

PPA'S MAGAZINE PLASTIC WRAPPING GUIDELINES (Revised April 2019)

THE CHALLENGES OF SINGLE USE PLASTICS

Over the past year single-use plastics have become the most prominent environmental concern for the general public. There is growing awareness regarding the low recycling rates for used plastic packaging whilst the recent Blue Planet II series highlighted the impact that used plastics can have on the environment if they are not disposed of appropriately.

These concerns are reflected in emerging policy actions and proposals from government and in the challenging commitments being made and actions being taken throughout industry.

Nonetheless, for many applications plastics are a highly effective and efficient material. One such example is magazine wrapping. Plastic film is low cost, light-weight, flexible, strong, water-proof, transparent, sealable and printable. These characteristics make it the preferred material currently available for wrapping magazines for retail presentation and mailing.

IMPLICATIONS FOR PUBLISHERS

Through the Sustainability Action Group (SAG), the PPA and its membership have been monitoring the use of plastic wrapping within our magazine supply chains for several years. The group has dedicated resources to reducing usage, investigating alternative materials and promoting recycling of plastic wrap wherever possible. Subsequent best practice has been communicated and shared across the industry through the availability of best practice guidelines for magazine plastic wrapping.

As the use of plastic wrap has come into sharp focus in recent months, the PPA has issued these updated guidelines to reflect the fast-changing situation. All magazine publishers are encouraged to consider these guidelines and adopt best-practice and share knowledge wherever possible. The guidelines will continue to be updated as new learning come to the fore, so publishers and other stakeholders are encouraged to check the guidelines regularly and/or participate in Sustainability Action Group activities wherever possible.

The following section offers PPA guidance and insight into the variety of materials available for magazine wrapping.

TYPES OF MATERIALS AVAILABLE FOR MAGAZINE PACKAGING

PP and PE Films

Fossil-based polyethylene (PE) and polypropylene (PP) are currently the main materials used for wrapping magazines and are likely to remain the primary materials used by the industry in the foreseeable future.

PE tends to be used for magazines sold through the subscriptions supply chain, where the primary roles of the film are containment (e.g. of inserts, which are a key revenue source for publishers) and product protection (to prevent damage during distribution in the postal system).

PP is a good option for the retail supply chain, where it may also provide a role in product promotion (facilitating high quality printed graphics) and greater product protection in the retail outlet where magazines may be handled many times. Whilst PE is recyclable at specific retailer collection points, PP is less frequently collected and consequently, more challenging to recycle.

If your business continues to use PE and/or PP, the PPA recommends that you participate in the On-Pack Recycling Label (OPRL) scheme. The OPRL is a scheme to encourage consumers to recycle or dispose of their packaging materials correctly. This is achieved by incorporating the appropriate OPRL label, which is specific to each packaging material and format. The details of how to join the OPRL scheme and the labels that should accompany your magazine wrapping is provided in Annex 1 below.

Oxy-degradable Films

Although they have been favoured in the past, it is now known that oxy-degradable films are not a good solution for the environment. Oxo-degradable plastics have small concentrations of additives (usually metal salts) that cause them to degrade at an accelerated rate when exposed to heat and/or light. The additives serve to initiate and accelerate break-down of the plastic by a process known as 'oxidative degradation'. The traces of metal found within it that can contaminate other recyclable plastics.

Exposure to heat and/or light causes the molecules to break apart so that the plastic weakens in strength, becomes brittle and fragments into small pieces, aka microplastics. Microplastics are a global environmental problem. Because of their small size, they are the cause of significant marine pollution and damage to ecosystems. The PPA therefore aligns with the European Union's concerns regarding the use of oxo-degradable films and strongly advises against wrapping magazines in the material¹.

Bio-based Films

Alternatives to fossil fuel-based plastic wrap are emerging and these are being investigated, and sometimes adopted, by individual publishers on a case-by-case basis. Some of these alternatives include bio-based PE and compostable starch-based films.

Bio-based PE Films

Bio-based PE is polyethylene manufactured from sugarcane rather than fossil resources. The sugarcane is converted into a bio-ethanol using a fermentation process. This can then be used in traditional polyethylene polymerization processes to make the various grades of PE. However, sometimes film producers may include some fossil-based PE plus other additives in their film in order to achieve the desired material properties for a specific application.

