



High performance
**Polypropylene
Compounds**

Repsol. A global multi-energy company

With over 8 decades of experience

It is leading the energy transition with its ambition of achieving zero net emissions by 2050.

Present throughout the energy value chain, the company employs 24,000 people worldwide and distributes its products in nearly 100 countries. Its customer-focused product and services portfolio meets all consumer needs of around 24 million customers, whether at home or on the move.

Repsol Campus, Corporate Headquarters in Madrid
LEED® Platinum certificate, awarded by the prestigious U.S. Green Building Council (USGBC), for new buildings construction





Chemicals

Repsol manufactures a wide variety of products, ranging from base petrochemicals to derivatives

Base petrochemicals: ethylene, propylene, butadiene and benzene.

Intermediate products: styrene, propylene oxide, polyether polyols, and propylene glycols.

Polyolefins: polypropylene (PP) and PP compounds, both high and low density polyethylene (HDPE and LDPE), metallocene linear low density polyethylene (mLLDPE), ethylene vinyl acetate (EVA) and ethylene butyl acrylate (EBA) copolymers.

Over 100 scientists and researchers working for you

Including qualified personnel specialized on Product Stewardship.

Repsol's commitment to R&D is an evidence of the company's aim to attain business excellence to meet future horizons.

Added value

Repsol's Chemicals Division, with a high degree of integration, focuses its strategy on the constant generation of value through differentiated products and services.

Working for a more sustainable future

At Repsol, we believe in the circular economy, and we run specific projects that minimize the environmental impact of our materials. To this end, we are committed to making our industrial processes increasingly efficient and reducing the carbon footprint of our polymers.

We have a **specialized circular economy department** dedicated to recycling post-consumer materials to drive development of new materials offering solutions based on innovative polyolefins with recycled content.

We **use recycled plastics in critical applications**, creating new markets for plastic waste and driving circularity by giving that waste a new use. As a result, we offer a wide range of polyolefins with recycled content that deliver excellent engineering performance certified under UNE-EN 15343.

We have circular polyolefins obtained by incorporating pyrolysis oil, from chemically recycled plastic waste not suitable for mechanical recycling, together with virgin feedstock into our petrochemical process, reducing the consumption of non-renewable resources.



**Committed
to Net Zero
Emissions**

These circular polyolefins have the same properties and quality as virgin material and hold Food Contact Approval. We have obtained ISCC PLUS certification for circular and traceable polyolefins that use plastic waste as raw material. Moreover, our wide range of polyolefins is 100% recyclable. Our ambition is to **recycle the equivalent of 20% of the polyolefins we produce** to support, in conjunction with the other initiatives in Repsol's circular economy strategy, the goal we announced in December 2019: to reach net zero emissions by 2050.

To contribute to the company's emissions neutrality goal, **our chemicals business has launched its 3030 Plan, intended to cut our carbon intensity by 30% by 2030.**

