



An improving picture for the recycling of release liners, although removing further barriers would maximize the opportunity

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Recycling options for both papers and films

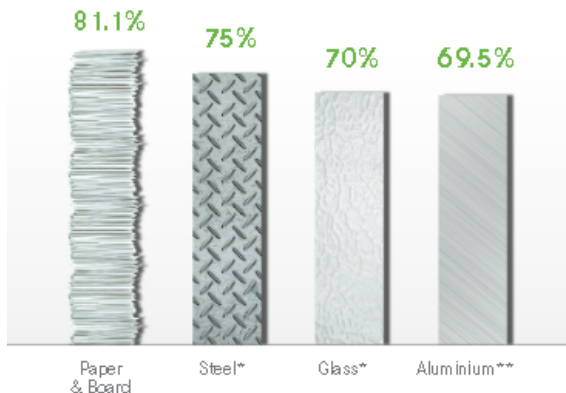
There have been numerous initiatives to promote and enable the recycling of siliconized release papers and films over recent years, with varying degrees of success. These have been promoted by companies such as UPM Raflatac, through their Rafecycle concept dealing with both release papers and films, Cycle4Green and Channeled Resources.

While siliconized films can be simply re-ground and granulated to offer a PET or polypropylene (PP) feedstock for reuse as release film or downcycled applications, release papers seem, at first glance, to be more challenging because the papers are silicone coated and the silicone has to be removed before re-using the cellulose fibres. However, the paper can be pulped and, with a chemical treatment similar to that used for newsprint, the silicones can be released and separated through a flotation process, leaving the high quality fibre to be recycled into a choice of paper products from release liners to label facings or other graphical papers.

Siliconized papers – economics hold the key

Overall, paper recycling is one of the most efficient recycling processes with paper and board outstripping rates for other basic materials.

Paper and board are the most recycled packaging in Europe.



However, on average, the fibre can only be recycled between 3-4 times before its integrity is lost, leaving a theoretical maximum sustainable recycling rate of ~79%.

While the technical criteria are well-established, the fact that siliconized papers require special treatment means that there needs to be a concentrated supply to feed the process. Where this is the case, the operation can be cost neutral with the profit margin being created by avoided waste disposal costs. This can be a particularly important in Europe where charges can be quite significant.



However, as soon as supplies are geographically scattered, the costs of collection can become prohibitive. As a result, the main investment opportunities focus around facilities where significant volumes of release papers are available.

As an example, Henkel partnered with UPM in 2016 to recycle more than 400 tonnes of siliconized glassine label liner waste at its Wassertrüdingen facility in Germany. This represented around 20 truck loads of liner waste. More recently, Techlan, a company based in South Wales, received the first grant awarded from the £6.5 million Circular Economy Fund, set up in South Wales by the Welsh Assembly. The grant is claimed to make it possible for Techlan to double its capacity in the recycling of Waste Release Liner and provide a wider range of product sizes to the market. The basis for the Techlan success in Swansea is the access that it has to release liners used for the manufacture of pre-impregnated composites in the locality.

For release paper economics, colour matters!

There has been a long-standing discussion within the release liner industry about the colour of release papers. Some of those specifying believe that darker colours –



particularly shades of brown are more forgiving than white products. However, this creates a challenge in that darker papers, when mixed with white sources tend to visually degrade the recycled products leading to a loss of value in the recycled material. This in turn, can tip the balance of the underlying economics and reduce the attractiveness of the recycling option. Although the pulp can be bleached, this adds a further process step and associated cost. It also adds to the chemical footprint which is, by definition, less sustainable. The other alternative is to seek to sort the waste into its respective colours, but this also adds a handling step with its associated costs

The IRLA membership is keen to see as high a level of standardization as possible to maximize the possibilities for economic recycling. With the European Commission now moving into the second phase of its Circular Economy Action Plan, the main initiative relating to paper recycling is covered under the '*ImpactPaperEC*' initiative which is seeking to promote best practice on paper recycling. IRLA wants to be sure that release paper recycling plays its part in fulfilling these objectives.

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