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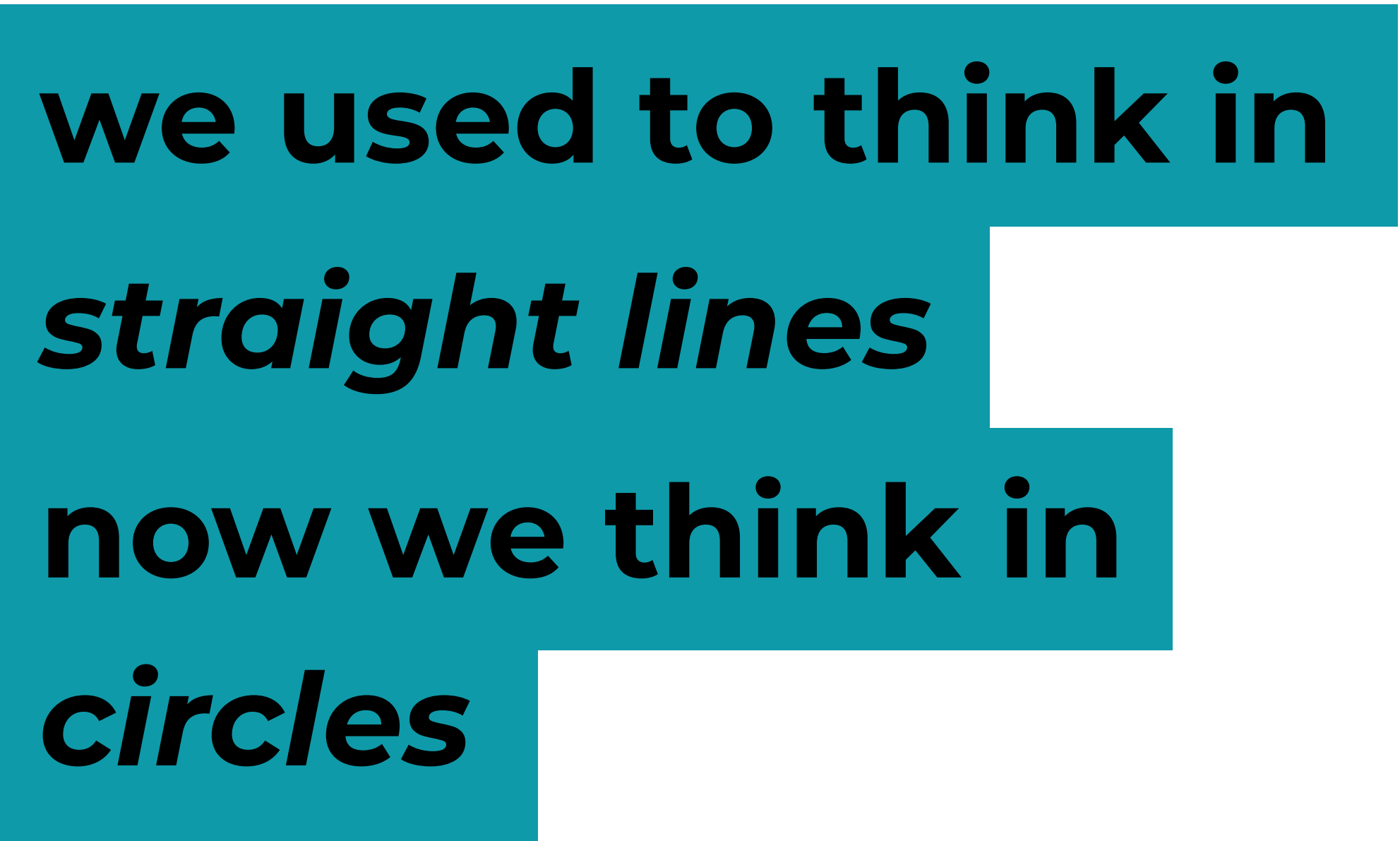
Introduction

The polymer industry is undergoing great changes as we become increasingly aware of the impact we have on the environment and the resources we use to make polymer materials.

As producers and consumers of plastic products, **we need to consider what happens to these items once we've finished using them**, whether that's putting them in our home recycling bin, the manufacturer recycling them in closed-loop systems, incineration, landfill or even marine littering.

Circular Economy principles are becoming better known, one of which is particularly relevant to our role as manufacturers: **circulate products and materials as long as possible**. This means including waste from consumers or industry in the production of new TPE materials, reutilising what would be waste and giving it new life as a resource. This also helps to reduce the demand on virgin fossil-based materials.

This is why we created the **Dryflex Circular TPE portfolio**.



we used to think in
straight lines
now we think in
circles

Recycled Content Definitions

We've structured the Dryflex Circular TPE range into **different series based on the source of the recyclate**. This helps give clarity about the material source and answer questions about what is included in calculations for declarations of recycled content.

PIR : Post Industrial Recyclate

As defined by ISO 14021:2016

Material diverted from the waste stream during a manufacturing process. Excluded is reutilisation of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

PCR : Post Consumer Recyclate

As defined by ISO 14021:2016

Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose.

MWR : Maritime Waste Recyclate

This is a PCR source as defined by ISO 14021:2016. However, to help distinguish the source, we've created a separate series for the MWR grades. The primary source is post-use maritime ropes.

Dryflex Circular TPE : Series Overview

Below is a short overview of possibilities, but we’re continually evaluating new recyclate sources. To help minimise transportation, we aim to work with local recyclate sources. There can be variations on the source and availability. [Please contact us to discuss your requirements.](#)

Recyclate Type	Typical Recyclate Source	Typical Hardness Range (Shore)	Typical Recycled Content %	Colour	Odour
PIR Post Industrial Recyclate	hygienic and medical applications	40 A to 50 D	10 to 80%	light and dark colours	no detectable odour
PCR Post Consumer Recyclate	end-of-life vehicles, household waste	40 A to 60 D	10 to 60%	dark colours	detectable
MWR Maritime Waste Recyclate	post-use maritime ropes	40 A to 60 D	10 to 60%	black, blue, green or mint	detectable, ocean like

Calculation of Content

As no technologies currently exist for an analytical determination of recycled content, we calculate content as defined by ISO 15343 section 4 (Plastics recycling traceability and assessment of conformity and recycled content).

The recycled content of Dryflex Circular TPEs is calculated using the formula:

$$\text{Percentage of recycled content of the product} = \frac{\text{mass of recycled materials in the product}}{\text{total mass of the product}} \times 100$$

Typical Dryflex Circular PIR TPEs

Below we show several grades to help demonstrate possibilities, these tables do not list all available materials. Please contact us to discuss your requirements. These grades are available in natural colours.

Grade	Hardness ¹ ISO 868 Shore A	Density ISO 2781 g/cm3	Tensile Strength ² ISO 37 Type 1 MPa	Stress at 100% Strain ² ISO 37 Type 1 MPa	Elongation at Break ² ISO 37 Type 1 %	Tear Strength ² ISO 34-1 Method C N/mm	Compression Set 23°C / 22h ISO 815-1 Method B %	Recycled Content ³ %
Dryflex PIR 50A231N U	50	0.89	3.0	1.4	> 250	15	24	23
Dryflex PIR 70A321N U	70	1.00	3.2	2.5	> 250	23	32	32
Dryflex PIR 93A621N U	93	0.98	9.1	8.0	> 400	61	-	62

¹ After 15 seconds
² Across the flow direction
³ Calculation as defined in ISO 15343 section 4

