

# Shrinking recycling misconceptions

**REGARDING the shrink sleeves article in PPM's October 2020 edition, Extrupet would like to challenge the thought process, specifically the purported benefit for recycling, which isn't the case. Shrink sleeve labels, especially those manufactured from PVC and PET, pose significant challenges to the recycling process for post-consumer PET bottles. 'We feel it's our responsibility to speak out, as we do about other design issues related to the recyclability of packaging,' states joint managing director, Chandru Wadhvani.**

Chandru points out that as a bottle-to-bottle recycler, Extrupet, along with the guidance of PETCO, has fought hard to change the mentality and raise awareness of how shrink sleeve packaging in South Africa is detrimental to the greater recycling industry. 'Shrink can't be "de-sleeved easily for recycling" as the article stated. The associated costs are often prohibitive, and as a result, many shrink sleeved PET bottles are never collected for recycling and end up in landfills or oceans,' he asserts. 'Furthermore, there is no end-of-life use for these PVC and PET shrink

sleeve labels. This renders them all to the waste stream which isn't sustainable, given our current climate.

'It would be beneficial to have the references used to make the claims in the article as they are counter-intuitive to a truly circular system. If Extrupet's understanding is correct, the claims are made by a machine manufacturer, not a recycler,' Chandru adds. 'It is also possibly in the context of experiences in other parts of the world and not necessarily here on the African continent. As such, it would be better that the claims made in the article referred to are qualified appropriately.'

Additionally, Extrupet hopes brand owners, converters and machinery manufacturers will be more attentive about the packaging design of products they are putting to market. The effects of 'design for recycling' on sustainability and the circular economy play a big role and one that the whole value chain needs to be a part of. 'However, we can only do so if we are aware and educated about the issues the recycling industry faces. We look forward to this dialogue evolving in the public domain and welcome

|  | Yes, compatible with recycling for most applications   | Conditional. Limited compatibility   | No. Low compatibility (not suited for recycling)   |
|--|--|--|--|
| <b>Direct printing</b>                       | Don't print on bottles or jars unless production or expiry dates, in which case use laser printing (minimally) |  | Direct printing on bottle or jar   |
| <b>Labels</b>                                | Materials with densities less than 1g/cm <sup>3</sup> like PE, PP, BOPP  | Self-adhesive labels where glues are designed to stay on the label when detached from the bottle | Materials with densities more than 1g/cm <sup>3</sup> like PVC, PS, PET,   |
| <b>Sleeves (including tamper resistance)</b> | Materials with densities less than 1g/cm <sup>3</sup> like PE, PP, BOPP  | Shrink sleeves with perforation, and density less than 1g/cm <sup>3</sup>                        | Materials with densities more than 1g/cm <sup>3</sup> like PVC, PS, PET, PETG<br><br>Heavily inked shrink sleeves without perforation, full body sleeves without perforation<br><br>Metallised materials |
| <b>Adhesives</b>                             | Water or alkali soluble at 60-80°C, designed to remain on the label  | Hot melt alkali adhesives  | Not removable or soluble in water  |
| <b>Inks</b>                                  | Good manufacturing practice: excluding heavy-metal containing inks   |  | Direct printing on bottle or jar   |

To maximise the recycling of PET packaging, it's essential that retailers, brand owners, packaging manufacturers and designers embed recyclability principles into their pack design processes so that, at the end of its life, this material can be successfully recycled and used again in new products and packaging.



**HOW TO IMPROVE THE RECYCLABILITY OF PET BOTTLES:**



back comment from the machinery producer, who may wish to elaborate on how shrink sleeve labels are “recycling friendly”, contrary to our experiences,’ he concludes.

**Optimising design specifications**

PETCO’s *Designing for the Environment Guideline* encourages packaging designers, brand owners and converters to design and specify PET containers with the environment in mind, that are compatible with South Africa’s available collection and recycling infrastructure, and that are aligned with the end-use markets prevalent in the region.

They also encourage the inclusion of recycled content (rPET) in PET packaging alongside transparency about the usage of rPET and the recyclability of the packaging.

In terms of the use of labels and adhesives, the guidelines specify tamper-evident seals and sleeves that completely detach from PET bottles during the reprocessing or washing phase of recycling. They recommend avoiding the use of foil tamper-evident seals that leave remnants of foil and adhesive behind, as well as PET or PVC sleeves and labels with PET bottles.

Additionally, the guidelines point out that metallised/ foil labels on film are costly to remove, increase contamination and have the potential to devalue the collected material. They also increase the rejection rate in the sorting line and reduce the yield.

Paper labels aren’t ideal either, especially on plastic film because they cause significant problems in conventional recycling. Recyclers prefer polyethylene and polypropylene labels.

Where adhesives are absolutely necessary, the guidelines suggest those that are soluble or alkali-soluble at 60-80°C. And for self-adhesive labels, they recommend glue that is designed to stay on the label.

# Labels recognised for digital print excellence



**PYROTEC’S ‘PYRO BYTES’ digital labels were awarded third place in the 100% RSC category in Durst’s inaugural RSC Label Masters Competition. The polypropylene labels feature metallic finishes with opaque white and patternware to create a tactile feel. They also showcase the vignette capabilities of Pyrotec’s eight-colour Tau 330 RSC digital label press.**

‘Being recognised as one of the best label printers in the world by Durst’s highly-experienced

judging panel, from the install base of over 100 Tau RSC’s, is really a feather in our cap,’ remarks Pyrotec PackMedia’s general manager, Timothy Beattie.

The competition was open for product labels and for design/feasibility studies – either printed 100% digitally or partially – on a Tau 330 RSC E, Tau 330 RSC or Tau RSCi.

The judges considered the degree of innovation, originality, creativity, the basic idea and overall impression, as well as the quality of printing, decoration and finishing of each label.

The three winners in each category were announced earlier this month during Durst’s Digital Days 2020 livestream event from the Durst Customer Experience Centre and headquarters in Brixen, Italy.

Other presentations from the event provided updates on the Tau RSCi beta testing, low migration solutions, hybrid label production with the Omet XJet (powered by Durst), plus digital embellishment and mid-web finishing with an ABG solution that is going into operation at the Customer Experience Centre.

