

Product Focus

Polyolefins

PP, PE, specialty polymers, medical grades and sustainable solutions





Portfolio overview

INEOS Olefins & Polymers Europe offers a broad portfolio of polypropylene, polyethylene, specialty polyolefin copolymers, medical grades and sustainability-focused solutions. **Omya Performance Polymer Distribution** combines access to this portfolio with local commercial and technical support, application-focused material selection and coordinated regional logistics.

Portfolio at a glance

	Material	Description	Brands/Ranges	Core positioning
Polypropylene 	HPP	Homopolymer polypropylene	ELTEX® ELTEX® P ELTEX® MED INEOS HPP	High stiffness, good strength-to-weight performance and efficient processing
	RCP	Random copolymer polypropylene	ELTEX® P ELTEX® MED INEOS RCP	Good clarity, greater flexibility and balanced impact performance
	ICP	Impact copolymer polypropylene	ELTEX® ELTEX® P ELTEX® TUB RIGIDEX® P INEOS ICP	High toughness and impact resistance, including at lower temperatures, with high-flow options available
Polyethylene 	LDPE	Low-density polyethylene	INEOS LDPE ELTEX® ELTEX® MED	Processability, flexibility and film performance
	LLDPE	Linear low-density polyethylene	INEOS LLDPE	Toughness, puncture resistance and film strength
	mLLDPE	Metallocene linear low-density polyethylene	ELTEX® PF	Sealability and high-performance downgauged film
	HDPE / MDPE	High- / medium-density polyethylene	ELTEX® RIGIDEX® ELTEX® MED ELTEX® TUB (including ELTEX® Superstress™)	Stiffness, durability, chemical resistance and long-term performance
Specialty polyolefins 	EMAA	Ethylene methacrylic acid	INEOS EMAA	Circular-content options across selected PE and PP families
	Ionomer	Low-density polyethylene ionomer	ELTEX® ionomer	Adhesion, clarity and seal-layer functionality
	HST	Heat-seal terpolymer	ELTEX® P heat-seal terpolymer	Stiffness, strength and efficient processing
Medical 	Medical-grade PE	Medical-grade polyethylene	ELTEX® MED PE	Medical-focused polyethylene supported by grade-specific regulatory documentation and change-control provisions
	Medical-grade PP	Medical-grade polypropylene	ELTEX® MED PP	Medical-focused polypropylene supported by grade-specific regulatory documentation and change-control provisions
Sustainable 	Recycled PE / PP	Recycled-content polyolefins	Recycl-IN	PCR-based circular-content solutions across selected PE and PP families
	Bio-attributed PE / PP	Polyolefins attributed to renewable, bio-based feedstocks	INEOS bio-attributed polyolefins	Renewable feedstock options supporting reduced fossil feedstock use and a lower product carbon footprint



Polypropylene solutions

The INEOS polypropylene portfolio brings together homopolymer, random copolymer and impact copolymer technologies. The three families provide clear progression from stiffness and efficient processing through clarity and balanced impact to high toughness, including at lower temperatures.

Product families

Homopolymer polypropylene (HPP)

The INEOS homopolymer polypropylene portfolio combines **high stiffness, excellent processability and efficient strength-to-weight performance**. Available through the INEOS HPP, ELTEX®, ELTEX® P, ELTEX® MED and Recycl-IN product ranges, these materials support applications including rigid packaging, thin-wall injection moulding, film, fibres, caps and closures, household goods and selected medical products.

Random copolymer polypropylene (RCP)

INEOS random copolymer polypropylene grades deliver a **balance of clarity, flexibility and impact performance**. Offered through the INEOS RCP, ELTEX® P, ELTEX® MED and Recycl-IN product ranges, these

materials are widely used in transparent packaging, consumer products, caps and closures, household goods and medical applications.

Impact copolymer polypropylene (ICP)

Designed for demanding applications, INEOS impact copolymer polypropylene provides **high toughness and excellent impact resistance, including at low temperatures**. Available through the INEOS ICP, ELTEX®, ELTEX® TUB, RIGIDEX® P and Recycl-IN product ranges, these materials are suited to industrial containers, appliances, mobility components, durable moulded parts and technical pipe applications.