¹ <http://ec.europa.eu/environment/circular-economy/pdf/oxo-plastics.pdf>, accessed 3rd May 2019.

Bio-based PE is considered a “drop-in” material (i.e. it can be used as a direct replacement to fossil-based PE with no changes to processes or properties. As such, bio-based PE is not biodegradable/compostable, but can be recycled alongside other PE film at most, but not all, regional recycling centres and large retailers. The Recycle Now website offers details on how to find your nearest recycling facility: <https://www.recyclenow.com/>.

Overall, bio-based PE has a low carbon footprint compared to standard fossil-based polyethylene². This claim is corroborated by the Carbon Trust, who have independently confirmed the carbon calculations performed by Braskem (the supplier of sugarcane derived PE) which suggest that this material is potentially carbon negative.

If using bio-based PE, publishers should check the source and sustainability credentials of the material with their film suppliers.

Starch-based Compostable Films

Composting is essentially the biodegradation of organic materials into a soil improver or fertilizer.

While some are compostable at home, most will only break down in higher temperatures that can only be reached in industrial facilities. In practice, most materials that are labelled “biodegradable” or “compostable” are only compostable in industrial facilities – not at home nor in the environment. Look out for the compostable seedling logo – it certifies that a plastic is industrially compostable. However, industrial composting facilities may exclude compostable film from their processes, as it is impossible for them to easily tell whether the material that the consumer has placed in the waste stream is genuinely compostable or if it is a standard polymer that will contaminate the process. Therefore, even industrially compostable films may not actually be recovered and may therefore still end up in landfill.

The OK Compost home certification logo certifies that a material can be composted at home, although it is far less common.

CONDITIONS FOR BIODEGRADATION	INDUSTRIAL COMPOSTING	HOME COMPOSTING
LOCATION	FOOD WASTE BIN FACILITY	COMPOST BIN
TEMPERATURE	50-70 CELSIUS	20-30 CELSIUS
TIME	6-12 WEEKS	1 YEAR
	 EN 13432 STANDARD	

² <https://www.carbontrust.com/our-clients/p/polythene-uk/>, accessed 3rd May 2019.

Source: <https://www.carbonsmart.co.uk/compostableplastics/>

In the last decades, starch has been evaluated for its film-forming ability as a potential substitute for various packaging applications. Films can be manufactured from starch from any source, such as potato starch, corn starch, rice starch, etc. Starch can be classified as either virgin (i.e. derived from crops specifically grown for the purpose of starch production) or reclaimed (i.e. as a by-product from existing agricultural and/or food processing operations).

There are many important factors to consider regarding the use of compostable films. Starch-based films are biodegradable and may also be compostable, but they are not recyclable. Hence, if starch-based films are used, these should be clearly marked as biodegradable and/or compostable as appropriate. These materials are not wanted in the recycling stream as they can have a negative impact on the properties of the recycled product.

It is also very important to note that, in order to achieve the properties necessary for a selected application, many starch-based films incorporate biodegradable/compostable fossil fuel-based petro-chemicals, often in high proportions. Whilst these non-bio-based ingredients do not affect biodegradability of the films, they reduce the bio-based content of the film. Also, in some of these non-bio ingredients have a very high fossil carbon impact during production and will also release fossil carbon to the atmosphere at end-of-life, resulting in a high carbon impact for the material. Thus, there may be a trade-off between biodegradability and carbon impact to consider. This could be particularly true of materials that are home composted in poor composting conditions, which could lead to emissions of methane, a greenhouse gas with a high global warming potential.

Publishers considering switching to starch-based films for wrapping should consider the questions provided in Annex 2 of this document.

Paper Wrapping and Envelopes

Paper wrapping is an emerging technique which is being offered as an alternative to plastic. Paper is an established bio-based packaging material with an established and successful recycling system. If paper is used, it should be sourced from sustainably managed forests and appropriate labelling should encourage consumers to recycle the materials.

The size of the run remains important when determining the scalability of paper as an alternative to traditional polywrap. As it stands, envelopes are a viable option for lower circulation titles but too expensive for larger circulation titles. However, emerging paper wrapping solutions may be cost competitive with standard PE for titles with higher circulation.

Naked Mailing

In recent years, publishers have tested mailing magazines to subscribers unwrapped. This approach has been adopted by other industries including the direct marketing and catalogue mailing industries.