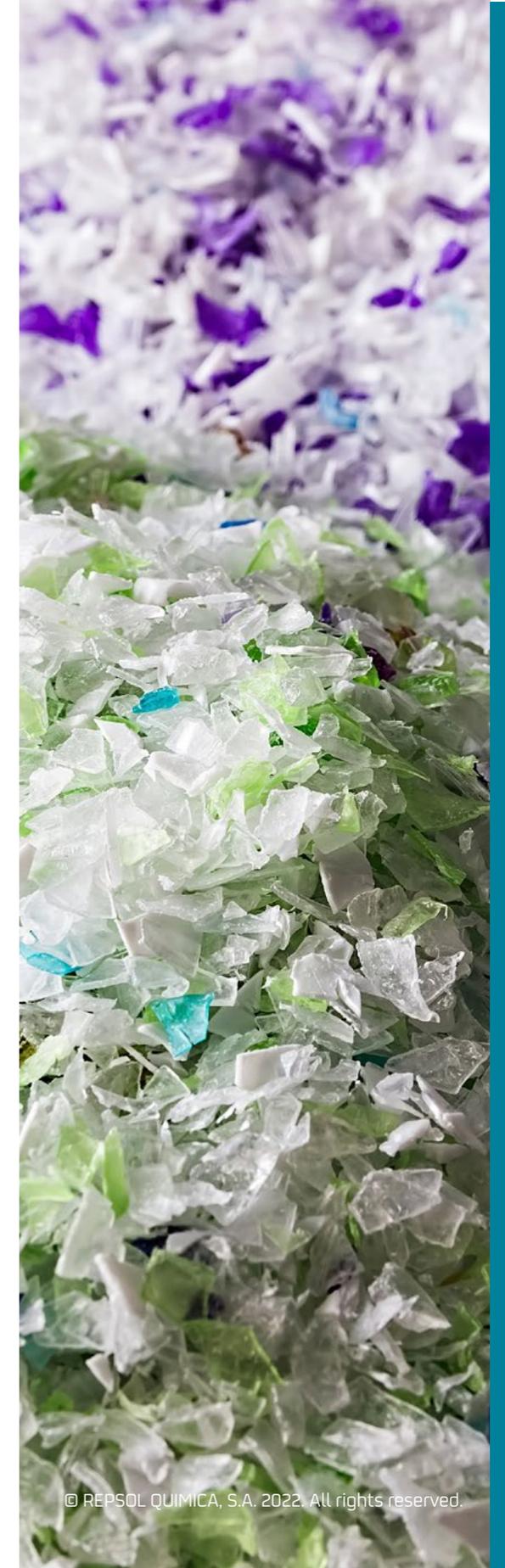
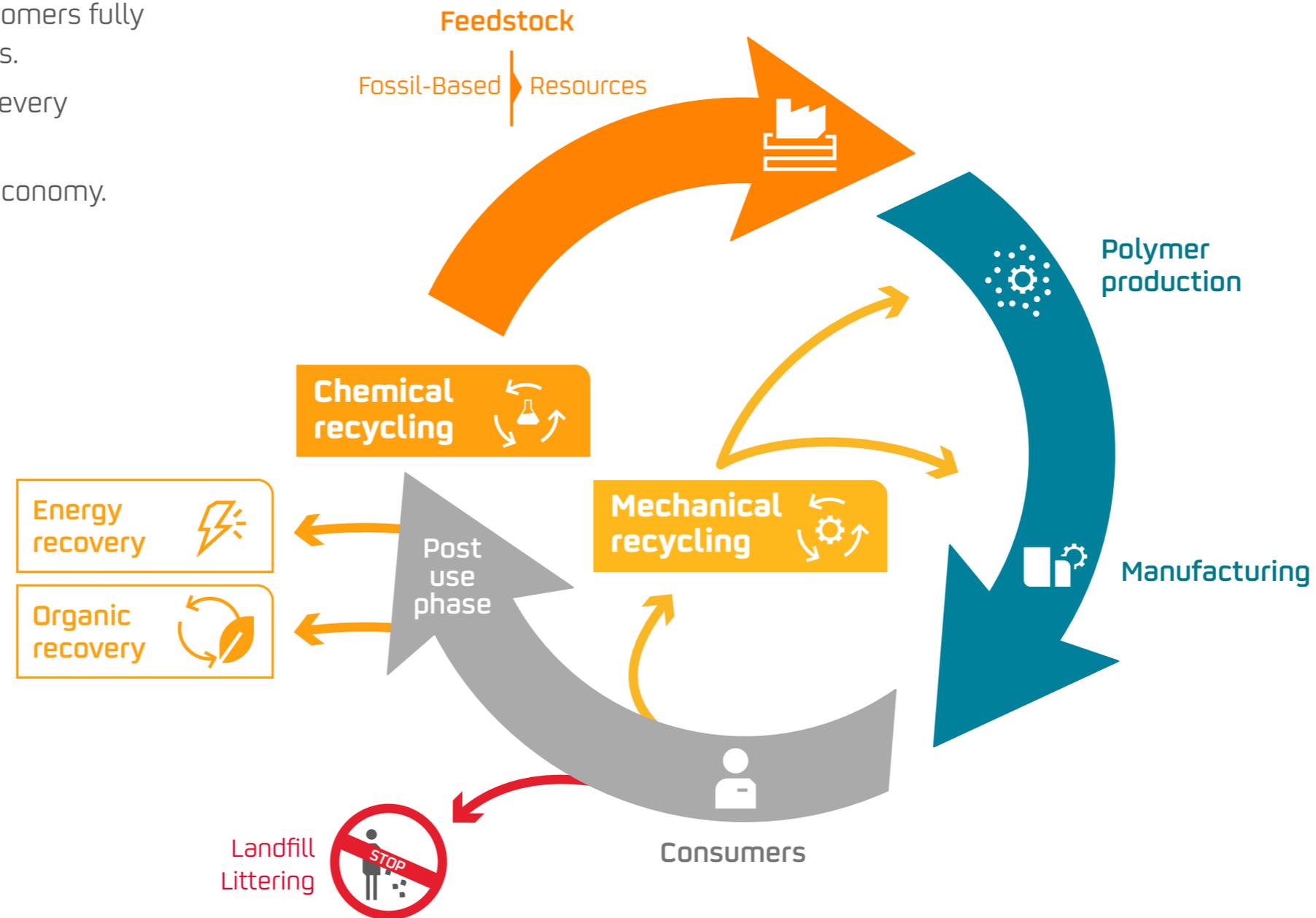
Advancing the circular economy and lowering carbon intensity in our chemicals business will contribute towards transforming Repsol's industrial operations, as well as **developing high-value-added raw materials, making it possible to manufacture an infinite number of products that improve human well-being, safety, and quality of life while enhancing the environment.**