Typical properties

Property	HPP	RCP	ICP
Density	Approx. 0.90 g/cm ³	Approx. 0.90 g/cm ³	Approx. 0.90 g/cm ³
Flexural modulus	1,200-2,200 MPa	850-1,200 MPa	1,000-1,850 MPa
Impact	Moderate	Good	Excellent
Clarity	Good	Excellent	Moderate
Low-temperature performance	Moderate	Moderate	Good

Processing and applications

Processing method	Suitable PP families	Application focus
Injection moulding	HPP, RCP and ICP	Packaging, household goods, appliances, industrial, mobility parts and selected medical applications
Thin-wall injection moulding	Selected HPP, RCP and high-flow ICP	Lightweight packaging, fast-cycle moulding and in-mould labelling (IML) applications
Film extrusion	Selected HPP and RCP	Packaging and technical films
Fiber and nonwoven extrusion	Selected HPP	Hygiene, textile and technical applications
Technical extrusion	Selected HPP, ICP and specialty grades	Profiles, sheet and selected pipe-related applications

Technical values are representative portfolio-level indicators, not specifications. Confirm grade-specific values, test methods and processing recommendations using current INEOS documentation.





Polyethylene solutions

The INEOS polyethylene portfolio spans flexible film and coating technologies, rigid moulding grades and durable pipe and infrastructure solutions. Bringing the complete PE family together makes it easier to identify the most appropriate density, process and performance balance for each application.

Product families

INEOS low-density polyethylene (LDPE)

INEOS LDPE combines **melt strength, flexibility and reliable processing** for blown film, coating, lamination, shrink film, and selected insulation applications. Selected grades also support sealing and optical performance requirements.

INEOS linear low-density polyethylene (LLDPE)

INEOS LLDPE provides **toughness, puncture resistance, and film strength** for flexible packaging, heavy-duty sacks, liners, agricultural films and construction films.

ELTEX® PF metallocene LLDPE (mLLDPE)

ELTEX® PF mLLDPE supports high-performance flexible packaging, stretch and specialist film structures requiring **high puncture resistance, sealability and downgauging potential**. Final performance depends on the selected grade and converted structure.

RIGIDEX® medium-density polyethylene (MDPE)

RIGIDEX® MDPE provides a balance of **toughness, stiffness and environmental stress-crack resistance**. Depending on grade, it can support selected film, pipe and technical extrusion applications.

RIGIDEX® and ELTEX® high-density polyethylene (HDPE)

RIGIDEX® and ELTEX® HDPE offer **stiffness, strength, chemical resistance and durable performance** for rigid packaging (bottles, containers, closures), industrial products (crates, drums, pipes) and technical applications (infrastructure systems).

ELTEX® TUB (including ELTEX® Superstress grades)

ELTEX® TUB, and ELTEX® Superstress grades, extend the polyethylene portfolio into selected pipe and infrastructure applications where **long-term performance and dependable extrusion** are key selection considerations.

Typical properties

Property	LDPE	LLDPE	mLLDPE	Plastomer	MDPE	HDPE
Density (g/cm ³)	0.918-0.930	0.914-0.937	0.918-0.935	0.902-0.906	0.912-0.937	0.935-0.995
Flexibility	Excellent	Excellent	Excellent	Outstanding	Good	Moderate
Sealability	Good	Very good	Excellent	Outstanding	Grade dependent	Grade dependent
Impact / toughness	Good	Very good	Excellent	Excellent	Very good	High

Processing and applications

Processing method	Typical PE families	Application focus
Blown and cast film	LDPE, LLDPE, mLLDPE and selected MDPE	Flexible, industrial, agricultural and construction films
Extrusion coating / lamination	Selected LDPE and specialty copolymers	Coated substrates and multilayer packaging
Extrusion blow moulding	HDPE and selected MDPE	Bottles, containers, drums and jerrycans
Injection moulding	LDPE, HDPE and selected MDPE	Caps, closures, crates and technical parts
Pipe and profile extrusion	LDPE, HDPE and MDPE	Pressure pipe, utility systems, conduit and profiles
Sheet extrusion / thermoforming	Selected HDPE	Rigid sheet and formed technical products

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Specialty polyolefin copolymers

INEOS specialty polyolefin copolymers extend the portfolio beyond standard polyethylene and polypropylene by adding adhesion, tie-layer, clarity and sealing functionality for multilayer and specialty structures.