It is a solution that eliminates the challenge of single-use plastic and reduces the carbon impact of the magazine. Nevertheless, this solution lacks versatility for packing covermounted items and inserts, both important for sales and revenue. It is also important to consider the physical damage to magazines that may occur through this approach.

Choosing your magazine wrapping solution

Each material referenced here (with the exception of oxo-degradable poly which is not recommended for use) have clear positives and negatives attached to their use. When making production decisions, it is important to consider these, and the magazine titles, their audiences and destinations.

<u>Material</u>	<u>Comments</u>	<u>Recyclability</u>	<u>Cost relative to standard PE and PP films</u>
PE Films	One of the main materials used for wrapping magazines.	Medium – PE magazine wrapping is rarely collected at kerbside, but can be taken by the consumer to large retailer plastic bag collection points.	Benchmark
PP Films	One of the main materials used for wrapping magazines.	Low - PP is less frequently collected and consequently, more challenging to recycle.	Benchmark
Bio-based PE Films	Alternatives to fossil fuel-based plastic, commonly manufactured from sugarcane.	Medium – Like traditional PE, Bio-based films are rarely collected at kerbside, but can be taken by the consumer to large retailer plastic bag collection points.	Higher
Compostable Starch-based Films	Films manufactured from starch, for example, potato starch.	Medium- Those films suitable for home composting can be composted at home of if these facilities are available to the consumer. In theory, films certified as industrially compostable can be recycled by the consumer along with food or garden waste. However, in practice industrial composting facilities do not want this material as it is deemed as contaminating / not suitable for the processes involved.	Higher

Paper Envelopes	Material originating from wood-based fibres	High – a commonly collected material at kerbside.	Higher
Paper Wrapping	Material originating from wood-based fibres	High – a commonly collected material at kerbside.	Potentially price comparable
Naked Mailing	Sending magazines unwrapped.	Not applicable	Lower

ANNEX 1: ON-PACK RECYCLING LABEL (OPRL) SCHEME

The On-Pack Recycling Label scheme aims to deliver a simple, consistent and UK-wide recycling message on retailer and brand packaging to help consumers recycle more material correctly, more often. To use the label, publishers are required to pay an annual fee to cover the costs of administering the scheme. The scheme is administered by The On-Pack Recycling Label Ltd, which is a not-for-profit company limited by guarantee. Any surpluses are reinvested in their activities to promote recycling of packaging.

Full details about how to join the OPRL scheme are available at www.oprl.org.uk. Please note that there is an introductory offer for PPA members - 15 months for the price of 12 months.

The label can be printed on the plastic film, carrier sheet or in the magazine itself. Examples of the appropriate OPRL labels are given below.

OPRL Label for PE (Polyethylene) Films

PE is the standard film used for carrier bags, mailing film and some retail magazine bagging. Waste and Resources Action Programme (WRAP) has worked with large retailers to develop the collection and recycling of this material at larger stores. Publishers participating in the OPRL scheme can encourage consumers to recycle their PE at retailer plastic bag collection points.



OPRL Label for PP (Polypropylene) Films

This is the material used for some retail magazine bags. Currently PP film it is not collected for recycling by retailers or local authorities. Therefore, the PPA recommends its members to ensure that consumers not to contaminate the recycling waste stream with PP by using the following OPRL label.



ANNEX 2: ADVICE/QUESTIONS FOR THOSE INQUIRING INTO STARCH-BASED AND OTHER COMPOSTABLE FILMS

Publishers considering switching to compostable starch-based films should ask their suppliers the following questions before making a change:

- a) What proportion of the material is bio-based? (A film is highly unlikely to be 100% starch, and in our experience many films marketed as “bio-based” have a surprisingly low bio-based content)
- b) What are the other constituents that make up the film? (Many bio-based films include biodegradable petrochemicals in their make-up)
- c) What is the carbon footprint of the film, including **all** constituents and across **all** life cycle stages? (Some of the biodegradable petrochemicals used in these films have a very high carbon footprint. Be careful when considering the carbon impact data presented by the suppliers – some suppliers are presenting potentially misleading comparative data that only includes the bio-based constituents and/or only addresses part of the life cycle.)
- d) What happens if these materials end up in the separate food waste collection system? Do they cause food waste material to be rejected and sent to landfill?