Repsol Reciclex[®] range

Advancing the sustainability circle

- Repsol Reciclex[®] helps our customers fully meet their sustainability targets.
- Two ranges tailored to support every customer project.
- Vocation to boost the Circular Economy.



Repsol Reciclex[®] range

Advancing towards zero emissions

CHEMICAL RECYCLING

- 100% recycled plastic raw material.
- Completes the material life cycle.
- Full Repsol range across all applications.
- Same properties as standard range.
- Suitable for food, hygiene, and medical use.
- Low carbon footprint.
- ISCC Plus certificate.
- 100% recyclable.

MECANICAL RECYCLING

- Over 20 grades with high proportions of recycled content.
- Applications in film, rigid packaging, auto, blowmolding, compounding and others.
- Non-food applications.
- Low carbon footprint.
- UNE-15343 traceability certificate.
- Consistent quality and homogeneity.
- 100% recyclable.

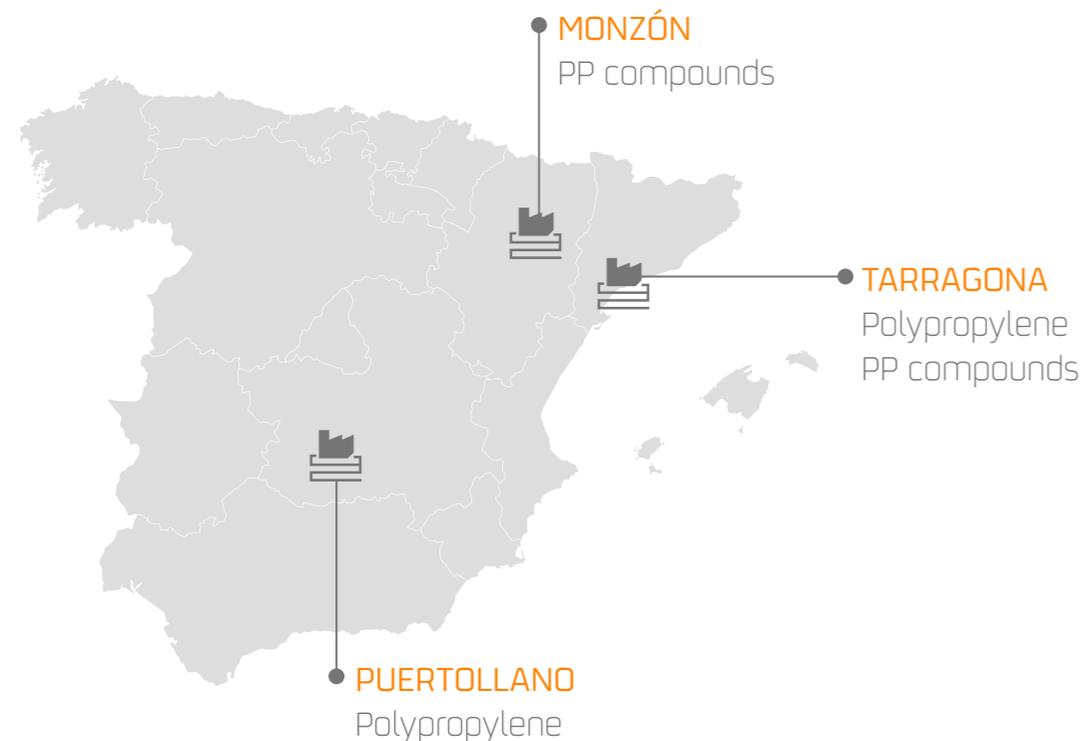
Polypropylene Compounds

We offer tailor-made solutions to meet the specific needs of our clients' applications:

- Color design.
- Reinforced grades with different types of mineral fillers and fiberglass.
- Repsol Reciclex® range of grades with recycled content.