Product families

INEOS ethylene methacrylic acid (EMAA)

Ethylene EMAA methacrylic acid provides functionality for adhesive, tie-layer and specialty film structures. Final performance and suitability depend on grade selection and the complete converted structure.

ELTEX® P heat-seal terpolymer (HST)

The HST range supports seal-layer films and laminates requiring effective sealing response and dependable conversion.

ELTEX® ionomer

ELTEX® ionomer supports film structures requiring adhesion, clarity and sealing functionality. It can be considered for packaging and multilayer applications where strong interlayer performance is required.

Material family	Functional contribution	Application areas
INEOS EMAA	Adhesion, flexibility and tie-layer functionality	Multilayer films, coated structures and specialty modification
ELTEX® ionomer	Adhesion, clarity, toughness, easy tear and seal performance	Packaging films, laminates and specialty structures
ELTEX® P heat-seal terpolymer	Low-temperature sealing and dependable conversion	Seal-layer films, laminates and flexible packaging

Typical properties

Property	EMAA	Ionomer	Heat-seal terpolymer
Density (g/cm ³)	0.921-0.937	0.926-0.935	0.895-0.905
Flexibility	Good	Good	Good
Adhesion	Excellent	Excellent	Application dependent
Sealability	Good	Excellent	Excellent
Clarity	Moderate	Excellent	Good
Toughness	High	Excellent	Good
Processability	Good	Good	Good

Final performance depends on grade selection, layer design, substrate, process conditions and the complete converted structure. Application suitability must be confirmed through testing and current technical documentation.





Medical-grade polyethylene and polypropylene

ELTEX® MED is the INEOS medical-grade polyolefin portfolio, comprising selected polyethylene and polypropylene grades for healthcare and medical applications. The portfolio is differentiated from standard grades by its medical-focused documentation, regulatory support and formal change-control provisions, subject to the selected grade and current INEOS documentation.

Why ELTEX® MED?

- Selected PE and PP grades developed for healthcare and medical applications
- Grade-specific regulatory (DMF) and pharmacopoeia information, where applicable
- Notification-of-change provisions defined within the relevant grade documentation or agreement
- Consistent material supply and supporting compliance documentation
- Technical support for qualification and application development

Application areas

ELTEX® MED polyethylene (PE)

Selected ELTEX® MED PE grades support healthcare packaging, Blow-Fill-Seal (BFS) and other medical applications requiring consistent processing and grade-specific regulatory documentation.

ELTEX® MED polypropylene (PP)

Selected ELTEX® MED PP grades combine polyolefin processing performance with medical-focused documentation and change-control provisions, subject to the selected grade and intended application.

Application area	Potential components	Selection priorities
Pharmaceutical and healthcare packaging	Bottles, closures, containers and films	Consistency, processing reliability and regulatory documentation
Blow-Fill-Seal (BFS)	Form-fill-seal pharmaceutical containers	Processability, container integrity and grade-specific compliance
Diagnostics	Housings, containers and handling components	Dimensional consistency, toughness and clean appearance
Medical devices	Selected molded and converted components	Qualification support, documentation and intended-use assessment

Key material characteristics

Characteristic	ELTEX® MED PE	ELTEX® MED PP
Material consistency	Excellent	Excellent
Documentation support	Grade specific	Grade specific
Sterilization compatibility	Grade dependent	Grade dependent
Processability	Excellent	Excellent

ELTEX® MED grades are supported by grade-specific regulatory documentation, notification-of-change provisions and technical expertise to assist qualification and validation activities. Consult the latest INEOS technical and compliance documentation when selecting materials for medical and healthcare applications.





