.
- **Safety & Durability:**
 - Built in accordance with CE standards, with a robust design and load capacity of up to 2.4 tons. Soft start and stop functions reduce the risk of product damage.
- **Flexible Application:**
 - Easily relocated using a forklift. Compatible with optional accessories such as an extended ramp, integrated weighing system, and a net film wrapping head.



TECHNICAL SPECIFICATIONS

HEAD TYPE	LP	SM	FM	M	EM
MANUAL MODE + 4 AUTOMATIC MODES	✓	✓	✓	✓	✓
9 PRESET PROGRAMS + 1 CUSTOMIZABLE	✓	✓	✓	✓	✓
PRE-STRETCH SYSTEM	✓	✓	✗	✗	✗
TENSION ADJUSTMENT FROM CONTROL PANEL	✓	✗	✓	✗	✗
SOFT START AND STOP	✓	✓	✓	✓	✓
INDEPENDENT SPEED CONTROL (ROTATION & FILM)	✓	✓	✓	✓	✓
CONTROL PANEL LOCK	✓	✓	✓	✓	✓
TOP SHEET FUNCTION	✓	✓	✓	✓	✓
ADJUSTABLE TOP AND BOTTOM WRAP COUNT	✓	✓	✓	✓	✓
AUTOMATIC LOAD HEIGHT DETECTION	✓	✓	✓	✓	✓
TOP EDGE WRAPPING (VIA CONTROL PANEL)	✓	✓	✓	✓	✓
BOTTOM EDGE WRAPPING ADJUSTMENT	✓	✓	✓	✓	✓
AUTOMATIC FILM BREAK DETECTION	✓	✗	✗	✗	✗
PAUSE WRAPPING CYCLE	✓	✓	✓	✓	✓



Mac-Graf

Since 1994, Mac-Graf has been providing high-quality packaging materials, continually expanding its product range to meet the growing demands of the market. Our experience and commitment have made us a trusted partner for logistics and manufacturing companies across Poland.

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CONTACT

Our headquarters are located in Bydgoszcz, where the production of our materials takes place. We also operate a branch in Sosnowiec, allowing us to efficiently serve customers throughout Poland and abroad.



Company Registration Details: Mac-Graf Sp. z o.o., ul. Bydgoskich Przemysłowców 21 85-862 Bydgoszcz, Poland; Tax ID (NIP): 554 293 34 69; National Court Register (KRS): 0000989133

Head Office

21 Bydgoskich Przemysłowców Street
85-862 Bydgoszcz, Poland
Secretariat: 603 234 399
macgraf@mac-graf.com.pl

Branch Office

Logistics Center HILLWOOD
Baczyńskiego 2 Street
41-203 Sosnowiec, Poland
Phone: +48 32 265 34 40
biuro.sosnowiec@mac-graf.com.pl



GET A TAILOR-MADE SOLUTION

Cuts? Non-standard dimensions? Multiple colors?

Let's talk about your packaging challenges and process optimization!