

European **Circulen** Recover Product Grades

Product	Color	Process	Type of application	Application examples	% PCR	Density 23°C [g/cm ³]	MFR 190°C/2.16Kg [g/10min]	Tensile / Charpy 23°C [MPa] / [kJ/m ²]
Circulen Recover HDPE								
HD5603*	Silver / Ivory	Extrusion Blow Molding	Small and medium blow molded bottles	Non-food consumer goods, bottles, tubes and toys	98	0.956	0.3	1200 / 2.5
HD45U06	Natural	Extrusion Blow Molding	Large blow molded containers	Industrial packaging, IBCs, jerry cans	40	0.945	HLM1 6 [190°C/21.6Kg]	850 / 150
Circulen Recover LDPE / LLDPE								
LD29M01	Transparent	Blown film	Secondary packaging	Hygienic film, industrial film, over-wrap and secondary packaging	70	0.929	1.1	450
LD24L06	Transparent	Blown film	Secondary packaging	Collation shrink film, shrink hood, secondary packaging	70	0.924	0.6	300
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Circulen Recover PP								
PP300P	Grey / Ivory	Injection molding	Non-food consumer goods packaging, compounds	Caps, simple closures, houseware, compounds	98	0.916	16	1300 / 5
PP300R	Grey / Ivory	Injection molding	Non-food consumer goods packaging, compounds	Hinge caps, pump caps, dispensers, houseware, compounds	98	0.916	21	1250 / 5
PP300S	Grey / Ivory	Injection molding	Closures, houseware, sports equipment	Over caps, crates, indoor furniture	98	0.916	36	1250 / 4.5
PP300T	Grey / Ivory	Injection molding	Thin wall packaging containers, houseware	Furniture, laundry pods, lids, pails	98	0.916	50	1250 / 4.5
PP300U	Grey / Ivory	Injection molding	Thin wall packaging containers, houseware	Laundry pods, lids, pails	98	0.916	70	1250 / 4.5
Circulen Recover PP - Impact grades								
PP189P	Ivory	Injection molding	High impact resistance at low temperature	Outdoor furniture, luggage, bins, sports equipment, thermal equipment	85	0.918	15	800 / 30
PP249S	Grey / Ivory	Injection molding	High impact resistance at low temperature	Outdoor furniture, luggage, bins, sports equipment, thermal equipment	70	0.916	28	850 / 40

All PCR products are not intended for highly regulated applications such as food contact, portable water contact, medical and pharmaceutical

*HDPE also available in vented version.

To learn more about **Circulen** Recover grades available in Europe, please access our [Product Selection Guide](#).

CirculenRecover



Plastics make modern society possible and often are a more sustainable material than alternatives. LyondellBasell recognizes the challenges of plastic waste and is launching products that help customers achieve circularity in their use of plastic packaging by increasing usage of recycled content and diverting more plastic from landfill or incineration. **We are committed to producing and marketing at least two million metric tons of recycled and renewable based polymers annually by 2030.** We are advancing technologies and innovations that will help eliminate plastic waste and maximize the value of plastics by keeping these resources in use for as long as possible.

Polyethylene and Polypropylene products containing Post Consumer Resin (PCR) for the following

Injection Molding

- Caps and closure
- Crates, pails, containers, houseware, outdoor furniture, luggage, sports equipment

Blow Molding

- Bottles for consumer goods

Flexibles

- Collation shrink film
- Hygienic film



Circulen Family of Sustainable Solutions

Through its *Circulen* polymer portfolio, LyondellBasell enables brand owners to address multiple packaging sustainability and circularity challenges. From mechanical and advanced recycling solutions that divert plastic from landfills to renewable-based solutions that offer greenhouse gas (GHG) emission benefits, the *Circulen* polymer portfolio offers the industry's broadest range of sustainable packaging solutions.



CirculenRecover

Used in a wide variety of industrial, household and consumer product applications, **Circulen**Recover products are made from plastic waste through a mechanical recycling process. This type of recycling upgrades plastic waste into usable materials through mechanical processes including sorting, washing, grinding, melting and forming new pellets. The resulting polymers can also be blended or compounded with traditional fossil-based products, providing customers with high-quality polymers with an optimal balance of performance characteristics and recycled content.



CirculenRevive

Products are made using an advanced recycling process to convert plastic waste back to its molecular level. The resulting pyrolysis oil is then used as a feedstock in our conventional production processes to produce new polymers. A broad range of plastics can be recycled using this process including hard-to-recycle items such as mixed materials, composites, multilayer and flexible plastics. The advanced recycled feedstock is mixed with conventional feedstocks in our process, and allocated to **Circulen**Revive products using a mass balance approach certified according to the International Sustainability and Carbon Certification (ISCC) PLUS standard. These polymers can be used in highly regulated applications such as food contact and healthcare.