Sustainable polyolefin solutions

INEOS supports different routes toward lower-carbon and more circular polyolefin applications. The portfolio includes recycled-content Recycl-IN solutions and bio-attributed polyolefins made using certified renewable feedstocks through a mass-balance and attribution approach.



Recycl-IN recycled-content solutions

Recycl-IN is the INEOS portfolio of recycled-content polyethylene and polypropylene solutions developed to support circular economy requirements across selected flexible, rigid and technical applications. The available portfolio includes recycled PE and PP families, with up to 70% recycled content, color, performance, regulatory status and availability varying by country and grade.

INEOS bio-attributed polyolefins

INEOS Olefins & Polymers Europe offers bio-attributed olefins and polyolefins based on renewable bio-based raw materials that do not compete with human food production. INEOS cites bio-naphtha made from tall-oil-based UPM BioVerno as one feedstock example. Tall oil is a residue of the pulping process.

Through a certified mass-balance and attribution approach, renewable feedstocks are introduced into

the existing production system, with an audited chain of custody attributing the renewable share to the final material. These solutions provide a route to reduce dependence on fossil feedstocks and support a lower product carbon footprint while retaining the established performance of the polyolefin material platform.

Customer-relevant benefits

- Renewable feedstocks that do not compete with human food production
- Reduced dependence on fossil feedstocks and potential to support a lower product carbon footprint
- Drop-in polyolefin performance without changing the fundamental material platform
- Certified mass-balance and attribution approach
- A lower-carbon option for applications requiring the performance of established polyolefin grades

Recycl-IN family	Material type	Potential application focus
rHDPE	Recycled high-density polyethylene	Rigid packaging and industrial products
rLDPE	Recycled low-density polyethylene	Flexible films and converted products
rLLDPE	Recycled linear low-density polyethylene	Film and specialist extrusion applications
rHPP	Recycled homopolymer polypropylene	Molded parts, packaging, fibers and consumer products
rRCP	Recycled random copolymer polypropylene	Selected packaging and molded applications
rICP	Recycled impact copolymer polypropylene	Durable and impact-modified molded applications

Sustainability routes at a glance

Route	Primary feedstock approach	Customer objective
Recycl-IN	Post-consumer recycled-content polyolefins	Introduce recycled content and support circularity targets
Bio-attributed solutions	Certified renewable bio-based feedstock allocated through mass balance	Reduce dependence on fossil feedstock and support lower-carbon product claims
Product carbon footprint (PCF) support	Grade- or supply-chain-specific carbon information, where available	Support material comparison, reporting and project-level sustainability discussions

Recycled content, renewable attribution, certification status, regulatory status, product carbon footprint and permitted claims are grade, site and supply-chain dependent. Confirm all statements against current INEOS documentation before publication or customer use.



Let's develop your next application together

Whether the priority is stiffness, impact performance, sealability, regulatory support, recycled content or a lower-carbon feedstock route, the INEOS portfolio offers multiple pathways for demanding applications.

Contact Omya Performance Polymer Distribution to discuss your process, performance targets, regulatory requirements, sustainability objectives and regional availability.

Why work with Omya Performance Polymer Distribution?

- Broad access to polypropylene, polyethylene, specialty copolymer, medical and sustainable material solutions
- Local commercial, technical and application support
- Application-focused material and grade selection
- Coordination with INEOS technical resources
- Regional logistics and multi-country coordination, subject to availability
- Support from development and qualification through to production troubleshooting

Technical and publication notes

This brochure intentionally describes portfolio-level performance. Numerical values and performance vary by grade, process, specimen preparation and test method. Grade-specific values should be inserted only from current INEOS technical data sheets. Medical, food-contact and sustainability claims must be verified against the latest grade-specific compliance and certification documentation.

Contact Omya Performance Polymer Distribution

To discuss your application, material requirements, or grade selection, contact your local Omya Performance Polymer Distribution representative or visit: www.omya.com



omya.com



Talk to an expert

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