

Your expert partner for mechanical recycling



mtm plastics®
die Aufwerter – the Upcyclers



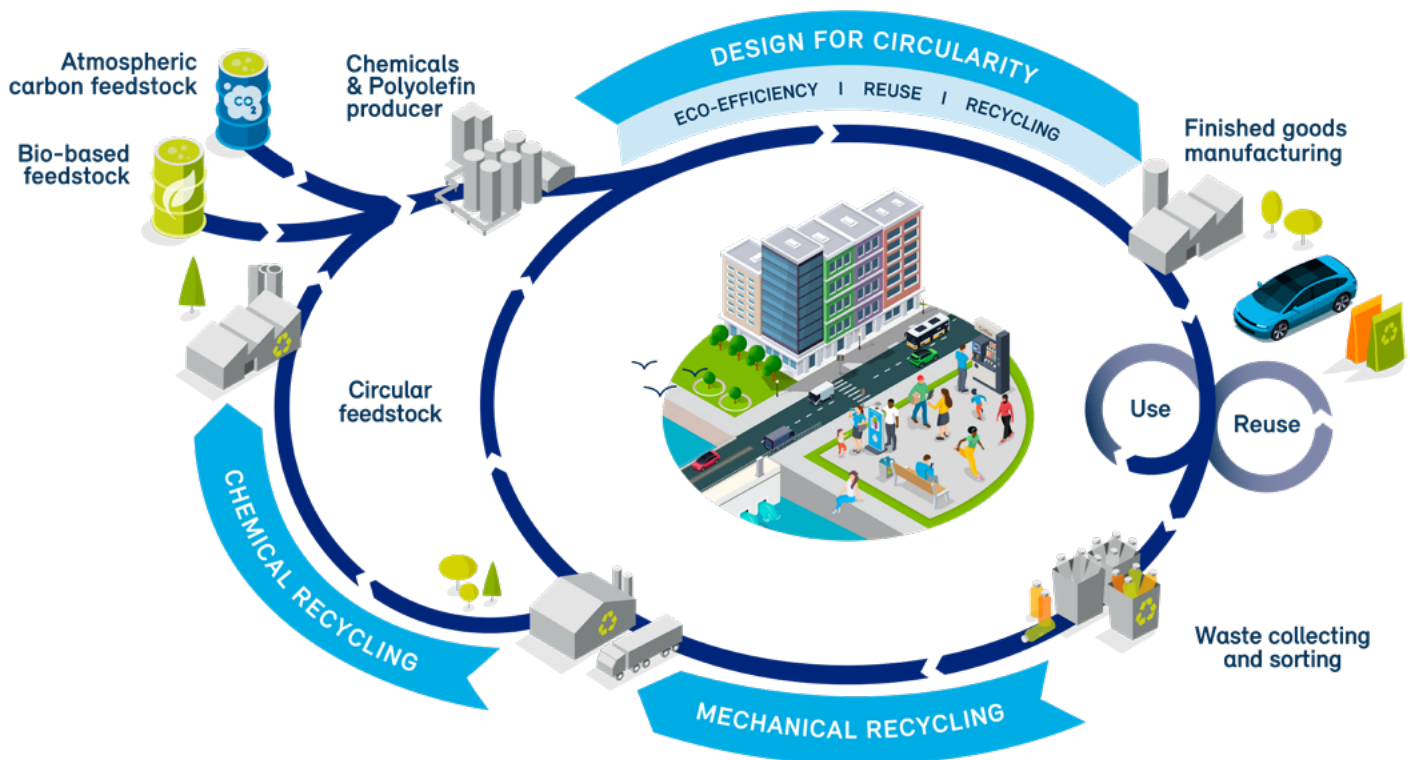
ecoplast



BOREALIS

Innovative solutions for active environmental protection

IMPROVING OUR ECOLOGICAL BALANCE



In an effort to continuously improve, we have undertaken a Life Cycle Assessment (LCA) of various grades at our mechanical recycling plants to understand the environmental impacts of our products.

The LCA was performed in accordance with ISO 14040 and 14044 standards and critically reviewed by a third party. The Global Warming Potential, amongst other impact categories, was assessed.

Life Cycle Assessment is a tool to quantify the the environmental impacts across a product's life, and can be used to identify hot spots for improvement and decision making to avoid shifting burdens.

