150 years
CHANGE THROUGH SUCCESS.

GRÖNING
PASSION FOR QUALITY FILM

W. Gröning GmbH & Co. KG

Experts in polyethylene films
and packaging solutions

Barrier Solutions for Paper Sacks:
Sustainable | functional | impactful

Matthias Becker-Gröning
mbg@groening.de

152 YEARS PROGRESS BY INNOVATION

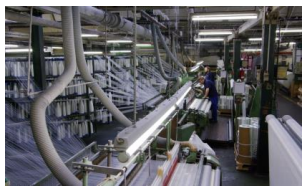
Founder Wilhelm Gröning

1871 — **1965** — **1972** — **2017** — **2021**

Start of polyethylene film production, printing, converting and recycling

Jute weaving and spinning

Shift from jute to fibre glass production



150 years
CHANGE THROUGH SUCCESS.

GRÖNING LAB

GRÖNING ACADEMY

FLOW PACK BASIC VENTING GREENLINE

EXPERTS IN POLYETHYLENE FILMS AND PACKAGING SOLUTIONS

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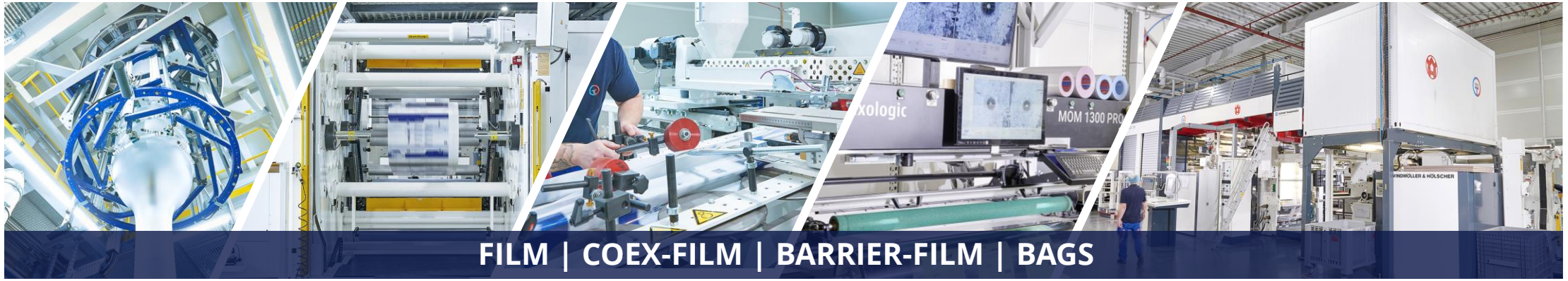

Broad range of materials: LDPE, HDPE, MDPE, PP, PA, EVOH → up to 10 colours

OUR MARKETS

GRÖNING
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Papersack	Peat, Soil, Fertilizer	Wood and Pellets	Food	Building	Textile	Pet Food	G-FlowPack	G-FilmGreen
								

LET´S MAKE AN IMPACT TOGETHER
D4R

OUR SUSTAINABILITY GOALS

- Push circularity
- Save ressources
- Reduce emissions
- Support customers

TAILORED PRODUCTS

CUSTOMER REQUIREMENTS

- Sealability
- Durability
- Optics
- Performance
- Sustainability
- Processability

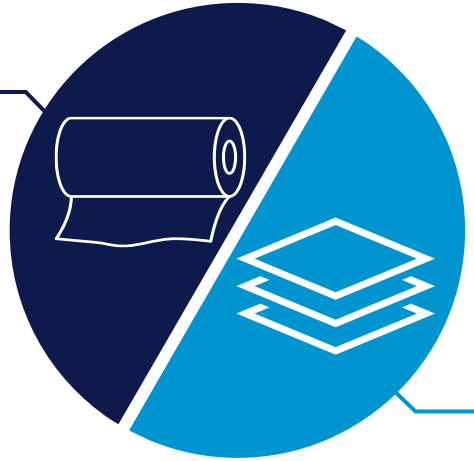
PROTECTION AGAINST EXTERNAL INFLUENCES

- UV
- Water & Humidity
- Weather
- Air Oxygen

PRODUCTION RANGE

- **HD-PE FILMS**
  – 6µ - 100µ and 150mm - 1450mm
- **HD-PE TUBES**
  – 18µ - 120µ and 350mm - 1300mm

- **LD-PE FILMS**
  – 28µ - 280µ and 150mm - 2500mm
- **LD-PE TUBES**
  – 30µ - 200µ and 120mm - 2500mm



- **COEX FILMS**
  – 28µ - 200µ and 150mm - 1450mm
- **COEX TUBES**
  – 50µ - 200µ and 370mm - 1450mm