Over 30 years of experience in polypropylene compounds

As a manufacturer of polyolefins, Repsol guarantees the quality of the raw materials it uses and offers its customers the full potential of its technology to develop new materials. Our company revolves around our customers, and we innovate with only them in mind.



Polypropylene Compounds

We revolve around our customers and we innovate with only them in mind

Our clients are always our top priority, driving us to deliver highly differentiated products that meet their needs and improve their productivity while conserving the world we live in.

31 Repsol Isplen polypropylene compound grades

Our polypropylene compounds range meets the needs of the household appliances sector (white goods or small appliances), as well as the garden furniture and automotive sectors (interior, exterior and under-the-bonnet).

Repsol has close collaboration, both with car manufacturers and their suppliers, developing polypropylene compounds to the very strict standards of the industry.

For further information concerning specific formulations, special applications or the full range of products, as well as specific characteristics of a particular grade, please contact Technical Service & Development at atd_poliolefinas@repsol.com

6 polypropylene Repsol Reciclex[®] range

We are ready to embark on partnerships to find solutions together. We are committed to innovating to increase the circularity and efficient use of plastic materials.

- Incorporating mechanically recycled plastics.
- Giving plastic waste a new life to avoid it ending up in landfill.
- Reducing fossil raw material consumption.
- Reducing carbon footprint.
- Committing to technical requirements.
- Helping to meet voluntary commitments and legislative targets.

Garden furniture

Polypropylene Isplen



Grade		MFI	Impact	Flexural modulus	Key properties	Filler
		ISO 1133 g/10 min 230°C / 2.16kg	ISO 179 Notched 23°C kJ/m ²	ISO 178 Mpa		
PC270AV	Homopolymer	14	2.7	2000	High stiffness, low warpage, and low shrinkage behavior. UV stabilized, antistatic formulated.	20% calcium carbonate filled polypropylene.
PC272AV	Copolymer	14	3.5	1650	Good impact strength, high stiffness, low warpage, and low shrinkage behavior. UV stabilized, antistatic formulated.	20% calcium carbonate filled polypropylene.
PC292AV	Copolymer	25	3.5	2000	High productivity, good impact strength, high stiffness, low warpage, and low shrinkage behavior. UV stabilized, antistatic formulated.	20% calcium carbonate filled polypropylene.
PC370AV	Homopolymer	12	3.5	2000	Good impact strength, high stiffness, low warpage, and low shrinkage behavior. UV stabilized, antistatic formulated.	30% calcium carbonate filled polypropylene.
PC372AV	Copolymer	14	4	2000	Good impact strength, medium rigidity, high stiffness, low warpage, and low shrinkage behavior. UV stabilized, antistatic formulated.	30% calcium carbonate filled polypropylene.
PC392AV	Copolymer	25	4	2000	High productivity, good impact strength, medium rigidity, high stiffness, low warpage, and low shrinkage behavior. UV stabilized, antistatic formulated.	30% calcium carbonate filled polypropylene.
PG370AV	Homopolymer	13	9	5650	Very high stiffness, keeping good impact strength at every range of temperatures, low warpage, and shrinkage behavior. High heat stabilized, and UV protection.	30% glass fiber. Special solutions.



Garden furniture

Repsol Reciclex[®]



Grade		MFI	Impact	Flexural modulus	Key properties	% Recycled post-consumer
		ISO 1133 g/10 min 230°C / 2.16kg	ISO 179 Notched 23°C kJ/m ²	ISO 178 Mpa		
RX591V	Homopolymer	25	4	1600	Very high stiffness, keeping good impact strength at every range of temperatures, low warpage, and shrinkage behavior. High heat stabilized, and UV protection.	50%
06RXG370	Homopolymer	13	10	5800	Very high stiffness, keeping good impact strength at every range of temperatures, low warpage, and shrinkage behavior. High heat stabilized and UV protection. Available up to 10% recycling content.	6%



We are committed to innovating to increase the circularity and efficient use of plastic materials. We have a specialized circular economy department dedicated to recycling post-consumer materials to drive development of new materials offering solutions based on innovative polyolefins with recycled content.