We are constantly working on further improving our ecological balance, and invest heavily in modern technology necessary for this. For example, our wastewater is mechanically, chemically and biologically treated in our own water treatment plant, and rainwater from roofs and other surfaces is re-used several times in our production water system.

We place focus on mechanical recycling but take a wider view on the value chain.

Our approach towards a more circular economy

Plastic use has increased twenty-fold in the past 50 years due to its excellent properties and benefits, such as functionality, durability and versatility. But since becoming indispensable in appliances, an increasingly amount of plastic waste is now generated every year. To make sure these products avoid landfill, we promote the development of a circular economy through three key principles.

By enhancing material effectiveness through reuse, recycling and alternative feedstock, we can ensure the circularity of plastic. This means better environmental and economic outcomes while continuing to harness the many benefits of plastics.

In comparison with conventional production and use of new virgin plastics, we achieve the following environmental and economic benefits each year:

- 1 **PRESERVING AND ENHANCING NATURAL CAPITAL**
- 2 **CIRCULATING PRODUCTS, COMPONENTS AND MATERIALS AT THEIR HIGHEST UTILITY**
- 3 **CREATING ONLY MINIMUM WASTE AND POLLUTION**



Your expert partner for rigid polyolefin recycling



mtm plastics has been recycling used plastic parts and rigid packaging from post-consumer sources at our site in Niedergebra in Thuringia since 1994. We have continued to develop our technology to become one of Europe's technology leaders in mixed plastic waste recycling. mtm plastics produces high quality polyolefin recyclates for manufacturing injection moulding products and is RecyClass certified. The certificate ensures that every pellet of our products was sourced from post-consumer waste streams. Our customers can apply for post-consumer recycle-based product certificates, such as the Blue Angel or RecyClass Product Certificate.

In 2016 mtm plastics became a member of the Borealis Group, a leading provider of innovative solutions in polyolefins, base chemicals and fertilisers. Following the acquisition, Borealis initiated an expansion project of the Niedergebra site, leading to an overall increase of input processing capacity, and improved capabilities to address the needs of the high-end recycle market.



Your expert partners for flexible polyolefin recycling

A LEADING PROVIDER OF INNOVATIVE SOLUTIONS



Ecoplast is a recycling facility located in Wildon, Austria and is the first polyolefin mechanical recycler in Austria to receive the International Sustainability and Carbon Certification (ISCC PLUS). With almost 30 years of experience, we are one of the ten largest plastic recyclers in Europe and are RecyClass certified. Our company was funded in 1989 and has worked in the recycling of plastic waste under the name Ecoplast since 1991. In 2018 we became a member of the Borealis Group, a leading provider of innovative solutions in Polyolefins, Base Chemicals and Fertilizers.

Our team focuses primarily on the production of high quality recyclates from polyethylene post-consumer feedstock. We are continuously optimising our processes and equipment in order to offer the best possible secondary raw material solution for our customers' specific applications and requirements. Furthermore, our customers are eligible to get blue angel certificate with our products.

As a recycler turning post-consumer waste into new products, we ensure that plastic is not wasted, meaning that active environmental protection is at the very heart of what we do at Ecoplast.



In 2024, Integra Plastics AD became part of the Borealis Group. Based in Elin Pelin, Bulgaria, Integra Plastics AD operates a modern advanced mechanical recycling plant built in 2019 with state-of-the-art equipment and is RecyClass certified. Integra Plastics has the ability to transform post-consumer waste into high quality polyolefin recyclates suitable for demanding applications. As a proud member of the Borealis Group, we leverage cutting-edge technology and innovative practices to produce top-quality Recycled Low Density Polyethylene (LDPE) and Polypropylene (PP) granules. Our state-of-the-art 6-step production line ensures that our recycled polymers are of the highest quality, completely odorless, and demonstrate exceptional performance in all applications. Our team consists of highly sophisticated experts, with substantial experience in the fields of polymers, recycling and trading. Our aim is to offer a top quality product, with continuity and consistency, covering all the needs of the modern market.