- **BARRIERE FILMS**
  – 50µ - 200µ and 150mm - 1050mm
- **BARRIERE TUBES**
  – 50µ - 200µ and 450mm - 800mm

PE–HD (HIGH DENSITY) FOR VALVE SACKS

HDPE Inliner for Valve Sacks

Segment

- Building Material
- Cement
- Mineral Products
- Chemicals
- Others

Requirements of the paper sack

- High speed filling
- Low packing cost
- Strength
- Dust-free
- Moisture protection
- Low damage rates
- Extend shelf life

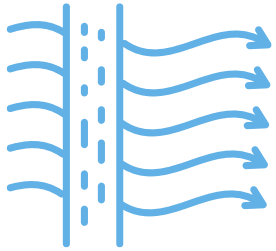
Requirements of the film

- Web Tension
- Tolerances (e.g. width)
- mechanical properties
  - (tear strength, elongation, etc.)
- Deaeration
- Corona treatment
- Barrier

Benefits HDPE free film

- Various slits and perforations options
- Proofed for efficient production
- HDPE flat film 6 – 100 µm
- HDPE prevent moisture ingress
- Better product protection
- Longer storage time
- Better product appearance
- HDPE is recyclable

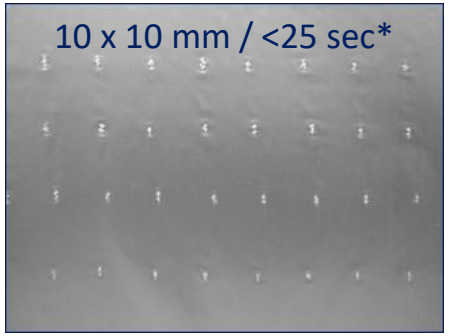
PE–HD (HIGH DENSITY) PERFORATION AND SLIT SOLUTIONS

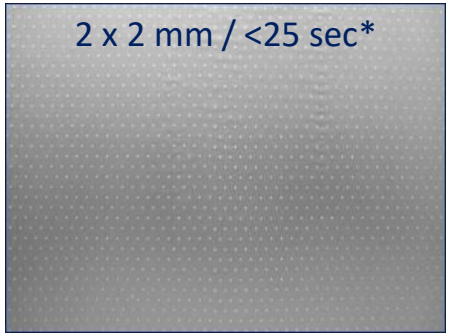


*The air permeability test measures the venting performance in seconds of a perforated film.

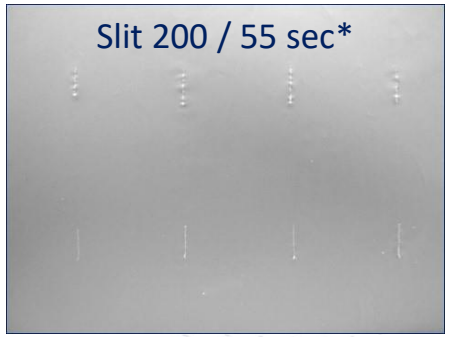
High

Medium





Low



SAVE RESOURCES & REDUCE COSTS

Benefits

- Save ressources
- Reduce Thickness
- Same reel diameter
- More running meters
- Less job changes
- Reduce sack costs
- Reduce transport costs
- Optimise warehousing
- Enhanced productivity

PE–LD (LOW DENSITY)
COEX QUALITIES UP TO 7 LAYER

TUBE FILM for Open Mouth Sacks

Segment

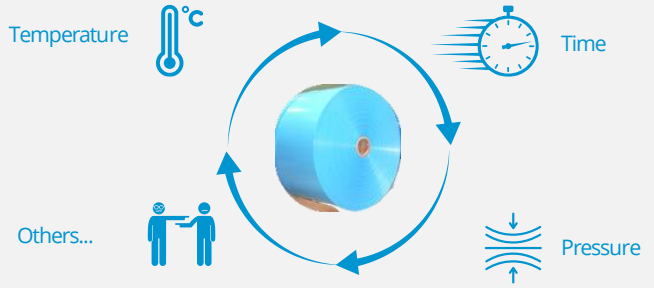
- Dairy Industry
- Milk Powder
- Animal Food
- Other Food

Required Film Properties

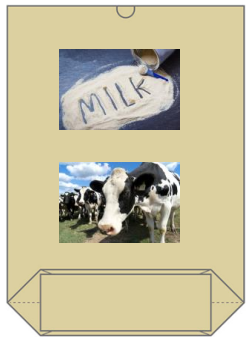
- Strength
- High Hot-Tack & Reliable Seal-Strength
- High barrier (oxygen / aroma / WVTR)
- Storage life (shelf life)
- Strippable Sacks
- Cope to extreme atmosphere and temperature variations (especially on oversea container)
- PE Liner must be strong enough to be used as a 25 kg sack on its own, outside of the paper sack
- PE Film must be suitable for running on a W&H Rotaliner or PE insert unit