Household appliances compounds. White goods compounds



Polypropylene Isplen

Grade		MFI	Impact	Flexural modulus	Key properties	Filler
		ISO 1133 g/10 min 230°C / 2.16kg	ISO 179 Notched 23°C kJ/m ²	ISO 178 Mpa		
PP080A	Colored Homopolymer PP	20	2.5	1300	Excellent processability, high resistance to chemicals, easy to decorate. UL-94 listed.	
PM170AS	PP-T10	13	2	2100	High rigidity and good impact strength.	10% mineral filled polypropylene.
PM370AT	PP-T30	15	2	3500	Good compromise between stiffness and impact strength. UL-94 listed.	30% mineral filled polypropylene.
PM362AS	P/E-T30	10	3.5	3000	High rigidity and good impact.	30% mineral filled polypropylene.
PM470AT	PP-T40	12	1.5	4630	High rigidity, good impact and suitable for foodstuff contact.	40% mineral filled polypropylene.
PM440AT	PP-T40	3	2.9	4100	High stiffness, as well as a low warpage and shrinkage behavior. High heat and chemical stabilized.	40% mineral filled polypropylene.
PC270AV	PP-C20	14	2.7	2000	High stiffness, low warpage, and low shrinkage behavior. UV stabilized, antistatic formulated.	20% calcium carbonate filled polypropylene.
PC272AV	P/E-C20	14	3.5	1650	Good impact strength, high stiffness, low warpage, and low shrinkage behavior. UV stabilized, antistatic formulated.	20% calcium carbonate filled polypropylene.
PC292AV	P/E-C20	25	3.5	2000	Good impact strength, high stiffness, low warpage, and low shrinkage behavior. UV stabilized, antistatic formulated.	20% calcium carbonate filled polypropylene.
PC370AV	PP-C30	12	3.5	2000	Good impact strength, high stiffness, low warpage, and low shrinkage behavior. UV stabilized, antistatic formulated.	30% calcium carbonate filled polypropylene.

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Household appliances compounds. White goods compounds



Polypropylene Isplen

Grade		MFI	Impact	Flexural modulus	Key properties	Filler
		ISO 1133 g/10 min 230°C / 2.16kg	ISO 179 Notched 23°C kJ/m ²	ISO 178 Mpa		
PC372AV	P/E-C30	14	4	2000	Good impact strength, medium rigidity, high stiffness, low warpage, and low shrinkage behavior. UV stabilized, antistatic formulated.	30% calcium carbonate filled polypropylene.
PC392AT	P/E-C30	25	4	2100	Excellent processability, High rigidity, high flow and, high thermal resistance.	30% calcium carbonate filled polypropylene.
PC392AV	P/E-C30	25	4	2000	Excellent processability, good impact strength, medium rigidity, high stiffness, low warpage, and low shrinkage behavior. UV stabilized, antistatic formulated.	30% calcium carbonate filled polypropylene.
PG370AV	PP-GF30	13	9	5650	Very high stiffness, keeping good impact strength at every range of temperatures, low warpage, and shrinkage behavior. High heat stabilized, and UV protection.	30% glass fiber.
PG370AT	PP-GF30	13	9	5650	High impact resistance with an excellent balance in mechanical properties in terms of good stiffness and low temperature impact behavior. UV stabilized for long-term outdoor applications.	30% glass fiber.
PG370DT	PP-GF30	15	10	7000	High impact resistance with an excellent balance in mechanical properties in terms of good stiffness and low temperature impact behavior. UV stabilized for long-term outdoor applications.	30% glass fiber.



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Technical Solutions

Polypropylene Isplen



Grade		MFI	Impact	Flexural modulus	Application	Key properties	Filler
		ISO 1133 g/10 min 230°C/2.16kg	ISO 179 Notched 23°C kJ/m ²	ISO 178 Mpa			
PB172V	Colored copolymer	12	20	1100	Technical parts, in general.	High impact resistance with an excellent balance in mechanical properties in terms of good stiffness and low-temperature impact behavior. UV stabilized, for long-term outdoor applications.	Neat polypropylene.
PC270BS	PP-C20	12	2.3	2200	Hygienic products, adhesive backed hook and loop fasteners and home appliances.	High stiffness, low warpage, and shrinkage behavior, good aesthetic properties, and a high gloss surface.	20% mineral filled polypropylene.
PG362AV	P/E-GF30	18	16	6200	Technical pieces, in general.	Very high stiffness, keeping high impact strength at every range of temperatures, shows low warpage, and shrinkage behavior. This material is thermal and UV stabilized.	30% glass fiber.
PG560AV	PP-GF50	8	12	12000	Automotive: parts subjected to severe mechanical stresses and technical parts, in general.	Very high stiffness, keeping good impact strength at every range of temperatures, shows low warpage, and shrinkage behavior. This material is thermal and UV stabilized.	50% glass fiber.
PM302AS	P/E-T30	50	3	3500	Household, packaging.	Excellent processability and high melt flow rate, good stiffness, and low warpage. Specially for thin wall products..	30% mineral filled polypropylene.