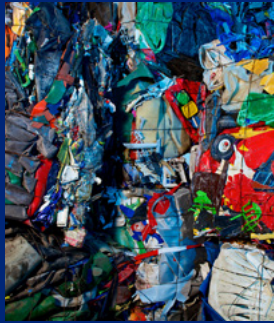


From bales to pellets

Rigid plastics

Input materials:

- PO bulky household waste plastic
- PO municipal / household waste
- Industrial plastic waste
- Feedstock sourced across Europe



Separately collected and pre-sorted polyolefin plastic waste

The feedstock is sorted and separated. Additional washing helps to improve the purity of the final product.

mtm is equipped with shredders, non-FE and FE metal separators, air separators (wind sifters), grinders, NIR and optical sorters.

Finally the materials are densified, melted, filtered, degassed, homogenized, compounded, and pelletized.



Flexible plastics

Input materials:

- PE film municipal / household waste
- PE film commercial waste
- Industrial plastic waste
- Feedstock sourced across Europe



Separately collected and pre-sorted polyolefin plastic waste

The input materials are pre-sorted, shredded, grinded, separated via air, washed and dried.

Afterwards, the materials will be extruded, filtered degassed and pelletized.



Rigid recyclates

Available in recycled polyolefine-compounds and pure recycled polypropylene quality with different MFRs and colors.



Flexible PE recyclates

Available in various qualities with different MFRs, and levels of translucency.



Products and services Ecoplast

ECONOMICAL - SUSTAINABLE - COMPETITIVE

As a well-known plastics recycler, we are at the pulse not only of plastics waste quantities and qualities, but even more aiming for additional applications in which recycled content can replace new plastics together with our customers on project and operative level.

We use this knowledge to maintain and constantly improve the cycle of new product, reuse, recovery and again new product.

Granulate LDPE/HDPE

LDPE (low-density polyethylene) recyclate for film manufacture. This odour minimised plastic is especially suitable for manufacturing films for use in grocery bags, trash bags, construction film, agricultural sheeting, etc. It is highly resistant to chemicals, and has very low water vapour permeability Custom LDPE/HDPE mixtures on request and subject to customers demand.

Example applications using CWT

- High demanding primary and secondary packaging
- Collation shrink films

Example applications using NAV

- Carrier bags
- Bin liners
- Films
- Packaging applications
- Pipes
- Tubes
- Irrigation pipes



Products and services Integra

ECONOMICAL - SUSTAINABLE - COMPETITIVE

Innovative recycling for a greener future

At Integra Plastics, we are committed to transforming plastic waste into highquality recycled polymers. As a proud member of the Borealis Group, we leverage cutting-edge technology and innovative practices to produce topquality Recycled Low Density Polyethylene (LDPE) and Polypropylene (PP) granules. Our state-of-the-art 6-step production line ensures that our recycled polymers are of the highest quality, completely odorless, and demonstrate exceptional performance in all applications.

By choosing Integra Plastics, you are not only opting for superior recycled materials but also contributing to significant environmental benefits.

Customized solutions for diverse applications

Our recycled polymers are designed to meet the specific requirements of our customers. Whether you need materials for packaging, construction, or consumer products, Integra Plastics provides tailored solutions that ensure the highest utility and minimal waste. Our expertise in mechanical recycling and our focus on quality make us your reliable partner for sustainable polymer solutions.

Join us in making a difference.



Our product range for film/foil applications

Ecoplast Post-Consumer Recyclate portfolio

Grade name	MFR (g/10 min) 190°C/2.16kg	Residual moisture content (%)	Density (g/cm ³)	CO ₂ footprint* (kgCO ₂ eq/kg)	Available colors	Product description
Borcycle™ CWT100VL	0.35	≤ 0.05	0.925	0.31	Transparent/ natural	Very low gel LDPE 100 % PCR ideal for high-end film applications
Borcycle™ CWT120CL	2	≤ 0.05	0.918	0.31	Transparent	Low gel LLDPE 100% PCR ideal for high-end stretch film applications
Borcycle™ NAV101L	0.85	≤ 0.05	0.925	0.31	Transparent	Low gel LDPE 100% PCR Ideal for printed high end blown film applications
CWT100LG	0.50	≤ 0.05	0.925	0.31	Transparent	Low gel LDPE 100% PCR ideal for high-end blown film applications
NAV101	0.85	≤ 0.05	0.925	0.31	Transparent	LDPE 100% PCR for high-end blown film applications
NAV102	0.85	≤ 0.05	0.925	0.33	Translucent	LDPE 100% PCR for blown film applications
NAV103	0.70	≤ 0.06	0.945	0.45	Colored	Colored rLDPE for blown film applications
NAV107	0.70	≤ 0.06	0.945	0.51	Black	Black rLDPE ideal for blown film and pipe applications
NAV108	0.70	≤ 0.06	0.945	0.57	Black	Black rLDPE ideal for pipe applications