Good Shape / Top Seal

Sealing circle of success



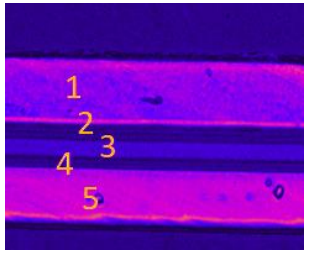
ASSORTMENT PE–LD (LOW DENSITY) AND COEX QUALITIES



SPECIALITY

COEX 5-7 Layer

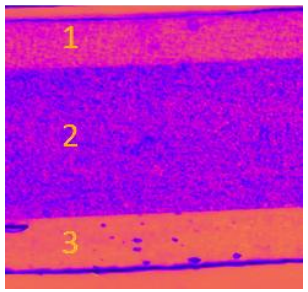
- International Trade
- Special Milk Powder Blends
- Gas Barrier



PREMIUM

COEX 3Layer

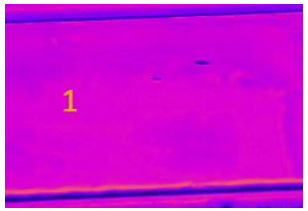
- International Trade
- Long life Poly Liner



STANDARD

MONO

- Simple domestic trade
- International trade



Combine different properties in one film !

- hygienic and food save production environment
- high product protection very good Barrier properties
- (oxygen and aroma)
- ideal machine runability
- high tensile strength
- very high shock resistance
- Optimum closure (very good sealability)
- very good glueability
- TRACEBILITY – one unique code

GRÖNING-LAB


OUR GRÖNING-LAB | OUR SERVICE


THE LABORATORY | TESTING & ANALYSIS| OUR PHILOSOPHY

GRÖNING-LAB

PRACTICE ORIENTED

MECHANICAL

OPTICAL

ANALYSING

PE–FILM INNOVATION
AVOID, REDUCE, RECYCABILITY

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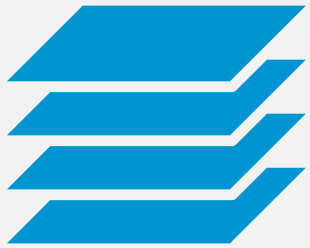
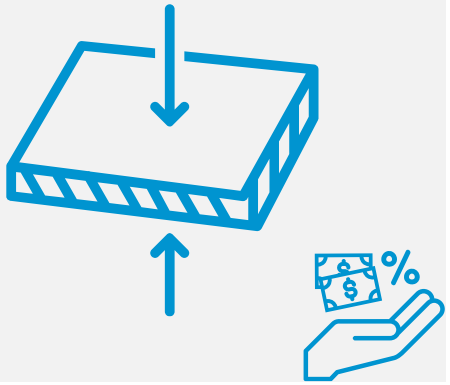
High functional Barrier