Automotive interior and under-the-hood applications



Polypropylene Isplen

Grade		MFI	Impact	Flexural modulus	Application	Key properties
		ISO 1133 g/10 min 230°C/2.16kg	ISO 179 Notched 23°C kJ/m ²	ISO 178 Mpa		
PM440AT	PP-T40	3	2.9	4100	Under the bonnet parts subjected to high thermal stress (light housings, HVAC elements), AC inserts, heaters and air conditioning units.	High stiffness, as well as a low warpage and shrinkage behavior. High heat and chemical stabilized.
PM180AT	PP-T10	22	2.5	2200	Technical parts, in general. Electrical appliances.	Good processability, high stiffness with good impact resistance, and low warpage and shrinkage behavior.
PM270RT	PP-T20	12	2.5	2600	Under the bonnet parts subjected to high thermal stress (light housings, heat and ventilation ducts). Heaters and air conditioning units.	High stiffness, low warpage, and shrinkage behavior. High heat stabilized low emission and low odor properties.
PM162AV	P/E-T20	10	4	1800	Interior trims and panels, technical parts, in general and electrical appliances.	Good impact strength, medium rigidity, high stiffness, low warpage, and low shrinkage behavior. UV stabilized.
PM276EV	P/E-T20	15	9	1700	Interior trims and panels and technical parts, in general.	High impact resistance with excellent scratch resistance, good stiffness, and demolding properties during the transformation process. UV stabilized.
PM274AS	P/E-T20	14	5.5	2400	Insertion, steps, structural parts, electrical appliances and white line and technical pieces, in general.	High stiffness, good impact strength, good aesthetic properties, and a high gloss surface. Standard stabilization.
PM281AV	P/E-T20	26	3	2600	Interior trims and panels, electrical appliances and technical pieces, in general.	High stiffness, good impact resistance, low warpage, and high shrinkage behavior, an outstanding gloss surface, and excellent scratch resistance. UV stabilized.
PM288AV	P/E-T20	16	6.5	1800	Interior trims and panels, electrical appliances and technical pieces, in general.	High stiffness and good impact strength. It was designed to show a high stiffness with good impact resistance, and low warpage and high shrinkage behavior. UV stabilized.
PG370AT	PP-30GF	13	9	5650	Under the bonnet parts subjected to high thermal stress (light housings, HVAC elements), AC inserts, heaters and air conditioning units.	High impact resistance with an excellent balance in mechanical properties in terms of good stiffness and low temperature impact behavior. UV stabilized for long-term outdoor applications.

The IATF 16949 is the most demanding international standard for quality management systems in the automotive sector and one of the essential requirements for their suppliers.



Automotive interior and under-the-hood applications

Repsol Reciclex[®]



Grade		MFI	Impact	Flexural modulus	Application	Key properties	% Recycled post-consumer material
		ISO 1133 g/10 min 230°C/2.16kg	ISO 179 Notched 23°C kJ/m ²	ISO 178 Mpa			
05RXM440D	Homopolymer	3	3	4300	Under the bonnet parts subjected to severe mechanical stresses. Technical parts, in general.	Very high stiffness, keeping good impact strength at every range of temperatures. It also shows a low warpage, and shrinkage behavior. With thermal protection.	5%
10RXG370A	Homopolymer	15	7	5600	Technical parts, in general, electrical housings, power tools and washing machines cylinders.	Very high stiffness, keeping good impact strength at every range of temperatures. Shows a low warpage, and shrinkage behavior.	10%
50RXPP091	Homopolymer	35	4	3000	Under the bonnet parts subjected to severe mechanical stresses. Technical parts, in general.	Good processability, excellent stiffness for technical pieces.	50%
80RXM270T	Homopolymer	14	2.5	3000	Interior trims and panels and technical parts, in general.	High stiffness, low warpage, and shrinkage behavior. High heat stabilized.	80%