Integra Post-Consumer Recyclate Portfolio

Grade name	MFR (g/10 min) 190°C/2.16kg	Residual moisture content (%)	Density (g/cm ³)	CO ₂ footprint* (kgCO ₂ eq/kg)	Available colors	Product description
R300T	0.6	≤ 0.1	0.935	Coming soon	Transparent	LDPE 100% PCR for blown film applications
R400T	0.6	≤ 0.1	0.937	Coming soon	Light-colored	LDPE 100% PCR for blown film applications
R500B	0.6	≤ 0.1	0.948	Coming soon	Blue	LDPE 100% PCR for blown film applications
R500M	0.6	≤ 0.1	0.950	Coming soon	Colored	LDPE 100% PCR for blown film applications

Typical values. Data should not be used for specification work.
 More rLDPE and rHDPE mixtures are available on demand, for more information please contact our representatives.
 *Partial carbon footprint including biogenic

Products and services mtm plastics

ECONOMICAL - SUSTAINABLE - COMPETITIVE

When compared to the use of new products, every tonne of processed recycle from mtm has approximately 30% lower carbon dioxide (CO₂) emissions vs. comparable virgin polyolefins.

Dipolen™

Dipolen™ is made of household plastic waste, collected via the yellow bag collection system in Germany. Highly selective processing technology involves thorough degassing and melt filtration. This makes Dipolen™ ideal for injection moulded products with static and dynamic loads.



Purpolen™

Purpolen™ is made of bulky plastic collected from municipal recycling centres. A homogeneous high quality, high purity recycle, Purpolen™ is particularly well suited to the production of sophisticated consumer products.

Purpolen™ comes in natural light and standard gray, which allows for a wide variety of colored products..

Example applications using Dipolen™ and Purpolen™

- **Rigid packaging**
Boxes, crates, edge protectors, plastic pallets
- **Home and garden**
Pens, painting tools, composers, buckets, lawn grids
- **Construction**
Pipes, concrete distance spacers, drainage systems
- **Compounds**



Our product range for rigid applications

Dipolen™								
Grade name	MFR (g/10 min) 230°C/2.16kg	Tensile modulus (MPa)	Charpy NIS 23°C (kJ/m²)	Density (g/cm³)	CO ₂ footprint (kgCO ₂ eq/kg)	Available colors	Feedstock for the PCR	Product description
Dipolen SL	8	800	5.5	0.94	Coming soon	Gray, black, green, anthrazite	Polyolefin post-consumer household waste	Polyolefin PCR for injection moulding applications where flexibility matters
Dipolen S	5	820	7	0.94	0.77			
Dipolen SP	10	1000	6	0.93	0.7			
Dipolen PP	15	1200	5.5	0.92	0.57	Gray, black, green, anthrazite	Polypropylene post-consumer household waste	Polypropylene PCR

Purpolen™								
Grade name	MFR (g/10 min) 230°C/2.16kg	Tensile modulus (MPa)	Charpy NIS 23°C (kJ/m²)	Density (g/cm³)	CO ₂ footprint (kgCO ₂ eq/kg)	Available colors	Feedstock for the PCR	Product description
Purpolen PP	20/55	1300	5.5	0.92	0.74-0.8	Light/natural, gray, black, anthrazite, green	Polypropylene post-consumer municipal waste sorted in light and dark fractions	High quality polypropylene PCR for both extrusion and injection moulding



Our product range for post-industrial recyclate (PIR)

FEEDSTOCK ORIGINATES FROM POLYOLEFINE PRODUCTION PROCESSES, TARGETING SPECIFIC APPLICATIONS. WE OFFER OUR PIR GRADES IN TRANSPARENT AND BLACK WITH TAILORED MFR RANGES*

