coperion

Mechanical film recycling.
Turning plastic film waste into new opportunities.



Unlocking value
using high-end Coperion recycling technology

From clean production scrap to challenging post-consumer film waste, Coperion delivers integrated technologies that transform used plastic films into valuable recycled pellets for films. Leveraging decades of expertise in washing, separating, drying, size reduction, material handling, gravimetric feeding, extrusion, degassing, compounding, and deodorizing, Coperion provides efficient, reliable, and energy-conscious solutions for every stage of the mechanical recycling process.

Whether processing post-industrial film waste with consistent quality requirements or post-consumer films that demand advanced cleaning and reprocessing capabilities, Coperion helps recyclers maximize throughput, improve recyclate quality, and support a circular plastics economy.

Every film waste stream has potential to transform input waste into high-quality recycled pellets

Typical sources and material compositions
→ From post-industrial scrap to challenging post-consumer films
→ Mono-material or mixed polyolefin films (PCR/PIR)

Throughput range
→ 250 - 3,000 kg/h

Typical input material forms
→ Bales, off-spec rolls, slitter-waste, edge-trim, ...

Polymers
→ LDPE and/or LLDPE
→ Multi-layer film waste (PIR), e.g. (high-)barrier films for food packaging
→ PA / PE, PA / PE / EVOH, PE / EVOH, ...
→ Laminates with BO-PA or BO-PET

Advanced Coperion recycling technologies
Transforming input waste into high-quality recycled pellets

→ Coperion provides first-class technologies and comprehensive process expertise for
  - Washing, separating, drying, and size reduction
  - Material handling
  - Gravimetric feeding, e.g. using the K-Tron Smart Weigh Belt Feeder SWB
  - Patented ZS-B MEGAfeed side feeder for significantly increased throughput rates and maximum process efficiency
  - Twin screw extrusion with intensive degassing, homogenization and gel reduction
  - Finished product handling, including deodorization
→ Proven concept: commercial operation at leading flexible film manufacturers



The heart of the film recycling systems: Coperion twin screw extruder with side feeder and side degassing unit

Highlights of Coperion flm recycling technology

- ↗ IP protected equipment and process layout
- ↗ Material introduction at highest feedrates with gravimetric feeding and patented ZS-B MEGAfeed side feeding unit
- ↗ For (L)LDPE: 70-90 % gel reduction vs. standard recycling concepts using single screw extruders
- ↗ For high-barrier films: Recycling of PIR to substitute up to 50% of virgin PE in new films
- ↗ Premium pellet quality made possible by Coperion's IP protected twin screw recycling technology, combined with rapid system implementation and fast ROI through turnkey delivery
- ↗ Recycling Innovation Center in Weingarten, Germany, and Herbold Test Center in Meckesheim, Germany, for testing and validation of the high pellet quality at industrial scale prior to an investment

See the difference



LDPE film recycled using single screw extruders



LDPE film recycled using Coperion twin screw technology



Multi-layer film recycled using conventional recycling technologies



Multi-layer film recycled using Coperion twin screw recycling technologies



The ZS-B MEGAfeed side feeding unit makes the recycling of lightweight, very voluminous film flakes significantly more economical

Validate your
film recycling process

Coperion recycling equipment delivers the quality you need, reliably and cost-effectively, for years to come.

Coperion's experts will help you identify the best mechanical film recycling technologies for your input material to achieve the desired product quality, always keeping investment (CAPEX) and subsequent operational costs (OPEX) in mind.

Your nearest Coperion and Herbold Meckesheim Test Centers offer the possibility to test potential of our technologies in advance and to ensure that your process achieves maximum product quality and process efficiency before you make a final financial commitment.

You can be confident that your customized Coperion film recycling system will work perfectly and deliver maximum return on investment (ROI).





In our strategically located Test Centers we can confirm different film recycling technology combinations to optimize performance before final purchase. This ensures that your investment is focused on the best quality solution and is results-driven.

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