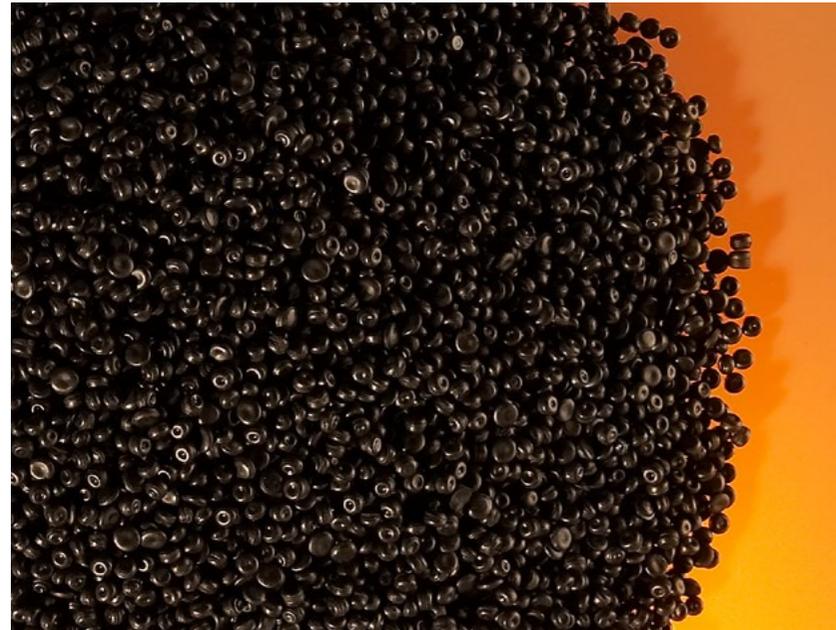
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Automotive: materials solutions for EV chargers



Polypropylene Isplen

Grade		MFI	Impact	Flexural modulus	Application	Key properties
		ISO 1133 g/10 min 230°C/2.16kg	ISO 179 Notched 23°C kJ/m ²	ISO 178 Mpa		
PG560AV	PP-50GF	9	12	12000	Parts subjected to severe mechanical stresses and technical parts, in general.	Very high stiffness, keeping good impact strength at every range of temperatures, shows low warpage, and shrinkage behavior. This material is thermal and UV stabilized.
PG370CV	PP-30GF	12	9	5650	Under the bonnet parts subjected to severe mechanical stresses and technical parts, in general.	High impact resistance with an excellent balance in mechanical properties in terms of good stiffness and low temperature impact behavior. UV stabilized for long term outdoor applications.



Grades for structural parts and frames:

- Improved chemicals resistance vs amorphous resins.
- Lower water absorption in comparison with PA.
- High CTI performance.
- High stiffness with high impact.
- UV additivation.



Flame retardant polyolefin solutions



Polypropylene Isplen

Grade		MFI	Density	Impact	Flexural modulus	Flame rating	Flame rating	Halogen free	Key properties
		ISO 1133 g/10 min 230°C/2.16kg	ISO 1043 g/cm ³	ISO 179 Notched 23°C kJ/m ²	ISO 178 Mpa	UL 94 1.6mm	UL 94 3.2mm		
PB120FR2	Copolymer	2	0.920	2.5	1050	V-2	V-2	Very low	Technical pieces in general and flame retardant.
PP020FR2	Homopolymer	2	0.920	4	1635	V-2	V-2	Very low	Technical pieces in general and flame retardant.
PB170FR0	Copolymer halogen free	13	0.951	45	1470	V-0	V-0	Yes	Technical pieces in general and flame retardant.



- Halogenated and non-halogenated flame retardant system.
- Approved by UL including UL 94 V-0 and V-2.
- Injection molding and extrusion processes.

Voluntary commitments. Working to build a more sustainable world

Because we care. At Repsol we believe that our society needs a transition towards a new Circular Economy, and we are fully committed to developing solutions, minimizing the impact of our polymers on the environment.

We have strengthened our commitment to sustainability by submitting our voluntary pledge in response to the European Commission's call for stakeholders to come forward with pledges to boost the uptake of recycled plastics. The European Commission target is for 10 million tons of recycled plastics to find their way into products in the EU by 2025.

To meet this ambitious EU target, **Repsol has the ambition of recycling the equivalent of 20% of our polyolefin production by 2030.** Thanks to Repsol's commitment, in less than 10 years, 360 kty of plastic waste will be diverted from landfill and will become raw materials to produce new chemical products.



Safety and quality are our priority

All our petrochemical complexes and production plants meet the most stringent quality and safety standards.