Post-industrial PP recyclate								
Grade name	Alternative grade name	MFR (g/10 min) 230°C/2.16kg	Tensile modulus (MPa)	Charpy NIS 23°C (kJ/m²)	Density (g/cm³)	CO ₂ footprint (kgCO ₂ eq/kg)	Available colors	Product description
NAV128 Y10-02	PP Y10-02	10	1500	3	0.91	Coming soon	Natural / translucent	Natural / translucent PIR available in three melt flow rates
NAV128 Y20-02	PP Y20-02	20						
NAV128 Y40-02	PP Y40-02	40						
NAV128 Y40-03	PP Y40-03	40	1500	3	0.9	Coming soon	Dark translucent	Dark translucent PIR
NAV128 Y10-04	PP Y10-04	10	1600	7	0.97	0.74	Black	Black PIR available in two melt flow rates
NAV128 Y40-04	PP Y40-04	40		4		0.57		

Example applications using PIR

With PIR many virgin polyolefin applications can be realized. The natural / translucent products offer excellent printability, while the black material comes from well stabilized feedstock.

- **Flexible packaging**
Films, collaction shrink films, carrier bags
- **Rigid packaging**
Boxes, crates, edge protectors, plastic pallets
- **Home and garden**
Pens, painting tools, composers, buckets, lawn grids
- **Construction**
Pipes, concrete distance spacers, drainage systems



Typical values. Data should not be used for specification work.
More PIR PE available on spot, for more information please contact our representatives.
*Our PIR definitions require at least an extrusion step in the upcycling processes



We do everything to meet this expectation, every single day.

We are focusing on quality

HIGH LEVEL OF RELIABLE, CONSISTENT QUALITY

Buyers of secondary raw materials rightly expect an especially high level of reliable, consistent quality. We do everything to meet this expectation, every single day.

- In-house laboratory for ongoing quality assurance throughout the entire production process
- Production and delivery of homogeneous 24 tonne batches
- Quality for recyclates is certified with ISO 9001, ISO 14001 (Ecoplast) and ISO 50001 (mtm)
- Certified by RecyClass
- Ecoplast received the International Sustainability and Carbon Certification (ISCC PLUS)

Whether during materials sourcing, materials receiving and post-sorting, after extrusion or before loading, our employees are aware of their responsibility. They work expertly and conscientiously to make their contribution to a perfect, environmentally sustainable recycling result.



Well advised by the experts

CREATING AND IMPLEMENTING EXPERT SOLUTIONS

The outstanding quality of our recyclates is the result of blending experience, comprehensive specialist knowledge, top equipment, effective monitoring and our determination to provide our customers with a perfect product. Seamless quality assurance through our entire process chain ensures consistently high recycle quality.

But before we do anything else, we talk to our customers. Our specialists work with them to define exactly what requirements the recycle must meet, and offer individual suggestions for the best way to achieve this. We are happy to advise customers on the many opportunities for replacing expensive primary raw materials in production processes with our high quality recyclates. We see ourselves as a service provider, creating and implementing expert solutions.

We see ourselves as a service provider, creating and implementing expert solutions.



Because thinking circular today will provide us, our partners
and society with a better tomorrow.

FOR MORE INFORMATION

visit borealisgroup.com, ecoplast.com, mtm-plastics.eu, integra-plastics.com and borealiseverminds.com

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Borealis is one of the world's leading providers of advanced and sustainable polyolefin solutions. In Europe, Borealis is also an innovative leader in polyolefins recycling and a major producer of base chemicals. We leverage our polymer expertise and decades of experience to offer value-adding, innovative and circular material solutions for key industries such as consumer products, energy, healthcare, infrastructure and mobility.

With customers in over 120 countries and head office in Vienna, Austria, Borealis employs around 6,200 people. In 2024, we generated a net profit of EUR 566 million. OMV, the sustainable chemicals, fuels and energy company with a focus on circular economy solutions, headquartered in Vienna, Austria, owns 75% of our shares. The Abu Dhabi National Oil Company (ADNOC), based in the United Arab Emirates (UAE), owns the remaining 25%.

In re-inventing essentials for sustainable living, we build on our commitment to safety, our people, innovation and technology, and performance excellence. We are accelerating the transformation to a circular economy of polyolefins and expanding our geographical footprint to better serve our customers around the globe. Our operations are augmented by two important joint ventures: Borouge (with ADNOC, headquartered in the UAE); and Baystar™ (with TotalEnergies, based in the US).

borealisgroup.com | borealiseverminds.com

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