Thickness Reduction

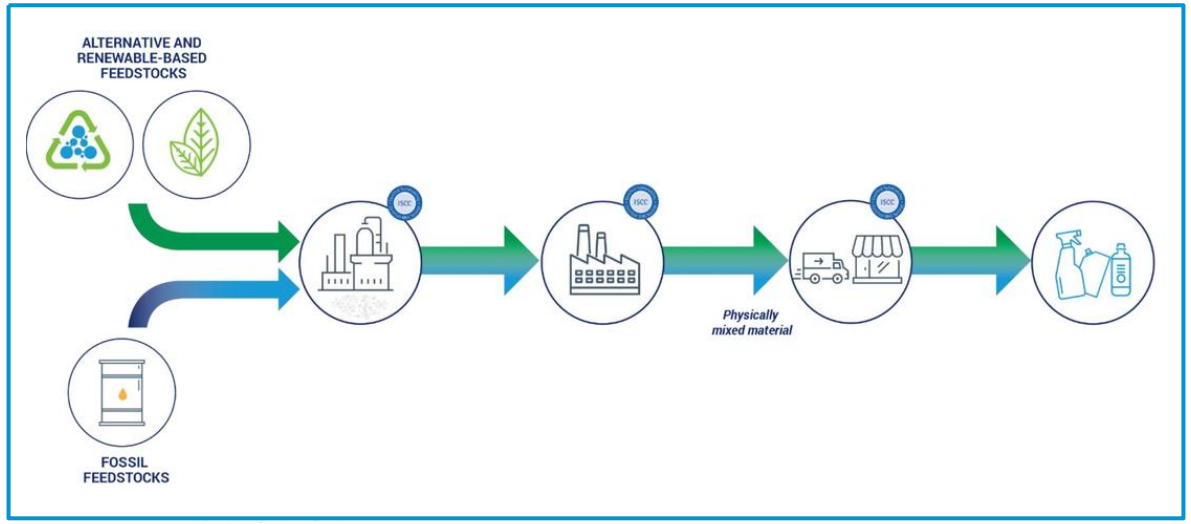


Renewable Raw Materials

Recyclate

ISCC Certification system

I nternational
S ustainability &
C arbon
C ertification



Eco-friendly solutions for food packaging films

- Ensures sustainable practices in food packaging films
- Validates responsible sourcing and low-carbon production
- Sustainable Materials: Recycled, bio-based feedstock options
- Environmental Responsibility: Reduced footprint
- Social Compliance: Adherence to standards
- Full Transparency: Demonstrates commitment
- Competitive Edge: Recognized eco-label
- ISCC assures eco-friendly food packaging films
- Aligns with market preferences

G-FilmGreen – OUR ECO-PROGRAM

OUR SUSTAINABILITY GOALS

- Push circularity
- Save ressources
- Reduce emissions
- Support customers

Let´s make an impact together

RECYCLATE IMPULSE

80% RECYCLINGANTEIL IN DER FOLIE by Gröning

50% RECYCLINGANTEIL IN DER FOLIE by Gröning

30% RECYCLINGANTEIL IN DER FOLIE by Gröning

REZYKLATGEHALT DIN Geprüft

Speciality: **G-FilmBlue**

www.blauer-engel.de/uz30a

- Folie zu mindestens 80 % Recycling-Kunststoff
- Begrenzung von Schadstoffen

RECYCLATES PIR & PCR FROM MECHANICAL RECYCLING

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COVENTIONAL RECYCLING PROCESS

PIR - Post Industrial Recycling
Recycling of **waste materials** from manufacturing processes.

PCR - Post Consumer Recycling (PCR)
Recycling of **used products** and materials from **consumers**.

COLLECTING

- Used materials such as films and plastic waste
- Materials are collected from various sources e.g. like households, industrial and recycling centers.

SORTING CLEANING

- Manual or automated sorting techniques to separate different types of plastics.
- Ensuring a consistent feedstock for the recycling process.
- If neccessary undergo cleaning to remove contaminants like dirt, labels, and residual contents.

SHREDDING

- The preprocessed materials are further shredded into smaller pieces making it easier to handle and process.

EXTRUSION

- The shredded plastic pieces are melted using heat and pressure in an extruder.

RECYCLATE

- This molten plastic is then forced through a die to create uniform pellets or granules.
- These pellets serve as the recycled raw material that can be used for manufacturing various plastic products.

OUR VISION 2040

GRÖNING
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150 years
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2010

ALREADY MADE!

- Energy management according to ISO 50.001
- Participation in the IK initiative "Zero granulate loss"
  Teil der globalen Initiative Operation Clean Sweep®
- Conversion of the entire forklift fleet to e-drive
- Reduction of CO_2 emissions in gas consumption 2016-2019 by approx. 60%
- Modernisation of the entire administration building (reduction of energy consumption by approx. 43 % per m²).
  Further modernisation of the building technology with LED and new heating technology

CURRENTLY SUCCESSFUL!

- Blue Angel certification
- ISCC certification Sustainable raw materials for food packaging
- Modernisation of the complete technology for the cooling water circuit (reduction of energy consumption by approx. 25%)
- Savings of 30% new solvent through reprocessing and recycling
- Start of the investment programme for the modernisation of the drive units at existing plants (energy savings of approx. 15 %)

2022

DEVELOP SOLUTIONS

PROODUCTION

- Reduction of external energy consumption through own renewable energies (e.g. photovoltaic system)
- Expansion of the processing and recycling of own production waste to >50%
- Scaling of technologies for further energy savings
- Creation of Corporate Carbon Footprint (CCF) & Product Carbon Footprint (PCF) for selected products
- Increase the use of green electricity
- Climate-neutral production at the site

MATERIALS

- Increase the use of recycled plastic by >35% annually

2040

GOAL

- **Compensation of technically unavoidable CO2 emissions**
- **100% climate neutral production and products**

CURRENT PROGRESS TROUGH

- Continuous optimisation of packaging solutions (thickness reductions, multilayer films) and processes (waste minimisation) for a lower use of resources.
- Continuous expansion of the portfolio and increase in production with alternative **renewable** or **bio-based** raw materials as well as **mechanically** and **chemically** recycled materials.

30% RECYCLINGANTEIL IN DER FOLIE by Gröning
50% RECYCLINGANTEIL IN DER FOLIE by Gröning
80% RECYCLINGANTEIL IN DER FOLIE by Gröning

OUR PLANT

THANK YOU FOR YOUR ATTENTION!