Our petrochemical complexes, packaging production plants and logistics centers have rigorous food-safety management systems in place and hold ISO 45001.

Their manufacturing, distribution, transport, and end-product storage processes are also certified to the ISO 9001 quality standard.

The Chemicals units at our complexes operate under an Energy Management System. Our Certified Environmental Management System guarantees that Best Available Practices and Technologies are in place to minimize the impact of our sites.

IATF 16949 certified

In 2021 we have obtained the highest certification for our auto products, having adapted all our automotive materials production centers under the IATF 16949 standard, an international standard for quality management systems in the automotive industry.

This standard is the most demanding for quality management systems in the automotive sector at an international level and one of the essential requirements that car manufacturers require from their suppliers.

Certifications

All Repsol complexes and plants	All Repsol complexes	Puertollano, Tarragona, and Sines	Puertollano, Tarragona and Monzón plants	Puertollano and Monzón plants
ISO 45001 FSSC 22000	ISO 9001 ISCC Plus	ISO 50001 ISO 14001 ISO 14064	IATF 16949	UNE-EN 15343

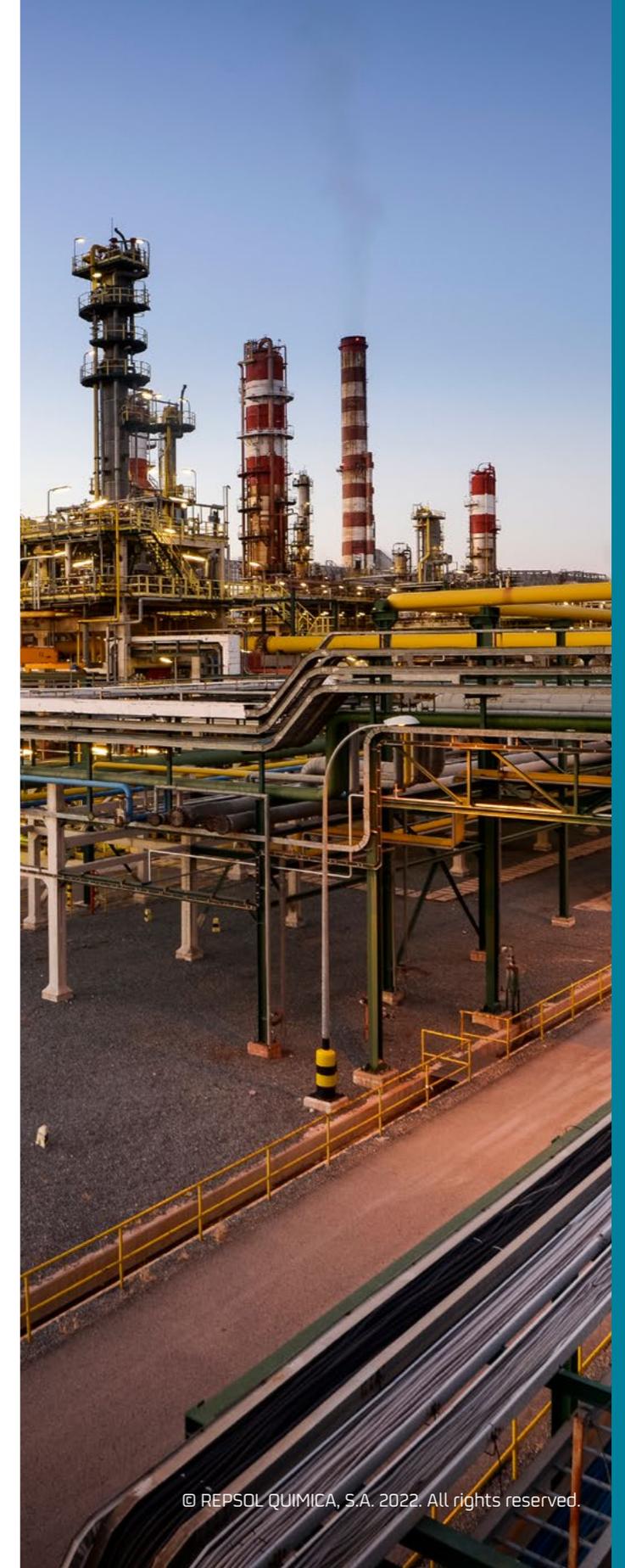
Collaboration

Results orientation

Inspiring leadership

Intrapreneurship

Accountability





Chemicals Customer Care

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