



iQRenew
Intelligent Australian Recycling

SPEC PELLETS

Post Consumer Soft Plastic Resin

Intelligent Australian Recycling

Who are we?

iQRenew is a recycling company focused on transforming how recyclable materials are processed. Through advanced sorting technologies and strategic partnerships, we create more efficient recycling systems that maximise resource recovery and minimise environmental impact. We operate a number of primary and secondary recycling facilities to sort and process valuable materials so they can be reused again.

Soft Plastics Engineered Commodity (SPEC) Facility

iQRenew has built Australia's first purpose-built site dedicated to processing post consumer soft plastics. Located near Taree on the NSW Mid-Coast, the facility is the missing link for Australia's recycling infrastructure.

SPEC is dedicated to sorting and processing 100% post-consumer soft plastics. We are the leading post-consumer soft plastic processor in Australia.



100% recycled post consumer soft plastic



Australian made and owned



Global Recycling Standard (GRS)
Certificate (underway)

Preliminary - Product Disclosure Document

***Disclaimer: This process is new and evolving, this is a preliminary PDD based on current learnings and assistance from potential offtake partner laboratories. Updated: 5th of May 2025.*

1. General Information

Manufacturer/Supplier:

- iQRenew/Remade Resins
- 586 Lansdowne Road, Kundle Kundle, NSW, 2430
- Head Office: +61 2 9119 4950
- www.iqrenew.com

2. Introduction and Product Description

Product Name: 100% Post-Consumer Polyethylene Resin

- **Material Type:** Low-Density Polyethylene (LDPE)
- **Recycled Content:** 100% Post-Consumer Recycled Plastic
- **Form:** Pellets
- **Colour:** Khaki / Grey
- **Odour:** Light
- **Description:** iQRenew/Remade Resins has processed Post Consumer, Return to Store material along with Curby and AFGC Bag in Bin trials from South Australia, Victoria and NSW.
- **Feedstock** has been decontaminated, been washed, densified and extruded. The intended applications (e.g., packaging, consumer products, industrial use).

3. Material Composition

- **Primary Component:** LDPE (Low-Density Polyethylene)
- **Recycling Source:** Post-consumer plastic waste, such as bread bags, wrappers and packaging films, etc.
- **Additives:** No additives (e.g., stabilizers, pigments).
- **Compliance with Regulations:** Non-Food Grade.

4. Technical Specifications

Physical Properties:

- **Density:** 0.958 g/cm³ (ISO1183)
 - Test Observation: Results indicate that there is a filler in the sample with combination of LDPE
- **Melt Flow Index (MFI):** 0.74 g/10min (ISO1133, 190C, 2.16 kg)
 - Test Observation: Porous MFI extrusion profile observed.
- **Tensile Strength:** Yet to be tested
- **Elongation at Break:** Yet to be tested
- **Ash Content Analysis:** 8% (ASTMD 5630-13)

Fourier Transform Infrared Spectroscopy (FTIR) Analysis:

- **Peaks and Corresponding Compounds:**
 - Characteristic LDPE peaks at around 719 cm⁻¹, 729 cm⁻¹, 1462 cm⁻¹, 1471 cm⁻¹, 2847 cm⁻¹, 2915 cm⁻¹ were observed.
 - In addition characteristic Calcite(CaCO₃) sharp peak at around 877 cm⁻¹ was observed.

Thermal Properties:

- **Melting Point:** Specify the melting temperature range (°C).
- **Onset** - 114°C
- **Peak** - 126°C
- **Endset** - 132°C

**Processing Conditions Guide:

- Recommended Injection Moulding Temperatures.