CirculenRenew

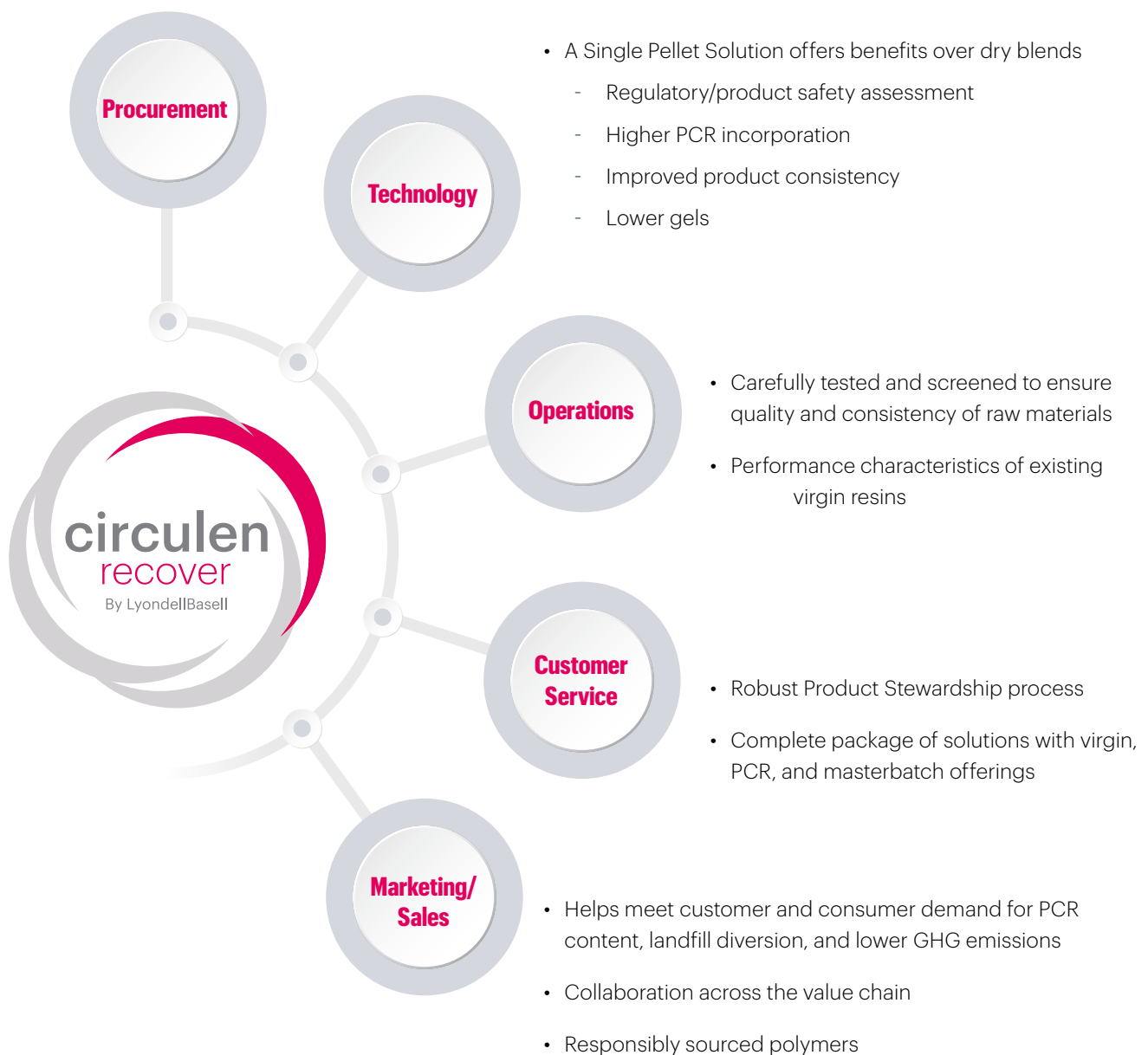
Offering a lower carbon footprint than fossil-based polymers, **Circulen**Renew products are sourced from renewable feedstocks, namely bio-based wastes and residual oils, such as used cooking oils. These feedstocks are used in our conventional production processes along with conventional feedstocks, and are allocated to **Circulen**Renew products using an ISCC PLUS-certified mass balance approach. These polymers can also be used in highly regulated applications such as food contact and healthcare.

Learn more at [LyondellBasell.com/Circulen](https://www.lyondellbasell.com/Circulen)

Unlock the value of **Circulen**Recover

LyondellBasell is investing across the value chain – from collection to offtake to production – to ensure the reliable supply of high-quality feedstock necessary to deliver meaningful circular and low carbon solutions to our customers. Our **Circulen**Recover grades are specifically designed to fulfill the unique needs of multiple stakeholders across your organization while also addressing the most pressing demands of your customers and consumers.

- Long term supply contracts
- Reliable feedstock supply



About Us

We are LyondellBasell (LYB) – a leader in the global chemical industry creating solutions for everyday sustainable living. Through advanced technology and focused investments, we are enabling a circular and low carbon economy. Across all we do, we aim to unlock value for our customers, investors and society. As one of the world’s largest producers of polymers and a leader in polyolefin technologies, we develop, manufacture and market high-quality and innovative products for applications ranging from sustainable transportation and food safety to clean water and quality healthcare. For more information, please visit www.lyb.com or follow [@LyondellBasell](https://www.linkedin.com/company/lyondellbasell) on LinkedIn.

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