Multiboard® Barrier CirculaRR & Multiboard® Barrier

Closing the Loop:
Paper and Plastic in
One Breakthrough
Circular System

Multiboard® Barrier CirculaRR

100% Recycled fibre, 100% Recycled plastic

R-PE COATED CARTONBOARD

CirculaRR combines recycled and recyclable fibre-based barrier cartonboard with a coating made from recycled plastic, building on the Multiboard Barrier structure with a fully circular design. It enables food contact applications, supports recycled content targets, and demonstrates cross-industry collaboration to close material loops and reduce waste by boosting circularity of plastics.

Combined circularity of paper and plastic

- Recyclable according to 4EverGreen protocol
- Made from recycled materials but also designed for recycling** within established paper recycling systems
- Multiboard CirculaRR helps brands and converters prepare for the PPWR's recyclability ambitions and recycled content requirements, while maintaining food safety and performance

Not just recycled, but also designed for recyclability

100% Recycled cartonboard

100% Recycled plastic*

Virgin-like recycled plastic

- Developed in partnership with DOW, global material science company. Made exclusively with recycled cartonboard and ISCC PLUS certified recycled plastic from advanced/ chemical recycling
- Alongside mechanical recycling, advanced recycling provides a complementary pathway for hard-to-recycle plastic waste, converting it back into molecular building blocks that can be used to produce high-performance plastics with virgin-like quality
- End users that wish to use the ISCC logo or claim must become ISCC-certified or -licensed before use

Certificate Holder ISCC International Sustainability & Carbon Certification

Parity technical performance to Multiboard Barrier

- MBO Barrier TDS (Technical Data Sheets) valid for CirculaRR
- Parity safety profile, food certifications, etc.
- Run-ability and conversion
- No change to recyclability and PPWR compliance profile

Think of CirculaRR, as identical to Multiboard Barrier product with add-on sustainability benefits.

*Under mass balance approach, certified by ISCC PLUS
**Technically recyclable in a recycling mill with conventional process by 4Evergreen fibrebased packaging recyclability evaluation protocol, version 1 (january 2025)

Multiboard® Barrier

100% recycled fibre

PE COATED CARTONBOARD

Plastic use in packaging is a challenge for the recycling industry, with not enough being recycled. However at RDM Group we believe that with the right design and the right methods, plastic has a role to play in delivering a range of sustainable products to consumers in the form of paper-based, plastic-coated cartonboard.

Uncomparable barriers

Typical uses of PE coated boards are excelling in serving hygroscopic (moisture sensitive) products such as powders and dry products that have to remain dry. Other uses include frozen food, like frozen fish or cakes, and pet food boxes, among other applications.

Overall barriers are:

- **WVTR** (Water Vapor Transmission Rate) - superb
- **OGR** (Oil and Grease Resistance) - excellent
- **OTR** (Oxygen transmission rate) and volatiles - average

PPWR ready!

Our own paper-based products minimise the plastic content of high-performance packaging – the PE layer in our board can be as thin as 3-5% in overall structure, depending on the selected grammage of the board and coating itself.

The recyclability is confirmed according to the latest standards of the CEPI protocol, resulting in a Class A rating.

Heat sealable

Thermoplastics (such as PE) also have another important quality which is heat sealability. Enhancing Polyethylene layer functionality to act additionally as hot-melt glue for box/ packaging forming.

Fiskeby Quality Guaranteed.

Strong Nordic fibres coming from Fiskeby make Multiboard® Barrier one of the market's strongest board qualities based on recovered fibre.
This means that it can often be selected with the same or lower grammage than other board qualities while still achieving the desired mechanical properties.

→ AVAILABLE FOR
The grammage 280, 300, 325, 350, 375, 400, 425, 450, 475 and 500 gsm. In reels and sheets.

Wide range of specification and extra options.

- The PE coated surface is Corona treated, which may be needed for printing or subsequent finishing, gluing, decoration, or other purposes.
- Most common PE layers are 15gsm-20gsm (full range: 10gsm-45gsm).
- PE can be matt or gloss, transparent or coloured in mass (various masterbatches, colours and added functional additive can be added to the resin.

SPECIFICATIONS

TYPICAL POLYOLEFINS VS PERFORMANCE	Low-Density Polythene **LDPE**	High-Density Polythene **HDPE**	Polypropylene **PP**
Water vapour permeability	●●●●	●●●●●	●●●●
Oxygen permeability	●	●●	●●
Carbon dioxide permeability	●	●●	●●
Oil and grease resistance	●●	●●●	●●●●
Adhesion	●●●	●●	●
Heat seal ability	●●●	●●	●
Lowest heat-sealing temperature (melting point)	**120°C**	**130°C**	**175°C**
Softening temperature	**90°C**	**100°C**	**140°C**

● **LOW** ●● **MEDIUM-LOW** ●●● **MEDIUM** ●●●● **HIGH** ●●●●● **VERY HIGH**

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