	Nozzle	Zone 1	Zone 2	Zone 3	Zone 4	Rear	Throat	Die Cold
Guide:	210°C	190°C	190°C	175°C	160°C	155°C	50°C	12-20°C

- Speed – Slow to medium
- Packing Pressure – 250-300 bar
- Cooling time 20-40 second subject to wall section
- Back Pressure 2-10 bar

5. Environmental Impacts - Preliminary

- **Sustainability:** Using iQRenew's 100% post-consumer recycled LDPE (low-density polyethylene) significantly reduces environmental impact by diverting plastic waste from landfills and decreasing reliance on virgin fossil-based resources. This resin supports a circular economy by turning household-collected plastic waste into a valuable raw material. Additionally, production of PCR LDPE typically results in a lower carbon footprint—with greenhouse gas emissions reduced by up to 60–80% compared to virgin LDPE—thanks to decreased energy and raw material demands.
- **Recyclability:** iQRenew's PCR LDPE resin remains fully recyclable, provided it is incorporated into recyclable film or rigid packaging applications. While all plastics degrade to some extent over multiple recycling cycles, LDPE's flexible polymer structure allows it to be reused several times before significant performance loss occurs. When collected and processed correctly, packaging made from this PCR resin can enter standard mechanical recycling streams.

6. Health and Safety Information

Hazards Identification: Not applicable

Handling and Storage Instructions:

- When used and handled with standard PPE, gloves, safety glasses and protective work clothing the product does not have any harmful effects to our experience and information.

Toxicological Information:

- **Primary Irritant Effect:**
 - **On the skin** – no effect
 - **On the eyes** – no irritating effect
- **Sensitisation:** No sensitisation effect known

7. Applications and End Uses – Based on previous and ongoing trials

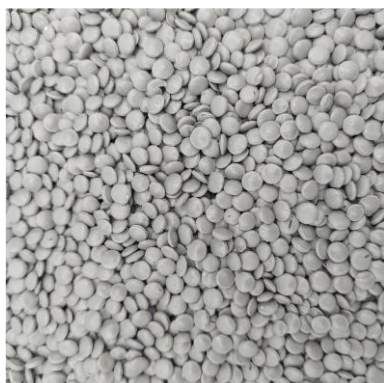
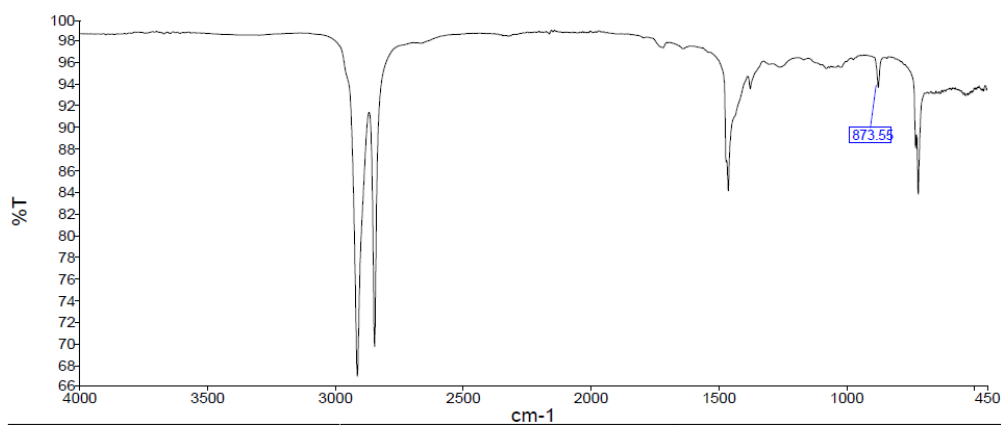
Suitable Applications: iQRenew's recycled PCR LDPE resin is suitable for a broad range of applications across multiple industries, particularly where sustainability and circularity are priorities. Common uses include:

- Flexible packaging films (e.g., carry bags, liners, shrink wrap)
- Rigid packaging (e.g., containers, lids, caps, and trays)
- Agricultural film and irrigation components
- Industrial liners and construction sheeting
- Automotive non-structural components (e.g., liners, trim)
- Consumer goods (e.g., buckets, storage bins, garden products)
- Retail and shipping products (e.g., mailers, pallet wrap)
- This resin is best suited to non-food contact applications.

8. Images



MFI EXTRUSION PROFILE(200X MAGNIFIED)



9. Client Success Stories

Ground stabilising Hex Grids



Storage Totes



Buckets



Packaging



10. Contact Us

To discuss further please scan here, we would love to understand your specific needs.



Alternatively, please contact Annika Stott,
Project Manager at annika.stott@iqrenew.com

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